Date: Mar-24 1973  
Job No.  
Hole No.  
Elevation  

Customer: Dept of L&N  
Location: Hilo, Hawaii  

Driller: J. Leslie  
7 Hrs.  
Rig No.  

Helper: D. Kaiona  
7 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.  

Measurements: 

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Remarks: Bundled all steel hanger, cased top iron & other lumber. Shipped out. Finished loading scarps, iron, scarps, lumber at checkout. To go. Took down rig. Rig. Ready to move out. Loaded food to go to Kona.  

Signed: Dave Leslie  
Date: Mar-24 1973
Date: Mar-23 1973  |  Job No: 5001  |  Hole No: 1  |  Elevation: 407 ft.
Customer: Dept. of LR ER  |  Location: Kailua, Hawaii

Driller: J. Leslie  |  10 Hrs.  |  Rig: 45
Helper: O. Kaipan  |  10 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.  

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

Remarks: Prepared of shipped out more equip. Cleaning up - hauled load of scaps to dump - Started taping down shack -

Signed: Tom Leslie  |  Date: Mar-23 1973
Date: Mar-22 1973  
Job No.:  
Hole No.:  
Customer: Dept of LNR  
Location: Hilo, Hawaii  
Elevation:  

Driller: J. Leslie  
Helper:  
Arv. Job:  
Lv. Job:  
Hrs: 10  
Rig: 45  
Gas:  
Oil:  
Hrs:  
Repairs:  
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.  

Measurements:

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Capped well with 14" plate - welded in.

Remarks: 3" coupling with plug - bient to Papairosa moved balance of equip - out  
14" pump column, tubes, shafts, blind assembly - shipped out

Signed: Jane Leslie  
Date: Mar-22 1973
Date: Mar 21, 1973  |  Job No.:  |  Hole No.: 4806-41  |  Elevation: ft.  
Customer: Dept of W.U.  |  Location: Hilo, Hawaii  
Driller: S. Leslie  |  10 Hrs.  |  Rig: 45  
Helper: A. Kaipo  |  10 Hrs.  |  Gas: Oil  

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

<table>
<thead>
<tr>
<th>Casing-Size in., Length in hole</th>
<th>ft. in., Amt. Perforated</th>
<th>ft. in.</th>
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</thead>
<tbody>
<tr>
<td>Depth Start</td>
<td>ft., Depth Stop</td>
<td>ft., Feet Drilled</td>
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| Water Levels, Time: M ft., Time: M ft. |

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

Bad weather—
Bores down drill tools—shipped out

Remarks: Same tool—left same @ 11:45—Hauled blocking 1 planes used
for last engine to Reperoes 4 stored with rig—Hauled
Bad of equity from Reperoes to Reperoes 4 stored

Signed: Lave Leahi  |  Date: Mar 21, 1973  

Signed: Lave Leahi  |  Date: Mar 21, 1973  

Signed: Lave Leahi  |  Date: Mar 21, 1973
Date: Mar-20 1973  
Job No.:  
Hole No.:  
Elevation: ft.  

Customer: Dept of L&NR  
Location: Hilo, Hawaii  

Driller: J. Leslie  
10 Hrs.  
Rig 45  

Helper: A. Kainoa  
10 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.  

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

Measurements:  

A  

B  

Remarks:  

Raining up front - very muddy -  

Slipped out 24" bit - big stem - took a long time casing,  

Disc head - Preparing more equip. for shipping.  

Signed: Erin Ledii  
Date: Mar-20 1973
Date: **Mar. 17, 1973**  
Job No.: **204**  
Hole No.: **13**  
Elevation: **63** ft.  

**Dept. of L&NC**  
Location: **Hilo, Hawaii**

<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>
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<table>
<thead>
<tr>
<th>Helper</th>
<th>10 Hrs.</th>
<th>Repairs</th>
</tr>
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</table>

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

**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. | M ft. | ft. |

<table>
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### Depth Formations

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<th>Remarks</th>
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**Remarks:**  
Bad weather; loading and shipping out drill tools.  
Preparing equipment for shipping.

**Signed:**  
**Date:** **Mar. 19, 1973**
Date: Mar-16 1973

Customer: Dept of EWR

Driller: Leslie

Helper: A. Kaimoa

Location: Hill, Honolulu

Job No.: 4306-01

Hole No.: 4306-01

Elevation: ________ ft.

Rig: #5

Gas: ________ Oil: ________

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.

Remarks: Hauled one pack of exten 10" column 10' less 10" overhead pipe to Yipes. - Picked up 60' of tubing staff one 10" col. 6" overhead pipe - some air line & 2" start pipe @ 4:15 P.M. - shipped out - Picked up some scrap iron - old cables & scene pcs. of cable & hauled.

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.

Remarks: Hauled one pack of exten 10" column 10' less 10" overhead pipe to Yipes. - Picked up 60' of tubing staff one 10" col. 6" overhead pipe - some air line & 2" start pipe @ 4:15 P.M. - shipped out - Picked up some scrap iron - old cables & scene pcs. of cable & hauled.

Signed: Sam Doolin

Date: Mar-16 1973
<table>
<thead>
<tr>
<th>Date</th>
<th>Mar-15 1973</th>
<th>Job No.</th>
<th>27460</th>
<th>Hole No.</th>
<th>4396-01</th>
<th>Elevation</th>
<th>ft.</th>
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<tr>
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<td>Dept of KE</td>
<td>Location</td>
<td>24, Hawaii</td>
<td></td>
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<tr>
<td>Driller</td>
<td>S. Leslie</td>
<td>10 Hrs.</td>
<td>Rig 45</td>
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<tr>
<td>Helper</td>
<td>A. Kaino</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td></td>
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<tr>
<td>Helper</td>
<td></td>
<td>Hrs.</td>
<td>Oil</td>
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**Bit-Size**

**Casing-Size**

**Depth Start**

**Depth Stop**

**Feet Drilled**

**Water Levels, Time**

**Measurements**

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<th>Depth</th>
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**Remarks:**

- Installed new pump column, fab, shaft, piping, 2" gasket, pipe & setting up in racks & Bacs, made 4 trips.

Signed: Sam Leslie  
Date: Mar-15 1973
Date: Mar-14 1973  Job No: 740-1  Hole No: 430-C-1  Elevation: __________ ft.
Customer: Dept of HPN  Location: Hilo, Hawaii

Driller: S. Leslie  10 Hrs.  Rig: 45
Helper: A. Kainon  10 Hrs.  Gas: __________  Oil: __________


Bit-Size: __________  Type: __________

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

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

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Measurements

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Remarks: Centered boul assembly - hoisted to P.Bas. Prepping balance of pump for shipment - geared column throw, put on protectors - put oil protectors on oil tubes - prepping for shipping

Signed: Sam Leslie  Date: Mar-14 1973
Date: Mar-13 1973  Job No.: 278419  Hole No.: 304-01  Elevation: ____________ ft.
Customer: Dept of L&MR  Location: Hilo, Hawaii

Driller: S. Leslie  10 Hrs.  Rig: A5
Helper: D. Kainoa  10 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., Measurements: ____________

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Remarks:  Had to get test engine out of way before pulling pump.
          Located via Diesel Test to Y. Bros.  Hunged angle drive to Y. Bros.
          Pulled out pump.

Signed:  Daniel  Date:  Mar-13 1973
### Drilling Log

**Rusco Moss Company**

830 Ahua Street • Honolulu, Hawaii 96819

Telephone: (808) 839-6888 • 833-1444

---

#### Details

- **Date:** Mar-12 1973
- **Job No.:** 2003
- **Location:** 108, Hawaii
- **Elevation:** ft.

---

#### Personnel

- **Driller:** S. Leslie
  - Hrs.: 10
- **Helper:** D. Kainon
  - Hrs.: 10
- **Arv. Job:**
  - **Lv. Job:**
  - **Or. No.:**

---

#### Equipment

- **Rig:** 15
- **Gas:**
- **Oil:**

---

#### Casing

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

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#### Water Levels

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

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#### Measurements

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#### Remarks

Bad weather - Took down flame, tree down, testified - brought all lumber & flame out ready to return - Took off top section of pump.

---

**Signed:** Sam Leslie  **Date:** Mar-12 1973
**Date:** Mar-9 1973  
**Job No:** 36419  
**Hole No:** 2306-9'  
**Elevation:**  
**Customer:** Dept of L & NR  
**Location:** Hilo, Hawaii  

**Driller:** S. Leslie  
**Hrs:** 10  
**Rig:** 45  

**Helper:** A. Kainoa  
**Hrs:** 10  
**Gas:** Oil  
**Hrs:** Repairs  

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

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<tr>
<th>Bit-Size</th>
<th>Type</th>
<th>Casing-Size in., Length in hole ft., Amt. Perforated ft., in.</th>
<th>Depth Start ft., Depth Stop ft., Feet Drilled</th>
<th>Water Levels, Time M ft., Time M ft., Measurements A \ B</th>
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**Depth**  

**Formation**  

**Remarks**  

**Top**  

**Measurements**  

**Remarks:**  
- Torque recovery readings -
- Started dismantling exact-
- tore down section of throttle frame-

- Torque readings till 1:30 PM - Tank of angle drive
- disc head - top section up in air-

**Signed:** Sam Leslie  
**Date:** Mar-9 1973
Date: Mar 8, 1973  
Job No: KH19  
Hole No: 4306-0  
Elevation: ft.

Customer:  

Driller: Leslie  
2 Hrs.  
Rig:  

Helper:  
Hrs.  
Gas:  
Oil:  

Helper:  
Hrs.  
Repairs:  

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

Bit-Size:  
Type:  

Casing-Size: in., Length in hole: ft.  

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

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

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Remarks: Got orders to stop test @ 9:30 - had to return & deliver all fuel - stopped pump @ 12:30 PM - taking recovery readings -

Signed: Joe Delis  
Date: Mar 8, 1973
Date: Mar 7, 1973  
Job No.: 5-4664  
Hole No.: 306-01  
Elevation:  

Customer:  

Driller: Leslie  
Hrs.: Rig  

Helper: A. Kainos  
Hrs.: Gas  

Arv. Job:  
Lv. Job:  

Bit Size:  
Type:  

Casing Size:  
Length in hole:  
Amt. Perforated:  

Depth Start:  
Depth Stop:  
Feet Drilled:  

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

Remarks: Testing well: Pumping continuously @ 2450 G.P.M.
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<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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</table>

Remarks:  
Testing well: Pumping continuously @ 2450 G.P.M.  

