



Oregon Water Resources Department 725  
 Summer Street NE, Suite A  
 Salem Oregon 97301-1271  
 (503) 986-0900  
 www.wrd.state.or.us

# Application for a Permit to Use Ground Water

Please type or print in dark ink. If your application is found to be incomplete or inaccurate, we will return it to you. If any requested information does not apply to your application, insert "n/a." Please read and refer to the instructions when completing your application. A summary of review criteria and procedures that are generally applicable to these applications is available at [www.wrd.state.or.us/OWRD/PUBS/forms.shtml](http://www.wrd.state.or.us/OWRD/PUBS/forms.shtml).

## 1. APPLICANT INFORMATION

### A. Individuals

Applicant: \_\_\_\_\_  
First Last

Mailing Address: \_\_\_\_\_  
 \_\_\_\_\_  
City State Zip

Phone: \_\_\_\_\_  
Home Work Other

\*Fax: \_\_\_\_\_ \*Email Address: \_\_\_\_\_

### B. Organizations

(Corporations, associations, firms, partnerships, joint stock companies, cooperatives, public and municipal corporations)

Name of Organization: CYRK Building LLC **RECEIVED**

Name and Title of Person Applying: Will Emery / Manager **MAR 22 2010**

Mailing Address or Organization: P.O. Box 12085 **WATER RESOURCES DEPT**  
Portland Oregon 97212  
City State Zip **SALEM, OREGON**

Phone : 503.221.0167  
Day Evening

\*Fax: 503.221.0741 \*Email Address: will@eenw.com

\*Optional

For Department Use		
App. No. <u>G17325</u>	Permit No. _____	Date _____

2. PROPERTY OWNERSHIP

Yes (Please check appropriate box below then skip to section 3 'Ground Water Development')

- There are no encumbrances
This land is encumbered by easements, rights of way, roads or other encumbrances (please provide a copy of the recorded deed(s))

No (Please check the appropriate box below)

- I have a recorded easement or written authorization permitting access.
I do not currently have written authorization or easement permitting access.
Written authorization or an easement is not necessary, because the only affected lands I do not own are state-owned submersible lands, and this application is for irrigated and/or domestic use only (ORS 274.040).

You must provide the legal description of: (1) the property from which the water is to be diverted, (2) any property crossed by the proposed ditch, canal or other work, and (3) any property on which the water is to be used as depicted on the map. (See attached description)

List the names and mailing addresses of all affected landowners.

CYRK Building LLC, c/o Will Emery
P.O. Box 12085
Portland, Oregon 97212

3. GROUND WATER DEVELOPMENT

A. Well Information

Number of well(s): 1
Name of nearest surface water body: Willamette River
Distance from well(s) to nearest stream or lake:
1) 4,500 ft. 2) 3) 4)

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SALEM, OREGON

If distance from surface water is less than one mile, indicate elevation difference between nearest surface water and well head:

1) 2) 3) 4)

B. Well Characteristics

Wells must be constructed according to standards set by the Department for the construction and maintenance of water wells. If the well is already constructed, please enclose a copy of the well constructor's log and the well ID number, if available, for each well with this application. Identify each well with a number corresponding to the wells designated on the map and proceed to section 4 of the form. If the well has not been constructed, or if you do not have a well log, please complete the following:

Well(s) will be constructed by:

Steinman Bros. Drilling Co.
Driller: Ron McConnell, OR water well license #1
503.654.2890

Mailing Address: 3023 SE Holly Ave.

Portland Oregon 97222
City State Zip

G-17325

Ground Water/2

Completion Date: 11/12/2009

Please provide a description of your well development. *(Attach additional sheets if needed.)*

Well No.	Diameter	Type and size of casing	No. of feet of casing	Intervals casing is perforated (in feet)	Seal depth	Est. depth to water	Est. depth to water bearing stratum	Type of access port or measuring device	Total well depth
P-1	6"	steel	106'	2'	0-42'	21.5'	57'	Port at wellhead	108'

Note: Well numbers in this listing must correspond to well locations(s) shown on accompanying map.

If well log is not available, or well is not yet constructed, you must provide: proposed total depth, depth of casing and seal, and the anticipated perforation and open intervals.

**C. Artesian Flows**

If your water well is flowing artesian, describe your water control and conservation works:

**4. WATER USE**

Please read the instruction booklet for more details on "type of use" definitions, how to express how much water you need and how to identify the water source you propose to use. You must fill out a supplemental form for some uses as they require specific information for that type of use.

Commerical and domestic - see attached narrative

**A. Type(s) of Use(s)**

See list of beneficial uses provided in the instructions.

- If your proposed use is **domestic**, indicate the number of households to be supplied with water: \_\_\_\_\_
- If your proposed use is **irrigation**, please attach **Form I**
- If your proposed use is **mining**, attach **Form R**
- If your proposed use is **municipal or quasi-municipal**, attach **Form M**
- If your proposed use is **commercial/industrial**, attach **Form Q**

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**B. Amount of Water**

Provide the production rate in gallons per minute (gpm) and the total annual amount of water you need from each well, from each source or aquifer, for each use. You do not need to provide source information if you are submitting a well log with your application.

Well No.	Source or aquifer	Type of use	Total rate of water requested (in gpm)	Total annual quantity (in gallons)	Production rate of well (in gpm)
P-1	Troutdale Gravel Aquifer (TGA)	Low Temperature Geothermal	65	20,000,000	100
P-1	Troutdale Gravel Aquifer (TGA)	Domestic	35	900,000	100

**C. Maximum Rate of Use Requested**

What is the maximum, instantaneous rate of water that will be used? 100 gpm  
(The fees for your application will be based on this amount.) 0.22 cfs

**D. Period of Use**

Indicate the time of year you propose to use the water: 12 mo/yr  
(For seasonal uses like irrigation give dates when water use would begin and end, e.g. March 1-October 31.)

**E. Acreage**

If you will be applying water to land, indicate the total number of acres where water will be applied or used: N/A

(This number should be consistent with your application map.)

**5. WATER MANAGEMENT**

**A. Diversion**

What method will you use to divert water from the source?

Pump (give horsepower and pump type): 5 HP submersible

other means (describe): \_\_\_\_\_

**B. Transport**

How will you transport water to your place of use?

Ditch or canal (give average width and depth):

Width \_\_\_\_\_ Depth \_\_\_\_\_

Is the ditch or canal to be lined?  Yes  No

Pipe (give diameter and total length):

Diameter 1" Length 200'

other, describe: \_\_\_\_\_

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G-17325

**C. Application/Distribution Method**

What equipment will you use to apply water to your place of use?

see attached narrative

Irrigation or land application method (check all that apply):

- Flood
- High pressure sprinkler
- Low pressure sprinkler
- Drip
- Water Cannons
- Center pivot system
- Hand Lines
- Wheel Lines
- Siphon tubes or gated pipe with furrows
- other, describe: \_\_\_\_\_

Distribution method

- Direct pipe from source
- In-line storage (tank or pond)
- Open Canal

**E. Conservation**

What methods will you use to conserve water? Why did you choose this distribution or application method? Have you considered other methods to transport, apply, distribute or use water? For example, if you are using sprinkler irrigation rather than drip irrigation, explain. If you need additional space, attach a separate sheet.

All low temperature geothermal water will be re-injected (no-comsumptive use). The domestic water use will be conserved by captured rainwater use in toilets and landscape watering.

**6. PROJECT SCHEDULE**

Indicate the anticipated dates that the following construction tasks should begin. If construction has already begun, or is completed, please indicate that date.

Proposed date construction will begin: 10/10/2009

Proposed date construction will be completed: 12/31/2010

Proposed date beneficial water use will begin: 8/1/2010

Is this project fully or partially funded by the American Recovery and Reinvestment Act? (Federal stimulus dollars)  Yes  No

**7. REMARKS**

*If you would like to clarify any information you have provided in the application, please do so here and reference the specific application question you are addressing.*

see attached narrative

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## 8. MAP REQUIREMENTS

The Department cannot process your application without accurate information showing the source of water and location of water use. You must include a map with this application form that clearly indicates the township, range, section, and quarter/quarter section of the proposed well location and place of use. The map must provide tax lot numbers. See the map guidelines sheet for detailed map specifications.

## 9. SIGNATURE

By my signature below I confirm that I understand:

- I am asking to use water specifically as described in this application.
- Evaluation of this application will be based on information provided in the application packet.
- I cannot legally use water until the Water Resources Department issues a permit to me.
- If I get a permit, I must not waste water.
- If development of the water use is not according to the terms of the permit, the permit can be canceled.
- The water use must be compatible with local comprehensive land use plans.
- Even if the Department issues a permit, I may have to stop using water to allow senior water right holders to get water to which they are entitled.

I swear that all information provided in this application is true and correct to the best of my knowledge:

Crab Building LLC by WILL EMERY  
manager. 12/23/09  
Signature of Applicant (If more than one applicant, all must sign.) Date

Before you submit your application be sure you have:

- Answered each question completely.
- Attached a legible map which includes township, range, section, quarter/quarter and tax lot number.
- Included a Land Use Information Form or receipt stub signed by a local official.
- Included the legal description of all the property involved with this application. You may supply a copy of the deed, land sales contract, or title insurance policy, to meet this requirement.
- Included a check payable to the Oregon Water Resources Department for the appropriate amount. The Department's fee schedule can be found at [www.wrd.state.or.us](http://www.wrd.state.or.us) or call (503) 986-0900.

