

G-13711

G1

**ASSIGNED** FILE#: G 13711  
**C E EXPLORATION CO.**  
 34 NW 1ST AVE SUITE 302  
 PORTLAND, 97209

Application No. G13711  
 Permit No. G12595 G-17032  
 Certificate No. \_\_\_\_\_

Stream Index, Page No. 5

*See file G 13710*

Date filed \_\_\_\_\_  
 Priority \_\_\_\_\_  
 Action suspended until C 2030  
 Return to applicant \_\_\_\_\_  
 Date of approval \_\_\_\_\_

**ASSIGNMENTS**

Date	To Whom	Address	Volume	Page
<b>ASSIGNED</b> 9/11/2001	<u>DAVE 4 LLC</u>	<u>980 Greastreet, Sparks, NV 89431-6039</u>	<u>9</u>	<u>14</u>
<u>9/30/2010</u>	<u>DAVENPORT NEWBERRY HOLDINGS, LLC</u>	<u>300 ATLANTIC STREET, STE 301</u>		
	<u>STAMFORD CT 06901</u>			

**REMARKS**

118 sent 7/22/96  
T-11460 APOA V. 89 pg. 793 approved  
T-11873 POA POU V. 93 pg. 888-890 approved

**FEEES PAID**

Date	Amount	Receipt No.
<u>6-10-94</u>	<u>200.-</u>	<u>113060</u>
<u>5-30-95</u>	<u>100.-</u>	<u>124786</u>
<u>1-5-96</u>	<u>100.00</u>	<u>131320</u>
<u>3-15-96</u>	<u>50.00</u>	<u>000526</u>
<u>09/04/01</u>	<u>25.00</u>	<u>47985</u>
<u>EX. 7/10/03</u>	<u>20.00</u>	<u>53865</u>

**FEEES REFUNDED**

Date	Amount	Check No.

**CONSTRUCTION**

Date for beginning JUL 8 1997  
 Date for completion OCT 1 1998  
 Extended to 10-1-2015  
 Date for application of water OCT 1 1999  
 Extended to 10-1-2015, 10-1-2030

**PROSECUTION OF WORK**

Form "A" filed 7/15/96  
 Form "B" filed \_\_\_\_\_  
 Form "C" filed \_\_\_\_\_

**FINAL PROOF**

Blank mailed \_\_\_\_\_  
 Proof received \_\_\_\_\_  
 Date certificate issued \_\_\_\_\_

FAX #  
503-  
226-  
7695  
KRIS  
CE  
EXPLORATION

Form A (690-9-77)

Application No. G-13711

NOTICE OF BEGINNING OF CONSTRUCTION

I, CE Exploration Company, the holder of Permit No. G-12595, to appropriate the public waters of the state of Oregon, began the actual construction of the works described therein on the 1st day of June, 1995.

Remarks: Well Number 1 has been completed. A 6 inch pump is installed at 740 feet and a 25,000 gal. storage pond has been constructed along with one mile of pipeline. Water meter is installed. Pump house has been constructed.  
The appropriator must state the manner of beginning of construction, the amount of work completed and the type of equipment acquired for the water system up to the date of this statement, and any additional information which shows a substantial beginning of construction as authorized by your permit.

IN WITNESS WHEREOF, I have hereunto set my hand this 10 day of July, 1996  
David McLean Project Manager 34 NW 1st Suite 302 Portland OR 97201  
(Signature of Applicant) (Address)

Fill out, detach and mail to the Water Resources Department, Salem, OR 97310, when construction work is begun.

SP-35567-690

WATER RESOURCES DEPARTMENT  
SALEM, OREGON

JUL 15 1996

RECEIVED

OK  
DSM



POU

**Oregon Water Resources Department**  
**Water Right Services Division**

Water Rights Application  
Number G-13711

**FINAL ORDER**

Extension of Time for Permit Number G-17316  
Permit Holder: Davenport Newberry Holdings, LLC.

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Permit Information

Application:	G-13711
Permit:	G-17316
Basin:	5 – Deschutes / Watermaster District 11
Date of Priority:	June 10, 1994
Source of Water:	Six wells within the Paulina Creek Basin
Purpose of Use:	Industrial
Maximum Rate:	3.56 cubic feet per second (cfs)

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This Extension of Time request is being processed in accordance with Oregon Revised Statute 537.630 and 539.010(5), and Oregon Administrative Rule Chapter 690, Division 315

Appeal Rights

**This is a final order in other than a contested case.** This order is subject to judicial review under ORS 183.484. A request for judicial review must be filed within the 60 day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080 you may either file for judicial review, or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

Application History

Permit G-12595 was issued by the Department on July 8, 1996 and modified by Permit Amendments T-11460 and T-11873; on November 25, 2014, superseding Permit G-17316 was ultimately issued describing the changes. The original permit specified for actual construction to begin by July 8, 1997, completion of construction by October 1, 1998 and complete application of water to beneficial use by October 1, 1999. The most recent extension authorized completion of construction and complete application of water to beneficial use by October 1, 2015. On June 1, 2015, Davenport Newberry Holdings, LLC submitted, to the Department an Application for Extension of Time for Permit G-17316. In accordance with OAR 690-315-0050(2), on July 28, 2015, the Department issued a Proposed Final Order proposing to extend

the time to complete construction to October 1, 2030, and the time to fully apply water to beneficial use to October 1, 2030. The protest period closed August 28, 2015, in accordance with OAR 690-315-0060(1). No protest was filed.

### FINDINGS OF FACT

The Department adopts and incorporates by reference the findings of fact in the Proposed Final Order dated July 28, 2015.

At time of issuance of the Proposed Final Order the Department concluded that, based on the factors demonstrated by the applicant, any comments received, and information within the file, the permit may be extended subject to the following conditions:

### CONDITIONS

1. Checkpoint Condition

The permit holder must submit a completed Progress Report Form to the Department by **October 1, 2019, 2024, and 2029. A form is enclosed with this Final Order.**

- (a) At each checkpoint, the permit holder shall submit and the Department shall review evidence of the permit holder's diligence towards completion of the project and compliance with terms and conditions of the permit and extension. If, after this review, the Department determines the permit holder has not been diligent in developing and perfecting the water use permit, or complied with all terms and conditions, the Department shall modify or further condition the permit or extension to ensure future compliance, or begin cancellation proceedings on the undeveloped portion of the permit pursuant to ORS 537.260 or 537.410, or require submission of a final proof survey pursuant to ORS 537.250;
- (b) The Department shall provide notice of receipt of progress reports in its weekly notice and shall allow a 30 day comment period for each report. The Department shall provide notice of its determination to anyone who submitted comments.

### CONCLUSION OF LAW

The applicant has demonstrated good cause for the permit extension pursuant to ORS 537.630, 539.010(5) and OAR 690-315-0040(2).

## ORDER

The extension of time for Application G-13711, Permit G-17316, therefore, is approved subject to conditions contained herein. The deadline for completing construction is extended to from October 1, 2015 to October 1, 2030. The deadline for applying water to full beneficial use within the terms and conditions of the permit is extended from October 1, 2015 to October 1, 2030.

DATED: September 18, 2015



Dwight French  
Water Right Services Division Administrator, for  
Thomas M. Byler, Director  
Oregon Water Resources Department

- 
- If you have any questions about statements contained in this document, please contact the Permit Extension Specialist at (503) 986-0802.
  - If you have other questions about the Department or any of its programs, please contact our Water Resources Customer Service Group at (503) 986-0900
-



Oregon Water Resources Department  
 725 Summer Street NE, Suite A  
 Salem Oregon 97301-1266  
 (503) 986-0900  
 www.wrd.state.or.us

Extension of Time  
 Progress Report Form  
 For Checkpoints

**TO THE DIRECTOR OF THE OREGON WATER RESOURCES DEPARTMENT**

Permit Holder: Davenport Newberry Holdings, LLC. Application G-13711 Permit G-17316

**Progress Report for 2019**

Report Due no later than October 1, 2019

**DO NOT SUBMIT PRIOR TO 30 DAYS BEFORE DUE DATE**

As authorized in ORS 690-315-0050(6), this progress report is required in order to ensure diligence is exercised in the development and perfections of Permit G-17316.

**FAILURE TO SUBMIT THIS REPORT WILL MOST LIKELY RESULT IN ANY FUTURE EXTENSION BEING DENIED.**

DATES	LIST ALL WORK ACCOMPLISHED and FINANCIAL INVESTMENTS For the period of time between June 1, 2015 and October 1, 2019	FINANCIAL INVESTMENT

2. Describe actions to achieve compliance with conditions of the permit and/or previous extension.

3. Provide the maximum rate, or duty if applicable, of water diverted for beneficial use under this permit, if any, to date.

Maximum rate used to date = \_\_\_\_\_ cfs (cubic feet per second)

INCOMPLETE REPORTS WILL BE RETURNED. AN ANSWER IS REQUIRED IN EACH ITEM.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Printed Name/Title \_\_\_\_\_

*Report the rate in the same units of measurement as specified in the permit, being cfs (cubic feet per second), gpm (gallons per minute) or AF (acre-feet). Do not provide daily, monthly or annual water volume totals.*

Diligence Shown  Yes  No

Date Public Noticed: \_\_\_\_\_  
*For OWRD use only*

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Mailing List for Extension FO Copies

FO Date: September 18, 2015

Copies Mailed

Application: G-13711

By: BW

Permit: G-17316

On: 9/18/15

Original mailed to permit holder

Davenport Newberry Holdings, LLC.  
C/O AltaRock Energy  
4010 Stone Way, Suite 400  
Seattle, WA 98103

Copies sent to:

1. WRD - App. File G-13711/ Permit G-17316
2. GSI Water Solutions Inc.  
Adam Sussman/ Owen McMurtrey  
1600 SW Western BLVD Suite 240  
Corvallis, OR 97333

Fee paid as specified under ORS 536.050 to receive copy:

3. None

Receiving notification via e-mail - FO available in WRIS for review

(DONE BY EXTENSION SPECIALIST)

4. WRD - Watermaster District 11, Jeremy Giffin

If Progress Reports are included:

(DONE BY EXTENSION SPECIALIST)

Add record to Progress Report tracking sheet.xls Done: by MAB Date 9-16-15

CASEWORKER: MAB

C/O Alta Rock Energy

# Extension PFO Checklist for Other than Muni or Quasi-Municipal

4010 Stone Way  
N. Suite 400  
Seattle WA  
98103

Water Use Permits  
(OAR 690-315-0010 through OAR 690-315-0060)

Application: G-13711 Permit: G-12545 Permit Amendment? No  Yes  T- 11873  pending  approved  
 Permit Holder's Name: Davenport Newberry Holdings LLC 300 ATLANTIC ST, Suite 301  
 Permit Holder's Mailing Address: \_\_\_\_\_ email \_\_\_\_\_ STAMFORD, CT 06901  
 Phone Number: \_\_\_\_\_ Agent: GSI, Adam Sussman  
 POD Location: Township \_\_\_\_\_ Range \_\_\_\_\_ Section \_\_\_\_\_ 1000 SW Western Blvd, Suite 240  
 Drainage Basin: 5 County: Deschutes Watermaster District: 11 Watermaster: Jeremy Giffin  
SCR Kyle Gorman

Date Permit was issued: 7-8-96 Priority Date: 6-10-94 Date of PN: 6-9-15

Source: 6 Six wells within the Paulina Creek Basin

Use: Industrial

"Q": 3.56 cfs

Orig "A" Date: 7-8-97

Orig "B" Date: 10/1/98

Orig "C" Date: 10/1/98

Extension request rec'd: 6-1-2015

Last Authorized "B" Date: 10/1/2015

Last Authorized "C" Date: 10/1/2015

Request Number (1, 2, 3...): 2 Proposed "B" Date: 10/1/

Proposed C Date: 10/1/2030

### Conditions of Permit:

Condition Met?	Condition Not Met?	Permit Condition
<input type="checkbox"/>	<input type="checkbox"/>	meter = on well 1 & 6 well 1 (Desc 10060)
<input type="checkbox"/>	<input type="checkbox"/>	water usage well 6 (Desc 58395)
<input type="checkbox"/>	<input type="checkbox"/>	monitoring plan approved Dec 19, 2002
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

### Factors to consider in determining "Reasonable Diligence" [OAR 690-315-0040(3)]:

Yes No

- Work was accomplished within the time allowed in the permit or previous extension
- Water right permit holder conformed with the permit or previous extension conditions
- Financial investments were made toward developing the beneficial water use.

• Amount Invested to date: \$ 44,855,250 Estimated Remaining Cost: \$ 34,592,000

- Beneficial use made of the water during the permit or previous extension time limits

• Permit holder has beneficially used 1.56  cfs  gpm  af of the total permitted quantity of water on \_\_\_\_\_ acres

GW REVIEW: Y  WJ  
 MITIGATION REVIEW: Y

Has the applicant pursued perfection of the right in good faith and with reasonable diligence? Yes  No

**Determination of the market and the present demand for water or power to be supplied:**

Identify the closest surface water or localized water basin. \_\_\_\_\_

Ground Water Permits: Is the POA located...

Surface Water Permits: Is the POD located...

- Yes No
- above a state scenic waterway? Name above the Deschutes Scenic Waterway Source: OWRD "Areas Above State Scenic Waterways" Map
  - within a stream segment designated as a federal wild and scenic river? Source: www.rivers.gov/wildriverslist.html
  - within a sensitive, threatened or endangered species area Source: "/gisdata/dev/projects/salmon/div33map.aml"
  - within a critical or limited Ground Water Area? Name of area
  - within a Withdrawn Area? Name of area
  - in a waterbody listed on the DEQ Section 303(d) List of Water Quality Limited Areas? Date added to list
  - within an area ranking low / moderate / high / highest for stream flow restoration needs Source: OWRD "Streamflow Restoration Needs" Maps (by region)

**Based on the written record, can the Department make a finding of "Good Cause" to approve the extension request?**

Yes... "Good Cause" can be found.  Approval of Extension Request

No ... "Good Cause" cannot be found.  Denial of Extension Request

Conditions to be included in Extension PFO (if applicable)? Yes  No

(NOTE: Check the file record for documentation to add a condition(s) at the extension stage.)

5-year Progress Report Checkpoints (Years: \_\_\_\_\_)

Other: \_\_\_\_\_

**Footnote regarding Claim of Beneficial Use. Choose the appropriate language below and insert as a footnote in the PFO:**

COBU Requirement - Surface/Ground Water - on or prior to July 9, 1987

"For permits applied for or received on or before July 9, 1987, upon complete development of the permit, you must notify the Department that the work has been completed and either: (1) Hire a water right examiner certified under ORS 537.798 to conduct a survey, the original to be submitted as required by the Water Resources Department, for issuance of a water right certificate; or (2) Continue to appropriate water under the water right permit until the Water Resources Department conducts a survey and issues a water right certificate under ORS 537.250 or 537.625."

COBU Requirement - Surface Water - post July 9, 1987

"Pursuant to ORS 537.230(4), upon the completion of beneficial use of water allowed under the permit, the permit holder shall hire a certified water rights examiner to survey the appropriation. Within one year after the complete application of water to a beneficial use (or by the date allowed for the complete application of water to a beneficial use), the permit holder shall submit a map of the survey and the claim of beneficial use."

COBU Requirement - Ground Water - post July 9, 1987

"Pursuant to ORS 537.630(4), upon the completion of beneficial use of water allowed under the permit, the permit holder shall hire a certified water rights examiner to survey the appropriation. Within one year after the complete application of water to a beneficial use (or by the date allowed for the complete application of water to a beneficial use), the permit holder shall submit a map of the survey and the claim of beneficial use."

**NOTES:**

**Extension "PFO" Dates**

Mailing / Issuance Date: \_\_\_\_\_ Protest Deadline Date: \_\_\_\_\_

Reviewer's Name: \_\_\_\_\_ Date: \_\_\_\_\_

Application # G-13711

Permit # G-17316

**Public Notice Route Slip ... New Application Extension of Time**  
per Division 315 Rules... (Extensions received on July 1, 2001 or after)

◆ **WRIG...**

Money Received on: G-2-15

◆ **Extension Specialist ...**

Added to tracking spreadsheet

**After fee is receipted and app is added to spreadsheet, route to...**

◆ **Codi Holmes...**

Publish on Public Notice (initial 30-day comment): Date of notice 6/9/15

Update WRIS Database

In the "PNotice Date" field... Enter the date the Extension Application was published on the Public Notice.

In the "Ext Filed" field... Enter the date the Extension Application was received.

Yes or  No: Return file to Extension Specialist after PN M Bamberg-er

**STATE OF OREGON  
WATER RESOURCES DEPARTMENT**

RECEIPT # **116039**

725 Summer St. N.E. Ste. A  
SALEM, OR 97301-4172  
(503) 986-0900 / (503) 986-0904 (fax)

INVOICE # 6-13710

RECEIVED FROM: GSI; Water Solutions, Inc.  
BY: \_\_\_\_\_

APPLICATION	<u>6-13711</u>
PERMIT	
TRANSFER	

CASH:  CHECK:# 17104 OTHER: (IDENTIFY)

TOTAL REC'D \$ 1150.00

**1083 TREASURY 4170 WRD MISC CASH ACCT**

0407 COPIES		\$
OTHER: (IDENTIFY)		\$
0243 I/S Lease	0244 Muni Water Mgmt. Plan	0245 Cons. Water

**4270 WRD OPERATING ACCT**

<b>MISCELLANEOUS</b>			
0407 COPY & TAPE FEES		\$	
0410 RESEARCH FEES		\$	
0408 MISC REVENUE: (IDENTIFY)		\$	
TC162 DEPOSIT LIAB. (IDENTIFY)		\$	
0240 EXTENSION OF TIME	<u>2 at 575.00 each</u>	\$	<u>1,150.00</u>
<b>WATER RIGHTS:</b>			
0201 SURFACE WATER	EXAM FEE	\$	0202 RECORD FEE
0203 GROUND WATER		\$	0204
0205 TRANSFER		\$	
<b>WELL CONSTRUCTION</b>			
0218 WELL DRILL CONSTRUCTOR	EXAM FEE	\$	0219 LICENSE FEE
LANDOWNER'S PERMIT		\$	0220
OTHER (IDENTIFY)			

**0536 TREASURY 0437 WELL CONST. START FEE**

0211 WELL CONST START FEE	\$	CARD #
0210 MONITORING WELLS	\$	CARD #
OTHER (IDENTIFY)		

**0607 TREASURY 0467 HYDRO ACTIVITY LIC NUMBER**

0233 POWER LICENSE FEE (FW/WRD)		\$
0231 HYDRO LICENSE FEE (FW/WRD)		\$
HYDRO APPLICATION		\$

**TREASURY OTHER / RDX**

FUND _____	TITLE _____
OBJ. CODE _____	VENDOR # _____
DESCRIPTION _____	\$ _____

RECEIPT: **116039** DATED: 6-1-15 BY: Main

GSI WATER SOLUTIONS, INC.

017104

Check Date: 5/26/2015

Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
Dav Power Ext Apps	5/26/2015	0008671	1,150.00			1,150.00
Oregon Water Resources Department			TOTAL			1,150.00
Key Bank 8460 - GSI Water 1		245				



Oregon  
Kate Brown, Governor

Water Resources Department  
725 Summer St NE, Suite A  
Salem, OR 97301  
(503) 986-0900  
Fax (503) 986-0904

June 3, 2015

REFERENCE: Application for Extension of Time

Dear Extension of Time Applicant:

The Water Right Services Division has received your application for an extension of time for **APPLICATION FILE #: G-13710 (Permit G-17031) and G-13711 (Permit G-17316)**. Your application will be reviewed in the future. Following the review, you will receive a Proposed Final Order either approving or rejecting the extension of time request. A 45-day protest period begins upon issuance of the Proposed Final Order. After the protest period closes, a Final Order is issued.

You may continue the use of water under your water right until the Water Resources Department formally takes action on your extension application. If your permit includes conditions, water use reporting, water level measurement reporting, etc., you are required to comply with the conditions.

Any additional development that occurs after the expired completion date, identified on the permit or an extension order, can only be claimed upon an approved extension application.

If you have questions concerning your extension of time application, please contact Machel Bamberger at (503) 986-0802. For general information about the Water Resources Department, you may contact the Water Resources' Customer Service Group at (503) 986-0801 or you may access the Department's website at: [www.wrd.state.or.us](http://www.wrd.state.or.us).

## BAMBERGER MACHELLE A

---

**From:** Owen McMurtrey <OMcMurtrey@gsiws.com>  
**Sent:** Monday, June 22, 2015 12:02 PM  
**To:** BAMBERGER MACHELLE A  
**Cc:** Adam Sussman; Michael Moore, PE; Paul Stern  
**Subject:** RE: Applications G-13710 and G-13711 Davenport Newberry Holdings, LLC.

Hi MACHELLE,

Yes, you may change the extended to dates on both applications from October 30, 2030 to October 1, 2030. I'll be sure to download the new form. Is there anything else I need to do to update the old form?

I'm also working on putting together a response to your questions. I expect to have that to you by the end of this week.

Thanks,

Owen

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**From:** BAMBERGER MACHELLE A [<mailto:machelle.a.bamberger@state.or.us>]  
**Sent:** Monday, June 22, 2015 10:22 AM  
**To:** Owen McMurtrey  
**Cc:** Adam Sussman; Kim Grigsby; Molly Reid; Ted Ressler  
**Subject:** Applications G-13710 and G-13711 Davenport Newberry Holdings, LLC.

Good Morning

The extension application you are using is an older version, the updated version changed the first page with the extended date to October 1, year\_\_\_\_. Please make changes to your form.

May I change Both Davenport Newberry Holdings, LLC applications with extended to October 30, 2030 to October 1, 2030.

Please let me know.

Thank you,  
MACHELLE

**MACHELLE A BAMBERGER** | Extension Specialist

**Water Resources Department** | 725 Summer St. NE, Suite A | Salem, Oregon 97301

Ph: 503 986-0802 | Fax: 503 986-0901

Email: [Machelle.A.Bamberger@wrд.state.or.us](mailto:Machelle.A.Bamberger@wrд.state.or.us) | Web:<http://www.wrd.state.or.us>





**Water Solutions, Inc.**

June 8, 2015

Machelle Bamberger  
Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem, OR 97301

RE: Permit Extension Applications, Permits G-17316 and G-17031, Davenport Newberry Holdings, LLC

Dear Machelle,

We spoke last week about the permit extension applications for Permits G-17316 and G-17031. During our conversation you asked for additional information concerning the following items:

- 1) Estimate approximately how much money has been spent on drilling and developing the water wells that are authorized on each permit, not including the cost of drilling or maintaining geothermal wells.

Before discussing the costs associated with water well construction and development of water use under Permits G-17031 and G-17316, it should be noted that it is difficult to separate direct water well costs and geothermal well costs. There is substantial overlap in equipment, infrastructure, and regulatory compliance costs associated with drilling water and geothermal wells at the site. The following tables are intended to show only direct water well costs, which excludes some expenditures at the site that would be necessary for water well construction, but were also necessary for geothermal well construction. Therefore, in addition to direct water well costs, a portion of all funds spent at the site should be attributed to the cost of applying water to beneficial use.

The following tables show estimates of accumulated and projected direct water well costs for each permit:

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JUL 06 2015

WATER RESOURCES DEPT  
SALEM, OREGON

**Table 1: Projected and accumulated direct water well costs under Permit G-17031**

Accumulated Cost		Projected Costs	
Drill water well 46-16	\$300,000	Drill water well on Permit G-17031	\$350,000
Regulatory compliance for water wells only (e.g., static water level reporting, water use permitting)	\$14,500	Regulatory compliance for water wells only (e.g., water use reportion, permit amendments, perfecting permit)	\$19,500
Deepen ORMAT water well #1	\$24,338		
Step-drawdown test of water well 46-16	\$107,250		
<b>Total</b>	<b>\$446,088</b>	<b>Total</b>	<b>\$369,500</b>

**Table 2: Projected and accumulated direct water well costs under Permit G-17316**

Accumulated Cost		Projected Costs	
Drill water well 55-29	\$300,000	Drill water well on Permit G-17316	\$350,000
Regulatory compliance for water wells only (e.g., static water level reporting, water use permitting)	\$14,500	Regulatory compliance for water wells only (e.g., water use reporting permit amendments, perfecting permit)	\$24,000
Step-drawdown test of water well 55-29	\$107,250		
<b>Total</b>	<b>\$421,250</b>	<b>Total</b>	<b>\$374,000</b>

2) Clarify which costs are associated with each well.

See above.

3) Are there any economic interests dependent on the outcome of this project and if there are, name them.

Yes. Davenport Newberry Holdings, LLC intends to ultimately generate electricity from a geothermal power project to be developed on the site. Geothermal energy will provide power from a clean, renewable source, ensuring an uninterrupted and affordable supply of energy. In addition to federal and state taxes generated from a successful project, this project will generate royalties for Deschutes County, the State of Oregon, and the federal government. 75% of all royalties will go directly to the State of Oregon and Deschutes County. Ongoing and anticipated work at the site will generate hundreds of jobs. Davenport's Innovate Exploration (IE) and Enhanced Geothermal Systems (EGS) grants alone generated 50 person-years of work.

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JUL 06 2015

WATER RESOURCES DEPT  
SALEM, OREGON

Are there other factors relevant to the market demand for water and power (see OAR 690-315-0040(4)(f))?

Yes. Development of this project will contribute to state and federal initiatives toward increasing the use of renewable, alternative energy sources. As noted in the application, the importance of the Newberry site has been recognized through awards of IE and EGS grants from the U.S. Department of Energy. In May 2015, the Newberry site was also one of five geothermal sites selected to receive a grant for Phase 1 of the Department of Energy's Frontier Observatory for Research in Geothermal Energy (FORGE) program.

Please feel free to contact me with any additional questions. You can reach me at [ocmcmurtrey@gsiws.com](mailto:ocmcmurtrey@gsiws.com) or by phone at (541)-257-9005.

Sincerely,

Owen McMurtrey  
Staff Water Resources Consultant  
GSI Water Solutions, Inc.

**RECEIVED**

JUL 06 2015

WATER RESOURCES DEPT  
SALEM, OREGON

DESC 10060

AUG 1 1 1995

WATER RESOURCES DEPT.  
SALEM, OREGON215/12E/2/BB  
well 1STATE OF OREGON  
WATER WELL REPORT  
(as required by ORS 637765)

(START CARD #) 70924

(1) OWNER 95 21  
CALIFORNIA ENERGY COMPANY INC.  
900 N. HERITAGE DR. BLDG. D,  
RIDGECREST CA 93655

(2) TYPE OF WORK: NEW WELL

(3) DRILL METHOD: ROTARY AIR

(4) PROPOSED USE: Industrial

## (5) BORE HOLE CONSTRUCTION:

Special Construction Approval No. \_\_\_\_\_ Depth of Completed Well -805 ft.

Explosives used NO Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE		SEAL		AMOUNT	
Diameter	From To	Material	From To	Sacks	
15 1/2"	0 -203	CEMENT	0 -203	28 YD	
8 7/8"	-203 -805				

How was seal Placed C

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_

Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of Gravel \_\_\_\_\_

## (6) CASING / LINER:

CASING	Dia.	From To	Gage	Material
	10"	+2 -203	.250	STEEL / WELDED

LINER 7" +2 -793 .188 STEEL / WELDED

Final location of shoe (s)

## (7) PERFORATIONS / SCREENS: Perforations

METHOD	TYPE	MATERIAL
TORCH		

From	To	Slot size	Number	Dia.	Tels / pipe size	LINER
-833	-773	1/4 X 1/8	144	7"	7"	LINER

## (8) WELL TESTS: Minimum testing time is 1 hour

TESTING METHOD	Yield GPM	Drawdown	Drill stem at	Time
AIR	60 GPM		-865	1 HOUR
	200 GPM		-790	1 HOUR

Temperature of Water 65 F Depth Artesian Flow Found

Was a water analysis done? NO By whom

Did any strata contain water not suitable for intended use?

## (9) LOCATION OF WELL by legal description:

County DESCHUTES Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Township 21 S Range 12 E  
Section 21 NW 1/4 NW 1/4Tax Lot MAP Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_

Street Address of Well (or nearest address)

NATIONAL FOREST

## (10) STATIC WATER LEVEL:

-655 ft. below land surface Date July 8, 1995

Artesian pressure \_\_\_\_\_ Date \_\_\_\_\_

## (11) WATER BEARING ZONES:

Depth at which water was first found		Estimated Flow Rate	SWL
From	To		
-782	-805	200 GPM	-655

## (12) WELL LOG:

	Ground Elevation		SWL
	FROM	TO	
SOIL & PUMICE	0	10	
BROKEN GREY ROCK	10	82	
GREY ROCK	82	205	
BROKEN CAVING GREY ROCK	205	374	
HARD GREY ROCK	374	433	
RED ROCK	433	570	
HARD RED & GREY ROCK	570	585	
HARD GREY ROCK	585	661	
RED ROCK	661	729	
HARD GREY	729	782	
RED CINDERS	782	793	555
BROKEN BROWN ROCK	793	805	555

Date started May 1, 1995

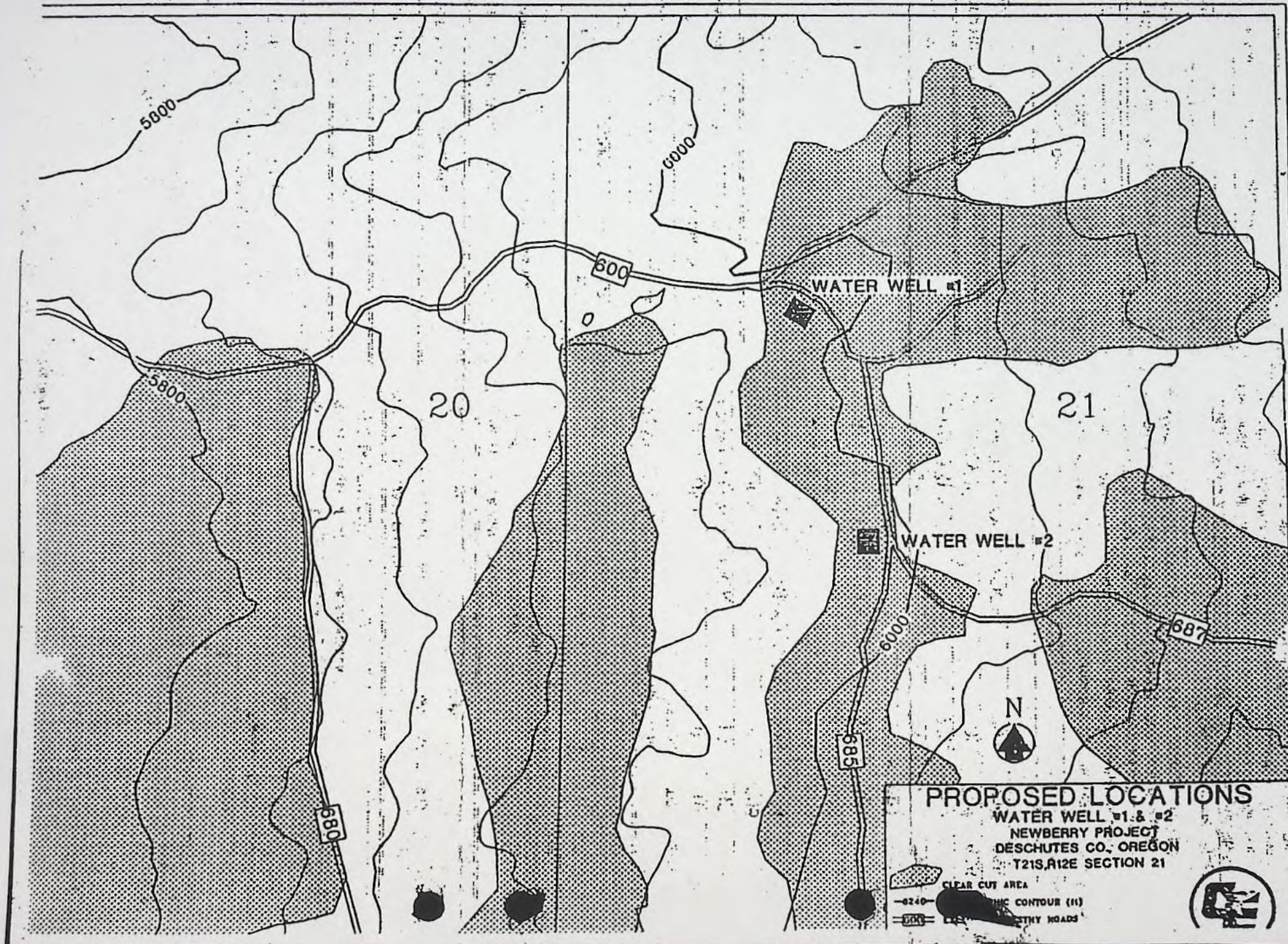
Completed July 29, 1995

(Unbonded) Water Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

DATE \_\_\_\_\_ WWC NUMBER 1452

(Bonded) Water Well Constructor Certification: I accept responsibility for the construction alteration or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

*Michael Hancock* DATE 8-1-95 WWC NUMBER 699



DESC 10060

DESC 59592

Well 1 Deepened

STATE OF OREGON  
MONITORING WELL REPORT  
(as required by ORS 537.765 & OAR 690-240-0395)

WELL LABEL # L 91653  
START CARD # 1016704

(1) LAND OWNER  
Owner Well I.D. NN-18  
First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
Company AltaRock Energy  
Address 7900 E GreenLake Dr N.  
City Seattle State Wa Zip 98115

(2) TYPE OF WORK  New  Deepening  Conversion  
 Alteration (repair/recondition)  Abandonment

(3) DRILL METHOD  
 Rotary Air  Rotary Mud  Cable  Hollow Stem Auger  Cable Mud  
 Reverse Rotary  Other

(4) CONSTRUCTION  
Piezometer Well   
Depth of Completed Well 815 ft. Special Standard



MONUMENT/VAULT Above Ground   
From +3 To 0

BORE HOLE  
Diameter 8 From 0 To 790

CASING  
Dia. 8 From  1 To 792  
Gauge .250 Wid Thrd  
Material  Steel  Plastic

LINER  
Dia. \_\_\_\_\_ From  \_\_\_\_\_ To \_\_\_\_\_  
Gauge \_\_\_\_\_ Wid Thrd  
Material  Steel  Plastic

SEAL  
From \_\_\_\_\_ To \_\_\_\_\_  
Material   
Amount  Grout weight \_\_\_\_\_

SCREEN  
Casing/Liner  Material \_\_\_\_\_  
Diameter \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_  
Slot Size \_\_\_\_\_

FILTER  
From \_\_\_\_\_ To \_\_\_\_\_ Material \_\_\_\_\_ Size of pack

(5) WELL TESTS

<input type="radio"/> Pump	<input type="radio"/> Bailor	<input checked="" type="radio"/> Air	<input type="radio"/> Flowing Artesian
Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
40			2

Temperature \_\_\_\_\_ °F Lab analysis  Yes By \_\_\_\_\_  
Supervising Geologist/Engineer Kyla Grasso

Water quality concerns?  Yes (describe below)

From	To	Description	Amount	Units

(6) LOCATION OF WELL (legal description)  
County DESCH  Twp 21s  N/S Range 12e  E/W WM  
Sec 21 NE  1/4 of the SW  1/4 Tax Lot \_\_\_\_\_  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ or 43.7375 DMS or DD  
Long \_\_\_\_\_ or 121.302 DMS or DD  
 Street address of well  Nearest address  
USFS RD 685-9735 (MP11) Deschutes Oregon.

(7) STATIC WATER LEVEL

Date	SWL(psi)	+ SWL(ft)
Existing Well / Predeepening		
Completed Well		556.1

Flowing Artesian?  Dry Hole?   
WATER BEARING ZONES Depth water was first found

SWL Date	From	To	Est Flow	SWL(psi)	+ SWL(ft)

(8) WELL LOG Ground Elevation 6032

Material	From	To
Re drill of sluffed red cinder to original drill depth.	792	805
Red cinder with trace dark grey basalt.	805	825

Date Started 7-11-12 Completed 7-17-12

(unbonded) Monitor Well Constructor Certification  
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.  
License Number 10507 Date 10-1-12  
Password: (if filing electronically)  
Signed *[Signature]*

(bonded) Monitor Well Constructor Certification  
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon monitoring well construction standards. This report is true to the best of my knowledge and belief.  
License Number 10067 Date OCT 18, 2012  
Password: (if filing electronically)  
Signed *[Signature]*  
Contact Info (optional)



well 6

STATE OF OREGON  
WATER SUPPLY WELL REPORT  
(as required by ORS 537.765 & OAR 690-205-0210)

DESC 58395

03-27-2008

WELL LABEL # L 93031

START CARD # 1002875

(1) LAND OWNER Owner Well I.D. \_\_\_\_\_

First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
Company NEWBERRY GEOTHERMAL LLC  
Address C/O HAP TAYLOR  
City BEND State OR Zip 97709

(2) TYPE OF WORK  New Well  Deepening  Conversion  
 Alteration (repair/recondition)  Abandonment

(3) DRILL METHOD  
 Rotary Air  Rotary Mud  Cable  Auger  Cable Mud  
 Reverse Rotary  Other \_\_\_\_\_

(4) PROPOSED USE  Domestic  Irrigation  Community  
 Industrial/ Commercial  Livestock  Dewatering  
 Thermal  Injection  Other \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION Special Standard  (Attach copy)  
Depth of Completed Well 583.00 ft.

BORE HOLE			SEAL			Amt	sacks/ lbs
Dia	From	To	Material	From	To		
14	0	118	Bentonite Chips	0	2	4	S
10	118	410	Cement	2	118	132	S
9.5	410	583					

How was seal placed: Method  A  B  C  D  E

Other Poured Dry

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_

Filter pack from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

Explosives used:  Yes Type \_\_\_\_\_ Amount \_\_\_\_\_

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10		2	118	.250	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	8		0	543	.188	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	8		543	583	.250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Shoe  Inside  Outside  Other Location of shoe(s) 583

Temp casing  Yes Dia \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

(7) PERFORATIONS/SCREENS

Perforations Method Air Perf

Screens Type \_\_\_\_\_ Material \_\_\_\_\_

Perf/S	Casing/	Screen	From	To	Scrn/slot	Slot	# of	Tele/
creen	Liner	Dia			width	length	slots	pipe size
Perf	Liner	8	539	579	125	2	1,440	

(8) WELL TESTS: Minimum testing time is 1 hour

<input type="radio"/> Pump	<input type="radio"/> Bailer	<input checked="" type="radio"/> Air	<input type="radio"/> Flowing Artesian
Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
500		580	2

Temperature 53 °F Lab analysis  Yes By \_\_\_\_\_

Water quality concerns?  Yes (describe below)

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County Deschutes Twp 21.00 S N/S Range 12.00 E E/W WM  
Sec 29 SW 1/4 of the NE 1/4 Tax Lot NON  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat 43° 43' 48.000" or 43.73000000 DMS or DD  
Long -121° 18' 48.000" or -121.31333333 DMS or DD  
 Street address of well  Nearest address

FOREST SERVICE RD 558 DRILL PAD 29 NE CORNER

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+ SWL(ft)
Existing Well / Predeepening			
Completed Well	03-13-2008		325

Flowing Artesian?  Dry Hole?

WATER BEARING ZONES Depth water was first found 400

SWL Date	From	To	Est Flow	SWL(psi)	+ SWL(ft)
03-10-2008	400	420	30		325
03-11-2008	458	510	40		325
03-11-2008	550	562	100		325
03-12-2008	570	583	500		325

(11) WELL LOG

Ground Elevation 5,800

Material	From	To
Clay Pumice	0	2
Ash Tuff Purple	2	22
Sand Pumice Brown	22	35
Cinders Black Sand	35	45
Cinders Ash Pumice	45	105
Lava Gray Hard	105	135
Lava Creviced Red Brown Vesicular	135	145
Lava Gray Hard	145	155
Broken Lava Basalt Caving	155	170
Lava Gray	170	190
Creviced Lava	190	220
Lava Gray	220	265
Conglomerate Brown	265	275
Lava Gray	275	320
Lava Red Brown Fractured Caving	320	345
Lava Fractured Clay Seams	345	400
Cobbles Sand Brown	400	421
Lava Gray	421	426
Lava Basalt Clay Seams	426	458

Date Started 01-17-2008 Completed 03-13-2008

(unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number 758 Date 03-27-2008

Electronically Filed

Signed THOMAS R PECK (E-filed)

(bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

License Number 1720 Date 03-27-2008

Electronically Filed

Signed JACK ABBAS (E-filed)

Contact Info (optional)





May 28, 2015

Machelle Bamberger  
Oregon Water Resources Department  
725 NE Summer Street, Suite A  
Salem, OR 97301

RE: Permit Extension Application, Permit G-17316, Davenport Newberry Holdings, LLC

Dear Machelle,

On behalf of Davenport Newberry Holdings, LLC, I am submitting the enclosed Application for Extension of Time. I am also enclosing the required application fee of \$575.

If you have any questions, please call me at 541-257-9001. I look forward to hearing from you.

Sincerely,  
GSI Water Solutions, Inc.

A handwritten signature in blue ink, appearing to read "Adam Sussman", is written over a horizontal line.

Adam Sussman  
Principal Water Resources Consultant

Cc: Michael Moore, AltaRock Energy  
Paul Stern, PLS Environmental

Enclosure: Extension of Time Application

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JUN 01 2015

SALEM, OR



Oregon Water Resources Department  
 725 Summer Street NE, Suite A  
 Salem Oregon 97301  
 (503) 986-0900  
 www.wrd.state.or.us

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SALEM, OR

**Application for Extension of Time for a Water Right Permit**  
 (Non-Municipal / Non-Quasi-municipal Water Use)

TO THE DIRECTOR OF THE OREGON WATER RESOURCES DEPARTMENT

**I, Davenport Newberry Holdings, LLC**

NAME OF PERMIT HOLDER [OAR 690-315-0020(1) and (3)(a)]

the holder of: Application Number G-13711 Permit Number G-17316 [OAR 690-315-0020(3)(b)]

*\*\*A separate application must be submitted for each permit as per OAR 690-315-0020(2).\*\**

c/o AltaRock Energy  
4010 Stone Way N., Suite 400  
 MAILING ADDRESS

Seattle, WA 98103  
 CITY, STATE, ZIP

PHONE

mmoore@altarockenergy.com  
 E-MAIL ADDRESS

X **do hereby request that** the time to apply water to full beneficial use under the terms and conditions of the permit, which now expires on Month 10 Day 1 Year 2015, be extended to October 30, Year 2030.


**Please Note.** If the permit **does** specify a date when **construction** must be **completed**, you should request to extend both the time to apply water to full beneficial use **and** to complete construction. These dates are typically found on the permit above the signature of the Director.

and

**do hereby request that** the time to complete construction of the water system, which now expires on Month 10 Day 1 Year 2015, be extended to October 30, Year 2030

Sign after completing the entire application, questions 1-11.

I am the permit holder, or have attached to this application written authorization from the permit holder, to apply for an extension of time under this permit. I understand that false or misleading statements in this extension application are grounds for OWRD to suspend processing of the request and/or reason to deny the extension. I have completed the entire application.

  
 Signature

May 21, 2015  
 Date

Printed Name/Title Aaron Mandell, CEO

## Questions to Complete this Application for Extension of Time

[OAR 690-315-0020(3)(d)]

1. Did the “actual construction” of the water system/well drilling begin within the time specified in the permit?     Yes     No     N/A, if not specified in this permit

Date “actual construction” began is: May 1, 1995

Describe details of construction: Construction of Well 1 began on 5/1/1995.

[OAR 690-315-0020(3)(e)(A)]

- 2-A. Please describe how you have complied with each standard and special condition in the original permit [and, if applicable, conditions contained in any order approving a permit amendment and/or order approving a prior extension of time].

*Condition Number: Hand-number each condition on a copy of your permit (and, if applicable, any permit amendment and/or prior extension). Include a copy of your hand-numbered permit.*

### CHART-A

Condition Number	Date Satisfied	Describe How Permit Condition Has Been Satisfied
1	Ongoing	The combined quantity of water diverted from all wells will not exceed 3.56 cubic feet per second
2	Ongoing	All wells will continue to develop water from the same aquifer as the original point of appropriation, Well 1.
3	Ongoing	Constructed Well 6 and Well 1 are metered and the meters are in good working order.
4	Ongoing	The permittee will continue to allow the watermaster access to the meter.
5	12/11/2002	Water level monitoring plan submitted and approved December 19, 2002. Water levels were reported to the Department.
6	Ongoing	The wells have been constructed in accordance with the General Standards for Construction and Maintenance of Water Wells in Oregon.

- 2-B. If you have NOT complied with all applicable conditions, explain the reasons why and indicate with a date certain (in the near future) when compliance will occur.

### CHART-B

Condition Number	Date Will Comply	Explain Why Each Permit Condition Has NOT Been Satisfied
7		The applicant will submit the results of a pump test prior to applying for a certificate of water right.

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SALEM, OR

[OAR 690-315-0020(3)(e)]

**3-A. Provide evidence of physical progress made toward completion of the water system and progress toward making beneficial use of water within the original permitted time period.**

CHART-C (below) must be completed for all Application for Extension of Time requests. *Use chronological order.*

**CHART-C**

DATE	LIST & DESCRIBE WORK ACCOMPLISHED BEFORE PERMIT WAS ISSUED	COST*
5/1/1995	C.E. Exploration Company begins well construction	See below
DATE	LIST & DESCRIBE WORK ACCOMPLISHED AFTER PERMIT WAS ISSUED and PRIOR TO DATE FOR COMPLETE APPLICATION OF WATER	COST*
7/8/1996	Date the permit was signed - find date above signature on last page of permit.	
	Four exploration wells drilled and tested by C.E. Exploration. Two of these wells were plugged and abandoned and a fifth exploration well was started.	See below
7/8/1997	Date the permit specified "Actual Construction Work" shall begin ("A-Date") -not all permits contain this date.	
10/1/1999	Date the permit specified complete application of water to the use shall be made ("C-Date") - all permits contain this date.	
DATE	LIST & DESCRIBE WORK ACCOMPLISHED AFTER DATE FOR COMPLETE APPLICATION OF WATER UP TO NOW Complete if this is your first request for extension of time.	COST*
	N/A – This is the second application for an extension of time.	
<b>*Total Cost for Chart-C</b>		

**\* If exact cost is not known, please provide your best estimate**

**IF this is** your first Application for an Extension of Time, write NA in Chart D below and proceed to question 4 at the bottom of this page.

