# WATER RESOURCES DEPARTMENT MEMO

TO:		Applicat	ion G	1797	4						
FROM	[:	Applicat	1 11	arcy		- Grour	ıdwater	Section	Į.		
SUBJE		Scenic V		,							
<del></del>	YES	Т	he sourc	e of app	ropriatio	n is with	in or ab	ove a Sc	enic Wa	terway	
<del></del>	YES Use the Scenic Waterway condition (condition 7J) NO										
	Per ORS 390.835, the Groundwater Section is able to calculate groundwater interference with surface water that contributes to a Scenic Waterway. The calculated interference distribution is provided below.										
	Per ORS 390.835, the Groundwater Section is unable to calculate groundwater interference with surface water that contributes to a scenic waterway; therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface flows necessary to maintain the free-flowing character of a scenic waterway.									osed	
DISTRIBUTION OF INTERFERENCE  Calculate interference as the monthly fraction of the annual consumptive use and fill in the table below. If interference cannot be calculated, per criteria in 390.839, do not fill in the table but check the "unable" option above, thus informing the Water Rights Section that the Department is unable to make a Preponderance of Evidence finding.											
Waterv	vay by t	s permit i he follow he well.							ual cons		cenic use
Monthl Jan	y Fraction Feb	on of Annu Mar	al Consu Apr	mptive l May	Jse Jun	Jul	Aug	Sep	Oct	Nov	Dec
											1

# PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO:		Wate	er Rights	Section		Date 03/17/2015								
FROM	I:	Grou	ındwater	Section										
OI ID II		A 1		17074			iewer's Nam							
			Su	persedes	review of			Date of Re	view(s)					
DIDI	TO TAIM	EDEC	T DDEC	IN ADTION.	CDOUND		D							
								lwater use wil	l ansura th	a pras	anuation a	of the nuk	dic	
A. <u>GE</u>	NERAL	INFO	ORMAT	<u>(ON</u> : A <sub>1</sub>	oplicant's N	Jame:	JR Land	& Livestock		(	County:_	Malheu	<u>r</u>	
A1.	Applica	ant(s) s	eek(s) <u>4.</u>	48 cfs from	n3	well	(s) in the _	Malheur					_Basin,	
	]	Malhei	ır River			subb	asin (	Quad Map:l	Hope Butte	e. Little	e Valley.	and Swe	de Flat	
A2.								96.4 acres) Se					31 <sup>st</sup>	
A3.	Well an	id aqui	fer data (a	ttach and nu	mber logs f	or existin	ig wells; i	nark propose	d wells as	such	under log	gid):		
Well	Logic	d	Applicar		ed Aquifer*		osed	Locatio			tion, mete			
1	MALH 5		Well a	f	Basalt		Rate(cfs) (T/F 1.63 18S/42		(T/R-S QQ-Q) 8S/42E-28 NE-NW		2250' N, 1200' E fr NW cor S 36 775'S, 2225'E fr NW cor, S 28			
2	MALH 5	4113	2		Basalt		10	18S/42E-4 S		43	40'S, 1560	E fr NW c	or, S 4	
3	MALH 5	3867	3	Se	diments	0.	75	18S/43E-7 N	IE-SW	250'S, 1800'W fr E 1/4 cor, S 7			or, S 7	
5														
* Alluvi	um, CRB,	Bedro	ck	1		1								
	Well	First	.		Well	Seal	Casing	Liner	Perfora	tions	Well	Draw	Ţ	
Well	Elev	Wate	swL	SWL	Depth	Interval	Interval	I .	Or Scr		Yield	Down	Test	
	ft msl	ft bls		Date	(ft)	(ft)	(ft)	(ft)	(ft		(gpm)	(ft)	Туре	
2	2792 3386	280 97	97	02/27/2014 04/03/2014	460 460	0-104 0-168	+2-104	N/A N/A	N/A 168-2		1500 1500	?	Air Air	
3	2729	120	82	05/31/2011	280	0-40	+2-43	N/A	N//		250	?	Air	
Use data	from app	lication	for propos	ed wells.										
A4.								yield of 250 g					cant is	
								n this well ma with recharge					s to the	
								with recharge					s to the	
A5. 🗌	Duovia	ione of	F 4la o	Malhaum (C	AD 600 51	(0)	Dosim	mulas malativa	to the day	alamm	ant aloss	ification	and/or	
АЗ. 🔲								rules relative r \(\sum \) are, \(or\)						
				in such provi		cica to sui	race wate	are, 07	are not	, activi	ated by th	по аррпо	acron.	
	*											_		
۸6 🗆	Well(a)	#						ton(s) an aqui	for limited	l hv. on	administ	rotiva ros	triation	
A6. ∐	Name o	# of admi	nistrative	,, area:		,	,	tap(s) an aqui	iei iiiiiiiec	гоу ап	aummist	ialive les	aricuon.	
	Comme	ents:												