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WRD on the web:  
[www.wrd.state.or.us](http://www.wrd.state.or.us)

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Oregon Water Resources Department

**FORM Q**  
**FOR COMMERCIAL AND INDUSTRIAL WATER USES**

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1. Describe the goods and services you plan to provide:

Heating and cooling in a low temperature geothermal (LTG) system for a

multi-use commercial building, also some use of water for domestic

2. How will the water be used?

Heat transfer in an open-loop (LTG) system. Some used for domestic

3. What is the maximum amount of water that will be used on any given day:

100 gpm

4. Are there periods of the day, week, month, or year that the water will not be used?

(e.g. no use December-March)

No ? Yes If so, when? \_\_\_\_\_

5. Is there a particular time or period of day, week, month, or year when the use of water is absolutely essential for the project to continue? (e.g. vegetable processing, Oct. 15-Nov. 15)

No ? Yes If so, when? \_\_\_\_\_

6. Are there periods of the day week, month, or year where the amount of water used will be less than at peak times?

? No  Yes If so, when? when weather is moderate temperatures

Gr-17325



# Oregon Water Resources Department Land Use Information Form

**This form is NOT required if:**

- 1) Water is to be diverted, conveyed, and/or used only on federal lands; OR
- 2) The application is for a water right transfer, allocation of conserved water, exchange, permit amendment, or ground water registration modification, and all of the following apply:
  - a) only the place of use is proposed for change;
  - b) there are no structural changes;
  - c) the use of water is for irrigation; and
  - d) the use is located in an irrigation district or exclusive farm-use zone.

Applicant: Will Emery  
First Last

Mailing Address: P.O. Box 12085

Portland OR 97212 Daytime Phone: 503.221.0167  
City State Zip

**A. Land and Location**

Please include the following information for all tax lots where water will be diverted (taken from its source), conveyed (transported), and/or used or developed. Applicants for municipal use, or irrigation uses within irrigation districts may substitute existing and proposed service-area boundaries for the tax-lot information requested below.

Township	Range	Section	¼ ¼	Tax Lot #	Plan Designation (e.g., Rural Residential/RR-5)	Water to be:			Proposed Land Use:
1S	1E	11	NENE	11400	generic commerical (CN1)	<input checked="" type="checkbox"/> Diverted	<input checked="" type="checkbox"/> Conveyed	<input checked="" type="checkbox"/> Used	comm/res
						<input type="checkbox"/> Diverted	<input type="checkbox"/> Conveyed	<input type="checkbox"/> Used	
						<input type="checkbox"/> Diverted	<input type="checkbox"/> Conveyed	<input type="checkbox"/> Used	
						<input type="checkbox"/> Diverted	<input type="checkbox"/> Conveyed	<input type="checkbox"/> Used	

List all counties and cities where water is proposed to be diverted, conveyed, and/or used or developed:

Multnomah County, Portland

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**B. Description of Proposed Use**

Type of application to be filed with the Water Resources Department:

- |                                                                  |                                                        |                                                                                     |
|------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Permit to Use or Store Water | <input type="checkbox"/> Water Right Transfer          | <input type="checkbox"/> Permit Amendment or Ground Water Registration Modification |
| <input checked="" type="checkbox"/> Limited Water Use License    | <input type="checkbox"/> Allocation of Conserved Water | <input type="checkbox"/> Exchange of Water                                          |

Source of water:  Reservoir/Pond  Ground Water  Surface Water (name) \_\_\_\_\_

Estimated quantity of water needed: 0.19  cubic feet per second  gallons per minute  acre-feet

Intended use of water:  Irrigation  Commercial  Industrial  Domestic for 1 household(s)  
 Municipal  Quasi-Municipal  Instream  Other \_\_\_\_\_

Briefly describe:

See attached narrative

**Note to applicant:** If the Land Use Information Form cannot be completed while you wait, please have a local government representative sign the receipt at the bottom of the next page and include it with the application filed with the Water Resources Department. **See bottom of next page. ?**

G-17325



## For Local Government Use Only

The following section must be completed by a planning official from each county and city listed unless the project will be located entirely within the city limits. In that case, only the city planning agency must complete this form. This deals only with the local land-use plan. Do not include approval for activities such as building or grading permits.

**Please check the appropriate box below and provide the requested information**

- Land uses to be served by the proposed water uses (including proposed construction) are allowed outright or are not regulated by your comprehensive plan. Cite applicable ordinance section(s): SEE COMMENTS BELOW (Must meet Title 33)  
Building Permit for future Building has not been submitted.
- Land uses to be served by the proposed water uses (including proposed construction) involve discretionary land-use approvals as listed in the table below. (Please attach documentation of applicable land-use approvals which have already been obtained. Record of Action/land-use decision and accompanying findings are sufficient.) **If approvals have been obtained but all appeal periods have not ended, check "Being pursued."**

Type of Land-Use Approval Needed (e.g., plan amendments, rezones, conditional-use permits, etc.)	Cite Most Significant, Applicable Plan Policies & Ordinance Section References	Land-Use Approval:	
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued

Local governments are invited to express special land-use concerns or make recommendations to the Water Resources Department regarding this proposed use of water below, or on a separate sheet.

Zoning CNI - Neighborhood Commercial per Title 33 Portland Zoning Code Chapter 33.130 - Zoning map attached  
No Building Permit Application has been submitted at this time. The zoning use for the proposed building will be reviewed at the time of Application. The use must be in compliance with Title 33 - Table 130-3 Chapter 33.130  
Planning does not regulate ground water rights. The geothermal heating & cooling system will need to meet the Uniform Building + mechanical code.

Name: Lars Jennings Title: City Planner  
 Signature: [Signature] Phone: 503-823-2877 Date: December 18, 2009  
 Government Entity: City of Portland - Planning & Zoning Section  
Bureau of Development Services

**Note to local government representative:** Please complete this form or sign the receipt below and return it to the applicant. If you sign the receipt, you will have 30 days from the Water Resources Department's notice date to return the completed Land Use Information Form or WRD may presume the land use associated with the proposed use of water is compatible with local comprehensive plans.

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**Receipt for Request for Land Use Information**

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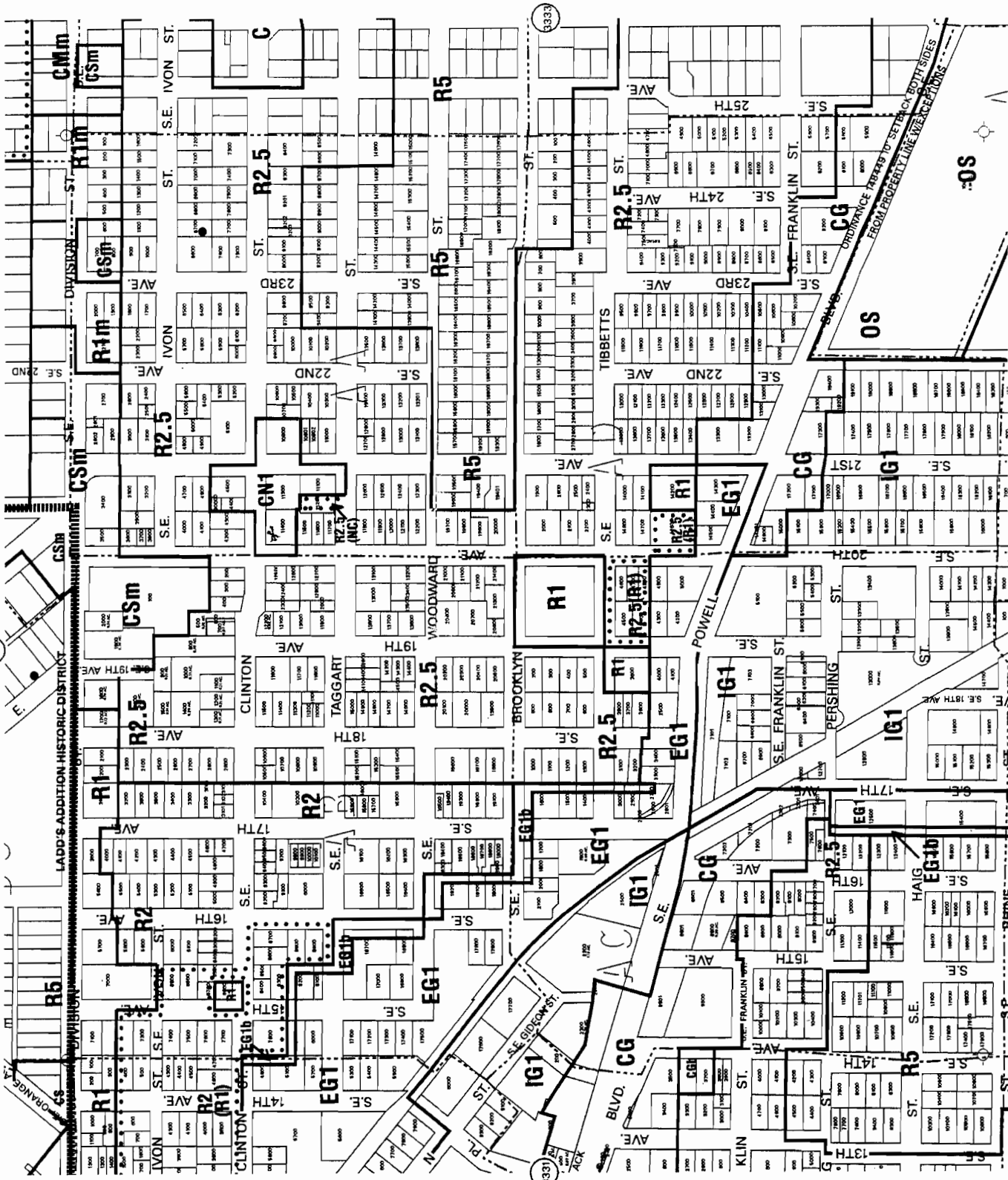
WATER RESOURCES DEPT  
SALEM, OREGON

Applicant name: \_\_\_\_\_

City or County: \_\_\_\_\_ Staff contact: \_\_\_\_\_

Signature: \_\_\_\_\_ Phone: \_\_\_\_\_ Date: \_\_\_\_\_

G-17325



CITY OF PORTLAND BUREAU OF PLANNING	
ZONING REVISION: 06-22-2006 SALEM-ADAPTED	SCALE IN FEET 
LEGAL DESCRIPTION: NE 1/4 SEC. 11 - 15 - 1E	<b>3332</b>

Current Zoning: **R10**  
 Maximum potential Zoning as per Comprehensive Plan: **R10**  
 State ID Map Boundary: **---**

NOTE: Zoning designations are subject to change; verify zoning prior to development or sales.