Signed: [Signature]  
Date: Nov-6 1973
<table>
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<th>Mar-5 1973</th>
<th>Job No.</th>
<th>224019</th>
<th>Hole No.</th>
<th>1306-01</th>
<th>Elevation</th>
<th>ft.</th>
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<tr>
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<td>Location</td>
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<tr>
<td>Driller</td>
<td>Leslie</td>
<td>12 Hrs.</td>
<td>Rig</td>
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<td>Helper</td>
<td>P. Kaionen</td>
<td>18 Hrs.</td>
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| Bit-Size   |            | Type    |        |          |          |            |     |
| Casing-Size|            | in., Length in hole |        |          |          |            |     |
| Depth Start|            | ft.      |       |        |          |            |     |
| Depth Stop |            | ft.      |       |        |          |            |     |
| Feet Drilled|           |          |       |        |          |            |     |
| Water Levels, Time | M ft., Time | M ft. |        |          |          |            |     |

<table>
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<th>Formation</th>
<th>Remarks</th>
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Remarks: Preparing to start test-
Had trouble starting engine-
Started test at 9:20 P.M.

Remarks: Up to 2450 GPM @ 3:00 P.M.

Signed: (Signature) Date: Mar-5 1973
Date: Mar. 3, 1973  
Job No.: 224 W 19  
Hole No.: 6306-01  
Elevation: ______ ft.  
Customer: Dept. of L & N P  
Location: Hilo, Hawaii

Driller: J. D. Selnor  
Hrs.: __  
Rig: 45 -  

Helper: A. Tacon  
Hrs.: __  
Gas: Oil  

Arv. Job: __  
Lv. Job: __  
Hrs.: __  
Repairs:  
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.

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Made up special exhaust system -  
Weighted 4" 90° elbows to present muffler  
Ran 12' of 4" flexible tubing, weighted to  
aloubs down to ground - Weighted 4"  
tubing to 2 mufflers on ground -  
Started pumping well @ 1:00 - Put  
up hoistmen around and drive  
clawshoft - Sanged well till 4:10 p.m.

Remarks:

Signed: Cam DeLis  
Date: Mar. 3, 1973
Date: Mar-2, 1973  
Job No.: 1306-01  
Hole No.: 1306-01  
Elevation: ___ ft.  
Location: Hilo, Hawaii

Driller: S. Leslie  
10 Hrs.  Rig: 45

Helper: R. Kipinos  
13 Hrs.  Gas: Oil

Helper:__


Hrs.  Repairs: ___ Or. No.: ___

Bit-Size: ___  Type: ___

Casing-Size: ___ in., Length in hole: ___ ft.  
Amt. Perforated: ___ ft.  ___ in.

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


Remarks:
- Put in final section of liner to office pipe.
- Started cleaning out well at 11:00
- 1900 rpm on eng. Rotation 0°
- 2520 gph
- Called how to give preliminary results
- Ran another check again for max. gpm
  without losing any pressure completely

Remarks: Used 6" office plate -
- Eng': 1475 RPM - 160°
- 2100 gpm  147° B.D.

Signed: Law Leslie  Date: Mar-2, 1973
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-2888 • 833-1444

---

**Date**  
Mar-1 1973

**Job No.** 2345679
**Hole No.** 4306-01
**Elevation**  

**Customer** Dept. of LR  
**Location** Hilo, Hawaii

---

**Driller**  
S. Leslie  
10 Hrs.

**Helper**  
A. Rinon  
10 Hrs.

**Hrs.**

**Rig** 45

**Gas**

**Oil**

**Repairs**

---

**Arw. Job**

**Lv. Job**

**Or. No.**

---

**Bit-Size**

**Type**

---


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

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

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### Depth

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**Remarks:**

- Finished head shot 07/13.
- Installed top column - tight joint - had to chain ton; all the way.
- Put on disc, wired at pole drive.
- Aligned shaft - Adjusted pump - put on 12" orifice pipe - Raised up engine.
- Filled two fuel tanks for engine.
- Turn to block 1/2 Diesel 2' off ground.
- Lined up & put on drive shaft.

---

**Overall len of pump = 272.71'**

**Len of pipeline = 256.14' to bottom of hole**

---

**Signed**  
S. Leslie  
**Date**  
Mar-1 1973
Date: Feb-28 1973  Job No.: 274319  Hole No.: 2306701  Elevation: _______ ft.
Customer: Dept. of LR E  Location: Hilo, Hawaii

Driller: Leslie  Hrs.: 10  Rig: 45
Helper: C. Kainoa  Hrs.: 10  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: _______ ft., Time: _______ ft.

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Remarks:
- Went to Pier - picked up angle drive
- @ 8:00 - Started on machine
- Making split bushing to fit 1/2" shaft
- Making a special key
- Got engine at 10:30 - took to job site
- Unloaded - Got set to install top

Remarks:
- Section - horizon first - cut more threads of longer keyway on #1 shaft - took to安居 - went to Pier - picked up battery for 1/2" engine - picked up block for engine - got engine in position - but not blocked up

Signed: Sam Leslie  Date: Feb-28 1973
Date: Feb-27 1973  |  Job No.: 294619  |  Hole No.: 4306-01  |  Elevation:  
Customer: Dept. of LR  |  Location: Hilo, Hawaii  

Driller: S. Leslie  |  Hrs.: 8  |  Rig: 45  
Helper: D. Tainon  |  Hrs.: 8  |  Gas:  |  Oil:  
Helper:  |  Hrs.:  |  Repairs:  

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

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Measurements

Anchor bolt on becket for power line  
boat erected couldn't adjust.  
Take off 2 pieces to set a becket.  
took off anchor bolt. Fixed up threads.

Remarks: Reinstalled 4 adjusted becket.  Took off damaged engine head.  

Signed: Sam Delchi  |  Date: Feb-27 1973
### Detailed Report

**Date:** Feb. 26, 1973  
**Customer:** Dept of L & NR  
**Location:** Ali\'i, Kauai

<table>
<thead>
<tr>
<th>Driller: S. Leslie</th>
<th>8 Hrs</th>
<th>Rig: 45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper: A. Finnon</td>
<td>8 Hrs</td>
<td>Gas:</td>
</tr>
<tr>
<td>Helper:</td>
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</table>

**Equipment:**
- Bit-Size
- Depth Start: ft., Depth Stop: ft., Feet Drilled: ____________

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

**Depth Formations:**

<table>
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<th>Depth</th>
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**Measurements:**

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<th>A</th>
<th>B</th>
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**Remarks:**
- May 2, 1973 @ 7:00 a.m.:
- Standing by for diesel engine
- 4th Time - Took 2 hours to be

**Safety Check:**
- Rough Ocean - Slow unloading large engine. Angle drive didn't arrive.

**Signed:** Lane Lili  
**Date:** Feb. 26, 1973
Date: Feb-23 1973  
Job No: 14K210  
Hole No: 4306-01  
Elevation: (ft.)

Customer: Dept. of L&M  
Location: Hill, Hawaii

Driller: Leslie  
Hrs: 10  
Rig: 43

Helper: A. Kainoa  
Hrs: 10  
Gas:  
Oil: 

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

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.

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Measurements:

A  
B

Remarks:
- Rechecked trestle - Put in some more diagonal beams -
- Cleaned up area - Changed press for diesel engine -
- Having. Hoonon cut more threads & lengthen reaming on headstuff - Fitted welded baseplate to top of 12" casing for pump -

Signed: Same Leslie  
Date: Feb-23 1973
**Date:** Feb-22, 1973  
**Job No.:** 746019  
**Hole No.:** 4306-01  
**Elevation:** ft.

**Customer:** Dept. of L & NR  
**Location:** HI, Hawaii

**Driller:** Leslie  
**Hrs.:** 10  
**Rig:** 45

**Helper:** A. Kainos  
**Hrs.:** 10  
**Gas:** Oil

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

**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.

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**Measurements**

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**Remarks:**

Ripped sheets 32" for bottom - 16" sides - finished frame 24" wide - put side braces every 4' - couldn't put in last section until well till pump is complete.

**Signed:** Jim Leslie  
**Date:** Feb-22, 1973
### Drilling Log

**Ruscoe Moss Company**

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

---

**Date:** Feb-21 1973  
**Job No.:** 717W 19  
**Hole No.:** 13-067-01  
**Elevation:**  
**Location:** Hi, Hawaii

---

**Driller:** S. Leslie  
**Helper:** A. Kainen

---

**Rig:** 45  
**Gas:**  
**Oil:**  
**Repairs:**

---

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

---

**Remarks:** Building structure & putting up fence

---

**Signed:** Sam Leslie  
**Date:** Feb-21 1973
Date: Feb-20, 1973  Job No. 22-HW-19  Hole No. 4306-01  Elevation ________ ft.
Customer: Dept. of L & N  Location: Hilo, Hawaii

Driller: S. Leslie  10 Hrs.  Rig: 45
Helper: A. Kaimana  13 Hrs.  Gas  Oil


Bit-Size: __________  Type: __________
Depth Start: ________ ft., Depth Stop: ________ ft., Feet Drilled: ________

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

Remarks: Building trestle for flame to disc, water over stone wall appeared - 150' Bring from well.

Signed: S. Leslie  Date: Feb-20, 1973
Date: Feb 4 1975
Job No: 244-19
Hole No: A-906-01
Elevation: __________ ft.

Customer: [name redacted]
Location: [location redacted]

Driller: [name redacted]
10 Hrs. Rig 45

Help: [name redacted]
10 Hrs. Gas __________ Oil

Spiller: [name redacted]
Hrs. Repairs

Att: [name redacted]
LV. Job
Hrs. __________ Or. No.


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

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

Measurements

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Put in 6 sections 2' each.

Some very tight joints.

Got to top column—laid cut for machine work.

Remarks:

Took 5' 1/4' oil tube to Hawaii to be shortened.

3 1/4". Took in head shaft may have to have more threads added & keyway extended.

Date: Feb 4 1975

[Handwritten notes redacted]
DRILLING LOG

Customer: Dept. of L&N E
Location: Hill, Hawaii

Date: Feb 5, 1973  Job No: 2240/19  Hole No: 4306-01
Elevation: ft.

Driller: J. Leslie  Hrs: 10  Rig: 45
Helper: A. Tainga  Hrs: 10  Gas:  Oil:  
Helper:  Hrs:  Repairs: 
Arv. Job:  Lv. Job:  Hrs:  Or. No:  

Bit-Size:  
Type:  


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


Measurements: 

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Installed 8 x 8 x 8 Heel assembly.