**3-B) Provide evidence of physical progress made toward completion of the water system and progress toward making beneficial use of water within the most recent extension period.**

If this **is not** your 1st Application for Extension of Time request, fill out CHART-D below in addition to CHART-C above. *Use chronological order.*

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**CHART-D**

DATE	LIST AND DESCRIBE WORK ACCOMPLISHED <u>DURING</u> THE LAST EXTENSION PERIOD	COST*
10/1/1999	"Extended From" date for complete application of water used in the 1 <sup>st</sup> (or the most recent) Application for Extension of Time.	
1999-2010	<p>In 2010, the permittee submitted a Progress Report updating the Department on all work accomplished through 2010. This included:</p> <ul style="list-style-type: none"> <li>- Purchased exploration leases from ORNI 4, LLC.</li> <li>- Entered into a power sales agreement with Pacific Gas and Electric Company.</li> <li>- Completed road enhancement work to allow heavy equipment to reach drilling pad sites.</li> <li>- Constructed three well pads to support drilling of nine deep exploratory wells.</li> <li>- Drilled water wells at 46-16 (Well 46-16) and 55-29 (Well 6) well pads to provide water for geothermal well drilling, dust abatement, and general construction.</li> <li>- Drilled two deep exploratory wells.</li> <li>- Analyzed exploratory wells and planned next phases of exploration</li> <li>- Awarded a grant to pursue a \$12.8 million project.</li> <li>- Partnered with AltaRock energy and awarded a grant to pursue \$43.8 million project.</li> </ul> <p>On January 19, 2011, OWRD determined that diligence toward completion of the project and compliance with terms and conditions of the permits and extensions had been demonstrated (See attachment B).</p>	\$25.9 million <sup>1</sup>
2011	<p>50% cost-share for Innovative Exploration grant:</p> <ul style="list-style-type: none"> <li>- Drilled temperature gradient wells for exploration.</li> <li>- Conducted geophysical surveys.</li> </ul>	\$3,328,500 <sup>2</sup>
2012	<p>50% cost-share for Enhanced Geothermal System (EGS) grant:</p> <ul style="list-style-type: none"> <li>- Stimulation (hydroshearing) of 55-29 geothermal well (using water from Well 6).</li> <li>- Step-drawdown test of water wells to determine maximum production rates and confirm well integrity.</li> </ul>	\$15,612,750 <sup>2</sup>
2014	Permit Amendment T-11460 approved, correcting the location of Well 6 (DESC 58649).	\$14,000
10/1/2015	"Extended To" date for complete application of water resulting from the 1 <sup>st</sup> (or the most recent) Application for Extension of Time.	
DATE	LIST AND DESCRIBE WORK ACCOMPLISHED <u>AFTER</u> THE LAST EXPIRED EXTENSION PERIOD UP TO NOW	COST*
	N/A – extension date has not yet occurred.	
<b>Total Cost of Chart-D</b>		<b>\$44,855,250</b>

\* If exact cost is not known, please provide your best estimate.

<sup>1</sup> Represents total investment in project through October 1, 2010

<sup>2</sup> The Innovative Exploration and Enhanced Geothermal System grants from the Department of Energy included a 50% cost-share raised from investors totaling \$23 million. The cost estimates provided are approximately 50% of the total value of the activities conducted under each grant to date, but it should be noted that the costs for each phase of the project were not necessarily divided equally between private investors and the Department of Energy.

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[OAR 690-315-0020(3)(f)]  
 4. **Cost of project to date: \$44,855,250**  
 (The total combined cost from CHART-C and CHART-D)

[OAR 690-315-0020(3)(e)(B)]  
 5. **Provide evidence of the maximum rate (or duty, if applicable) of water actually diverted for beneficial use under this permit and/or prior extensions of time (if any) made to date.**

*TIP: Report the rate used to date in the same units of measurement as specified in the permit. Unless full beneficial use has been made, this rate will be less than the rate authorized on the permit.*

5-A) For Surface Water Permit Extensions (e.g. S-XXXX or R-XXXX):

Maximum measured rate used to date = \_\_\_\_\_ cfs (cubic feet per second)

or

Maximum measured rate used to date = \_\_\_\_\_ gpm (gallons per minute)

or

Acre-feet stored to date = \_\_\_\_\_ AF

5-B) For Ground Water Permit Extensions (e.g. G-XXXX):

*TIP: Include information from ALL wells that pertain to this permit including wells not currently being used.*

**CHART-E**

Well # as identified on Permit	Water User's Well #	Has this well been drilled?	IF DRILLED					If yes, provide the Permit, Certificate, or Transfer No.
			Well Log Number e.g. MORR 50473	Well Tag Number e.g. # 27566 or N/A	Is the actual drilled location authorized on this permit or on a permit amendment? (See 5-C below)	Maximum measured rate used from this well - - under this permit only (CFS or GPM)	Is this well authorized or utilized under any OTHER water rights?	
Well 1	ORM AT #1	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DESC 10060	N/A	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	0 cfs	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	- -
Well 2	Well 2	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A	N/A	Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	- -
Well 3	Well 3	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A	N/A	Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	- -
Well 4	Well 4	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A	N/A	Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	-
Well 5	Well 5	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A	N/A	Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	-
Well 6	Well 6	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DESC 58395	93031	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	1.56 cfs	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	-
<b>Total measured rate from all wells utilized under this permit</b>						<b>1.56 cfs</b>		

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5-C) If the drilled location of a well is not authorized on this permit, please specify its location below, or provide a map showing its location. Has or will a Permit Amendment Application been/be filed?

N/A – drilled location is authorized under this permit.

Yes  No

*If a Permit Amendment Application has been filed: Transfer No. T-\_\_\_\_\_*

Well # \_\_\_\_\_: Actual location: \_\_\_\_\_

Well # \_\_\_\_\_: Actual location: \_\_\_\_\_

[OAR 690-315-0020(3)(e)(C)]

6. **Provide the total number of acres actually irrigated to date under this permit (if any).**

N/A – Permit is not for irrigation use.

Surface Water Permits: I have applied water to \_\_\_\_\_ acres for irrigation to date.

Ground Water Permits: I have applied water to \_\_\_\_\_ acres for irrigation to date.

Please specify which wells are being utilized for this irrigation.

Well # \_\_\_\_\_ Acres \_\_\_\_\_ Well # \_\_\_\_\_ Acres \_\_\_\_\_

Well # \_\_\_\_\_ Acres \_\_\_\_\_ Well # \_\_\_\_\_ Acres \_\_\_\_\_

[OAR 690-315-0020(3)(j)]

7. **Provide a summary of future plans and a schedule to complete construction of the water system, and/or apply water to full beneficial use under the permit terms and conditions.**

**CHART-F**

APPROXIMATE DATE RANGE (projected)	LIST & DESCRIBE WORK TO BE ACCOMPLISHED TO COMPLETE WATER DEVELOPMENT (projected)	ESTIMATED COST (projected)
2015	Drilling and stimulation of new geothermal well at 55-29 pad (Phase 2.3 of enhanced geothermal system grant).	\$9,592,000
2016-2030	Drilling and stimulation of additional well at 55-29 pad.	\$12,500,000
2016-2030	Drilling and stimulation of additional well at 55-29, 46-16, 24-17 or other pad, construction of up to 4 additional water supply wells (wells 2-5) (this may require a permit amendment to Permit G—17316 regarding place of use and well location).	\$12,500,000
Year: 2030	Date intend to apply water to full beneficial use under the terms and conditions of this permit.	

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8. Estimated remaining total cost to complete the water development:  
[OAR 690-315-0020(3)(g)]

\$34,592,000

[OAR 690-315-0020(3)(h)]

9. Describe the reasons why the water development was not constructed, and/or water was not beneficially used within permit time limits. Provide supporting information for the reason(s) that best fits your circumstances (A, B, C or D).

9-A) Is the project of a size and scope that was originally planned to be phased in over a time frame longer than the one allowed in the permit? If yes, describe.

No. Unanticipated circumstances and the complexity of the project have prolonged completion.

9-B) Did the financial resources needed to develop the project preclude completion of the project within authorized time frames? If yes, describe.

Yes. Davenport has secured multiple grants to support continued geothermal exploration and development activities, but between major project phases (2008-2010), Davenport was unable to continue development of the project due to lack of funding. Davenport's plans have since changed to include development of hot but dry geothermal wells, which required securing new grant funding and a new cost-share partner.

9-C) Did good faith attempts to comply with other agency permit conditions and/or acquire permits from other agencies, or otherwise comply with government regulations, delay completion of the project? If yes, describe.

Yes. The BLM completed an Environmental Assessments (EA) in 2007 in response to Davenport's proposed Plan of Exploration, which included construction of three well pads to allow drilling of up to nine geothermal exploration wells. Following early results in the project, Davenport modified their plans and submitted a proposal to create an Enhanced Geothermal System (EGS) demonstration project at the site. BLM completed this EA December 2011, before beginning Phase II of the Enhanced Geothermal Systems demonstration project.

In addition to these EAs, the construction and maintenance of Davenport's deep geothermal wells, including temperature gradient wells, is subject to the oversight of the Oregon Department of Geology and Mineral Industries (DOGAMI). Cumulatively, obtaining the necessary permission to conduct geothermal exploration activities from the appropriate state and federal authorities has substantially delayed the continued development of the project. Additional environmental assessment would be needed in order to develop a power plant at the site.

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9-D) Have other unforeseen events delayed full development of the water system and use of water within the authorized time frames? If yes, describe.

Yes. As mentioned above, it is difficult to locate geothermal "hotspots" suitable for drilling deep geothermal wells. Davenport has drilled two deep geothermal wells to date, but both have been hindered by difficulties encountered after the drilling process. Davenport plans to drill a third geothermal well in 2015.

[OAR 690-315-0020(3)(k)]

10. **Justify the time requested to complete the project and/or apply the water to full beneficial use.** Your justification should combine information from your answers from Questions 2-B, 7, 8, and 9 of this Application for Extension of Time. Include any other information or evidence to establish that the requested amount of time is sufficient and that you will be able to complete the project within the amount of time requested.

Davenport has continued to invest in geothermal development at the site. Since Davenport took over the project in 2001 from C.E. Exploration Company, over \$40 million has been invested in geothermal exploration at the site. The Department of Energy's selection of the Davenport Newberry site as an EGS demonstration project indicated the importance of the site as a frontier for geothermal development. Water use under permit G-17316 is essential for well drilling (both deep geothermal exploration wells and temperature gradient wells), well stimulation (hydroshearing), dust abatement, general construction, and ultimately geothermal power production. Davenport has been using water from Well 6 since 2008 for geothermal exploration activities and dust abatement. Last year, water from Well 6 was used in hydroshearing of the 55-29 deep geothermal exploration well.

Davenport was delayed in developing the permit by limited finances, good faith attempts to comply with regulations and obtain necessary permits from other federal and state agencies with jurisdiction over the project, and by unforeseen challenges associated with drilling and stimulating exploratory EGS wells.

Davenport plans to drill a third geothermal well on the 55-29 well pad during 2015, which will require water authorized under permit G-17316 (Well 6) during well drilling and stimulation phases. Davenport is seeking private and public funds to continue development at the site beyond 2015. For example, Davenport applied for a grant through the Department of Energy's Frontier Observatory for Research in Geothermal Energy (FORGE) program in 2014 and recently was selected as one of 5 sites for the first phase of the program. Further development at the site would require the use of water authorized under permit G-17316 in order to supply water to multiple deep geothermal wells simultaneously. Davenport expects to apply the full permitted rate of 3.56 cfs authorized by permit G-17361 to beneficial use by October 1, 2030.

11. **Provide any other information you wish OWRD to consider while evaluating your Application for Extension of Time.**

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Page 8

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INSTRUCTIONS FOLLOW ON NEXT PAGE

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Attachment A  
Permit G-17316

Application for an Extension of Time for Permit G-17316 – Davenport Power

DESC 59592

STATE OF OREGON
MONITORING WELL REPORT
(as required by ORS 537.765 & OAR 690-240-0395)

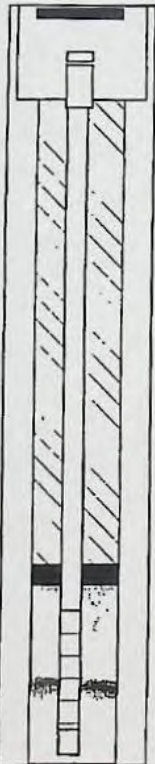
WELL LABEL # 91653
START CARD # 1016704

(1) LAND OWNER
Owner Well I.D. NN-18
First Name Last Name
Company AltaRock Energy
Address 7900 E GreenLake Dr N.
City Seattle State Wa Zip 98115

(2) TYPE OF WORK
New Deepening Conversion
Alteration (repair/recondition) Abandonment

(3) DRILL METHOD
Rotary Air Rotary Mud Cable Hollow Stem Auger Cable Mud
Reverse Rotary Other

(4) CONSTRUCTION
Piezometer Well
Depth of Completed Well 815 ft. Special Standard



MONUMENT/VAULT Above Ground
From +3 To 0

BORE HOLE
Diameter 8 From 0 To 790

CASING
Dia. 8 From 1 To 792
Gauge .250 Wld Thrd
Material Steel Plastic

LINER
Dia. From To
Gauge Wld Thrd
Material Steel Plastic

SEAL
From To
Material
Amount GROUT weight

SCREEN
Casing/Liner Material
Diameter From To
Slot Size

FILTER
From To Material Size of pack

(5) WELL TESTS
Table with columns: Yield gal/min, Drawdown, Drill stem/Pump depth, Duration (hr)
Row 1: 40, , , 2

Temperature °F Lab analysis Yes By
Supervising Geologist/Engineer Kyla Grasso

Water quality concerns? Yes (describe below)
Table with columns: From, To, Description, Amount, Units

(6) LOCATION OF WELL (legal description)
County DESCH Twp 21s N/S Range 12e E/W WM
Sec 21 NE 1/4 of the SW 1/4 Tax Lot
Tax Map Number Lot
Lat " or 43.7375 DMS or DD
Long " or 121.302 DMS or DD
Street address of well Nearest address
USFS RD 685-9735 (MP11) Deschutes Oregon.

(7) STATIC WATER LEVEL
Table with columns: Date, SWL(psi), + SWL(ft)
Existing Well / Predeepening
Completed Well 556.1
Flowing Artesian? Dry Hole?
WATER BEARING ZONES
Depth water was first found
Table with columns: SWL Date, From, To, Est Flow, SWL(psi), + SWL(ft)

(8) WELL LOG
Ground Elevation 6032
Table with columns: Material, From, To
Re drill of sluffed red cinder to original drill depth. 792 805
Red cinder with trace dark grey basalt. 805 825
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OCT 23 2012
SALEM, OR

Date Started 7-11-12 Completed 7-17-12

(unbonded) Monitor Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
License Number 10507 Date 10-1-12
Password: (if filing electronically)
Signed [Signature]

(bonded) Monitor Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon monitoring well construction standards. This report is true to the best of my knowledge and belief.
License Number 10067 Date OCT 18, 2012
Password: (if filing electronically)
Signed [Signature]
Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK.



DESC 10060

215/123/2/BB

AUG 1 1 1995

WATER RESOURCES DEPT.  
SALEM, OREGON

DESC  
10060

STATE OF OREGON  
WATER WELL REPORT  
(as required by ORS 637765)

(START CARD #) 70924

(1) OWNER 95 21  
CALIFORNIA ENERGY COMPANY INC.  
900 N. HERITAGE DR. BLDG. D,  
RIDGECREST CA 93555

(9) LOCATION OF WELL by legal description:  
County DESCHUTES Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Township 21 S Range 12 E  
Section 21 NW 14 NW 14  
Tax Lot MAP Lot Block Subdivision  
Street Address of Well (or nearest address)  
NATIONAL FOREST

(2) TYPE OF WORK: NEW WELL

(3) DRILL METHOD: ROTARY AIR

(4) PROPOSED USE: Industrial

(10) STATIC WATER LEVEL:  
-565 ft. below land surface Date July 8, 1995  
Artesian pressure Date

(5) BORE HOLE CONSTRUCTION:

Special Construction Approval No \_\_\_\_\_ Depth of completed Well -805 ft.  
Explosives used NO Type \_\_\_\_\_ Amount \_\_\_\_\_  
HOLE SEAL AMOUNT  
Diameter From To Material From To Sacks  
15 1/2" 0 -209 CEMENT 0 -209 28 YD  
8 7/8 -209 -805

(11) WATER BEARING ZONES:  
Depth at which water was first found -782  
From To Estimated Flow Rate SWL  
-782 -805 200 GPM -665

How was seal Placed C  
Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of Gravel \_\_\_\_\_

(12) WELL LOG: Ground Elevation  
FROM TO SWL  
SOIL & PUMICE 0 10  
BROKEN GREY ROCK 10 82  
GREY ROCK 82 205  
BROKEN CAVING GREY ROCK 205 374  
HARD GREY ROCK 374 433  
RED ROCK 433 570  
HARD RED & GREY ROCK 570 585  
HARD GREY ROCK 585 661  
RED ROCK 661 729  
HARD GREY 729 782  
RED CINDERS 782 793 555  
BROKEN BROWN ROCK 793 805 555

(6) CASING / LINER:  
Dia. From To Gage Material  
CASING 10" +2 -209 .250 STEEL / WELDED  
LINER 7" +2 -783 .188 STEEL / WELDED  
Final location of shoe (s)

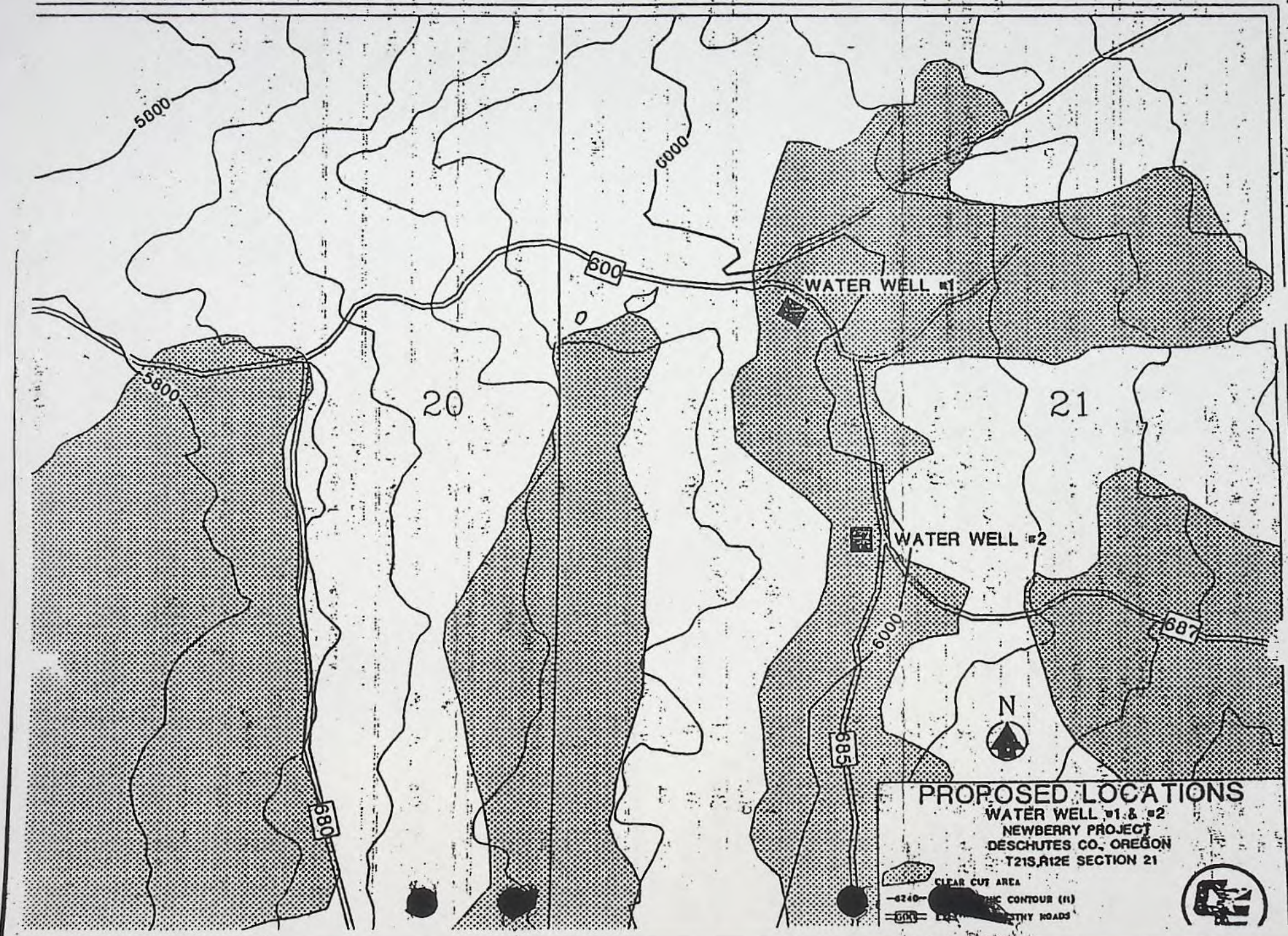
(7) PERFORATIONS / SCREENS: Perforations  
METHOD TYPE MATERIAL  
TORCH  
From To Slot size Number Dia. Tole / pipe size  
-693 -773 1/4 X 8 144 7" 7" LINER

Date started May 1, 1995 Completed July 28, 1995  
(Unbonded) Water Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

(8) WELL TESTS: Minimum testing time is 1 hour  
TESTING METHOD AIR  
Yield GPM Drawdown Drill stem at Time  
60 GPM \_\_\_\_\_ -665 1 HOUR  
200 GPM \_\_\_\_\_ -780 1 HOUR  
Temperature of Water 58 F Depth Artesian Flow Found  
Was a water analysis done? NO By whom  
Did any strata contain water not suitable for intended use?

DATE WWC NUMBER 1452  
(Bonded) Water Well Constructor Certification: I accept responsibility for the construction alteration or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.  
*Michael Hancelly* DATE 8-1-95 WWC NUMBER 693

DESC 10060



**PROPOSED LOCATIONS**

WATER WELL #1 & #2  
NEWBERRY PROJECT  
DESCHUTES CO., OREGON  
T21S,R12E SECTION 21

- CLEAR CUT AREA
- 240' CONTOUR (11)
- EARTH ROADS



STATE OF OREGON  
COUNTY OF DESCHUTES

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

DAVENPORT NEWBERRY HOLDINGS LLC  
4010 STONE WAY N. SUITE 400  
SEATTLE, WA 98103

This superseding permit is issued to describe an amendment for a point of appropriation a change in place of use and the correction of a scrivener's error proposed under Permit Amendment Application T-11873 and approved by Special Order Vol. 93, Page 228, entered Nov. 25, 2014. This permit supersedes Permit G-17032.

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-13711

SOURCE OF WATER: SIX (6) WELLS WITHIN THE PAULINA CREEK BASIN

PURPOSE OR USE: INDUSTRIAL USE

QUANTITY: 3.56 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: JUNE 10, 1994

POINTS OF DIVERSION LOCATION:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	21	NE SW	WELL 1 (DESC 10060) - 1895 FEET NORTH AND 1795 FEET EAST FROM THE SW CORNER OF SECTION 21
21 S	12 E	WM	21	SE SE	WELL 2 - 4620 FEET SOUTH AND 4620 FEET EAST FROM THE NW CORNER OF SECTION 21
21 S	12 E	WM	28	NE NW	WELL 3 - 4620 FEET NORTH AND 1980 FEET EAST FROM THE SW CORNER OF SECTION 28
21 S	12 E	WM	16	NW SE	WELL 4 - 1980 FEET NORTH AND 3300 FEET EAST FROM THE SW CORNER OF SECTION 16
21 S	12 E	WM	20	SE NE	WELL 5 - 1980 FEET SOUTH AND 660 FEET WEST FROM THE NE CORNER OF SECTION 20
21 S	12 E	WM	29	SW NE	WELL 6 - 2065 FEET SOUTH AND 1710 FEET WEST FROM THE NE CORNER OF SECTION 29

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PERMIT G-17316

THE PLACE OF USE IS LOCATED AS FOLLOWS:

INDUSTRIAL USE				
Twp	Rng	Mer	Sec	Q-Q
21 S	12 E	WM	11	SE SW
21 S	12 E	WM	14	NE NW
21 S	12 E	WM	14	SW NW
21 S	12 E	WM	15	NW NE
21 S	12 E	WM	15	SE NE
21 S	12 E	WM	15	NE NW
21 S	12 E	WM	15	NW SW
21 S	12 E	WM	15	SE SW
21 S	12 E	WM	15	NE SE
21 S	12 E	WM	15	NW SE
21 S	12 E	WM	21	NE NE
21 S	12 E	WM	21	SW NE
21 S	12 E	WM	21	NE NW
21 S	12 E	WM	21	SE NW
21 S	12 E	WM	21	NE SW
21 S	12 E	WM	21	SE SW
21 S	12 E	WM	22	SW NW
21 S	12 E	WM	28	NW NE
21 S	12 E	WM	28	SW NW
21 S	12 E	WM	28	SE SW
21 S	12 E	WM	29	SW NE
21 S	12 E	WM	29	SE NE
21 S	12 E	WM	29	NW SE
21 S	12 E	WM	29	NE SE
22 S	12 E	WM	4	NE NW
22 S	12 E	WM	4	NE SW
22 S	12 E	WM	9	SE NW

Permit Amendment T-11873 Conditions

The combined quantity of water diverted at the new point of appropriation, together with that diverted at the old points of appropriation, shall not exceed the quantity of water lawfully available at the original point of appropriation.

Water use measurement conditions:

- a) Before water use may begin under this order, the water user shall install a totalizing flow meter, or, with prior approval of the Director, another suitable measuring device at each point of appropriation (new and existing).
- b) The water user shall maintain the meters or measuring devices in good working order.
- c) The water user shall allow the Watermaster access to the meters or measuring devices; provided however, where the meters or measuring devices are located within a private structure, the Watermaster shall request access upon reasonable notice.

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Water shall be acquired from the same aquifer as the original point of appropriation.

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Previous Permit Conditions:

The quantity of water diverted at Well 1 shall not exceed the quantity of water lawfully available at the original point of appropriation of Well 1.

Water from Well 1 shall be acquired from the same aquifer as the original point of appropriation of Well 1.

## Measurement, recording and reporting conditions:

- A. Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.
- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

This use may be regulated if analysis of data available after the permit or certificate is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

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## STANDARD CONDITIONS

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

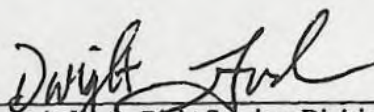
By law, the land use associated with this water use must be in compliance with statewide land-use goals and any local acknowledged land-use plan.

The use of water shall be limited when it interferes with any prior surface or ground water rights.

The Director finds that the proposed use(s) of water described by this permit, as conditioned, will not impair or be detrimental to the public interest.

Actual construction of the well shall begin within one year from permit issuance and shall be completed on or before October 1, 2015. Complete application of the water to the use shall be made on or before October 1, 2015.

Issued Nov. 25, 2014



Dwight French, Water Right Services Division Administrator, for  
Thomas M. Byler, Director  
Oregon Water Resources Department

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Application G-13711/T-11873.sah  
Basin 5

Water Resources Department  
Volume 1A Little Deschutes River & Misc.  
MGMT. CODES 7AG, 7AR, 7BG, 7BR

PERMIT G-17316  
District 11

**Attachment B**  
**2010 Progress Report**

**Application for an Extension of Time for Permit G-17316 – Davenport Power**

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**SALEM, OR**

# Davenport Newberry Holdings LLC

300 Atlantic Street, Suite 301  
Stamford, CT 06901

225 NW Franklin Avenue, Suite 1  
Bend, OR 97701

September 30, 2010

Oregon Water Resource Department  
c/o Scott Kudlemyer, Extension Specialist  
725 Summer Street NE, Suite A  
Salem, Oregon 97301

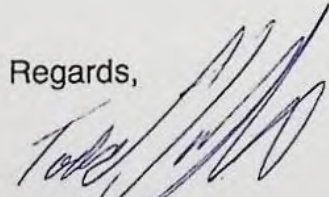
Re: Progress Report for Permit #G-12595 (Application # 13711)

Dear Mr. Kudlemyer:

Pursuant to the Final Order – "Extension of Time for Permit Number G-12595" dated September 15, 2005, a progress report as to the diligent effort made toward completion of the project must be submitted to the Department by October 1, 2010. Attached you will find a copy of this progress report with a supplemental attachment.

If you have any questions, please give me a call.

Regards,



Todd Jaffe  
Vice President  
203-276-1600 ext 4

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Oregon Water Resources Department  
 725 Summer Street NE, Suite A  
 Salem Oregon 97301-1266  
 (503) 986-0900  
 www.wrd.state.or.us

**Extension of Time  
 Progress Report Form  
 For Checkpoints**

TO THE DIRECTOR OF THE OREGON WATER RESOURCES DEPARTMENT

Permit Holder: ORNI 4, LLC (previous)  
 Davenport Newberry Holdings LLC (current)

Application G-13711  
 Permit G-12595

Report Due no later than October 1, 2010

**Progress Report Form for 2010**

As authorized in ORS 690-315-0050(6), this progress report is required in order to ensure diligence is exercised in the development and completions of Permit G-12595

INSERT DATES	WORK ACCOMPLISHED and FINANCIAL INVESTEMENT SINCE OCTOBER 1, 2005 TO OCTOBER 1, 2010 <i>List all work done after the last authorized date for complete application of water up to the date of this Progress Report Form</i>	FINANCIAL INVESTEMENT
2007 to Sept 2010	<i>Received necessary permits to construct 3 well pads, extend roads and drill up to 9 geothermal exploratory wells. Three well pads were constructed and two deep geothermal exploratory wells were drilled to over 10,000 ft. See attached document (EXHIBIT A) for more detailed information and current plans.</i>	<b>\$25.9 million in direct expenses at the site</b>

2. Compliance with terms and conditions of the permit and/or previous extension.

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3. Total number of acres irrigated to date= \_\_\_\_\_ (if applicable)

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4. Provide the maximum rate, or duty if applicable, of water diverted for beneficial use under this permit, if any, made to date.

Maximum rate used to date = \_\_\_\_\_ cfs (cubic feet per second)

Maximum rate used to date = \_\_\_\_\_ gpm (gallons per minute)

Acre-feet stored to date = \_\_\_\_\_ AF

*Report the rate in the same units of measurement as specified in the permit, being cfs (cubic feet per second), gpm (gallons per minute) or AF (acre-feet). Do not provide daily, monthly or annual water volume totals.*

Signature \_\_\_\_\_

*Tom W. [Signature]* VP Davenport Newberry Holdings

Date 9-30-2010

*For OWRD use only*

Diligence Shown  Yes  No

Date Public Noticed: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

## Exhibit A

### Supplement to Progress Report - Permit G-12595, September 30, 2010

#### Action taken toward developing a power plant at Newberry

##### History:

- A permit to appropriate the public waters (Permit G-12595) was issued to C.E. Exploration Company on 7-8-1996.
- It was assigned to ORNI 4, LLC on Sept. 4, 2001.
- CE Exploration Company as well as ORNI 4 LLC (a/k/a/ "Ormat") planned on utilizing the water rights for the construction, operation and maintenance of geothermal electric projects pursuant to leases issued by the U. S. Department of the Interior, Bureau of Land Management ("BLM") to Ormat.
- Davenport Newberry Holdings LLC ("Davenport") holds BLM leases adjacent to the Ormat leases.
- Davenport's goal is to successfully develop power projects at Newberry using the geothermal resource there.
- Ormat has contracted to sell its leases to Davenport. ORNI 4 has assigned the above mentioned Water Permit (G-12595) to Davenport.
- The proposed location of Davenport's projects and place of use of water will be on leases owned by Davenport including the geothermal leases acquired from Ormat on Newberry Volcano.
- Davenport will require water from the same aquifer to operate its projects.
- Davenport has made considerable effort since 2005 to develop geothermal projects at Newberry and continues to do so. Davenport has spent in excess of \$30,000,000 including \$26,900,000 of direct expenses on the Newberry site.
  - In 2006, Davenport entered into a power sales arrangement with Pacific Gas and Electric Company.
  - Based on our previous and ongoing geological analysis, in 2006, Davenport started to conduct exploratory work on the geothermal leases at Newberry. This included gravity and magnetotellurics (MT) surveys and analysis.
  - In 2007, Davenport initiated a permitting process to construct 3 well pads on which we could drill up to nine wells.
  - In 2008, Davenport completed road enhancement work and drilled two deep exploratory wells.
  - Analysis of the two exploratory wells and planning work was performed in 2009. Plans were made to commence the next phase of its exploration efforts.

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- Davenport has commenced the next steps in its exploratory plan in partnership with the U. S. Department of Energy.
- In August 25, 2010, Davenport was officially awarded a grant to pursue a \$12,800,000 Innovative Exploration project at Newberry. DOE will provide \$5,000,000 and Davenport will provide the additional \$6,800,000. Field work on this exploration project has begun.
- This exploration work will consist of drilling 12 temperature gradient wells and conduct various geophysical, chemical, electrical and seismic analysis on Davenport's geothermal leases. This activity should help locate the sources of geothermal fluid (hydrothermal) needed to pursue development of the geothermal projects.
- Davenport has already spent \$500,000 on this project including permitting and geologic analysis.
- In 2009, Davenport teamed up with AltaRock Energy, Inc. ("AltaRock") to pursue another geothermal project on Davenport's Newberry geothermal leases. Davenport and AltaRock submitted a proposal for a DOE grant for an EGS<sup>1</sup> demonstration project.
  - In March 2010, Davenport and AltaRock were awarded a Grant to pursue a \$43,800,000 EGS project at Newberry. This project will develop EGS technology at Newberry. DOE will fund approximately \$21,450,000 and Davenport and AltaRock will fund the remaining \$22,350,000.

**Benefits of geothermal projects at Newberry:**

- Geothermal produced electricity is the only commercial proven technology that can provide continuous reliable energy to the grid, unlike photovoltaic and wind energy.
- Newberry Volcano, which has been studied and explored by leading sector geologists over the past 30 years, is believed to contain the largest undeveloped geothermal field in North America, with the potential for the development of geothermal energy of hundreds of megawatts by conventional hydrothermal and EGS techniques.
- In addition to Federal and State income taxes generated from successful projects, these geothermal projects will generate millions of dollars' worth of royalty payments since it located on government land. 75% of all royalties will go directly to Oregon State and Deschutes County.
- Many jobs will be created. The geothermal power plants to be built will require hundreds of construction workers and many operators. The two forthcoming grant projects (innovative exploration and EGS demonstration) are expected to take approximately 50 person-years of work to complete.

**Unitization:**

- Davenport is currently pursuing the establishment of a Unit at Newberry. This Unit will consist of the all of Davenports leases on the west side of the Monument including all of the

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<sup>1</sup> EGS stands for Enhanced Geothermal Systems. Such a system involves drilling a deep well (injection well) into the earth, stimulating a network of small cracks in the earth around the well by pumping in water into the well. A second well (production well) is then drilled into the stimulated area.

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acquired leases from Ormat. One of the many purposes of establishing this Unit will be more easily pursue exploration and projects across various contiguous leases.

**Future Development activity:**

- Davenport is committed to developing, owning and operating geothermal projects (using hydrothermal or EGS produced energy) at Newberry. All of these projects will require water for exploration, construction and operation. Without water, these projects can't be developed.

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Attachment C  
DESC 10060 and DESC 58395 Well Logs  
Application for an Extension of Time for Permit G-17316 – Davenport Power

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DESC 10060

AUG 1 1 1995

215/128/2/BB  
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DESC  
10060

WATER RESOURCES DEPT.  
SALEM, OREGON

JUN 0 1 2015

STATE OF OREGON  
WATER WELL REPORT  
(as required by ORS 637785)

(START CARD #) 70924

(1) OWNER 95 21  
CALIFORNIA ENERGY COMPANY INC.  
900 N. HERITAGE DR. BLDG. D,  
RIDGECREST CA 93555

(9) LOCATION OF WELL by legal description: SALEM, OR  
County DESCHUTES Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Township 21 8 Range 12 E  
Section 21 NW 14 NW 14  
Tax Lot MAP \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address)  
NATIONAL FOREST

(2) TYPE OF WORK: NEW WELL

(3) DRILL METHOD: ROTARY AIR

(4) PROPOSED USE: Industrial

(10) STATIC WATER LEVEL:  
-655 R. below land surface Date July 8, 1995  
Artesian pressure \_\_\_\_\_ Date \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION:

Special Construction Approval No \_\_\_\_\_ Depth of Completed Well -805 ft.  
Explosives used NO Type \_\_\_\_\_ Amount \_\_\_\_\_  
HOLE SEAL AMOUNT  
Diameter From To Material From To Sacks  
15 1/2" 0 -203 CEMENT 0 -203 28 YD  
8 7/8" -203 -805

(11) WATER BEARING ZONES:  
Depth at which water was first found -782  
From To Estimated Flow Rate SWL  
-782 -805 200 GPM -655

How was seal Placed C  
Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of Gravel \_\_\_\_\_

(12) WELL LOG: Ground Elevation  
FROM TO SWL  
SOIL & PUMICE 0 10  
BROKEN GREY ROCK 10 82  
GREY ROCK 82 205  
BROKEN CAVING GREY ROCK 205 374  
HARD GREY ROCK 374 433  
RED ROCK 433 570  
HARD RED & GREY ROCK 570 585  
HARD GREY ROCK 585 661  
RED ROCK 661 729  
HARD GREY 729 782  
RED CINDERS 782 793 555  
BROKEN BROWN ROCK 793 805 555

(6) CASING / LINER:  
Dia. From To Gage Material  
CASING 10" +2 -203 .250 STEEL / WELDED  
LINER 7" +2 -783 .188 STEEL / WELDED  
Final location of shoe (s)

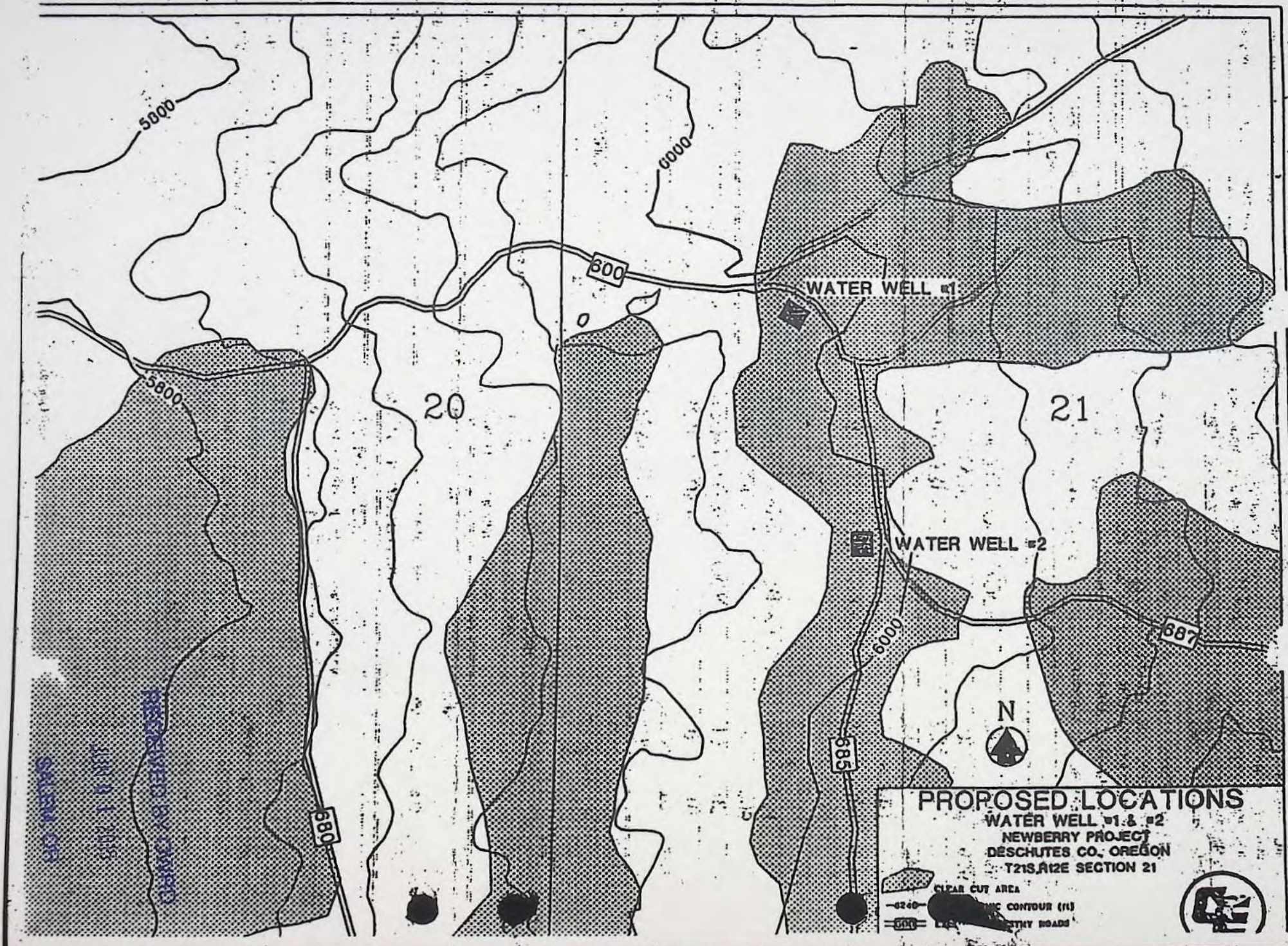
Date started May 1, 1995 Completed July 28, 1995  
(Unbonded) Water Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

(7) PERFORATIONS / SCREENS: Perforations  
METHOD TYPE MATERIAL  
TORCH  
From To Slot size Number Dia. Taps / pipe size  
-692 -772 1/4 x 8 144 7" 7" LINER

(Bonded) Water Well Constructor Certification: I accept responsibility for the construction alteration or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.  
DATE 8-1-95 WWC NUMBER 699

(8) WELL TESTS: Minimum testing time is 1 hour  
TESTING METHOD AIR  
Yield GPM Drawdown Drill stem at Time  
60 GPM \_\_\_\_\_ -865 1 HOUR  
200 GPM \_\_\_\_\_ -780 1 HOUR  
Temperature of Water 56 F Depth Artesian Flow Found  
Was a water analysis done? NO By whom  
Did any strata contain water not suitable for intended use?

DESC 10060



**PROPOSED LOCATIONS**

WATER WELL #1 & #2  
NEWBERRY PROJECT  
DESCHUTES CO., OREGON  
T21S, R12E SECTION 21

- CLEAR CUT AREA
- 6240' ELEVATION CONTOUR (ft)
- 600' ELEVATION CONTOUR (ft)
- STREET ROADS



STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

03-27-2008

JUN 01 2015

WELL LABEL # L 93031

START CARD # 1002875

SALEM, OR

(1) LAND OWNER Owner Well I.D.

First Name Last Name
Company NEWBERRY GEOTHERMAL LLC
Address C/O HAP TAYLOR
City BEND State OR Zip 97709

(2) TYPE OF WORK
New Well Deepening Conversion
Alteration (repair/recondition) Abandonment

(3) DRILL METHOD
Rotary Air Rotary Mud Cable Auger Cable Mud
Reverse Rotary Other

(4) PROPOSED USE
Domestic Irrigation Community
Industrial/ Commercial Livestock Dewatering
Thermal Injection Other

(5) BORE HOLE CONSTRUCTION Special Standard Attach copy

Table with columns: Dia, From, To, Material, SEAL, Amt, lbs. Rows include Bentonite Chips and Cement.

How was seal placed: Method A B C D E
Other Poured Dry
Backfill placed from ft. to ft. Material
Filter pack from ft. to ft. Material Size
Explosives used: Yes Type Amount

(6) CASING/LINER table with columns: Casing, Liner, Dia, From, To, Gauge, Stl, Plstc, Wld, Thrd.

Shoe Inside Outside Other Location of shoe(s) 583
Temp casing Yes Dia From To

(7) PERFORATIONS/SCREENS
Perforations Method Air Perf
Screens Type Material

Table with columns: Perf/S, Casing/Screen, Dia, From, To, Scrn/slot width, Slot length, # of slots, Tele/pipe size.

(8) WELL TESTS: Minimum testing time is 1 hour

Table with columns: Pump, Bailer, Air, Flowing Artesian, Yield gal/min, Drawdown, Drill stem/Pump depth, Duration (hr).

Table with columns: Temperature, Lab analysis, Water quality concerns, From, To, Description, Amount, Units.

(9) LOCATION OF WELL (legal description)

County Deschutes Twp 21.00 S N/S Range 12.00 E E/W WM
Sec 29 SW 1/4 of the NE 1/4 Tax Lot NON
Tax Map Number Lot
Lat 43 43 48.000 or 43.73000000 DMS or DD
Long -121 18 48.000 or -121.31333333 DMS or DD
Street address of well Nearest address

FOREST SERVICE RD 558 DRILL PAD 29 NE CORNER

(10) STATIC WATER LEVEL Date SWL(psi) + SWL(ft)

Table with columns: Existing Well / Predeepening, Completed Well, Date, SWL(psi), SWL(ft).

WATER BEARING ZONES Depth water was first found 400

Table with columns: SWL Date, From, To, Est Flow, SWL(psi), SWL(ft).

(11) WELL LOG Ground Elevation 5,800

Table with columns: Material, From, To. Lists various geological layers like Clay Pumice, Ash Tuff Purple, etc.

Date Started 01-17-2008 Completed 03-13-2008

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards.

License Number 758 Date 03-27-2008
Electronically Filed
Signed THOMAS R PECK (E-filed)

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above.