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# B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1.	Bas	sed upon available data, I have determined that groundwater* for the proposed use:
	a.	is over appropriated, ☐ is not over appropriated, or ☒ cannot be determined to be over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;
	b.	will not or will likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;
	c.	$\square$ will not or $\boxtimes$ will likely to be available within the capacity of the groundwater resource; or
	d.	<ul> <li>will, if properly conditioned, avoid injury to existing groundwater rights or to the groundwater resource:</li> <li>i.  The permit should contain condition #(s) 7N (annual measurement condition); 7P (well tage condition); "Large water use condition"</li> <li>ii.  The permit should be conditioned as indicated in item 2 below.</li> <li>iii.  The permit should contain special condition(s) as indicated in item 3 below;</li> </ul>
B2.	a.	Condition to allow groundwater production from no deeper than ft. below land surface;
	b.	Condition to allow groundwater production from no shallower than ft. below land surface;
	c.	Condition to allow groundwater production only from the groundwater reservoir between approximately ft. and ft. below land surface;
	d.	Well reconstruction is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.
		<b>Describe injury</b> -as related to water availability- that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc):
B3.	Gre	oundwater availability remarks:
		garding Injury: The only existing groundwater right (G-2205) within a mile of any of the proposed POAs belongs to the licant, rendering other right holders unlikely to be injured by approval of this application.
	Por	garding Capacity: Well logs for wells 1 and 2 (MALH 54108 and MALH 54113) state a yield of 1500 gallons per
	mir	nute, and appear to pull from the same volcanic aquifer. Well 3 only yielded 250 gallons per minute during the driller's and so is unlikely to provide the volume specified (341.1 gpm) on the permit application.
	<u>wat</u>	, and so to annivery to provide the votatile specified (771.1 gpin) on the permit application.

### C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. 690-09-040 (1): Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Basalt		$\boxtimes$
2	Basalt		
3	Sediments		$\boxtimes$

Basis for aquifer confinement evaluation: The age and complex assemblage of volcanic rocks and volcaniclastic sediment in the are creates a groundwater flow system that is likely fracture controlled. Therefore, the degree of confinement may be highly localized as evidenced by common hydraulic head elevations occurring at vastly different elevations of water bearing zones.

C2. **690-09-040** (2) (3): Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected? YES NO ASSUMED	Potential for Subst. Interfer. Assumed? YES NO	
1	1	Bully Creek	2695	2783	150			
2	2	Swede Flat Creek	3310	3320	3350			
3	3	Bully Creek	2647	2581	2958			

Basis for aquifer hydraulic connection evaluation: Well 1 is located very near Bully Creek, but when considering the groundwater elevation in the well, the nearest potential discharge point is nearly 2 miles downstream. Groundwater elevation in Well 2 (MALH 54133) is coincident with the elevations of mapped springs less than one mile downstream in Swede Flat Creek. Well 3 shows a water level significantly above the elevation of Bully Creek, and shows no evidence of hydraulic connection within 1 mile.

Water Availability Basin the well(s) are located within: Wells 1 and 3 are located within Bully Creek > Malheur River WAB, Well 2 is located within the Cottonwood Creek > Bully Creek - At mouth WAB.

C3a. 690-09-040 (4): Evaluation of stream impacts for each well that has been determined or assumed to be hydraulically connected and less than 1 mile from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% natural flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < 1/4 mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
2	2						0.03	$\boxtimes$		$\boxtimes$

Page

C3b. 690-09-040 (4): Evaluation of stream impacts by total appropriation for all wells determined or assumed to be hydraulically connected and less than 1 mile from a surface water source. Complete only if Q is distributed among wells. Otherwise same evaluation and limitations apply as in C3a above.

SW #	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?

Comments: Analytical solutions are not an appropriate evaluation tool for this situation.

