

**STATE OF OREGON
WATER SUPPLY WELL REPORT**

WELL I.D. LABEL#
 START CARD # 1044693
 ORIGINAL LOG # KLAMATH 11830

(as required by ORS 537.545 & 537.765 and OAR 690-205-0210)

(1) LAND OWNER Owner Well I.D. Well #5
 First Name Last Name
 Company Oregon Institute of Technology
 Address 3201 Campus Drive
 City Klamath Falls State OR Zip 97601

(2) TYPE OF WORK New Well Deepening Conversion
 Alteration (complete 2a & 10) Abandonment (complete 5a)

(2a) PRE-ALTERATION

Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
Casing: <u>12</u>		<u>6</u>	<u>526</u>	<u>.250</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Material From To Amt sacks/lbs
 Seal: Other

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

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

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

BORE HOLE				SEAL				sacks/
Dia	From	To	Material	From	To	Amt	lbs	
						Calculated		
						Calculated		

How was seal placed: Method A B C D E
 Other No Seal
 Backfill placed from ft. to ft. Material
 Filter pack from ft. to ft. Material Size
 Explosives used: Yes Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE

Proposed Amount	Pounds	Actual Amount	Pounds

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
<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"/>	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

(7) PERFORATIONS/SCREENS

Perforations Method

Screens Type Material

Perf/S	Casing/	Screen	Dia	From	To	Scr/slot	Slot	# of	Tele/
green	Liner					width	length	slots	pipe size

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

Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)

Temperature °F Lab analysis Yes By
 Water quality concerns? Yes (describe below) TDS amount
 From To Description Amount Units

(9) LOCATION OF WELL (legal description)
 County KLAMATH Twp 38 S N/S Range 9 E E/W WM
 Sec 20 SE 1/4 of the NE 1/4 Tax Lot 4900
 Tax Map Number Lot
 Lat " or DMS or DD
 Long " or DMS or DD
 Street address of well Nearest address
3201 Campus Drive, Klamath Falls, OR 97601

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+ SWL(ft)
Existing Well / Pre-Alteration	<u>09-09-2019</u>		<u>371</u>
Completed Well			

Flowing Artesian? Dry Hole?

WATER BEARING ZONES Depth water was first found

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

(11) WELL LOG Ground Elevation

Material	From	To
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OWRD		
WESTERN WATER DEVELOPMENT		
P.O. Box 1670		
Redmond, OR 97756		

Date Started 09-09-2019 Completed 11-06-2021

(unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
 License Number Date
 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. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
 License Number 1385 Date 03-01-2022
 Signed Robert D. Buckner
 Contact Info (optional)

Comments continued from Well Log Klam#11830:

Prior to starting this well repair, OIT hired another contractor who knocked out the concrete and surrounding foundation of the building over the well. This was work on the well and OIT hired an unlicensed well driller which it should not have.

The well had a building built over it which was removed by OIT. OIT removed the concrete at what we thought was the well head. However, when they removed the concrete, they exposed a metal trough and another concreted well head several feet below. The original well log and what was exposed by removing the top concrete and the well trough were completely different. The well had been modified and repaired which was never disclosed to WWD or Water Resources, according to the well report on file. This was a misleading omission. Neither WWD nor Robert Buckner, had any knowledge of prior repairs and modifications to the well after it was completed in 1962. After this dispute arose, we found out that OIT knew the original well was set in a cellar that was later raised to ground level and enclosed in a building. None of this was disclosed to WWD which was significant and material information to our scope of repair.

When the concrete and foundation removal was completed by OIT, I was notified and went to examine what was done. What we encountered was nothing less than shocking as there wasn't really anything left of the existing 12" casing near the surface. Cement was haphazardly dumped in the annulus. WWD had to add a 9' piece of new casing and try to get it welded to the extremely degraded existing casing just to get it above ground level so the pit area could be backfilled and a drilling machine could be placed over the well.

All repair work on the well was done under the supervision and control of OIT's Engineer Darryl Anderson. Upon starting the attempt at well repair, we removed as much oil as possible off of the top of the water column by bailing into a steel containment tank. We then placed a tremie line to 400' to add cold water and see if we could clear it up enough for a video camera. We needed a camera look and a caliper log to identify the casing transition zones and make sure we could set a cement plug just below where the 10" steel casing was going to be cut off at 540'.

Next phase was setting the cement plug. I used 2 (10") drillable packers screwed together and shoved them with drill pipe to 550' bgs and pumped 4 sacks of cement on top of them and let that set overnight. Next day we attempted to trip in 10" Holt casing cutter, but we were stopped by jagged pieces in the 10" that wouldn't let the cutter by. So we had a 10" taper mill hot-shotted out of Long Beach, CA. We ran the taper mill in and out to 540' to assure the cutter would go. Then we were able to go in and cut the 10" casing off at 540'. We then began removal of the 10" casing which was full of cancerous holes due to degradation and no maintenance over the years. All 10" casing removed.

After that we ran a wire brush inside of the 12" casing to see if we could clean up the inside enough to get ahold of it with a Spang 12" casing spear. While we were unsuccessful in getting ahold of the casing at lower depths due to the severe degradation of the casing, we did get it to hold at about 80' but were unable to get it to move with the drill rig pullback at 55,000 lbs. After consultation with the engineer, it was agreed the next step was to try and get a set of 250-ton jacks to see if that would get the 12" moving. Once we were authorized by change order, we had the jacks mobilized out of Long Beach, CA. We removed the casing spear and added the necessary collars for jacking, redeployed spear and were able to get it to catch at about 30' we then jacked on the casing to about 150,000 lbs. and the casing pulled apart.

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At that point we had a 12-inch casing taper tap made and screwed it in along with a Holt casing retract hammer to try and vibrate the casing loose. We ran this tool for nearly 8 hours and no luck in getting the 12" casing to move. After that we attempted to over-ream the 12" casing with 14" casing. We were able to get the 14" casing to 55' but lacked the torque to get it any farther at that point. Again, we ran the 12-inch taper tap to get ahold of the casing along with the Holt Casing Retract hammer. There was still no movement of the 12-inch casing that needed to be removed so a proper well seal could be installed.

This project did not have any work done for a long time due to no agreement on a path to completion that would satisfy the State of Oregon Water Resources position of a minimum seal depth of 460' + -. WWD tried to satisfy OIT Engineers request for a special standard request for a different seal depth. That request was denied by OWRD. We left our drill on the job as per OWRD rules and regulations while trying to resolve the dispute with the owner. In early November 2021, we were informed by OWRD to remove our equipment and that OIT would be taking responsibility for the condition of the well. OIT would not allow us to finish the well in a manner that was acceptable to Water Resources for proper sealing of the illegal well. We did not affix a well I.D. tag due to the fact that there was no proper seal. Travis Kelly, OWRD well construction specialist, has given us permission to remove our equipment even though this well is illegal and that OIT has taken responsibility for their well.

WESTERN WATER DEVELOPMENT
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