License Number 1720 Date 03-27-2008
Electronically Filed
Signed JACK ABBAS (E-filed)
Contact Info (optional)



**Attachment D**  
**Water Use Report**

Application for an Extension of Time for Permit G-17316 – Davenport Power

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**JUN 01 2015**

**SALEM, OR**

# Facility Water Use Report

WELL 6/S-29 (DESC 58395/L-93031)

Report ID 37539

WELL 6;  
2065 FEET SOUTH AND 1710 FEET WEST FROM NE CORNER, SECTION 29  
(21S-12E-29-SW NE)

App: LL 1441 \*

Permit: G 17316 \*

DAVENPORT NEWBERRY HOLDINGS LLC

Records per page:

Acre-feet (AF) of Water Used															
Water Year*	Method of Measurement	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total Water Used	Irrigated Acres
2014	FMT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87	3.97	5.84	

\*The water year is named for the calendar year in which it ends. Example: the 2014 water year begins Oct. 1, 2013 and ends Sep. 30, 2014.

## Method(s) of Measurement:

FMT Flowmeter (recording monthly readings and then reporting the difference between one month's reading and the next)

- Monthly amounts indicate:
  - For diverted rights, the total amount diverted during the month;
  - For storage rights, the amount generally stored in the reservoir/pond during the month, as represented by the volume of water impounded on approximately the same day each month.
- Water Use amounts have all been converted to "acre-feet" (AF), regardless of the original measurement unit reported. One AF is the volume of water that will cover an acre of ground one foot deep = 325,850 gallons.
- Xeroxes indicate that a report was received, stating that no water was used during those months; if a year is not listed, no report of water use was received for that year.

SALEM, OR

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**Oregon Water Resources Department**  
**Water Right Services Division**

**PROPOSED FINAL ORDER**

In the Matter of the Application for an Extension of Time for Permit G-17316, Water Right Application G-13711, in the name of Davenport Newberry Holdings, LLC.

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**Permit Information**

Application:	G-13711
Permit:	G-17316
Basin:	5 – Deschutes / Watermaster District 11
Date of Priority:	June 10, 1994
Source of Water:	Six wells within the Paulina Creek Basin
Purpose of Use:	Industrial use
Maximum Rate:	3.56 cubic feet per second (cfs)

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***Please read this Proposed Final Order in its entirety.***

*In Summary, the Department proposes to:*

- Grant an extension of time to complete construction of the water system from October 1, 2015 to October 1, 2030.
- Grant an extension of time to apply water to full beneficial use from October 1, 2015 to October 1, 2030<sup>1</sup>.
- Make the extension subject to certain conditions set forth below.

This Extension of Time request is being processed in accordance with Oregon Revised Statute 537.630 and 539.010(5), and Oregon Administrative Rule Chapter 690, Division 315.

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<sup>1</sup>Pursuant to ORS 537.630(4), upon the completion of beneficial use of water allowed under the permit, the permittee shall hire a certified water rights examiner to survey the appropriation. Within one year after the complete application of water to a beneficial use (or by the date allowed for the complete application of water to a beneficial use), the permittee shall submit a map of the survey and a new or revised claim of beneficial use as deemed appropriate by the Department.

## ACRONYM QUICK REFERENCE

Department – Oregon Department of Water Resources  
PFO – Proposed Final Order  
cfs – cubic feet per second

## AUTHORITY

Generally, see ORS 537.630 and OAR Chapter 690 Division 315.

**ORS 537.630(1)** provides in pertinent part that the Oregon Water Resources Department may, for good cause shown, order an extension of time within which: irrigation or other works shall be completed; the well or other means of developing and securing ground water shall be completed; or the right perfected. In determining the extension, the Department shall give due weight to the considerations described under ORS 539.010(5) and to whether other governmental requirements relating to the project have significantly delayed completion of construction or perfection of the right.

**ORS 539.010(5)** provides in pertinent part that the Water Resources Director, for good cause shown, may extend the time within which the full amount of the water appropriated shall be applied to a beneficial use. This statute instructs the Director to consider: the cost of the appropriation and application of the water to a beneficial purpose; the good faith of the appropriator; the market for water or power to be supplied; the present demands therefore; and the income or use that may be required to provide fair and reasonable returns upon the investment.

**OAR 690-315-0040** provides in pertinent part that the Water Resources Department shall make findings to determine if an extension of time may be approved to complete construction and/or apply water to full beneficial use.

**OAR 690-315-0050(6)** requires the Department, for extensions exceeding five years, to establish checkpoints to determine if diligence is being exercised in the development and perfection of the water use permit. Intervals between checkpoints will not exceed five year periods.

## FINDINGS OF FACT

### *Background*

1. Permit G-12595 was issued by the Department on July 8, 1996. The permit authorized the use of up to 3.56 cfs of water from six wells within the Paulina Creek Basin for industrial use. The permit specified actual construction of the well was to begin by July 8, 1997, construction of the water system was to be completed by October 1, 1998, and complete application of water was to be made on or before October 1, 1999.
2. According to the permit holder, the water authorized under this permit will be used in

conjunction with exploration, construction, operation and maintenance of a geothermal electric project located within the Newberry Known Geothermal Area in Deschutes County.

3. September 10, 2001, Permit G-12595 was assigned by the Department from C. E. Exploration Company to ORNI 4, LLC by proof of ownership.
4. December 19, 2002, the Department approved a plan to monitor and report the impact of water use under this permit.
5. One prior permit extension has been granted for Permit G-12595. The most recent extension request resulted in the completion dates for construction and full application of water being extended from October 1, 1999 to October 1, 2015.
6. On September 30, 2005, Permit G-12595 was assigned by the Department from ORNI 4, LLC to Davenport Newberry Holdings, LLC by proof of ownership.
7. On October 4, 2010, the Department received a progress report. On January 19, 2011, the Department determined that diligence towards the completion of the project and compliance with terms and conditions of the permit and extension had been demonstrated.
8. On May 28, 2013, the Department approved Permit Amendment T-11460 (Special Order Volume 89, Page 793) authorizing a change in the point of appropriation under Permit G-12595 for Well 1 (DESC 10060).
9. May 28, 2013, a superseding Permit G-17032 was issued to describe an amendment for a change in location of Well 1 (DESC 10060).
10. On November 25, 2014, the Department approved Permit Amendment T-11873 (Special Order Volume 93, Page 888) authorizing a change in the point of appropriation for Well 6 and change in the place of use under Permit G-17032.
11. November 25, 2014, a superseding Permit G-17316 was issued to describe an amendment for the change of point of appropriation for Well 6, change in the place of use and the correction of a scrivener's error in the location of Well 4 in Permit G-17032.
12. AltaRock Energy, on behalf of the permit holder, Davenport Newberry Holding LLC, submitted an "Application for Extension of Time" to the Department on June 1, 2015, requesting both the time to complete construction of the water system and the time to apply water to full beneficial use under the terms and conditions of Permit G-17316 be extended from October 1, 2015 to October 1, 2030.
13. Notification of the Application for Extension of Time for Permit G-17316 was published

in the Department's Public Notice dated June 9, 2015. No public comments were received regarding the extension application.

14. On July 6, 2015, the permit holder submitted additional information to supplement their application for extension of time.

**Review Criteria [OAR 690-315-0040]**

*The time limits to complete construction and/or apply water to full beneficial use may be extended if the Department finds that the permit holder has met the requirements set forth under OAR 690-315-0040. This determination shall consider the applicable requirements of ORS 537.230<sup>2</sup>, 537.248<sup>3</sup>, 537.630<sup>4</sup> and/or 539.010(5)<sup>5</sup>.*

**Complete Extension of Time Application [OAR 690-315-0040(1)(a)]**

15. On June 1, 2015, the Department received a completed Application for Extension of Time and the fee specified in ORS 536.050 from the permit holder.

**Start of Construction [OAR 690-315-0040(1)(b) and 690-315-0040(5)]**

16. The permit holder states, actual construction began prior to the July 8, 1997 deadline specified in the permit.

**Duration of Extension [OAR 690-315-0040(1)(c)]**

*Under OAR 690-315-0040(1)(c), in order to approve an extension of time for water use permits the Department must find that the time requested is reasonable and the applicant can complete the project within the time requested.*

17. As of June 1, 2015, the permit holder states the remaining work to be completed consists of developing four of the six water supply wells; meeting all permit conditions; completing construction of the water system; and applying water to full beneficial use.
18. Given the amount of development left to occur, the Department has determined that the permit holder's request to have until October 1, 2030, to complete construction of the water system and to accomplish the application of water to beneficial use under the terms and conditions of Permit G-17316 is both reasonable and necessary.

**Good Cause [OAR 690-315-0040(1)(d)]**

*The Department's determination of good cause shall consider the requirements set forth under OAR 690-315-0040(2).*

**Reasonable Diligence of the Appropriator [OAR 690-315-0040(2)(a)]**

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<sup>2</sup>ORS 537.230 applies to surface water permits only.

<sup>3</sup>ORS 537.248 applies to reservoir permits only.

<sup>4</sup>ORS 537.630 applies to ground water permits only.

<sup>5</sup>ORS 539.010(5) applies to surface water and ground water permits.

*The Department's determination of reasonable diligence shall consider the requirements set forth under OAR 690-315-0040(3)(a-d). In accordance with OAR 690-315-0040(3), the Department shall consider, but is not limited to, the following factors when determining whether the applicant has demonstrated reasonable diligence in previous performance under the permit:*

*Amount of Construction [OAR 690-315-0040(3)(a)]*

19. According to the permit holder, work was accomplished within the time allowed in the permit or previous extension as follows:
  - a. Actual construction of the well began prior to the July 8, 1997 deadline specified in the permit. Construction of Well 1 (DESC 10060) began May 1, 1995 and was completed July 28, 1995.
  - c. During the most recent extension period, being from October 1, 1999, to October 1, 2015, the following was accomplished:
    - Completed construction of Well 6 (DESC 58395) on March 13, 2008;
    - Completed deepening Well 1 (DESC 10060/ DESC 59592) on July 17, 2012;
    - Completed road enhancement work;
    - Completed three well pads;
    - Received Department approval for a Ground water Monitoring plan; and
    - Received Department approval for permit amendment T-11460 and T-1873.

*Beneficial Use of Water [OAR 690-315-0040(3)(b)]*

20. According to the water user a maximum rate of 1.56 cfs of water has been appropriated from Well 6 (DESC 58395) for industrial use.
21. According to the permit holder, delay of full beneficial use of water under Permit G-17316 was due, in part, to limited finances, good faith attempts to comply with regulations and obtaining necessary permits from other federal and state agencies with jurisdiction over the project, and challenges associated with drilling and stimulating exploratory Enhanced Geothermal System wells.

*Compliance with Conditions [OAR 690-315-0040(3)(c)]*

22. The Department has considered the permit holder's compliance with conditions, and did not identify any concerns.
23. The permit holder states they have installed meters on Wells 1 and 6, submitted the annual water use records, and submitted the static water level measurements required under Permit G-17316.

*Financial Investments to Appropriate and Apply Water to a Beneficial Purpose [OAR 690-315-*

0040(2)(b),(3)(d),(4)(d)]

24. As of June 1, 2015, the permit holder states they have invested approximately \$421,250, which is approximately 52 percent of the total projected cost for complete development of the water supply wells authorized under this permit. The permit holder anticipates an additional \$374,000 investment is needed for the completion of the water supply wells, under this permit.
  
25. There is an overlap in equipment, infrastructure, and regulatory compliance costs associated with drilling both water supply and geothermal wells at the site. Thus, the investments in geothermal development are costs associated with development of the water supply wells. According to the permit holder, they have invested approximately \$44,855,250, in geothermal development which is approximately 56 percent of the total projected cost for complete development of geothermal project. The permit holder anticipates an additional \$34,592,000 investment is needed for the completion of the geothermal project.

*Good Faith of the Appropriator [OAR 690-315-0040(2)(c)]*

26. The Department has found good faith of the appropriator under Permit G-17316.

*The Market and Present Demands for Water [OAR 690-315-0040(2)(d-e)]*

*The Department's determinations of market and present demand for water or power to be supplied shall consider the requirements set forth under OAR 690-315-0040(4)(a-f). In accordance with OAR 690-315-0040(4), the Department shall consider, but is not limited to, the following factors when determining the market and the present demand for water or power to be supplied:*

27. The amount of water available to satisfy other affected water rights and scenic waterway flows; special water use designations established since permit issuance, including but not limited to state scenic waterways, federal wild and scenic rivers, serious water management problem areas or water quality limited sources established under 33 U.S.C. 1313(d); or the habitat needs of sensitive, threatened or endangered species, in consultation with the Oregon Department of Fish and Wildlife [OAR 690-315-0040(4)(a-c)].

The amount of water available to satisfy other affected water rights and scenic waterway flows was determined at the time of issuance of Permit G-17316; furthermore, water availability for other affected water rights and scenic waterway flows after the permit was issued is determined when an application for a new water right is submitted. The points of appropriation for Permit G-17316, located within the Paulina Creek Basin, is above the Deschutes Scenic Waterway, and, it is located within an area ranked "high" for stream flow restoration needs as determined by the Department in consultation with the Oregon Department of Fish and Wildlife, and is located within a Sensitive, Threatened or Endangered Fish Species Area as identified by the Department in consultation with Oregon Department of Fish and Wildlife. The

points of appropriation are not in an area listed by the Department of Environmental Quality as a water quality limited stream.

*Other economic interests dependent on completion of the project [OAR 690-315-0040(4)(e)].*

28. Davenport Newberry Holdings, LLC intends to ultimately generate electricity from a geothermal power project to be developed on the site. Geothermal energy will provide power from a clean, renewable source, ensuring an uninterrupted and affordable supply of energy. In addition to federal and state taxes generated from a successful project, this project will generate royalties for Deschutes County, the State of Oregon, and the federal government. Of all royalties, 75% will go directly to the State of Oregon and Deschutes County. Ongoing and anticipated work at the site will generate hundreds of jobs. Davenport's Innovate Exploration and Enhanced Geothermal Systems grants alone generated 50 person-years of work.

*Other factors relevant to the determination of the market and present demand for water and power [OAR 690-315-0040(4)(f)].*

29. Development of this project will contribute to state and federal initiatives toward increasing the use of renewable, alternative energy sources. The importance of the Newberry site has been recognized through award of Innovate Exploration and Enhanced Geothermal Systems grants from the U.S. Department of Energy. In May 2015, the Newberry site was also one of five geothermal sites selected to receive a grant for Phase 1 of the Department of Energy's Frontier Observatory for Research in Geothermal Energy program.
30. OAR 690-315-0050(6) requires the Department to place a checkpoint condition on this extension of time in order to ensure diligence is exercised in the development and perfection of the water use permit. A "Checkpoint Condition" is specified under Item 1 of the "Conditions" section of this PFO to meet this condition.

*Fair Return Upon Investment [OAR 690-315-0040(2)(f)]*

31. Use and income from the permitted water development will likely result in reasonable returns upon the investment made to date.

*Other Governmental Requirements [OAR 690-315-0040(2)(g)]*

32. Delay in the development of this project was caused by other governmental requirements. Obtaining the necessary permission to conduct geothermal exploration activities from the appropriate state and federal authorities has substantially delayed the continued development of the project.

*Unforeseen Events [OAR 690-315-0040(2)(h)]*

33. According to the permit holder, unforeseen events extended the length of time needed to fully develop and perfect Permit G-17316, in that unanticipated circumstances and the complexity of the project have prolonged completion. The geothermal project plans have changed to include development of hot but dry geothermal wells, which required

securing new grant funding and a new cost-share partner.

### **CONCLUSIONS OF LAW**

1. The applicant is entitled to apply for an extension of time to complete construction and/or completely apply water to the full beneficial use pursuant to ORS 537.630(1).
2. The applicant has submitted a complete extension application form and the fee specified in ORS 536.050, as required by OAR 690-315-0040(1)(a).
3. The applicant complied with begin actual construction timeline requirements pursuant to ORS 537.630 as required by OAR 690-315-0040(1)(b) and OAR 690-315-0040(5).
4. Completion of construction and full application of water to beneficial use can be accomplished by October 1, 2030, as required by OAR 690-315-0040(1)(c).
5. The Department has considered the reasonable diligence and good faith of the appropriator, the cost to appropriate and apply water to a beneficial purpose, the market and present demands for water to be supplied, the financial investment made and fair and reasonable return upon the investment, the requirements of other governmental agencies, and unforeseen events over which the permit holder had no control, whether denial of the extension will result in undue hardship to the applicant and whether there are no other reasonable alternatives for meeting water use needs, any other factors relevant to a determination of good cause, and has determined that the applicant has shown that good cause exists for an extension of time to complete construction and apply water to full beneficial use pursuant to OAR 690-315-0040(1)(d).
6. As required by OAR 690-315-0050(6) and as described in Finding 29 above, the Department has established, as specified in the "Conditions" section of this PFO (Item 1), progress checkpoints in order to ensure future diligence is exercised in the development and perfection of Permit G-17316.

**Continued on the following page**

## PROPOSED ORDER

Based upon the foregoing Findings of Fact and Conclusions of Law, the Department proposes to issue an order to:

Extend the time to complete construction of the water system under Permit G-17316 from October 1, 2015 to October 1, 2030.

Extend the time to apply water to beneficial use under Permit G-17316 from October 1, 2015 to October 1, 2030.

Subject to the following conditions:

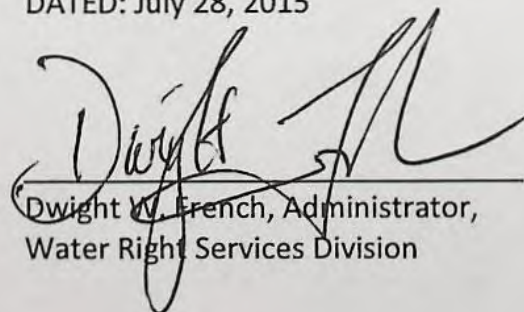
### CONDITIONS

1. Checkpoint Condition

The permit holder must submit a completed Progress Report Form to the Department by **October 1, 2019, 2024, 2029**. *A form will be enclosed with your Final Order.*

- (a) At each checkpoint, the permit holder shall submit and the Department shall review evidence of the permit holder's diligence towards completion of the project and compliance with terms and conditions of the permit and extension. If, after this review, the Department determines the permit holder has not been diligent in developing and perfecting the water use permit, or complied with all terms and conditions, the Department shall modify or further condition the permit or extension to ensure future compliance, or begin cancellation proceedings on the undeveloped portion of the permit pursuant to ORS 537.260 or 537.410, or require submission of a final proof survey pursuant to ORS 537.250;
- (b) The Department shall provide notice of receipt of progress reports in its weekly notice and shall allow a 30 day comment period for each report. The Department shall provide notice of its determination to anyone who submitted comments.

DATED: July 28, 2015

  
Dwight W. French, Administrator,  
Water Right Services Division

*If you have any questions,  
please check the information  
box on the last page for the  
appropriate names and  
phone numbers.*

Proposed Final Order Hearing Rights

1. Under the provisions of OAR 690-315-0100(1) and 690-315-0060, the applicant or any other person adversely affected or aggrieved by the proposed final order may submit a written protest to the proposed final order. The written protest must be received by the Water Resources Department no later than **September 11, 2015** being 45 days from the date of publication of the proposed final order in the Department's weekly notice.
2. A written protest shall include:
  - a. The name, address and telephone number of the petitioner;
  - b. A description of the petitioner's interest in the proposed final order and if the protestant claims to represent the public interest, a precise statement of the public interest represented;
  - c. A detailed description of how the action proposed in the proposed final order would adversely affect or aggrieve the petitioner's interest;
  - d. A detailed description of how the proposed final order is in error or deficient and how to correct the alleged error or deficiency;
  - e. Any citation of legal authority supporting the petitioner, if known;
  - f. Proof of service of the protest upon the water right permit holder, if petitioner is other than the water right permit holder; and
  - g. The applicant or non-applicant protest fee required under ORS 536.050.
3. Within 60 days after the close of the period for requesting a contested case hearing, the Director shall:
  - a. Issue a final order on the extension request; or
  - b. Schedule a contested case hearing if a protest has been submitted, and:
    - 1) Upon review of the issues, the Director finds there are significant disputes related to the proposed agency action; or
    - 2) The applicant submits a written request for a contested case hearing within 30 days after the close of the period for submitting protests.

**NOTICE TO ACTIVE DUTY SERVICEMEMBERS:** Active Duty Service members have a right to stay these proceedings under federal Service members Civil Relief Act. For more information contact the Oregon State Bar at 800-452-8260, the Oregon Military Department at 800-452-7500 or the nearest United States Armed Forces Legal Assistance Office through <http://legalassistance.law.of.mil>



Mailing List for Extension PFO Copies

PFO Date: July 28, 2015

Copies Mailed

Application: G-13711

By: KF

Permit: G-17316

On: 7/28/15

Original mailed to Applicant:

Davenport Newberry Holdings, LLC.  
C/O AltaRock Energy  
4010 Stone Way, Suite 400  
Seattle, WA 98103

Copies sent to:

1. WRD - App. File G-13711/ Permit G-17316
2. GSI Water Solutions Inc.  
Adam Sussman  
1600 SW Western BLVD Suite 240  
Corvallis, OR 97333

Fee paid as specified under ORS 536.050 to receive copy:

3. None

Receiving via e-mail (10 AM Tuesday of signature date)  
(DONE BY EXTENSION SPECIALIST)

4. WRD - Watermaster District 11, Jeremy Giffin

CASEWORKER: MAB

**Final Order**  
**Extension of Time for Permit Number G-12595**

**Appeal Rights**

**This is a final order in other than contested case.** This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60 day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080 you may either petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

**Application History**

On JULY 1, 2002, ORNI 4, LLC submitted an application to the Department for an extension of time for permit number G-12595. The Department issued permit number G-12595 on JULY 8, 1996. The permit called for completion of construction by OCTOBER 1, 1998, and complete application of water to beneficial use by OCTOBER 1, 1999. In accordance with OAR 690-315-0050(2), on JULY 26, 2005, the Department issued a Proposed Final Order proposing to extend the time to complete construction of the water development project and the time to fully apply water to beneficial use to OCTOBER 1, 2015. The protest period closed SEPTEMBER 9, 2005, in accordance with OAR 690-315-0060(1). No protest was filed.

At time of issuance of the Proposed Final Order the Department concluded that, based on the factors demonstrated by the applicant, the permit may be extended subject to the following conditions:

**CONDITIONS**

1. **In accordance with OAR 690-315-0050(6), the permittee must submit a written progress report to the Department by October 1, 2010.** The report must be received by the Department not sooner than 90 days prior to the due date. The permittee's report must describe in detail the work done each year since the last extension was granted or the last progress report submitted. The report shall include:
  - a) The amount of construction completed;

- b) The amount of beneficial use of water being made, including the total volume of water used, water used relative to the specific authorizations (types of use, acres irrigated, etc.) contained in the permit, and the percent of the total allowable water use that this represents;
- c) A review of the permittee's compliance with terms and conditions of the permit and/or previous extension; and
- d) Financial investments made toward developing the beneficial water use.

The Department will review the progress report to determine whether the permittee is exercising diligence towards completion of the project and complying with the terms and conditions of the permit and extension.

***Failure to submit a progress report by the due date above may jeopardize continued development under the permit.***

The Department will take into consideration annual reports submitted under OAR Chapter 690, Division 86 or ORS 537.099, and any other report that demonstrates diligence.

Other reports, however, are not a substitute for the progress reports and anything submitted must clearly show that diligence towards perfecting the water right permit is being attempted.

If the Department finds that diligence is questionable, the Department may:

- a) request the permittee to submit additional information with which to evaluate diligence; or
- b) apply additional conditions and performance criteria for perfection of the right; or
- c) cancel the undeveloped portion of the permit pursuant to ORS 537.260 or 537.410 to 537.450. The Department will grant the permittee a hearing on the cancellation, if one is requested.

In determining whether the permittee has been diligent, the Department will consider any information submitted to the Department by the permittee and any information submitted during the 30-day public comment period following public notice of submittal of the progress report.

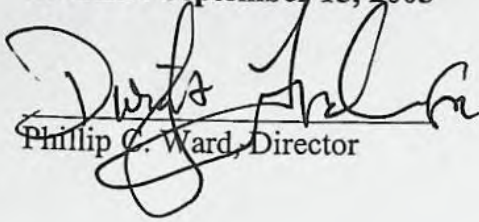
If information is received through the public notice process indicating that the applicant has not been diligent toward completing the project, and if the director determines there are significant disputes related to the use of water, the Department will conduct a hearing.

The applicant has demonstrated good cause for the permit extension pursuant to ORS 537.630, 539.010(5) and OAR 690-315-0040(2).

Order

The extension of time for Application Number G-13711, Permit Number G-12595, therefore, is approved. The deadline for completing construction is extended to OCTOBER 1, 2015. The deadline for applying water to full beneficial use is extended to OCTOBER 1, 2015.

**DATED: September 15, 2005**

  
Phillip C. Ward, Director

**If you have any questions about statements contained in this document, please contact Lisa Jaramillo at (503) 986-0808.**

**If you have other questions about the Department or any of its programs, please contact our Water Resources Customer Service Group at (503) 986-0900.**

Superseding

STATE OF OREGON  
COUNTY OF DESCHUTES

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

DAVENPORT NEWBERRY HOLDINGS LLC  
4010 STONE WAY N. SUITE 400  
SEATTLE, WA 98103

**This superseding permit is issued to describe an amendment for a point of appropriation a change in place of use and the correction of a scrivener's error proposed under Permit Amendment Application T-11873 and approved by Special Order Vol. 93, Page 808, entered Nov. 25, 2014. This permit supersedes Permit G-17032.**

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-13711

SOURCE OF WATER: SIX (6) WELLS WITHIN THE PAULINA CREEK BASIN

PURPOSE OR USE: INDUSTRIAL USE

QUANTITY: 3.56 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: JUNE 10, 1994

POINTS OF DIVERSION LOCATION:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	21	NE SW	WELL 1 (DESC 10060) - 1895 FEET NORTH AND 1795 FEET EAST FROM THE SW CORNER OF SECTION 21
21 S	12 E	WM	21	SE SE	WELL 2 - 4620 FEET SOUTH AND 4620 FEET EAST FROM THE NW CORNER OF SECTION 21
21 S	12 E	WM	28	NE NW	WELL 3 - 4620 FEET NORTH AND 1980 FEET EAST FROM THE SW CORNER OF SECTION 28
21 S	12 E	WM	16	NW SE	WELL 4 - 1980 FEET NORTH AND 3300 FEET EAST FROM THE SW CORNER OF SECTION 16
21 S	12 E	WM	20	SE NE	WELL 5 - 1980 FEET SOUTH AND 660 FEET WEST FROM THE NE CORNER OF SECTION 20
21 S	12 E	WM	29	SW NE	WELL 6 - 2065 FEET SOUTH AND 1710 FEET WEST FROM THE NE CORNER OF SECTION 29

THE PLACE OF USE IS LOCATED AS FOLLOWS:

INDUSTRIAL USE				
Twp	Rng	Mer	Sec	Q-Q
21 S	12 E	WM	11	SE SW
21 S	12 E	WM	14	NE NW
21 S	12 E	WM	14	SW NW
21 S	12 E	WM	15	NW NE
21 S	12 E	WM	15	SE NE
21 S	12 E	WM	15	NE NW
21 S	12 E	WM	15	NW SW
21 S	12 E	WM	15	SE SW
21 S	12 E	WM	15	NE SE
21 S	12 E	WM	15	NW SE
21 S	12 E	WM	21	NE NE
21 S	12 E	WM	21	SW NE
21 S	12 E	WM	21	NE NW
21 S	12 E	WM	21	SE NW
21 S	12 E	WM	21	NE SW
21 S	12 E	WM	21	SE SW
21 S	12 E	WM	22	SW NW
21 S	12 E	WM	28	NW NE
21 S	12 E	WM	28	SW NW
21 S	12 E	WM	28	SE SW
21 S	12 E	WM	29	SW NE
21 S	12 E	WM	29	SE NE
21 S	12 E	WM	29	NW SE
21 S	12 E	WM	29	NE SE
22 S	12 E	WM	4	NE NW
22 S	12 E	WM	4	NE SW
22 S	12 E	WM	9	SE NW

Permit Amendment T-11873 Conditions

The combined quantity of water diverted at the new point of appropriation, together with that diverted at the old points of appropriation, shall not exceed the quantity of water lawfully available at the original point of appropriation.

Water use measurement conditions:

- a) Before water use may begin under this order, the water user shall install a totalizing flow meter, or, with prior approval of the Director, another suitable measuring device at each point of appropriation (new and existing).
- b) The water user shall maintain the meters or measuring devices in good working order.
- c) The water user shall allow the Watermaster access to the meters or measuring devices; provided however, where the meters or measuring devices are located within a private structure, the Watermaster shall request access upon reasonable notice.

Water shall be acquired from the same aquifer as the original point of appropriation.

Previous Permit Conditions:

The quantity of water diverted at Well 1 shall not exceed the quantity of water lawfully available at the original point of appropriation of Well 1.

Water from Well 1 shall be acquired from the same aquifer as the original point of appropriation of Well 1.

Measurement, recording and reporting conditions:

- A. Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.
- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

This use may be regulated if analysis of data available after the permit or certificate is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

**STANDARD CONDITIONS**

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.


By law, the land use associated with this water use must be in compliance with statewide land-use goals and any local acknowledged land-use plan.

The use of water shall be limited when it interferes with any prior surface or ground water rights.

The Director finds that the proposed use(s) of water described by this permit, as conditioned, will not impair or be detrimental to the public interest.

Actual construction of the well shall begin within one year from permit issuance and shall be completed on or before October 1, 2015. Complete application of the water to the use shall be made on or before October 1, 2015.

Issued Nov. 25, 2014

  
Dwight French, Water Right Services Division Administrator, for  
Thomas M. Byler, Director  
Oregon Water Resources Department

Original

STATE OF OREGON

COUNTY OF DESCHUTES

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

C E EXPLORATION CO.  
34 NW FIRST AVENUE, SUITE 302  
PORTLAND, OREGON 97209

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-13711

SOURCE OF WATER: SIX (6) WELLS WITHIN THE PAULINA CREEK BASIN

PURPOSE OR USE: INDUSTRIAL USE

QUANTITY: 3.56 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: JUNE 10, 1994

POINT OF DIVERSION LOCATION: NW 1/4 SE 1/4, SECTION 16, SE 1/4 NE 1/4, SECTION 20, SE 1/4 SE 1/4, SECTION 21, SE 1/4 NW 1/4, SECTION 21, NE 1/4 NW 1/4, SECTION 28, SE 1/4 NE 1/4, SECTION 29, T21S, R12E, W.M.; WELL #1 - 1980 FEET SOUTH AND 1980 FEET EAST OF THE NW CORNER OF SECTION 21, WELL #2 - 4620 FEET SOUTH AND 4620 FEET EAST OF THE NW CORNER OF SECTION 21, WELL #3 - 4620 FEET NORTH AND 1980 FEET EAST OF THE SW CORNER OF SECTION 28, WELL #4 - 1980 FEET NORTH AND 3300 FEET EAST OF THE SW CORNER OF SECTION 16, WELL #5 - 1980 FEET SOUTH AND 660 FEET WEST OF THE NE CORNER OF SECTION 20, WELL #6 - 3300 FEET NORTH AND 660 FEET WEST OF THE SE CORNER OF SECTION 29

THE PLACE OF USE IS LOCATED AS FOLLOWS:

SE 1/4 SW 1/4  
SECTION 11  
NE 1/4 NW 1/4  
SW 1/4 NW 1/4  
SECTION 14  
NW 1/4 NE 1/4  
SE 1/4 NE 1/4  
NE 1/4 NW 1/4  
NW 1/4 SW 1/4  
SE 1/4 SW 1/4  
NE 1/4 SE 1/4  
NW 1/4 SE 1/4  
SECTION 15

Application G-13711 Water Resources Department

PERMIT G-12595

APPROVED. SEE [unclear] [unclear]

NE 1/4 NE 1/4  
SW 1/4 NE 1/4  
NE 1/4 NW 1/4  
SE 1/4 NW 1/4  
NE 1/4 SW 1/4  
SE 1/4 SW 1/4

SECTION 21

SW 1/4 NW 1/4

SECTION 22

NW 1/4 NE 1/4

SW 1/4 NW 1/4

SE 1/4 SW 1/4

SECTION 28

TOWNSHIP 21 SOUTH, RANGE 12 EAST, W.M.

NE 1/4 NW 1/4

NE 1/4 SW 1/4

SECTION 4

SE 1/4 NW 1/4

SECTION 9

TOWNSHIP 22 SOUTH, RANGE 12 EAST, W.M.

Measurement, recording and reporting conditions:

- A. Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.
- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

This use may be regulated if analysis of data available after the permit or certificate is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department

approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

#### STANDARD CONDITIONS

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.



**BEFORE THE WATER RESOURCES DEPARTMENT  
OF THE  
STATE OF OREGON**

In the Matter of Permit Amendment	)	FINAL ORDER
T-11460, Deschutes County	)	APPROVING A CHANGE IN POINT OF
	)	APPROPRIATION AND AN
	)	ADDITIONAL POINT OF
	)	APPROPRIATION

**Authority**

ORS 537.211 establishes the process in which a water right permit holder may submit a request to change the point of appropriation and/or place of use authorized under an existing water right permit.

**Applicant**

DAVENPORT NEWBERRY HOLDINGS LLC  
300 ATLANTIC ST SUITE 301  
STAMFORD, CT 06901

**Findings of Fact**

1. On August 10, 2012, DAVENPORT NEWBERRY HOLDINGS LLC filed an application for an additional point of appropriation under Permit G-12571 and to change a point of appropriation under Permit G-12595. The Department assigned the application number T-11460.
2. On September 15, 2005, the Department approved an extension of time for complete application of water to October 1, 2015.
3. On September 30, 2010, the Department approved assignments of both permits to Davenport Newberry Holdings LLC.
4. Notice of the application for the permit amendment was published in the Department's weekly notice on August 21, 2012, and in the Bend Bulletin newspaper on May 6 and 13, 2013, pursuant to ORS 540.520(5). No comments were filed in response to the notices.
5. On February 28, 2013, the applicant's agent submitted revised application pages and maps to clarify well locations from the applicant's agent.

This is a final order in other than contested case. This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60 day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-080 and OAR 690-01-005 you may either petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

6. Permit Amendment Application T-11460 proposes an additional point of appropriation under Permit G-12571 approximately 3.9 miles from the existing point of appropriation to:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	16	NE SW	WELL 46-16 (DESC 58649) - 1960 FEET NORTH AND 2085 FEET EAST FROM THE SW CORNER OF SECTION 16.

7. Permit Amendment Application T-11460 proposes to move the authorized point of appropriation of Well 1 under Permit G-12595 approximately 1440 feet from the existing point of appropriation to:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	21	NE SW	WELL 1 (DESC 10060) - 1895 FEET NORTH AND 1795 FEET EAST FROM THE SW CORNER OF SECTION 21

***Permit Amendment Review Criteria***

8. The changes would not result in injury to other water rights.
9. The changes do not enlarge the permits.
10. The changes do not alter any other terms of the permits.

**Conclusions of Law**

The additional point of appropriation and change in point of appropriation proposed by Permit Amendment Application T-11460 is consistent with the requirements of ORS 537.211.

**Now, therefore, it is ORDERED:**

1. The additional point of appropriation and change in point of appropriation proposed by Permit Amendment Application T-11460 are approved.
2. Permit G-17031, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is issued to replace Permit G-12571, and incorporates the amendments approved by this order, the extension of time, and assignment. Permit G-12571, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is no longer of any force or effect.
3. Under Permit G-17031, the combined quantity of water diverted at the new point of appropriation, together with that diverted at the old point of appropriation, shall not exceed the quantity of water lawfully available at the original point of appropriation.

4. Under Permit G-17031, prior to water use from the proposed point of appropriation, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order.

The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

The Director may require the permittee to keep and maintain a record of the amount (volume) of water used and may require the permittee to report water use on a periodic schedule as established by the Director. In addition, the Director may require the permittee to report general water use information, the periods of water use and the place and nature of use of water under the permit. The Director may provide an opportunity for the permittee to submit alternative reporting procedures for review and approval.

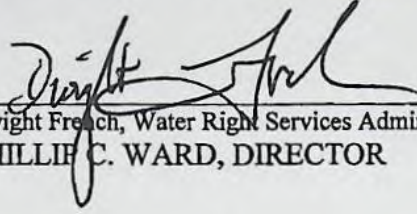
5. Permit G-17032, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is issued to replace Permit G-12595, and incorporates the amendments approved by this order, the extension of time, and assignment. Permit G-12595, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is no longer of any force or effect.
6. Under Permit G-17032, the quantity of water diverted at the new point of appropriation shall not exceed the quantity of water lawfully available at the original point of appropriation.
7. Under Permit G-17032, prior to water use from the proposed additional point of appropriation under the permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, and shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.

The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

8. Under both permits, water shall be acquired from the same aquifer as the original points of appropriation.

9. All other terms and conditions of Permits G-17031 and G-17032 remain the same.

Dated at Salem, Oregon this 28 day of May, 2013.



Dwight French, Water Right Services Administrator, for  
PHILLIP C. WARD, DIRECTOR

Mailing Date: JUNE 7 2013

**Oregon Water Resources Department  
Water Rights Division**

**Application for Extension of Time**

In the Matter of the Application	)	
for an Extension of Time for	)	PROPOSED FINAL
Permit #G-12595, Water Right	)	ORDER
Application #G-13711	)	
(ORNI 4, LLC)	)	

<b>Permit Information</b>	
<b><u>Application File #G-13711 / Permit #G-12595</u></b>	
Basin: #05 - Deschutes / Watermaster District: #11	
Date of Priority: June 10, 1994	
<b><u>Authorized Use of Water</u></b>	
Source of Water:	Six Wells within the Paulina Creek Basin
Purpose or Use:	Industrial Use
Maximum Rate:	3.56 cubic feet per second (cfs)

**This Extension of Time request is being processed in accordance  
with Oregon Administrative Rule Chapter 690, Division 315.**

***Please read this Proposed Final Order in its entirety as it contains additional  
conditions not included in the original permit.***

This Proposed Final Order applies only to Permit #G-12595, water right Application #G-13711. A copy of Permit #G-12595 is enclosed as Attachment 1.

## Summary of Proposed Final Order for Extension of Time

### The Department proposes to:

- grant the extension for complete construction of the water system from October 1, 1998, to October 1, 2015; and
- grant the extension for complete application of water from October 1, 1999, to October 1, 2015; and
- make the extension subject to certain conditions set forth below.

### AUTHORITY

**ORS 537.630(1)** provide in pertinent part that the Water Resources Department shall, for good cause shown, order an extension of time within which: irrigation or other works shall be completed; the well or other means of developing and securing ground water shall be completed; or the right perfected. In determining the extension, the Department shall give due weight to the considerations described under ORS 539.010(5) and to whether other governmental requirements relating to the project have significantly delayed completion of construction or perfection of the right.

**ORS 539.010(5)** provides in pertinent part that the Water Resources Director, for good cause shown, may extend the time within which the full amount of the water appropriated shall be applied to a beneficial use. This statute instructs the Director to consider: the cost of the appropriation and application of the water to a beneficial purpose; the good faith of the appropriator; the market for water or power to be supplied; the present demands therefore; and the income or use that may be required to provide fair and reasonable returns upon the investment.

**OAR 690-315-0040** provides in pertinent part that the Water Resources Department shall make findings to determine if an extension of time may be approved to complete construction and/or apply water to full beneficial use.

**OAR 690-315-0050(6)** allows the Department, for extensions exceeding five years, to establish checkpoints to determine if diligence is being exercised in the development and perfection of the water use permit. Intervals between checkpoints will not exceed five year periods.

## FINDINGS OF FACT

### Background

1. Permit #G-12595 was issued by the Water Resources Department on July 8, 1996. The permit authorizes the use of up to 3.56 cfs of water from six wells, within the Paulina Creek Basin, for industrial use. The permit specified that construction of the water development project was to be completed by October 1, 1998, and that complete application of water was to be made on or before October 1, 1999.
2. The original permit holder (C. E. Exploration Company) assigned Permit #S-12571 to ORNI 4, LLC on September 14, 2001.
3. On July 1, 2002, the permit holder submitted an "Application for Extension of Time" to the Department requesting the time in which to complete construction of the water system be extended from October 1, 1998, to October 1, 2006, and the time in which to accomplish beneficial use of water to the full extent under the terms of Permit #G-12595 be extended from October 1, 1999, to October 1, 2006. This is the first extension of time request for Permit #G-12595.
4. Notification of the extension of time request for Permit #G-12595 was published in the Department's Public Notice dated July 16, 2002. No public comment on the extension application was received.
5. The permit holder determined that an extension through October 1, 2006, would not allow an adequate amount of time to complete development of the project. On July 19, 2005, therefore, the permit holder modified the extension of time application to request the time in which to complete construction of the water system and to accomplish full beneficial use of water under Permit #G-12595 be extended to October 1, 2015.

### Review Criteria [OAR 690-315-0040]

As set forth under OAR 690-315-0040 the time limits to complete construction and/or to apply the water to a beneficial use may be extended upon showing of good cause for the untimely completion. This determination shall consider the

applicable requirements of ORS 537.230<sup>1</sup>, 537.248<sup>2</sup>, 537.630<sup>3</sup> and/or 539.010(5)<sup>4</sup>.

**Start of Construction [OAR 690-315-0040(1)(b)]**

6. The construction of wells began within the time specified in the permit, being July 8, 1997.

**Financial Investment and Cost to Appropriate and Apply Water to a Beneficial Purpose [OAR 690-315-0040(2)(b)]**

7. As of July 1, 2002, the current permit holder had invested a total of \$1,500,000 into the project, consisting of the following: the purchase of the project from the previous permit holder; the plugging and abandonment of an incomplete exploration well; and integrity testing of one of the two remaining exploration wells. An additional \$78,000,000 investment is anticipated for the completion of this project.

**Reasonable Diligence and Good Faith of the Appropriator [OAR 690-315-0040(3)]**

Reasonable diligence during the permit period constitutes a continuing test of whether and under what conditions to grant an extension [OAR 690-315-0040(3)]. In accordance with OAR 690-315-0040(3), the Department shall consider, but is not limited to, the following factors when determining whether the applicant has demonstrated reasonable diligence in previous performance under the permit:

**Amount of Construction**

8. The following construction was completed within the time allowed in the permit or previous extension:

---

<sup>1</sup> ORS 537.230 applies to surface water permits only.

<sup>2</sup> ORS 537.248 applies to reservoir permits only.

<sup>3</sup> ORS 537.630 applies to ground water permits only.

<sup>4</sup> ORS 539.010(5) applies to surface water and ground water permits.

- a. Prior to October 1, 1999, the following work was accomplished: four exploration wells were drilled, completed and tested by the previous permit holder; two of the completed exploration wells were later plugged and abandoned; and construction of a fifth exploration well began but was not completed.
- b. Since October 1, 1999, ORNI 4, LLC purchased the project from the previous permit holder (C. E. Exploration Company).
- c. Delay in the development of this project was not caused by any other governmental requirements.

Beneficial Use of Water

9. The following beneficial use was made of the water during the permit or previous extension time limits:
  - a. As of July 1, 2002, no water has been put to beneficial use under Permit #G-12595.
  - b. Delay of full beneficial use of water under Permit #G-12595 was due to problems experienced by the original permit holder (C. E. Exploration Company) resulting in a change in project ownership to the current permit holder (ORNI 4, LLC) in the year 2001. As the authorized development timeframe under Permit #G-12595 expired on October 1, 1999, the current permit holder needs additional time to complete development of Permit #G-12571 in a timely manner.

Compliance with Conditions

10. The water right permit holder's conformance with the permit or previous extension conditions.
  - a. The record does not raise concerns about the permit holder's compliance with conditions.

Financial Investments

11. Financial investments made toward developing the beneficial water use.
  - a. As of July 1, 2002, the current permit holder had invested a total of \$1,500,000 into the project, consisting of the following: the purchase of the project from the previous permit holder; the plugging and abandonment of an incomplete exploration well; and integrity testing

of one of the two remaining exploration wells. An additional \$78,000,000 investment is anticipated for the completion of this project.

**The Market and Present Demands for Water [OAR 690-315-0040(4)]**

In accordance with OAR 690-315-0040(4)(a)(b)(c), the Department shall consider, but is not limited to, the following factors when determining the market and the present demand for water or power to be supplied:

12. The amount of water available to satisfy other affected water rights and scenic waterway flows; special water use designations established since permit issuance, including but not limited to state scenic waterways, federal wild and scenic rivers, serious water management problem areas or water quality limited sources established under 33 U.S.C. 1313(d); and the habitat needs of sensitive, threatened or endangered species, in consultation with the Oregon Department of Fish and Wildlife.
  - a. The authorized points of appropriation, under Permit #G-12595, are located within or above the Deschutes River State Scenic Waterway and within the Deschutes Ground Water Study Area.
  - b. The points of appropriation are also above a portion of the Deschutes River that: contains instream water rights; has been identified by the Oregon Department of Fish and Wildlife as a "high" needs ranking area for streamflow restoration for fish; has been designated a sensitive, threatened or endangered species area for aquatic species utilizing surface water resources; has been identified by the Oregon Department of Environmental Quality as water quality limited; and has been designated a federal wild and scenic river.
  - c. When Permit #G-12595 was issued in July 1996, the Department concluded that the proposed use would, if properly conditioned, adequately protect the surface water from interference. Pursuant to ORS 390.835(9)(g), the Department included a condition that provides for the regulation of the use of water upon finding a preponderance of evidence that the proposed use of ground water will "measurably reduce" the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife. Permit #G-12595 is also conditioned to provide for regulation for senior water rights.