C4a. 690-09-040 (5): Estimated impacts on hydraulically connected surface water sources greater than one mile as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Well	stributed SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					0								
	as CFS												
Interfere	ence CFS												
Distrib	uted Wells	3											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	9
	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	9
Well Q	as CFS										,		
Interfere	ence CFS				/_								
		%	%	%	%	%	%	%	%	%	%	%	9
	as CFS							-			-		
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	9
	as CFS												
Interfere	ence CFS				1								
		%	%	%	%	%	%	%	%	%	%	%	9
	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	9
	as CFS									7.			
Interfere	ence CFS												
(A) = To	tal Interf.		- 1										
(B) = 80	% Nat. Q												
(C) = 1	% Nat. Q												
(D) = (	A) > (C)												
	B) x 100				-								

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation:

Application G-17974

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C4b.	690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.
C5.	If properly conditioned, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:  i The permit should contain condition #(s)
inc tha wa	W/GW Remarks and Conditions Given the lack of groundwater data in this area, it is difficult to evaluate the effects of reased pumping on surface water discharge from local springs. The measured groundwater elevation in Well 2 is equivalent to tof a spring complex feeding Swede Flat Creek within 1 mile downstream, establishing a hydraulic connection between the ter-bearing zone in the well and the creek. Regular measurements of Wells 1 and 3 should be made to evaluate the effects of mping on the ground water flow system.
	ssued, this permit should contain the following permit conditions: 7N-annual water level measurement condition; 7P-well tag ndition; "Large Water Use Condition".
	ferences Used:  S. Geological Survey. Hope Butte Quadrangle, OR Map. [ca. 1:24,000]. Denver, Colorado: USGS, 1988. Print.
<u>U.</u> .	S. Geological Survey, Little Valley Quadrangle, OR Map. [ca 1:24,000]. Denver, Colorado: USGS, 1990. Print.
<u>U.</u> .	S. Geological Survey, Swede Flat Quadrangle, OR Map. [ca. 1:24,000]. Denver, Colorado: USGS, 1990. Print.
JR	Land and Livestock, 2014. Application G-17974.
Mo	Leran, Daniel, 2014. Well log for MALH 54108, Well log for MALH 54113
Wi	neberg, Alan, 2011. Well log for MALH 53867
Fer Co	rns. M.L., H.C. Brooks, J.G. Evans, M.L. Cummings. 1993. Geologic map of the Vale 30x60 minute quadrangle, Malheur unty, Oregon and Owyhee County, Idaho. Oregon Dept. of Geology and Mineral Industries Geological Map Series 77.
	boks, H.C., McIntyre, J.R., Walker, G.W., 1976. Geology of the Oregon Part of the Baker 1° by 2° Quadrangle. Oregon Dept. Geology and Mineral Industries Geological Map Series 7.
	ooks, H.C., O'Brien, J.P., 1992. Geology and Mineral Resources Map of the Little Valley Quadrangle, Malheur County, egon. Oregon Dept. of Geology and Mineral Industries Geological Map Series 72.
MA MA	ALH 54108 (applicant's Well #1) ALH 54113 (applicant's Well #2) ALH 53867 (applicant's Well #3)

Application G-17974 Date: 03/17/2015

## D. WELL CONSTRUCTION, OAR 690-200

D1.	Well #:	Logid:	
D2.	a. revi	L does not appear to meet current well construction standards based upon: iew of the well log; d inspection by ort of CWRE er: (specify)	;
D3.		L construction deficiency or other comment is described as follows:	
D4.	Route to the	ne Well Construction and Compliance Section for a review of existing well construction.	

