Well No. 1805-02
August 6, 1981

Telephone conversation with Ms. Joyce Okamura - Dillingham Land - ph. [redacted] ext. 11.

Land which Ocean Minerals Co. were to construct their manganese nodule processing test facility was owned by Dillingham Corp. However, land has been sold to PRI (Pacific Resources, Inc.)

Telephone conversation w/ Mr. Francis Tanaka - Pacific Resources Inc. - ph. [redacted]

Land is now owned by PRI however, well location is presently unknown, thus well is unused. They will attempt to locate the well and will let us know of any developments.
December 18, 1979

Ocean Minerals Company

Attention: Mr. Runderkamp

Gentlemen:

We acknowledge receipt on December 14, 1979, of your Declaration of Existing Water Withdrawal and Use in the Pearl Harbor Ground Water Control Area. Our staff will review the data and may contact you for a field inspection of your well before certification of your declared water use is made by the Board of Land and Natural Resources.

Concerning your questions regarding Regulation 9, all wells in the Pearl Harbor Ground Water Control Area are subject to the permit procedures of Regulation 9 except for individual household (domestic) uses and properly certified preserved uses. Since well 1805-02 was completed before June 30, 1979, the effective date of designation of the Pearl Harbor Ground Water Control Area, it is considered a preserved use and will be certified as such. Considering the nature of the water use and the location of the well, I see no problems regarding certification of your declared water use. We will notify you as soon as the Board of Land and Natural Resources takes action on your declaration.

Very truly yours,

[Signature]

ROBERT T. CHUCK
Manager-Chief Engineer

ES:pl
10 December 1979

Department of Land and Natural Resources

Subject: Water Well at Barbers Point

Gentlemen:

As requested by your office, we are returning a completed copy of the Declaration of Existing Water Withdrawal and Use Form.

Since the form indicates no beneficial use of water has been made to date, a brief explanation of our operations may be appropriate at this time. A shallow well was drilled at Barbers Point in 1979. Ocean Minerals Company has a valid permit, issued March 19, 1979 that covers use of this brackish water well and allows pumping water at a flow rate of 2200 gallons per minute with no restrictions on the total amount of water that may be pumped per day. As a result of a delay in the construction of our manganese nodule processing test facility, we have not yet used the waterwell, nor is it very likely that we will use the well in 1980. However, we intend to start using this well as soon as construction of the test facility is initiated.

In connection with those future plans we would like to clarify the implications of the new regulation regarding the use of wells in the Pearl Harbor Ground Water Control Area (Regulation 9). From discussions with Mr. W. Yoshimitsu of Campbell Estate and Mr. H. Minakami of the Board of Water Supply, we understand that this new regulation will not affect the future use of our well, since regulation 9 applies to new developments only; that is presently undeveloped residential, commercial or industrial land. The portion of Campbell Industrial Park that Ocean Minerals Company plans to utilize is considered developed and, therefore, outside Regulation 9.

We would appreciate receiving your confirmation that our interpretation of Regulation 9 is correct. Thank you in advance for your cooperation.

Sincerely yours,

BJR:mv

Mr. J. Runderkamp
Manager Processing
Ocean Minerals Company
DEPARTMENT OF LAND AND NATURAL RESOURCES

DECLARATION OF EXISTING WATER WITHDRAWAL AND USE
Pearl Harbor Ground Water Control Area

Instructions: This form must be properly completed, signed, and submitted for each individual well or connected battery of wells on or before January 2, 1980, in accordance with Regulation 9 of the Department. Submit the form with any attachments to Department of Land and Natural Resources.

1. WATER USER: Name: Ocean Minerals Company Mailing address: ___________________________ Phone: ___________________________

2. WATER USER'S WELL CONNECTED BATTERY OF WELLS:
User's Well Name and Location: Ocean Minerals - Barbers Point TMK 9-1-32:01

<table>
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<tr>
<th>User's Well No. (s)</th>
<th>Pump or natural flow capacity (gpm)</th>
<th>Capacity determined by flowmeter, nameplate, orifice, etc. (specify)</th>
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3. BENEFICIAL USE OF WATER:
(a) Major Use: [ ] Municipal [ ] Agriculture [ ] Military [X] Industrial [ ] Test Facility
(b) Minor Uses: [ ] Domestic [ ] Other (specify) (specify)
(c) For Agriculture Use list crop(s) __________________________, total acreage irrigated __________________________, and attach map showing acreage irrigated by the well source.