- d. Since the issuance of Permit #G-12595, the Department, in conjunction with the United States Geological Survey, completed a ground water study quantifying a hydraulic connection between ground water and surface water within the Deschutes Ground Water Study Area. Based in part on the study, in September 2002, the Water Resources Commission adopted rules under OAR Chapter 690, Division 505 to implement the provisions of the Scenic Waterway Act regarding mitigation for new ground water appropriations. ORS 390.835(9) through (12).
- e. As part of the OAR Chapter 690, Division 505 rules, the Commission determined that the "measurably reduce" standard in ORS 390.835(12) had been triggered and that holders of existing ground water rights in the Deschutes Ground Water Study Area that were specifically conditioned to allow for regulation for scenic waterway flows may choose to provide mitigation (meeting the standards of the rules) in order to avoid future regulation.
- f. The Commission's OAR Chapter 690, Division 505 rules also establish a comprehensive mitigation program monitoring structure. Under the rules, the Department shall evaluate ground water appropriations, streamflow, and mitigation activity in order to determine whether scenic waterway flows and instream water right flows in the Deschutes Basin continue to be met on at least an equivalent or more frequent basis as compared to long-term, representative base period flows.

If the evaluation described above indicates the mitigation program is resulting in scenic waterway flows and instream water right flows in the Deschutes Basin being met less frequently as compared to long-term, representative base period flows, then the Commission is required to initiate proceedings to designate all or portions of the Deschutes Ground Water Study Area as a critical ground water area(s) under ORS 537.730, immediately close certain areas of the Deschutes Basin to further ground water appropriations, or take other administrative action(s) to ensure scenic waterway flows and instream water right flows in the Deschutes Basin continue to be met on at least an equivalent or more frequent basis as compared to long-term, representative base period flows.

In accordance with OAR 690-315-0040(4)(d)(e)(f), the Department shall also consider the following factors when determining the market and the present demand for water or power to be supplied:

13. The economic investments in the project to date; other economic interests dependant on completion of the project; and other factors relevant to the determination of the market and present demand for water and power. [OAR 690-315-0040(d)(e)(f)]
  - a. As of July 1, 2002, the current permit holder had invested a total of \$1,500,000 into the project, consisting of the following: the purchase of the project from the previous permit holder; the plugging and abandonment of an incomplete exploration well; and integrity testing of one of the two remaining exploration wells. An additional \$78,000,000 investment is anticipated for the completion of this project.
  - b. There is no evidence in the record regarding other economic interests dependent on completion of the project.
  - c. Development of this project will contribute to the national initiative toward increasing the country's use of renewable, alternative energy sources.

**Fair Return Upon Investment [OAR 690-315-0040(2)(f)]**

14. The income and use from the permitted water development will result in reasonable returns upon the investment made to date.

**Duration of Extension [OAR 690-315-0040(1)(c)]**

As set forth under OAR 690-315-0040(1)(c), time extensions granted shall be for the reasonable time period necessary to complete construction and application of water to beneficial use.

15. As of July 1, 2002, the remaining work to be completed consists of complete construction of the water distribution system and complete application of water to beneficial use.

**Unforeseen Events [OAR 690-315-0040(2)(h)]**

16. Delay of full beneficial use of water under Permit #G-12595 was due to problems experienced by the original permit holder (C. E. Exploration Company) resulting in a change in project ownership to the current permit holder (ORNI 4, LLC) in the year 2001. As the authorized development timeframe under Permit #G-12595 expired on October 1, 1999, the current permit holder needs additional time to complete development of Permit #G-12571 in a timely manner.

**CONCLUSIONS OF LAW**

1. The applicant is entitled to apply for an extension of time to complete construction and/or completely apply water to the full beneficial use pursuant to ORS 537.630.
2. The applicant has submitted a complete extension application form and the fee required by ORS 536.050(1)(k), as required by OAR 690-315-0040(1)(a).
3. The applicant demonstrated that actual construction on the project began within the time specified in the permit, as required by OAR 690-315-0040(1)(b).
4. The applicant has pursued perfection of the right in good faith and prosecuted construction with reasonable diligence.
5. In addition to the demand for water by the permittee, there may be competing demands for the water used under permit #G-12595. However, these competing demands may be addressed either through the Commission's comprehensive Deschutes Basin Mitigation Program, the direct regulation of water use under the permit, or through administrative actions by the Water Resources Commission as required by OAR Chapter 690, Division 505.

6. Completion of construction and full application of water to beneficial use can be completed by October 1, 2015<sup>5</sup>, as required by OAR 690-315-0040(1)(c).
7. The Department has considered the requirements of other governmental agencies, the financial investment made, the reasonable diligence and good faith of the appropriator, the market and present demands for water and the fair return upon the investment, and has determined that the applicant has shown good cause exists for an extension to complete construction and apply water to full beneficial use pursuant to OAR 690-315-0040(1)(d).
8. Given the development of the permit to date, the department has determined an extension of the timelines to complete construction of the water system and to accomplish full beneficial use of water under Permit #G-12595 through October 1, 2015, is both reasonable and necessary to perfect the permit.

#### **Proposed Order**

Based upon the foregoing findings of fact and conclusions of law, the Department proposes to issue an order to:

Extend the time for complete construction of the water system under Permit #G-12595 from October 1, 1998, to October 1, 2015.

Extend the time for complete application of water to beneficial use under Permit #G-12595 from October 1, 1999, to October 1, 2015.

Subject to the following conditions:

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<sup>5</sup> Pursuant to ORS 537.630(4), upon the completion of beneficial use of water allowed under the permit, the permittee shall hire a certified water rights examiner to survey the appropriation. Within one year after the complete application of water to a beneficial use (or by the date allowed for the complete application of water to a beneficial use), the permittee shall submit a map of the survey and the claim of beneficial use.

## CONDITIONS

1. In accordance with OAR 690-315-0050(6), the permittee must submit a written progress report to the Department by October 1, 2010. The report must be received by the Department not sooner than 90 days prior to the due date. The permittee's report must describe in detail the work done each year since the last extension was granted or the last progress report submitted. The report shall include:
  - a) The amount of construction completed;
  - b) The amount of beneficial use of water being made, including the total volume of water used, water used relative to the specific authorizations (types of use, acres irrigated, etc.) contained in the permit, and the percent of the total allowable water use that this represents;
  - c) A review of the permittee's compliance with terms and conditions of the permit and/or previous extension; and
  - d) Financial investments made toward developing the beneficial water use.

The Department will review the progress report to determine whether the permittee is exercising diligence towards completion of the project and complying with the terms and conditions of the permit and extension.

***Failure to submit a progress report by the due date above may jeopardize continued development under the permit.***

The Department will take into consideration annual reports submitted under OAR Chapter 690, Division 86 or ORS 537.099, and any other report that demonstrates diligence.

Other reports, however, are not a substitute for the progress reports and anything submitted must clearly show that diligence towards perfecting the water right permit is being attempted.

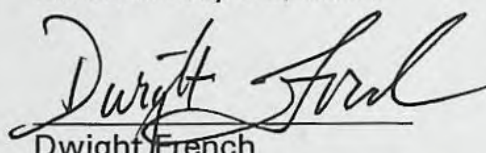
If the Department finds that diligence is questionable, the Department may:

- a) request the permittee to submit additional information with which to evaluate diligence; or
- b) apply additional conditions and performance criteria for perfection of the right; or
- c) cancel the undeveloped portion of the permit pursuant to ORS 537.260 or 537.410 to 537.450. The Department will grant the permittee a hearing on the cancellation, if one is requested.

In determining whether the permittee has been diligent, the Department will consider any information submitted to the Department by the permittee and any information submitted during the 30-day public comment period following public notice of submittal of the progress report.

If information is received through the public notice process indicating that the applicant has not been diligent toward completing the project, and if the director determines there are significant disputes related to the use of water, the Department will conduct a hearing.

DATED: July 26, 2005

  
Dwight French  
Water Rights Section Manager

*If you have any questions,  
please check the information  
box on the last page for the  
appropriate names and  
phone numbers.*

#### **Proposed Final Order Hearing Rights**

1. Under the provisions of OAR 690-315-0060, the applicant or any other person adversely affected or aggrieved by the proposed final order may request a contested case hearing on the proposed final order. Your request for contested case hearing must be in writing and must be received by the Water Resources Department no later than **Friday, September 9, 2005**, being 45 days from the date of publication of the proposed final order in the Department's weekly public notice.
2. A written request for contested case hearing shall include:
  - a. The name, address and telephone number of the petitioner;
  - b. A description of the petitioner's interest in the final order and if the protestant claims to represent the public interest, a precise statement of the public interest represented;
  - c. A detailed description of how the action proposed in the final order would adversely affect or aggrieve the petitioner's interest;
  - d. A detailed description of how the final order is in error or deficient and how to correct the alleged error or deficiency;
  - e. Any citation of legal authority supporting the petitioner, if known;
  - f. Proof of service of the petition upon the water right permit holder, if petitioner is other than the water right permit holder; and

- g. The protest fee required under ORS 536.050.
3. Within 60 days after the close of the period for requesting a contested case hearing, the Director shall:
- a. Issue a final order on the extension request; or
  - b. Schedule a contested case hearing if a request for contested case hearing has been submitted, and:
    - 1) Upon review of the issues, the Director finds there are significant disputes related to the proposed agency action; or
    - 2) The applicant submitted a timely request for a contested case hearing.

**If you have any questions about statements contained in this document, please contact Lisa Juul at (503)986-0808.**

**If you have questions about how to file a protest or if you have previously filed a protest and want to know the status, please contact Mike Reynolds. His telephone number is (503)986-0820.**

**If you have other questions about the Department, or any of its programs, please contact our Water Resources Customer Service Group at (503)986-0801.**

**Address any correspondence to:**

**Water Rights Section  
Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem, OR 97301-1271  
Fax #: (503)986-0901**

**STATE OF OREGON  
WATER RESOURCES DEPARTMENT**

RECEIPT # **53865**

158 12TH ST. N.E.  
SALEM, OR 97310-0210  
378-8455 / 378-8130 (FAX)

INVOICE # \_\_\_\_\_

RECEIVED FROM: <u>ORMAT Nevada Inc.</u>	APPLICATION: <u>See Below</u>
BY: _____	PERMIT: _____
	TRANSFER: _____

CASH:  CHECK: #  94-72 OTHER: (IDENTIFY)  \_\_\_\_\_

TOTAL REC'D \$ 200.00

**0417 WRD MISC CASH ACCT**

ADJUDICATIONS	\$
PUBLICATIONS / MAPS	\$
OTHER: (IDENTIFY) _____	\$
OTHER: (IDENTIFY) _____	\$

**REDUCTION OF EXPENSE**

PCA AND OBJECT CLASS \_\_\_\_\_ CASH ACCT. \$ \_\_\_\_\_

VOUCHER # \_\_\_\_\_

**0427 WRD OPERATING ACCT**

0407	MISCELLANEOUS		
0410	COPY & TAPE FEES	\$	
0408	RESEARCH FEES	\$	
(New) TC162	MISC REVENUE: (IDENTIFY) _____	\$	
	DEPOSIT LIAB. (IDENTIFY) _____	\$	
	<b>WATER RIGHTS:</b>		
0201	SURFACE WATER	EXAM FEE \$	RECORD FEE 0202 \$
0203	GROUND WATER	\$	0204 \$
0205	TRANSFER	\$	0206 \$
	<b>WELL CONSTRUCTION</b>		
0218	WELL DRILL CONSTRUCTOR	EXAM FEE \$	LICENSE FEE 0219 \$
	LANDOWNER'S PERMIT		0220 \$

*G 13710 - \$100.00*  
*G 13711 - \$100.00* } *ext. of time*

**0240** OTHER (IDENTIFY) *Ext. of time* \$ 200.00

**0437 WELL CONST. START FEE**

0211	WELL CONST START FEE	\$	CARD # _____
0210	MONITORING WELLS	\$	CARD # _____
	OTHER (IDENTIFY) _____		

**0539 LOTTERY PROCEEDS**

1302	LOTTERY PROCEEDS	\$
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**0467 HYDRO ACTIVITY**

0233	POWER LICENSE FEE (FW/WRD)	LIC NUMBER _____	\$
0231	HYDRO LICENSE FEE (FW/WRD)		\$
	HRDRO APPLICATION _____		\$

RECEIPT # **53865**

DATED: 7/1/02 BY: Connie Vance

Distribution-White Copy-Customer Yellow Copy-Fiscal Blue Copy-File Buff Copy-Fiscal



ORNI 4, LLC  
an ORMAT Group Company

June 21, 2002

Water Right Permit Extensions  
Water Resources  
158 12<sup>th</sup> Street NE  
Salem, OR 97310

**RE: Application for Extension of Time  
Permits No. G-12571 and G-12595**

Please find enclosed the completed Applications for Extensions of Time for the above referenced permits as provided for in ORS 359 (5). Each Application has Attachments in which detail information is provided.

Also enclosed is check number 2716 in the amount of \$200.00 as the required filing fee of \$100 each for two applications.

If you require further information, please give me a call.

Best Regards,

Christy L. Morris  
Regulatory Affairs Administrator

Enclosures

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JUL 01 2002

WATER RESOURCES DEPT.  
SALEM, OREGON

Office:  
980 Greg Street  
Sparks, NV 89436  
Tel: (775)356-9029  
Fax: (775)356-9039

Coverlet Ext Application 6-02a.doc  
Site:  
USFS Road 9735-600  
Spur 685& 687  
Bend OR

**APPLICATION FOR EXTENSION OF TIME  
TO THE WATER RESOURCES DIRECTOR OF OREGON**

I, ORNI 4, LLC  
NAME  
980 Greg Street Sparks NV 89431 775-356-9029  
ADDRESS CITY STATE ZIP PHONE

owner of record, or duly authorized agent, of Application No. G-13711, Permit No. G-12595, do hereby request that the time in which to:

complete the construction of diversion/appropriation works and/or purchase and installation of the equipment necessary to the use of water, which time now expires on October 1, 1998, be extended to October 1, 2006,

and/or the time in which to:

accomplish beneficial use of water to the full extent under the terms of the permit, which time now expires on October 1, 1999, be extended to October 1, 2006.

**NOTE: The extension of time requested should be long enough to finish the project. Should this request be approved, it will be the Department's expectation that you will complete your project within the new time period allowed. Future extensions may not be granted. Attached is an instruction sheet to assist you in completing the information on the permit extensions application form. Oregon Water Law and Administrative Rules requires this information to be considered by the Water Resources Department when reviewing a permit extension. All items must be completed or the application will be returned. Please feel free to provide the Department with any additional information that would aid us in making our decision. Please use additional sheets of paper as needed to fully respond to the questions.**

**After reviewing the application form and the instruction sheet, if you have any questions, please contact the Department at (503) 378-3739, and request assistance from the Water Rights Division, permit extensions personnel.**

1. Did water system construction/well drilling begin within the time specified in the permit?  
 Yes       No
2. Has construction of diversion/appropriation works, distribution system, and use of water, if any, been accomplished consistent with the limitations and conditions of this permit?  
 Yes       No

A Please describe how you have complied with each applicable permit condition (NOTE: the instruction sheet for permit extension applications provides some direction as to what is an "applicable" condition at time of permit extension review).

Please refer to details in Attachment I.

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 WATER RESOURCES DEPT.  
 SALEM, OREGON

B If you have not complied with all applicable conditions, please explain the reasons why and indicate a date certain, in the near future, by which time you will be in compliance with applicable conditions.

Please refer to details in Attachment I.

3. I have accomplished the following described works, purchases and installation of equipment necessary to the use of water under said permit:

A Within the past year or, if a prior extension was authorized, during the last permit extension period:


Please refer to details in Attachment I.

B Prior to the past year or, if a prior extension was authorized, prior to the last extension period:

Please refer to details in Attachment I.

C I have accomplished beneficial use of water under the permit to the extent of (amount of water used or acres irrigated):

The water under this permit has not, as yet, been put to beneficial use. Please refer to details in Attachment I.

4. Cost of project to date \$ <sup>\$ 1.5 million</sup> 1-Million <sup>See also Attachment I.</sup> . Estimated remaining cost to complete the project \$ 78 Million

5. Please list the reasons why the project was not constructed, and/or water not beneficially used within permit time limits under the appropriate categories below. Please provide supporting information for each reason identified.

Please refer to details in Attachment I.

A The project is of a size and scope that the original intent was to phase it in over a period longer than the time frames allowed in the permit.

Please refer to details in Attachment I.

B Financing and/or cash-flow needs to develop the project precluded completion of the project within authorized time frames.

Please refer to details in Attachment I.

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JUL 01 2002

WATER RESOURCES DEPT.  
SALEM, OREGON

C Good faith attempts to comply with permit conditions and/or to acquire permits from other agencies, or otherwise comply with government regulations, delayed completion of the project.

Please refer to details in Attachment I.

D Acts of God or other unforeseen events delayed full development of the water system and use of water.

N/A

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6. Please identify the economic market or markets to which beneficial use of water under the permit is responding.

Please refer to details in Attachment I.

A Has there been any change in this market since the permit was issued?

Yes, Please refer to details in Attachment I.

B Have these changes, if any, affected the economic feasibility of your project?

Yes, Please refer to details in Attachment I.

7. Are there other present competing demands for water in your community?

Not to our knowledge.

A Has there been any change in these demands for water since the permit was issued?

Not to our knowledge.

B Are you aware of alternative sources of water that may be able to satisfy the competing demands?

Geothermal Resources are site specific. There are no alternative supply sources.

C Are you aware of any adverse affects on your source of water that may have been caused by recent changes in use of water in your community?

Not to our knowledge.

8. Will the income or use from the water development project authorized by this permit provide reasonable returns against the investment in the project?

Yes, it is our commitment to develop the project into a profitable, renewable energy supplier given the resources to do so.

9. If the extension request is denied, is the current level of water use economically feasible?

There are currently no waters being appropriated by the project.

I am the permittee, or have authorization from the permittee, to apply for an extension of time under this permit. I understand that false or misleading statements in this extension application are grounds for the Department to suspend processing of the request and/or reason to deny the extension.

Christy L. Morris

Signature

\_\_\_\_\_ Date

**MAIL COMPLETED APPLICATION AND STATUTORY FEE OF \$ 100 TO:  
WATER RIGHT PERMIT EXTENSIONS  
WATER RESOURCES  
158 12TH ST NE  
SALEM, OREGON 97310**

m:\exchange\lee\extfrm98  
revised: June 21, 1999

RECEIVED

JUL 0 1 2002

WATER RESOURCES DEPT.  
SALEM, OREGON

ORNI 4, LLC

June 2002

8. Will the income or use from the water development project authorized by this permit provide reasonable returns against the investment in the project?

Yes, it is our commitment to develop the project into a profitable, renewable energy supplier given the resources to do so.

9. If the extension request is denied, is the current level of water use economically feasible?

There are currently no waters being appropriated by the project.

I am the permittee, or have authorization from the permittee, to apply for an extension of time under this permit. I understand that false or misleading statements in this extension application are grounds for the Department to suspend processing of the request and/or reason to deny the extension.

Christy L. Morris  
Signature



Date

7/8/02

**MAIL COMPLETED APPLICATION AND STATUTORY FEE OF \$ 100 TO:  
WATER RIGHT PERMIT EXTENSIONS  
WATER RESOURCES  
158 12TH ST NE  
SALEM, OREGON 97310**

m:\exchange\leap\extfm98  
revised: June 21, 1999

ORNI 4, LLC

June 2002

8. Will the income or use from the water development project authorized by this permit provide reasonable returns against the investment in the project?

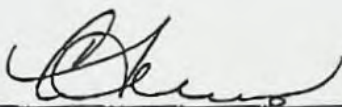
Yes, it is our commitment to develop the project into a profitable, renewable energy supplier given the resources to do so.

9. If the extension request is denied, is the current level of water use economically feasible?

There are currently no waters being appropriated by the project.

I am the permittee, or have authorization from the permittee, to apply for an extension of time under this permit. I understand that false or misleading statements in this extension application are grounds for the Department to suspend processing of the request and/or reason to deny the extension.

Christy L. Morris  
Signature



7/8/02  
Date

**MAIL COMPLETED APPLICATION AND STATUTORY FEE OF \$ 100 TO:  
WATER RIGHT PERMIT EXTENSIONS  
WATER RESOURCES  
158 12TH ST NE  
SALEM, OREGON 97310**

m:\exchange\loop\extfm98  
revised: June 21, 1999

# ORMAT®



### FACSIMILE COVER PAGE

SENT TO : Lisa Jewell OR. Water Resources

ATTN : \_\_\_\_\_

FAX # : 503 378 6203

FROM : Christy Morris DATE: 7/8/02

Number of pages (including cover sheet): 3

If you have difficulties receiving this fax please call (775) 356-9029

The page four of both submissions is identical but here are 2 pages for your files. Sorry about the omission.

Please let me know if you need anything else.

Thanks  
Christy

## Attachment I

In July of 2001, ORNI 4, LLC (ORNI 4) purchased the Newberry Geothermal Power Project with all its rights, titles and interests from CE Exploration Company (CEE). Permit G-12595 (Permit) was assigned to ORNI 4 on September 4, 2001.

### Question 2.

A. CEE, our predecessor in interest, in accordance with stipulations within the Permit began exploration drilling in 1995. Four exploration wells were drilled, completed and tested between 1995 and 1997:

76-15 TCH

88-21 TCH

86-21

23-22

A fifth well, 88-21 was started but not completed and is in suspended status.

The Bureau of Land Management (BLM) Geothermal Well Completion Reports for all wells are included as Attachment II.

None of these wells were "producing" wells. However, as exploration wells they provided information to direct subsequent exploration. The drilling and testing of wells meets the definition of "actual construction" as defined in the Instructions for this application.

In 1999 Wells 76-15 TCH and 86-21 were plugged and abandoned in compliance with Federal Regulations.

No water has been placed into beneficial use at this time and was not in use at the time of the Permit C-date of October 1, 1999. Subsequently, ORNI 4 requests an extension of time to fulfill the stipulations within the Permit.

B. As the new owners of the project, ORNI 4 cannot speculate as to why CEE stopped exploration on this project.

### Questions 3 and 4

ORNI 4 purchased the Newberry Geothermal Project and its liabilities for approximately US \$1 Million.

ORNI 4's purchase of the project included the obligation to plug and abandon Well 88-21 TCH and to perform an integrity testing of Well 23-22. These obligations must be met prior to commencing diligent exploration activity. This work is currently underway and

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(cont.) →

# Invested  
to date  
(7-1-02)

will be complete by July 1, 2002. The cost of meeting these obligations is approximately US \$500,000.

ORNI 4 is estimating a project cost of US \$78 Million to develop the resource into a power producing facility. ORNI 4 estimates a minimum of five (5) years to bring the project to production.

Question 5

As the new owners of the project, ORNI 4 cannot speculate as to why CEE stopped exploration on this project. It is believed that a sales agreement or lack of agreement was in part the cause for ceasing activity.

Question 6

Granting of the Permit extension requested would be consistent with the recommendations of the National Energy Policy Group (NEPD), lead by Vice President Dick Chaney, as outlined in the National Energy Policy Report submitted to President Bush in May 2001. Chapter six of the National Energy Policy, entitled "Nature's Power" is devoted to assessing renewable and alternative energy sources such as geothermal energy, as not only a clean alternative but as a diversifying strategy. The tapping of geothermal energy and the expansion of our nation's energy portfolio is seen by the Bush Administration as critical enough to warrant the NEPD recommendation to "-direct the Secretary of the Interior to determine ways to reduce the delays in geothermal lease processing as part of the permitting review process." President Bush signed Executive Order 13212 on May 18, 2001, entitled "*Actions to Expedite Energy-Related Projects.*" ORNI 4 is pleased to contribute to the national initiative towards increasing the country's use of renewable, alternative energy sources.

Mirroring Vice President Chaney's Energy Policy Group, the Oregon Energy Outlook Report was presented to the Oregon Office of Energy in December 2000. This report documents unprecedented rises in energy costs and details assistance and emergency programs to address the hardship caused. Oregon, having felt the effects of the California energy crisis must assess the advantage of diversifying the states energy portfolio. Geothermal energy is a clean, renewable alternative energy available to Oregon.

Granting the requested extension will be consistent with the Economic Stimulus Plan for the State of Oregon, presented to the Legislative Emergency Board on April 12, 2002 by the Oregon Economic & Community Development Department (OECD). This plan was presented to the state legislature as targets for funding and development by the state but it should also reflect new industry to be encouraged to locate within the state. Recommendations included:

a) "Adequate, affordable infrastructure... necessary to support the growth and expansion needs of businesses." A clean, affordable, reliable energy source is a necessary part of any stable infrastructure.

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June 21, 2002

- b) "A high quality workforce" Geothermal power plants are staffed by highly trained technical personnel with compensatory earnings.
- c) "Investment in rural development" The Newberry Geothermal Project is located in Deschutes County, a rapidly growing county, which none the less has no major population center. And while Deschutes County as a whole is not defined as "distressed" by the OECD, two of the county's larger towns are indexed as "economically distressed."

Granting the requested extension is consistent with the "Strategic Plan" of the Oregon Department of Geology and Mineral Industries wherein one of their seven "core strategies" is the responsible development of geothermal resources.

The above cited reports and plans are in response to an energy crisis which has concentrated the focus on alternative renewable energy supplies. In the State of Nevada, Senate Bill 372 has set mandated percentage and time frame benchmarks for renewable energy contributions to the state's energy portfolio. *Diversity* is a strategy to offset soaring prices and limit impacts of low supply.

ORNI 4 is currently working with the Bureau of Land Management to establish a "unitized" land block (unit) within the Newberry Known Geothermal Area (KGRA). The unit would be comprised wholly of currently held ORNI 4 federal geothermal leases totaling some 5,000 acres. Should the unit become a producing facility, the federal government would benefit from a 10% royalty on production, 50% of which would be returned to the State of Oregon.

ORNI 4 is a member of the ORMAT Group of Companies which is known worldwide for its proprietary power systems which optimally match local resource conditions. Attachment III provides introductory information on ORMAT. ORNI 4 will be applying those technological innovations to the Newberry resource. The current atmosphere for energy development is very favorable, particularly to alternative, renewable generators. ORNI 4 is especially technically capable of delivering renewable geothermal energy to Oregon and we believe the Newberry project to merit our commitment to development

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Attachment II

Bureau of Land Management  
Well Completion Reports (5)

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SALEM, OREGON

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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FORM APPROVED  
OMB NO. 1004-0132  
Expires: September 30, 1990

GEOHERMAL WELL COMPLETION REPORT WATER RESOURCES DEPT.  
SALEM, OREGON

The Bureau of Land Management (BLM) requires this form or other BLM-approved forms to be prepared and filed in duplicate with requisite attachments with the authorized officer within 30 days after completion of permitted operations.

1a. Well Type:  Production  Injection  Disposal  Water Supply  Observation  
 Cold  Heat Exchange  Other

1b. Completion:  New  Workover  Deepened  Plugback  Redrill  
 Recompleted  Drilled & Abandoned  Other

2. Name of Lessee/Operator

C E EXPLORATION

3. Address of Lessee/Operator

34 N W First St., Suite 302, Portland, Oregon 97209

13. Location of Well

At Surface: App 1200' W & 2600' S of NE corner Sec 15

At Top of Production Zone:

At Total Depth: V.S. 232' South 232.00 E 99.80 from surface location

19. Total Depth

Measured 5360' True Vertical: 5328.70'

20. Plugback Total Depth

Measured: True Vertical:

21. Elevation:  Estimated  Final 6780'

Reference Datum:  GR  MAT  DF  KB  RT  Casinghead Flange  Other

22. Drilling Media:  Air  Water  Mud  Foam  Other

List Characteristics: Mud drill from surface to 4500'

23. Log Type & Intervals

Sandia temp & pressure

24. CASING RECORD

Size	Weight	Grade	Collars & Threads	Depths Set		Hole Size	Cementing Recd (slurry volume)
				Top	Shoe		
10 3/4"	47#	K-55	welded	surface	22	12 1/4"	10 c/f
7 "	26#	K-55	buttress	surface	538	9 1/2"	130 c/f
4 1/2"	11.6#	K-55	buttress	surface	2748	6 1/8"	478 c/f
3 "	7.7#	H-0	H0 threads	2707	5116	3 1/2"	12 c/f

25. LINER RECORD

Size	Weight	Grade	Collars & Threads	Top	Bottom	Perforated Intervals	Cementing Recd (slurry volume)

26. TUBING RECORD

Size	Weight	Grade	Depth Set	Packer Depth

27. Cement Squeeze, Acid, Fracture, etc. (detail type, amount, intervals)

28. PERFORATION RECORD

Type	Total No.	Density (No./ft)	Size	Intervals

29. Attachments & Previous Submittals: List all reports, surveys, tests and logs, not listed in item 23, which have resulted from drilling and completion operations. List relevant previously furnished data with date of submittal referenced.

See Attachment

30. Well Status:  Producing  Shut-In  Suspended  Injection  Disposal  Heat Exchange  Abandoned  Water Supply  Other

31. Do you consider the well to be commercial?  Yes  No Explain:

Temp core hole - Observation well

32. I hereby certify the information on this report and the attached information is complete and accurate according to the best of my knowledge.

Signed: Lester Brassfield Title Drilling Superintendent Date 5/20/96

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Form 3260-4  
(formerly 9-1960)  
(June 1988)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT WATER RESOURCES DEPT.  
SALEM, OREGON

FORM APPROVED  
OMB NO. 1004-0132  
Expires: September 30, 1990

**GEOHERMAL WELL COMPLETION REPORT**

The Bureau of Land Management (BLM) requires this form or other BLM-approved forms to be prepared and filed in duplicate with requisite attachments with the authorized officer within 30 days after completion of permitted operations.

- 1a. Well Type:  Production  Injection  Disposal  Water Supply  Observation  
 Cold  Heat Exchange  Other
- 1b. Completion:  New  Workover  Deepened  Plugback  Redrill  
 Recompleted  Drilled & Abandoned  Other

2. Name of Lessee/Operator

C E EXPLORATION

3. Address of Lessee/Operator

34 N W First Ave., Suite 302, Portland, Oregon 97209

18. Location of Well

At Surface: App 1000' N & 200' W of SE corner Sec 21, T21S, R12E

At Top of Production Zone:

At Total Depth: From surface location V.S. 2137.80 S 668.23 E 2034.1

19. Total Depth

Measured 9200' True Vertical: 8819.77'

20. Plugback Total Depth

Measured: True Vertical:

21. Elevation:  Estimated  Final 6260'

Reference Datum:  OR  MAT  DP  KB  RT  Casinghead Flange  Other

22. Drilling Media:  Air  Water  Mud  Foam  Other

List Characteristics:

Mud drill from surface to 9200'

23. Log Type & Intervals Ran Schlumberger FMS-Temp & G R Logs from 9198' to 4196'

Ran Schlumberger DIL-LTD-CNL & G R Logs from 4196' to 8900'. Ran Dialog Calliper 0'-4199'

**24. CASING RECORD**

Size	Weight	Grade	Collars & Threads	Depth Set Top	Shoe	Hole Size	Cementing Record (slurry volume)
30"	118.65#		welded	surface	80	36"	260 d/f slurry
20"	94#	K-55	buttress	surface	905	26"	2506 c/f
13 3/8"	72#	L-80 - K-55	buttress	surface	4199	17 1/2"	5539 c/f

**25. LINER RECORD**

Size	Weight	Grade	Collars & Threads	Top	Bottom	Perforated Intervals	Cementing Record (slurry volume)
9 5/8"	40#	K-55	buttress	3987	9185	1/2" - 5701' to 9185'	none

**26. TUBING RECORD**

Size	Weight	Grade	Depth Set	Packer Depth

27. Cement Squeeze, Acid, Fracture, etc. (detail type, amount, intervals)

**28. PERFORATION RECORD**

Type	Total No.	Density (No./ft)	Size	Intervals

29. Attachments & Previous Submittals: List all reports, surveys, tests and logs, not listed in item 23, which have resulted from drilling and completion operations. List relevant previously furnished data with date of submittal referenced.

See Attachment.

30. Well Status:  Producing  Shut-In  Suspended  Injection  Disposal  Heat Exchange  Abandoned  Water Supply  Other

31. Do you consider the well to be commercial?  Yes  No Explain:

Well has not been tested commercial

32. I hereby certify the information on this report and the attached information is complete and accurate according to the best of my knowledge.

Signed: Lester Brasfield Title Drilling Superintendent Date 5/20/96

(Continued on reverse)

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Form 3260-4  
(formerly 9-1960)  
(June 1988)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
WATER RESOURCES DEPT.  
GEOHERMAL WELL COMPLETION REPORT, OREGON

FORM APPROVED  
OMB NO. 1004-0132  
Expires: September 30, 1990

JUL 01 2002

The Bureau of Land Management (BLM) requires this form or other BLM-approved forms to be prepared and filed in duplicate with requisite attachments with the authorized officer within 30 days after completion of permitted operations.

- 1a. Well Type:  Production  Injection  Disposal  Water Supply  Observation  
 Cold  Heat Exchange  Other
- 1b. Completion:  New  Workover  Deepened  Plugback  Redrill  
 Recompleted  Drilled & Abandoned  Other

4. Lease Serial No.  
OR-45505
5. Surface Manager:  BLM  P8  
 Other
6. Unit Agreement Name  
Deschutes
7. Well No.  
80-21 TCH
8. Permit No.  
GDP-050-95-01
9. Field or Area  
Newberry KGRA
10. Sec., T., R., B. & M.  
Sec 21, T21S, R12E
11. County  
Deschutes
12. State  
Oregon
13. Spud Date  
5-10-95
- Date T.D. Reached  
7-20-95
14. Completion Date (Ready to produce)  
7-22-95
15. Directionally Drilled Intervals  
524' to 4876'
16. Surveyed Intervals  
20' to 100'
17. Core Size and Intervals  
3 1/2" f/1357' to 3709'  
2 3/4" f/3709' to 4876'

2. Name of Lessee/Operator  
C E EXPLORATION

3. Address of Lessee/Operator  
34 N.W. First St., Suite 302, Portland, Oregon 97209

18. Location of Well  
At Surface: 100' W & 500' N or SE corner Sec 21  
At Top of Production Zone:  
At Total Depth: N 140' E 1056' from surface location

19. Total Depth  
Measured 4876' True Vertical: 4662'

20. Plugback Total Depth  
Measured: True Vertical:

21. Elevation:  Estimated  Final 6260'  
Reference Datum:  GR  MAT  DP  KB  RT  Casinghead Flange  Other

22. Drilling Media:  Air  Water  Mud  Foam  Other  
List Characteristics:  
Mud drill from surface to 4876'

23. Log Type & Intervals

Temp & pressure

24. CASING RECORD

Size	Weight	Grade	Collars & Threads	Depth Set		Hole Size	Cementing Record (slurry volume)
				Top	Shoe		
10 3/4"	47#	K-55	welded	surface	21'	12 1/4"	10 c/f
7"	26#	K-55	buttress	surface	500'	9 1/2"	111 sks cement
4 1/2"	11.5#	K-55	buttress	surface	1357'	6 1/8"	347 c/f
3"		H-0	H O threads	16'	3709'	3 1/2"	N.C.

25. LINER RECORD

Size	Weight	Grade	Collars & Threads	Top	Bottom	Perforated Intervals	Cementing Record (slurry volume)

26. TUBING RECORD

Size	Weight	Grade	Depth Set	Packer Depth

27. Cement Squeeze, Acid, Fracture, etc. (detail type, amount, intervals)

28. PERFORATION RECORD

Type	Total No.	Density (No./ft)	Size	Intervals

29. Attachments & Previous Submittals: List all reports, surveys, tests and logs, not listed in Item 23, which have resulted from drilling and completion operations. List relevant previously furnished data with date of submittal referenced.

Ran temp & pressure logs

30. Well Status:  Producing  Shut-In  Suspended  Injection  Disposal  Heat Exchange  Abandoned  Water Supply  Other

31. Do you consider the well to be commercial?  Yes  No Explain:

Temperature gradient hole

32. I hereby certify the information on this report and the attached information is complete and accurate according to the best of my knowledge.

Signed: Lester Brasfield Title Drilling Superintendent Date 5/20/96

(Continued on reverse)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
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Expires: September 30, 1990

GEOHERMAL WELL COMPLETION REPORT

WATER RESOURCES DEPT.  
SALEM, OREGON

The Bureau of Land Management (BLM) requires this form or other BLM-approved forms to be prepared and filed in duplicate with requisite attachments with the authorized officer within 30 days after completion of permitted operations.

1a. Well Type:  Production  Injection  Disposal  Water Supply  Observation  
 Cold  Heat Exchange  Other

1b. Completion:  New  Workover  Deepened  Plugback  Redrill  
 Recompleted  Drilled & Abandoned  Other

2. Name of Lessee/Operator  
C E EXPLORATION

3. Address of Lessee/Operator  
34 N W First St., Suite 302, Portland, Oregon 95209

18. Location of Well  
At Surface: 400' East & 1500' South of NW corner Sec 22, T21S, R12E  
At Top of Production Zone:  
At Total Depth: 9414' South 867.63' East 2498.4' from surface location

19. Total Depth  
Measured 9602' True Vertical: 8854.79'

20. Plugback Total Depth  
Measured: True Vertical:

21. Elevation:  Estimated  Final 6200'  
Reference Datum:  GR  MAT  DF  KB  RT  Casinghead Flange  Other

22. Drilling Media:  Air  Water  Mud  Foam  Other  
List Characteristics:  
Mud drill from surface to 9602'

23. Log Type & Intervals  
Temp & pressure surface to 9602' Dialog calliper surface to 4418'  
Schlumberger formation micro-scanner monitor log 4410' to 9100'

24. CASING RECORD

Size	Weight	Grade	Collars & Threads	Depths Set		Hole Size	Cementing Record (slurry volume)
				Top	Shoe		
30 "	118.65#		welded	surface	80	36 "	300 c/f
20 "	94.5#	K-55	buttress	surface	795	26"	5922 c/f
13 3/8"	72 #	K-55 - L-80	buttress	surface	4418	17 1/2"	7450 c/f

25. LINER RECORD

Size	Weight	Grade	Collars & Threads	Top	Bottom	Perforated Intervals	Cementing Record (slurry volume)

26. TUBING RECORD

Size	Weight	Grade	Depth Set	Packer Depth

27. Cement Squeeze, Acid, Fracture, etc. (detail type, amount, intervals)

28. PERFORATION RECORD

Type	Total No.	Density (No./ft)	Size	Intervals

29. Attachments & Previous Submittals: List all reports, surveys, tests and logs, not listed in item 23, which have resulted from drilling and completion operations. List relevant previously furnished data with date of submittal referenced.

See Attachment

30. Well Status:  Producing  Shut-In  Suspended  Injection  Disposal  Heat Exchange  Abandoned  Water Supply  Other

31. Do you consider the well to be commercial?  Yes  No Explain:

Well so far has not tested commercial

32. I hereby certify the information on this report and the attached information is complete and accurate according to the best of my knowledge.

Signed: Lester Brassfield Title Drilling Superintendent Date 5/20/96

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0132  
Expires: September 30, 1990

**GEOHERMAL WELL COMPLETION REPORT**

The Bureau of Land Management (BLM) requires this form or other BLM-approved forms to be prepared and filed in duplicate with requisite attachments with the authorized officer within 30 days after completion of permitted operations.

1a. Well Type:  Production  Injection  Disposal  Water Supply  Observation  
 Cold  Heat Exchange  Other

1b. Completion:  New  Workover  Deepened  Plugback  Redrill  
 Recompleted  Drilled & Abandoned  Other

2. Name of Lessee/Operator  
CE EXPLORATION

3. Address of Lessee/Operator  
34 NW FIRST ST., SUITE 302, PORTLAND OREGON 97209

18. Location of Well  
At Surface: APPROX. 1000' N & 200' W OF SE CORNER SEC 21  
At Top of Production Zone:  
At Total Depth: SAME AS ABOVE

19. Total Depth  
Measured 110' True Vertical: 110'

20. Plugback Total Depth  
Measured: True Vertical:

21. Elevation:  Estimated  Final 6252'  
Reference Datum:  GR  MAT  DF  KB  RT  Casinghead Flange  Other

22. Drilling Media:  Air  Water  Mud  Foam  Other  
List Characteristics: 0' TO 80' G.L.

Log Type & Intervals  
NONE

4. Lease Serial No.  
OR 45505

5. Surface Manager:  BLM  FFS  
 Other

6. Unit Agreement Name  
DESCHUTES

7. Well No. 88-21(28-22) 8. Permut No. 050-95-07

9. Field or Area  
NEWBERRY KGRA

10. Sec., T., R., B. & M.  
SEC 21, T215, R12E

11. County  
DESCHUTES

12. State  
OREGON

13. Spud Date 11/18/95 Date T.D. Reached 11/23/95

14. Completion Date (Ready to produce)  
SET CONDUCTOR ONLY

15. Directionally Drilled Intervals  
NONE

16. Surveyed Intervals  
N/A

17. Core Size and Intervals  
N/A

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SALEM, OREGON

24. CASING RECORD

Size	Weight	Grade	Collars & Threads	Depths Set		Hole Size	Cementing Record (slurry volume)
				Top	Shoe		
30"	118.65		WELDED	KB	110'	36"	752 G/F

25. LINER RECORD

Size	Weight	Grade	Collars & Threads	Top	Bottom	Perforated Intervals	Cementing Record (slurry volume)

26. TUBING RECORD

Size	Weight	Grade	Depth Set	Packer Depth

27. Cement Squeeze, Acid, Fracture, etc. (detail type, amount, intervals)

28. PERFORATION RECORD

Type	Total No.	Density (No./ft)	Size	Intervals

29. Attachments & Previous Submittals: List all reports, surveys, tests and logs, not listed in item 23, which have resulted from drilling and completion operations. List relevant previously furnished data with date of submittal referenced.

SET 30" CONDUCTOR AND SUSPENDED OPERATIONS ON WELL.

30. Well Status:  Producing  Shut-In  Suspended  Injection  Disposal  Heat Exchange  Abandoned  Water Supply  Other

Do you consider the well to be commercial?  Yes  No Explain:

SUSPENDED DRILLING AFTER SETTING 30" CONDUCTOR.

32. I hereby certify the information on this report and the attached information is complete and accurate according to the best of my knowledge.

Signed: Lester Brassfield Title DRILLING SUPERINTENDENT Date 05/21/96

**Attachment III**

**Introductory Information on  
ORMAT**

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WATER RESOURCES DEPT.  
SALEM, OREGON



# The ORMAT Group – Energy and Technology

ORMAT International, Inc. is a member of the ORMAT Group of Companies

## COMPANY PROFILE

Established in 1965, **ORMAT** brings more than **35 YEARS EXPERIENCE** in the use of its unique technology to the development, manufacture and marketing of innovative power systems. **177 PATENTS** protect **ORMAT TECHNOLOGY** worldwide.

### **DEDICATED TO RENEWABLE AND SUSTAINABLE ENERGY**

ORMAT is committed to delivering clean, environmentally benign power systems. These power systems consist of **ORMAT**® Energy Converters, often combined into modular power plants with capacities of **250 kW to 130 MW**, using locally available heat sources, including geothermal energy (steam and hot water), industrial waste heat, solar energy and low grade fuels.

More than 40 ORMAT POWER PLANTS have been constructed around the world in 16 countries, from California in the USA to Thailand, from Iceland to New Zealand. Some of the power plants have been supplied as **TURNKEY PROJECTS**, while others were delivered in an IPP (Independent Power Producers) framework, with **ORMAT** organizing the financing.

During the last ten years **ORMAT** has mobilized financing of over **US \$1 BILLION** and successfully demonstrated its capabilities in design, engineering, manufacturing, installation, financing and operation of power plants.

### **WORLD LEADER IN DISTRIBUTED MICROTURBINE POWER**

More than 3,000 **ORMAT** multifuel (including biomass) microturbine generators in the kW range provide distributed, reliable, continuous electrical power for remote unattended communication repeaters and cathodic protection systems for important projects such as the **TRANS-ALASKA PIPELINE** in Alaska, the **GAZPROM** gas pipelines in Russia, and on gas pipelines and national telecommunication networks in **55 OTHER COUNTRIES**. Many of the turbogenerators have already achieved over **20 YEARS** of continuous trouble-free operation.

### **REPOWERING OF EXISTING POWER PLANTS**

Repowering of existing power plants or recovering otherwise unused or underutilized energy often with environmental benefits, is one of **ORMAT**'s special strengths. The company's repowering technologies have enabled power plants to increase output without any additional fuel usage from:

- Unused industrial process heat
- Gas turbine exhaust heat
- Low pressure steam
- Unused geothermal brine and pressure reduction at well heads
- Unused incineration heat energy
- Power augmentation of gas turbine plants

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SALEM, OREGON

### **INNOVATIVE SOLAR APPLICATIONS – ORMAT TECHNOLOGY**

Began with water pumping in the African Sahel region in 1965 and has since included:

- Hybrid systems using photovoltaics (and wind) power to conserve fuel use and OEC for reliability
- The solar pond power plant
- The joint venture with Boeing and others to develop 5 to 50 MW Solar Combined Cycle Power Plants

E mail: [ormat@ormat.com](mailto:ormat@ormat.com)

Web site: [www.ormat.com](http://www.ormat.com)

# World Climate Technology Award 2001



**CTI** CLIMATE  
TECHNOLOGY  
INITIATIVE

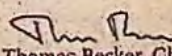
*World Climate Technology Award  
2001*

**ORMAT International Inc.**

In recognition of the Company's achievements in furthering the goals of the Climate Technology Initiative, your dedication to fostering sustainable development, and your efforts to accelerate deployment and diffusion of climate-friendly technology.

This award honours the Company's accomplishments in pioneering the use of geothermal power plants worldwide and their special attention paid to developing countries.

