CLACKAMAS COUNTY

COMMUNITY HEALTH DIVISION

PUBLIC SERVICES BUILDING, # 367
2051 KAEN RD OREGON CITY, OR 97045

October 17, 2011

Holly Iberg
P.O. BOX 1872
LAKE OSWEGO, OREGON 97035

RE: WATER SYSTEM SURVEY OF RIVERBEND-RIVERBANK COMMUNITY WATER SYSTEM (PWS#4100458)

Dear Ms. Iberg,

Thanks to Don Smethers for his time and assistance in conducting a **Water System Survey at Riverbend-Riverbank Community on 8-30-11**. The Drinking Water Program (DWP) aims for a Water System Survey to be conducted every three years. The main purpose of the survey is to evaluate the entire water system in terms of supplying safe drinking water to the public. I have enclosed a copy of the report for your records. Please let me know if any corrections need to be made.

The polyphosphate sequestering treatment for iron removal does not have plan review approval. As this is a treatment for a secondary contaminant there will be no fee for plan review. Please contact Marsha Fox at the Drinking Water Program for requirements to begin the plan review process. Marsha can be contacted at #971-673-0408

No significant deficiencies and rule violations noted on the date of the survey.

If you have any questions or concerns, please call me at **(503) 742-5367**. Your cooperation is appreciated.

Sincerely,

Joel Ferguson, REHS
Environmental Health Specialist II
Clackamas County Environmental Health Department – Drinking Water Program

cc: DHS-DWP, Portland
File

DHS
Oregon Department of Human Services

Riverbend-Riverbank Community
Water System Survey
DHS Drinking Water Program

PWS ID: 41 **00458**
Survey Date: **8/30/11**

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Deficiency Summary

Surveyor: Joel Ferguson, R.E.H.S.

Date Corrective Action Plan is due: n/a **County:** Clackamas

Yes	No	Significant Deficiencies and Rule Violations:	Date to be corrected	Date corrected
☐	☒	**Source:**		
		Well construction:		
		Spring/other source:		
☐	☒	**Treatment:**		
		Surface water treatment:		
		Disinfection:		
		Other treatment:		
☐	☒	**Finished Water Storage:**		
☐	☒	**Distribution:**		
☐	☒	**Monitoring:**		
☐	☒	**Management & Operations:**		
☐	☒	**Operator Certification:**		
☐	☒	**Other Rule Violations:**		

Comments:
Be sure to take annual source sample at each well in 2011.

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Inventory and Narrative

☐ **Outstanding Performer** **County:** Clackamas

Type	Status	Size	Season
☒ Community (C)	Population:	215	☒ All year ☐ Seasonal
☐ Non Transient Non-Community (NTNC)	Connections:	79	Begins: (mm/dd) /
	Service Chars:	su	Ends: (mm/dd) /
☐ Transient Non-Community (TNC)	Ownership:	2	**Coliform Sampling**
☐ State Reg/Non EPA (NP)	**License**		**Period:** ☒ Monthly ☐ Quarterly
	☒ Not Lic ☐ HD ☐ Ag		Samples Required: 1

Operator Certification Required			Responsible Agency
WD	WT	FE ☐ Small WS ☒	☐ State ☒ County ☐ Dept of Agriculture

Primary Administrative Contact (Mailing Address):

Contact Name: Holly Iberg Phone: (503) 697-4573
Title: president Cell: ( )
Street Address: P.O. Box 1872 Emergency #: ( )
City/State/Zip: Lake Oswego, Oregon 97035 Email:

Legal/Owner Address:

Contact Name: Riverbend-Riverbank Community Phone: ( )
Title: Cell: ( )
Street Address: P.O. Box 1872 Emergency #: ( )
City/State/Zip: Lake Oswego, Oregon 97035 Email:

System Physical Address:

Contact Name: Phone: ( )
Title: Cell: ( )
Street Address: 455 Hebb Park Rd. Emergency #: ( )
City/State/Zip: Email:

Emergency Systems Available:

Name: None **PWS ID#:** 41

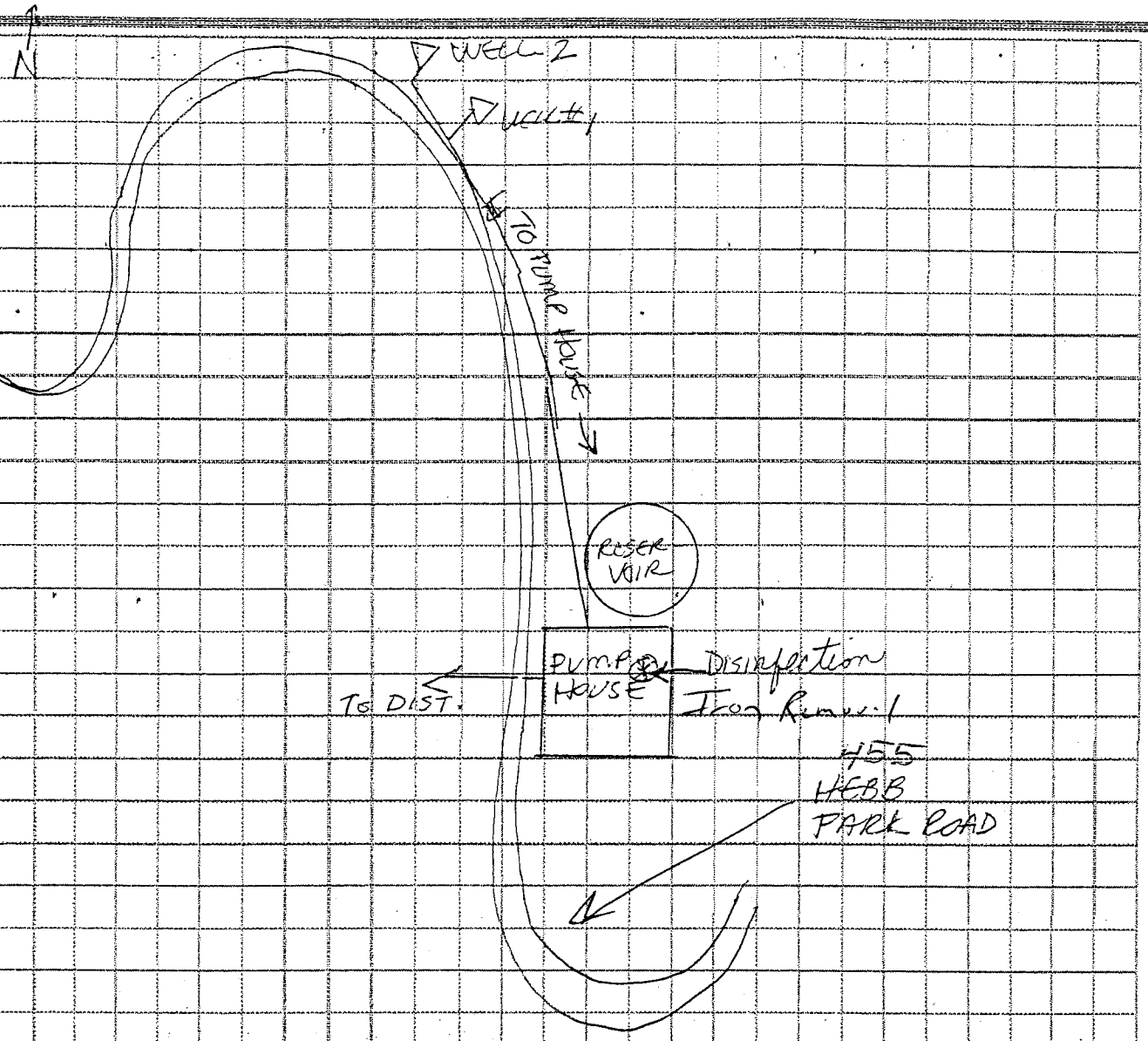
Narrative:

This community system serves a rural neighborhood off Petes Mountain Rd. near the Willamette River & Hebb Park. It consists of a two cased wells, five pressure tanks (119 gallons each), 75 K gallon reservoir, 2-5hp variable drive pumps & 1-5 hp back up pump. The system chlorinates for residual maintenance & injects poly-phosphate for iron removal.

Schematic Drawing

OHD Drinking Water Program Sanitary Survey

System: RIVERBEND-RIVERBANK COMMUNITY PWS ID: 41 00458



Include:

- ☐ **All Sources** (show entry point configuration)
- ☐ **All Reservoirs** (show inlet/outlet configuration and baffling)
- ☐ **Points of Treatment & Disinfection**
- ☐ **Distribution**
- ☐ **Interties With Other Systems**
- ☐ **Other Pertinent Information**

SS3A699

Please send updated pump House Diagram when completed.

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Source Information

ID	Entry Points	Source Type					Availability						Treatment
ID	Name (Location where water enters distribution and is sampled)	Ground	Surface	GWUDI	Pur. ground	Pur. surface	Permanent	Seasonal	Begins	Ends	Emergency	None	Treatment Codes**
A	EP for Wells 1 & 2	☒	☐	☐	☐	☐	☒	☐			☐	☐	X421, F680
		☐	☐	☐	☐	☐	☐	☐			☐	☐	
		☐	☐	☐	☐	☐	☐	☐			☐	☐	
		☐	☐	☐	☐	☐	☐	☐			☐	☐	

ID	Individual Sources			Source Type					Availability						Treatment
ID	Name (Contributing to Entry Point)	*Land Use	Capacity (GPM)	Ground	Surface	GWUDI	Pur. ground	Pur. surface	Permanent	Seasonal	Emergency	Abandoned	Disconnected	None	Treatment Codes**
AA	Well #1 (clac9528)	H	120	☒	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	
AB	Well # 2 (L41302)	H	120	☒	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

*Land Use Codes: (A) **Pristine Forest** (B) **Irrigated Crops** (C) **Non-Irrigated Crops** (D) **Pasture** (E) **Light Industry** (F) **Heavy Industry** (G) **Urban-Sewered Area** (H) **Rural On-Site Sewage Disposal** (I) **Urban On-Site Sewage Disposal** (J) **Rangeland** (K) **Managed Forest** (L) **Commercial** (M) **Recreational Use**
**See "Treatment" page for treatment code descriptions.

List current operational patterns for all sources (e.g., Well 1 used continuously @ 100 gpm. Be as specific as possible)
Well # 1 & 2 alternate

Yes No

☒ ☐ Does the water system have water rights for all sources? ☐ Not Required

☐ ☒ For GW systems, have there been any modifications to the existing well(s) or spring(s) (e.g. deepened, change in screened interval, springbox reconstruction, etc.)? Describe below:

☒ ☐ Has a Source Water Assessment been completed by ☒ DWP or ☐ DEQ? If yes, attach delineation map and review boundaries with operator.

☐ ☐ Has system implemented source water protection strategies? If yes, describe below:

☐ ☐ Is the water system interested in source water protection? If yes, contact regional geologist at 541-726-2587.

Comments:

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corrected page

Well Information

	Source ID#:	AA		AB							
	Source Name:	Well #1		Well # 2							
	Well Tag ID (e.g. L12345): L			41302							
	(if no well tag ID, enter WRD Well Log ID below)	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	Well Log on File:	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	WRD Well Log ID (e.g. COLU123):	Clac9528									
Wellhead Construction	Well still active	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Depth of well (ft.)	221		250							
	Depth of grout seal (ft.)	70		103							
	Year of installation (yr.)	1974		2000							
	Casing diameter (in.)	10		8							
	• Sanitary seal & casing watertight	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	• If vented, properly screened	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	• Wellhead protected from flooding	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	• Well meets setbacks from hazards	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Nearest hazard (ft)	100 +		100 +							
	Water level device	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Concrete slab around casing	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Casing height ≥ 12-in. above slab/grade	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Pitless adapter	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Constructed properly per SWA report	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
Control Building	Protective housing	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Flowmeter	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Pressure gauge	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Pump to waste piping	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	• Raw sample tap	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	• Treated sample tap ☐N/A	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Heated	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Lighted	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Floor drain	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Well pump removal provision	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pump	Pump type*	su		su							
	Bearing lubrication (FG oil/water)	Water		water							
	Pumping capacity (gpm)	120		120							
	Amount of water pumped per year (gallons)										
	Percent of total well supply provided (%)**	50		50							
	Static water level (ft below ground surface)	90		120							
	Static water level date	'74		2000							

*** Pump Types:** (VT) Vertical Turbine (SU) Submersible (CE) Centrifugal (SJ) Shallow Jet (DJ) Deep Jet (OT) Other

** The sum of the % for all the wells should equal 100% (e.g. for 2 wells, if well #1 provides 80%, then well #2 must provide 20%).