4. BENEFICIALLY USED WATER WITHDRAWALS:
(a) All figures given in (b) are records of: [ ] Metered flow [ ] Nameplate pump capacity [ ] Orifice [ ] Weir [ ] Other (specify)
(b) Records available (in million gallons per day, three decimal places):

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5-year average: NA mgd, highest day use NA mgd on NA, 19___

(c) For Agriculture Use only: description of withdrawal schedule (include times of day and days of week):

5. WELL DESCRIPTION:
On the attached computer list of wells, make corrections or additions thereon in red pencil as necessary and return with Declaration form. If information is readily available in another form, you may submit it in lieu of a corrected computer list.

Declaration: Under penalties provided in Regulation 9 of the Department of Land and Natural Resources, the undersigned declare and certify that this declaration has been examined, including accompanying statements and to the best of knowledge and belief, it is true, correct, and complete.

Signature: ___________________________ Date: 12/10/79

Signature: ___________________________ Date: ___________________________

For Official Use:
Last day to certify 06/14/80
Date Certified ___________________________
Amount certified ___________________________
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Ground Water Index

- WELL NUMBER - Six-digit well numbers are assigned by the Department of Land and Natural Resources, Division of Water and Land Development and are based on the latitude and longitude position of the well.

- QUAD MAP NO. - U.S. Geological Survey 7½ Minute topographic quadrangle maps, 1" = 2000' scale. Maps have arbitrarily assigned reference numbers.

- TYPE CONS - Type of Well Construction

- CSG DIA IN - Casing diameter in inches

- GRD ELEV FT - Ground surface elevation in feet, referenced to mean sea level

- TOTL DEP FT - Total depth of well in feet

- CSG DEP FT - Casing depth in feet

- MAJ USE - Major use of well

- CL - Chloride content of water

- WTR LEV - Water level

- WTR TEM - Water temperature

- CHEM ANAL - Chemical analysis of water

- DRFT - Draft or withdrawal from well

- STAT HEAD FT - Static water level elevation in feet

- CL MG/L - Chloride content of water in milligrams/liter

- PUMP RATE GPM - Maximum test pumping rate in gallons per minute

- DRAWDOWN FT - Drawdown of well in feet at stated rate

- SPEC CAP - Specific well capacity in gallons per minute per foot of drawdown

- C MG/L - Chloride content of water during maximum pumping rate

- WTR TEMP C - Field water temperature in degree Celsius

- PUMP CAP MGD - Installed pump capacity, million gallons per day

- DRFT MGD - Average annual draft from well in million gallons per day

- BATT - Battery of wells connected together as one source

- AQFR - Aquifer tapped by well. Symbols listed are geologic formation symbols used on published Island geologic maps.
**FACSIMILE TRANSMITTAL PAGE**

Name: Stephanie Sakurai
Company: Environmental Technologies
From: Ed Sakuda
Date: 8/10/94
Time: 10:08 am

Message: 

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Total number of pages (including Transmittal Page): 4

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If you do not receive all of the pages legibly, please call back: (808) 587-0225

Sending Facsimile Number: (808) 587-0225
Receiving Facsimile Number: ________

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**TRANSMISSION REPORT**

**THIS DOCUMENT (REDUCED SAMPLE ABOVE) WAS SENT**

**COUNT**

# 4

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TOTAL 0:02'47"  4  XEROX TELECOPIER 7020
DRILLER'S REPORT

DESCRIPTION

Date of report 4/11/79

Person filing report L.H. Runnels

WELL

A. OWNER: Ocean Minerals Co. NAME: Barbears Point ISLAND: Oahu

B. GENERAL LOCATION: TMK 9-1-32.0d

C. DRILLING COMPANY: Roscoe Moss Co.

D. TYPE OF RIG: Cable Tool DRILLING COMPLETED: 12 78 DRILLER: R. Whitney

E. ELEVATION, msl: Top of drilling platform 18 ft. Bench mark and method used to determine

Height of drilling platform above ground surface 0 ft. elevation:

F. HOOLE SIZE: 24 inch dia. to 40 ft. below drilling platform.

18 inch dia. to 100 ft. below drilling platform.

inch dia. to 150 ft. below drilling platform.