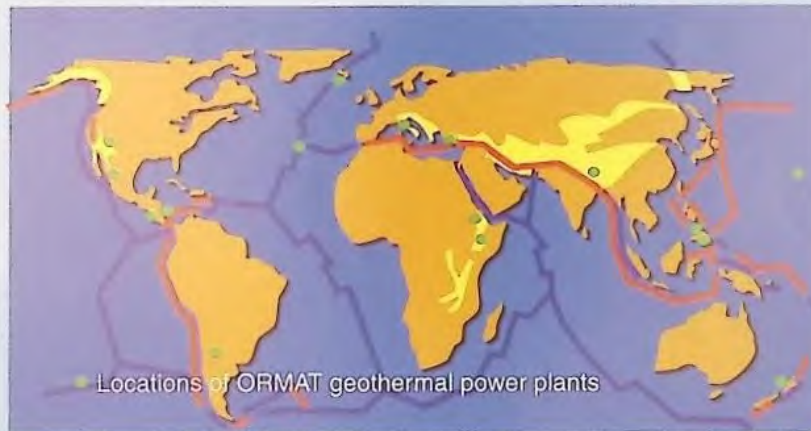
Marrakech, Morocco  
November 2001

  
Thomas Becker, Chair  
Climate Technology Initiative

# ORMAT Geothermal Technology



## ORMAT 700 MW in 20 Countries: A Global Geothermal Presence



São Miguel Power Plant, Portugal

1994-1998



Phase I: Two OEC of 2.2 MW net each  
Phase II: Two OEC of 4.1 MW net each

Zunil Power Plant, Guatemala

1999



Seven OEC of 3.5 MW net each

RECEIVED

JUL 01 2002

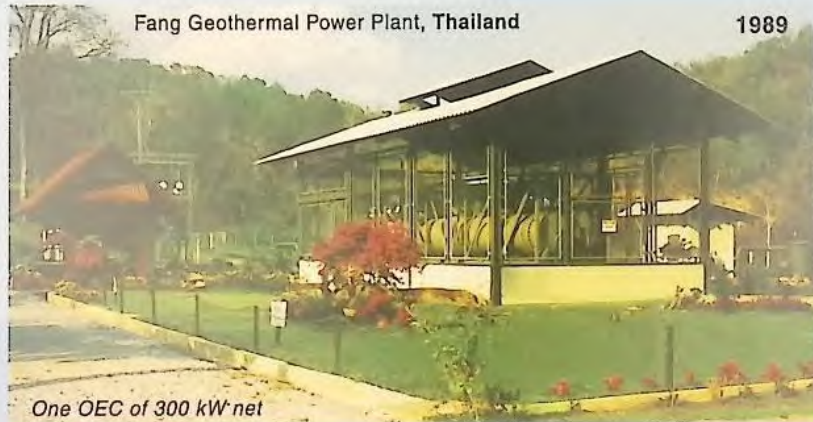
WATER RESOURCES DEPT.  
SALEM, OREGON



[www.ormat.com](http://www.ormat.com)

[ormat@ormat.com](mailto:ormat@ormat.com)

# ORMAT Distributed Sustainable Geothermal Power



DESC 10060

AUG 1 1 1995

WATER RESOURCES DEPT.  
SALEM, OREGON

well 21S/12E/2/BB  
WORK COPY  
for Extension of Time  
(START CARD #) 70924

DESC  
10060

STATE OF OREGON  
WATER WELL REPORT  
(as required by ORS 637765)

(1) OWNER 95 21

CALIFORNIA ENERGY COMPANY INC. \*for  
900 N. HERITAGE DR. BLDG. D, CE Exploration  
RIDGECREST, CA 93655  
\*See BLM lease - received

(9) LOCATION OF WELL by legal description:

County DESCHUTES Latitude Longitude  
Township 21 S Range 12 E  
Section 21 NW 14 NW  
Tax Lot MAP Lot Block Subdivision

(2) TYPE OF WORK: NEW WELL 6-10-94

Street Address of Well (or nearest address)

NATIONAL FOREST

(3) DRILL METHOD: ROTARY AIR

(10) STATIC WATER LEVEL:

-555 ft. below land surface Date July 8, 1995  
Artesian pressure Date

(4) PROPOSED USE: Industrial

(5) BORE HOLE CONSTRUCTION:

(11) WATER BEARING ZONES:

Depth of Completed Well - 805 ft.		Depth at which water was first found - 782		Estimated Flow Rate	SWL
From	To	From	To		
-782	-805	-782	-805	200 GPM	-555

Explosives used		Amount		SEAL		AMOUNT	
NO	Type	From	To	Material	From	To	Sacks
		15 1/2"	0 -203	CEMENT	0	-203	28 YD
		8 7/8"	-203 -805				

How was seal Placed C  
Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of Gravel \_\_\_\_\_

(12) WELL LOG:

	Ground Elevation		
	FROM	TO	SWL
SOIL & PUMICE	0	10	
BROKEN GREY ROCK	10	82	
GREY ROCK	82	205	
BROKEN CAVING GREY ROCK	205	374	
HARD GREY ROCK	374	433	
RED ROCK	433	570	
HARD RED & GREY ROCK	570	585	
HARD RED ROCK	585	661	
	661	729	
	729	782	
	782	793	555
N ROCK	793	805	555

(6) CASING / LINER:

	Dia.	From	To	Gage	Material
CASING	10"	+2	-203	.260	STEEL / WELDED
LINER	7"	+2	-793	.188	STEEL /

Final location of shoe (s)

(7) PERFORATIONS / SCREENS:

METHOD	TYPE	MATERIAL	Perforations
TORCH			
From	To	Slot size	Number
-693	-773	1/4 X 5/8	144
		Dia.	Tele / pipe size
		7"	7"

Does this go with anything?

(8) WELL TESTS:

TESTING METHOD	AIR	Minimum testing time is 1 hour
Yield GPM	Drawdown	Drill stem at
50 GPM		-555
200 GPM		-790
		Time
		1 HOUR
		1 HOUR

Temperature of Water 56 F Depth Artesian Flow Found

Was a water analysis done? NO By whom  
Did any strata contain water not suitable for intended use?

Date started May 1, 1995 Completed July 28, 1995

(Unbonded) Water Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

DATE WWC NUMBER 1452

(Bonded) Water Well Constructor Certification: I accept responsibility for the construction alteration or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

DESC 10060

AUG 1 1 1995

WATER RESOURCES DEPT.  
SALEM, OREGON

well 215/12E/2/BB  
WORK COPY  
for Extension of Time  
(START CARD #) 70924

DESC 10060

STATE OF OREGON  
WATER WELL REPORT  
(as required by ORS 637765)

(1) OWNER 95 21  
CALIFORNIA ENERGY COMPANY INC. \*for  
900 N. HERITAGE DR. BLDG. D, CE Exploration  
RIDGECREST CA 93655 Company  
\*See BLM lease--received

(9) LOCATION OF WELL by legal description:  
County DESCHUTES Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Township 21 S Range 12 E  
Section 21 NW 14 NW  
Tax Lot MAP \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) \_\_\_\_\_  
NATIONAL FOREST

(2) TYPE OF WORK: NEW WELL 6-10-94

(3) DRILL METHOD: ROTARY AIR

(4) PROPOSED USE: Industrial

(10) STATIC WATER LEVEL:  
-655 ft. below land surface Date July 8, 1995  
Artesian pressure \_\_\_\_\_ Date \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION:

Special Construction Approval NO Depth of Completed Well -805 ft.  
Explosives used NO Type \_\_\_\_\_ Amount \_\_\_\_\_  
HOLE SEAL AMOUNT  
Diameter From To Material From To Sacks  
15 1/2" 0 -203 CEMENT 0 -203 28 YD  
8 7/8 -203 -805

(11) WATER BEARING ZONES:  
Depth at which water was first found -782  
From To Estimated Flow Rate SWL  
-782 -805 200 GPM -655

How was seal Placed C  
Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of Gravel \_\_\_\_\_

(12) WELL LOG: Ground Elevation  
FROM TO SWL  
SOIL & PUMICE 0 10  
BROKEN GREY ROCK 10 82  
GREY ROCK 82 205  
BROKEN CAVING GREY ROCK 205 374  
HARD GREY ROCK 374 433  
RED ROCK 433 570  
HARD RED & GREY ROCK 570 585  
HARD GREY ROCK 585 661  
RED ROCK 661 729  
HARD GREY 729 782  
RED CINDERS 782 793 555  
BROKEN BROWN ROCK 793 805 555

(6) CASING / LINER:  
Dia. From To Gage Material  
CASING 10" +2 -203 .260 STEEL / WELDED

LINER 7" +2 -793 .188 STEEL / WELDED

Final location of shoe (s)

(7) PERFORATIONS / SCREENS: Perforations

METHOD TYPE MATERIAL  
TORCH

From To Slot size Number Dia. Tole / pipe size  
-693 -773 1/4 X 8 144 7" 7" LINER

(8) WELL TESTS: Minimum testing time is 1 hour

TESTING METHOD AIR  
Yield GPM Drawdown Drill stem at Time  
50 GPM \_\_\_\_\_ -665 1 HOUR  
200 GPM \_\_\_\_\_ -790 1 HOUR

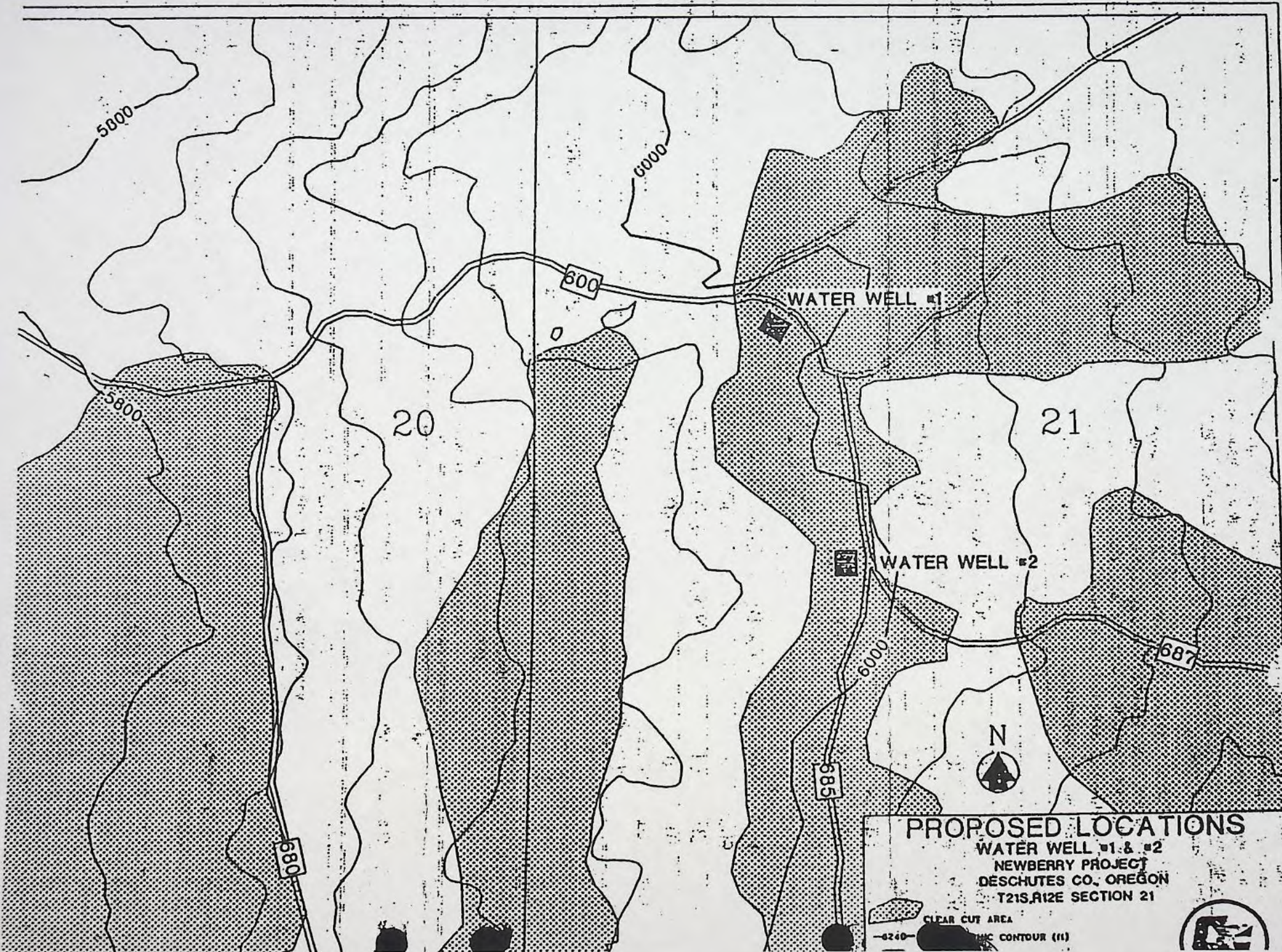
Temperature of Water 56 F Depth Artesian Flow Found \_\_\_\_\_

Was a water analysis done? NO By whom \_\_\_\_\_  
Did any strata contain water not suitable for intended use? \_\_\_\_\_

Date started May 1, 1995 Completed July 29, 1995

(Unbonded) Water Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

DATE \_\_\_\_\_ WWC NUMBER 1462  
(Bonded) Water Well Constructor Certification: I accept responsibility for the construction alteration or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.



**PROPOSED LOCATIONS**

WATER WELL #1 & #2  
NEWBERRY PROJECT  
DESCHUTES CO., OREGON  
T21S,R12E SECTION 21

—6240—  
CLEAR CUT AREA  
CONTOUR (11)



**BAMBERGER Machelie A**

---

**From:** Adam Sussman <ASussman@gsiws.com>  
**Sent:** Thursday, April 07, 2011 9:19 AM  
**To:** 'Mike Zwart'  
**Cc:** 'todd jaffe'  
**Subject:** Approved Monitoring Plan - Permits G-12571 and G-12595  
**Attachments:** Approved monitoring plan\_May\_2004.pdf

Mike:

Thanks for your time; it was good to talk with you.

Can you please put a copy of the approved plan in the water right files listed above. As I described, I could not find these documents in the water right file.

From reviewing the documents I now understand that the permit holder should be taking annual static water level measurements in July and reporting those measurements by no later than September 1. If I have misunderstood anything please let me know.

As a final note, On February 18, 2011 the permit holder sent a letter to OWRD clarifying that DESC 10060 is associated with permit G-12595. Apparently there had been some confusion in the correspondence over time as to which permit the well was associated with.

Sincerely,

Adam Sussman  
Senior Water Resources Consultant  
GSI Water Solutions  
1600 Western Blvd., Suite 240  
Corvallis, OR 97333

Phone: 541-753-0745 ex. 201  
Cell: 541-602-5188

**RECEIVED**

JUN 08 2015

WATER RESOURCES DEPT  
SALEM, OREGON



ORNI 4, LLC  
an ORMAT Group Company

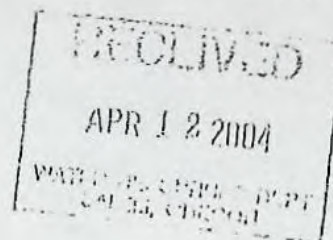
RECEIVED

JUN 08 2015

WATER RESOURCES DEPT  
SALEM, OREGON

April 7, 2004

Mr. Michael J. Zwart, Hydrologist  
Water Resources Department  
North Mall Office Building  
725 Summer Street NE, Suite A  
Salem, Oregon 97301-1271



RE: Permits G-12571 and G-12595

Dear Mr. Zwart:

In response to your letter of March 2, 2004, ORNI 4 would certainly prefer to keep the above permits active, thus our submission of the sampling plan on December 11, 2002. However, there are a number of issues which need to be addressed for clarification.

The sampling plan submitted in December 2002 was prepared using theoretical procedure and equipment similarly used in other geothermal projects to be applied to wells drilled in the future. At that time and now, Newberry Geothermal Project Area (the Project) does not have any geothermal wells. All previous wells had been plugged and abandoned with the exception of one 100 foot incomplete well collar which has a welded cover at surface. The "Fire" well or "cold water" well which you believe to be part of one of these permits was unknown to us.

As you noted, the location of well DESC 10060 on the well report does not coincide with either of the permits well locations. I have not visited the well but a map provided by Alice Doremus, Deschutes National Forest (NFS) suggests it may be part of G-12595. Along with the location map, Ms. Doremus provided me with a copy of an agreement between the NFS and the previous owners of the Project, CalEnergy Company, Inc. (copy attached). The Forest Service has asked to continue this agreement and ORNI 4 will do so. The well could potentially be an important asset to the NFS should a fire arise in the Project area or the nearby National Park.

If the well report for DESC 10060 is for this well, then the pump should be set at greater than 500 feet depth. As indicated in your letter, sampling water level from the surface is not possible due to obstruction which may be related to the pump. You suggest that we remove the pump so that water level sampling can be done. To remove the pump would require moving a workover rig onto the well which is costly. To provide NFS with a well for fire fighting it would mean putting the pump back in place. Doing this annually would incur more costs than ORNI 4 can justify at this time for the Project.

Office:  
980 Greg Street  
Sparks, NV 89436  
Tel: (775)356-9029  
Fax: (775)356-9039

Water Resources 4-04.doc  
Site:  
USFS Road 9735-600  
Spur 685& 687  
Bend OR

I have discussed this with NFS and they would very much like to keep the well as an option for them in times of crisis. I encourage you to talk with them as well for their input. In this instance, I think the possible benefit to NFS could outweigh dismantling the well for water level sampling. ORNI 4 holds some 14,700 acres of the surrounding federal land under lease and can assure you that there are no other wells, geothermal or otherwise, to our knowledge in use within the Project area. The wells have all been plugged per regulatory specifications and there is no residential or other type wells in use in the Project. The Project is in suspension until a customer for power can be contracted.

Further to your letter, ORNI 4 has revised and resubmitted the sampling plan, attached, per your suggestions with the following qualifications: 1) a specific time for sampling can be established for wells which are idle, see further explanation below; 3) Wells when drilled will be given an ID number by the permitting agency and can be referred to as such; 4) flow meter specifications are removed; 6) Wells left idle prior to sampling – prior to plant startup this is feasible, however, once a geothermal plant goes online taking wells out of service will require serious planning because loss of a well is loss of power to the plant and loss of revenue and negative implications for the contract to sell power. I suggest that this requirement be addressed once the plant is online and sampling coincide with downtime or maintenance schedules; 8) change of address is noted.

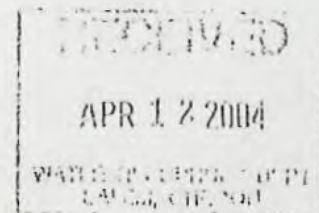
We are open to suggestions on the issue of the Fire well and hope we can come to point where everyone is satisfied. We appreciate your time in reviewing this matter.

Best Regards,

Christy L. Morris

Enclosures

Cc: Alice Doremus, Deschutes National Forest  
Nancy Ketrenos, Oregon Bureau of Land Management, Geothermal Lead



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JUN 08 2005

WATER RESOURCES DEPT  
SALEM, OREGON



ORNI 4, LLC  
an ORMAT Group Company

**Newberry Geothermal Power Project  
Proposed Well Monitoring System**

Submitted to: Oregon Water Resources Department  
Reference: Permits No. G-12571 and G-12595

**RECEIVED**

JUN 08 2015

WATER RESOURCES DEPT  
SALEM, OREGON

APR 12 2004

WATER RESOURCES DEPT  
SALEM, OREGON

In accordance with the above cited permits, ORNI 4 proposes the following monitoring systems and plan for wells to be drilled and put to beneficial use in the future at Newberry Geothermal Power Plant. This monitoring system is based upon systems currently in use at many of our affiliate power plants.

1. Water level measurements will be taken at the well(s) on an annual basis if the well is idle or of observation status, sampling can be performed at a specific time annually. The month of July is designated. For wells which are in production status, sampling should coincide with down time and/or scheduled maintenance which would vary from year to year. Production wells are often operational for as much as 5 years at a time without down time. Shutting down a producing well to a working power plant is highly costly and risky to contractual elements of a power purchasing agreement. ORNI 4 wishes to defer a sampling schedule for producing wells until such time as a plant is operational and realistic schedules can be defined.
2. The **Reference Water Level** shall be defined as the first measurement of water level after water use begins in the well.
3. The well identifier shall be that which is designated by the regulatory agency responsible for Log or Tag IDs.
4. At a minimum wells will be equipped to monitor **Static Water Level** using a nitrogen bubble tube and pressure gauge system for wells which are in idle or observation status.
5. Measurement resolution capability of the equipment is provided in Exhibits 1 and 2 in the equipment specification tables. (Submitted December 2002)
6. As stated in No. 1 above, water level measurements will be taken at the well(s) on an annual basis if the well is in idle or observation status, sampling can be performed at a specific time annually. The month of July is designated. For wells which are in production status, sampling should coincide with down time and/or scheduled maintenance which would vary from year to year. Production wells are often operational for as much as 5 years at a time without down time. Shutting down a producing well to a

Office:  
980 Greg Street  
Sparks, NV 89436  
Tel: (775)356-9029  
Fax: (775)356-9039

Newberry Monitoring System Prop R2.doc  
Site:  
USFS Road 9735-600  
Spur 685& 687  
Bend OR

April 7, 2004

working power plant is highly costly and risky to contractual elements of a power purchasing agreement. ORNI 4 wishes to defer a sampling schedule for producing wells until such time as a plant is operational and realistic schedules can be defined.

7. Measurements will be obtained by the Power Plant Operational Personnel. These are technicians trained in the operation of geothermal power generating equipment and well maintenance.

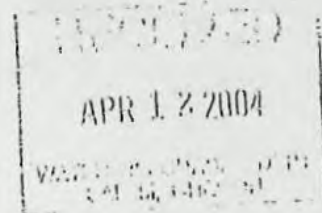
8. A report of annual well monitoring will be submitted on the permit anniversary or such date as defined by the Department to:

Water Resources Department  
North Mall Office Building  
725 Summer Street NE, Suite A  
Salem, OR 97301-1271

**RECEIVED**

JUN 08 2015

WATER RESOURCES DEPT  
SALEM, OREGON





# Oregon

John A. Kitzhaber, MD, Governor

## Water Resources Department

North Mall Office Building

725 Summer St NE, Suite A

Salem, OR 97301

Phone (503) 986-0900

Fax (503) 986-0904

[www.wrd.state.or.us](http://www.wrd.state.or.us)

December 5, 2014

DAVENPORT NEWBERRY HOLDINGS LLC  
C/O ALTAROCK ENERGY  
ATTN MICHAEL MOORE  
4010 STONE WAY N STE 400  
SEATTLE, WA 98103

REFERENCE: Permit Amendment Application T-11873

Enclosed is a copy of the order approving your Permit Amendment application.

Also enclosed is a superseding permit that incorporates the amendments approved by the final order contained herein. Please read this document and abide by the requirements.

If you have any questions related to the approval of this permit amendment, you may contact your caseworker by telephone at (503) 986-0890 or by e-mail at [Sarah.A.Henderson@ wrd.state.or.us](mailto:Sarah.A.Henderson@ wrd.state.or.us)

Sincerely,

Codi Holmes  
Water Rights Services Support  
Transfer and Conservation Section

cc: Jeremy T. Giffin, Watermaster Dist. # 11 (via email)  
Adam Sussman, Agent

Enclosure



5. Permit Amendment Application T-11873 also proposes to change the place of use of the permit to:

INDUSTRIAL USE				
Twp	Rng	Mer	Sec	Q-Q
21 S	12 E	WM	11	SE SW
21 S	12 E	WM	14	NE NW
21 S	12 E	WM	14	SW NW
21 S	12 E	WM	15	NW NE
21 S	12 E	WM	15	SE NE
21 S	12 E	WM	15	NE NW
21 S	12 E	WM	15	NW SW
21 S	12 E	WM	15	SE SW
21 S	12 E	WM	15	NE SE
21 S	12 E	WM	15	NW SE
21 S	12 E	WM	21	NE NE
21 S	12 E	WM	21	SW NE
21 S	12 E	WM	21	NE NW
21 S	12 E	WM	21	SE NW
21 S	12 E	WM	21	NE SW
21 S	12 E	WM	21	SE SW
21 S	12 E	WM	22	SW NW
21 S	12 E	WM	28	NW NE
21 S	12 E	WM	28	SW NW
21 S	12 E	WM	28	SE SW
21 S	12 E	WM	29	SW NE
21 S	12 E	WM	29	SE NE
21 S	12 E	WM	29	NW SE
21 S	12 E	WM	29	NE SE
22 S	12 E	WM	4	NE NW
22 S	12 E	WM	4	NE SW
22 S	12 E	WM	9	SE NW

**Permit Amendment Review Criteria**

6. The changes would not result in injury to other water rights.
7. The proposed place of use is owned and/or controlled by the permit holder.
8. The changes do not enlarge the permit.
9. The changes do not alter any other terms of the permit.
10. The proposed place of use is contiguous to the authorized place of use.

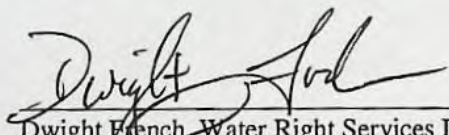
**Conclusions of Law**

The change in point of appropriation and change in place of use proposed by Permit Amendment Application T-11873 are consistent with the requirements of ORS 537.211.

Now, therefore, it is **ORDERED**:

1. The change in point of appropriation and change in place of use proposed by Permit Amendment Application T-11873 are approved.
2. Permit G-17316, in the name of Davenport Newberry Holdings LLC, is issued to replace Permit G-17032, and incorporates the amendments approved by this order. Permit G-17032, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is no longer of any force or effect.
3. The combined quantity of water diverted at the new point of appropriation, together with that diverted at the old points of appropriation, shall not exceed the quantity of water lawfully available at the original point of appropriation.
4. Water use measurement conditions:
  - a) Before water use may begin under this order, the water user shall install a totalizing flow meter, or, with prior approval of the Director, another suitable measuring device at each point of appropriation (new and existing).
  - b) The water user shall maintain the meters or measuring devices in good working order.
  - c) The water user shall allow the Watermaster access to the meters or measuring devices; provided however, where the meters or measuring devices are located within a private structure, the Watermaster shall request access upon reasonable notice.
5. Water shall be acquired from the same aquifer as the original point of appropriation.
6. All other terms and conditions of Permit G-17316 remain the same.

Dated at Salem, Oregon this 25 day of November, 2014.

  
\_\_\_\_\_  
Dwight French, Water Right Services Division Administrator, for  
Thomas M. Byler, Director  
Oregon Water Resources Department

Mailing Date: DEC 05 2014

STATE OF OREGON  
COUNTY OF DESCHUTES

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

DAVENPORT NEWBERRY HOLDINGS LLC  
4010 STONE WAY N. SUITE 400  
SEATTLE, WA 98103

**This superseding permit is issued to describe an amendment for a point of appropriation a change in place of use and the correction of a scrivener's error proposed under Permit Amendment Application T-11873 and approved by Special Order Vol. 93, Page ~~888~~, entered Nov. 25, 2014. This permit supersedes Permit G-17032.**

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-13711

SOURCE OF WATER: SIX (6) WELLS WITHIN THE PAULINA CREEK BASIN

PURPOSE OR USE: INDUSTRIAL USE

QUANTITY: 3.56 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: JUNE 10, 1994

POINTS OF DIVERSION LOCATION:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	21	NE SW	WELL 1 (DESC 10060) - 1895 FEET NORTH AND 1795 FEET EAST FROM THE SW CORNER OF SECTION 21
21 S	12 E	WM	21	SE SE	WELL 2 - 4620 FEET SOUTH AND 4620 FEET EAST FROM THE NW CORNER OF SECTION 21
21 S	12 E	WM	28	NE NW	WELL 3 - 4620 FEET NORTH AND 1980 FEET EAST FROM THE SW CORNER OF SECTION 28
21 S	12 E	WM	16	NW SE	WELL 4 - 1980 FEET NORTH AND 3300 FEET EAST FROM THE SW CORNER OF SECTION 16
21 S	12 E	WM	20	SE NE	WELL 5 - 1980 FEET SOUTH AND 660 FEET WEST FROM THE NE CORNER OF SECTION 20
21 S	12 E	WM	29	SW NE	WELL 6 - 2065 FEET SOUTH AND 1710 FEET WEST FROM THE NE CORNER OF SECTION 29

THE PLACE OF USE IS LOCATED AS FOLLOWS:

INDUSTRIAL USE				
Twp	Rng	Mer	Sec	Q-Q
21 S	12 E	WM	11	SE SW
21 S	12 E	WM	14	NE NW
21 S	12 E	WM	14	SW NW
21 S	12 E	WM	15	NW NE
21 S	12 E	WM	15	SE NE
21 S	12 E	WM	15	NE NW
21 S	12 E	WM	15	NW SW
21 S	12 E	WM	15	SE SW
21 S	12 E	WM	15	NE SE
21 S	12 E	WM	15	NW SE
21 S	12 E	WM	21	NE NE
21 S	12 E	WM	21	SW NE
21 S	12 E	WM	21	NE NW
21 S	12 E	WM	21	SE NW
21 S	12 E	WM	21	NE SW
21 S	12 E	WM	21	SE SW
21 S	12 E	WM	22	SW NW
21 S	12 E	WM	28	NW NE
21 S	12 E	WM	28	SW NW
21 S	12 E	WM	28	SE SW
21 S	12 E	WM	29	SW NE
21 S	12 E	WM	29	SE NE
21 S	12 E	WM	29	NW SE
21 S	12 E	WM	29	NE SE
22 S	12 E	WM	4	NE NW
22 S	12 E	WM	4	NE SW
22 S	12 E	WM	9	SE NW

Permit Amendment T-11873 Conditions

The combined quantity of water diverted at the new point of appropriation, together with that diverted at the old points of appropriation, shall not exceed the quantity of water lawfully available at the original point of appropriation.

Water use measurement conditions:

- a) Before water use may begin under this order, the water user shall install a totalizing flow meter, or, with prior approval of the Director, another suitable measuring device at each point of appropriation (new and existing).
- b) The water user shall maintain the meters or measuring devices in good working order.
- c) The water user shall allow the Watermaster access to the meters or measuring devices; provided however, where the meters or measuring devices are located within a private structure, the Watermaster shall request access upon reasonable notice.

Water shall be acquired from the same aquifer as the original point of appropriation.

Previous Permit Conditions:

The quantity of water diverted at Well 1 shall not exceed the quantity of water lawfully available at the original point of appropriation of Well 1.

Water from Well 1 shall be acquired from the same aquifer as the original point of appropriation of Well 1.

Measurement, recording and reporting conditions:

- A. Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.
- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

This use may be regulated if analysis of data available after the permit or certificate is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

**STANDARD CONDITIONS**

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

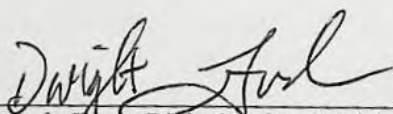
By law, the land use associated with this water use must be in compliance with statewide land-use goals and any local acknowledged land-use plan.

The use of water shall be limited when it interferes with any prior surface or ground water rights.

The Director finds that the proposed use(s) of water described by this permit, as conditioned, will not impair or be detrimental to the public interest.

Actual construction of the well shall begin within one year from permit issuance and shall be completed on or before October 1, 2015. Complete application of the water to the use shall be made on or before October 1, 2015.

Issued NOV. 25, 2014



Dwight French, Water Right Services Division Administrator, for  
Thomas M. Byler, Director  
Oregon Water Resources Department

# Davenport Newberry Holdings LLC

300 Atlantic Street, Suite 301  
Stamford, CT 06901

225 NW Franklin Avenue, Suite 1  
Bend, OR 97701

February 18, 2011

Herb Mosgar  
Oregon Water Resources Department  
725 Summer St. NE, Suite A  
Salem, OR 97301-1271

RE: Davenport Newberry Holdings, LLC Permit G-12571 (Application G-13710)  
and Permit G-12595 (Application 13711)

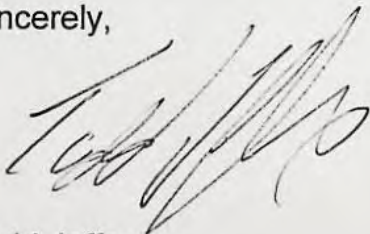
Dear Mr. Mosgar:

The above referenced permits were recently assigned to Davenport Newberry Holdings, LLC. In reviewing the Oregon Water Resources Department's files, it became clear that there is confusion about which permit is associated with the well identified by DESC 10060.

To be clear, DESC 10060 is associated with Permit G-12595. Please place a copy of this letter in the file for Permit G-12571 and Permit G-12595.

Please contact me at 203-276-1600 ext. 4 if you have any questions.

Sincerely,



Todd Jaffe  
203-276-1600 ext. 4  
[tjaffe@davenportnewberry.com](mailto:tjaffe@davenportnewberry.com)

Cc; Adam Sussman, GSI Water Solutions  
Paul Stern, PLS Environmental

**RECEIVED**

FEB 22 2011

WATER RESOURCES DEPT  
SALEM, OREGON



# Oregon

John A. Kitzhaber, MD, Governor

Water Resources Department  
North Mall Office Building  
725 Summer Street NE, Suite A  
Salem, OR 97301-1271  
503-986-0900  
FAX 503-986-0904

January 19, 2011

Todd Jaffee, Vice President  
Davenport Newberry Holdings LLC  
300 Atlantic Street, Suite 301  
Stamford, CT 06901

REFERENCE: Application G-13710      Permit G-12571  
                  Application G-13711      Permit G-12595

Dear Permit Holder:

The Water Rights and Adjudications Division received your written progress reports for Permits G-12571 and G-12595. Receipt of the progress reports was published on the Department's weekly Public Notice, dated December 14, 2010. The Department did not receive any public comment on the progress report.

After reviewing your Progress Report, the Department determined that diligence towards completion of the projects and compliance with the terms and conditions of the permits and extensions has been demonstrated.

If you have any questions, please feel free to contact me by telephone at (503) 986-0812.

Sincerely,

Jerry Gainey

Certificates and Extensions  
Water Rights and Adjudications Division

cc: Applications G-13710 and G-13711  
Watermaster District 11, Jeremy Giffin

**Extensions of Time Progress**  
**Checkpoint Progress Reports filed pursuant to OAR 690-320**

**Consistent with OAR 690-320-0010(10), the Department will accept public comment on the following Extension of time Checkpoint Progress Reports until January 13, 2011.**

Comments must be in writing and must indicate the application file and permit numbers. Following the comment period, the Department shall review evidence to determine whether or not the permit holder has been diligent in developing and perfecting the water use permit and has complied with all terms and conditions of the permit and/or extension of time. Additionally, the Department will provide notice of its determination to anyone who has submitted comments.

Extension file information is included in the following format:

- (a) Permit holder's name and address;
- (b) Application file number / permit number
- (c) County of use
- (d) Quantity of permitted water use in gallons per minute (gpm), cubic feet per second (cfs) or acre feet (af);
- (e) Common name of water source(s) listed in the permit;
- (f) Use of water allowed under the permit;
- (g) Current authorized extension date ("C" date)

DAVENPORT NEWBERRY HOLDINGS LLC  
300 ATLANTIC ST SUITE 301  
STAMFORD, CT 06901  
APPLICATION:G-13710 PERMIT:G-12571  
DESCHUTES  
0.89 CFS  
A WELL IN PAULINA CREEK BASIN  
INDUSTRIAL USE  
10/1/2015

DAVENPORT NEWBERRY HOLDINGS LLC  
300 ATLANTIC ST SUITE 301  
STAMFORD, CT 06901  
APPLICATION: G-13711 PERMIT: G-12595  
DESCHUTES  
3.56 CFS  
SIX WELLS WITHIN PAULINA CREEK BASIN  
INDUSTRIAL USE  
10/1/2015

G-13711

Davenport Newberry Holdings LLC

300 Atlantic St. Suite 301

Stamford, CT 06901

**Route Slip.....Extension of Time Progress Report**

**1. Extension Specialist: Progress Report Review**

Date Report Received: 10/4/2010

G-13711

Report Complete:  YES

NO – Send letter requesting missing information.

letter mailed on: \_\_\_\_\_

**2. Jonnine: Publish on the Department's Public Notice**

315  **320** OAR Division under which Progress Report was required

Publish on Public Notice Date: 12/14/10

Update workflow in WRIS (Fill in Extension Checkpoint 'Completed Date' in appropriate work flow record)

Return to Extension Specialist

**3. Extension Specialist: Prepare Progress Report Confirmation Letter**

See ..Procedures progress reports

(date / mail out after 30 day comment period)

**Date Letter Needed:** 1/14/2011

Update Progress Report Worksheet.xls

Send to permit holder + anyone who made comments after 30 day public notice

CC: Watermaster \_\_\_\_\_

File \_\_\_\_\_

**4. Return file to cabinet**

---

**PUBLIC NOTICE INFORMATION**

Permit Holder's Name: Davenport Newberry Holdings LLC Attn: \_

Permit Holder's Mailing Address: 300 Atlantic St Suite 301  
Stamford CT 06901

Application: G- 13711 Permit: G- 12595

County: Deschutes

Quantity of Water: 3.56 cfs

Source: Six wells within Paulina Creek Basin

Use: Industrial Use

Current Authorized Extension Date: 10/1/2015

# Davenport Newberry Holdings LLC

300 Atlantic Street, Suite 301  
Stamford, CT 06901

225 NW Franklin Avenue, Suite 1  
Bend, OR 97701

September 30, 2010

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Oregon Water Resource Department  
c/o Scott Kudlemyer, Extension Specialist  
725 Summer Street NE, Suite A  
Salem, Oregon 97301

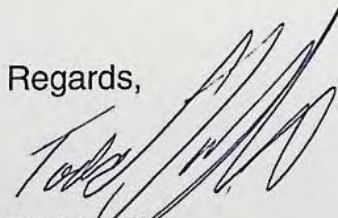
Re: Progress Report for Permit #G-12595 (Application # 13711)

Dear Mr. Kudlemyer:

Pursuant to the Final Order – “Extension of Time for Permit Number G-12595” dated September 15, 2005, a progress report as to the diligent effort made toward completion of the project must be submitted to the Department by October 1, 2010. Attached you will find a copy of this progress report with a supplemental attachment.

If you have any questions, please give me a call.

Regards,



Todd Jaffe  
Vice President  
203-276-1600 ext 4

RECEIVED

OCT 04 2010

WATER RESOURCES DEPT  
SALEM, OREGON



Oregon Water Resources Department  
 725 Summer Street NE, Suite A  
 Salem Oregon 97301-1266  
 (503) 986-0900  
 www.wrd.state.or.us

**Extension of Time  
 Progress Report Form  
 For Checkpoints**

TO THE DIRECTOR OF THE OREGON WATER RESOURCES DEPARTMENT

Permit Holder: ORNI 4, LLC (previous)  
 Davenport Newberry Holdings LLC (current)

Application G-13711  
 Permit G-12595

Report Due no later than October 1, 2010

**Progress Report Form for 2010**

As authorized in ORS 690-315-0050(6), this progress report is required in order to ensure diligence is exercised in the development and perfections of Permit G-12595

INSERT DATES	WORK ACCOMPLISHED and FINANCIAL INVESTEMENT SINCE OCTOBER 1, 2005 TO OCTOBER 1, 2010 <i>List all work done after the last authorized date for complete application of water up to the date of this Progress Report Form</i>	FINANCIAL INVESTEMENT
2007 to Sept 2010	Received necessary permits to construct 3 well pads, extend roads and drill up to 9 geothermal exploratory wells. Three well pads were constructed and two deep geothermal exploratory wells were drilled to over 10,000 ft. See attached document (EXHIBIT A) for more detailed information and current plans.	\$25.9 million in direct expenses at the site

2. Compliance with terms and conditions of the permit and/or previous extension.

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3. Total number of acres irrigated to date= \_\_\_\_\_ (if applicable)

4. Provide the maximum rate, or duty if applicable, of water diverted for beneficial use under this permit, if any, made to date.

Maximum rate used to date = \_\_\_\_\_ cfs (cubic feet per second)

Maximum rate used to date = \_\_\_\_\_ gpm (gallons per minute)

Acre-feet stored to date = \_\_\_\_\_ AF

*Report the rate in the same units of measurement as specified in the permit, being cfs (cubic feet per second), gpm (gallons per minute) or AF (acre-feet). Do not provide daily, monthly or annual water volume totals.*

Signature *Tom Newberry* VP Davenport Newberry Holdings Date 9-30-2010

*For OWRD use only*

Diligence Shown  Yes  No

Date Public Noticed: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

## Exhibit A

### Supplement to Progress Report - Permit G-12595, September 30, 2010

#### Action taken toward developing a power plant at Newberry

##### History:

- A permit to appropriate the public waters (Permit G-12595) was issued to C.E. Exploration Company on 7-8-1996.
- It was assigned to ORNI 4, LLC on Sept. 4, 2001.
- CE Exploration Company as well as ORNI 4 LLC (a/k/a/ "Ormat") planned on utilizing the water rights for the construction, operation and maintenance of geothermal electric projects pursuant to leases issued by the U. S. Department of the Interior, Bureau of Land Management ("BLM") to Ormat.
- Davenport Newberry Holdings LLC ("Davenport") holds BLM leases adjacent to the Ormat leases.
- Davenport's goal is to successfully develop power projects at Newberry using the geothermal resource there.
- Ormat has contracted to sell its leases to Davenport. ORNI 4 has assigned the above mentioned Water Permit (G-12595) to Davenport.
- The proposed location of Davenport's projects and place of use of water will be on leases owned by Davenport including the geothermal leases acquired from Ormat on Newberry Volcano.
- Davenport will require water from the same aquifer to operate its projects.
- Davenport has made considerable effort since 2005 to develop geothermal projects at Newberry and continues to do so. Davenport has spent in excess of \$30,000,000 including \$26,900,000 of direct expenses on the Newberry site.
  - In 2006, Davenport entered into a power sales arrangement with Pacific Gas and Electric Company.
  - Based on our previous and ongoing geological analysis, in 2006, Davenport started to conduct exploratory work on the geothermal leases at Newberry. This included gravity and magnetotellurics (MT) surveys and analysis.
  - In 2007, Davenport initiated a permitting process to construct 3 well pads on which we could drill up to nine wells.
  - In 2008, Davenport completed road enhancement work and drilled two deep exploratory wells.
  - Analysis of the two exploratory wells and planning work was performed in 2009. Plans were made to commence the next phase of its exploration efforts.

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SALEM OREGON

- Davenport has commenced the next steps in its exploratory plan in partnership with the U. S. Department of Energy.
- In August 25, 2010, Davenport was officially awarded a grant to pursue a \$12,800,000 Innovative Exploration project at Newberry. DOE will provide \$5,000,000 and Davenport will provide the additional \$6,800,000. Field work on this exploration project has begun.
- This exploration work will consist of drilling 12 temperature gradient wells and conduct various geophysical, chemical, electrical and seismic analysis on Davenport's geothermal leases. This activity should help locate the sources of geothermal fluid (hydrothermal) needed to pursue development of the geothermal projects.
- Davenport has already spent \$500,000 on this project including permitting and geologic analysis.
- In 2009, Davenport teamed up with AltaRock Energy, Inc. ("AltaRock") to pursue another geothermal project on Davenport's Newberry geothermal leases. Davenport and AltaRock submitted a proposal for a DOE grant for an EGS<sup>1</sup> demonstration project.
  - In March 2010, Davenport and AltaRock were awarded a Grant to pursue a \$43,800,000 EGS project at Newberry. This project will develop EGS technology at Newberry. DOE will fund approximately \$21,450,000 and Davenport and AltaRock will fund the remaining \$22,350,000.

**Benefits of geothermal projects at Newberry:**

- Geothermal produced electricity is the only commercial proven technology that can provide continuous reliable energy to the grid, unlike photovoltaic and wind energy.
- Newberry Volcano, which has been studied and explored by leading sector geologists over the past 30 years, is believed to contain the largest undeveloped geothermal field in North America, with the potential for the development of geothermal energy of hundreds of megawatts by conventional hydrothermal and EGS techniques.
- In addition to Federal and State income taxes generated from successful projects, these geothermal projects will generate millions of dollars' worth of royalty payments since it located on government land. 75% of all royalties will go directly to Oregon State and Deschutes County.
- Many jobs will be created. The geothermal power plants to be built will require hundreds of construction workers and many operators. The two forthcoming grant projects (innovative exploration and EGS demonstration) are expected to take approximately 50 person-years of work to complete.

**Unitization:**

- Davenport is currently pursuing the establishment of a Unit at Newberry. This Unit will consist of the all of Davenports leases on the west side of the Monument including all of the

---

<sup>1</sup> EGS stands for Enhanced Geothermal Systems. Such a system involves drilling a deep well (injection well) into the earth, stimulating a network of small cracks in the earth around the well by pumping in water into the well. A second well (production well) is then drilled into the stimulated area.

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SALEM, OREGON

acquired leases from Ormat. One of the many purposes of establishing this Unit will be more easily pursue exploration and projects across various contiguous leases.

**Future Development activity:**

- Davenport is committed to developing, owning and operating geothermal projects (using hydrothermal or EGS produced energy) at Newberry. All of these projects will require water for exploration, construction and operation. Without water, these projects can't be developed.

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SALEM, OREGON



Oregon Water Resources Department  
 725 Summer Street NE, Suite A  
 Salem, Oregon 97301  
 (503) 986-0900  
 www.wrd.state.or.us

# Request for Assignment

If for multiple rights, a separate form and fee for each right will be required.

I, ORNI 4, LLC / Permit G-12595

(Name of Applicant / Permit / Transfer Holder / License Holder/GR Certificate of Registration)

6225 Nell Road NV 89511 775-356-9029  
 (Mailing Address) (City) (State) (Zip) (Phone #)

- hereby assign all my interest in and to application/permit/transfer/license/GR Certificate of Registration;
- hereby assign all my interest in and to a portion of application/permit/transfer/license/GR Certificate of Registration; (You must include a map showing the portion of the application/permit/transfer/license/GR Certificate of Registration to be assigned.)
- hereby assign a portion of my interest in and to the entire application/permit/transfer/license/GR Certificate of Registration:

Application # G-13711 ; Permit # G-12595 ; Transfer # N/A  
 -OR-

License # \_\_\_\_\_ ; GR Statement # \_\_\_\_\_ ; GR Certificate of Registration # \_\_\_\_\_

As filed in the office of the Water Resources Director, to:

Davenport Newberry Holdings LLC  
 (Name of New Owner)

300 Atlantic Street Suite 301 Stamford CT 06901 203-276-1600  
 (Mailing Address) (City) (State) (Zip) (Phone #)

**Note:** If there are other owners of the property described in the Application, Permit, Transfer, License, or GR Certificate of Registration, you must provide a list of all other owners' names and mailing addresses and attach it to this form.

I hereby certify that I have notified all other owners of the property described in this Application, Permit, Transfer, License, or GR Certificate of Registration of this Request for Assignment

Witness my hand this 29 day of SEPTEMBER, 2010.