Put on 12" section, 100'. Had strip

to keep heel, welded to pump collar.

Remarks: Had to have an oil tube made 6 1/2" to set tube joint.

Olive column coupling. Put in stainer. 50' of 6 sections.

Search over all 138.67' - 10" holes - 3 stages.

Signed: John  Date: Feb 5  1973
Date: Feb-7 1973  
Job No.: 224-19  
Location: Honolulu, Hawaii  

Driller: Leslie  
Hrs.: 10  
Rig: 45°  
Rig Type: Gas, Oil  
Helper: D. Kinnen  
Hrs.:  
Rig Type: Gas, Oil  
Helper:  
Hrs.:  
Type: Repairs  
Arv. Job:  
Lv. Job:  
Hrs.:  

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

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

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Measurements: A B

Water Levels Time  
M. ft.  
M. ft.  

Measurements  
A  
B

Remarks: Finished cleaning balance of 10' column of repairing bad threads. Made up 4 stamps of 12' sections - loaded all tubes shaft into column. 

Went to pump column. 

Signed: Les Leslie  
Date: Feb-7 1973
Date: Feb. 6, 1973
Job No.: 4306-07
Location: Hill, Hawaii

Customer: Dept. of

Driller: S. Leslie
Helper: A. Kamua

Rig: 43

Hrs.: 10
Hrs.: 10

Gas
Oil

Reips.

Arv. Job
Lv. Job

Hrs.

Or. No.

Bit-Size
Type

Casing-Size
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.

Measurements

Depth
Formation
Remarks
Top

Finished lubricating stirrer nut, lifted to heads - put up state.
Project upon pene-irway - cleaning & repairing damaged.

Remarks: Threads - started putting 10' column together to

Drill 20' bars - made up 7 thrust feet lengths.

Signed:

Date: Feb. 6, 1973
<table>
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<tr>
<th>Date</th>
<th>Feb-5 1973</th>
<th>Job No.</th>
<th>224019</th>
<th>Hole No.</th>
<th>480681</th>
<th>Elevation ft.</th>
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<tbody>
<tr>
<td>Customer</td>
<td>Dept. of LNE</td>
<td>Location</td>
<td>Honolulu, Hawaii</td>
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<tr>
<td>Driller</td>
<td>J. Leslie</td>
<td>10 Hrs.</td>
<td>Rig 45</td>
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<tr>
<td>Helper</td>
<td>A. Kawai</td>
<td>10 Hrs.</td>
<td>Gas</td>
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<td>Helper</td>
<td></td>
<td>Hrs.</td>
<td>Oil</td>
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**Measurements**

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<th>Bit-Size</th>
<th>Type</th>
<th>Casing-Size in., Length in hole ft., Amt. Perforated ft. in.</th>
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**Depth**

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**Remarks:**

Unloaded bulk trucks - took "A" frame off flatbed - went to Y. Bus - picked up 500 cf 10" pump column, pump parts, elevators - Finished to job, I unloaded - went back & picked up pump box, assembly -

**Remarks:** Started cleaning, repriming damaged threads - Taking a special shape to solid bottom of hole for stemming -

**Remarks:**

Signed: Sam Leslie  
Date: Feb-5 1973
Date: Feb 2, 1973  
Job No.: 4306-01  
Date: Feb 9, 1973  
Job No.: 4306-01  
Date: Feb 2, 1973  
Job No.: 4306-01  
Date: Feb 2, 1973  
Job No.: 4306-01  

## Customer Information

- **Location:** Hilo, Hawaii
- **Address:** 830 Ahua Street, Honolulu, Hawaii 96819
- **Telephone:** (808) 839-6888, 833-1444

## Driller Information

- **Name:** Leslie
- **Hrs:** 5
- **Rig:** 
- **Gas:** 
- **Oil:** 
- **Delays:** 
- **Repairs:**

## Helper Information

- **Name:** John
- **Hrs:** 5
- **Gas:** 
- **Oil:** 
- **Delays:** 
- **Repairs:**

## Arv. Joe

- **Hrs:** 
- **Lv. Job:** 
- **Or. No.:**

## Measurements

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## Remarks

- **Remarks:** Perforated casing on 4'10" to make a standing test铭牌. Then put 2" line behind 8" gas pipe in place. Started work on pump.

- **Signed:** H.C. Date: Feb 9, 1973
**Date**: Feb 1, 1973  
**Job No.**: 224019  
**Hole No.**: 4306-01  
**Elevation**: ft.  
**Customer**: Dept. of LNR  
**Location**: Hill, Hawaii  

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hrs.</th>
<th>Rig</th>
<th>Hrs.</th>
<th>Gas</th>
<th>Oil</th>
<th>Hrs.</th>
<th>Repairs</th>
<th>Hrs.</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Leslie</td>
<td></td>
<td></td>
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<tr>
<td>Helper</td>
<td>Hrs.</td>
<td></td>
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<tr>
<td>Av. Job</td>
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<td>Lv. Job</td>
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<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
<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>
<tbody>
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<table>
<thead>
<tr>
<th>Depth Start</th>
<th>ft., Depth Stop</th>
<th>ft., Feet Drilled</th>
</tr>
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<tbody>
<tr>
<td></td>
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<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>
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### Measurements

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

### Remarks
- Cut some ¼” airline pipe to std. 20' huns @ 500 each.
- Recommended Cuthead system on rig for pump work.
- Hauled hank @ 5,000. Called off different size to dump.

**Signed**: John Doe  
**Date**: Feb 1, 1973
Date: Jan-31 1973  Job No.: 4806-01  Hole No.: 2740719

Customer: Dept. of L&N R.  Location: Hilo, Hawaii

Driller: J. Leslie  2 1/2 Hrs.  Rig
Helper: A. Kaiona  2 1/2 Hrs.  Gas
Helper:  Hrs.  Repairs

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>
</table>

Measurements

Remarks: Cleaning core for test pump. Cut opening thru brick and then stamp for drain line to test tube.

(Discharge)

Signed: Dane Leli  Date: Jan-31 1973
Date: Jan-29 1973  Job No: 2-11W-19  Hole No: 4306-01  Elevation: ft. 

Customer: Dept. of LN   Location: Hilo, Hawaii

Driller: S. Leslie  5 Hrs.  Rig: 45
Helper: A. Rainey   5 Hrs.  Gas: Oil


Bit-Size: 17”  Type: Stan


Depth Start: 420 ft., Depth Stop: 423 ft., Feet Drilled: 3

Water Levels, Time: 7:10 AM 234.09 ft., Time: AM ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>420</td>
<td>cindens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>423</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Water Levels, Time: 7:10 AM 234.09 ft., Time: AM ft.

Remarks: Hit hard rock @ 423' - Cleaning area for test pump.

Signed: Stan Leslie   Date: Jan-29 1973
**DRILLING LOG**

RUSCOE MOSS COMPANY

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

Date: 26 Jan 1973  Job No. 4306-01

Customer: Dept. of LR
Location: File, Hsu. III

Job No.: Hole No.: Elevation: 226019 ft.

Driller: S. Lissie 10 Hrs. Rig 45
Helper: A. Kimura 10 Hrs. Gas: Oil

Helper: Hrs. Repairs


Bit-Size: 17 in. Type: S10


Depth Start: 410 ft., Depth Stop: 420 ft., Feet Drilled: 10 ft.

Water Levels, Time: 9:08 AM 3-25-6 ft., Time: 12:26 PM 226.06 ft.

**Depth** | **Formation** | **Remarks** | **Top** | **A** | **B**
---|---|---|---|---|
410 | Porous gray Rock | | |
412 | Cinders | | |

**Measurements**

**Remarks:**

---

Date: 7/26 1973
Attention Chang" 

Enclosed are second copies of Drilling Logs for week of Jan 22 - Jan 26.

Hope you are able to read these.

Wilma.
## DRILLING LOG

**Date:** Jan 25 1973  
**Job No.:** 226019  
**Hole No.:** 4806-01  
**Location:** HiLo, Hawaii

**Driller:** 4. Leslie  
**Helper:** G. Timchon  
**Arv. Job:**  
**Lv. Job:**  
**Hrs. Repairs:**  
**Hrs. Gas:**  
**Hrs. Oil:**  
**Hrs. Repairs:**  
**Or. No.:**

**Bit-Size:** 1 7/16"  
**Type:**  
**Casing-Size:** in., Length in hole ft., in., Amt. Perforated ft., in.

**Depth Start:** 390 ft., Depth Stop 410 ft., Feet Drilled 20 ft.

**Water Levels, Time:**
- **A:** 6:55  
- **B:** 236:00

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>390-391</td>
<td>Band Gray Rock</td>
<td></td>
</tr>
<tr>
<td>391-400</td>
<td>Red Rock</td>
<td></td>
</tr>
<tr>
<td>400-410</td>
<td>Precious Gray Rock</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

---

**Signature:** (Jan 25, 1973)
DRILLING LOG

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

Date: Jan. 24 1973  Job No. 2Rb6919  Hole No. 1306-01  Elevation ______ ft.
Customer: Dept. of L & R  Location: HI, Hawaii

Driller: S. LaShe  10 Hrs.  Rig: 45
Helper: A. Kramer  10 Hrs.  Gas:  Oil
Helper:  Hrs.  Repairs

Bit-Size: 17"  Type: Slm
Casing-Size in., Length in hole ft. in., Amt. Perforated ft. in.
Depth Start 382 ft., Depth Stop ______ ft., Feet Drilled ______
Water Levels, Time: 7 A.M. 236.02 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>
<tr>
<td>392</td>
<td>Red Cinders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>385</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>382</td>
<td></td>
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<td></td>
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<tr>
<td>375</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>390</td>
<td>Band Gray Rock</td>
<td></td>
<td></td>
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</tbody>
</table>

Measurements

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

Remarks: had plenty trouble with cinders having in -

Signed: Jim Steele  Date: Jan. 24 1973
Date: Jun-23 1973  Job No.: 0244-19  Hole No.: 4306-0  Elevation ________ ft.
Customer: Depth of #4 W.R. Location: Hilo, Hawaii

Driller: J. Leslie  10 Hrs.  Rig: 45
Helper: D. Kaneko  10 Hrs.  Gas: Oil
Helper:                  Hrs.  Repairs:

Bit-Size: 17”  Type: S/L
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>
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<tbody>
<tr>
<td>379/</td>
<td>subs.</td>
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<td>379/</td>
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</table>

Measurements

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

Remarks: Worked on tracks - Hunting for decision from State -
Shipped rock samples to Hon - Called Hon - 3:00 P.M. -
Got word to go go deeper - Started drilling.
Cinders coming in -

Signed: T. A.  Date: Jun-23 1973
## DRILLING LOG

**RUSCOE MOSS COMPANY**

830 AHU STREET • HONOLULU, HAWAII 96819

TELEPHONE (808) 839-6888 • 833-1444

Date: [Fill in] Job No.: 2266219 Hole No.: 430601 Elevation: [Fill in]

Customer: [Fill in] Location: [Fill in]

Driller: [Fill in] 1st Hrs.: Rig: [Fill in]

Helper: [Fill in] 1st Hrs.: Gas: [Fill in]

Helper: [Fill in] Hrs.: Repairs: [Fill in]


Bit-Size: [Fill in] Type: [Fill in]


Depth Start: [Fill in] ft., Depth Stop: [Fill in] ft., Feet Drilled: [Fill in]

Water Levels, Time 7:16 A.M. 236.08 ft., Time 7:48 P.M. 278.26 ft.