G. CASING INSTALLED: in. I.D. x 312 in. wall solid section to 20 ft. below drilling platform.

20 in. I.D. x 312 in. wall perforated section to 40 ft. below drilling platform.

Type of perforation: Louver

H. ANELUSUS: Grouted 20 ft. to 0 ft. below drilling platform.

Gravel packed 40 ft. to 20 ft. below drilling platform.

I. PERMANENT PUMP INSTALLATION:

- Pump type, make, serial no. Capacity g.p.m.

Motor type, H.P., voltage, r.p.m.

Depth of pump intake setting ft. below which elevation is ft.

Depth of bottom of airline ft. below which elevation is ft.

HYDROLOGY

J. INITIAL WATER LEVEL ft. below drilling platform. Date of measurement.

K. INITIAL CHLORIDE: ppm, total depth of well ft. below drilling platform.

Sampling Date

L. PUMPING TESTS:

Reference point (R.P.) used: which elevation is ft.

Date 4/11/79 Ft. below R. P. Ft. below R. P.

Start water level ft. below R. P. End water level ft. below R. P.

Start water level ft. below R. P. End water level ft. below R. P.

Depth of well ft. below R. P. Depth of well ft. below R. P.

Elapsed Time (hours) Rate Draw- Temp. Elapsed Time (hours) Rate Draw- Temp.

Time (gpm) down (ft.) Ci- °F Time (hours) Time (gpm) down (ft.) Ci- °F

10:00 - to 2:00pm 3000 2

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

SUBSURFACE FORMATION

M. DRILLER'S LOG:

Water Level

Depth, ft. Rock Description & Remarks Water Level

Depth, ft. Rock Description & Remarks Water Level

-0.0 to 50 Med. hard coral to 

50.0 to 72 Hard coral to 

72.0 to 100 Med. hard coral to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

to 

N. REMARKS:

INSTRUCTIONS: Send three(3) copies to: Manager-Chief Engineer, Division of Water and Land Development, Hawaii Department of Land & Natural Resources.

To Initial

Robert T. Chuck  See Me
Takeo Fujii  Take action by
James Yoshimoto  Route to your branch
Manabu Tagomori  Review & comment

George Morimoto  Draft reply by
Hong Fong Chang  For information
Herbert Morimatsu  Xerox copies

Harold Sakai
Leslie Asari

Albert Ching  Jane Sakai
George Matsumoto  Doris Hamada
Daniel Lum  Lorraine Nanbu
Paul Matsuo  Jean Siarot
Noboru Kaneshiro  Elsie Yonamine

1605-07-06

What's latest on our Application & Permit?
March 21, 1979

Mr. Robert Chuck  
Manager and Chief Engineer  
Department of Land and  
Natural Resources  
Division of Water and  
Land Development

Dear Mr. Chuck:

WELL PERMIT TO MR. B. J. RUNDERKAMP,  
OCEAN MINERALS COMPANY

Enclosed for your information and files are copies of the well application and the approved well permit issued to Ocean Minerals Company for the drilling of a new well at TMK: 9-1-32: 01.

Please call Chester Lao at [redacted] if you have any questions regarding this permit.

Very truly yours,

HERBERT H. MINAKAMI  
Chief, Planning and Engineering Division

Encl.
TO: Mr. B. J. Runderkamp
Ocean Minerals Company

Your application of March 7, 1979, to drill one shallow caprock well has been approved in accordance with our Rules and Regulations for the Protection, Development, and Conservation of Water Resources in the City and County of Honolulu.

You are hereby granted a permit to drill one well at TMK: 9-1-32: 01 in accordance with the drawings submitted with your application and the following conditions:

1. Mr. Chester Lao of the Board of Water Supply, telephone 548-5276, shall be notified before any work covered by this permit commences.