HISTORIC LANDMARK  
 Plan District Boundary  
 Historic or Conservation District or N.R.M.P. Boundary  
 Zoning Line

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WATER RESOURCES DEPT  
SALEM, OREGON

Site

X

City of Portland  
 Bureau of  
 Development Services  
 Development Services Center  
 1900 SW Fourth Ave., Suite 5000  
 Portland, OR 97201

G-7325

12. Quick Vehicle Servicing. This regulation applies to all parts of Table 130-1 that have note [12]. Quick Vehicle Servicing uses always include drive-through facilities. The standards in 33.130.260 specify where drive-through facilities may be located.

Table 130-1 Commercial Zone Primary Uses								
Use Categories	CN1	CN2	CO1	CO2	CM	CS	CG	CX
<b>Residential Categories</b>								
Household Living	Y	Y	Y	Y	Y	Y	Y	Y
Group Living	L/CU [1]	L/CU [1]	L/CU [1]	L/CU [1]	L/CU [1]	L/CU [1]	L/CU [1]	L/CU [1]
<b>Commercial Categories</b>								
Retail Sales And Service	L [2]	Y	N	L [3]	L [4]	Y	Y	Y
Office	L [2]	Y	Y	Y	L [4]	Y	Y	Y
Quick Vehicle Servicing	N	L [12]	N	N	N	N	Y	L [12]
Vehicle Repair	N	N	N	N	N	Y	Y	L [5]
Commercial Parking	N	N	N	N	N	Y	CU [11]	CU [11]
Self-Service Storage	N	N	N	N	N	N	L [6]	L [6]
Commercial Outdoor Recreation	N	N	N	N	Y	Y	Y	Y
Major Event Entertainment	N	N	N	N	N	CU	CU	Y
<b>Industrial Categories</b>								
Manufacturing And Production	L [2]	L [2]	N	N	L [4, 5]	L [5]	L [5,7]	L [5]
Warehouse And Freight Movement	N	N	N	N	N	N	CU [5,7]	N
Wholesale Sales	N	N	N	N	L [4, 5]	L [5]	L [5,7]	L [5]
Industrial Service	N	N	N	N	N	CU [5]	CU [5,7]	CU [5]
Railroad Yards	N	N	N	N	N	N	N	N
Waste-Related	N	N	N	N	N	N	N	N
<b>Institutional Categories</b>								
Basic Utilities	Y/CU [10]	Y/CU [10]	Y/CU [10]	Y/CU [10]	Y/CU [10]	Y/CU [10]	Y/CU [10]	Y/CU [10]
Community Service	L/CU [8]	L/CU [8]	L/CU [8]	L/CU [8]	L/CU [8]	L/CU [8]	L/CU [8]	L/CU [8]
Parks And Open Areas	Y	Y	Y	Y	Y	Y	Y	Y
Schools	Y	Y	Y	Y	Y	Y	Y	Y
Colleges	Y	Y	Y	Y	Y	Y	Y	Y
Medical Centers	Y	Y	Y	Y	Y	Y	Y	Y
Religious Institutions	Y	Y	Y	Y	Y	Y	Y	Y
Daycare	Y	Y	Y	Y	Y	Y	Y	Y
<b>Other Categories</b>								
Agriculture	N	N	N	N	N	CU	CU	CU
Aviation And Surface Passenger Terminals	N	N	N	N	N	N	CU	CU
Detention Facilities	N	N	N	N	N	N	CU	CU
Mining	N	N	N	N	N	N	N	N
Radio Frequency Transmission Facilities	L/CU [9]	L/CU [9]	L/CU [9]	L/CU [9]	L/CU [9]	L/CU [9]	L/CU [9]	L/CU [9]
Rail Lines And Utility Corridors	CU	CU	CU	CU	CU	CU	CU	CU

Y = Yes, Allowed  
CU = Conditional Use Review Required  
Notes:

L = Allowed, But Special Limitations  
N = No, Prohibited

- The use categories are described in Chapter 33.920.
- Regulations that correspond to the bracketed numbers [ ] are stated in 33.130.100.B.
- Specific uses and developments may also be subject to regulations in the 200s series of chapters.

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130-6  
WATER RESOURCES DEPT  
SALEM, OREGON

City of Portland  
Bureau of  
Development Services  
Development Services Center  
1900 SW Fourth Ave., Suite 5000  
Portland, OR 97201

Oregon Water Resources Department  
**PUMP TEST FORM COVER SHEET**

**Well Owner:**

Name: CYRK Building LLC  
 Address: P.O. Box 12085  
 County: Multnomah  
 City: Portland State: OR Zip: 97212-0000  
 Original owner (from well log): CYRK Building LLC

**Well Location:**

Township: 1 S Range: 1 E  
 Section: 11  $\frac{1}{4}$ : NE  $\frac{1}{16}$ : NE  $\frac{1}{64}$ : NW  
 Well depth: 108.0 Date drilled: 10/5 to 11/4/09  
 Owners well no. (if any): \_\_\_\_\_  
 POD ID: \_\_\_\_\_

**Water Right Information:**

Application: in process Permit: \_\_\_\_\_ Certificate: \_\_\_\_\_  
 Is this well listed on more than one water right?  Yes If yes, list additional water rights below:  
 Application: \_\_\_\_\_ Permit: \_\_\_\_\_ Certificate: \_\_\_\_\_  
 Application: \_\_\_\_\_ Permit: \_\_\_\_\_ Certificate: \_\_\_\_\_

**Pump Test:**

Test Conducted by: Roger N. Smith Well Owner?  Yes  
 Company: Roger N. Smith Associates, Inc.  
 Address: 2424 SE Caruthers Street Date of Test: 11/05/2009  
 City: Portland State: OR Zip: 97214  
 Daytime phone: 503.241.5444

Method of discharge measurement (see our brochure for more information): Volume/time  
 Method of water-level measurement (pick one or enter other method used): Electric tape  
 Length of air line (if used): \_\_\_\_\_

Pump type (pick one or enter other method used): Submersible  
 Was the pump test conducted during normal use of the well?  Yes Note: \_\_\_\_\_

Are you aware of any wells, other than domestic or stock wells, pumping within 1000 feet of the tested well during the test or within 24 hours prior to the test?  Yes Note: \_\_\_\_\_  
 If yes, give approximate distances to each and approximate pumping rate of each. If possible, indicate if they were turned on or off during the test: \_\_\_\_\_

Is there a lake, stream or other surface water body within  $\frac{1}{4}$  mile of the tested well?  Yes If yes, give approximate distance from the well and approximate elevation difference between the surface water and the well head. Approx. distance: \_\_\_\_\_ ft Approx. elevation difference: \_\_\_\_\_ ft

Well elevation is above surface water body.

Description of measuring point (e.g. top port of 1 inch port pipe, west side) Top of 6" casing, north side

Measuring point distance above land surface 3.15 feet.

**Static water level measurements:** (A minimum of three measurements are required in the hour before pumping begins at no less than 20 minutes apart):

Time	Depth to water below meas. point	Depth to water below land surface
<u>7:55 am</u>	<u>24.50</u>	<u>21.35</u>
<u>8:15 am</u>	<u>24.50</u>	<u>21.35</u>
<u>8:35 am</u>	<u>24.51</u>	<u>21.36</u>

**Discharge measurements:** (A discharge measurement is required at the start of pumping and at least once an hour during the test; additional measurements should be noted on the Pump Test Data Sheet):

Time	Discharge Rate	Discharge Units (e.g. gpm, cfs, etc)
<u>10:00 am</u>	<u>60.00</u>	<u>gpm (gallons per minute)</u>
<u>11:00 am</u>	<u>60.00</u>	<u>gpm (gallons per minute)</u>
<u>12:00 pm</u>	<u>60.00</u>	<u>gpm (gallons per minute)</u>
<u>1:00 pm</u>	<u>60.00</u>	<u>gpm (gallons per minute)</u>
<u>2:00 pm</u>	<u>60.00</u>	<u>gpm (gallons per minute)</u>

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Time pump turned on: Date 11/05/2009  
 Time pump turned off: Date 11/05/2009  
 Total pumping time: 4 hours 27 minutes

Time 10:00 am WATER RESOURCES DEPT  
 Time 2:27 pm SALEM, OREGON

**Note:** Well must be idle for at least 16 hours prior to the test.

Additional forms can be obtained from our web site at: <http://www.wrd.state.or.us>

OWRD 2/9/2000

Required Signature: \_\_\_\_\_

G-77325

PUMP TEST DATA SHEET  
CYRK BUILDING PRODUCTION WELL (P-1)

Application:

Page 1 of 1

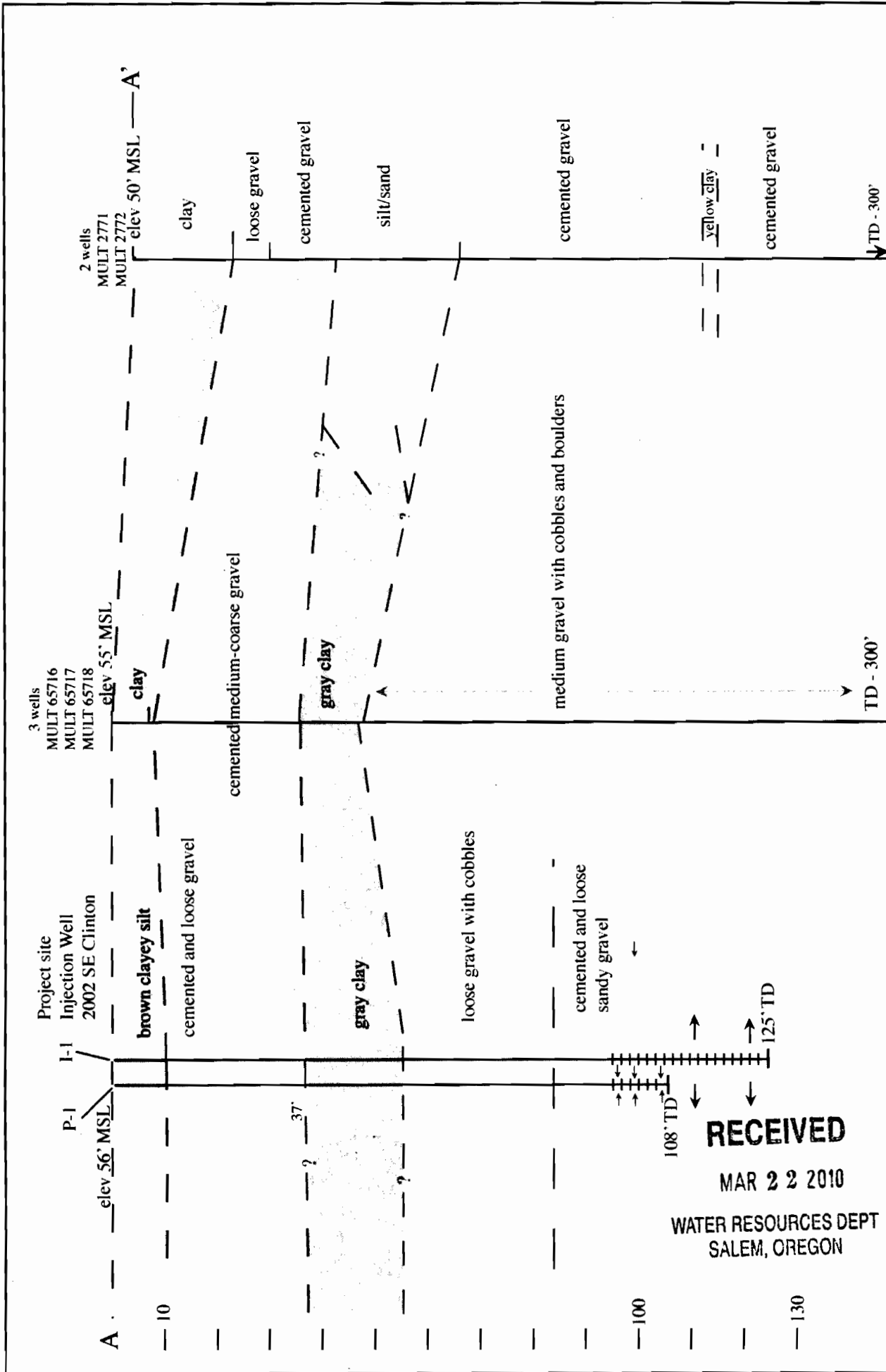
Date	Time	Time Since Pumping Started (minutes)	Depth Below Top of Casing (ft)	Depth Below Static Water Table (ft)	Flow Rate (GPM)	Comments
11/5/09	10:00:00	0.00	24.50	0.00		No pumping (static)
11/5/09	10:05:30	0.50	29.00	4.50	60 gpm	pumping Starts
11/5/09	10:06:00	1.00	34.00	9.50		
11/5/09	10:06:30	1.50	37.10	12.60		
11/5/09	10:07:00	2.00	37.80	13.30		
11/5/09	10:07:30	2.50	38.30	13.80		
11/5/09	10:08:00	3.00	39.10	14.60		
11/5/09	10:08:30	3.50	39.90	15.40		
11/5/09	10:09:00	4.00	41.10	16.60		
11/5/09	10:09:30	4.50	41.90	17.40	60 gpm	
11/5/09	10:10:00	5.00	42.40	17.90		
11/5/09	10:10:30	5.50	42.80	18.30		
11/5/09	10:11:00	6.00	43.10	18.60		
11/5/09	10:11:30	6.50	43.50	19.00		
11/5/09	10:12:00	7.00	43.90	19.40		
11/5/09	10:12:30	7.50	44.15	19.65		
11/5/09	10:13:00	8.00	44.45	19.95		
11/5/09	10:13:30	8.50	44.70	20.20		
11/5/09	10:14:00	9.00	44.80	20.30		
11/5/09	10:14:30	9.50	45.00	20.50		
11/5/09	10:15:00	10.00	45.05	20.55		
11/5/09	10:15:30	10.50	45.15	20.65	60 gpm	
11/5/09	10:16:00	11.00	45.20	20.70		change to 1 minute readings
11/5/09	10:17:00	12.00	45.28	20.78		
11/5/09	10:18:00	13.00	43.38	18.88		
11/5/09	10:19:00	14.00	45.48	20.98		
11/5/09	10:20:00	15.00	45.60	21.10		
11/5/09	10:21:00	16.00	45.86	21.36		adjust flow (increased flow ~ 5 to 10 gpm)
11/5/09	10:22:00	17.00	46.40	21.90		
11/5/09	10:23:00	18.00	46.60	22.10		
11/5/09	10:24:00	19.00	46.66	22.16		
11/5/09	10:25:00	20.00	46.74	22.24		
11/5/09	10:26:00	21.00	46.78	22.28		
11/5/09	10:27:00	22.00	46.86	22.36		
11/5/09	10:28:00	23.00	46.95	22.45		
11/5/09	10:29:00	24.00	47.00	22.50		
11/5/09	10:30:00	25.00	47.08	22.58		change to 5 min intervals
11/5/09	10:35:00	30.00	47.20	22.70		
11/5/09	10:40:00	35.00	47.48	22.98		
11/5/09	10:45:00	40.00	47.70	23.20		
11/5/09	10:50:00	45.00	47.36	22.86		water coming up
11/5/09	10:55:00	50.00	47.59	23.09		change to 15 minute intervals
11/5/09	11:10:00	65.00	48.22	23.72	flow 60 gpm	
11/5/09	11:25:00	80.00	48.56	24.06	flow 60 gpm	
11/5/09	11:40:00	95.00	48.70	24.20		change to 30 minute intervals
11/5/09	12:10:00	125.00	49.10	24.60	flow 60 gpm	
11/5/09	12:40:00	155.00	49.40	24.90	flow 60 gpm	
11/5/09	13:10:00	185.00	49.64	25.14	flow 60 gpm	
11/5/09	13:40:00	215.00	50.07	25.57	flow 60 gpm	
11/5/09	14:10:00	245.00	50.58	26.08	flow 60 gpm	
11/5/09	14:26:00	261.00	51.15	26.65		
11/5/09	14:27:00					SHUT PUMP OFF
11/5/09	14:27:30	262.50	35.50	11.00	0 gpm	
11/5/09	14:28:00	263.00	30.40	5.90	0 gpm	
11/5/09	14:28:30	263.50	27.80	3.30	0 gpm	
11/5/09	14:29:00	264.00	27.60	3.10	0 gpm	
11/5/09	14:29:30	264.50	26.60	2.10	0 gpm	
11/5/09	14:30:00	265.00	26.05	1.55	0 gpm	
11/5/09	14:30:30	265.50	25.85	1.35	0 gpm	
11/5/09	14:31:00	266.00	25.75	1.25	0 gpm	
11/5/09	14:31:30	266.50	25.65	1.15	0 gpm	
11/5/09	14:32:00	267.00	25.60	1.10	0 gpm	
11/5/09	14:32:30	267.50	25.55	1.05	0 gpm	
11/5/09	14:33:00	268.00	25.50	1.00	0 gpm	
11/5/09	14:33:30	268.50	25.45	0.95	0 gpm	
11/5/09	14:34:00	269.00	25.42	0.92	0 gpm	
11/5/09	14:34:30	269.50	25.40	0.90	0 gpm	
11/5/09	14:35:00	270.00	25.35	0.85	0 gpm	
11/5/09	14:35:30	270.50	25.33	0.83	0 gpm	
11/5/09	14:36:00	271.00	25.32	0.82	0 gpm	
11/5/09	14:38:00	273.00	25.20	0.70	0 gpm	extend intervals to 2 minutes
11/5/09	14:40:00	275.00	25.15	0.65	0 gpm	extend intervals to 2 minutes
11/5/09	2:42:00	277.00	25.10	0.60	0 gpm	
11/5/09	2:44:00	279.00	25.07	0.57	0 gpm	stop recovery