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

Measurements

[Fill in]


Signed: [Stamp] Date: Jan. 28, 1929
**Date**    Jan-17   **Job No.**  0306-19   **Location**  430-11

**Driller**  R.  L.  Lee  **12 Hrs.**  Rig  4/10
**Helper**   A.  Zepeda  **10 Hrs.**  Gas
**Helper**   P.  Jones  **Hrs.**  Repairs

**Arv. Job** __________  **Lv. Job** __________  **Or. No.**

**Well Size**    12”  **Type**  31/22

**Casing Size** __________ in., **Length in hole** __________ ft. __________ in., **Amt. Perforated** __________ ft. __________ in.

**Depth Start** __________ ft., **Depth Stop** 379 ft., **Feet Drilled** 13

**Water Levels**  
- **Time** 7:00 M  
- **Time** 4:49 PM  
- **Time** 237.10' To Elev. 279.5 ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>390'</td>
<td>Lava Rock</td>
<td></td>
</tr>
<tr>
<td>371'</td>
<td>Red Cinder - plenty</td>
<td>69' pro</td>
</tr>
</tbody>
</table>

**Measurements**

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

**Remarks:** 
- Any string on sandline cable broke & unraveled
- Hitting on gravel or gravel...

**Signed**  R. L. Lee  **Date**  Jan-17  1973
Date: Jan 15 1972

Job No.: 4306

Customer: Dept. of L & N D

Location: Hilo, Hawaii

Driller: J. Leslie

Helper: D. Zablocki

Rig: 45

Gas: Oil

Hrs. Hrs.

10 12 Repairs


Hrs.

Hrs.

Bit-Size: 17" Type: Stone

Casing-Size: 3 1/2 in., Length in hole:___ ft., Amt. Perforated: ___ ft., ___ in.

Depth Start: 352 ft., Depth Stop: 366 ft., Feet Drilled: 14

Water Levels, Time:

- M 239.66 ft., Time 4:45 P.M. 237.42 ft.

To Elevation: 274.51 ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>352</td>
<td>Fine Pores gray rock</td>
<td></td>
</tr>
<tr>
<td>366</td>
<td>Red sandstone</td>
<td></td>
</tr>
<tr>
<td>239</td>
<td>Pores gray rock</td>
<td></td>
</tr>
</tbody>
</table>

Measurements

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

Remarks:

Signed: Sam Leli

Date: Jan 20 1972
Date: April 17, 1973

Customer: Black Oil Plane

Location: Hilo, Hawaii

Driller: Leslie

Rig: 45

Helper: A. Kiene

Gas: Oil

Helper: Hrs.

Reps: Hrs.

Arv. Job: Hrs.

Lv. Job: Hrs.

Or. No.

Bit Size: 2

Type: Steel

Casing Size: in.

Depth Start: 340 ft.

Depth Stop: 352 ft.

Amount Perforated: 12 ft.

Water Levels, Time: 7:00 A.M. 238 ft.

Time: 4:50 P.M. 252 ft.

Top of Oil casing: 71/2 ft.

Measurements:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1/2</td>
<td>fine gravel</td>
<td>grey</td>
<td>280 ft.</td>
</tr>
</tbody>
</table>

Remarks:

Signed: Tim Lalli

Date: April 17, 1973
Date: Jan-16 1973 Job No.: Hole No.: Elevation: ft.
Customer: Dep't of E & R. Location: Honolulu, Hawaii
Driller: J. Leslie 10 Hrs. Rig: 45
Helper: D. Zama 10 Hrs. Gas: Oil

Bit-Size: 17" Type: Steel
Depth Start: 321 ft., Depth Stop: 346 ft., Feet Drilled: 15

Water Levels, Time: 6.55 a.m., Time: 10:45 a.m., 232.25 ft., 51

Depth | Formation | Remarks | Top
----- | --------- |-------- | -----
321  | hard grey rock |
321  | Reef cinders |
321  | fine pebbles grey rock |

Measurements

A | B

Depth Start 58.67 ft., Top of Reef cinders @ Elevation 277.57 ft.

Remarks: U.L. dropped when got into cinders

Signed: Alm. Lee Date: Jan-16 1973
Date: Jan 15, 1973  
Job No.  
Hole No.  
Elevation  

Customer: Dept of E & R  
Location: HI, Hawaii  

Driller: J. Leslie  
10 Hrs.  
Rig: 45  

Helper: A. Krieger  
15 Hrs.  
Gas:  
Oil:  

Helper:  
Hrs.  
Repairs:  

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

Bit-Size: 17”  
Type: 3 In  

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

Depth Start: 3/0  
ft., Depth Stop: 721  
ft., Feet Drilled: 11  

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>121</td>
<td>hand grey rock</td>
<td></td>
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</tr>
</tbody>
</table>

**Remarks:**  
Tanked rig & refurbished  
drill tools with well-adjusted  
enines  
Fixed up bit.  
Landed @ 301’ - drilled out.
ROUTE SLIP
DIVISION OF WATER AND LAND DEVELOPMENT

From: [Signature]
Date: 12/2
File in: 74 6W 19

To: Initial

<table>
<thead>
<tr>
<th>To</th>
<th>Initial</th>
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<tbody>
<tr>
<td>Robert T. Chuck</td>
<td></td>
</tr>
<tr>
<td>Walter O. Watson</td>
<td></td>
</tr>
<tr>
<td>Takeo Fujii</td>
<td></td>
</tr>
<tr>
<td>James Yoshimoto</td>
<td></td>
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<tr>
<td>Albert Ching</td>
<td></td>
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<tr>
<td>Hong Fong Chang</td>
<td></td>
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<tr>
<td>George Morimoto</td>
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<tr>
<td>Manabu Tagomori</td>
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<tr>
<td>Dan Lum</td>
<td></td>
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<tr>
<td>Kazu Hayashida</td>
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<td>Harold Sakai</td>
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<td>Jane Sakai</td>
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<td>Lorraine Nanbu</td>
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<td>Jean Siarot</td>
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<td>Elsie Yonamine</td>
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Please:

- See me
- Call me
- Take action
- Route to your branch
- Review & comment
- Draft reply
- Acknowledge receipt
- Type final
- For filing
- Xerox ___ copies
- Mail

FOR YOUR:

- Approval
- Signature
- Information
- Initials

REMARKS:

Log should identify reel no. and proj. no. 2
<table>
<thead>
<tr>
<th>Date</th>
<th>19-7-3</th>
<th>Job No.</th>
<th>Hole No.</th>
<th>Elevation</th>
<th>Location</th>
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<tr>
<td>Customer</td>
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</tr>
<tr>
<td>Driller</td>
<td></td>
<td>Hrs.</td>
<td>Rig</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td>Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
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<td></td>
<td></td>
<td>Hrs.</td>
<td>Repairs</td>
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<tr>
<td>3-in. Size</td>
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<td>Type</td>
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<td>Casing-Size</td>
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<td>Depth Start</td>
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<td>Depth Stop</td>
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<td></td>
</tr>
<tr>
<td>Feet Drilled</td>
<td></td>
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</tr>
<tr>
<td>Water Levels, Time</td>
<td>M ft.</td>
<td>Time</td>
<td>M ft.</td>
<td>Measurements</td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>Formation</td>
<td>Remarks</td>
<td>Top</td>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>

**Remarks:** Total sand found approx 46 yds. Total gravel found.
Date: Jan-11 1973  Job No.: Hole No.: Elevation: ft.
Customer: Dept. of LKE  Location: Hill, Hawaii

Driller: S. Leslie  10 Hrs.  Rig: 45
Helper: A. Kanner  10 Hrs.  Gas:  Oil:
Helper:  Hrs.  Repairs:
Av. Job:  Hrs.  Or. No.:  Lv. Job:

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.

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

Measurements

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

Water Levels Time M ft. Time M ft.

Remarks: Length on rig - Channel top near - 2" Gravel removed 6 ft. Cove top 7-1/2 ft. Water level in nozzle 7-1/2 ft. 2 1/2 ft. above.

Signed: Ann Lelli  Date: Jan-11 1973
Date: Jan-10 1973  Job No.: 7406-01  Hole No.: 4306-01  Location: Hilo, Hawaii

Customer: Dept. of LET NR

Driller: S. Leslie  10 Hrs.  Rig: 45
Helper: D. Kupuna  10 Hrs.  Gas: Oil

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

Bit-Size:  Type: 


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

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

Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>North</th>
<th>Formation</th>
<th>West</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6'</td>
<td>9''</td>
<td>9''</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20'</td>
<td>8 3/4''</td>
<td>9 3/16''</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40'</td>
<td>8%</td>
<td>9 1/4''</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60'</td>
<td>8 3/4''</td>
<td>9 1/4''</td>
<td></td>
<td></td>
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<tr>
<td>80'</td>
<td>87/8''</td>
<td>9 1/4''</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100'</td>
<td>8 7/8''</td>
<td>9 1/4''</td>
<td></td>
<td></td>
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<tr>
<td>120'</td>
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<tr>
<td>140'</td>
<td>87/8''</td>
<td>9 3/4''</td>
<td></td>
<td></td>
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<tr>
<td>160'</td>
<td>9''</td>
<td>9 3/4''</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180'</td>
<td>9''</td>
<td>9 1/4''</td>
<td></td>
<td></td>
</tr>
<tr>
<td>200'</td>
<td>9 1/2''</td>
<td>9 1/4''</td>
<td></td>
<td></td>
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<tr>
<td>220'</td>
<td>9 1/2''</td>
<td>9 1/4''</td>
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<tr>
<td>240'</td>
<td>9 3/4''</td>
<td>9 3/4''</td>
<td>Ran cage test with State Engineer</td>
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</tr>
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<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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</thead>
<tbody>
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</tbody>
</table>

Remarks:

- Had to get 3/4 inch to pick up one for 2" pipe. Mixed 4
- Sewed steel and cement on it. 10" boiler at Popaikou to make A
- Dump backer. Ran in 2" geotite line.