2. This permit shall be valid upon receipt of a permittee bond in the amount of $4,000.00.

3. A water meter shall be installed to record the use of water from the well and water use reported to us on a monthly basis.

4. Upon completion of the project, the following shall be submitted to the Board of Water Supply:
   a. Record of the geologic formations, elevation of the water table, and results of pumping tests.
   b. As-built drawings of the well, including appurtenances and piping.

5. Submit to the Board of Water Supply the composition of the slurry mix and slurry water that will be injected into a future disposal well.

6. When this well is no longer used, it shall be sealed in manner approved by the Manager and Chief Engineer, and in accordance with Chapter 3-316 of the Rules and Regulations.

KAZU HAYASHIDA
Manager and Chief Engineer
Board of Water Supply

MAR 19 1979
Date of Permit
APPLICATION FOR DRILLING, MODIFYING, RECASING OR REUSING WELLS

INSTRUCTIONS: Please send 1 copy to Honolulu Board of Water Supply, who will distribute to other agencies concerned. In filling out, refer to Rules and Regulations of the Honolulu Board of Water Supply adopted on May 10, 1976 and applicable rules and regulations of the State Department of Health.

OWNER: (See BWS Rules and Regulations Chapter III, Sec. 3-305, Item 1a)

Ocean Minerals Company

ADDRESS:

1. APPLICATION FOR WELL: (See Chapter III, Sec. 3-305, Item 1)

   Drill    X    Reuse   
   Modification   Recase   
   Change in use  

2. WORK TO BE PERFORMED BY: (See Chapter III, Sec. 3-311)

   Roscoe Moss Company

   900 (Rev. 10-76)
3. USE OF WELL:  *(See Chapter III, Sec. 3-305, Item 1c)*

Brackish water from well to be utilized for manganese nodule processing test facility plant cooling water purposes.

4. ATTACHMENTS: *(Each copy of the application shall have a complete set of attachments)*

a. Location of well: Eastern side of Campbell Industrial Park
   State Plane Coordinates N 52,198.41 E 469,193.89
   Tax Map Key: 9-1-32:1

b. Land area served: *(Attach map showing exact location of well and area served. See Chapter III, Sec. 3-305, Items 1b and 1d)*

   10 Acre Plant Site
   See Exhibit A - Attached

c. Description of well and appurtenant details:
   *(See Chapter III, Sec. 3-305, Item 1e)*

   See Exhibit B - Attached
5. The Owner hereby agrees to install, operate, and maintain control of the well in accordance with the laws of the State of Hawaii and the Rules and Regulations of the Honolulu Board of Water Supply and the State Department of Health.

The Owner hereby understands that a fee of One Hundred Dollars ($100.00) and a permittee bond of the amount not greater than Twenty-five Thousand Dollars ($25,000.00), said amount of the bond to be set by the Engineer, are required for the drilling or excavation of each new well. The $100.00 fee per well shall be payable to the Board and shall accompany this application. The amount of the permittee bond shall be stipulated when the well owner is notified that his permit has been granted.

(See Chapter III, Sec. 3-305, Items 2 and 2a)

6. The Owner hereby agrees to the following special conditions for this well:

March 7, 1979
Date Submitted

Signature of Owner

Name of applicant if other than Owner
radius = 1 mile
Exhibit 1
Well No. 1805-02
August 6, 1981

Telephone conversation with Ms. Joyce Okamura -
Dillingham Land - ph. [Redacted] ext. 11.

Land which Ocean Minerals Co. were to construct their
manganese nodule processing test facility was owned by
Dillingham Corp. However, land has been sold to PRI
Pacific Resources, Inc.)

Telephone conversation w/ Mr. Francis Tanaka -
Pacific Resources Inc. - ph. [Redacted]

Land is now owned by PRI however, well location
is presently unknown, thus well is unused. They
will attempt to locate the well and will let us
know of any developments.
December 18, 1979

Ocean Minerals Company

Attention: Mr. Runderkamp

Gentlemen:

We acknowledge receipt on December 14, 1979, of your Declaration of Existing Water Withdrawal and Use in the Pearl Harbor Ground Water Control Area. Our staff will review the data and may contact you for a field inspection of your well before certification of your declared water use is made by the Board of Land and Natural Resources.