Applicant/Permit Holder Cennie Hochman  
 ASSISTANT SECRETARY

Applicant/Permit Holder \_\_\_\_\_

**DO NOT WRITE IN THIS BOX**

The completed "Request for Assignment" form *must* be submitted to the Department along with the recording fee of \$75.

**RECEIVED**  
 OCT 04 2010  
 WATER RESOURCES DEPT  
 SALEM, OREGON



Oregon Water Resources Department  
 725 Summer Street NE, Suite A  
 Salem, Oregon 97301  
 (503) 986-0900  
 www.wrd.state.or.us

# Request for Assignment

RECEIVED

SEP 30 2010

WATER RESOURCES DEPT  
 SALEM, OREGON

If for multiple rights, a separate form and fee for each right will be required.

I, ORNI 4, LLC / Permit G-12595

(Name of Applicant / Permit / Transfer Holder / License Holder/GR Certificate of Registration)

6225 Neil Road NV 89511 775-356-9029  
 (Mailing Address) (City) (State) (Zip) (Phone #)

- hereby assign all my interest in and to application/permit/transfer/license/GR Certificate of Registration;
- hereby assign all my interest in and to a portion of application/permit/transfer/license/GR Certificate of Registration; (You must include a map showing the portion of the application/permit/transfer/license/GR Certificate of Registration to be assigned.)
- hereby assign a portion of my interest in and to the entire application/permit/transfer/license/GR Certificate of Registration:

Application # G-13711; Permit # G-12595; Transfer # N/A  
 -OR-

License # \_\_\_\_\_; GR Statement # \_\_\_\_\_; GR Certificate of Registration # \_\_\_\_\_

As filed in the office of the Water Resources Director, to:

Davenport Newberry Holdings LLC

(Name of New Owner)

300 Atlantic Street Suite 301 Stamford CT 06901 203-276-1600  
 (Mailing Address) (City) (State) (Zip) (Phone #)

**Note:** If there are other owners of the property described in the Application, Permit, Transfer, License, or GR Certificate of Registration, you must provide a list of all other owners' names and mailing addresses and attach it to this form.

I hereby certify that I have notified all other owners of the property described in this Application, Permit, Transfer, License, or GR Certificate of Registration of this Request for Assignment

Witness my hand this \_\_\_\_\_ day of SEPTEMBER, 2010.

Applicant/Permit Holder Connie Stechmar

ASSISTANT SECRETARY

Applicant/Permit Holder \_\_\_\_\_

Assigned  
 9/30/10  
 J. Sauter

**DO NOT WRITE IN THIS BOX**

- This certifies assignment and record change at Oregon Water Resources Department effective 8:00a.m. on date of receipt at Salem, Oregon.
- Fee receipt # 100277
- For Director by Jerry Sauter, Program Analyst in Water Rights Division

The completed "Request for Assignment" form *must* be submitted to the Department along with the recording fee of \$75.



# Oregon

Theodore R. Kulongoski, Governor

## Water Resources Department

North Mall Office Building  
725 Summer Street NE, Suite A  
Salem, OR 97301-1266  
503-986-0900  
FAX 503-986-0904

September 30, 2010

ORMAT Nevada, Inc.  
6225 Neil Road  
Reno, Nevada 89511

Reference: Application G-13710, Permit G-12571 – Application G-13711, Permit G-12595

The assignment from ORNI 4, LLC to Davenport Newberry Holdings LLC has been recorded in the records of the Water Resources Department.

Our records have been changed accordingly and the original request is enclosed. Receipt numbers 101276 and 101277 covering the recording fee of \$75 for each assignment, are also enclosed.

Please review the permit to be familiar with the conditions and timelines contained in the permit. These conditions and timelines will have to be met before a Certificate of Water Right can be issued.

Sincerely,

Jerry Sauter  
Water Rights Program Analyst

Enclosure: Receipts 101276, 101277

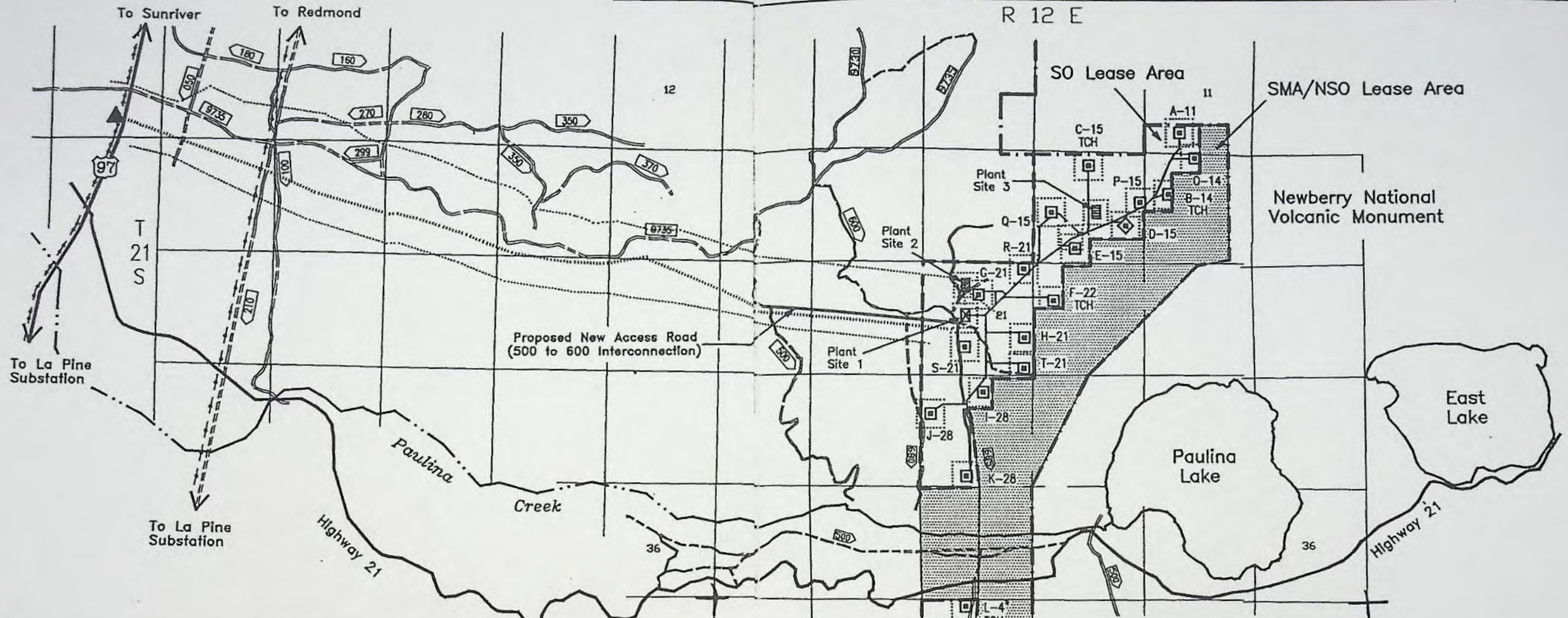
cc: Watermaster 11  
Davenport Newberry Holdings LLC  
Data Center, OWRD (Complete Copy of Assignment Request)  
Hydrographics  
File

# NEWBERRY GEOTHERMAL PILOT PROJECT

Deichutes National Forest, Oregon

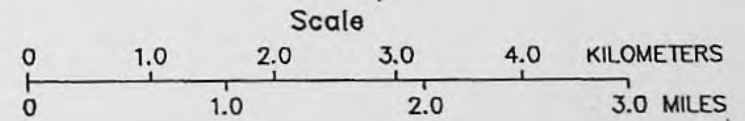
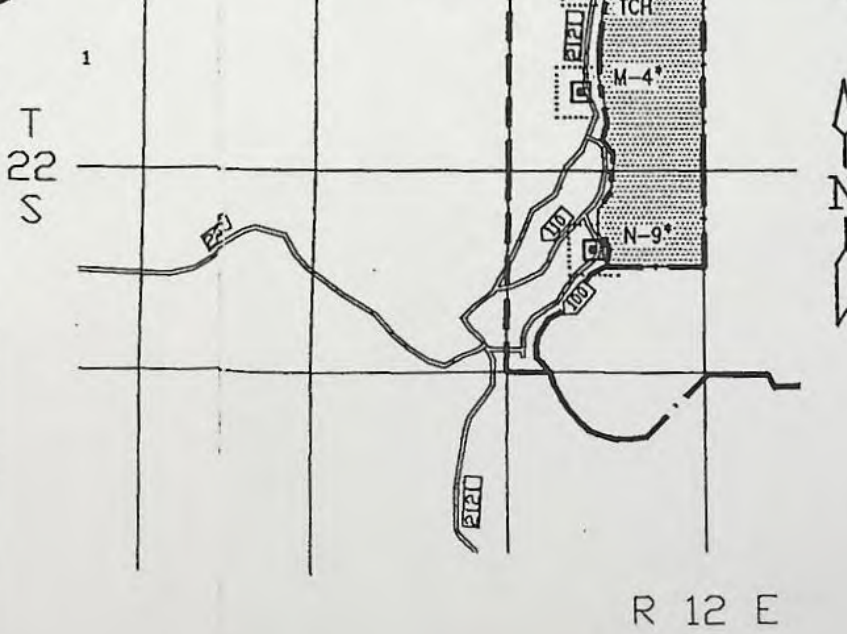
Alternative B, Newberry Geothermal Pilot Project

Figure S-6



### Legend

- Boundary of Surface Occupancy (SO) Lease Area
- Proposed Drill Pad Location and Pipeline and Access Road Routes (2.4-ha [6-ac] drill pads shown within 8 to 16-ha [20 to 40-ac] siting area)
- Plant Site 1   ■ Plant Site 2   ■ Plant Site 3  
(Plant sites shown within 12-ha [30-ac] siting areas)
- Newberry National Volcanic Monument (NNVM) Boundary
- ▨ NNVM Special Management Area ( No Surface Occupancy ) and NSO Lease Area
- Existing Access Roads (only includes roads mentioned within the project proposed; see Section 2)
- Proposed Alternative 115-kV Transmission Line Route
- Proposed Transmission Line Area Boundary
- Existing BPA 230-kV Transmission Line
- Existing Midstate Electric Cooperative 115-kV Transmission Line Route
- ▲ Proposed Switch Station
- TCH Temperature Core Hole



- NOTES:
- 1.) The CE Exploration Lease Area consists of the surface occupancy (SO) lease area and the no surface occupancy (NSO) Special Management Area, in which surface activity is not permitted.
  - 2.) Well pads marked by an asterisk (\*) would be for exploration purposes only. There would be no facilities (such as roads or pipelines) constructed across Paulina Creek.
  - 3.) Numbers that are centered in map sections as well as numbers associated with proposed drill pads (e.g., "L-4") denote USGS map sections.

Application No. G-13711  
Permit No.



# Oregon

John A. Kitzhaber, MD, Governor

**Water Resources Department**  
North Mall Office Building  
725 Summer St. NE, Suite A  
Salem, OR 97301  
Phone: 503-986-0900  
FAX: 503-986-0904  
[www.oregon.gov/owrd](http://www.oregon.gov/owrd)

June 6, 2013

DAVENPORT NEWBERRY HOLDINGS LLC  
300 ATLANTIC ST SUITE 301  
STAMFORD, CT 06901

REFERENCE: Permit Amendment Application T-11460

Enclosed is a copy of the order approving your Permit Amendment application.

Also enclosed is a superseding permit that incorporates the amendments approved by the final order contained herein. Please read this document and abide by the requirements.

If you have any questions related to the approval of this permit amendment, you may contact your caseworker by telephone at (503) 986-0886 or by e-mail at [Patrick.K.Starnes@wr.d.state.or.us](mailto:Patrick.K.Starnes@wr.d.state.or.us)

Sincerely,

Codi Holmes  
Water Rights Services Support  
Transfer and Conservation Section

cc: Jeremy T. Giffin, Watermaster Dist. # 11  
Adam Sussman, Agent

Enclosure



**BEFORE THE WATER RESOURCES DEPARTMENT  
OF THE  
STATE OF OREGON**

In the Matter of Permit Amendment	)	FINAL ORDER
T-11460, Deschutes County	)	APPROVING A CHANGE IN POINT OF
	)	APPROPRIATION AND AN
	)	ADDITIONAL POINT OF
	)	APPROPRIATION

**Authority**

ORS 537.211 establishes the process in which a water right permit holder may submit a request to change the point of appropriation and/or place of use authorized under an existing water right permit.

**Applicant**

DAVENPORT NEWBERRY HOLDINGS LLC  
300 ATLANTIC ST SUITE 301  
STAMFORD, CT 06901

**Findings of Fact**

1. On August 10, 2012, DAVENPORT NEWBERRY HOLDINGS LLC filed an application for an additional point of appropriation under Permit G-12571 and to change a point of appropriation under Permit G-12595. The Department assigned the application number T-11460.
2. On September 15, 2005, the Department approved an extension of time for complete application of water to October 1, 2015.
3. On September 30, 2010, the Department approved assignments of both permits to Davenport Newberry Holdings LLC.
4. Notice of the application for the permit amendment was published in the Department's weekly notice on August 21, 2012, and in the Bend Bulletin newspaper on May 6 and 13, 2013, pursuant to ORS 540.520(5). No comments were filed in response to the notices.
5. On February 28, 2013, the applicant's agent submitted revised application pages and maps to clarify well locations from the applicant's agent.

This is a final order in other than contested case. This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60 day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-080 and OAR 690-01-005 you may either petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

6. Permit Amendment Application T-11460 proposes an additional point of appropriation under Permit G-12571 approximately 3.9 miles from the existing point of appropriation to:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	16	NE SW	WELL 46-16 (DESC 58649) - 1960 FEET NORTH AND 2085 FEET EAST FROM THE SW CORNER OF SECTION 16.

7. Permit Amendment Application T-11460 proposes to move the authorized point of appropriation of Well 1 under Permit G-12595 approximately 1440 feet from the existing point of appropriation to:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	21	NE SW	WELL 1 (DESC 10060) - 1895 FEET NORTH AND 1795 FEET EAST FROM THE SW CORNER OF SECTION 21

**Permit Amendment Review Criteria**

8. The changes would not result in injury to other water rights.
9. The changes do not enlarge the permits.
10. The changes do not alter any other terms of the permits.

**Conclusions of Law**

The additional point of appropriation and change in point of appropriation proposed by Permit Amendment Application T-11460 is consistent with the requirements of ORS 537.211.

**Now, therefore, it is ORDERED:**

1. The additional point of appropriation and change in point of appropriation proposed by Permit Amendment Application T-11460 are approved.
2. Permit G-17031, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is issued to replace Permit G-12571, and incorporates the amendments approved by this order, the extension of time, and assignment. Permit G-12571, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is no longer of any force or effect.
3. Under Permit G-17031, the combined quantity of water diverted at the new point of appropriation, together with that diverted at the old point of appropriation, shall not exceed the quantity of water lawfully available at the original point of appropriation.

4. Under Permit G-17031, prior to water use from the proposed point of appropriation, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order.

The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

The Director may require the permittee to keep and maintain a record of the amount (volume) of water used and may require the permittee to report water use on a periodic schedule as established by the Director. In addition, the Director may require the permittee to report general water use information, the periods of water use and the place and nature of use of water under the permit. The Director may provide an opportunity for the permittee to submit alternative reporting procedures for review and approval.

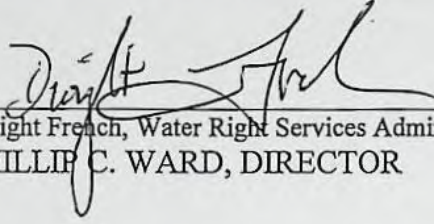
5. Permit G-17032, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is issued to replace Permit G-12595, and incorporates the amendments approved by this order, the extension of time, and assignment. Permit G-12595, in the name of DAVENPORT NEWBERRY HOLDINGS LLC, is no longer of any force or effect.
6. Under Permit G-17032, the quantity of water diverted at the new point of appropriation shall not exceed the quantity of water lawfully available at the original point of appropriation.
7. Under Permit G-17032, prior to water use from the proposed additional point of appropriation under the permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, and shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.

The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

8. Under both permits, water shall be acquired from the same aquifer as the original points of appropriation.

9. All other terms and conditions of Permits G-17031 and G-17032 remain the same.

Dated at Salem, Oregon this 28 day of May, 2013.



Dwight French, Water Right Services Administrator, for  
PHILLIP C. WARD, DIRECTOR

Mailing Date: JUNE 7 2013

STATE OF OREGON  
 COUNTY OF DESCHUTES

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

DAVENPORT NEWBERRY HOLDINGS LLC  
 300 ATLANTIC STREET SUITE 301  
 STAMFORD CT 06901

203-276-1600

**This superseding permit is issued to describe an amendment for an additional point of appropriation proposed under Permit Amendment Application T-11460 and approved by Special Order Vol. 89, Page 793, entered May 28<sup>th</sup>, 2013, and to describe an extension of time for complete application of water approved September 15, 2005 and an assignment to a new permittee approved September 30, 2010. This permit supersedes Permit G-12571.**

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-13710

SOURCE OF WATER: TWO WELLS IN PAULINA CREEK BASIN

PURPOSE OR USE: INDUSTRIAL USE

RATE OF USE: 0.89 CUBIC FOOT PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: JUNE 10, 1994

POINT OF DIVERSION LOCATIONS:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	16	NE SW	WELL 46-16 (DESC 58649) - 1960 FEET NORTH AND 2085 FEET EAST FROM THE SW CORNER OF SECTION 16.
22 S	12 E	WM	4	SE NW	WELL 7 - 2640 FEET SOUTH AND 2640 FEET EAST FROM THE NW CORNER OF SECTION 4

THE PLACE OF USE IS LOCATED AS FOLLOWS:

INDUSTRIAL USE				
Twp	Rng	Mer	Sec	Q-Q
22 S	12 E	WM	4	SE NW

Permit Amendment T-11460 Conditions

The combined quantity of water diverted at Well 46-16 (DESC 58649), together with that diverted at Well 7, shall not exceed the quantity of water lawfully available at the original point of appropriation, Well 7.

Water from Well 46-16 (DESC 58649) shall be acquired from the same aquifer as the original point of appropriation, Well 7.

Measurement, recording and reporting conditions:

- A. Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order.
- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.
- C. The Director may require the permittee to keep and maintain a record of the amount (volume) of water used and may require the permittee to report water use on a periodic schedule as established by the Director. In addition, the Director may require the permittee to report general water use information, the periods of water use and the place and nature of use of water under the permit. The Director may provide an opportunity for the permittee to submit alternative reporting procedures for review and approval.

The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

Use of water under authority of this permit may be regulated if analysis of data available after the permit is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

#### STANDARD CONDITIONS

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

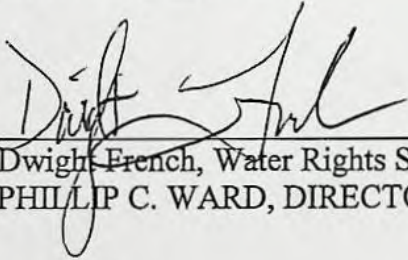
By law, the land use associated with this water use must be in compliance with statewide land-use goals and any local acknowledged land-use plan.

The use of water shall be limited when it interferes with any prior surface or ground water rights.

The Director finds that the proposed use(s) of water described by this permit, as conditioned, will not impair or be detrimental to the public interest.

Actual construction of the well shall begin within one year from permit issuance and shall be completed on or before October 1, 2015. Complete application of the water to the use shall be made on or before October 1, 2015.

Issued May 28, 2013



Dwight French, Water Rights Services Administrator, for  
PHILLIP C. WARD, DIRECTOR

STATE OF OREGON  
COUNTY OF DESCHUTES

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

DAVENPORT NEWBERRY HOLDINGS LLC  
300 ATLANTIC STREET SUITE 301  
STAMFORD CT 06901

203-276-1600

**This superseding permit is issued to describe an amendment for an additional point of appropriation proposed under Permit Amendment Application T-11460 and approved by Special Order Vol. 89, Page 793, entered May 28<sup>th</sup>, 2013, and to describe an extension of time for complete application of water approved September 15, 2005 and an assignment to a new permittee approved September 30, 2010. This permit supersedes Permit G-12595.**

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-13711

SOURCE OF WATER: SIX (6) WELLS WITHIN THE PAULINA CREEK BASIN

PURPOSE OR USE: INDUSTRIAL USE

QUANTITY: 3.56 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: JUNE 10, 1994

POINTS OF DIVERSION LOCATION:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
21 S	12 E	WM	21	NE SW	WELL 1 (DESC 10060) - 1895 FEET NORTH AND 1795 FEET EAST FROM THE SW CORNER OF SECTION 21
21 S	12 E	WM	21	SE SE	WELL 2 - 4620 FEET SOUTH AND 4620 FEET EAST FROM THE NW CORNER OF SECTION 21
21 S	12 E	WM	28	NE NW	WELL 3 - 4620 FEET NORTH AND 1980 FEET EAST FROM THE SW CORNER OF SECTION 28
21 S	12 E	WM	16	SW SE	WELL 4 - 1980 FEET NORTH AND 3300 FEET EAST FROM THE SW CORNER OF SECTION 16
21 S	12 E	WM	20	SE NE	WELL 5 - 1980 FEET SOUTH AND 660 FEET WEST FROM THE NE CORNER OF SECTION 20
21 S	12 E	WM	29	SE NE	WELL 6 - 3300 FEET NORTH AND 660 FEET WEST FROM THE SE CORNER OF SECTION 29

THE PLACE OF USE IS LOCATED AS FOLLOWS:

INDUSTRIAL USE				
Twp	Rng	Mer	Sec	Q-Q
21 S	12 E	WM	11	SE SW
21 S	12 E	WM	14	NE NW
21 S	12 E	WM	14	SW NW
21 S	12 E	WM	15	NW NE
21 S	12 E	WM	15	SE NE
21 S	12 E	WM	15	NE NW
21 S	12 E	WM	15	NW SW
21 S	12 E	WM	15	SE SW
21 S	12 E	WM	15	NE SE
21 S	12 E	WM	15	NW SE
21 S	12 E	WM	21	NE NE
21 S	12 E	WM	21	SW NE
21 S	12 E	WM	21	NE NW
21 S	12 E	WM	21	SE NW
21 S	12 E	WM	21	NE SW
21 S	12 E	WM	21	SE SW
21 S	12 E	WM	22	SW NW
21 S	12 E	WM	28	NW NE
21 S	12 E	WM	28	SW NW
21 S	12 E	WM	28	SE SW
22 S	12 E	WM	4	NE NW
22 S	12 E	WM	4	NE SW
22 S	12 E	WM	9	SE NW

Permit Amendment T-11460 Conditions

The quantity of water diverted at Well 1 shall not exceed the quantity of water lawfully available at the original point of appropriation of Well 1.

Water from Well 1 shall be acquired from the same aquifer as the original point of appropriation of Well 1.

Measurement, recording and reporting conditions:

- A. Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.
- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

This use may be regulated if analysis of data available after the permit or certificate is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

#### STANDARD CONDITIONS

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

By law, the land use associated with this water use must be in compliance with statewide land-use goals and any local acknowledged land-use plan.

The use of water shall be limited when it interferes with any prior surface or ground water rights.

The Director finds that the proposed use(s) of water described by this permit, as conditioned, will not impair or be detrimental to the public interest.

Actual construction of the well shall begin within one year from permit issuance and shall be completed on or before October 1, 2015. Complete application of the water to the use shall be made on or before October 1, 2015.

Issued May <sup>28</sup>, 2013

  
\_\_\_\_\_  
Dwight French, Water Rights Services Administrator, for  
PHILLIP C. WARD, DIRECTOR

STATE OF OREGON  
COUNTY OF DESCHUTES

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

C E EXPLORATION CO.  
34 NW FIRST AVENUE, SUITE 302  
PORTLAND, OREGON 97209

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-13711

SOURCE OF WATER: SIX (6) WELLS WITHIN THE PAULINA CREEK BASIN

PURPOSE OR USE: INDUSTRIAL USE

QUANTITY: 3.56 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: JUNE 10, 1994

POINT OF DIVERSION LOCATION: NW 1/4 SE 1/4, SECTION 16, SE 1/4 NE 1/4, SECTION 20, SE 1/4 SE 1/4, SECTION 21, SE 1/4 NW 1/4, SECTION 21, NE 1/4 NW 1/4, SECTION 28, SE 1/4 NE 1/4, SECTION 29, T21S, R12E, W.M.; WELL #1 - 1980 FEET SOUTH AND 1980 FEET EAST OF THE NW CORNER OF SECTION 21, WELL #2 - 4620 FEET SOUTH AND 4620 FEET EAST OF THE NW CORNER OF SECTION 21, WELL #3 - 4620 FEET NORTH AND 1980 FEET EAST OF THE SW CORNER OF SECTION 28, WELL #4 - 1980 FEET NORTH AND 3300 FEET EAST OF THE SW CORNER OF SECTION 16, WELL #5 - 1980 FEET SOUTH AND 660 FEET WEST OF THE NE CORNER OF SECTION 20, WELL #6 - 3300 FEET NORTH AND 660 FEET WEST OF THE SE CORNER OF SECTION 29

THE PLACE OF USE IS LOCATED AS FOLLOWS:

SE 1/4 SW 1/4  
SECTION 11  
NE 1/4 NW 1/4  
SW 1/4 NW 1/4  
SECTION 14  
NW 1/4 NE 1/4  
SE 1/4 NE 1/4  
NE 1/4 NW 1/4  
NW 1/4 SW 1/4  
SE 1/4 SW 1/4  
NE 1/4 SE 1/4  
NW 1/4 SE 1/4  
SECTION 15

NE 1/4 NE 1/4  
 SW 1/4 NE 1/4  
 NE 1/4 NW 1/4  
 SE 1/4 NW 1/4  
 NE 1/4 SW 1/4  
 SE 1/4 SW 1/4

## SECTION 21

SW 1/4 NW 1/4

## SECTION 22

NW 1/4 NE 1/4

SW 1/4 NW 1/4

SE 1/4 SW 1/4

## SECTION 28

TOWNSHIP 21 SOUTH, RANGE 12 EAST, W.M.

NE 1/4 NW 1/4

NE 1/4 SW 1/4

## SECTION 4

SE 1/4 NW 1/4

## SECTION 9

TOWNSHIP 22 SOUTH, RANGE 12 EAST, W.M.

## Measurement, recording and reporting conditions:

- A. Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.
- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

This use may be regulated if analysis of data available after the permit or certificate is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department

approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

#### STANDARD CONDITIONS

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

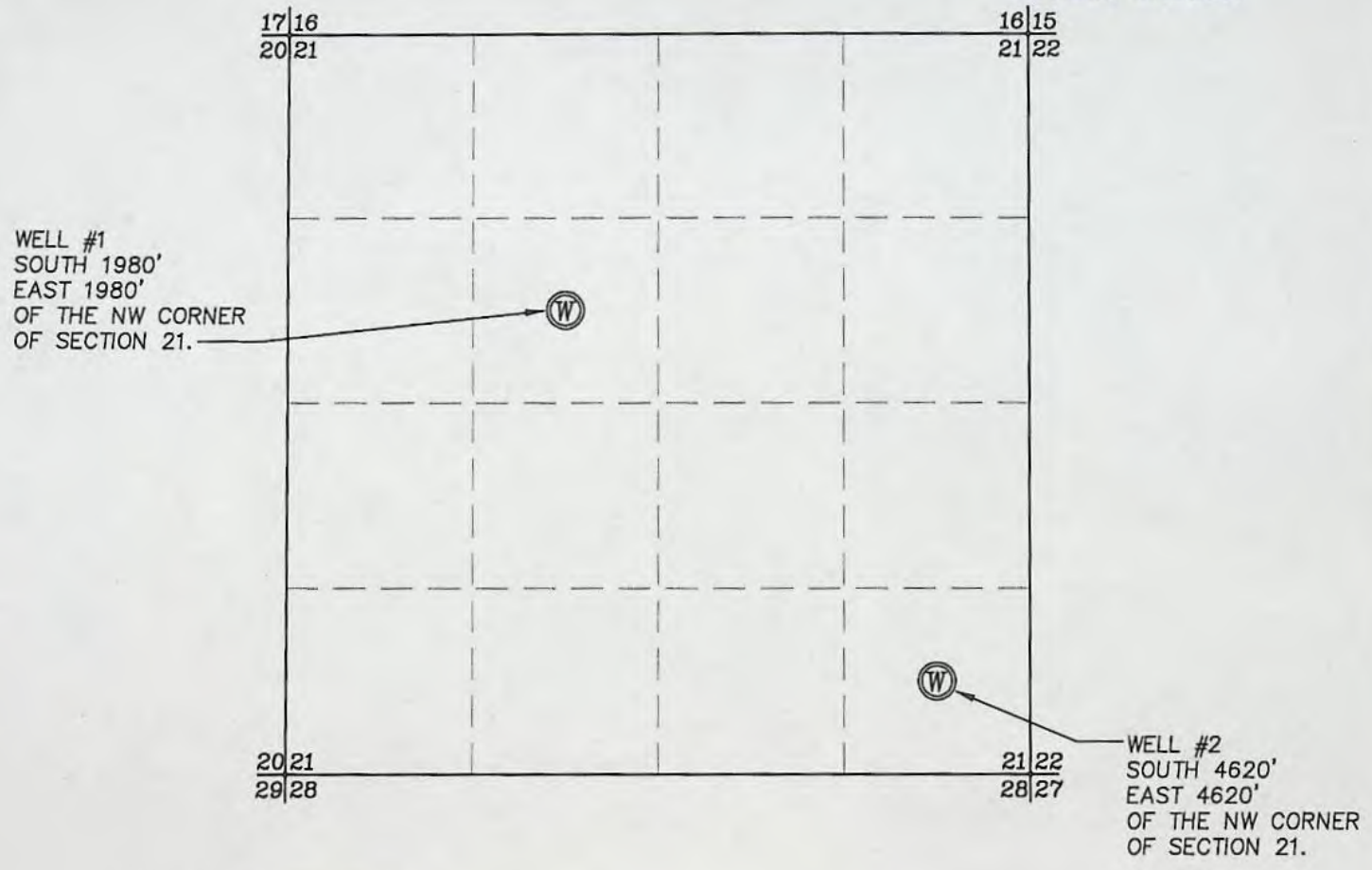


T.21S., R.12E., W.M.  
DESCHUTES COUNTY, OREGON  
APPLICATION FOR GROUND  
WATER RIGHT

RECEIVED

JUN 10 1994

WATER RESOURCES DEPT.  
SALEM, OREGON



Application No. G-13711  
Permit No. G12585



NORTH  
SCALE : 1" = 1320'  
APRIL 28, 1994

THIS MAP WAS PREPARED TO IDENTIFY THE LOCATION  
OF WATER RIGHTS AND IS NOT A BOUNDARY SURVEY  
DELINEATING PROPERTY RIGHTS

scale 1" = 1320' design JCP  
date 4/28/94 drawn SMW  
file O:\CEEX0001\WATRIT1.DWG (704)

**DEA**  
DAVID EVANS AND ASSOCIATES, INC  
709 NW WALL STREET, SUITE 102  
BEND, OREGON 97701 (503)389-7614

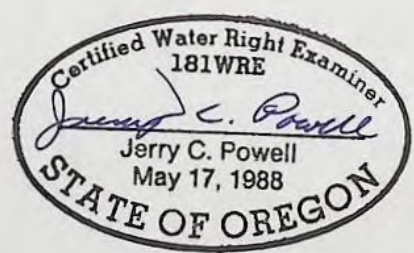
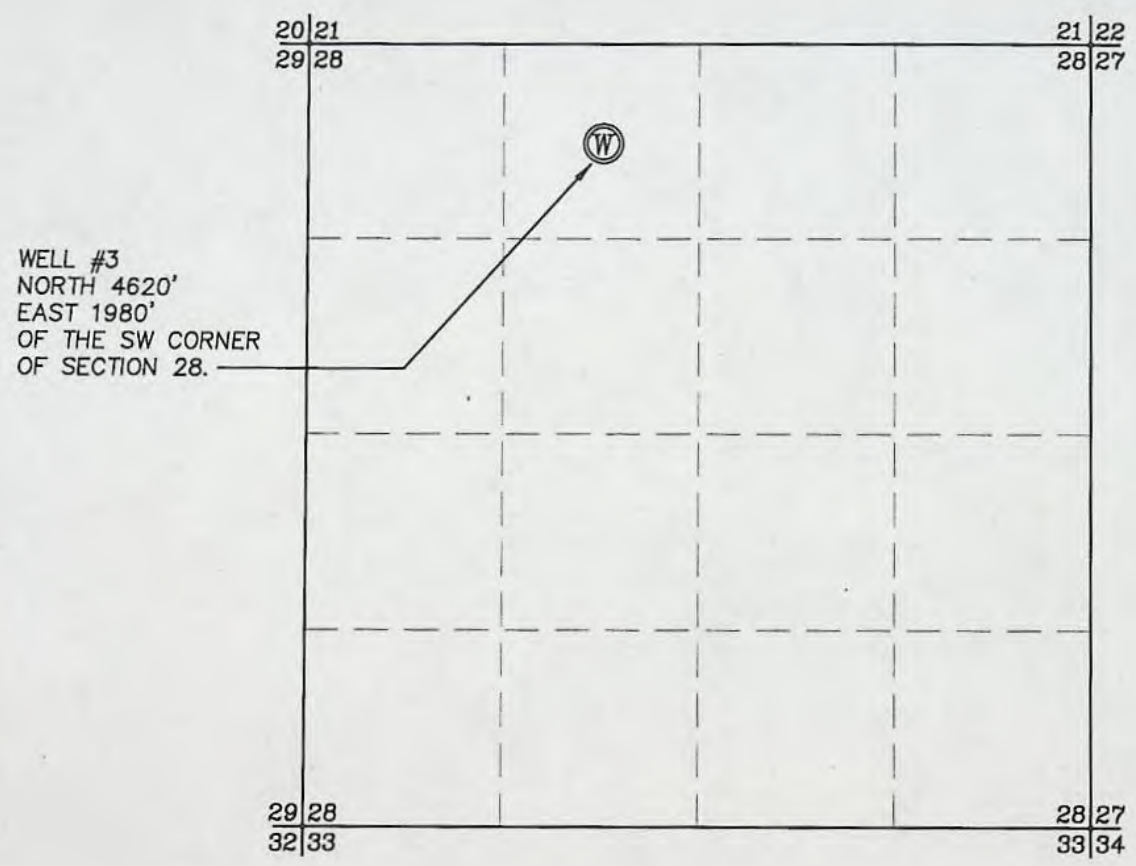
GROUND WATER APPLICATION MAP  
FOR  
CALIFORNIA ENERGY COMPANY, INC.  
NEWBERRY GEOTHERMAL PROJECT

T.21S., R.12E., W.M.  
DESCHUTES COUNTY, OREGON  
APPLICATION FOR GROUND  
WATER RIGHT

RECEIVED

JUN 10 1994

WATER RESOURCES DEPT.  
SALEM, OREGON



Application No. G-13711  
Permit No. G12585



NORTH  
SCALE : 1" = 1320'  
APRIL 28, 1994

THIS MAP WAS PREPARED TO IDENTIFY THE LOCATION OF WATER RIGHTS AND IS NOT A BOUNDARY SURVEY DELINEATING PROPERTY RIGHTS

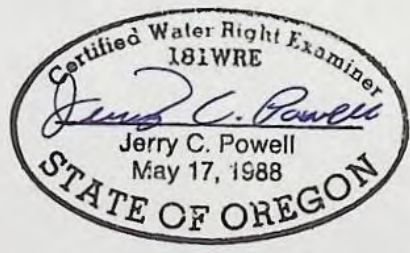
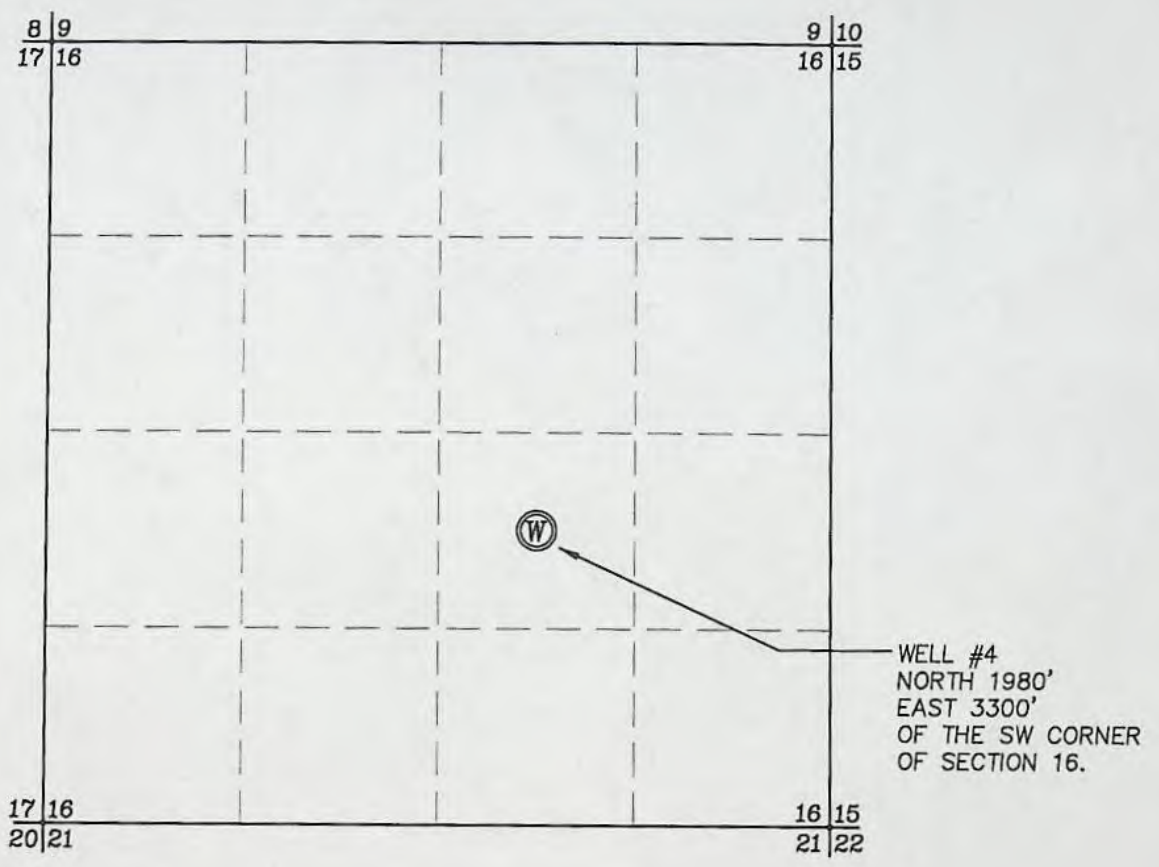
scale 1" = 1320' design JCP  
date 4/28/94 drawn SMW  
file O:\CEEX0001\WATRITE3.DWG (704)

**DEA**  
DAVID EVANS AND ASSOCIATES, INC  
709 NW WALL STREET, SUITE 102  
BEND, OREGON 97701 (503)389-7814

GROUND WATER APPLICATION MAP  
FOR  
CALIFORNIA ENERGY COMPANY, INC.  
NEWBERRY GEOTHERMAL PROJECT

T.21S., R.12E., W.M.  
DESCHUTES COUNTY, OREGON  
APPLICATION FOR GROUND  
WATER RIGHT

**RECEIVED**  
JUN 10 1994  
WATER RESOURCES DEPT.  
SALEM, OREGON



Application No. G73711  
Permit No. G12585



THIS MAP WAS PREPARED TO IDENTIFY THE LOCATION  
OF WATER RIGHTS AND IS NOT A BOUNDARY SURVEY  
DELINEATING PROPERTY RIGHTS

SCALE : 1" = 1320'  
APRIL 28, 1994

scale 1" = 1320' design JCP  
date 4/28/94 drawn SMW  
file O:\CEEX0001\WATRIT4.DWG (704)

**DEA**  
DAVID EVANS AND ASSOCIATES, INC  
709 NW WALL STREET, SUITE 102  
BEND, OREGON 97701 (503)389-7814

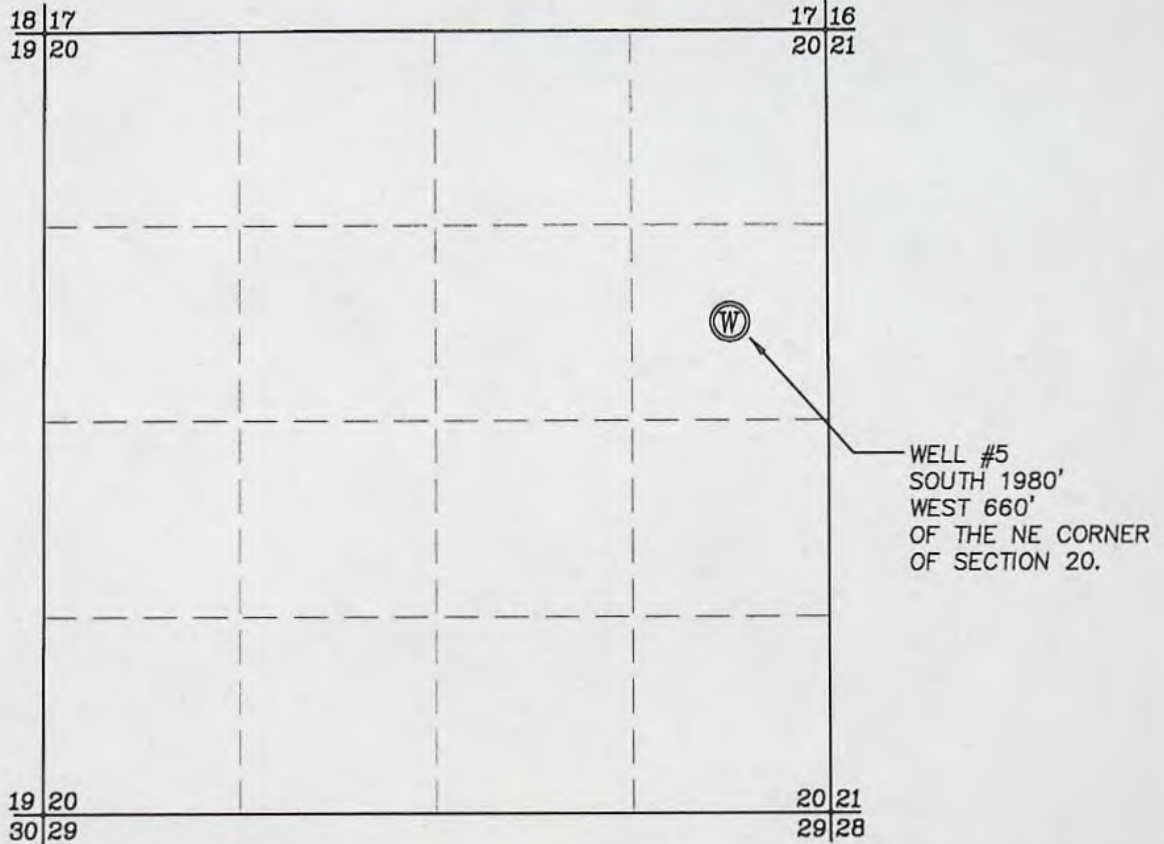
GROUND WATER APPLICATION MAP  
FOR  
CALIFORNIA ENERGY COMPANY, INC.  
NEWBERRY GEOTHERMAL PROJECT

T.21S., R.12E., W.M.  
DESCHUTES COUNTY, OREGON  
APPLICATION FOR GROUND  
WATER RIGHT

RECEIVED

JUN 10 1994

WATER RESOURCES DEPT.  
SALEM, OREGON



Application No. G-13711  
Permit No. G12585

THIS MAP WAS PREPARED TO IDENTIFY THE LOCATION  
OF WATER RIGHTS AND IS NOT A BOUNDARY SURVEY  
DELINEATING PROPERTY RIGHTS



NORTH

SCALE : 1" = 1320'  
APRIL 28, 1994

scale 1" = 1320' design JCP  
date 4/28/94 drawn SMW  
file O:\CEEX0001\WATRITE5.DWG (704)



DAVID EVANS AND ASSOCIATES, INC  
709 NW WALL STREET, SUITE 102  
BEND, OREGON 97701 (503)389-7614

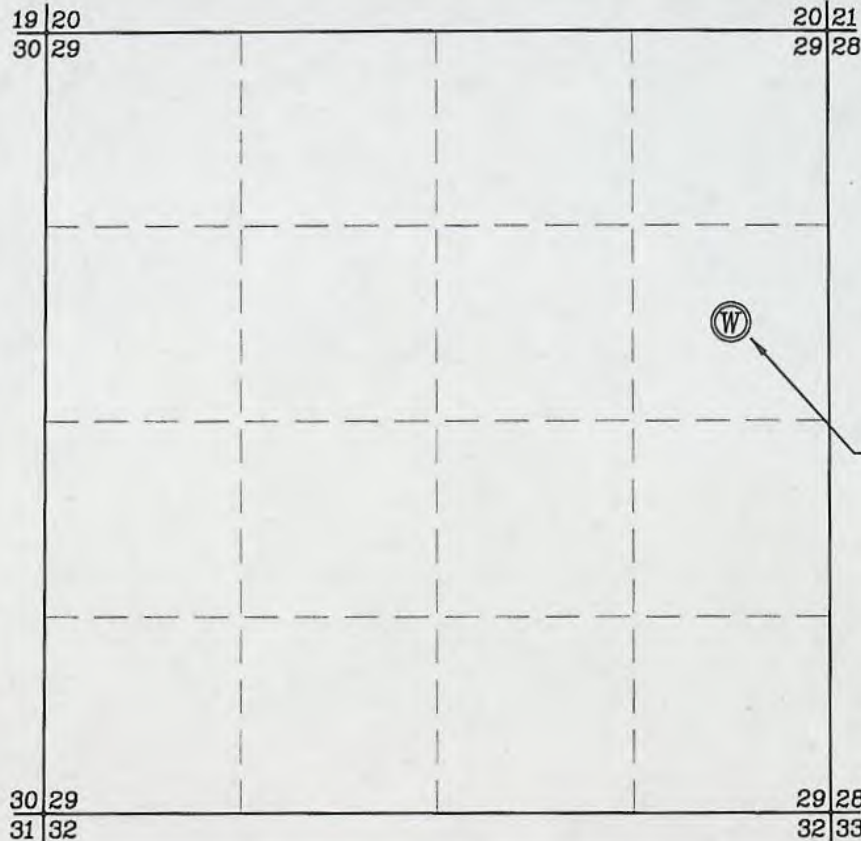
GROUND WATER APPLICATION MAP  
FOR  
CALIFORNIA ENERGY COMPANY, INC.  
NEWBERRY GEOTHERMAL PROJECT

T.21S., R.12E., W.M.  
DESCHUTES COUNTY, OREGON  
APPLICATION FOR GROUND  
WATER RIGHT

RECEIVED

JUN 10 1994

WATER RESOURCES DEPT.  
SALEM, OREGON



Application No. G-13711  
Permit No. G12505



SCALE : 1" = 1320'  
APRIL 28, 1994

THIS MAP WAS PREPARED TO IDENTIFY THE LOCATION  
OF WATER RIGHTS AND IS NOT A BOUNDARY SURVEY  
DELINEATING PROPERTY RIGHTS

scale 1" = 1320' design JCP  
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GROUND WATER APPLICATION MAP  
FOR  
CALIFORNIA ENERGY COMPANY, INC.  
NEWBERRY GEOTHERMAL PROJECT

**NOTE:** Include a copy of the "Important Notice" document along with the original copy of the Final Order being sent to the permit holder.