Signed: Am. Leslie  Date: Jan-10 1973
**Date:** Jan-9 1973  
**Job No.:** 4306-01  
**Hole No.:** 74W19  
**Location:** Hilo, Hawaii

<table>
<thead>
<tr>
<th>Customer</th>
<th>Dept of L&amp;N</th>
<th>Rig 45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller</td>
<td>Slushe</td>
<td>10 Hrs</td>
</tr>
<tr>
<td>Helper</td>
<td>A. Kainoa</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>
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</table>

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

**Bit-Size** | **Type**
---|---

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 I.D. in.</td>
<td>310 ft.</td>
<td>NONE ft. in.</td>
</tr>
</tbody>
</table>

**Depth Start** | **Depth Stop** | **Feet Drilled**
---|---|---

<table>
<thead>
<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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</thead>
</table>

**Measurements**

<table>
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<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
</table>

**Remarks:**

- Finished running in casing total 310 ft. - Set up "A" frame
- to run case test - Ran preliminary test
- Cemented well after every was all in. Cured across.
- Feathers boiled.

**Signed:** Ann Leslie  
**Date:** Jan-9 1973
<table>
<thead>
<tr>
<th>Date</th>
<th>Jan 8 1973</th>
<th>Job No.</th>
<th>Hole No.</th>
<th>Elevation</th>
<th>ft.</th>
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<tbody>
<tr>
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<tr>
<td>Driller</td>
<td>S. Leslie</td>
<td>10 Hrs.</td>
<td></td>
<td>Rig 45</td>
<td></td>
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<tr>
<td>Helper</td>
<td>A. Kainer</td>
<td>10 Hrs.</td>
<td></td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td>Hrs.</td>
<td>Repairs</td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td></td>
<td>Or. No.</td>
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</tr>
<tr>
<td>Bit-Size</td>
<td></td>
<td></td>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>Start</td>
<td>ft.</td>
<td>Stop</td>
<td>ft.</td>
<td>Feet Drilled</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M</td>
<td>ft.</td>
<td>Time</td>
<td>M</td>
<td>ft.</td>
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</table>

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

**Measurements**

- Water Levels: Time M ft, Time M ft

**Remarks:**

- Worked on rig to get casing
- Pump broke to release
- Started running in casing
- Had trouble with 3 thick ft. gas - Casing line twisting

Signed: S. Leslie
Date: Jan 8 1973
Date: Jan-6 1973  
Job No: 46607  
Hole No: 4306-01  
Location: Hilo, Hawaii

Customer:  

Driller: J. Leslie  
Hrs: 16  
Rig: 45

Helper: O. Kainoa  
Hrs: 10  
Gas:  
Oil:

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

Bit-Size: 22"  
Type: 

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

Depth Start: 304 ft., Depth Stop: 310 ft., Feet Drilled: 6


<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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</thead>
<tbody>
<tr>
<td>304</td>
<td>hard gray rock</td>
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<tr>
<td>310</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Repaired bit several times - Rechecked depth of well.

Signed: Sam Keli  
Date: Jan-6 1973
Date: Jan-5 1973

Customer: Dept of L&N

Location: Eo, Hawaii

Job No. 7306-01

Hole No. YK619

Driller: L. Leslie 10 Hrs.

Rig: 45

Helper: A. Kainer 10 Hrs.

Gas

Oil

Helper

Hrs.

Repsirs

Arv. Job

Lv. Job

Hrs.

Or. No.

Bit Size 22

Type Stan


Depth Start 299 ft., Depth Stop 304 ft., Feet Drilled 5

Water Levels, Time 7:10 A.M. 121.75 ft., Time M ft.

Remarks:

Refixed bit several times...

Signed: Tom Moss

Date: Jan-5 1973
<table>
<thead>
<tr>
<th>Date</th>
<th>Jan-4 1973</th>
<th>Job No.</th>
<th>TY06</th>
<th>Location</th>
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<td>Dept. of L &amp; N</td>
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<tr>
<td>Driller</td>
<td>S. Leslie</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>45</td>
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<tr>
<td>Helper</td>
<td>A. Keon</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
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<tr>
<td>Helper</td>
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<td></td>
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<tr>
<td>Arv. Job</td>
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<tr>
<td>Lv. Job</td>
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<tr>
<td>Hrs.</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Or. No.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bit-Size</td>
<td>22&quot;</td>
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<tr>
<td>Casing-Size</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Depth Start</td>
<td>298 ft.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Depth Stop</td>
<td>299 ft.</td>
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<tr>
<td>Feet Drilled</td>
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<td></td>
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<tr>
<td>Water Levels, Time</td>
<td>M</td>
<td>ft., Time</td>
<td>M</td>
<td>ft.</td>
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</table>

<table>
<thead>
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<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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<tbody>
<tr>
<td>298</td>
<td>hard clay rock</td>
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<td></td>
</tr>
<tr>
<td>102</td>
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</tr>
<tr>
<td>176</td>
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</tbody>
</table>

Remarks: Finished building up 19-3/4" bit to 22" @ 3:00 P.M. Put an bit.

Signed: S. Leslie  Date: Jan-4 1973
Date Jan-3 1973  Job No. 4306-01  Hole No. 19  Elevation   ft.
Customer Dept. of Land & I.R.  Location Hilo, Hawaii

Driller  S. Laves  10 Hrs.  Rig 45
Helper  A. Kainoa  10 Hrs.  Gas Oil

Arv. Job   Hrs.  Repairs
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.

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

Measurements

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

Remarks: Picked up acetylene oxygen - Rolled out balance of casing-

Signed  A. Lai  Date  Jan-3 1973
Date: Jan-2 1973  
Job No.: 276W19  
Hole No.: U306-01  
Elevation: ft.  

Customer: Dept. of LNR  
Location: Hilo, Hawaii  

Driller: S. Laskie  
10 Hrs.  
Rig: 45  

Helper: A. Kainon  
10 Hrs.  
Gas: Oil  

Helper:  
Hrs. Repairs:  

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

Bit-Size:  
Type:  

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

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>
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<tbody>
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</tbody>
</table>

Measurements

A

B


Remarks:
- Checked V. Bumps for freight.
- Picked up freight @ Hilo.
- Repaired casing grips. Question on Depth of casing - Called them.

Got word to go to 304' with casing - went to Honolulu.

Signed: Alvin Leslie  
Date: Jan-2 1973
Date: Dec-29 1972  |  Job No.: 4306-01  |  Location: Hilo, Hawaii

Customer: Dept. of L&NR  |  Elevation: ft.

Driller: S. Leslie  |  10 Hrs.  |  Rig: #45
Helper: A. Kainoa  |  10 Hrs.  |  Gas:  |  Oil:

Arv. Job  |  Hrs.  |  Or. No.
Lv. Job  |  Hrs.

Bit-Size:  |  Type:  

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

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

Measurements:

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

Remarks:
- Worked on pig. Picked up starter @ repair shop. Put back starter.
- Got pig running - hooked on casing line brake.
- Slacked off guy lines - jacket rig to down casing in well.
- Rejigged guy lines - got 5 psi in well.

Signed: Tom Leliu  |  Date: Dec-29 1972
<table>
<thead>
<tr>
<th>Date</th>
<th>Dec-28 1972</th>
<th>Job No.</th>
<th>7-M-19</th>
<th>Hole No.</th>
<th>306-01</th>
<th>Elevation</th>
<th>ft.</th>
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<tbody>
<tr>
<td>Customer</td>
<td>Dept. of L&amp;N</td>
<td>Location</td>
<td>Honolulu, Hawaii</td>
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<tr>
<td>Driller</td>
<td>Leslie</td>
<td>5.5 Hrs.</td>
<td>Rig</td>
<td>#45</td>
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<tr>
<td>Helper</td>
<td>Kainoa</td>
<td>5.5 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
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<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Repairs</td>
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</tr>
</tbody>
</table>

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

Remarks:
- Picked up 10" casing clamp @ Y.Bros.
- Picked up gasoline
- Hauled balance of 10" casing to well site (10 pcs)

Remarks:
- Want to Pepekee - Picked up drilling joints of two wrenches
- Want to Pupiliou - Picked up drill stand - Cut of 2" cond. pipe - Started setting up landing frame for casing

Signed: Lonnie Lelei  Date: Dec-28 1972
<table>
<thead>
<tr>
<th>Date</th>
<th>Dec-27 1972</th>
<th>Job No.</th>
<th>234W19</th>
<th>Location</th>
<th>Hole No.</th>
<th>6306-01</th>
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<tbody>
<tr>
<td>Customer</td>
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<td>Location</td>
<td>Honolulu, Hawaii</td>
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<tr>
<td>Driller</td>
<td>S. Leslie</td>
<td>7 Hrs.</td>
<td>Rig #45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>A. Kincaid</td>
<td>7 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
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<tr>
<td>Arv. Job</td>
<td>7:00</td>
<td>Lv. Job</td>
<td>2:00</td>
<td>Hrs.</td>
<td>Or. No.</td>
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<thead>
<tr>
<th>Bit-Size</th>
<th></th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>in., Length in hole</td>
<td>ft. in., Amt. Perforated</td>
</tr>
<tr>
<td>Depth Start</td>
<td>ft.</td>
<td>Depth Stop</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M ft. 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>
</table>

Checked Y. Beas, fur freight not off yet.
Rigged up cable sling with hooks to carry 2 tons to "casing" @ a time with "A" frame - tried to start engine couldn't - took batteries to be recharged.

Remarks: Knocked on pipe - brought 6 tons 18" casing from outside area to well site - Put batteries back in rig - still couldn't start - very off starter.