Concerning your questions regarding Regulation 9, all wells in the Pearl Harbor Ground Water Control Area are subject to the permit procedures of Regulation 9 except for individual household (domestic) uses and properly certified preserved uses. Since well 1805-02 was completed before June 30, 1979, the effective date of designation of the Pearl Harbor Ground Water Control Area, it is considered a preserved use and will be certified as such. Considering the nature of the water use and the location of the well, I see no problems regarding certification of your declared water use. We will notify you as soon as the Board of Land and Natural Resources takes action on your declaration.

Very truly yours,

ROBERT T. CHUCK
Manager-Chief Engineer

ES:pl
10 December 1979

Department of Land and Natural Resources

Subject: Water Well at Barbers Point

Gentlemen:

As requested by your office, we are returning a completed copy of the Declaration of Existing Water Withdrawal and Use Form.

Since the form indicates no beneficial use of water has been made to date, a brief explanation of our operations may be appropriate at this time. A shallow well was drilled at Barbers Point in 1979. Ocean Minerals Company has a valid permit, issued March 19, 1979 that covers use of this brackish water well and allows pumping water at a flow rate of 2200 gallons per minute with no restrictions on the total amount of water that may be pumped per day. As a result of a delay in the construction of our manganese nodule processing test facility, we have not yet used the waterwell, nor is it very likely that we will use the well in 1980. However, we intend to start using this well as soon as construction of the test facility is initiated.

In connection with those future plans we would like to clarify the implications of the new regulation regarding the use of wells in the Pearl Harbor Ground Water Control Area (Regulation 9). From discussions with Mr. W. Yoshimitsu of Campbell Estate and Mr. H. Minakami of the Board of Water Supply, we understand that this new regulation will not affect the future use of our well, since regulation 9 applies to new developments only; that is presently undeveloped residential, commercial or industrial land. The portion of Campbell Industrial Park that Ocean Minerals Company plans to utilize is considered developed and, therefore, outside Regulation 9.

We would appreciate receiving your confirmation that our interpretation of Regulation 9 is correct. Thank you in advance for your cooperation.

Sincerely yours,

BJR:mv

B. J. Runderkamp
Manager Processing
Ocean Minerals Company
DECLARATION OF EXISTING WATER WITHDRAWAL AND USE
Pearl Harbor Ground Water Control Area

Instructions: This form must be properly completed, signed, and submitted for each individual well or connected battery of wells on or before January 2, 1980, in accordance with Regulation 9 of the Department. Submit the form with any attachments to Department of Land and Natural Resources.

1. WATER USER: Name: Ocean Minerals Company Mailing address: P. O. Box 4531 Mountain View, CA. 94040 phone: (408) 742-2514

2. WATER USER'S WELL CONNECTED BATTERY OF WELLS:
User's Well Name and Location: Ocean Minerals - Barbers Point TMK 9-1-32:01

<table>
<thead>
<tr>
<th>User's Well No. (s)</th>
<th>Pump or natural flow capacity (gpm)</th>
<th>Capacity determined by flowmeter, nameplate, orifice, etc. (specify)</th>
<th>Year pump inst./modified</th>
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<td>3,000</td>
<td>flowmeter</td>
<td>pump not yet installed.</td>
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</table>

3. BENEFICIAL USE OF WATER:
(a) Major Use: [ ] Municipal [ ] Agriculture [ ] Military [X] Industrial [ ] Test Facility
(b) Minor Uses: (specify)
(c) For Agriculture Use list crop(s) , total acreage irrigated , and attach map showing acreage irrigated by the well source.

4. BENEFICIALLY USED WATER WITHDRAWALS:
(a) All figures given in (b) are records of: [ ]Metered flow [ ]Nameplate pump capacity [ ]Orifice [ ]Weir [ ]Other (specify)
(b) Records available (in million gallons per day, three decimal places):

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<th>Monthly Average</th>
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(c) For Agriculture Use only: description of withdrawal schedule (include times of day and days of week: ________________________________

5. WELL DESCRIPTION:
On the attached computer list of wells, make corrections or additions thereon in red pencil as necessary and return with Declaration form. If information is readily available in another form, you may submit it in lieu of a corrected computer list.