## Mailing List for Extension FO Copies

Application #G-13711  
Permit #G-12595

FO Date: September 15, 2005

**Original mailed to:**

Applicant: **ORNI 4, LLC**  
**980 Greg Street**  
**Sparks, NV 89431-6039**

<b>Copies Mailed</b>	
By:	<u>ALS</u> (SUPPORT STAFF)
on:	<u>9/16/05</u> (DATE)

**For Extension FO's - Copies sent to:**

1. WRD - Appl. File #G-13711 / Permit #G-12595
2. WRD - Watermaster District: #11 - Jeremy Giffin, Bend
3. ODFW - Biologist District: #07 - Steve Marx, Bend
4. WRD - Support Staff, Salem...*Permit record update*

**Other interested parties:**

NONE

CASEWORKER: LJJ

S:\groups\wr\extensions\F O\Done\2005 final orders\g13711.wpd

# Extension "Final Order" Checklist

Application # G-13711 / Permit # G-12595

Permit Holder's Name ORNI 4, LLC  
980 Greg Street, Sparks, NV 89431-6039

This Final Order is processed under:  Div. 315 Rules -or-  ~~Div. 320 Rules~~

✓ 1. Date Extension Request submitted: 7-1-2002

✓ 2. Date permit was issued: 7-8-96

✓ 3. Original "B" Date from permit: 10-1-98  
(Date for completion of construction)

✓ 4. Original "C" Date from permit: 10-1-99  
(Date for complete application of water)

✓ 5. Extension PFO Date: 7-26-2005

✓ 6. WRD recommends extending "B" Date to: 10-1-2015  
and extending the "C" Date to: 10-1-2015

✓ 7. Any conditions from PFO: Yes - Progress Report in 2010

✓ 8. Protest Deadline Date from PFO: 9-9-2005

✓ 9. Any written Protests or written Comments received within the Protest period?  
Yes /  No

Reviewer's Name: [Signature] Date: 9-15-05

Subject: Request for Extension of Permit Expiration Dates (Permits #G-12571 and #G-12595)

Date: Tue, 19 Jul 2005 17:56:58 -0700

X-Security: MIME headers sanitized on kettle.wrd.state.or.us

File # G-13711

See <http://www.impsec.org/email-tools/sanitizer-intro.html>  
for details. \$Revision: 1.139 \$Date: 2003-09-07 10:14:23-07

X-MS-Has-Attach:

X-MS-TNEF-Correlator:

Thread-Topic: Request for Extension of Permit Expiration Dates (Permits #G-12571 and #G-12595)

Thread-Index: AcWMtkPkXKmMYpCpRb2krd9aCmQoqAADY59w

From: "Terry Thomas" <tthomas@ormat.com>

To: "Lisa Juul" <Lisa.J.JUUL@wrd.state.or.us>

Cc: "Terry R. Thomas" <trthomas@emacorp.com>,  
"Dan Schochet" <DSchochet@ormat.com>, "Andy Denning" <aDenning@ormat.com>,  
"Chris

"Chris

Clark" <cclark@ormat.com>

X-OriginalArrivalTime: 20 Jul 2005 00:57:50.0999 (UTC) FILETIME=[0DA0EA70:01C58CC6]

X-ESAFE-STATUS: Mail clean

X-ESAFE-DETAILS: Clean

X-Spam-Checker-Version: SpamAssassin 2.63 (2004-01-11) on  
kettle.wrd.state.or.us

X-Spam-Status: No, hits=-0.6 required=5.0 tests=BAYES\_10,HTML\_70\_80,  
HTML\_FONTCOLOR\_UNKNOWN,HTML\_MESSAGE autolearn=no version=2.63

X-Spam-Level:

-->

Dear Ms. Juul:

RECEIVED  
JUL 19 2005  
WATER RESOURCES DEPT  
SALEM, OREGON

Please accept this correspondence as a formal request by Ormat (ORNI 4, LLC) for an extension of the following permits from their current expiration date of October 1, 2006, to October 1, 2015.

1. Application #G-13710 (Permit #G-12571)
2. Application #G-13711 (Permit #G-12595)

Ormat is currently unable to construct the project and will not be able accomplish the full beneficial use of the water requested by October 1, 2006. Ormat is attempting to identify a buyer for the geothermal energy that can be produced from our geothermal leases in the Newberry area, but, to date, we have been unable to identify a buyer to enable continued geothermal exploration and development of the resource. The requested extension will provide Ormat with time to secure a power purchase agreement to allow the project to move forward. The 10-year extension request should provide sufficient time to perfect the requested beneficial use of the water.

Thank you for your assistance. Please do not hesitate to contact our office if you should have any questions or need any additional information.

Respectfully,

Terry Thomas  
Ph # 530-246-8117

Terry R. Thomas

Acting Regulatory Affairs Administrator

ORNI 4, LLC

Terry R. Thomas, D.Env.

Contact Information:

EMA - Redding, CA

Ormat - Sparks, NV

Tel: 530.246.8117

Tel: 775.356.9029

or

Fax: 530.246.8117

Fax: 775.356.9039

[tthomas@emacorp.com](mailto:tthomas@emacorp.com)

[tthomas@ormat.com](mailto:tthomas@ormat.com)

RECEIVED  
JUL 19 2005  
WATER RESOURCES DEPT  
SALEM, OREGON

Application # G-13711 / Permit # G-12595

## Route Slip ... Extension of Time

*per Division 315 Rules... (Extensions received on July 1, 2001 or after)*

◆  **WRIG...**

Money Received on: \$100.00 7/1/2002

◆ **Lisa Juul...**

Extension Completeness: [Signature]  
( If **NOT** complete, send certified letter requesting add'l information. )

***If Extension Appl complete and \$250 fee submitted, route to...***

◆ **Jonnine Fuss...**

Publish on Public Notice (initial 30-day comment): 7/16/2002

**Update "cdatewext.DB" Database:**

In the "PNotice Date" field... Enter the date the Extension Application was published on the Public Notice.

In the "Ext Filed" field... Enter the date the Extension Application was received.

***At the close of the Initial 30-day Comment Period...***

◆ **Lisa Juul...**

Pull files for Ext PFO review: \_\_\_\_\_

Extension PFO completed: \_\_\_\_\_

POD

***Once Extension PFO signed by Dwight French...***

◆ **Jonnine Fuss...**

Prepare Ext PFO for mailing to applicant: \_\_\_\_\_

Mail to those who commented **and** paid copy fee: \_\_\_\_\_

Include Ext PFO on weekly Public Notice: \_\_\_\_\_

Application # G-13711 / Permit # G-12595

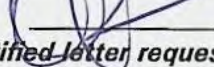
## Route Slip ... Extension of Time

*per Division 315 Rules... (Extensions received on July 1, 2001 or after)*

◆  **WRIG...**

Money Received on: \$100.00 7/1/2002

◆ **Lisa Juul...**

Extension Completeness:   
( If **NOT** complete, send certified letter requesting add'l information. )

***If Extension Appl complete and \$250 fee submitted, route to...***

◆ **Jonnine Fuss...**

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**Update "cdatewext.DB" Database:**

In the "PNotice Date" field... Enter the date the Extension Application was published on the Public Notice.

In the "Ext Filed" field... Enter the date the Extension Application was received.

***At the close of the Initial 30-day Comment Period...***

◆ **Lisa Juul...**

Pull files for Ext PFO review: \_\_\_\_\_

Extension PFO completed: \_\_\_\_\_

***Once Extension PFO signed by Dwight French...***

◆ **Jonnine Fuss...**

Prepare Ext PFO for mailing to applicant: \_\_\_\_\_

Mail to those who commented **and** paid copy fee: \_\_\_\_\_

Include Ext PFO on weekly Public Notice: \_\_\_\_\_

Updated

# EXTENSION REVIEW CHECKLIST for PFO... Div. 315 - Regular

Application #: G - 13711 / Permit #: G - 12595

Permittee's Name: ORNI 4 LLC; ATTN: Christy L. Morris

Permittee's Mailing Address: 980 Grey St., Sparks, NV, 89431

POD Location: Township 21 S Range 12 E Section 16, 20, 21, 28, 29  $\frac{1}{4}$  - See Permit -

Drainage Basin: #5 - Deschutes County: Deschutes Watermaster District #: 11 - Jeremy Giffin, Bend

✓1. Has the applicant submitted the appropriate fee? Yes / No  
\*\*\*If "No"..... STOP. (Extension of Time cannot be processed if insufficient fees submitted.)  
\*\*\*NOTE: Any missing Extension information that is needed before an Extension PFO can be completed???

✓2. Has the applicant completely filled out the Extension Application form? Yes / No  
\*\*\*If "No"..... List the shortcomings below and send a letter requesting the additional/missing information that is needed before the Extension of Time can be processed.

✓3. Date Permit was issued: 7/8/1996 Priority Date: June 10, 1994

✓4. Source: Six (6) Wells within the Paulina Creek Basin

✓5. Use: Industrial Use

✓6. "Q": 3.56 cubic feet per second (cfs)

✓7. Orig "A" Date: 7/8/1997 Orig "B" Date: 10/1/1998 Orig "C" Date: 10/1/1999

✓8. Conditions of Permit:  
→ Before Water Use begins:  
• install meter/measuring device  
• keep a complete record of amt. of water used each month  
→ Develop a plan to monitor & report the impact of water use on water levels within the aquifer. (see Permit)

✓9. Extension request received: 7/1/2002 Request Number (...1<sup>st</sup> 2<sup>nd</sup>, 3<sup>rd</sup>): 1<sup>ST</sup>

✓10. Last Authorized "B" Date: 10/1/1998 Last Authorized "C" Date: 10/1/1999

✓11. Proposed "B" Date: 10/1/2015 Proposed C Date: 10/1/2015

✓12. Amount Invested to date: ~~\$1,000,000.00~~ Estimated Total Cost: ~~\$79,000,000.00~~

\* \$1,500,000.00  
\*\*\*Estimated Remaining Cost: \$78,000,000.00  
\* See Attachment I to Ext Appl. - rcvd 7-1-02.

13. The water project development made to date has been accomplished in accordance with the terms and conditions contained in the permit Yes / No \*\*\*If "No"..... What permit terms and/or conditions have not been met?

Yes - "A" date met (No "producing" well has been constructed)  
(Test wells constr. began in 1996) No water has been used  
Submitted Monitor & Report Plan.

14. Work on the water development project completed to date includes:  
• Four exploration wells drilled completed, & tested by original permit holder  
• A 6th well was started but not completed, later plugged and abandoned. Integrity testing performed on select wells by current permit holders.  
15. The work remaining to be completed consists of:  
• complete the construction of the water system ORNI 4)  
• accomplish beneficial use of water to full extent.

16. Progress in perfecting the permit is being held up by:  
• Change in land ownership  
• Size & scope of project

17. Has the applicant pursued perfection of the right in good faith and with reasonable diligence? Yes / No

**Some Factors that may be considered in determining "Reasonable Diligence" [OAR 690-315-040(3)]**  
a. The amount of construction completed within the time allowed in the permit or previous extension;  
b. The amount of beneficial use made of the water during the permit or previous extension time limits;  
c. Water right permit holder conformance with the permit or previous extension conditions; and  
d. Financial investments made toward developing the beneficial water use.

- Permit holder has completed approximately 1 % of the construction.
- Permit holder has beneficially used 0 % of the total permitted quantity of water.
- Has the permit holder complied with conditions? Yes / No  
—If No, reasons why not? \_\_\_\_\_
- Permit holder has invested approximately 2 % of the total estimated cost to complete the project.
- Other: \_\_\_\_\_

18. Determination of the market and the present demand for water or power to be supplied: \_\_\_\_\_

**Some factors to consider in determining the Market and the Present Demand for water or power [OAR 690-315-040(4)]:**  
a. The amount of water available to satisfy other affected water rights and scenic waterway flows;  
b. Special water use designations established since permit issuance (such as...state scenic waterways, federal wild and scenic rivers, serious water management problem areas, water quality limited sources, etc.);  
c. The habitat needs of sensitive, threatened or endangered species, in consultation with ODFW;  
d. Economic investment in the project to date;  
e. Other economic interests dependent on completion of the project; and  
f. Other factors relevant to the determination of the market and the present demand for water or power.

Is the POD/POA located... Remained same in FO for permit dated 11-30-95 \* Appl. for Permit PFO issued on 9-26-95 stated that GW Div 9 review determined, will if properly cond. adequately protect SW from interference.  
• If a GW permit, is GW hydraulically connected to SW (see original Div. 09 GW review)? Yes - see above  
• within or above a state scenic waterway? Yes - Deschutes R.  
• within a ground water limited/critical area? Yes - located within a GW Study Area - Deschutes  
• within a segment that has been identified as a federal wild and scenic river? Yes - Deschutes R.  
• within an area that ODFW has identified as an ST&E Area? Yes  
• within an area that ODFW has identified as a "Low" Needs Ranking Area for streamflow restoration for fish?  
• within an area that DEQ has identified as being water quality limited? Yes - Paulina Creek of Deschutes River  
• Other: \_\_\_\_\_  
\* But is above portions of the Deschutes River that are identified as "High" Needs Ranking Areas.

19. Based on the written record, can the Department make a finding of "Good Cause" to approve the extension request?

Yes... "Good Cause" can be found. → Approval of Extension Request

No ... "Good Cause" cannot be found. → Denial of Extension Request

20. Conditions to be included in Extension PFO (if applicable)? Yes / No  
(NOTE: Check the file record for documentation to add a condition(s) at the extension stage.)

5-year Progress Report Checkpoints in 2010

Other: \_\_\_\_\_

21. Footnote regarding Claim of Beneficial Use. Choose the appropriate language below and insert as a footnote in the PFO:

~~COBU Requirement - Surface/Ground Water - on or prior to July 9, 1987~~

~~"For permits applied for or received on or before July 9, 1987, upon complete development of the permit, you must notify the Department that the work has been completed and either: (1) Hire a water right examiner certified under ORS 537.798 to conduct a survey, the original to be submitted as required by the Water Resources Department, for issuance of a water right certificate; or (2) Continue to appropriate water under the water right permit until the Water Resources Department conducts a survey and issues a water right certificate under ORS 537.250 or 537.625."~~

~~COBU Requirement - Surface Water - post July 9, 1987~~

~~"Pursuant to ORS 537.230(3), upon the completion of beneficial use of water allowed under the permit, the permittee shall hire a certified water rights examiner to survey the appropriation. Within one year after the complete application of water to a beneficial use (or by the date allowed for the complete application of water to a beneficial use), the permittee shall submit a map of the survey and the claim of beneficial use."~~

COBU Requirement - Ground Water - post July 9, 1987

"Pursuant to ORS 537.630(3), upon the completion of beneficial use of water allowed under the permit, the permittee shall hire a certified water rights examiner to survey the appropriation. Within one year after the complete application of water to a beneficial use (or by the date allowed for the complete application of water to a beneficial use), the permittee shall submit a map of the survey and the claim of beneficial use."

NOTES:

Extension "PFO" Dates

Checklist Last Revised: 3/4/ 2004

Mailing / Issuance Date: \_\_\_\_\_

CASEWORKER:  
WRD Project Manager: Travis Brand  
Date: 7-18-05

Protest Deadline Date: \_\_\_\_\_

# EXTENSION REVIEW CHECKLIST for PFO... per Div. 315 Rules

Application #: G-13711 / Permit #: G-12595

Permittee's Name: ORNI 4, LLC - Attn: Christy L. Morris

Permittee's Mailing Address: 980 Greg St., Sparks, NV, 89431

POD Location: Township 21-S Range 12-E Section 16, 20, 21  
28 & 29 1/4 - See Permit

Stream Basin: Little Desc R. & Misc County: Deschutes

✓1. Has the applicant completely filled out the updated Extension Application form? Yes / No  
\*\*\*If "No"..... has certified request for the new extension form been sent? Yes / No

✓\$100.00 - Yes

\_\_\_2. Shortcomings of Extension Request..... based upon review of updated extension form Yes / No  
\*\*\***(NOTE: Any missing Extension information that is needed before an Extension PFO can be completed???)**

Plan to monitor & report impacts of water use - shall be submitted within one year of permit issuance.

✓3. Date Permit was issued: 7-8-96

✓4. Source: Six Wells, in Paulina Creek Basin

✓5. Use: Industrial Use

✓6. "Q": 3.56 cfs / Orig "A" Date: 7-8-97

✓7. Original "B" Date: 10-1-98 Original "C" Date: 10-1-99

✓8. Conditions of Permit: \_\_\_\_\_

• See attached highlighted copy of the permit.

✓9. Extension request received: 7-1-2002 Request Number (...1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>): 1<sup>st</sup>

✓10. Last Authorized "B" Date: 10-1-98 Last Authorized "C" Date: 10-1-99

✓11. Proposed "B" Date: 10-1-2006 Proposed C Date: 10-1-2006

✓12. Amount Invested to date: \$1,000,000.00 Estimated Total Cost: \$79,000,000.00

(\*\*\*Estimated Remaining Cost: \$78,000,000.00\*)

Refer to Updated Extension Review Checklist for PFO

\_\_\_13. The water project development made to date has been accomplished in accordance with the terms and conditions contained in the permit. **Yes / No** \*\*\*If "No"..... What permit terms and/or conditions have not been met?

\_\_\_14. Work on the water development project completed to date includes: \_\_\_\_\_

\_\_\_15. The work remaining to be completed consists of: \_\_\_\_\_

\_\_\_16. Progress in perfecting the permit is being held up by: \_\_\_\_\_

\_\_\_17. Has the applicant pursued perfection of the right in good faith and with reasonable diligence? **Yes / No**

**Some Factors that may be considered in determining "Reasonable Diligence" [OAR 690-315-040(3)]**

- a. The amount of construction completed within the time allowed in the permit or previous extension;
- b. The amount of beneficial use made of the water during the permit or previous extension time limits;
- c. Water right permit holder conformance with the permit or previous extension conditions; and
- d. Financial investments made toward developing the beneficial water use.

\_\_\_18. Determination of the market and the present demand for water or power to be supplied: \_\_\_\_\_

**Some factors to consider in determining the Market and the Present Demand for water or power [OAR 690-315-040(4)]:**

- a. The amount of water available to satisfy other affected water rights and scenic waterway flows;
- b. Special water use designations established since permit issuance (such as...state scenic waterways, federal wild and scenic rivers, serious water management problem areas, water quality limited sources, etc.);
- c. The habitat needs of sensitive, threatened or endangered species, in consultation with ODFW;
- d. Economic investment in the project to date;
- e. Other economic interests dependent on completion of the project; and
- f. Other factors relevant to the determination of the market and the present demand for water or power.

\_\_\_19. Based on the written record, can the Department make a finding of "Good Cause" to approve the extension request?

**Yes... "Good Cause" can be found. → Approval of Extension Request**

**No ... "Good Cause" cannot be found. → Denial of Extension Request**

\_\_\_20. Conditions to be included on Extension PFO: \_\_\_\_\_

**Extension "PFO" Dates**

*Checklist Last Revised: 9 / 12 / 2001*

**Mailing / Issuance Date:** \_\_\_\_\_ **Reviewer's Name:** \_\_\_\_\_

**Protest Deadline Date:** \_\_\_\_\_ **Date:** \_\_\_\_\_

WORK  
COPY

STATE OF OREGON  
COUNTY OF DESCHUTES  
PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

C E EXPLORATION CO.  
34 NW FIRST AVENUE, SUITE 302  
PORTLAND, OREGON 97209

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-13711

SOURCE OF WATER: SIX (6) WELLS WITHIN THE PAULINA CREEK BASIN

PURPOSE OR USE: INDUSTRIAL USE

QUANTITY: 3.56 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: JUNE 10, 1994

POINT OF DIVERSION LOCATION: NW 1/4 SE 1/4, SECTION 16, SE 1/4 NE 1/4, SECTION 20, SE 1/4 SE 1/4, SECTION 21, SE 1/4 NW 1/4, SECTION 21, NE 1/4 NW 1/4, SECTION 28, SE 1/4 NE 1/4, SECTION 29, T21S, R12E, W.M.; WELL #1 - 1980 FEET SOUTH AND 1980 FEET EAST OF THE NW CORNER OF SECTION 21, WELL #2 - 4620 FEET SOUTH AND 4620 FEET EAST OF THE NW CORNER OF SECTION 21, WELL #3 - 4620 FEET NORTH AND 1980 FEET EAST OF THE SW CORNER OF SECTION 28, WELL #4 - 1980 FEET NORTH AND 3300 FEET EAST OF THE SW CORNER OF SECTION 16, WELL #5 - 1980 FEET SOUTH AND 660 FEET WEST OF THE NE CORNER OF SECTION 20, WELL #6 - 3300 FEET NORTH AND 660 FEET WEST OF THE SE CORNER OF SECTION 29

THE PLACE OF USE IS LOCATED AS FOLLOWS:

- SE 1/4 SW 1/4
- SECTION 11
- NE 1/4 NW 1/4
- SW 1/4 NW 1/4
- SECTION 14
- NW 1/4 NE 1/4
- SE 1/4 NE 1/4
- NE 1/4 NW 1/4
- NW 1/4 SW 1/4
- SE 1/4 SW 1/4
- NE 1/4 SE 1/4
- NW 1/4 SE 1/4
- SECTION 15

NE 1/4 NE 1/4  
SW 1/4 NE 1/4  
NE 1/4 NW 1/4  
SE 1/4 NW 1/4  
NE 1/4 SW 1/4  
SE 1/4 SW 1/4

SECTION 21

SW 1/4 NW 1/4

SECTION 22

NW 1/4 NE 1/4

SW 1/4 NW 1/4

SE 1/4 SW 1/4

SECTION 28

TOWNSHIP 21 SOUTH, RANGE 12 EAST, W.M.

NE 1/4 NW 1/4

NE 1/4 SW 1/4

SECTION 4

SE 1/4 NW 1/4

SECTION 9

TOWNSHIP 22 SOUTH, RANGE 12 EAST, W.M.

Measurement, recording and reporting conditions:

Water NOT used yet

A. <sup>OK</sup> Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further, the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.

B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

FJ - SWW cond.

This use may be regulated if analysis of data available after the permit or certificate is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department

approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

- ③ The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

#### STANDARD CONDITIONS

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.



Permit	Certificate	Pod	Stat_lu	Source	Logid lu	Main aq	Userid lu	Priority	Basin_lu	County	Township	Range	S	QQ	Q					
G	12595	0	1	V	WE		28750	6/10/1994	5	DESC	21.00 S	12.00 E	21	SE	NW					
Condition type / Action status												PLAN	SWL	Other measured wells not on permit:		swl required	Y			
Date of last notice												2/21/2002	Related permits (same appl num)		swl frequency	N				
Impact plan: Submitted / Approved												N	N	Logid	Main aq	Permit	Cert Status	swl month	N	
Compliance: This yr / Overall												N	N			G	12595	0	V	N
Compliance reviewed by												CRAIG KOHANEK						swl duration	N	
Compliance letter sent																		decline trigger	0/0/25/0	
Month / Yr use began																		decl trig shutoff	Y	
Ref level gw																		reference level		
Ref lvl det by																		ref level date		
Trigger activated																		impact plan	Y	
Well not drilled as of																		supply plan	N	
App file check / Date												Y	9/4/2001					limit duration	N	
Comments																		limit date		
Other conditions												N						meter required	Y	
																		record water use	Y	
																		report water use	Y	

Redrill Logid	Max Depth	Type Work	Compl Date	Correlated By	Comment

**Current owner from pump\_test\_owners file:**

name f / l	name other	C.E. EXPLORATION CO.
contact	email	
address	phone / fax	
city / st / zip	comment	
PORTLAND OR 97209		

Reported water levels for the specified well. No water levels will be present if a well log has not been correlated to the water right. in wris\_logids file.

Date	Status	Method	MP hgt	Rpt WL	Measured by	Source Organiz	Source OWRD	Comments

File # G-13711  
 (Permit # G-12595)  
 printed by L. Juel on 7-8-02











From: "Mike Zwart" <Mike.j.zwart@wrd.state.or.us>  
To: "Trevor Brandt" <Trevor.R.BRANDT@wrd.state.or.us>  
Subject: Re: App. G-13710 & G-13711

Trevor,

The letter of May 12, 2004, is the last I heard from the permittee. No data have been provided to date. The plan I have conditionally approved required a July 2004 measurement.

Mike Zwart

----- Original Message ----- From: "Trevor Brandt" <Trevor.R.BRANDT@wrd.state.or.us>  
To: <Mike.j.zwart@wrd.state.or.us>  
Sent: Thursday, April 21, 2005 2:36 PM  
Subject: App. G-13710 & G-13711

Mike,

Hey, it's Trevor again from extensions. I have another question, this time concerning Apps. G-13710 & G-13711 (Permits G-12571 & G-12595, respectively) assigned to ORNI 4 LLC.  
...snip...

... faithful to the conditions set forth in the permit concerning periodic measurements.

Thanks for your help.  
-Trevor

To: Mike.j.zwart@wrд.state.or.us  
Subject: App. G-13710 & G-13711

Mike,

Hey, it's Trevor again from extensions. I have another question, this time concerning Apps. G-13710 & G-13711 (Permits G-12571 & G-12595, respectively) assigned to ORNI 4 LLC.

In the file folder, there is some correspondence from you dated May 12, 2004, stating that you can approve the monitoring plan ORNI 4 submitted, except for one modification and a possible clarification (those being: changing the date for annual reporting to September 1st and clarifying that you expect a July 2004 measurement for well DESC 10060 to be made and reported).

Essentially, I'd like to know if any such measurements and reports have been made since you last requested them before I go ahead and draft a PFO for these permits, and if, to the best of your knowledge, the applicant has remained faithful to the conditions set forth in the permit concerning periodic measurements.

Thanks for your help.  
-Trevor



# Oregon

Theodore R. Kulongoski, Governor

Water Resources Department  
North Mall Office Building  
725 Summer Street NE, Suite A  
Salem, OR 97301-1271  
503-986-0900  
FAX 503-986-0904

May 12, 2004

(503) 986-0844

Ms. Christy L. Morris  
Regulatory Affairs Administrator  
ORNI 4, LLC  
980 Greg Street  
Sparks, NV 89436

Re: Permits G-12571 and G-12595

Dear Ms. Morris:

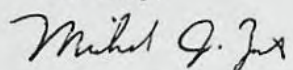
I have reviewed your letter of April 7, 2004 and the revised water-level monitoring plan which was included. Except for one modification and a possible clarification, I can approve the plan. I recommend that the date for annual reporting of the data be changed to September 1<sup>st</sup>. The permit anniversary is July 8<sup>th</sup>, which, given that July is specified as the month of measurement, is not very suitable. Also, as a point of clarification, I would expect a July 2004 measurement for well DESC 10060 to be made and reported. I believe this well is currently in idle status, as per your plan language. If this is not your intent, then we should discuss this.

The plan can be amended at any time upon request or as directed. This could be done in the event that the plan becomes difficult to comply with once all wells are bought into production. The measurement schedule can be revised or substitute wells can be included if necessary.

Based on a review of these files, I believe that the proposed uses contemplate normal temperature ground water, as is produced at well DESC 10060. The proposed uses listed in the applications include: geothermal power plant cooling tower, project construction, dust control, drilling water for geothermal development and fire control. These uses appear to be ancillary to the production of geothermal fluids for power generation, which, as stated in my letter of March 2, 2004, is managed and permitted by a separate state agency. I am revisiting this issue because your repeated statements of concern regarding the potential to shut down producing wells being "highly costly and risky" would appear to apply primarily to wells used for the production of geothermal resources, rather than for the above listed ancillary uses.

Finally, I would like to state that it was not my intent to prevent the use of the well by you or the U. S. Forest Service. I was offering to install our equipment in the well if you decided to remove the pump. Then this monitoring plan could have merely acknowledged that agreement. Please call me if you have additional questions or concerns.

Sincerely,

A handwritten signature in cursive script that reads "Michael J. Zwart".

Michael J. Zwart  
Hydrogeologist



# Oregon

John A. Kitzhaber, M.D., Governor

## Water Resources Department

Commerce Building  
158 12th Street NE  
Salem, OR 97301-4172  
(503) 378-3739  
FAX (503) 378-8130  
[www.wrd.state.or.us](http://www.wrd.state.or.us)

December 19, 2002

(503) 378-8455 ext. 207

Ms. Christy L. Morris  
Regulatory Affairs Administrator  
ORNI 4, LLC  
980 Greg Street  
Sparks, NV 89436

Re: Permits G-12571 and G-12595

Dear Ms. Morris:

I have received and reviewed your revised water-level monitoring plan, dated December 11, 2002, and have approved the plan in concept. However, the plan should eventually be amended to specify a period of measurement, ie. the month of March. You should propose the measurement period for the time of year when water levels are highest or for a period when water use is likely to be minimal. This measurement plan does not include water use data, so the flow meter information is not required. Check your permits to determine if you need to measure and report water use. If so, our contact for water-use reporting is Mary Graine at extension 333.

I will place a copy of the plan and this letter in the appropriate water rights files. Call me if you have additional questions.

Sincerely,

Michael J. Zwart  
Hydrogeologist

# Permit Extension Ground Water Review

Date: July 16, 2002  
To: Fred Lissner, Ground Water Section Manager  
From: Lisa Juul, Permit Extension Review  
Subject: Ground Water Review Needed for File # G-13711 / Permit # G-12595

The above referenced permit is currently being reviewed for an extension of time. Before I can determine whether or not an extension of time should be granted, however, a Ground Water review for this file is necessary due to the following:

**NOTE:** Original Division-9 review <sup>SWW</sup> completed by: Ken Lite

- No Division 9 Ground Water Review Done.... **please see below**
- Located within a **Critical** Ground Water Area
- Located within a Ground Water **Limited** Area
- Located within a Ground Water **Study** Area - Deschutes
- 5-Year Limited Permit
- Other: Also - please see Questions below

? - No copy of Ken a Div 9 Review in the file. **For Ground Water / Hydrology Staff Use:** Ken 12/3/02  
Or provide a copy if already done.

YES  NO **Please complete a Div. 9 and Scenic Waterway (SWW) Review for this file.** Due to the early priority date associated with this permit, no prior Div. 9 or SWW review was ever done.

There is a SWW Finding from Ken Lite, however.

**Please answer the following questions. If necessary, attach an additional sheet.**

1. Should any additional conditions be added to this permit? NO
2. Should the extension of time request be further conditioned or **DENIED** due to ground water supply concerns? NO
3. Should the Department establish a new reference level for water level declines due to the failure of permittee to submit annual measurements? NO
4. Other issues or concerns? NO



# Oregon

Theodore R. Kulongoski, Governor

ESU 005 7/16/04

App# G-13711

Water Resources Department

Commerce Building  
158 12th Street NE  
Salem, OR 97301-4172  
503-378-3739  
FAX 503-378-8130

February 7, 2003

G 12595  
ORNI 4 LLC  
980 GREG STREET  
SPARKS, NV 89436

RE: Deschutes Ground Water Mitigation Rules, Division 505  
Deschutes Basin Mitigation Bank and Mitigation Credit Rules, Division 521

Dear Water Right Permit Holder:

Our records indicate that you are the holder of a ground water permit issued by the Department after July 17, 1995, in the Deschutes Basin Ground Water Study Area (Study Area). Your permit (or subsequent certificate) was issued with a condition allowing for regulation of use if it was later determined that the use would "measurably reduce" scenic waterway flows in the Deschutes River.

As you may be aware, the Department has been working over the last several years to develop administrative rules that address the impact of ground water use in the Study Area upon surface water flows—specifically those flows designated for the Deschutes Scenic Waterway and Instream Water Rights. Recently, the Department finalized the Deschutes Ground Water Mitigation Rules and Deschutes Basin Mitigation Bank and Mitigation Credit Rules. The rules were adopted by the Water Resources Commission (WRC) on September 13, 2002, and were effective on September 27, 2002. Copies of the rules can be obtained from the Department's web page at:

<http://www.wrd.state.or.us/law/oar1999.shtml>

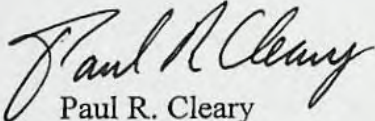
The primary purpose of the rules is to provide a mechanism for those with pending ground water use applications in the Study Area to mitigate for the impact of their proposed ground water use on surface water flows. The rules do not require those with existing conditioned ground water permits (or subsequent certificates) in the Study Area to mitigate for their ground water uses.

While **only** those requesting new ground water uses from the Department are required to provide mitigation, the rules provide an opportunity for holders of existing conditioned permits to provide mitigation. Holders of existing conditioned permits that provide mitigation will no longer be subject to future regulation for scenic waterway flows.

Department staff are presently working internally to develop the processes and structure to implement the new rules. While you are not required to mitigate for your ground water use, we will be sending you a letter, sometime within the next several months, letting you know what you would need to do if you choose to mitigate for your ground water use. You may also receive additional information updates from the Department in our effort to keep you informed.

If you have any questions about the new administrative rules for the Deschutes Basin and the mitigation opportunity described in the rules; or would like to request a copy of the new rules, please contact Laura Snedaker at (503) 378-8455, extension 331, or by e-mail at [Laura.K.Snedaker@wrд.state.or.us](mailto:Laura.K.Snedaker@wrд.state.or.us).

Sincerely,



Paul R. Cleary  
Director

c: Kyle Gorman, South Central Region Manager  
Jeremy Giffin, District 11 Watermaster  
Deschutes Steering Committee Members



# Oregon

John A. Kitzhaber, M.D., Governor

## Water Resources Department

Commerce Building  
158 12th Street NE  
Salem, OR 97301-4172  
(503) 378-3739  
FAX (503) 378-8130  
[www.wrd.state.or.us](http://www.wrd.state.or.us)

October 10, 2001

ORNI 4 LLC  
980 GREG STREET  
SPARKS, NV 89431-6039

REFERENCE: File G-13710 & G-13711

The assignment of Permit G-12571 & G-12595 from C E Exploration Co to you has been recorded in the records of the Water Resources Department.

Our records have been changed accordingly and the original is enclosed along with your receipt number 47985 covering the recording fee of \$25 you submitted.

Sincerely,

JERRY SAUTER  
Water Rights Program Analyst

Enclosure

cc: Watermaster #11  
Data Center, OWRD  
Jerry Powell, CWRE  
C E Exploration Co, 551 West Main, Brawley, CA 92227

RECEIVED

SEP 04 2001

WATER RESOURCES DEPT.  
SALEM, OREGON

# REQUEST FOR ASSIGNMENT

I, CE Exploration Company C/o CE Operating Company  
 (Name of Applicant / Permit Holder)  
 551 West Main Brawley CA 92227 (760) 351-3052  
 (mailing address) (City) (State) (Zip) (Phone #)

### CHECK ONE

- ...hereby assign ***all my interest*** in and to application/permit;
- ...hereby assign ***all my interest*** in and to a ***portion*** of application/permit;  
*(You must include a map showing the portion of the application/permit to be assigned.)*
- ...hereby assign ***a portion of my interest*** in and to the ***entire*** application/permit.

Application # G-13711 G-12595  
G-13710 , Permit # G-12571 ;  
 -OR-

GR Statement # \_\_\_\_\_, GR Certificate of Registration # \_\_\_\_\_

as filed in the office of the Water Resources Director, to:

ORNI 4 LLC  
 (Name of New Owner)  
 980 Greg Street Sparks NV 89431-6039 (775) 356-9029  
 (mailing address) (City) (State) (Zip) (Phone #)

*ok  
 approved  
 JS*

**NOTE:** *If there are other owners of the property described in this Application, Permit or Certificate of Ground Water Registration, you must provide a list of all other owners' names and mailing addresses and attach it to this form.* US Forest Service, Deschutes National Forest  
 1645, Hwy 20, Bend, OR 97701

I hereby certify that I have notified all other owners of the property described in this Application, Permit or Certificate of Registration of this request for assignment.

Witness my hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
 Applicant/Permit holder *[Signature]*  
 Applicant/Permit holder \_\_\_\_\_

**DO NOT WRITE IN THIS BOX**  
**STATE OF OREGON.**

County of Marion. }  
 I certify that the within was  
 received by me on the 4 day of  
Sep at 8 o'clock  
AM and  
19  
 \_\_\_\_\_  
 Recording Director

The completed "Request for Assignment" form *must be* submitted to the Department along with the appropriate recording fees:

- ◆ \$25 for the first page, and
- ◆ \$5 for ***each additional page.***  
*[as required by ORS 536.050(1)(d)]*

**WATER RESOURCES DEPARTMENT**  
**158 12<sup>TH</sup> STREET NE**  
**SALEM, OREGON 97301-4172**


STATE OF OREGON  
**WATER RESOURCES DEPARTMENT**

RECEIPT # **47985**

158 12TH ST. N.E.  
 SALEM, OR 97310-0210  
 378-8455 / 378-8130 (FAX)

INVOICE # \_\_\_\_\_

RECEIVED FROM: ORMAT NEVADA INC.  
 BY: \_\_\_\_\_

APPLICATION	G-13711
	G-13710
TRANSFER	

CASH:  CHECK: #  94-72 OTHER: (IDENTIFY)

TOTAL REC'D \$ 25.00

<b>0417 WRD MISC CASH ACCT</b>	
ADJUDICATIONS	\$
PUBLICATIONS / MAPS	\$
OTHER: (IDENTIFY)	\$
OTHER: (IDENTIFY)	\$

<b>REDUCTION OF EXPENSE</b>	CASH ACCT.	\$
PCA AND OBJECT CLASS	VOUCHER #	

<b>0427 WRD OPERATING ACCT</b>	<u>66111</u>	
MISCELLANEOUS		
0407 COPY & TAPE FEES	\$	
0410 RESEARCH FEES	\$	
0408 MISC REVENUE: (IDENTIFY) <u>Assigne</u>	\$ <u>25.00</u>	
(New) TC162 DEPOSIT LIAB. (IDENTIFY)	\$	
WATER RIGHTS:		
0201 SURFACE WATER	EXAM FEE \$	RECORD FEE 0202 \$
0203 GROUND WATER	\$	0204 \$
0205 TRANSFER	\$	0206 \$
WELL CONSTRUCTION	EXAM FEE	LICENSE FEE
0218 WELL DRILL CONSTRUCTOR	\$	0219 \$
LANDOWNER'S PERMIT		0220 \$
OTHER (IDENTIFY)		

<b>0437 WELL CONST. START FEE</b>		
0211 WELL CONST START FEE	\$	CARD #
0210 MONITORING WELLS	\$	CARD #
OTHER (IDENTIFY)		

<b>0539 LOTTERY PROCEEDS</b>	
1302 LOTTERY PROCEEDS	\$

<b>0467 HYDRO ACTIVITY</b>	LIC NUMBER
0233 POWER LICENSE FEE (FWWRD)	\$
0231 HYDRO LICENSE FEE (FWWRD)	\$
HRDRO APPLICATION	\$

RECEIPT # **47985**

DATED: 09/04/01 BY: C. Vance

Distribution-White Copy-Customer, Yellow Copy-Fiscal, Blue Copy-File, Buff Copy-Fiscal



ORNI 4, LLC  
an ORMAT Group Company

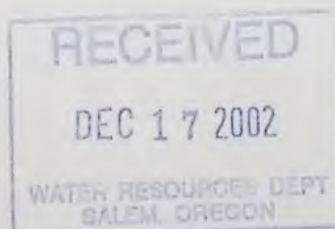
**Newberry Geothermal Power Project  
Proposed Well Monitoring System**

Submitted to: Oregon Water Resources Department  
Reference: Permits No. G-12571 and G-12595

In accordance with the above cited permits, ORNI 4 proposes the following monitoring systems and plan for wells drilled and put to beneficial use. These monitoring systems are well documented and currently in use at many of our affiliate power plants.

1. Water level measurements will be taken at the well(s) on an annual basis.
2. The **Reference Water Level** shall be defined as the first measurement of water level after water use begins in the well.
3. The well identifier shall be that which is designated by the Department.
4. At a minimum wells will be equipped to monitor **Static Water Level** using a nitrogen bubble tube and pressure gauge system. Figure 1 inset diagrams the components of this system. A pressure gauge such as the Ashcroft Duragauge (specification sheet attached Exhibit 1) would be calibrated to reflect changes in water level via pressure changes in the nitrogen tube line. Wells which are used infrequently and on a limited basis may be limited to static water level monitoring. These wells would serve as secondary monitors to those wells in continuous or frequent use.  
  
Those wells which will be dedicated to continuous or frequent use would be equipped additionally with a **Totalizing Flowmeter** using a mechanical propeller flowmeter such as McCrometer's (specification sheet attached Exhibit 2). Figure 1 is a diagram of how this meter would be integrated into the well pump system. A totalizing flowmeter regulates flow rate and records cumulative units (gallons, acre/ft, etc). The mechanical flowmeters do not require outside power sources.
5. Measurement resolution capability of the equipment is provided in Exhibits 1 and 2 in the equipment specification tables.
6. The wells will be measured in the operational mode consistent with the establishment of the reference water level. The reference water level, as stated in Number 2 above will be defined as the first measurement of water level after water use begins in the well.

Page 1 of 1  
Office:  
980 Greg Street  
Sparks, NV 89436  
Tel: (775)356-9029  
Fax: (775)356-9039



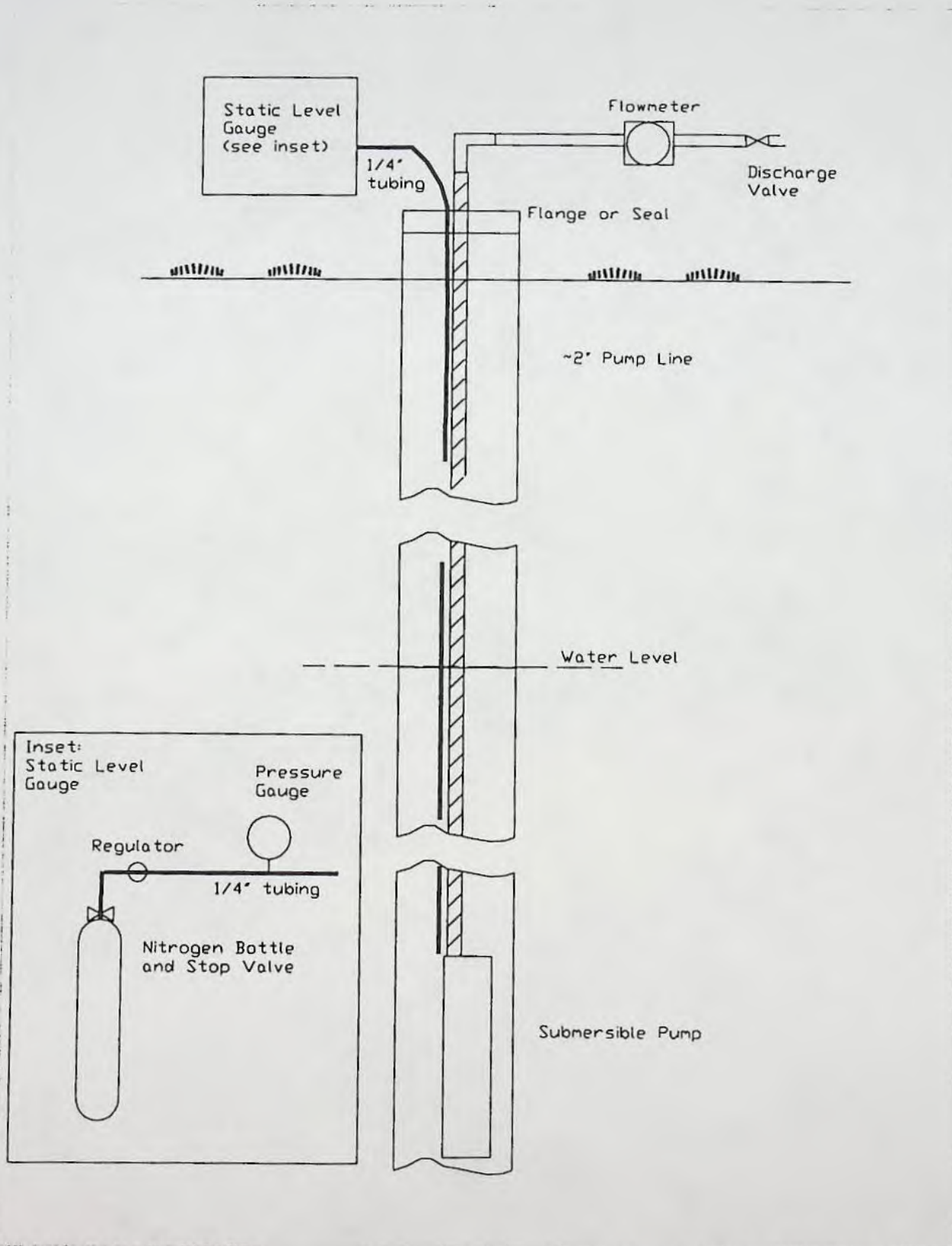
December 11, 2002  
Newberry Monitoring System Prop R1.doc  
Site:  
USFS Road 9735-600  
Spur 685& 687  
Bend OR

G-13711



ORNI 4, LLC  
an ORMAT Group Company

7. Measurements will be obtained by the Power Plant Operational Personnel. These are technicians trained in the operation of geothermal power generating equipment and well maintenance.
  