Signed Tim Delia Date Dec-27 1972
Date: 10-13 1972    Job No. 22-HW-19  Hole No. 7306-01  Elevation 298.24 ft.
Customer:             State Dept. of Hi.     Location: Hilo, Hawaii
Driller:              Cunningham     10 Hrs.  Rig 45
Helper:               Farmer        10 Hrs.  Gas
                     Helper
Arv. Job              24               10 Hrs.  Oil
Lv. Job
Bit-Size:             24               Type: Star
Casing-Size:          in., Length in hole ft. in., Amt. Perforated ft. in.
Depth Start:          286               ft., Depth Stop 300 ft., Feet Drilled 14
Water Levels, Time:   6:45 AM 97 ft., Time 4 PM 98 ft.

<table>
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<tr>
<td>286</td>
<td>LAVA Rock, Same BRN, Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measurements

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

Remarks: The formation from 286- to 300' fairly soft, hard the last 3365-300' more hard. We'll pit once.

Signed: Ray Cunningham   Date: Oct. 13 1972
Date: 10-12 1972  
Job No: 23 HW-19  
Hole No: 4306-01  
Elevation: 288.26 ft.

Customer: State Dept. of LRNR  
Location: Hilo, Hawaii

Driller: T. Cunningham  
Hrs: 10  
Rig: 45

Helper: B. Farmer  
Hrs: 10  
Gas:  
Oil:  
Repairs: 

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

Bit: Size: 24  
Type: Star

Amt. Perforated: ft. in.

Depth:  
Start: 983 ft.  
Stop: 286 ft.  
Feet Drilled: 3

Water Levels: 
Time: 8:12 AM 9:22 ft.  
Time: M  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>283</td>
<td>Hard Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>286</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Weld Bit 24 Hrs.

Signed: T. Cunningham  
Date: Oct. 12 1972
**Job No. 22-Hw-19**

**Hole No. 1**

**Location: Hilo, Hawaii**

**Date:** 10-11-72

**Elevation:** 283.26 ft.

**Customer:** State Dept. of Nat. Res.

**Driller:** J. Cunningham 10 Hrs.

**Rig:** 45

**Helper:** B. Former 10 Hrs.

**Arv. Job:**

**Lv. Job:**

**Hrs.:**

**Gas:**

**Oil:**

**Repairs:**

**Depth Start:** 281 ft., **Depth Stop:** 283 ft., **Feet Drilled:** 2

**Bit-Size:** 2 9/16 in.

**Type:** Steel

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

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>281</td>
<td>Hard Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>283</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Water Levels, Time:** 8:4 M 92 ft., **Time:** M 3 ft.

**Remarks:** Weld Bit 2 Times, 2 1/2 Hrs.

**Signed:** J. Cunningham  
**Date:** Oct. 11, 1972
Date: 10-10 1972  Job No: 22-HW-19  Hole No: 4306-00  Elevation: 278.24 ft.
Customer: State Dept. of H. & W.  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs.  Rig: 45
Helper: Joe Farmer  10 Hrs.  Repairs

Bit-Size: 24  Type:_star
Depth Start: 4 ft., Depth Stop: 281 ft., Feet Drilled: 4

Water Levels, Time: 2:00 A.M. 97 ft., Time: M.  ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>277</td>
<td>Hard Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>281</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Cutoff Bahitou Socket another test place in clays  
Hard Rock Dubbing H. Breeding corner of brugs & clay bar

Signed: T. Cunningham  Date: Oct. 10 1972
Date: 10-9-72  
Job No.: 22-HW-19  
Hole No.: 4306-01  
Elevation: 278.2 ft.

Customer: State Dept. of L.T.N. R.  
Location: Hilo, Hawaii

Driller: T. Cunningham  
10 Hrs.  
Rig 45

Helper: Bob Farmer  
10 Hrs.  
Repairs

Arv. Job  
Lv. Job  
Or. No.

Bit-Size: 2-4  
Type: 528


Depth Start: 273 ft., Depth Stop: 277 ft., Feet Drilled: 1

Water Levels, Time: 7:40 AM  
96 ft., Time:  
 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>273</td>
<td>Med hard Lava Rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>277</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: We had one strand great in the drill line we cut of about 275 ft. Cable. We decided to put in another line. We pulled of line to put in new one on cable came out of concrete block hard time get back in.

Signed: T. Cunningham  
Date: Oct 9-1972
**Date**: 10-6-73  
**Job No.**: 22-HW-19  
**Hole No.**: 4306-01  
**Elevation**: 298.26 ft.

**Customer**:

**State dept. of L & P**  
**Location**: Hilo, Hawaii

**Driller**: T. Cunningham  
**10 Hrs.**  
**Rig**: 45

**Helper**: Bob Farmer  
**10 Hrs.**  
**Gas**:  
**Oil**:  
**Repairs**:  
**Arv. Job**:  
**Lv. Job**:  
**Hrs.**:

**Bit-Size**: 24  
**Type**: Star

**Casing-Size**:  
**in., Length in hole**:  
**ft.**:  
**in., Amt. Perforated**:  
**ft.**:  
**in.**:  
**Depth Start**: 266 ft.  
**Depth Stop**: 276 ft.  
**Feet Drilled**: 10

**Water Levels, Time**:  
**H:45**  
**M: 97 ft.**,  
**Time**:  
**M**:  
**ft.**:

### Measurements

<table>
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<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>266</td>
<td>med. hard Rock</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>273</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>293</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>294</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>276</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**: Drilling Rock is Breaking come off Clay Blair.  
Dubbing up bit lugs.  
Build up bit voice.  
Some material came down.

**Signed**: T. Cunningham  
**Date**: Oct. 6, 1973
<table>
<thead>
<tr>
<th>Date</th>
<th>Oct 5 1972</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job No</td>
<td>22-HW-19</td>
</tr>
<tr>
<td>Hole No</td>
<td>4506-01</td>
</tr>
<tr>
<td>Elevation</td>
<td>278.24 ft</td>
</tr>
<tr>
<td>Customer</td>
<td>State Dept</td>
</tr>
<tr>
<td>Location</td>
<td>Hilo, Hawaii</td>
</tr>
<tr>
<td>Driller</td>
<td>Cunningham</td>
</tr>
<tr>
<td>Rig</td>
<td>45</td>
</tr>
<tr>
<td>Helper</td>
<td>Bob Farmer</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>Hrs.</td>
<td>10</td>
</tr>
<tr>
<td>Arv. Job</td>
<td>Lv. Job</td>
</tr>
<tr>
<td>Or. No.</td>
<td></td>
</tr>
<tr>
<td>Bit Size</td>
<td>2 1/4</td>
</tr>
<tr>
<td>Type</td>
<td>Stn</td>
</tr>
<tr>
<td>Casing Size</td>
<td>3 1/4 in., Length in hole 300 ft.</td>
</tr>
<tr>
<td>Perforated</td>
<td>10 ft.</td>
</tr>
<tr>
<td>Depth Start</td>
<td>255 ft.</td>
</tr>
<tr>
<td>Depth Stop</td>
<td>266 ft.</td>
</tr>
<tr>
<td>Feet Drilled</td>
<td>11</td>
</tr>
<tr>
<td>Water Levels</td>
<td>7 AM 95 ft.</td>
</tr>
<tr>
<td>Time</td>
<td>M</td>
</tr>
<tr>
<td>Remarks</td>
<td>Build up the bit lugs once</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>255</td>
<td>BPN Clay &amp; Lava Rock</td>
<td>Top</td>
</tr>
<tr>
<td>260</td>
<td>Med. hard lava rock</td>
<td></td>
</tr>
<tr>
<td>266</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>

Sign: Tony Cunningham  Date: Oct 5 1972
Date: 10-4-1972  
Job No. 22-HW-19  
Hole No. 4306-01  
Elevation: 228.24 ft.

Customer: State Dept. of P.N.T.  
Location: Hilo, Hawaii

Driller: T. Cunningham  
10 Hrs.  
Rig: 45

Helper: Be Former  
10 Hrs.  
Gas:  
Oil:  
Repairs:

Arv. Job:  
Lv. Job:  
Hrs:

Bit-Size: 24  
Type: Star

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

Depth Start: 244 ft., Depth Stop: 255 ft., Feet Drilled: 11

Water Levels, Time: T1 A.M. 98 ft., Time: M  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>244</td>
<td>BRN. Clay &amp; lava Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>255</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Build up the bit hinge once, tighten up the Bearing on the main shaft.

Signed: T. Cunningham  
Date: Oct 4, 1972
Date: 10-3-72  Job No: 22-HW-19  Hole No: 2306-01  Elevation: 278.26 ft.

Customer: State Dept. of H.C.R.  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs.  Rig: 45
Helper: R. Farmer  10 Hrs.

Bit-Size: 2-4  Type: Stan.

Depth Start: 235 ft., Depth Stop: 244 ft., Feet Drilled: 9


<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>235</td>
<td>BRN, Clay+LAVA Rocks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>244</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Strand break in the drill cable 3/4 in. off 90 FT.

Signed: Troy Cunningham  Date: Oct. 3, 1972
<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>227</td>
<td>Med Hard Lava Rock</td>
<td></td>
</tr>
<tr>
<td>234</td>
<td></td>
<td></td>
</tr>
<tr>
<td>237</td>
<td>BRN, Clay + Lava Rock</td>
<td></td>
</tr>
<tr>
<td>235</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Pedestrian on the rope socket

Signed: Tony Cunningham  Date: Oct. 2 1972
## Job Details
### General Information
- **Date:** 9-30 1972
- **Job No:** 32-142-19
- **Hole No:** 4106-01
- **Elevation:** 278.26 ft.
- **Location:** Hilo, Hawaii
- **Customer:** State Dept. of H. & I. R.

### Drilling Details
- **Driller:** T. Cunningham
- **Drilling Hours:** 10 Hrs.
- **Rig:** 45
- **Helper 1:** T. Farmer
- **Assistant:**
- **Drilling Hours:** 10 Hrs.
- **Gas:**
- **Oil:**
- **Repairs:**

### Drilling Parameters
- **Arv. Job:** 6
- **Lv. Job:** 4
- **Arrival Time:**
- **Departure Time:**

### Bit and Casing Specifications
- **Bit Size:** 2
d
- **Casing Size:**
- **Type:**
- **Depth Start:** 220 ft.
- **Depth Stop:** 227 ft.
- **Feet Drilled:** 7

### Water Levels
- **Time:** 6:30 AM (97 ft.)
- **Time:** 5:00 PM

### Measurements

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>Med. hard Lava Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>227</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Remarks
- Water Level started to lower in the afternoon.
- No mud in well; some rocks falling. Water falling from above.
- Build up the bit lugs once.