Declaration: Under penalties provided in Regulation 9 of the Department of Land and Natural Resources, the undersigned declare and certify that this declaration has been examined, including accompanying statements and to the best of knowledge and belief, it is true, correct, and complete.

Signature: __________________________ Date: 12/10/79

For Official Use:
Last day to certify 1/14/80
Date Certified __________________________
Amount certified 1805 - 02

Signature: __________________________ Date: __________________________

LANDOWNER OF WELL SITE

For Official Use:
Last day to certify 1/14/80
Date Certified __________________________
Amount certified 1805 - 02
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</table>
Ground Water Index

- WELL NUMBER - Six-digit well numbers are assigned by the Department of Land and Natural Resources, Division of Water and Land Development and are based on the latitude and longitude position of the well.

**Minute of Latitude**

**Minute of Longitude**

**Sequential Number within Minute Grid**

- QUAD MAP NO. - U.S. Geological Survey 7.5 Minute topographic quadrangle maps, 1" = 2000' scale. Maps have arbitrarily assigned reference numbers.

- TYPE CONS - Type of Well Construction

  Symbols listed:
  - ROT - Rotary
  - PER - Percussion
  - TUN - Tunnel
  - DUG - Dug

- CSG DIA IN - Casing diameter in inches

- GRD ELEV FT - Ground surface elevation in feet, referenced to mean sea level

- TOTL DEP FT - Total depth of well in feet

- CSG DEP FT - Casing depth in feet

- MAJ USE - Major use of well

  Symbols listed:
  - MUN - Municipal
  - UNU - Unused
  - LOS - Lost
  - IRR - Irrigation
  - SLD - Sealed
  - RCH - Recharge
  - IND - Industrial
  - OBS - Observation
  - OTH - Other
  - DOM - Domestic
  - DIS - Disposal

- CL - Chloride content of water

- WTR LEV - Water level

- WTR TEM - Water temperature

- CHEM ANAL - Chemical analysis of water

- DRFT - Draft or withdrawal from well

  Symbols listed:
  - ANN - Annually
  - MON - Monthly
  - WKY - Weekly
  - DVR - Recorder
  - OCC - Occasional

Ground Water Summary

- YEAR DRLD - Year well was drilled

- CSG DIA IN - Casing diameter in inches

- GRD SURF - Ground surface

- BOT OF HOLE - Bottom of hole, i.e., total depth of well

- BOT SOL CSG - Bottom of solid, unperforated section of casing

- BOT PERF CSG - Bottom of perforated or screened section of casing

- STAT HEAD FT - Static water level elevation in feet

- CL MG/L - Chloride content of water in milligrams/liter

- PUMP RATE GPM - Maximum test pumping rate in gallons per minute

- DRAWDOWN FT - Drawdown of well in feet at stated rate

- SPEC CAP - Specific well capacity in gallons per minute per foot of drawdown

- C MG/L - Chloride content of water during maximum pumping rate

- WTR TEMP C - Field water temperature in degree Celsius

- PUMP CAP MGD - Installed pump capacity, million gallons per day

- DRFT MGD - Average annual draft from well in million gallons per day

- BATT - Battery of wells connected together as one source

- AQFR - Aquifer tapped by well. Symbols listed are geologic formation symbols used on published Island geologic maps.
FACSIMILE TRANSMITTAL PAGE

Please deliver the following pages to:

Name: Stephanie Sakurai
Company: Environmental Technologies
From: Ed Sakuda
Date: 6/1/94 Time: 10:08 am

Message: Info you requested on well 1805-02

Total number of pages (including Transmittal Page): 4

If you do not receive all of the pages legibly, please call back: (808) 587-0215
Sending Facsimile Number: (808) 587-0219
Receiving Facsimile Number: __________

TRANSMISSION REPORT

THIS DOCUMENT (REDUCED SAMPLE ABOVE) WAS SENT

** COUNT **
# 4

*** SEND ***

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<td>6-8-94 9:57AM</td>
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TOTAL 0:02'47" 4 XEROX TELECOPIER 7020
For Driller's Use