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SALEM, OREGON

G-17325



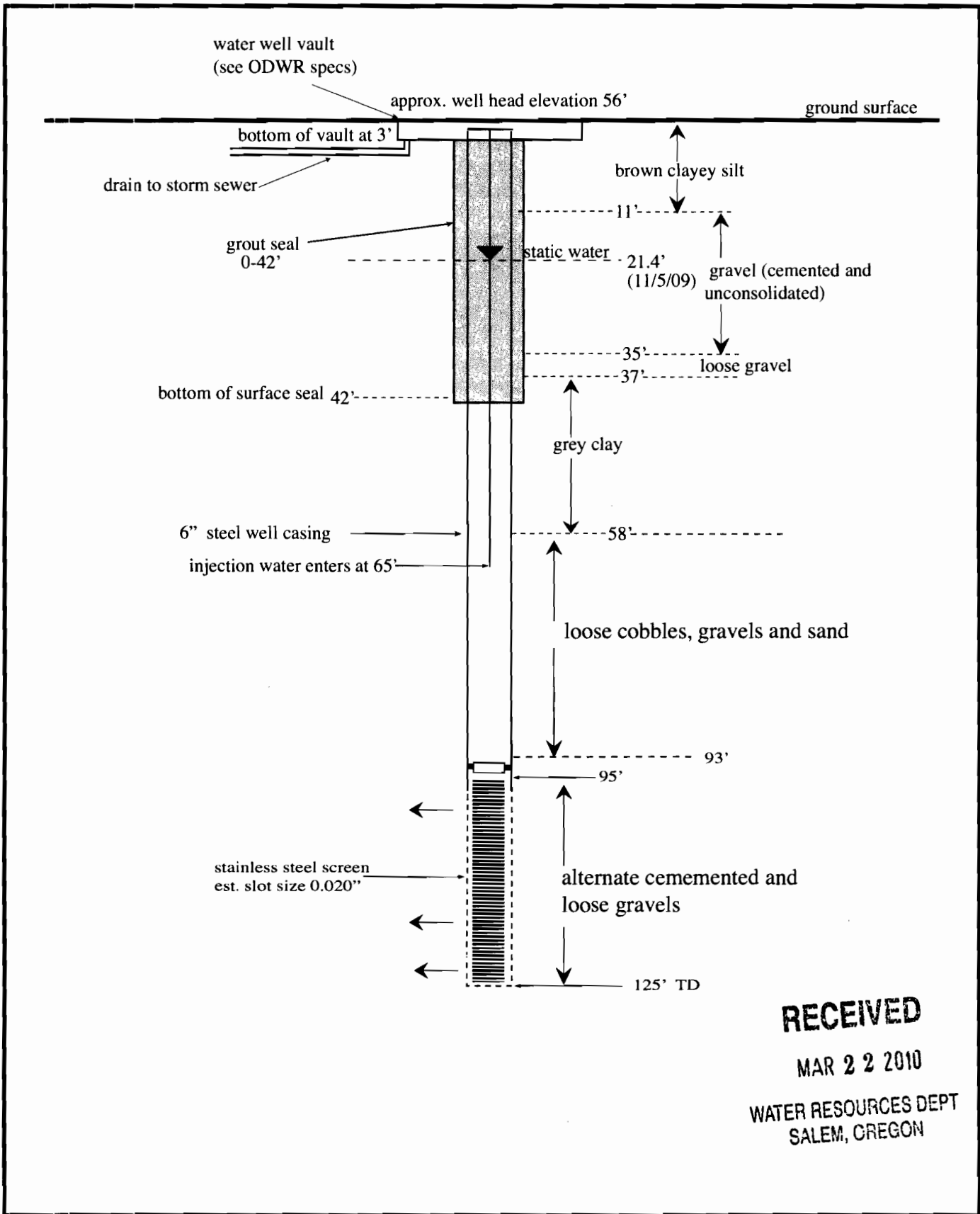
G-17325

ROGER N. SMITH ASSOCIATES, INC.  
*Groundwater and Environmental Consultants*

Project Manager:  
 Roger Smith  
 Drawn By:  
 Katharine Coates  
 Project Number:  
 890  
 Last Date Modified:  
 December 9, 2009

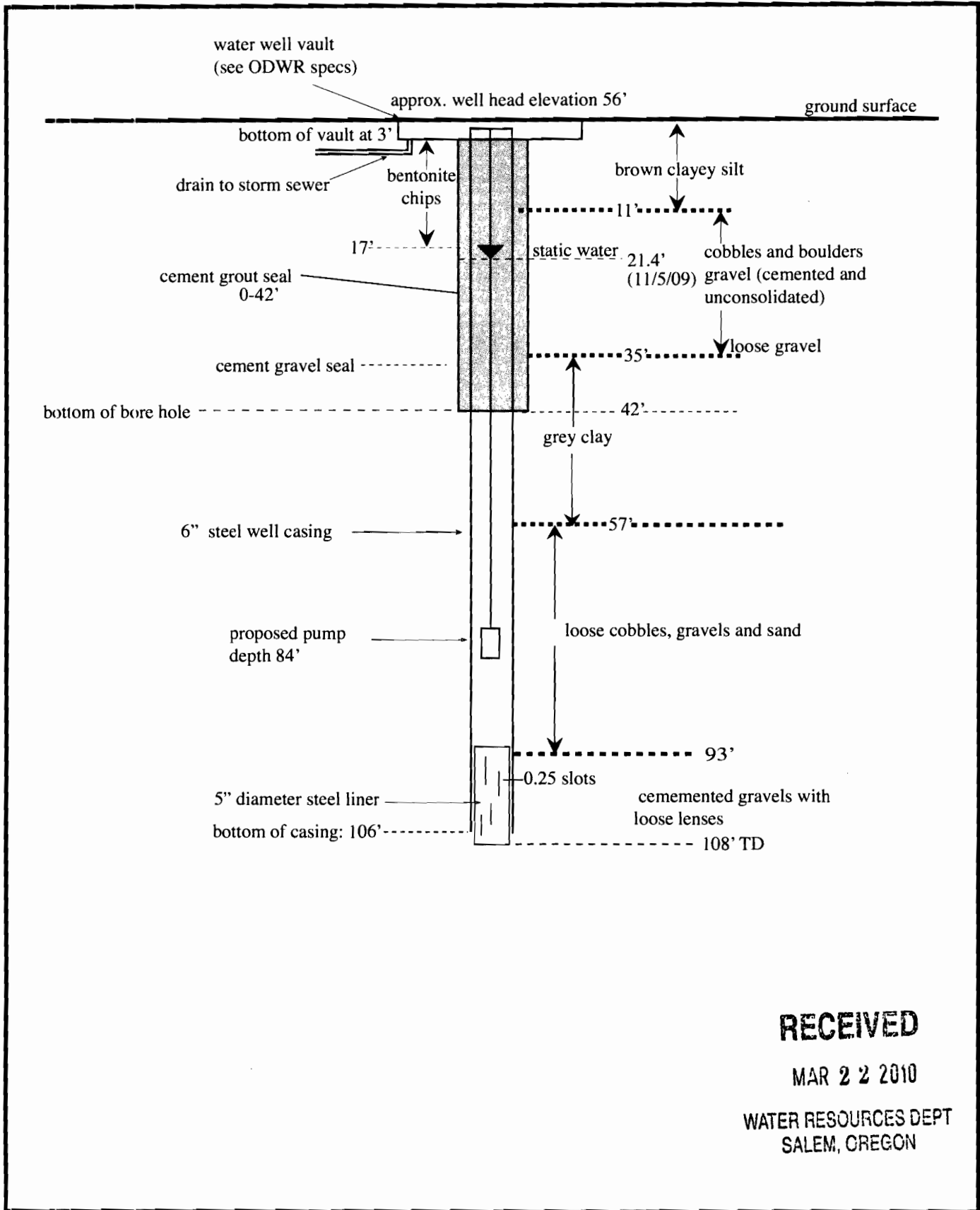
Cross Section of A - A'

approx. scale: 1" = 640'



Project Manager: RNS	Proposed Injection Well (I-1) at: 2002 SE Clinton Street Portland, Oregon	
Drawn By: Katharine Coates		
Project Number: 09-890	approx. horizontal scale: 1 inch = 1.5 feet	Figure 3
Date Last Modified: December 4, 2009	approx. vertical scale: 1 inch = 20 feet	

G-17325



Project Manager: RNS	CYRK Building Production Well As-Built (P-1) at: 2002 SE Clinton Street Portland, Oregon	
Drawn By: Katharine Coates		
Project Number: 09-890		
Date Last Modified: December 22, 2009	approx. horizontal scale: 1 inch = 1.5 feet approx. vertical scale: 1 inch = 20 feet	Figure 4

G-17325



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

12-16-2009

WELL LABEL # L 101375

START CARD # 199727

(1) LAND OWNER
Owner Well I.D. 14-09/P-1
First Name Last Name
Company CYRK BUILDING LLC
Address PO BOX 12085
City PORTLAND State OR Zip 97212

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

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

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

(5) BORE HOLE CONSTRUCTION
Special Standard [ ] (Attach copy)
Depth of Completed Well 108.00 ft.

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

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E
[X] Other Ben-poured
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. Includes diagrams of casing and liner profiles.

Shoe [ ] Inside [X] Outside [ ] Other Location of shoe(s) 106
Temp casing [X] Yes Dia 10 From 0 To 6

(7) PERFORATIONS/SCREENS
Table with columns: Perf, Casing, Screen, Dia, From, To, Scrn/slot width, Slot length, # of slots, Tel/ pipe size.

(8) WELL TESTS: Minimum testing time is 1 hour
[X] Pump [ ] Bailor [ ] Air [ ] Flowing Artesian
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)

Table for well tests with columns: Temperature, Water quality concerns, From, To, Description, Amount, Units.

(9) LOCATION OF WELL (legal description)
County Multnomah Twp 100 S N/S Range 100 E E/W WM
Sec 11 NW 1/4 of the NE 1/4 Tax Lot 11400
Tax Map Number Lot
Lat or Long DMS or DD
[ ] Street address of well [ ] Nearest address

2002 SE CLINTON

(10) STATIC WATER LEVEL
Date SWL(psi) + SWL(ft)
Existing Well / Predeepening
Completed Well 11-11-2009 24
Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES
Table with columns: SWL Date, From, To, Est Flow, SWL(psi), + SWL(ft). Rows include 11-06-2009 and 11-11-2009.

(11) WELL LOG
Table with columns: Material, From, To. Includes Clay-brown, Cemented gravel-cobbles-boulders, etc.

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WATER RESOURCES DEPT
SALEM, OREGON

Date Started 10-20-2009 Completed 11-10-2009

(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 Date
Electronically Filed
Signed

(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 Date 12-16-2009
Electronically Filed
Signed RONALD E MCCONNELL (E-filed)
Contact Info (optional)

Handwritten number 47325

STATE ENGINEER  
Salem, Oregon

MULT Well Record  
2771  
SE 1504

STATE WELL RECORD  
COUNTY Multnomah  
APPLICATION NO. SE-1561

OWNER: Abby McNeill & Abby

MAILING ADDRESS:

LOCATION OF WELL: Owner's No.

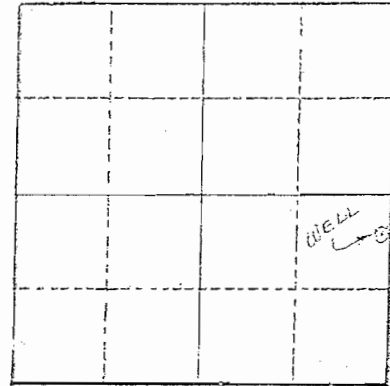
CITY AND STATE:

Portland, Oregon

NE 1/4 SE 1/4 Sec. 11 T. 1 S. R. 1 W.M.