#### Water Availability Tables

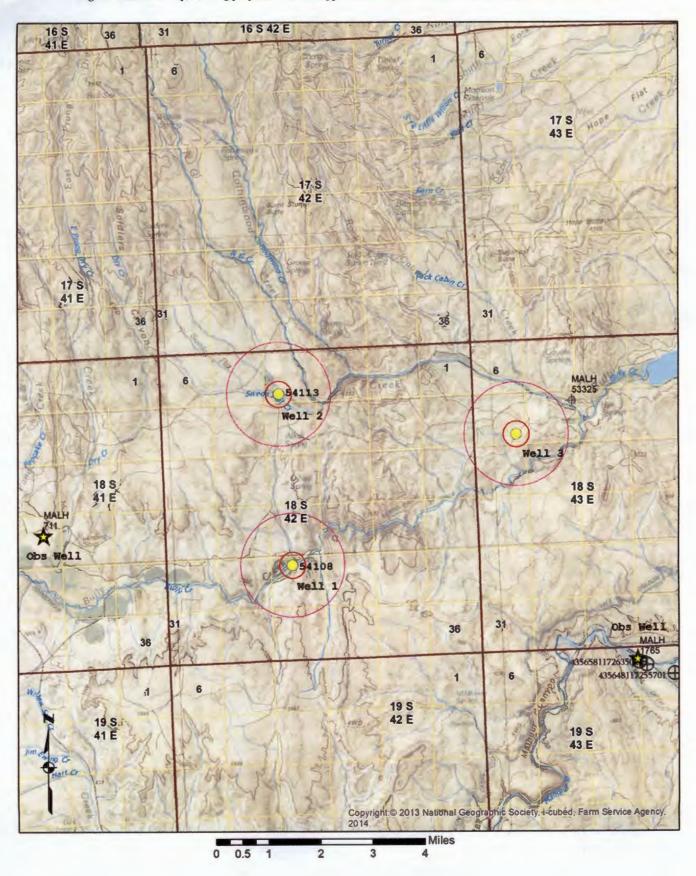
#### DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION COTTONWOOD CR > BULLY CR - AT MOUTH Basin: MALHEUR Watershed ID #: 31011802 Time: 3:12 PM Exceedance Level: 80 Date: 03/10/2015 Expected Stream Flow Month Natural Consumptive Reserved Stream Flow Instream Net Stream Flow Use and Requirements Water Storage Available Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft. 0.35 1.39 2.01 1.09 0.35 0.03 0.38 1.45 2.32 2.17 0.35 1.39 2.01 1.09 0.35 0.33 -0.36 -0.19 -0.13 JAN 0.00 0.00 0.00 0.00 0.00 0.06 0.31 1.08 2.66 2.17 0.73 0.29 MAR APR 3.01 2.50 0.37 0.10 MAY JUN 0.33 JUL AUG SEP -0.36 -0.19 0.00 -0.13 0.08 0.01 0.02 OCT 0.03 -0.05 0.00 0.10 0.10 0.00 DEC ANN 1,860 1,410

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Figure 1: Location map, showing proposed POAs on application G-17974 in addition to state observation wells nearby.



STATE OF OREGON MALI	I 54108 WELL LD. LABEL# L 108947	Page 1 of 1
WATER SUPPLY WELL REPORT	START CARD # 1022015	
	/2014 ORIGINAL LOG#	
(1) LAND OWNER Owner Well ID.		
First Name DICK Last Name JORDAN Company JR LAND AND LIVESTOCK	(9) LOCATION OF WELL (legal description	
Address PO BOX 800	County MALHELIR Twp 18.00 S N/S Range	
City HARPER State OR Zip 97906	Sec 28 NE 1/4 of the NW 1/4 Tax	
2) TYPE OF WORK New Well Despening Conversion	Tax Map Number Lot	
Alteration (complete 2a & 10) Abandonment(complete 5a)	Lat " or 43.93070000	DMS or DD
2a) PRE-ALTERATION	Long or -117.57910000  Street address of well Nearest addres	DMS or DD
Casing: Dia + From To Gauge Stl Pist: Wild Tard	3393 OLD STAGE RD WESTFALL	3
Material From To Amt sacks lbs	JOST OLD STRUCK ALSTRAL	
Seal:		
(3) DRILL METHOD	(10) STATIC WATER LEVEL	A CHT (A)
Rotary Air Rotary Mud Cable Auger Cable Mud	Existing Well / Pre-Alteration	si) + SWL(ft)
Reverse Rotary Other	Completed Well 2/27/2014	97
(4) PROPOSED USE Domestic X Imigation Community	Flowing Artesian? Dry Ho	le?
Industrial Commercial Livestock Dewatering	WATER BEARING ZONES Depth water was first	t found 280.00
Thermal Injection Other	SWL Date From To Ex Flow SW	L(psi) + SWL(ft)
(5) BORE HOLE CONSTRUCTION Special Standard (Attach copy	2/27/2014 280 460 1500	97
Depth of Completed Well 460.00 ft	200 700 2700	
BORE HOLE SEAL sacks		
Dia From To   Material From To Amt   Ibs     20   0   104		
20 0 104 Bentonite Chips 0 4 200 P 15 104 360 Cement 4 104 70 S		
8 360 460	(11) WELL LOG	
	Ground Esevadon	
How was seal placed: Method A B XC D E		om To
Other	gravel and grey rock	0 4
Filter pack from ft. to ft. Material Size	black basalt	12 23
Explosives used: Yes Type Amount	vellow clay	23 25
(5a) ABANDONMENT USING UNHYDRATED BENTONITE	black basalt	25 35 35 50
Proposed Amount Actual Amount	gravel and rock with some clay grey basalt	50 72
	red and brown rock	72 75
(6) CASING LINER Casing Liner Dia + From To Gauge Stl Pistc Wid Thrd	red and brown rock with some clay mixed	75 83
○    ○    ○    ○    ○    ○    ○	black basalt (very hard)	83 280 280 460
	black hard basalt w fractured lavers	200 400
K AI H H I K AI H		
Shoe Inside Ourside Other Location of shoe(s)		
Temp casing Yes Dia From To		
7) PERFORATIONS/SCREENS		
Perforations Method		
Screens Type Material	Date Started 1/16/2014 Complete 2/2	8/2014
Perf Casing Screen Scrm'slot Slot # of Tele/ Screen Liner Dia From To width length slots pipe size	(unbonded) Water Well Constructor Certification	
Screen Liner Dia From To width length slots pine size	I certify that the work I performed on the construction.	deepening, alteration, or
	abandoment of this well is in compliance with Or	
	construction standards. Materials used and information r the best of my knowledge and belief.	eported above are true to
ON THE TECTOR OF THE PARTY OF T	Later Manual Later	
(8) WELL TESTS: Minimum testing time is 1 hour  Pump  Bailer  Air  Flowing Artesian	Signed	
Pump Bailer ⊕ Air ⊖ Flowing Artesian Yield galimin Drawdown Drill stem Pump depth Duration (hr)	(bonded) Water Well Constructor Certification	
1 sea gas man Drawdown Draw steep Pump deput Duracion (nz)	I accept responsibility for the construction, deepening, a	Iteration, or abandonme
	work performed on this well during the construction dates	reported above. All wor
	performed during this time is in compliance with Or	egon water supply we
Temperature 60 °F Lab analysis Yes By	construction standards. This report is true to the best of m	
Water quality concerns? Yes (describe below) TDS amount Prom To Description Amount Units	License Number 1818 Date 3/13/201	4
THE PERSONNEL CHAST	Signed DANIEL MCLERAN (E-filed)	
	Contact Info (optional)	
	Centers and (Systems)	