Job Name: Ocean Minerals Co. Name
Job No: Barbers Point

FOR OFFICIAL USE

State of Hawaii
DEPARTMENT OF LAND & NATURAL RESOURCES
DIVISION OF WATER AND LAND DEVELOPMENT

DRILLER'S REPORT

Date of report: 4/11/79
Person filing report: L.H. Runnels

WELL

A. OWNER: Ocean Minerals Co. NAME: Barbers Point
ISLAND: Oahu

B. GENERAL LOCATION: TMK 9-1-32:04

C. DRILLING COMPANY: Roscoe Moss Co.

D. TYPE OF RIG: Cable Tool
DRILLING COMPLETED: 12 78
DRILLER: R. Whitney

E. ELEVATION, msl: Top of drilling platform 18 ft. Bench mark and method used to determine
Height of drilling platform above ground surface 0 ft. elevation: 0

F. HOLE SIZE:
24 inch dia. to 40 ft. below drilling platform.

G. CASING INSTALLED: .20 in. I.D. x .312 in. wall solid section to .20 ft. below drilling platform.

H. ANNULUS: Grouted 20 ft. to 0 ft. below drilling platform.

Gravel packed 40 ft. to 20 ft. below drilling platform.

I. PERMANENT PUMP INSTALLATION:
- Pump type, make, serial no. and Manufacturer Capacity: g.p.m.
Motor type, H.P., voltage, r.p.m.
Depth of pump intake setting: ft. below which elevation is ft.
Depth of bottom of airline: ft. below which elevation is ft.

HYDROLOGY

J. INITIAL WATER LEVEL: ft. below drilling platform. Date of measurement:

K. INITIAL CHLORIDE: ppm, total depth of well: ft. below drilling platform:

L. PUMPING TESTS:
Reference point (R.P.) used: which elevation is ft.
Date: 1/1/77

Start water level: 18 ft. below R. P.
End water level: 18 ft. below R. P.
Depth of well: 100 ft. below R. P.

Elapsed Time (hours) Rate (gpm) Drawdown (ft.) Cl- (ppm) Temp. °F
Start water level:
End water level:
Depth of well:

10:00 to 2:00 pm: 3000 2

M. DRILLER'S LOG:

Depth, ft. Rock Description & Remarks
0 to 50 Med. hard coral
50 to 72 Hard coral
72 to 100 Med. hard coral

Water Level

Depth, ft. Rock Description & Remarks
0 to
50 to
72 to

N. REMARKS:

INSTRUCTIONS: Send three(3) copies to: Manager-Chief Engineer, Division of Water and Land Development, Charter of the City and County of Honolulu, 1959.

DIVISION OF WATER AND LAND DEVELOPMENT

To: Initial

Robert T. Chuck — See Me
Takeo Fujii — Take action by
James Yoshimoto — Route to your branch
Manabu Tagomori — Review & comment

George Morimoto — For information
Hong Fong Chang
Herbert Morimatsu — Xerox ______ copies
Harold Sakai
Leslie Asari — Jane Sakai
Albert Ching — Doris Hamada
George Matsumoto — Lorraine Nanbu
Daniel Lum — Jean Siarot
Paul Matsuo — Elsie Yonamine
Noboru Kaneshiro — Alyce Konishi

1805-07-06

What's latest on our Application & Permit Form? M.S.
Call for D.R. from Roscoe

Miss Co.
March 21, 1979

Mr. Robert Chuck
Manager and Chief Engineer
Department of Land and Natural Resources
Division of Water and Land Development

Dear Mr. Chuck:

WELL PERMIT TO MR. B. J. RUNDERKAMP,
OCEAN MINERALS COMPANY

Enclosed for your information and files are copies of the well application and the approved well permit issued to Ocean Minerals Company for the drilling of a new well at TMK: 9-1-32: 01.

Please call Chester Lao at [redacted] if you have any questions regarding this permit.