8. A report of annual well monitoring will be submitted on the permit anniversary or such date as defined by the Department to:  
Water Resources Department  
Ground Water and Hydrology Section  
Commerce Building  
158 12<sup>th</sup> St NE  
Salem, OR 97301-4172



Well Monitoring System.dwg  
7/02 CLM

Newberry Geothermal Power Project  
Proposed Well Monitoring Systems  
Permits No: 12571 and 12785

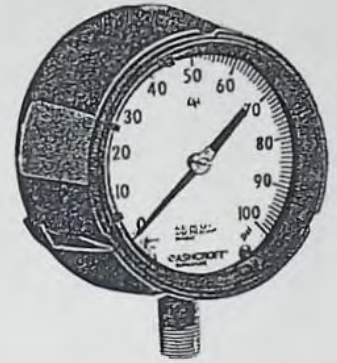
Figure 1

# EXHIBIT 1

## Ashcroft Duragauge Pressure Gauge Specifications Sheet

# Specification Matrix

Ashcroft Duragauge®  
Pressure Gauges



Specifications	Code	Type 1279
Accuracy (ASME B40.1, Grade 2A)		½% Full Scale
Case style	(S)	Solid front (S)
Case material		Black phenolic
Dial size	(45), (60), (85)	4½" (45)
Ring type		Threaded reinforced black polypropylene
Bonded tube		Grade A phosphor bronze
Socket material		Brass silver brazed
Code	(A), (B), (B), (S), (P), (WW)	(A) Available with all case types
Range limits (psi)		Vacuum-1,000
Connection size (NPT)	(02), (04), (09)	¼ NPT (02 optional), ½ NPT (04 standard)
Connection location	(L), (B)	Lower (L), back (B)
Mounting		Stem, flush, surface
Movement		Rotary, 400 st. st., Teflon® coated pinion gear & segment
Window		Glass
Pointer		Micrometer adjustable
<b>Options</b>		
Glycerin fill	(L)	Standard
Silicone fill	(XGV)	Available
Halocarbon fill	(XGX)	Available
Hermetically sealed	(H)	Available
Flush mounting ring	(X56)	Available
Surface mounting bracket	(XBF)	N/A
Flush mounting bracket	(XBQ)	N/A
Duragauge® receiver gauge	(XPR)	Available
Shatterproof glass	(XSG)	Available
Acrylic window	(XPD)	Available
Set hand (red, single, fixed)	(XSH)	Available
Maximum pointer (red)	(XEP)	Available

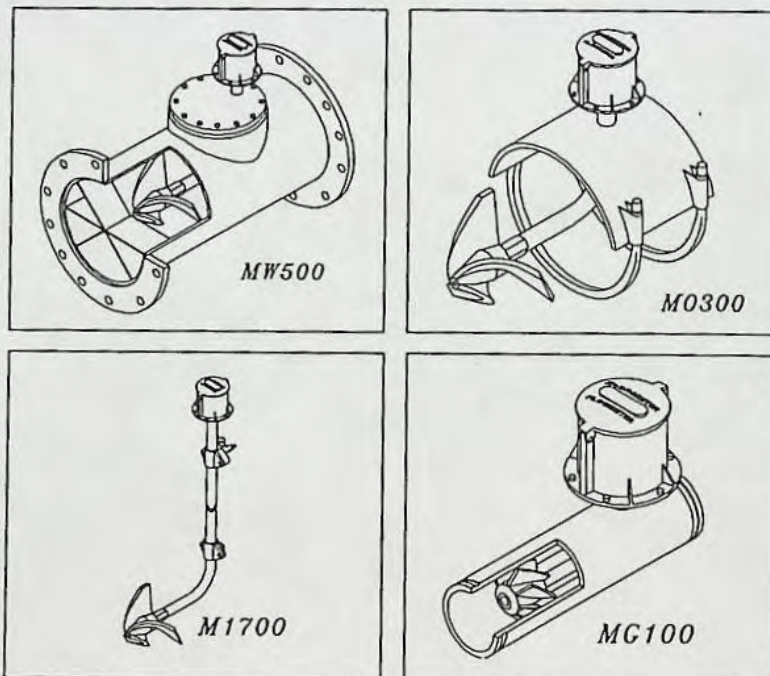
## EXHIBIT 2

### McCrometer Propeller Flowmeters Specification Sheets

# PROPELLER FLOWMETERS

## INTRODUCTION

Propeller flowmeters are widely accepted as a proven technology for measuring flow with high accuracy and excellent repeatability. Ketema/ McCrometer Division produces propeller flowmeters used around the world for agricultural, municipal, and industrial applications.



### TYPICAL APPLICATIONS INCLUDE

- Drip irrigation systems
- Plant effluent
- Sprinkler irrigation systems
- Raw water intake
- Center pivot systems
- Hot water & petroleum mixtures
- Farm turnouts from irrigation districts
- Process batching & chemical feed
- Golf course and park management
- Remote indication, totalizing, & recording
- Commercial nurseries
- Multi-stage pump actuation and control
- Valve actuation and control
- Return activated sludge
- Water and wastewater management

## PRINCIPLES OF OPERATION

The measuring element of a propeller flowmeter consists of a rotating device, called a rotor or propeller. Positioned in the center of the flowstream, the propeller rotates at a velocity proportional to the velocity of the fluid through the flowmeter. This rotation can be transmitted mechanically to a register assembly and the fluid's volumetric flowrate and accumulated volume can then be displayed.

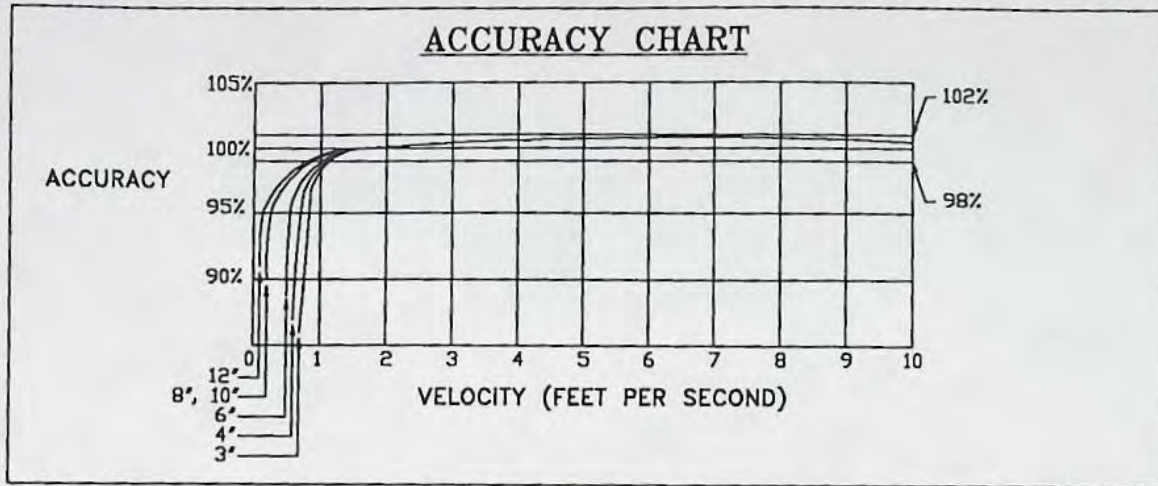
### GENERAL SPECIFICATIONS

Sizes Available	2" to 96"
Flowrates Available	35 to 75,000 GPM
Turndown	up to 15:1
Accuracy	$\pm 2\%$
Repeatability	$\pm 0.25\%$
Rated Pressure	150 PSI
Rated Temperature	160 °F

### DESCRIPTIONS:

- **TURNDOWN:** Propeller meters are specified to work within a certain range of flowrates. Turndown is the ratio of the maximum flowrate to the minimum flowrate of the meter. A typical turndown is 15:1. (i.e., max. flow = 1500 gpm to min. flow = 100 gpm)
- **ACCURACY:** Accuracy shows how close the measurement of the meter is to the actual flow in the pipe. Within its turndown (described above), the reading of the meter is guaranteed to be  $\pm 2\%$  of the actual flow.
- **REPEATABILITY:** Flowmeter repeatability is the ability of a meter to reproduce a measurement under similar conditions. This is not a measure of accuracy. McCrometer propeller meters have a repeatability of  $\pm 0.25\%$ .
- **PRESSURE:** The pressure rating for standard propeller meters is 150 PSI. This pressure rating refers to the constant line pressure in the pipe. Some models can be rated up to 300 PSI. Higher pressures are available on special request.
- **TEMPERATURE:** The temperature rating for standard propeller meters is 160 °F constant temperature. This temperature rating refers to fluid temperature. Most standard models can be upgraded to 240 °F constant temperature on special request.

ACCURACY

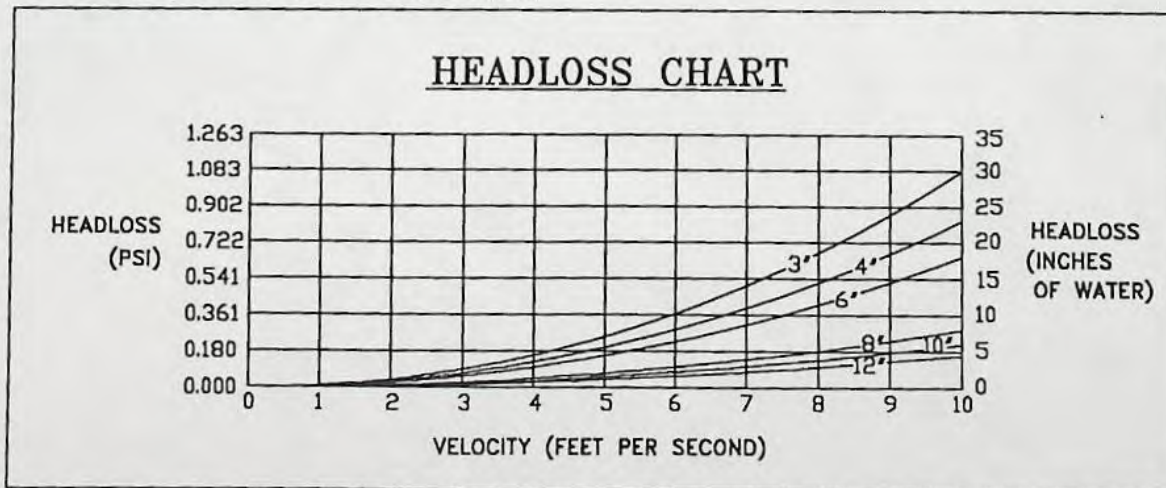


Standard flowrates for McCrometer propeller meters are shown below. Readings are guaranteed accurate within  $\pm 2\%$  in these flowrates. Please note that over 80 percent of the meter's flow range, the accuracy is better than  $\pm 1\%$ .

Nominal Meter Size	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Minimum Flow (U.S. GPM)	35	35	35	50	90	100	125	150	250	275	400	475	700
Maximum Flow (U.S. GPM)	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500

HEADLOSS

Headloss refers to the fluid pressure lost due to the meter. Propeller meters have very low permanent headloss as seen in the chart below.



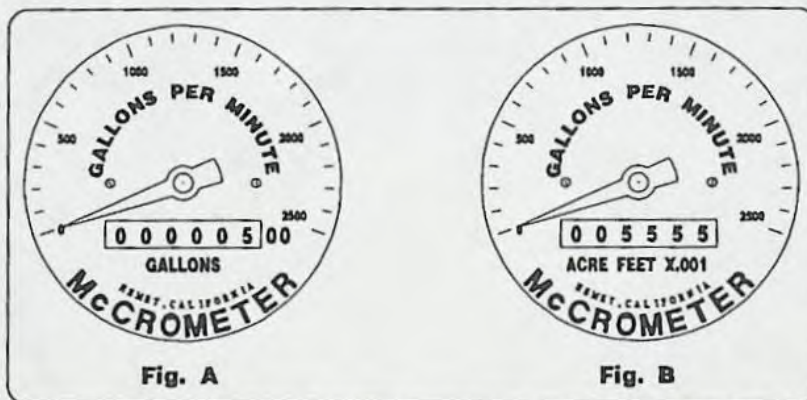
Nominal Meter Size	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Max. Headloss (in. H <sub>2</sub> O column)	30	23	17	7	4	3	2	2	2	1	1

# HOW TO READ McCROMETER FLOWMETERS

The following guidelines should be helpful for reading totalizers on McCrometer propeller flowmeters:

Most totalizers have "multipliers". Multipliers are always some multiple or fraction of ten. They are numbers by which we multiply the direct reading of the totalizer. For example, an eight-inch meter that totalizes in gallons will have a multiplier of times 100, see figure A. That means that the last digit on the right of the six digit totalizer is not gallons, but hundreds of gallons. Two zeros are printed on the dial face to the right of the last digit to signify this. In this example, the correct reading is 500 gallons.

The same eight-inch meter totalizing in acre feet will have a multiplier of 0.001, see figure B. In this case, "X .001" is printed below the totalizer. The three digit counters on the right side are colored yellow to indicate a decimal point should be placed between the third and fourth digit when reading the totalizer. In this example, the correct reading is 5.555 Acre Feet.



A person reading a totalizer must be careful to add the correct amount of zeroes or place the decimal point in the right place. If a mistake is made, the meter reading can be off by a factor of 10, 100, or even 1000 units.

## WARRANTY

This Warranty shall apply to and be limited to the original purchaser/consumer of any McCrometer product. Meters or instruments defective because of faulty material or workmanship will be repaired or replaced at the option of KETEMA/McCrometer Division free of charge, f.o.b. the factory in Hemet, California within a period of one (1) year from the date of delivery.

Repairs or modifications by other than KETEMA/McCrometer Division or their authorized representatives shall render this Warranty null and void in the event that factory examination reveals that such repair or modification was detrimental to the meter or instrument.

In case of claim under this Warranty, the claimant is instructed to contact KETEMA/McCrometer Division, 3255 W. Stetson Ave., Hemet, California 92545, and to provide an identification or description of the meter instrument, the date of delivery and the nature of the problem.

KETEMA/McCrometer Division makes no Warranty that extends beyond the face hereof and no Warranty that extends beyond (1) year from the date of delivery. Some states do not allow limitations on how long an implied warranty lasts so that the above one (1) year limitation may not apply to you.

This Warranty does not include incidental or consequential damages and the purchaser's or original consumer's remedy is limited to repair or replacement of defective meters or instruments. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply to you.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

KETEMA/McCrometer Division reserves the right to make improvements and repairs on product components which are beyond the warranty period at the manufacturer's option and expense, without obligation to renew the expired warranty on the components or on the entire unit. Due to the rapid advancement of meter design technology, KETEMA/McCrometer Division reserves the right to make improvements in design and material without prior notice to the trade.

All sales and all agreement in relation to sales shall be deemed made at the manufacturer's place of business in Hemet, California and any dispute from any sale or agreement shall be interpreted under the laws of the State of California.



ORNI 4, LLC  
an ORMAT Group Company

File # G-13711

July 19, 2002

Ms. Lisa J. Juul  
Oregon Water Resources Department  
Commerce Building 158 12<sup>th</sup> Street NE  
Salem, OR 97301-4172

RE: Monitoring Plan Proposal  
Permits No. G-12571 and G-12595

Dear Ms. Juul;

Please find enclosed two (2) copies of ORNI 4's proposal for a monitoring plan submitted in accordance with the above cited permits and supplemental to our request for extension of these permits.

Because there are no wells yet in place we have tried to provide a profile of the system with some leeway for both ORNI 4 and your department to amend the program once the wells are in place and put to beneficial use. ORNI 4 provides this proposal with the confidence that comes from having these systems currently in use at other of our facilities and knowing the reliability of such a system. The documentation on the instrumentation is provided as examples of the type of instruments, their configuration and accuracy available and currently in use in our Nevada and California geothermal power plants.

We very much appreciate your attention to this matter. If you require further information or expansion of the proposal, please give me a call.

Best Regards,

Christy L. Morris  
Regulatory Affairs Administrator

Enclosures

**RECEIVED**

JUL 22 2002

WATER RESOURCES DEPT.  
SALEM, OREGON

Office:  
980 Greg Street  
Sparks, NV 89436  
Tel: (775)356-9029  
Fax: (775)356-9039

Coverlet Monitoring Prop 7-02.doc  
Site:  
USFS Road 9735-600  
Spur 685& 687  
Bend OR



ORNI 4, LLC  
an ORMAT Group Company

July 15, 2002

Oregon Water Resources Department  
Hydrology Section  
158 12<sup>th</sup> St. NE  
Salem, OR 97310-4172

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JUL 19 2002  
WATER RESOURCES DEPT.  
SALEM, OREGON

RE: Permit Condition Water Level Reporting Form for  
Permits G-12571 and G-12595

We have received your request for water level reports for the above cited Water Resources permits. Please be advised that ORNI 4 has submitted an Application for Extension of time to complete the wells and put to beneficial use the appropriated water under these permits. The Applications for Extension were submitted on June 21, 2002. We have not been notified of the status of these applications as yet.

As outlined in the Application for Extension to DWRD, ORNI 4 purchased the Newberry Geothermal Project in mid year 2001. We have used this field season to meet certain field obligations which we assumed with our purchase. We are currently assessing our options for project development. The water appropriation in these permits would be required to meet the project operational needs. Once wells have been drilled, ORNI 4 will meter and monitor the wells in accordance with permit parameters.

If you need further information, please give me a call at (775) 356-9029.

Best Regards,

Christy L. Morris  
Regulatory Affairs Administrator

Office:  
980 Greg Street  
Sparks, NV 89436  
Tel: (775)356-9029  
Fax: (775)356-9039

Water Level Reporting 7-02.doc  
Site:  
USFS Road 9735-600  
Spur 685& 687  
Bend OR



ORNI 4, LLC  
an ORMAT Group Company

**Newberry Geothermal Power Project  
Proposed Well Monitoring System**

Submitted to: Oregon Water Resources Department

Reference: Permits No. G-12571 and G-12595

In accordance with the above cited permits, ORNI 4 proposes the following monitoring systems and plan for wells drilled and put to beneficial use. These monitoring systems are well documented and currently in use at many of our affiliate power plants.

At a minimum wells will be equipped to monitor **Static Water Level** using a nitrogen bubble tube and pressure gauge system. Figure 1 inset diagrams the components of this system. A pressure gauge such as the Ashcroft Duragauge (specification sheet attached Exhibit 1) would be calibrated to reflect changes in water level via pressure changes in the nitrogen tube line. Wells which are used infrequently and on a limited basis may be limited to static water level monitoring. These wells would serve as secondary monitors to those wells in continuous or frequent use.

Those wells which will be dedicated to continuous or frequent use would be equipped additionally with a **Totalizing Flowmeter** using a mechanical propeller flowmeter such as McCrometer's (specification sheet attached Exhibit 2). Figure 1 is a diagram of how this meter would be integrated into the well pump system. A totalizing flowmeter regulates flow rate and records cumulative units (gallons, acre/ft, etc). The mechanical flowmeters do not require outside power sources.

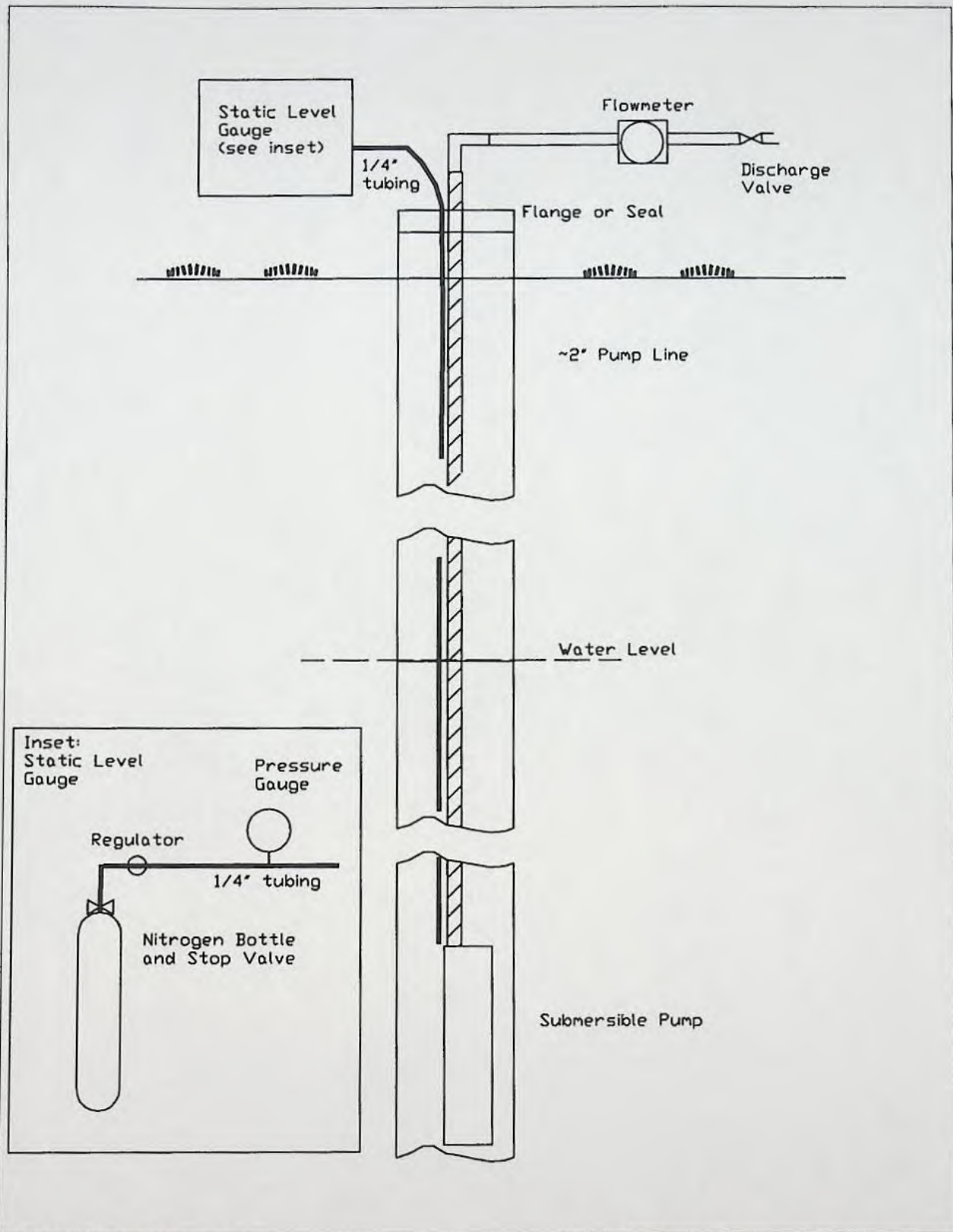
A **Monitoring Schedule** will be put into place whereby readings from both the static water level gauge and flowmeter systems are recorded to insure that water level and water usage are within the limits of the above cited permits. Frequency of the monitoring would be no less than monthly for all wells covered under the above cited permits. Should ORNI 4 or the Department find cause for more frequent recordings such will be implemented. Readings will be recorded and records retained for the life of the project. All records will be available to Department upon request.

The **Reference Water Level** shall be defined by depth at which the water table lies as evidenced in the well logs and with consideration of seasonal fluctuations. Seasonal fluctuations may be determined from the first years recording and/or from Department data resources.

Page 1 of 1  
Office:  
980 Greg Street  
Sparks, NV 89436  
Tel: (775)356-9029  
Fax: (775)356-9039

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SALEM, OREGON

July 19, 2002  
Monitoring System Prop.doc  
Site:  
USFS Road 9735-600  
Spur 685& 687  
Bend OR



Well Monitoring System.dwg  
7/02 CLM

Newberry Geothermal Power Project  
Proposed Well Monitoring Systems  
Permits No: 12571 and 12795

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Figure 1

WATER RESOURCES DEPT.  
SALEM, OREGON

EXHIBIT 1

Ashcroft Duragauge  
Pressure Gauge Specifications Sheet

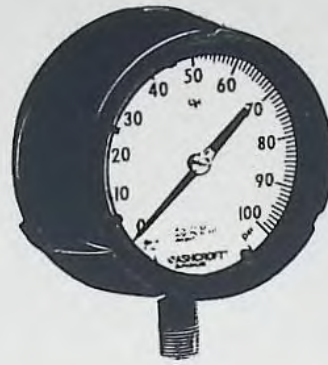
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WATER RESOURCES DEPT.  
SALEM, OREGON

# Specification Matrix

Ashcroft Duragauge®  
Pressure Gauges



Specifications	Code	Type 1279
Accuracy (ASME B40.1, Grade 2A)		½% Full Scale
Case style	(S)	Solid front (S)
Case material		Black phenolic
Dial size	(45), (60), (85)	4½" (45)
Ring type		Threaded reinforced black polypropylene
Bourdon tube		Grade A phosphor bronze
Socket material		Brass silver-brazed
Code	(A), (B), (R), (S), (P), (WW)	(A) Available with all case types
Range limits (psi)		Vacuum-1,000
Connection size (NPT)	(02), (04), (09)	¼ NPT(02 optional), ½ NPT(04 standard)
Connection location	(L), (B)	Lower (L), back, (B)
Mounting		Stem, flush, surface
Movement		Rotary, 400 st. st., Teflon® coated pinion gear & segment
Window		Glass
Pointer		Micrometer adjustable
<b>Options</b>		
Glycerin fill	(L)	Standard
Silicone fill	(XGV)	Available
Halocarbon fill	(XGX)	Available
Hermetically sealed	(H)	Available
Flush mounting ring	(X56)	Available
Surface mounting bracket	(XBF)	N/A
Flush mounting bracket	(XBQ)	N/A
Duragauge® receiver gauge	(XPR)	Available
Shatterproof glass	(XSG)	Available
Acrylic window	(XPD)	Available
Set hand (red, single, fixed)	(XSH)	Available
Maximum pointer (red)	(XEP)	Available

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EXHIBIT 2

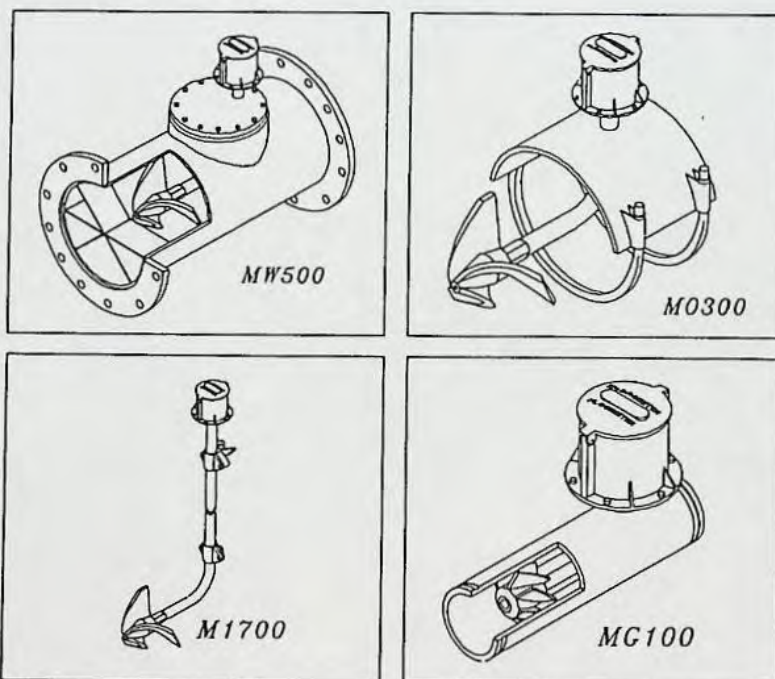
McCrometer Propeller Flowmeters  
Specification Sheets

**RECEIVED**  
JUL 22 2002  
WATER RESOURCES DEPT.  
SALEM, OREGON

# PROPELLER FLOWMETERS

## INTRODUCTION

Propeller flowmeters are widely accepted as a proven technology for measuring flow with high accuracy and excellent repeatability. Ketema/ McCrometer Division produces propeller flowmeters used around the world for agricultural, municipal, and industrial applications.



### TYPICAL APPLICATIONS INCLUDE

- Drip irrigation systems
- Plant effluent
- Sprinkler irrigation systems
- Raw water intake
- Center pivot systems
- Hot water & petroleum mixtures
- Farm turnouts from irrigation districts
- Process batching & chemical feed
- Golf course and park management
- Remote indication, totalizing, & recording
- Commercial nurseries
- Multi-stage pump actuation and control
- Valve actuation and control
- Return activated sludge
- Water and wastewater management

## PRINCIPLES OF OPERATION

The measuring element of a propeller flowmeter consists of a rotating device, called a rotor or propeller. Positioned in the center of the flowstream, the propeller rotates at a velocity proportional to the velocity of the fluid through the flowmeter. This rotation can be transmitted mechanically to a register assembly and the fluid's volumetric flowrate and accumulated volume can then be displayed.

### GENERAL SPECIFICATIONS

Sizes Available	2" to 96"
Flowrates Available	35 to 75,000 GPM
Turndown	up to 15:1
Accuracy	$\pm 2\%$
Repeatability	$\pm 0.25\%$
Rated Pressure	150 PSI
Rated Temperature	160 °F

### DESCRIPTIONS:

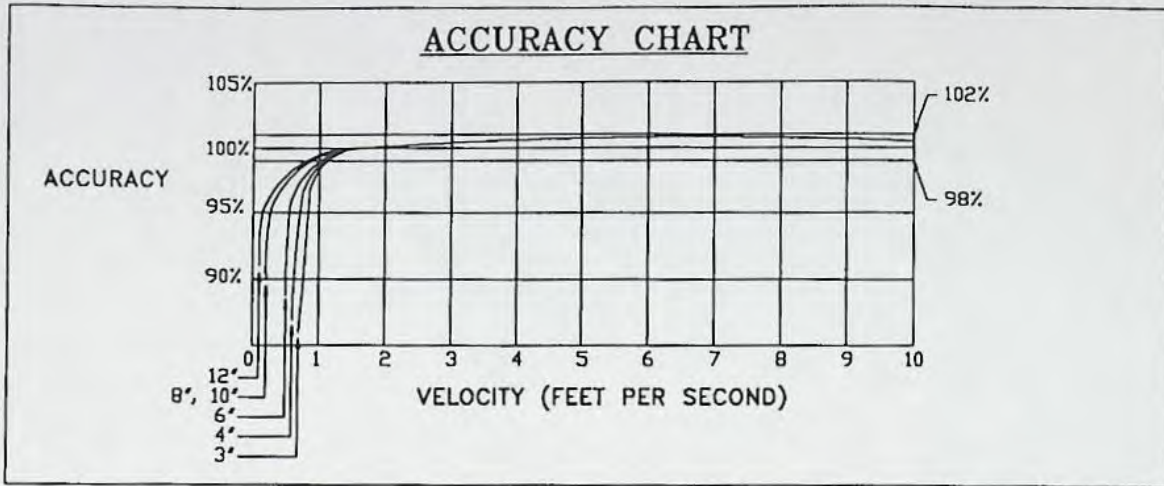
- **TURNDOWN:** Propeller meters are specified to work within a certain range of flowrates. Turndown is the ratio of the maximum flowrate to the minimum flowrate of the meter. A typical turndown is 15:1. (i.e., max. flow = 1500 gpm to min. flow = 100 gpm)
- **ACCURACY:** Accuracy shows how close the measurement of the meter is to the actual flow in the pipe. Within its turndown (described above), the reading of the meter is guaranteed to be  $\pm 2\%$  of the actual flow.
- **REPEATABILITY:** Flowmeter repeatability is the ability of a meter to reproduce a measurement under similar conditions. This is not a measure of accuracy. McCrometer propeller meters have a repeatability of  $\pm 0.25\%$ .
- **PRESSURE:** The pressure rating for standard propeller meters is 150 PSI. This pressure rating refers to the constant line pressure in the pipe. Some models can be rated up to 300 PSI. Higher pressures are available on special request.
- **TEMPERATURE:** The temperature rating for standard propeller meters is 160 °F constant temperature. This temperature rating refers to fluid temperature. Most standard models can be upgraded to 240 °F constant temperature on special request.

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ACCURACY

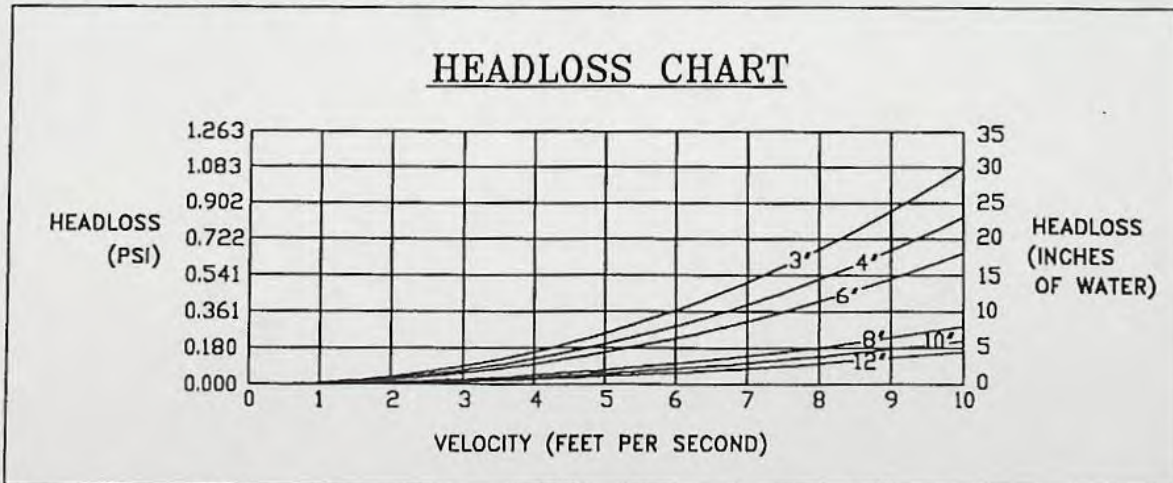


Standard flowrates for McCrometer propeller meters are shown below. Readings are guaranteed accurate within  $\pm 2\%$  in these flowrates. Please note that over 80 percent of the meter's flow range, the accuracy is better than  $\pm 1\%$ .

Nominal Meter Size	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Minimum Flow (U.S. GPM)	35	35	35	50	90	100	125	150	250	275	400	475	700
Maximum Flow (U.S. GPM)	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500

HEADLOSS

Headloss refers to the fluid pressure lost due to the meter. Propeller meters have very low permanent headloss as seen in the chart below.



Nominal Meter Size	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Max. Headloss (in. H <sub>2</sub> O column)	30	23	17	7	4	3	2	2	2	1	1



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JUL 22 2002

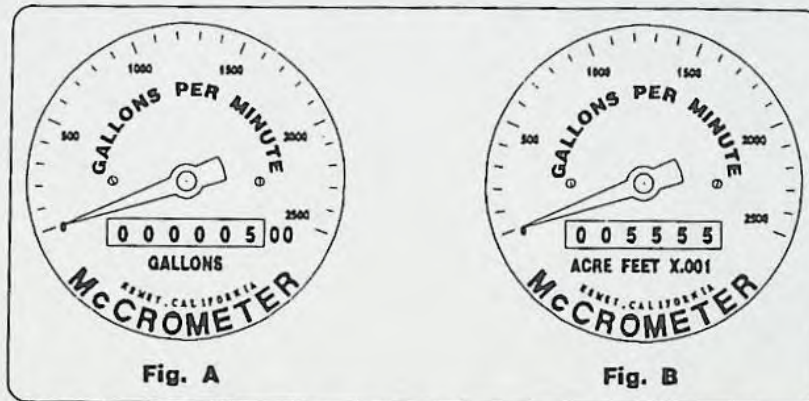
WATER RESOURCES DEPT.  
SALEM, OREGON

# HOW TO READ McCROMETER FLOWMETERS

The following guidelines should be helpful for reading totalizers on McCrometer propeller flowmeters:

Most totalizers have "multipliers". Multipliers are always some multiple or fraction of ten. They are numbers by which we multiply the direct reading of the totalizer. For example, an eight-inch meter that totalizes in gallons will have a multiplier of times 100, see figure A. That means that the last digit on the right of the six digit totalizer is not gallons, but hundreds of gallons. Two zeros are printed on the dial face to the right of the last digit to signify this. In this example, the correct reading is 500 gallons.

The same eight-inch meter totalizing in acre feet will have a multiplier of 0.001, see figure B. In this case, "X .001" is printed below the totalizer. The three digit counters on the right side are colored yellow to indicate a decimal point should be placed between the third and fourth digit when reading the totalizer. In this example, the correct reading is 5.555 Acre Feet.



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JUL 22 2002

WATER RESOURCES DEPT.  
SALEM, OREGON

A person reading a totalizer must be careful to add the correct amount of zeroes or place the decimal point in the right place. If a mistake is made, the meter reading can be off by a factor of 10, 100, or even 1000 units.

## WARRANTY

This Warranty shall apply to and be limited to the original purchaser/consumer of any McCrometer product. Meters or instruments defective because of faulty material or workmanship will be repaired or replaced at the option of KETEMA/McCrometer Division free of charge, f.o.b. the factory in Hemet, California within a period of one (1) year from the date of delivery.

Repairs or modifications by other than KETEMA/McCrometer Division or their authorized representatives shall render this Warranty null and void in the event that factory examination reveals that such repair or modification was detrimental to the meter or instrument.

In case of claim under this Warranty, the claimant is instructed to contact KETEMA/McCrometer Division, 3255 W. Stetson Ave., Hemet, California 92545, and to provide an identification or description of the meter instrument, the date of delivery and the nature of the problem.

KETEMA/McCrometer Division makes no Warranty that extends beyond the face hereof and no Warranty that extends beyond (1) year from the date of delivery. Some states do not allow limitations on how long an implied warranty lasts so that the above one (1) year limitation may not apply to you.

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All sales and all agreement in relation to sales shall be deemed made at the manufacturer's place of business in Hemet, California and any dispute from any sale or agreement shall be interpreted under the laws of the State of California.



# Oregon

John A. Kitzhaber, M.D., Governor

## Water Resources Department

Commerce Building  
158 12th Street NE  
Salem, OR 97301-4172  
(503) 378-3739  
FAX (503) 378-8130  
[www.wrd.state.or.us](http://www.wrd.state.or.us)

December 5, 2002

(503) 378-8455 ext. 207

Ms. Christy L. Morris  
Regulatory Affairs Administrator  
ORNI 4, LLC  
980 Greg Street  
Sparks, NV 89436

Re: Permits G-12571 and G-12595

Dear Ms. Morris:

Your monitoring plan proposal just recently came to my attention as part of a request for permit extension. I reviewed the proposed plan and, while most provisions are adequately addressed, two will require modification before I can approve the proposal. The reference level should not be ambiguous, even if the wells are not yet constructed. The reference level should be specified for a future year during the same month that regular measurements will be made. Also, the data needs to be submitted to the Ground Water and Hydrology Section of the Department annually. Please see the enclosed form letter for typical information to be included in a proposed plan. Note that annual, rather than monthly, measurements will suffice.

I look forward to receiving a revised plan soon.

Sincerely,

Michael J. Zwart  
Hydrogeologist



# Oregon

John A. Kitzhaber, M.D., Governor

## Water Resources Department

Commerce Building  
158 12th Street NE  
Salem, OR 97301-4172  
(503) 378-3739  
FAX (503) 378-8130  
[www.wrd.state.or.us](http://www.wrd.state.or.us)

Dear Well Owner:

According to our records, you possess a ground water use permit with a condition that obligates you to submit a "plan to monitor and report the impact of water use" to the Water Resources Department within a specified time, usually one year of permit issuance. If you have an approved plan on file and have been collecting and reporting the data as specified in your plan, then please disregard this letter. Otherwise, consider this to be a reminder to you that such a plan is required by your permit and, once approved, the necessary data needs to be submitted in accordance with the plan. In general, these plans need to include at least the following information in order to be approved:

- 1.) a description of when water-level measurements would be taken at the well(s), usually a minimum of one annual measurement;
- 2.) the stipulation of a reference water level in the well(s), from which subsequent water-level changes may be determined (usually the first measurement after water use begins);
- 3.) an unambiguous naming convention that ties each measured well and each water-level measurement to a well log and to the wells listed on the associated permit (the preferred identifier is the well log id assigned by the Department to all submitted well logs; these ids can be determined by accessing our on-line well logs at the GRID-Web link on our web page at: <http://www.wrd.state.or.us>);
- 4.) the methodology for obtaining the measurements (e.g. electric tape, steel tape, airline, pressure gauge, etc.);
- 5.) the measurement resolution capability of the equipment (e.g. electric or steel tape data reported in feet and hundredths of a foot or in feet and inches to the nearest 0.25 inch, calibrated pressure gauge reported to the nearest 0.25 pound, etc.);
- 6.) the operational circumstances under which the water level measurements would be obtained (e.g. the well will not be pumped for a specified number of hours or days prior to the measurement);
- 7.) the qualifications of the person(s) obtaining the measurements; and
- 8.) a mechanism for annual reporting of the data by a specified date to the Ground Water and Hydrology Section of the Department.

The Department realizes that every well site may be unique. Therefore, this permit condition allows for flexibility in the plan. For example, if you have more than one permitted well, the plan may provide for measurements to be obtained at less than the permitted number of wells. Also, wells other than the permitted wells, if similarly constructed and impacted, may be approved for measurements. I will work with you to ensure that meaningful information is obtained without placing an undue burden on your operation. If you have any questions, please call me at (503) 378-8455 ext. 207.

Sincerely,

Michael J. Zwart  
Hydrogeologist



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

FILES#: G-13710 & G-13711

ORNI 4, LLC  
 ATTN: CHRISTY L MORRIS  
 980 GREG STREET  
 SPARKS NV 89436

WRS

2. Article Number  
(Transfer from service label) **4880 3611**

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 X *Carmela del Jun*  Agent  
 Addressee

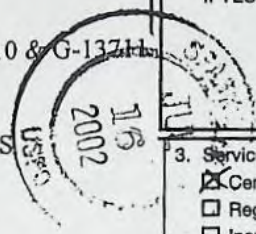
B. Received by (Printed Name)  
**C. DEL PRADO**

C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes



UNITED STATES POSTAL SERVICE

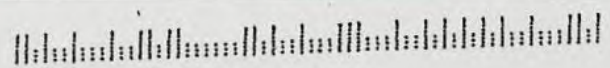


First-Class Mail  
 Postage & Fees Paid  
 USPS  
 Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

WATER RESOURCES DEPT.  
 158 12TH ST NE  
 SALEM OR 97301

**RECEIVED**  
 JUL 19 2002  
 WATER RESOURCES DEPT.  
 SALEM, OREGON





# Oregon

John A. Kitzhaber, M.D., Governor

CERTIFIED MAIL

Return Receipt Requested

Water Resources Department

Commerce Building  
158 12th Street NE  
Salem, OR 97301-4172  
(503) 378-3739  
FAX (503) 378-8130  
www.wrd.state.or.us

July 12, 2002

ORNI 4, LLC  
Attn: Christy L. Morris  
980 Greg Street  
Sparks, NV 89436

REFERENCE: File #G-13710 (Permit G-12571) and  
File #G-13711 (Permit #G-12595)

Dear Ms. Morris:

The Department is currently in the process of evaluating your requests for an extension on the above referenced permits. However, based upon continued review, the Department has determined that additional information is necessary in order to evaluate your extension requests. The following information must be received:

- ▶ **Permit #G-12571 and Permit #G-12595 both require that a plan be developed to monitor and report the impact of water use under the permit on water levels within the aquifer that provides water to the permitted well(s). The plan for Permit #G-12571 was to have been submitted to the Department by June 25, 1997. The plan for Permit #G-12595 was to have been submitted to the Department by July 8, 1997. A copy of each permit highlighting this condition is enclosed for your reference.**

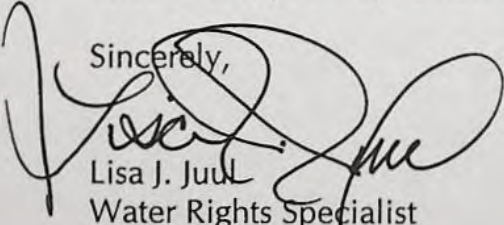
**To date, the Department has not received these plans. Before your extension of time requests can be processed or approved, you must submit the monitoring and reporting plans as required under these permits.**

Please submit this information by **Monday, August 12, 2002**. Failure to submit the requested information by this deadline **may** result in the proposed rejection of your extension request.

*If you need to request additional time to submit the information requested above, a written request must be received in the Salem office of the Department by the deadline above. The Department will evaluate timely requests and determine whether or not the request may be granted.*

If you should have any questions concerning your extension request or the required materials listed above, you may contact me at (503) 378-8455, extension 272.

Sincerely,

  
Lisa J. Juul  
Water Rights Specialist

cc: File #G-13710 (Permit #G-12571)  
File #G-13711 (Permit #G-12595)  
Watermaster District #11



Water Resources Department

MEMO

August 10, 1995

TO Application G-13711  
FROM K. Lite  
SUBJECT Scenic Waterway Finding

At this time the Department lacks a preponderance of evidence that the proposed use of ground water will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife.

INCLUDE THE FOLLOWING CONDITION IN ANY PERMIT OR CERTIFICATE ISSUED:

This use may be regulated if analysis of data available after the permit or certificate is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

Ken:  
Need evaluation  
by Apr 3 ±

please file  
G-13711

Paulma Lakes  
Pool.  
1 wk if we're  
asked if appl  
(FERC) is complete.

Water Resources Department

MEMO

August 10, 1995

TO Application G-13711  
FROM K. Lite  
SUBJECT Scenic Waterway Finding

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Ken:  
Need evaluation  
by Apr 3 ±

Please file  
G-13711