Comments:

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Potential Sanitary Hazards

(From OAR 333-061-0050(2)(a)(F))

The following sanitary hazards are not allowed within 100 feet of a well:

- Any existing or proposed pit privy
- Subsurface sewage disposal drain field
- Cesspool
- Solid Waste disposal site
- Pressure sewer line
- Buried fuel storage tank
- Animal yard, feedlot, or animal waste storage
- Untreated storm water or gray water disposal
- Chemical (including solvent, pesticides, and fertilizers)storage, usage, or application)
- Fuel transfer or storage
- Mineral resource extraction
- Vehicle or machinery maintenance or long term storage
- Junk / auto / scrap yard
- Cemetery
- Unapproved well
- Well that has not been properly abandoned or of unknown or suspect construction
- Source of pathogenic organisms
- Any other similar public health hazards

The following are not allowed within 50 feet of a well:

- Gravity sewer line
- Septic Tank

Exemptions to these setbacks must be listed and documented within the plan approval letter.

If a surface water source is located within 500 feet of a well or spring, please note the water body name and the distance to the well or spring. All groundwater sources within 500 feet to a surface water source should be considered for potential surface water influence. Check the file for correspondence. If a review has been done indicate results in comment section. If not, contact the Springfield office 541-726-2587.

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Disinfection

No #	Disinfection Method*	Location	Disinfection Source Water	Residual Maintenance	Other Purpose	Proportional to Flow	Dosage Recorded
1	Sodium hypochlorite	Pump house	☐	☒		☒	☒
			☐	☐		☐	☐
			☐	☐		☐	☐

*Chlorine Gas, Sodium Hypochlorite, On-site Generated Sodium Hypochlorite, Calcium Hypochlorite, Chloramines, Ozone, UV, Mixed-Oxidants, Other

Yes No
☒ ☐ • Is a DPD or other EPA approved method used?
☒ ☐ • Are residuals recorded as required?

Yes No
☐ ☐ • NSF 60/61 certified (or equivalent)?

Distribution: ☒ ≥ 2x weekly # samples: 1 ☐ w/Coliform Other: _____
EP (SWTR & GWR Comp. Mon.): ☐ ≥ 1x Daily # samples: _____ ☐ Continuous if > 3300 pop ☐ N/A

Range of chlorine residuals at first user: mg/l = .2-.4

☐ ☒ • Are raw water samples taken as required (GWR assessment monitoring, etc.)? ☐ N/A
How often? Be sure to take annual source sample in 2011

Chlorine gas ☐ N/A

Yes	No		Yes	No	
☐	☐	Separate room for gas storage and feeder	☐	☐	Gas cylinders properly secured
☐	☐	Fan with on/off switch outside	☐	☐	Door that opens out
☐	☐	Vent located next to the floor	☐	☐	Self-contained breathing apparatus
☐	☐	Door with a window	☐	☐	Air scrubber system

UV: ☐ 4.0-log virus ☐ Total coliform + ☐ Other: _____

Yes	No		Yes	No	
☐	☐	• Plan Review approval	☐	☐	• Is lamp sleeve cleaned
☐	☐	• Does all water contact UV (no bypass)	☐	☐	• Is lamp replaced per manufacturer
☐	☐	• Annual raw water sampling up to date ☐ N/A	☐	☐	• Intensity sensor with alarm or shut-off

CT evaluation for disinfection ☐ N/A

Disinfection Requirement:
☐ (sw) 0.5 log inactivation Giardia ☐ (sw) 1.0 log inactivation Giardia
☐ (gw) 4.0 log inactivation viruses ☐ (sw) log inactivation Crypto: _____
☐ (gw) Minimum chlorine residual: _____ mg/l

Yes No
☐ ☐ • Does the contact chamber have effluent flow meter or adequate alternative?
If no, how is peak flow determined for CT calculations? _____
☐ ☐ • Has a tracer study been conducted or adequate alternative? Tracer Study Date: _____
Demand flow (gpm): _____ Baffling factor (%): _____
Volume used (gal): _____ Results (min): _____
☐ ☐ Adequate alternate method for contact time? Describe: _____

Peak hour demand flow over the past 12 months: gpm = _____
Lowest operating volume over the past 12 months: gallons = _____

Yes No
☐ ☐ Are on-line chlorine analyzers verified weekly with DPD type or EPA approved test kit?
☐ ☐ • (SW only) Are pH, temp, and chlorine residual measured daily before or at the first user?
☐ ☐ • Are CT values being calculated correctly?
☐ ☐ • Are CT values met at all times?

Comments:

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Treatment

Process Used*	Chemical Added**	Purpose	Location in System	Code***
Sequestration	Poly Phosphate	Iron removal	Pump room	F680

*See "Treatment Plant Inspection" page for details on filtration. **See "Disinfection" page for details on disinfection equipment. ***See Treatment Codes on back.