### Signature
- **Signed:** T. Cunningham
- **Date:** Sept. 30 1972
**Date:** 9-29-1972  
**Job No.:** 2Z-HW-19  
**Customer:** State Dept. of L & I B  
**Location:** Hilo, Hawaii  
**Elevation:** 278' 25" ft.  

**Driller:** T. Cunningham  
**Helper:** Bob Farmer  
**Rig:** 45  

**Helper Hrs.:** 10  
**Gas:**  
**Oil:**  
**Hrs.:** 10  
**Repairs:**  
**Arv. Job:** _____  
**Lv. Job:** _____  
**Hrs.:**  
**Or. No.:**  

**Bit-Size:** 2 1/4  
**Type:** Star  

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

**Depth Start:** 200 ft., **Depth Stop:** 220 ft., **Feet Drilled:** 20  

**Water Levels:**  
**Time:** 6:45AM  
**60 ft., Time:** M.  
**ft.**  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Lava Rock, med. hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>202</td>
<td>Lava Rock, BSW, clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>220</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Measurements**  

**Remarks:** Build up the pit once.  

**Signed:** Roy Cunningham  
**Date:** Sept. 29, 1972
Date: 9-28-1972  
Job No: 23-1W-18  
Hole No: 4J06-01  
Elevation: 278.26 ft.

Customer: State Dept. of N.R.  
Location: Hilo, Hawaii

Driller: T. Cunningham  
10 Hrs.  
Rig: 45-

Helper: Bob Farmer  
10 Hrs.  
Gas:  
Oil:  
Repairs: 

Arrv. Job: 6:30  
Lv. Job: 4:30  
Hrs. 
Or. No.: 

Bit-Size: 2 4  
Type: Star


Depth Start: 190 ft., Depth Stop: 200 ft., Feet Drilled: 10

Water Levels, Time: 6:45 AM, 60 ft., Time: M, ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>190</td>
<td>Lava Rock, Med. hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>Cinder, Lava Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>192</td>
<td>Lava Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>197</td>
<td>Lava Rock, Med. hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Measurements

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

Remarks:

Signed: Troy Cunningham  
Date: Sept. 28, 1972
Date 9-27 1972  Job No 29-HW-19  Hole No 3806-01 Elevation 274.26 ft.
Customer State Dept. of L. & N. R. Location Hilo, Hawaii

Driller T. Cunningham 10 Hrs. Rig 45
Helper Hrs. Gas Oil
Helper Bob Farmer 10 Hrs. Repairs

Bit-Size 2-4 Type
Casing-Size in., Length in hole ft. in., Amt. Perforated ft. in.
Depth Start 172 ft., Depth Stop 190 ft., Feet Drilled 18
Water Levels, Time 7:00 AM 60 ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>172</td>
<td>LAVA Rock, med. hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>173</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>Cinder, LAVA Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>190</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measurements

**Remarks:** BROKE one strand in the drilling cutoff. Soft Rebutt on the socket, Put a set of plates on Ball Reel

Signed T. Cunningham  Date Sept. 27 1972

Customer: State Dept. of H. & R.  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs.  Rig: 45

Helper: Bob FARMER  10 Hrs.  Gas:  Oil:  Repairs:


Bit-Size: 2  Type: Star


Depth Start: 165 ft., Depth Stop: 172 ft., Feet Drilled: 7

Water Levels, Time: M 60 ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>LAVA Rock, med. hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>172</td>
<td></td>
<td></td>
<td></td>
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Measurements

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

Remarks: Hole cliche some, possible rope socket knocking material down. We babbitt on the hole socket.

Signed: T. Cunningham  Date: Sept. 26, 1972
Date: 9-25 1972
Job No: 22-IH-19
Hole No: 8306-01
Elevation: 25.26 ft.
Customer: State Dept. of AGR.
Location: Hilo, Hawaii
Driller: J. Cunningham
10 Hrs. Rig 45
Helper: Bob Farmer
10 Hrs. Repairs
Arv. Job _______ Lv. Job _______ Hrs. _______ Or. No. _______

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

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

Remarks: We went to the dock, picked up the fishing string tool, made up the string tool, it went in hooked, on brought out little tool from the well, broke down the tool, getting ready to return to drilling.

Signed: J. Cunningham
Date: 9-25 1972
Date: 9-22 1972  Job No. 22-HW-19 Hole No. 4306-01 Elevation: 278.26 ft.
Customer: State Dept. of H. W.
Loc: Hilo, Hawaii

Driller: J. Cunningham  4 Hrs.  Rig 15
Helper: ________________  Hrs.  Gas ____________
Helper: Bob Farmer  4 Hrs.  Oil _______________

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>165</td>
<td>LAVA Rock Med Hard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: We go to job site (old equipment) then we go to young boy's pickup drive cap & manlift. From them to winden. Chicago, see up our plate for drill came finished. No finish.

Signed: J. Cunningham  Date: Sept 22 1972
Date: 9-21-1972  
Job No.: 22-HW-19  
Hole No.: 4306-01  
Elevation: 278.26 ft.  

Customer: State Dept. of Water Supply  
Location: Hilo, Hawaii  

Driller: T. Cunningham  
10 Hrs.  
Rig: 45  

Helper: Rolf Farmer  
10 Hrs.  
Gas:  
Oil:  
Repairs:  
Arv. Job:  
Lv. Job:  

Bit Size: 24  
Type: Stan  

Casing Size: N/A in., Length in hole: 160 ft., Amt. Perforated: 0 ft. in.  

Depth Start: 160 ft., Depth Stop: 165 ft., Feet Drilled: 5 ft.  

Water Levels, Time: 1:45 PM, 60 ft. Time: M  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>160</td>
<td>Lava Rock, med. hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measurements:  

Remarks: We build one floor around the well, did some more building on the dog house. Start bill. Pulled the line out of the socal, last the poles in the well.  

Signed: T. Cunningham  
Date: Sept.21 1972
Date 9-20 1972   Job No. 22-HW-19 Hole No. 1306-01 Elevation 278.3 ft.
Customer State Dept. of N.R. Location Hilo, Hawaii
Driller: T. Cunningham 10 Hrs. Rig 45
Helper: V. Barwick 10 Hrs. Repairs
Arv. Job 6:30 Lv. Job 8:30

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>2 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth Start</td>
<td>135 ft., Depth Stop</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>7:30AM 5-3 ft., Time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>135</td>
<td>LAVA Rock, Med. Frl.</td>
<td></td>
</tr>
<tr>
<td>139</td>
<td></td>
<td></td>
</tr>
<tr>
<td>139</td>
<td>BRN Clay, Lava Rock.</td>
<td></td>
</tr>
<tr>
<td>155</td>
<td></td>
<td></td>
</tr>
<tr>
<td>153</td>
<td>LAVA Rock, med. hard</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: We build up the bit long, one time

Signed T. Cunningham Date Sept. 20 1972
Date: 9-19 1972  
Job No.: 22-HW-19  
Hole No.: 4306-01  
Elevation: 278' 26" ft.

Customer: State Dept. of Land & Natural Resources  
Location: Hilo, Hawaii

Driller: T. Cunningham  
10 Hrs.  
Rig: 45

Helper: V. Barkish  
10 Hrs.  
Gas:  
Oil:  
Repairs:  

Arv. Job: 6' 30"  
Lv. Job: 4' 30"

Bit-Size: 24  
Type: Star

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

Depth Start: 110 ft.  
Depth Stop: 135 ft.  
Feet Drilled: 25

Water Levels, Time: 7: A.M.  
55 ft.  
Time: M  
2 ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>BRN. Clay, Red Clay Shale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>BRN. Clay &amp; Lava Rocks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>Lava Rock, mod. hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Build up the bit lugs one time

Signed: T. Cunningham  
Date: Sept 19 1972
Date: 9-18 1972  
Job No: 22-HW-19  
Hole No: 4306-01  
Elevation: 2782' ft.

Customer: State Dept. of Land and Natural Resources  
Location: Hilo, Hawaii

Driller: T. Cunningham  
10 Hrs.  
Rig: 45

Helper: V. Ratwick  
10 Hrs.  
Repairs

Arv. Job: 6:30  
Lv. Job: 4:30

Bit Size: 24  
Type: Steel

Casing Size:  
in., Length in hole:  
ft., Amt. Perforated:  
ft., in.

Depth Start: 85  
ft., Depth Stop: 110  
ft., Feet Drilled: 25

Water Levels, Time: 4:00 P.M. 57 ft., Time: 5:00 M. 7 ft.  

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>BRN. Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>Same Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85/92</td>
<td>Med. Hard Lava Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>910</td>
<td>BRN. Clay, Red Clay, Ash</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:  
We build up the bit lug one time.  
We were not adding water to the well.

Signed: Troy Cunningham  
Date: 9-18 1972
Date: 9-16-72  Job No: 22-HW-19  Hole No: 4306-01  Elevation ______ ft.

Customer: State Dept. of Natural Resources  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs. Rig 45

Helper: V.J. Barwick  10 Hrs. Repairs

Arv. Job ______  Lv. Job ______  Or. No. ______

Bit-Size: 24  Type: Star


Depth Start: 65 ft.  Depth Stop: 85 ft.  Feet Drilled: 20


<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>LAVA Rock &amp; some Brit. Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: We build up the bit once

Water level is now about 45 ft.

Signed: T. Cunningham  Date: Sept. 16, 1972
Date 9-15 1972  Job No. 22-HW-19  Hole No. 4306-01  Elevation ft.
Customer: State Dept. of Land & Natural Resources  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs. Rig 45
Helper: V. Barwick  10 Hrs. Gas: Oil

Bit-Size 24  Type: Star

Casing-Size in., Length in hole ft. in., Amt. Perforated ft. in.
Depth Start ft., Depth Stop: 65 ft., Feet Drilled 20

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>45</td>
<td>Lava Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Brown Clay + Lava Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>Lava Rock + Some BR Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We reballt on the rope socket
Cut off 30 ft of line.

Remarks: Hole Case, Large Rock, & Clay,

Possibly sticks some water. Can see some
Running weird well.

Signed: T. Cunningham  Date: Sept. 15 1972
Date: 9-14-1972   Job No: 22-HW-19   Hole No: 4306-01   Elevation: ______ ft.
Customer: State Dept. of Land & Natural Resources  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs.  Rig: 45
Helper: V. Barwick  10 Hrs.  Gas:    Oil:  

Bit-Size: 24 in.  Type: Star
Depth Start: _______ ft., Depth Stop: 45 ft., Feet Drilled: 20

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>25/43</td>
<td>Redish T.R.V. Clay + Some Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43/45</td>
<td>LAVA Rock</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: We put on the gage, fix up a sort of casing cap.  We broke off the dope socket out of 45 ft. line.