Bearing and distance from section or subdivision

corner 100' W. & 2100' N. from SE cor. Sec. 11



Section 11

Altitude at well 25'

TYPE OF WELL: Drilled Date Constructed 1929

Depth drilled 330' Depth cased 330'

CASING RECORD:

- 16" from surface to 80'
- 12" from surface to 301'
- 10" from 294' to 330'

FINISH:

- Perforated: 40 - 3/8" wide x 1 1/4" vertical from 215 to 240' & from 282 to 297 ft.
- 40 - 1/4" x 2" vertical from 300 to 330 ft.

AQUIFERS:

WATER LEVEL:

20.5'

PUMPING EQUIPMENT: Type Layne & Bowler

H.P. 75

Capacity 1400 G.P.M.

WELL TESTS:

Drawdown 55 ft. after \_\_\_\_\_ hours \_\_\_\_\_ 1400 G.P.M.

Drawdown \_\_\_\_\_ ft. after \_\_\_\_\_ hours \_\_\_\_\_ G.P.M.

USE OF WATER Manufacturing Temp. \_\_\_\_\_ °F. \_\_\_\_\_, 19\_\_\_\_\_

SOURCE OF INFORMATION GR Record

DRILLER or DIGGER \_\_\_\_\_

ADDITIONAL DATA:

Log  Water Level Measurements \_\_\_\_\_ Chemical Analysis \_\_\_\_\_ Aquifer Test \_\_\_\_\_

REMARKS:

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WATER RESOURCES DEPT  
SALEM, OREGON

G-17325

STATE ENGINEER  
 Salem, Oregon

State Well No. 11/1-315  
 County Multnomah  
 Application No. GB-1561  
 65

# Well Log

Owner: Libby, McNeill & Libby

Owner's No. \_\_\_\_\_

Driller: \_\_\_\_\_

210-3765

Date Drilled 1929

CHARACTER OF MATERIAL	(Feet below land surface)		Thickness (feet)
	From	To	
Top soil & clay	0	18	18 74
Loose gravel with some water	18	25	7
Cemented gravel	25	38	13
Silt & sand	38	62	24
Cemented gravel	62	107	45
Yellow clay	107	110	3
Cemented gravel	110	147	37
Gravel with some clay & sand	147	190	43
Cemented gravel	190	215	25
Gravel (water bearing)	215	240	25
Cemented gravel	240	282	42
Water bearing sand & gravel	282	330	48

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 SALEM, OREGON

Salem, Oregon

County Multnomah

Application No.

# Chemical Analysis

OWNER Libby, McNeill, & Libby OWNER'S NO.

ANALYST USGS Address

Date of Collection 11/28/29

Point of Collection

	P.P.M.	P.P.M.
Silica (SiO <sub>2</sub> )	45.	
Iron (Fe) Total	.06	
Manganese (Mn)		
Calcium (Ca)	15.	
Magnesium (Mg)	10.	
Sodium (Na)	8.2	
Potassium (K)	3.0	
Bicarbonate (HCO <sub>3</sub> )	118.	
Carbonate (CO <sub>3</sub> )	0.	
Sulfate (SO <sub>4</sub> )	4.4	
Chloride (Cl)	2.2	
Fluoride (F)		
Nitrate (NO <sub>3</sub> )	.0	
Boron (B)		
Dissolved Solids	141.	
Hardness as CaCO <sub>3</sub>	78.	
Specific Conductance (Micromhos at 25°C)		
pH		
Percent Sodium		
Sodium Absorption Ratio (S.A.R.)		
CLASS		

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**MAR 22 2010**

**WATER RESOURCES DEPT  
SALEM, OREGON**

G-17325

STATE OF OREGON  
 GEOTECHNICAL HOLE REPORT  
 (as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number 3  
 Name HATTEN/JOHNSON ASSOCIATES  
 Address 223 WEST 12TH AVENUE  
 City EUGENE State OR Zip 97401

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

(3) CONSTRUCTION:  
 Rotary Air  Hand Auger  Hollow Stem Auger  
 Rotary Mud  Cable Tool  Push Probe  Other

(4) TYPE OF HOLE:  
 Uncased Temporary  Cased Permanent  
 Uncased Permanent  Slope Stability  Other

(5) USE OF HOLE:  
THERMAL LOOP HOLE

(6) BORE HOLE CONSTRUCTION:  
 Special Construction approval  Yes  No Depth of Completed Hole 300 ft.

HOLE			SEAL			Sacks or pounds
Diameter	From	To	Material	From	To	
10	0	18				
6	18	300				

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of pack \_\_\_\_\_

(7) CASING/SCREEN:

	Diameter	From	To	Gauge				
					Steel	Plastic	Welded	Threaded
Casing:	6"	+6"	19 1/2'	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Screen:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Slot size \_\_\_\_\_

(8) WELL TEST:  
 Pump  Bailer  Air  Flowing Artesian  
 Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_  
 Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
 Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
 Was water analysis done?  Yes  No  
 By whom? \_\_\_\_\_  
 Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 Remarks: \_\_\_\_\_

(9) LOCATION OF HOLE by legal description:  
 County MULTNOMAH Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 1S N or S Range 1E E or W. WM  
 Section 11 NE 1/4 NE 1/4  
 Tax Lot 8 Lot \_\_\_\_\_ Block 54 Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) 3029 SE 21ST & 2023 SE TIBBETS, PORTLAND, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:  
 \_\_\_\_\_ ft. below land surface Date \_\_\_\_\_  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) SUBSURFACE LOG:  
 Ground Elevation +62 (topo map)

Material Description	From	To	SWL
Brown clay	0	8	54
Med-coarse gravel	8	36	26
Gray clay	36	48	14
Med-coarse grav. w/cobb. & bould	48	156	94
Gray clay	156	172	10
Fine-med. gravel	172	240	71
Med-coarse grav. occ. cobb.	240	300	236

Date Started 01/18/02 Date Completed 01/25/02

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px;"> <p style="font-size: 2em; margin: 0;">RECEIVED</p> <p style="margin: 0;">JAN 31 2002</p> <p style="margin: 0;">WATER RESOURCES DEPT. SALEM, OREGON</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p style="font-size: 2em; margin: 0;">RECEIVED</p> <p style="margin: 0;">MAR 22 2002</p> <p style="margin: 0;">WATER RESOURCES DEPT. SALEM, OREGON</p> </div> </div>			

Date started \_\_\_\_\_ Date Completed \_\_\_\_\_

**Professional Certification**  
 (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).  
 I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number WWC 1266  
 Signed [Signature] Date 1/29/02  
 Affiliation A.M. JANNSEN WELL DRILLING CO. INC.

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

ORIGINAL - WATER RESOURCES DEPARTMENT FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER

Q-17325

STATE OF OREGON  
 GEOTECHNICAL HOLE REPORT  
 (as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number 1  
 Name HATTEN/JOHNSON ASSOCIATES  
 Address 223 WEST 12TH AVENUE  
 City EUGENE State OR Zip 97401

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

(3) CONSTRUCTION:  
 Rotary Air  Hand Auger  Hollow Stem Auger  
 Rotary Mud  Cable Tool  Push Probe  Other

(4) TYPE OF HOLE:  
 Uncased Temporary  Cased Permanent  
 Uncased Permanent  Slope Stability  Other

(5) USE OF HOLE:  
THERMAL LOOP HOLE

(6) BORE HOLE CONSTRUCTION:  
 Special Construction approval  Yes  No Depth of Completed Hole 300 ft.

HOLE			SEAL			Sacks or pounds
Diameter	From	To	Material	From	To	
10	0	19	Bentonite	0	19	8 sks
6	19	300				

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of pack \_\_\_\_\_

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel			
					Plastic	Welded	Threaded	
Casing:	6"	+6"	19 1/2	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Screen:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Slot size \_\_\_\_\_

(8) WELL TEST:  
 Pump  Bailer  Air  Flowing Artesian  
 Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_  
 Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
 Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
 Was water analysis done?  Yes  No  
 By whom? \_\_\_\_\_  
 Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 Remarks: \_\_\_\_\_

(9) LOCATION OF HOLE by legal description:  
 County MULTNOMAH Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 1S N or S Range 1E E or W. WM.  
 Section 11 NE 1/4 NE 1/4  
 Tax Lot 8 Lot \_\_\_\_\_ Block 54 Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) 3029 SE 21ST & 2023 SE TIBBETS, PORTLAND, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:  
 \_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) SUBSURFACE LOG:  
 Ground Elevation \_\_\_\_\_

Material Description	From	To	SWL
Brn silty clay	0	9	
Med-coarse grav.w/brn sand	9	36	
Gray clay	36	49	
Med-coarse grav. w/sand	49	61	
Med-coarse grav.w/cob.&bould.	61	135	
Fine-med grav., sand & clay	135	200	
Fine-coarse grav.&coarse	200	300	
below 244 ft.			

Date Started 01/03/02 Date Completed 01/10/02

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
RECEIVED			
JAN 31 2002			
RECEIVED			
WATER RESOURCES DEPT. SALEM, OREGON			
MAR 22 2010			
WATER RESOURCES DEPT SALEM, OREGON			

Date started \_\_\_\_\_ Date Completed \_\_\_\_\_

Professional Certification  
 (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

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

License or Registration Number WWC 1261  
 Signed \_\_\_\_\_ Date 1/29/02  
 Affiliation A.M. JANNSEN WELL DRILLING CO. INC.