Yes No

☒ ☐ Is equipment maintained properly? _____
☐ ☒ Is redundant equipment available? _____

What lab equipment is available and used? (jar testing, turbidimeter, pH meter, etc.):

☒ ☐ • Are chemicals NSF Standard 60 certified or equivalent? (☐N/A - no chemicals are used)

Comments:

Yes / No

☐ ☐ Does system practice corrosion control?
☐ ☐ • Is corrosion control operated within parameters set by DWP? ☐N/A

Comments:

Records Kept:

Yes / No

☒ ☐ Dosages
☐ ☐ Raw pH
☐ ☐ Raw temperature
☐ ☐ Raw turbidity and/or particle counts

Yes / No

☐ ☐ Flowrate
☐ ☐ Treated pH
☐ ☐ Treated temperature
☐ ☐ Treated turbidity

Comments:

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Storage and Pressure Tanks

Number	Name	Tank Type*	Tank Material	Year Built	Volume (gal.)
1	Reservoir	g	Steel/concrete	70's	75K
2-6	Hydro pneumatic	p	Steel	'09	595

* (G) Ground (E) Elevated (P) Pressure **Total Volume:** 75,595

	Reservoir Number:	1								
	Reservoir Features	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Hatch	● Secured (e.g. locked, bolted, etc)	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	● Watertight	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Curbed lid (shoe box style)	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
Features	Drain to daylight	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Overflow	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	● Overflow/drain protected (screen/flap/valve)	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	● Screened vent	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Water level gauge	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Bypass piping	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Fence/gate	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐
	Cathodic plates watertight ☒ N/A	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Alarm for high or low levels	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
Maintenance	Exterior in good condition	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Interior in good condition	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Approved interior coating	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Inspection schedule	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Cleaning schedule	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Continuously disinfected (● post '81 redwood)	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
Plumbing Config.	Separate inlet/outlet	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Baffling	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐
	Used for contact time	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Pressure Tanks **Number:**	2-6				**Comments**					
Pressure Tanks	Used for contact time	☐	☒	☐	☐						
	Accessible for maintenance	☒	☐	☐	☐						
	Separate inlet/outlet	☐	☒	☐	☐						
	Bypass piping	☒	☐	☐	☐						
	Access port ☒ N/A	☐	☐	☐	☐						
	Drain	☒	☐	☐	☐						
	Pressure relief device	☒	☐	☐	☐						
	Air bladder/diaphragm	☒	☐	☐	☐						
	Valve for adding air	☒	☐	☐	☐						
	Water level sight glass ☒ N/A	☐	☐	☐	☐						

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Distribution System Information

Service Area and Facility Map

Yes	No	
☒	☐	Does the system have a service area and facility map (indicate features on map):

- ☒ Booster pumps
- ☐ Pressure regulating valves
- ☐ Pressure zones
- ☒ Sampling points
- ☒ Sources-wells & withdrawal points
- ☒ Storage facilities (reservoirs)
- ☒ Treatment facilities
- ☒ Water lines (including size and material)

Distribution Data

Yes	No		Comments
☒	☐	• System pressure >20 psi	
☐	☒	Are service connections metered? (what %)	
☒	☐	Water system leakage <10%	
☒	☐	Waterline depth >30"	
☒	☐	Piping looped	
☐	☒	Hydrants or blowoffs on all dead ends	
☒	☐	Routine flushing (How often)	monthly
☒	☐	Adequate valving	
☒	☐	Routine valve turning (How often)	annual
☐	☐	Asbestos cement (AC) pipe absent from system	

Comments:

Cross Connection Control (CWS, NTNC, and TNC)

Yes	No	N/A		Comments
☒	☐	☐	• Ordinance or enabling authority (CWS)	
☒	☐	☒	List of installed devices (CWS, NTNC, TNC)	
☒	☐	☒	• Devices tested annually (CWS, NTNC, TNC)	
☐	☒	☐	• Annual Summary Report submitted (CWS)	
☐	☐	☒	• Certified Cross Connection Control Specialist (CWS ≥ 300 connections)	

Comments:

Booster Pumps

Number	Name (location)	Deficiencies or Comments	HP	GPM	Aux. Power Yes	Aux. Power No
1-2	Pump house		5	125	☒	☐
3	Pump house		5		☒	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐

Comments:

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Water Quality Monitoring

Contaminant	N/A	Frequency	Next Tests Due
Entry Point Sampling:			
Nitrate	☐	annual	2012
Arsenic	☐	9 years	2016
Inorganic Chemicals (Including Nitrite) (sw)	☒		
Inorganic Chemicals (Including Nitrite) (gw)	☐	9 years	2017
SOCs	☐	3 years	2011
VOCs (sw)	☒		
VOCs (gw)	☐	3 years	2011
Radionuclides (Community Water Systems Only):			
Gross Alpha	☐	9 years	2016
Radium 226/228	☐	9 years	2016
Uranium	☐	9 years	2016
Distribution System Sampling:			
Coliform Bacteria	☐	Monthly	Oct.
Asbestos (for AC pipe/asbestos geologic areas)	☒		
TTHMs and HAA5s	☒		
Lead and Copper, # sites: 5	☐	3 years	2014
Other Sampling:			
TOC	☒		
Turbidity	☒		
Source Water Coliform	☐	Annual	2011
Other (specify) _____	☒		

Yes **No**
☒ ☐ • Is all required monitoring current?

Comments:

Yes **No**
☒ ☐ Has the system experienced chemical (last 5 years) or bacteriological (last 2 years) detections?
If yes, list what contaminant and when?

toluene

☐ ☐ • Have all MCL violations been addressed? ☒ N/A
☐ ☐ Does the system have any monitoring reductions granted? Explain:

Sodium- 2008

☒ ☐ • Does the system have a written coliform sampling plan?
Does the plan include:

Yes	No		Yes	No	
☒	☐	Brief narrative	☒	☐	Rotation schedule
☒	☐	Distribution map	☒	☐	Repeat locations
☒	☐	Sample site locations	☒	☐	Source(s) ☐ N/A

☒ ☐ Are TTHM and HAA5 samples taken at location of maximum residence time? (☐ Not required)
Where in the system are the monitoring sites for TTHM and HAA5?

Comments:

DHS Oregon Department of Human Services

Riverbend-Riverbank Community
Water System Survey
DHS Drinking Water Program

PWS ID: 41 **00458**
Survey Date: **8/30/11**

12/19

Management & Operations

O&M Manual and Emergency Response Plan

Yes	No	
☒	☐	● Does system have an operation and maintenance manual?
☒	☐	● Does system have an emergency response plan?