Signed: T.J. Cunningham  Date: Sept. 14, 1972  Jan
Date: 9-13-1922  Job No: 22-HW-19  Hole No: 4-J06-D1  Elevation: ___ ft.

Customers: State Dept. of Land + Natural Resources  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs.  Rig: ____________

Helper: ____________  __ Hrs.  Gas: ____________  Oil: ____________

Helper: V. Patrick  10 Hrs.  Repairs: ____________


Bit-Size: ___ in.  Type: ____________  Gas: ____________


Depth Start: 9 ft., Depth Stop: 25 ft., Feet Drilled: 16

Water Levels, Time: M ____________ M ft., Time: M ____________ 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>9/23</td>
<td>LAVA Rock</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23/25</td>
<td>Redish, BLM Clay, +Sap Rock</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measurements

Signed: T. Cunningham  Date: Sept. 13, 1922

Remarks: We put on the line guide also the stem guide. We put a 4ft. Piece of 24" conductor casing in the well.
Date: 9-12-1972, Job No: 22-HW-19, Hole No: 4306-01, Elevation: ______ ft.
Customer: State Dept. of Land & Natural Resource, Location: Hilo, Hawaii

Driller: C. Cunningham, 10 Hrs., Rig: 45
Helper: V. Berwick, 10 Hrs., Gas: ______, Oil: ______, Repairs: ______

Bit-Size: 24, Type: Stan.
Depth Start: 2 ft., Depth Stop: 9 ft., Feet Drilled: 7

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>2</td>
<td>LAVA Rock</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revised: Fix up the line guide, getting it ready to put it up on the Rig.

Signed: C. Cunningham, Date: Sept. 12, 1972.
Date: 9-11-72  
Job No. 22-HW-19  
Hole No. 9306-01  
Elevation __________ ft.

Customer: State Dept. of Land & Natural Resources
Location: 'Hilo, Hawaii'

Driller:  
C. Cunningham  
10 Hrs.  
Rig: 45

Helper:  
R. R. McNeill  
10 Hrs.  
Repairs

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

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>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>LAVa Rock</td>
<td>--about 3 inches of soil on top of Rock--</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Water Levels  
Time M ft. Time M ft.

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

Remarks: We start drilling in fairly solid rock from ground level.

Signed: C. Cunningham  
Date: Sept. 11, 1972
Date: 9-9 1972  

Job No.  

Hole No.  

Elevation  

Customer: State Dept. of Land & Natural Resources  

Location: Hilo, Hawaii  

Driller: T. Cunningham  

5 Hrs.  

Rig: 45  

Helper: V. Barkich  

3 Hrs.  

Gas:  

Oil:  

Arv. Job 6:15  

Lv. Job 11:  

Hrs.  

Or. No.  

Bit-Size  

Type  

Casing-Size: in., Length in hole: ft., 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>
<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>

I went by and picked up my helper. Went to the job site. He worked just a little while on the rig. So he was too sick to continue the day.

I told them go ahead and put the Radiator back onto the Welding Machine.
<table>
<thead>
<tr>
<th>Date</th>
<th>9-8 1972</th>
<th>Job No.</th>
<th>22-HV-19</th>
<th>Hole No.</th>
<th>4486-01</th>
<th>Elevation</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Cunningham</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>845</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Hours</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Hours</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td>Hrs.</td>
<td>Or. No.</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>
<tr>
<td>Bit-Size</td>
<td></td>
<td></td>
<td>Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing-Size</td>
<td></td>
<td>Length in hole</td>
<td>ft.</td>
<td>Amt. Perforated</td>
<td>ft.</td>
<td>in.</td>
<td></td>
</tr>
<tr>
<td>Depth Start</td>
<td></td>
<td>Depth Stop</td>
<td>ft.</td>
<td>Feet Drilled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M</td>
<td>ft.</td>
<td>Time</td>
<td>M</td>
<td>ft.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Remarks: My helper sick, no work.

Signed: Cunningham  Date: Sept. 8  1972

Customer: State Dept. of Natural Resources  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs.  Rig No: 95

Helper: W. Albritton  10 Hrs.  Gas: ______  Oil: ______


Or. No. ______

Bit-Size:  Type: ______


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


---

Remarks: ______

---

We finish hook-up, the guy wires go to Hi. - 1/4 yard pickup, Price of being for conduct. + some particular place for drift line. Pulled line off with good pulling set of Platinum. Fix the cable for the guide, transit. Line guide on rail. Rain most of the afternoon.

Remarks: ______

---

Signed: T. Cunningham  Date: Sept. 7, 1972
Customer: State Dept. of Land & Natural Resources  Location: Hilo, Hawaii

Driller: T. Cunningham  10 Hrs.  Rig: 45
Helper:             Hrs.  Gas                    Oil
Helper: V. Barthick  10 Hrs.  Repairs

Bit-Size  Type
Casing-Size _______ in., Length in hole _______ ft. _______ in., Amt. Perforated _______ ft. _______ in.
Depth Start _______ ft., Depth Stop _______ ft., Feet Drilled _______ ft.
Water Levels, Time _______ M _______ ft., Time _______ M _______ ft. _______ 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>we hoist the rig setup</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>fix on new cap wires to back of rig</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>then hooking up buy wire, all that</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>then we go 50 ft. ft and load bit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>initial tool wireless, head to well site</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>load some more guages?</td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Signed: T. Cunningham  Date: Sept. 6 1972
<table>
<thead>
<tr>
<th>Date: 9-5 2-72</th>
<th>Job No.: 22-Hw-19</th>
<th>Hole No.: 4366-61</th>
<th>Elevation: [ft.]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer: State Dept. of Land &amp; Natural Resources</td>
<td>Location: Hilo, Hawaii</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller: T. Cunningham</td>
<td>10 Hrs.</td>
<td>Rig: 45</td>
<td></td>
</tr>
<tr>
<td>Helper: D. Rickett</td>
<td>10 Hrs.</td>
<td>Gas: Oil</td>
<td></td>
</tr>
<tr>
<td>Helper: T. E. Farnet</td>
<td>10 Hrs.</td>
<td>Repairs:</td>
<td></td>
</tr>
</tbody>
</table>

- **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.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>We are getting the rig ready to raise setting the timber, etc. Location very muddy, having men crushed in front太快 in on location.</td>
</tr>
</tbody>
</table>

- **Measurements**

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

Remarks:

Signed: [ signature ]

Date: Sept. 5 1972
Date: 9-2-1922  Job No. 23-H-29  Hole No. S306-01  Elevation __________ ft.

Customer: State Dept. of Land & Natural Resources  Location: Hilo, Hawaii

Driller: J. Cunningham  5 Hrs.  Rig: 45
Helper: T. Hersh  5 Hrs.  Gas:  Oil
Helper: J. F. Forster  5 Hrs.  Repairs


<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth Start: ___ ft., Depth Stop: ___ ft., Feet Drilled: ___</td>
<td></td>
</tr>
</tbody>
</table>

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

<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:

We try to work. Had an oil box & some tools got stuck. Also, a pump fell out & using the winch breaking it.

Damage the welded section it fixed.

Signed: J. Cunningham  Date: Sept. 2, 1922  J. Cunningham

---

**Notes:**
- "Had an oil box & some tools got stuck." suggests a mechanical issue.
- "Pump fell out & using the winch breaking it." indicates a failure during the drilling process.
- "Damage the welded section it fixed." points to a repair effort post-incident.
Date: 9-1-1972, Job No.: 22-HW-19, Hole No.: 306-01, Elevation: ft.

Customer: State Dept. of Land Natural Resources
Location: Hilo, Hawaii

Driller: I. Cunningham, 8 Hrs., Rig: 45
Helper: T. Barwick, 8 Hrs., Gas: Oil
Helper: B.G. Farmer, 8 Hrs., Repairs:

Bit-Size: __________________ Type: __________________
Depth Start: ___________ ft., Depth Stop: ___________ ft., Feet Drilled: ___________
Water Levels, Time: ___________ ft., Time: ___________ 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>Pulled the Rig and well site location, saving a Cat needed there. And some timbers to the job.</td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Signed: I. Cunningham, Date: Sept. 1, 1972, Start
Date: Aug 31 1972  
Job No.  
Hole No.  
Elevation  
ft.  
Customer: Moss Moss  
Location: Hilo, Hawaii  

Driller: T. Cunningham  
Hrs.  
Rig 95  

Helper: J. Basulto  
Hrs.  
Gas  
Oil  

Helper: Bob Farmer  
Hrs.  
Repairs  

Arr. Job  
Lv. Job  
Hrs.  


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.  

Measurements  


<table>
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<tr>
<td></td>
<td></td>
<td>we have the most equipment in place on Rig 95 than when the Rig pulled in near the job site waiting for the road to be finished into the well site.</td>
<td></td>
</tr>
</tbody>
</table>

Remarks:  

Signed: T. Cunningham  
Date: Aug 31 1972
Date 8-30 1922  Job No.  Hole No.  Elevation  ft.  
Customer Roscoe Moss Co.  Location  Hilo, Hawaii  

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hours</th>
<th>Rig</th>
<th>Helper</th>
<th>Hours</th>
<th>Gas</th>
<th>Oil</th>
<th>Helper</th>
<th>Hours</th>
<th>Repairs</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. Cunningham</td>
<td>9</td>
<td>45</td>
<td>B. Barwick</td>
<td>9</td>
<td></td>
<td></td>
<td>Bob Farmer</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


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.  

<table>
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<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Working on the Rig in 47 4/7 yard.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pulling together the Top, Crown, Header, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Remarks: ____________________________________________________ 

Signed: T. Cunningham  Date 8-30 1922
Date: 8-29-1972  Job No.     Hole No.     Elevation       ft.
Customer: Roscoe Mars Co.  Location: Hilo, Hawaii

Driller: J. Cunningham  8 Hrs.  Rig 45  Gas
Helper: V. Bartwicke    8 Hrs.  Oil
Helper: Bob Farmer      8 Hrs.  Repairs


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

<table>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

 Remarks: "We take plane to Hilo Hi, then we work on Rig 45. (Repair)"

Signed: J. Cunningham  Date: Aug. 29, 1972