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

STATE OF OREGON  
**WATER WELL REPORT**  
 (as required by ORS 537.765)

MULTI  
 508

(START CARD) # 151E-1  
W-28085

(1) OWNER: Well Number: 22-91  
 Name: Shanghai Co.  
 Address: 2865 SE Division St.  
 City: Portland State: Or. Zip: 97202

(2) TYPE OF WORK:  
 New Well  Deepen  Recondition  Abandon

(3) DRILL METHOD  
 Rotary Air  Rotary Mud  Cable  
 Other

(4) PROPOSED USE:  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Other

(5) BORE HOLE CONSTRUCTION:  
 Special construction approval Yes  No  Depth of Completed Well 171 ft.  
 Explosives used   Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE		SEAL		Amount	
Diameter	From To	Material	From To	sacks or pounds	
	12 0 25	Bentonite	0 25	26	
	8 25 171				

How was seal placed: Method  A  B  C  D  E  
 Other Bentonite  
 Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8	1	168	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) 168 ft

(7) PERFORATIONS/SCREENS:  
 Perforations Method \_\_\_\_\_  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailor  Air  Flowing Artesian  
 Yield gal/min Drawdown Drill stem at Time  

60	42		1 hr.
60	42		4 hrs

Temperature of water 56 Depth Artesian Flow Found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom \_\_\_\_\_  
 Do any strata contain water not suitable for intended use?  Too little  
 Why  Muddy  Odor  Colored  Other \_\_\_\_\_  
 Strata: \_\_\_\_\_

(9) LOCATION OF WELL by legal description:  
 County Mult. Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 13 N or S. Range 1E E or W. W.M.  
 Section 1 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_  
 Tax Lot \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (for nearest address) 2510 SE 27th  
Portland, Or. 97202

(10) STATIC WATER LEVEL:  
47 ft. below land surface. Date 9-30-91  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) WATER BEARING ZONES:  
 Depth at which water was first found \_\_\_\_\_

From	To	Estimated Flow Rate	SWI
64	165	60	47

(12) WELL LOG: Ground elevation 1100

Material	From	To	SWI
Clay - brown	0	33	+67
Cement gravel	33	64	+36
Sand, gravel - loose	64	165	+26
Cement gravel	165	171	-71

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WATER RESOURCES DEPT  
 SALEM, OREGON

Date started 9-3-91 Completed 9-30-91

(unbonded) Water Well Constructor Certification:  
 I certify that the work I performed on the construction, alteration, abandonment of this well is in compliance with Oregon well construct standards. Materials used and information reported above are true to my knowledge and belief.  
 Signed Steinman Bros. Dr. Cor. WWC Number \_\_\_\_\_ Date \_\_\_\_\_

(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. Work performed during this time is in compliance with Oregon construction standards. This report is true to the best of my knowledge and belief.  
 Signed Paul F. McDaniel WWC Number 1 Date 10-22-91

G-47325

## Open Loop Low Temperature Geothermal Heating and Cooling System

Legal Description: LOCATION: 2002 SE CLINTON ST.  
TAX ROLL: AUERS ADD; LOT 1 BLOCK 1; N 40' OF LOT 2 BLOCK 1  
MAP NUMBER: 3332 OLD  
PROPERTY ID: R110554  
STATE ID: 1S1E11AA 11400

The following narrative is of a proposed Low Temperature Geothermal (LTG) groundwater system. The proposed system is for the heating and cooling of a building to be constructed at 2002 SE Clinton Street, Portland, OR 97202 (Tax Lot # 11400). Figure 1 shows the site location and existing groundwater wells known in the area. Construction of the building is projected to begin in the spring 2010. The approximate floor space of the building will be 14,300 square feet (2 story with underground garage). Heating and cooling the building will be accomplished with the proposed Low Temperature Geothermal (LTG) 'open loop' system. This type of system incorporates two groundwater wells, a production well (P-1) and an injection well (I-1). Although the building is still in the process of final design, the footprint of the building and well locations are shown on attached Figure 2. Well water pumped from P-1 will be drawn from the Troutdale Gravel Aquifer (TGA) at 108 feet below grade (see P-1 well construction on Figure 4). This water will be circulated through a stainless steel heat exchanger where heat will either be extracted from or injected into the well water. The groundwater will then be re-injected back into the same TGA aquifer through an injection well located 109' southeast at the opposite corner of the property.

In addition to the groundwater geothermal system, domestic use of the groundwater in the building is being considered and is being applied for in this application. A portion of the groundwater pumped from the production well P-1 would be diverted for domestic use for both residential use in the upper floor living residence and to offices on the ground floor. Maximum demand for the domestic water would be 35 gallons per minute (gpm). This demand combined with the expected short-term maximum demand (during weather extremes, either hot or cold) for the heating cooling system of 65 gpm, the total amount of water being applied for in the water right application is 100 gpm.

The heat exchanger is expected to lower (or increase) the water temperature a maximum of 6-12°F. All groundwater pumped from P-1 will remain under pressure as it is transferred from and then re-injected into the TGA aquifer at a depth of between 95 and 125 feet below grade (see Injection Well Diagram in Figure 3). All water used for heating and cooling will be re-injected back into the aquifer.

Construction of both the production and injection wells will follow Water Resource standards (OAR 690-200 to 690-230). Proposed construction of P-1, the production well, is presented in Figure 4. Proposed construction of I-1, the injection well is presented in Figure 3. Other permits to be obtained for this system will include: Low Temperature Geothermal approval, a Limited Water Use License, and an Underground Injection Control Permit. Attached documents to this permit include: Form Q and a Land Use Information Form and a Pump Test Data Sheet for P-1.

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SALEM, OREGON

Water right application

G47325



Well logs from five nearby water wells (well locations shown in Figure 1) are presented with is application to document subsurface hydrogeology. A cross-section of the subsurface hydrogeology has been developed from these well logs and presented in Figure 5.

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**WATER RESOURCES DEPT  
SALEM, OREGON**

Water right application

G-17325

## SCHEDULE A

### *Pacific Northwest Title Insurance Company*

Name and Address of Title Insurance Company:  
Pacific Northwest Title Insurance Company  
9020 SW Washington Square Road #220  
Tigard, OR 97223

File No.: **11-1069650**

Policy No.: **2061-7971066**

Address Reference: 2002 SE Clinton Street, Portland, OR 97202

Amount of Insurance: \$810,000.00

Premium: \$2,995.00

Date of Policy: December 12, 2008 at 9:44 A.M.

1. Name of Insured:

CYRK BUILDING, LLC, AN OREGON LIMITED LIABILITY COMPANY

2. The estate or interest in the Land that is insured by this policy is:

Fee Simple

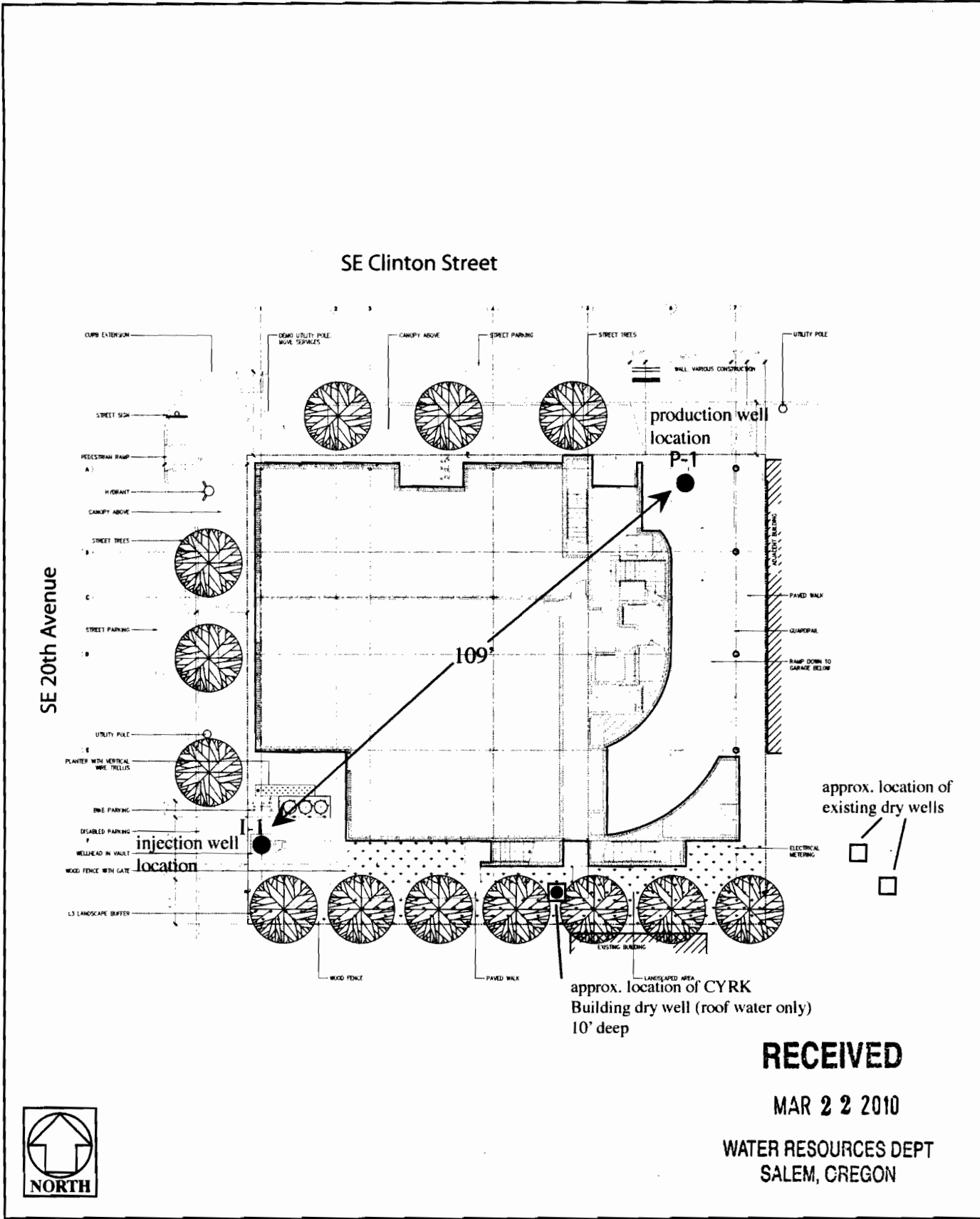
3. Title is vested in:

CYRK BUILDING, LLC, AN OREGON LIMITED LIABILITY COMPANY

4. The Land referred to in this policy is described as follows:

Real property in the City of Portland, County of Multnomah, State of Oregon, described as follows:

Lot 1 and the North 40 feet of Lot 2, Block 1, AUERS ADDITION TO EAST PORTLAND, in the City of Portland, County of Multnomah and State of Oregon.