Operator Certification

Requirements for system: WD: _____ WT: _____ ☐ FE required Small System: ☒

Name	Certification Number	WT Level	WD Level	FE	Small System
DRC:*Don E. Smethers 7-31-13				☐	☒
				☐	☐
				☐	☐
				☐	☐
				☐	☐

*DRC= direct responsible charge. Attach additional sheets if necessary to list all certified personnel.

Yes	No	
☒	☐	Is DRC identified?
☒	☐	● Is DRC certified at appropriate level?
☐	☐	● Does system have written operating protocols for other operators? ☒ N/A

If DRC is a Contract Operator:

Yes	No	
☐	☐	Does DWP have contract on file? ☒ N/A
		How does contract operator work with system? ☒ N/A

Plan Review/Master Plan

Yes	No	
☒	☒	● Have all major modifications (since 8/21/81) been approved by DWP? See note
☐	☒	Does system have a current plan review exemption for water main extensions?
☐	☐	● Does the system have a current (<20 yr. old) master plan? (☒ Not required if < 300 connections)
		What year was the plan completed? ☐
☐	☐	Does the master plan include a water conservation plan?

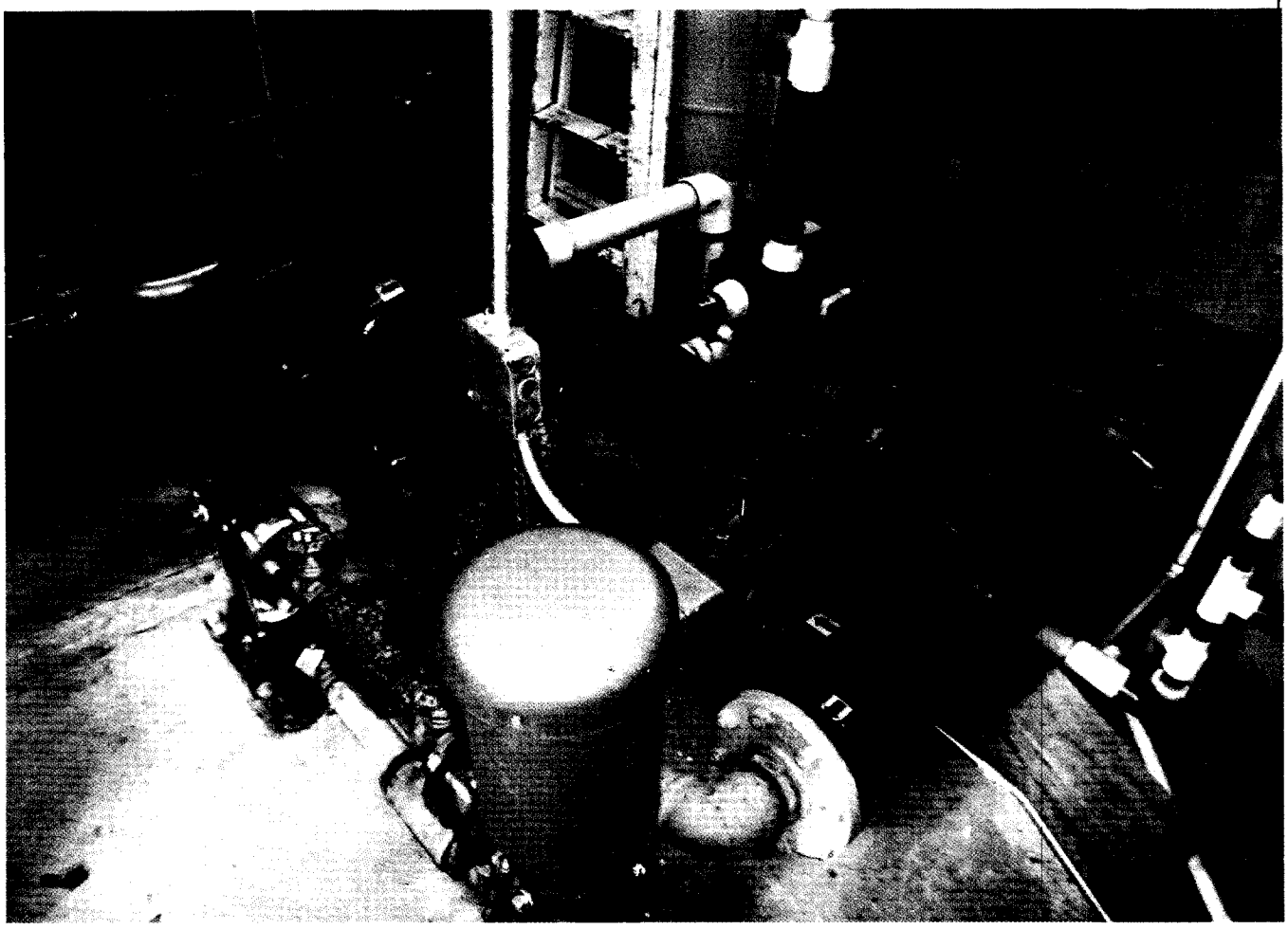
Compliance Status

Yes	No	
☒	☐	● Is water system in compliance (all orders resolved and not a significant non-complier)?
		How many violations has the system had in the past two years? 0
☐	☐	● Does the system issue Public Notice for Violations as required? ☒ No violations requiring public notice

Other

☐	☒	Has a capacity assessment been completed by DWP? If yes, list deficiencies noted:
☒	☒	● Are consumer confidence reports sent to users each year and certified?