Very truly yours,

HERBERT H. MINAKAMI
Chief, Planning and Engineering Division

Encl.
TO: Mr. B. J. Runderkamp
Ocean Minerals Company

Your application of March 7, 1979, to drill one shallow caprock well has been approved in accordance with our Rules and Regulations for the Protection, Development, and Conservation of Water Resources in the City and County of Honolulu.

You are hereby granted a permit to drill one well at TMK: 9-1-32: 01 in accordance with the drawings submitted with your application and the following conditions:

1. Mr. Chester Lao of the Board of Water Supply, telephone 548-5276, shall be notified before any work covered by this permit commences.

2. This permit shall be valid upon receipt of a permittee bond in the amount of $4,000.00.

3. A water meter shall be installed to record the use of water from the well and water use reported to us on a monthly basis.

4. Upon completion of the project, the following shall be submitted to the Board of Water Supply:
   a. Record of the geologic formations, elevation of the water table, and results of pumping tests.
   b. As-built drawings of the well, including appurtenances and piping.

5. Submit to the Board of Water Supply the composition of the slurry mix and slurry water that will be injected into a future disposal well.

6. When this well is no longer used, it shall be sealed in manner approved by the Manager and Chief Engineer, and in accordance with Chapter 3-316 of the Rules and Regulations.

KAZU HAYASHIDA
Manager and Chief Engineer
Board of Water Supply

Date of Permit

MAR 19 1979

Pure Water...man's greatest need -- use it wisely
APPLICATION FOR DRILLING, MODIFYING, RECASING OR REUSING WELLS

INSTRUCTIONS: Please send 1 copy to Honolulu Board of Water Supply, who will distribute to other agencies concerned. In filling out, refer to Rules and Regulations of the Honolulu Board of Water Supply adopted on May 10, 1976 and applicable rules and regulations of the State Department of Health.

OWNER: (See BWS Rules and Regulations Chapter III, Sec. 3-305, Item 1a)

Ocean Minerals Company

ADDRESS:

1. APPLICATION FOR WELL: (See Chapter III, Sec. 3-305, Item 1)

- Drill  [X]  Reuse  ___
- Modification  ___  Recase  ___
- Change in use  ___

2. WORK TO BE PERFORMED BY: (See Chapter III, Sec. 3-311)

Roscoe Moss Company

900 (Rev. 10-76)
3. USE OF WELL:  *(See Chapter III, Sec. 3-305, Item 1c)*

Brackish water from well to be utilized for manganese nodule processing test facility plant cooling water purposes.

4. ATTACHMENTS: *(Each copy of the application shall have a complete set of attachments)*

a. Location of well:  
   - Eastern side of Campbell Industrial Park 
   - State Plane Coordinates N 52,198.41 E 469,193.89 
   - Tax Map Key: 9-1-32:1

b. Land area served: *(Attach map showing exact location of well and area served. See Chapter III, Sec. 3-305, Items 1b and 1d)*

   - 10 Acre Plant Site 
   - See Exhibit A - Attached

c. Description of well and appurtenant details: *(See Chapter III, Sec. 3-305, Item 1e)*

   - See Exhibit B - Attached
5. The Owner hereby agrees to install, operate, and maintain control of the well in accordance with the laws of the State of Hawaii and the Rules and Regulations of the Honolulu Board of Water Supply and the State Department of Health.

The Owner hereby understands that a fee of One Hundred Dollars ($100.00) and a permittee bond of the amount not greater than Twenty-five Thousand Dollars ($25,000.00), said amount of the bond to be set by the Engineer, are required for the drilling or excavation of each new well. The $100.00 fee per well shall be payable to the Board and shall accompany this application. The amount of the permittee bond shall be stipulated when the well owner is notified that his permit has been granted.

(See Chapter III, Sec. 3-305, Items 2 and 2a)

6. The Owner hereby agrees to the following special conditions for this well:

March 7, 1979

Signature of Owner

Name of applicant if other than Owner
OCEAN MINERALS CO.
MANGANESE NODULE PROCESSING
TEST FACILITY

TAX MAP KEY: 9-1-32:1
LOCATION FOR NEW
BRACKISH WATER WELL

EXHIBIT A

NEW BRACKISH
WATER WELL
N 52.198.41
E 465.193.89

ETU