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**WATER RESOURCES DEPT  
SALEM, OREGON**



ROGER N. SMITH ASSOCIATES, INC.  
*Groundwater and Environmental Consultants*

Project Manager Roger N. Smith
Drawn By Katharine Coates
Project Number 09-890
Date Last Modified December 9, 2009

<p><b>CYRK Building Footprint with Injection Well and Production Well Locations</b></p>
<p>approx. scale: 1" = 26.55'</p>
<p><b>Figure 2</b></p>

G-17325

**WATER WELL REPORT**  
STATE OF OREGON

*Per WWC:  
T. R. TS.  
S/IE-1*

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State Well No. 15/IE-1  
State Permit No. \_\_\_\_\_

MAR 14 1984

**WATER RESOURCES DEPT.**

**MULT**  
2700

(1) OWNER:  
Name Shanghai Co.  
Address 2865 S. E. Division  
City Portland, Oregon 97202 State Oregon

(2) TYPE OF WORK (check):  
New Well  Deepening  Reconditioning  Abandon   
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL: (4) PROPOSED USE (check):  
 Air  Driven  Domestic  Industrial  Municipal   
 Mud  Dug  Irrigation  Test Well  Other   
 Bored  Thermal:  Withdrawal  Reinjection

CASING INSTALLED: Steel  Plastic   
 Threaded  Welded   
 8" Diam. from 41" ft. to 179" ft. Gauge 250  
 " Diam. from " ft. to " ft. Gauge \_\_\_\_\_

LINER INSTALLED:  
 " Diam. from " ft. to " ft. Gauge \_\_\_\_\_

(6) PERFORATIONS: Perforated?  Yes  No  
 Type of perforator used Mills Knife  
 Size of perforations 1/4 in. by 2 in.  
100 perforations from 130 ft. to 155 ft.  
 perforations from " ft. to " ft.  
 perforations from " ft. to " ft.

(7) SCREENS: Well screen installed?  Yes  No  
 Manufacturer's Name \_\_\_\_\_  
 Type \_\_\_\_\_ Model No. \_\_\_\_\_  
 Diam. \_\_\_\_\_ Slot Size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 Diam. \_\_\_\_\_ Slot Size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

(8) WELL TESTS: Drawdown is amount water level is lowered below static level  
 pump test made?  Yes  No If yes, by whom? Steinman Bros.  
215 gal./min. with 73 ft. drawdown after 6 hrs.  
175 " " 61 " " 8 " "  
 Air test \_\_\_\_\_ gal./min. with drill stem at \_\_\_\_\_ ft. \_\_\_\_\_ hrs.  
 Bailer test 100 gal./min. with 15 ft. drawdown after 1 hrs.  
 Artesian flow \_\_\_\_\_ g.p.m.  
 \_\_\_\_\_ temperature of water 53° Depth artesian flow encountered \_\_\_\_\_ ft.

(9) CONSTRUCTION: Special standards: Yes  No   
 Well seal—Material used Cement grout with 5% bentonite.  
 Well sealed from land surface to \_\_\_\_\_ ft. 35  
 Diameter of well bore to bottom of seal \_\_\_\_\_ in. 12  
 Diameter of well bore below seal \_\_\_\_\_ in. 8  
 Number of sacks of cement used in well seal \_\_\_\_\_ sacks 16  
 How was cement grout placed? Pumped through a one-inch pipe between the 12-inch hole and the eight-inch casing.  
 Was pump installed? No-Sanetai Pumps, Inc. \_\_\_\_\_ Depth \_\_\_\_\_ ft.  
 Was a drive shoe used?  Yes  No Plugs \_\_\_\_\_ Size: location \_\_\_\_\_ ft.  
 Did any strata contain unusable water?  Yes  No  
 Type of Water? \_\_\_\_\_ depth of strata \_\_\_\_\_  
 Method of sealing strata off \_\_\_\_\_  
 Was well gravel packed?  Yes  No Size of gravel: \_\_\_\_\_  
 placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

(10) LOCATION OF WELL:  
 County Multnomah Driller's well number 4-84  
 Tax Lot # \_\_\_\_\_ Lot \_\_\_\_\_ Blk \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Address at well location: 2865 S. E. Division  
Portland, Oregon 97202

(11) WATER LEVEL: Completed well.  
 Depth at which water was first found 67 ft.  
 Static level 57 ft. below land surface. Date 2-29-84  
 Artesian pressure \_\_\_\_\_ lbs. per square inch. Date \_\_\_\_\_

(12) WELL LOG: Diameter of well below casing 8-inch  
 Depth drilled 181 ft. Depth of completed well 180 ft.  
 Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Silt; brown	0	27	
Silt and clay; brown	27	31	
Clay; brown	31	46	
Cemented gravel	46	67	
Sand, gravel and cobbles	67	159	57
Sandy clay; brown	159	171	
Cemented gravel	171	181	

Conductance: 208 umho/cm at 18 C  
 Iron concentration: 0.09 mg/l  
 Coliform membrane filter colony count:  
Less than 1 per 100 mL

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**WATER RESOURCES DEPT**  
**SALEM, OREGON**

Work started January 21, 1984 Completed February 29, 1984  
 Date well drilling machine moved off of well February 29, 1984

Drilling Machine Operator's Certification:  
 This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.  
 [Signed] \_\_\_\_\_ Date 3-10, 1984  
 Ronald F. McConnell (Drilling Machine Operator)  
 Drilling Machine Operator's License No. 398

Water Well Contractor's Certification:  
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.  
 Name Steinman Bros. Drilling Co. (Type or print)  
 Address 3023 S. E. Holly Ave., Milw., Oregon.  
 [Signed] \_\_\_\_\_  
 Ronald F. McConnell (Water Well Contractor)  
 Contractor's License No. 1 Date March 10

NOTICE TO WATER WELL CONTRACTOR  
 The original and first copy of this report are to be filed with the \_\_\_\_\_

WATER RESOURCES DEPARTMENT,  
 SALEM, OREGON 97310  
 within 30 days from the date of well completion.

G-17325

*W. L. Johnson, Inc. Range 1-2*  
*Well # 7-07*  
*2865 S.E. Division*  
*Portland, Oregon 97222*



# aqua tech laboratory, inc.

2417 S.E. HAWTHORNE PORTLAND, OREGON 97214  
(503) 233-9871

March 20, 1984

Steirman Bro. Drilling Co.  
3023 S. E. Holly Ave.  
Milwaukie, OR 97222

Laboratory Report No. 830331

Subject: Chemical analyses of well water sample from  
Shanghai Co.

Sample collected: March 10, 1984

Sample location: 2865 S. E. Division, Portland

<u>Analysis</u>	<u>Concentration, mg/L, or as stated</u>
Specific conductance	240 $\mu$ mho/cm at 23 C
pH	7.5 unit
Alkalinity, as CaCO <sub>3</sub>	78
Hardness, as CaCO <sub>3</sub>	100
Calcium	23.2
Magnesium	10.2
Chloride	8.0
Fluoride	0.15
Nitrate, as N	3.7
Sodium	8.6
Potassium	3.15
Sulfate	21.8
Iron	0.09
Manganese	< 0.01

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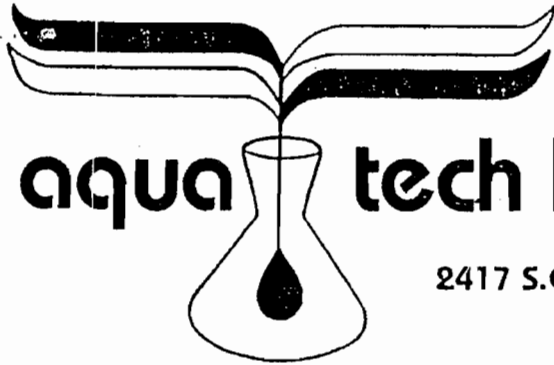
WATER RESOURCES DEPT  
SALEM, OREGON

AQUA-TECH LABORATORY, INC.

*C. L. Chang*  
C. L. Chang

WATER AND WASTEWATER ANALYSIS

G-17325



Shanghai Co.  
2865 S. E. Division  
Portland, Oregon 97202  
Multnomah County

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MAR 21 1984  
WATER RESOURCES DEPT  
SALEM, OREGON

# aqua tech laboratory, inc.

2417 S.E. HAWTHORNE PORTLAND, OREGON 97214  
(503) 233-9871

February 29, 1984

## WATER BACTERIOLOGICAL EXAMINATION

Report No. 840266

Water System: Shanghai Co. (private well)

Sample Point: well head

Collected by: Steirman Bro. Drilling  
Well #4-84

Date Collected: 2 / 27 / 84  
mo. day yr  
a.m.

Source of Water:  well  
 spring  
 surface water

Time Collected: 3 : 30 p.m.

Remarks: address:  
2865 S. E. Division  
Portland, OR

Chlorination: yes ; no

Type of Sample: Routine   
Special   
Resample   
Check

Conductance : 208 umho/cm at 18 C  
Iron concentration --- 0.09 mg/L

Date & Time Received: 2-28-84, 11:30 a.m. Test Method: Multiple tube   
Date & Time Tested: 2-28-84, 2 p.m. Membrane filter

ml sample	Coliform test				EMB 24	LTB	
	LTB		BGLB			24	48
	24	48	24	48		24	48

Membrane filter  
colony count

Less than 1 per 100 mL

The test results show

sample does

sample does not

conform with APHA Standards.

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WATER RESOURCES DEPT  
SALEM, OREGON

Tested by

C. L. Chang

Supervisor

C. L. Chang

water & wastewater analyses

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