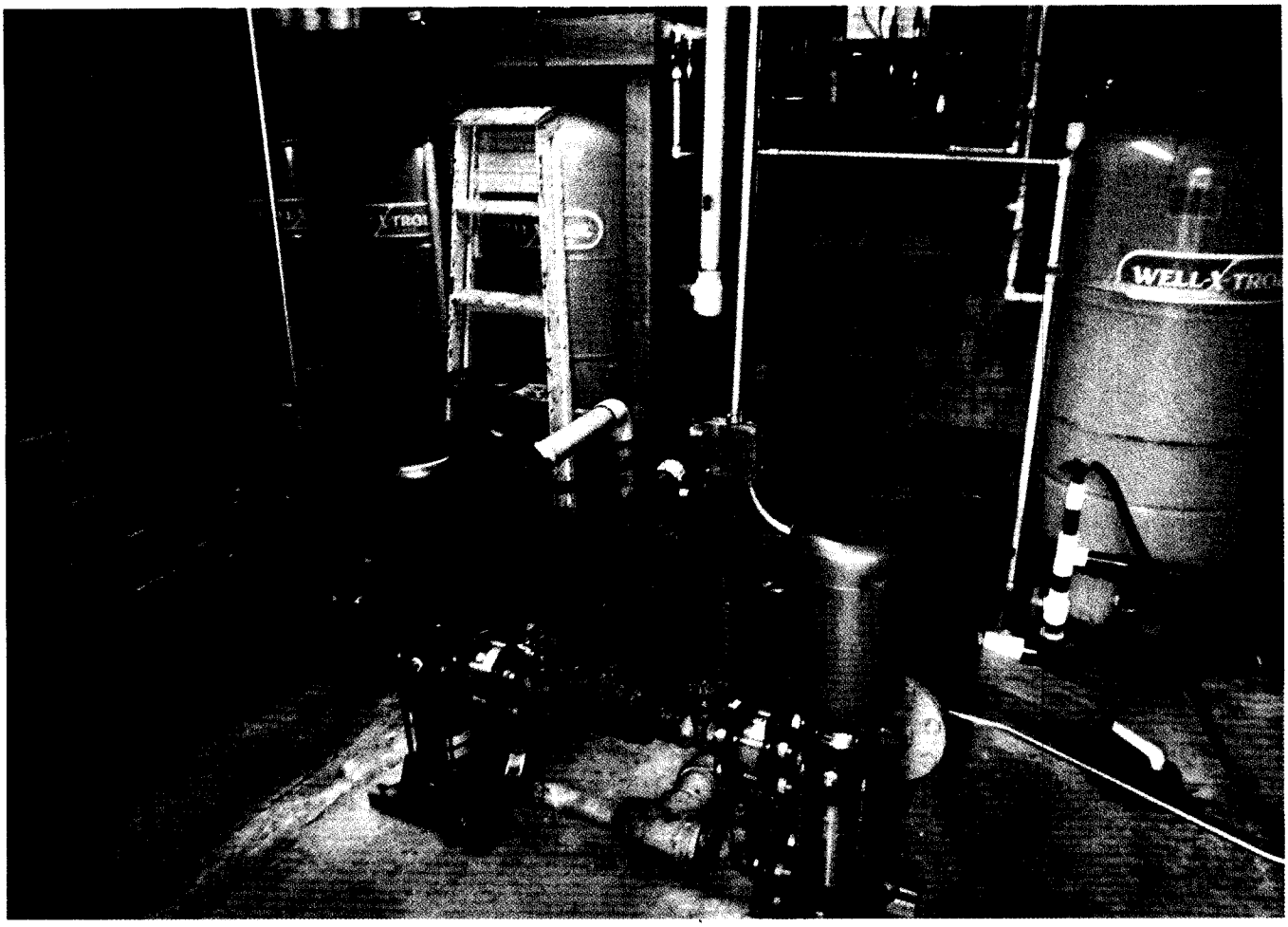
Comments:



Pump Room

PWS# 4100450

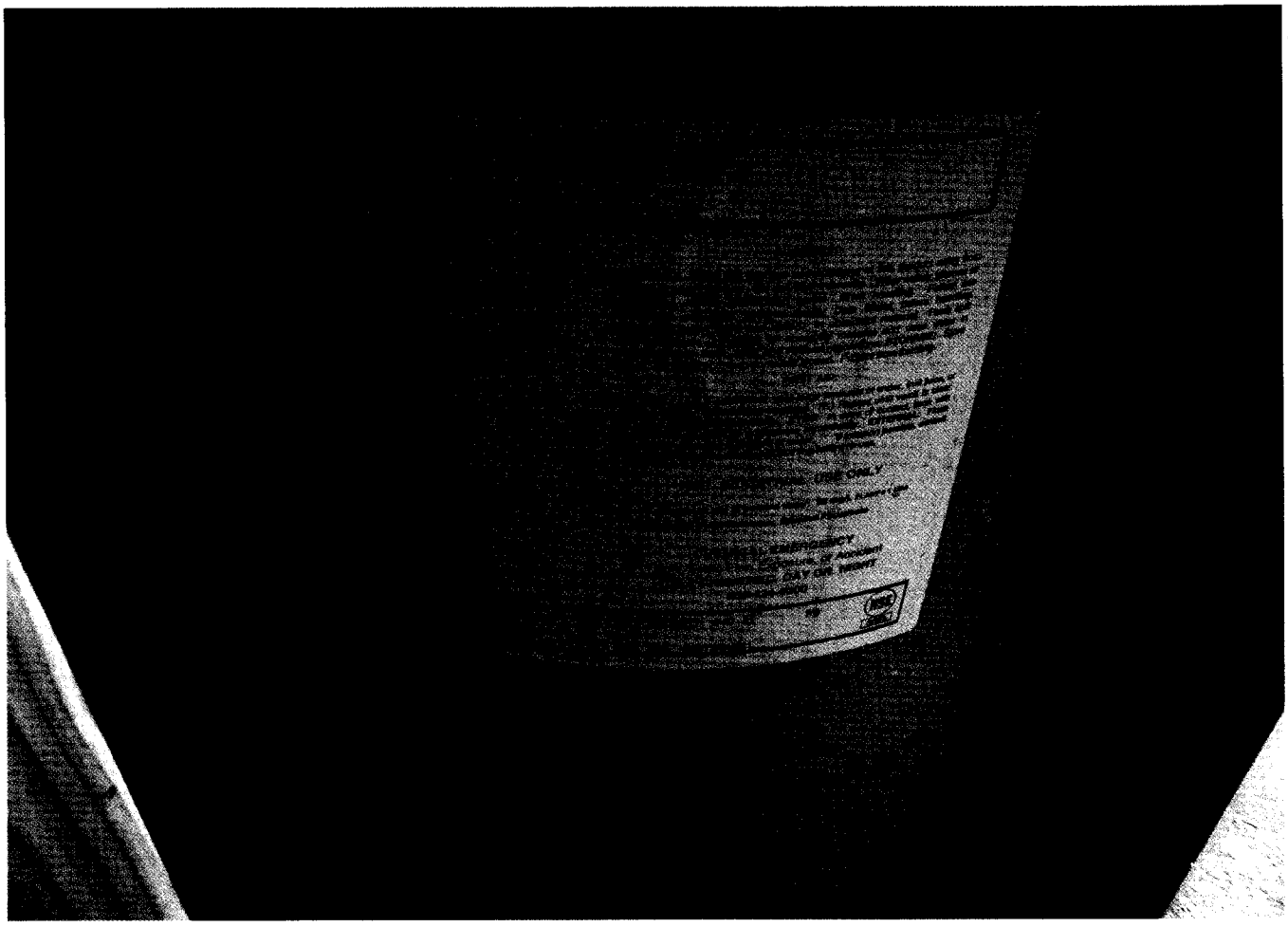
8-30-11



Pump Room

T 30 - 11

pws # 41 00456



Poly Phosphate Blend

8-30-11

pur# 4100456

16/19

Well #2 (CL 41302)

PWS# 41 00458

8-30-11

ne original and first copy of this report are to be filed with the

ATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

CLAC 09528

WATER WELL REPORT
STATE OF OREGON

(Please type or print) (Do not write above this line)

RECEIVED JUN 17 1974 STATE ENGINEER SALEM OREGON

State Well No. 3S/1E-22CC

State Permit No.

AA-Well #1

(1) OWNER:

Name PAUL HEBB

Address P.O. BOX 524 LAKE OSWEGO ORE

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [X] Driven [ ]
Cable [X] Jetted [ ]
Dug [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

CASING INSTALLED:

Threaded [ ] Welded [X]

10" Diam. from +1 ft. to 70 ft. Gage .279

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

PERFORATIONS:

Perforated? [ ] Yes [X] No.

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] 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

Was a pump test made? [X] Yes [ ] No If yes, by whom? STRASSER

Yield: 306 gal./min. with 54 ft. drawdown after 24 hrs.

" " "

" " "

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water 55 Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used CEMENT GROUT

Well sealed from land surface to 70 ft.

Diameter of well bore to bottom of seal 14 in.

Diameter of well bore below seal 10 in.

Number of sacks of cement used in well seal 35 sacks

Number of sacks of bentonite used in well seal sacks

Brand name of bentonite

Number of pounds of bentonite per 100 gallons of water lbs./100 gals.

Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? [ ] Yes [X] No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County CLACK Driller's well number 5478

NW¼ NW¼ Section 22 T. 3S R. 1E W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 148 ft.

Static level 90 ft. below land surface. Date 5/23/74

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 10

Depth drilled 221 ft. Depth of completed well 221 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
TOP SOIL	0	1	
BROWN CLAY	1	5	
CLAY AND BROKEN ROCK	5	13	
BROWN SAND	13	19	
DECOMPOSED ROCK	19	26	
GREY SILT AND BROKEN ROCK	26	30	
SILT SAND AND GRAVEL	30	56	
BROWN AND BLACK BASALT	56	81	
RED BASALT	81	88	
BLACK BASALT	88	137	
MED HARD GREY BASALT	137	148	
BROKEN BLACK BASALT	148	179	
POROUS BLACK BASALT	179	182	
MED HARD BROWN BASALT	182	196	
MED HARD BLACK BASALT	196	209	
MED. HARD GREY BASALT	209	218	
BROKEN GREY BASALT	218	220	
MED HARD GREY BASALT	220	221	

Work started APR 25 1974 Completed MAY 24 1974

Date well drilling machine moved off of well JUNE 6 1974

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] (Drilling Machine Operator) Date 6/12, 1974

Drilling Machine Operator's License No. 54

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 R J STRASSER DRILLING CO (Person, firm or corporation) (Type or print)

Address 8110 SE SUNSET LANE PORTLAND ORE.

[Signed] (Water Well Contractor)

Contractor's License No. 10 Date JUNE 12, 1974

RIVERBEND-RIVERBANK COMMUNITY

(USE ADDITIONAL SHEETS IF NECESSARY) PWS 4100458

SP*45656-119

CLAC 65931

18713

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

PWS 4100458 AB-Well 2

WELL I.D. # L 41302

START CARD # 128561

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number

Name RIVERBEND RIVERBANK WATER IMPR. DIST.

Address 31180 SW RIVERLANE RD.

City WEST LINN State OR Zip 97068

(2) TYPE OF WORK

[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger

[ ] Other

(4) PROPOSED USE:

[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation

[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Well 250 ft.

Explosives used [ ] Yes [X] No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
14	0	50	BENT.	0	25	43 SACKS
10	50	103	CEMENT	25	103	70 SACKS
8	103	250				

How was seal placed: Method [ ] A [X] B [X] C [ ] D [ ] E

[X] Other BENT. POURED DRY

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	103	250	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:	NONE				[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:

[ ] Perforations Method NONE

[ ] Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

RECEIVED
AUG 04 2000
WATER RESOURCES DEPT
SALEM, OREGON

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

[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
300	N/A	250	1 hr.

Temperature of water 52 Depth Artesian Flow Found

Was a water analysis done? [ ] Yes By whom NO

Did any strata contain water not suitable for intended use? [ ] Too little

[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other

Depth of strata:

(9) LOCATION OF WELL by legal description:

County CLACKAMAS Latitude Longitude

Township 3S N or S Range 1E E or W WM.

Section 22 NW 1/4 NW 1/4

Tax Lot 2801 Lot Block Subdivision

Street Address of Well (or nearest address)

473 HEBB PARK RD., WEST LINN, OR

(10) STATIC WATER LEVEL:

120 ft. below land surface. Date 7-11-00

Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found 20'

From	To	Estimated Flow Rate	SWL
20	30	20	20
180	250	300	120

(12) WELL LOG:

Ground Elevation

Material	From	To	SWL
SOIL & COBBLES	0	3	
CLAY & COBBLES	3	20	
SAND & GRAVEL	20	33	
BROKEN ROCK	33	37	
CLAY GREY W/GRAVEL	37	45	
BRN CLAY W/GRAVEL	45	50	
BASALT GREY WTHRD	50	54	
BASALT GREY HARDER	54	87	
BASALT GREY & RED	87	93	
BASALT GREY MED	93	104	
BASALT GREY & GREEN	104	110	
BASALT GREY	110	177	
BASALT GREY & LAVENDAR FRACTURED & POROUS	177	184	
BASALT GREY SEAMY	184	226	
BASALT GREY FRACTURED	226	250	

Date started 7-8-00 Completed 7-11-00

(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 water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number 1358

Signed Date 8-3-00

(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 water supply well construction standards. This report is true to the best of my knowledge and belief.

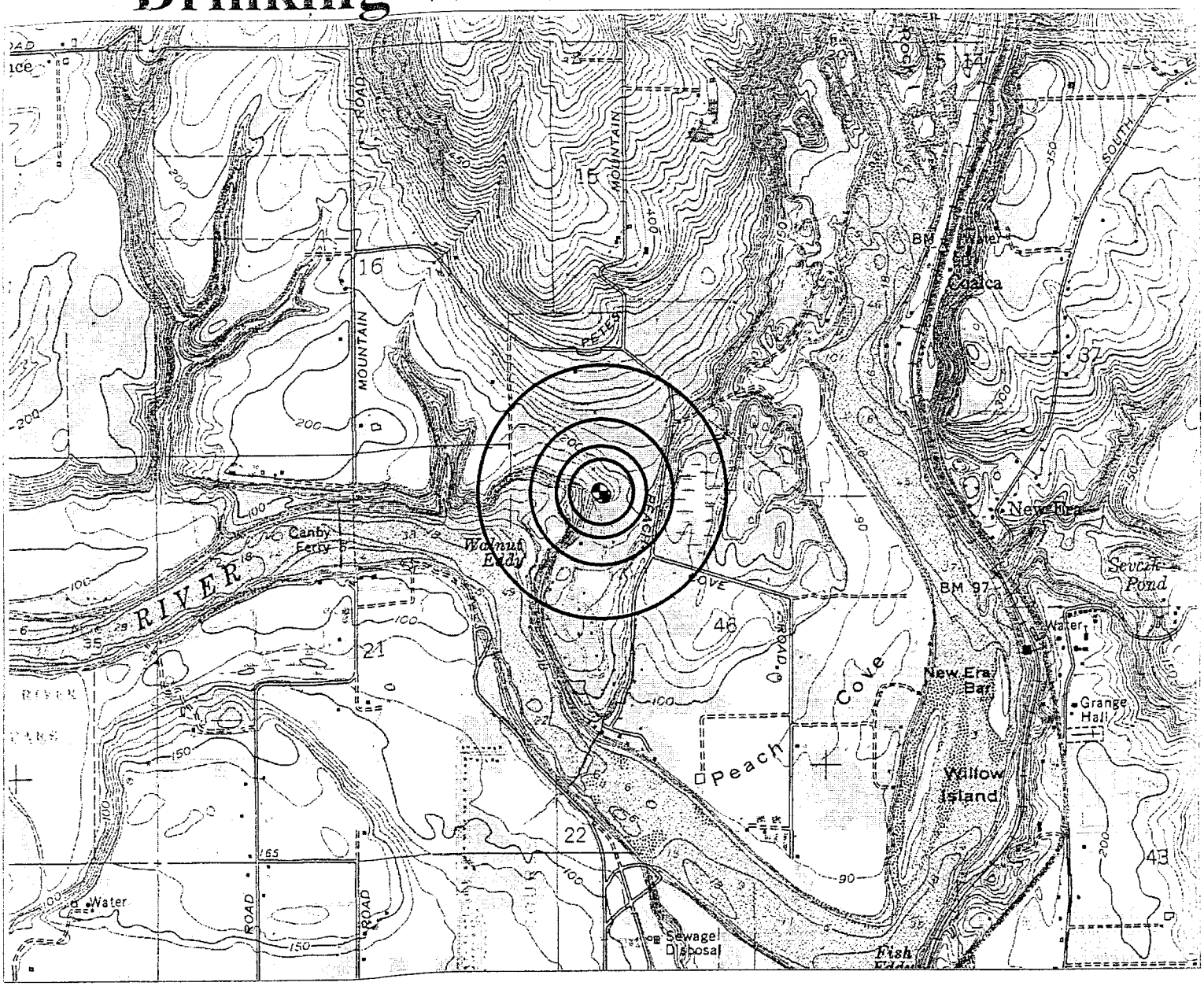
WWC Number 688

Signed Date 8-3-00

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

Riverbend-Riverbank W.S. Drinking Water Protection Area

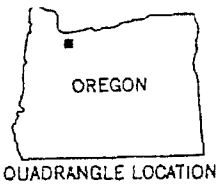
Figure 1
19/19



2000 0 2000 4000 6000 Feet

1:24,000

N



QUADRANGLE LOCATION

Drinking Water Protection Area (DWPA)
1,2, 5, and 15 Year Time of Travel (TOT)
Calculated Fixed Radius Method

Model Parameters
Delineation Area (mi*mi): 0.31
Production Interval (ft): 18
Effective Porosity: 0.25
Usage (gal/day): 52,500

Well Location: Township 3S Range 1E Section 22
Clackamas County
WGS84 Datum
Well A 45°18'03.988"N 122°40'45.103"W
Well B 45°18'04.476"N 122°40'45.685"W

Prepared by: JF
Project Manager: JF RG#: 1867
File # 4100458

USGS Canby, OR Quadrangle
(part section) 7.5' Series (Topographic)