STATE OF OREGON	MALE	I 54113	WELL ID. LABEL# I	108948	Page 1 Oc.
WATER SUPPLY WELL REPORT			START CARD#	1022374	
(as required by ORS 537.765 & OAR 690-205-0210)	4/5/	2014	ORIGINAL LOG #		
(1) LAND OWNER Owner Well ID.		T			
First Name DICK Last Name JORDA	N	(0) LOCA	TION OF WELL (legal d	escription)	
Company JR LAND AND LIVESTOCK			GELTE TWP 18.00 S N		E EMUNA
Address PO BOX 800		County MAIN	GIR IWP 18:00 S N	5 FARRE 42.00 E	- Dwwa
City HARPER State OR Zig	97906	Sec 4	SE 1/4 of the SW		,
(2) TYPE OF WORK   New Well   Deepen		Tax Map Num		Lot	DMS or DD
Alteration (complete 2a & 10) A	bandonment(complete 5a)	Lat	OE 44.028/8000		-
(2a) PRE-ALTERATION		Long	or <u>-117.581900</u>		DMS or DD
Dia + From To Gauge Sti Pist	Wld Thrd		Street address of well ( Ne	arest address	
Casing:		3393 OLD 51	TAGE RD WESTFALL		
Material From To Amt sack	s/lbs				
Seal:		OM STAT	IC WATER LEVEL		
(3) DRILL METHOD  ☐ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger [	Town Mad	(10) 31.41	Date	SWL(psi) +	SWIM
North Wit Nivorth stor Throse Throse I	Cable Mag	Existing	Well / Pre-Alteration		-
Reverse Rotary Other		Complete			76
(4) PROPOSED USE Domestic X Irrigation	Community		Flowing Artesian?	Dry Hole?	
Industrial Commercial Livestock Dewatering		WATER BEAL	RING ZONES Denth ara	nter was first found	97.00
Thermal Injection Other		SWL Date		Flow SWL(psi)	
			FIGE 10 EX	true surcher)	- 3w2(u)
	Standard (Attach copy	3/3/2014	97 114	25	97
Depth of Completed Well 460.00 ft		5/1/2014	168 298 1	1500	76
BORE HOLE SEA					
Dia From To Material From					
20 0 298 Bentonite Chips 0	4 300 P				
12 298 306 Cement 4 6 306 460 Bentonite Chips 160	160 7800 P				
0 300 400 Belitotiae Class 100	100 000 P	(11) WELL	LOG Ground Elevation	0	
How was seal placed: Method A B X	CDE	4	Material	From	To
Dober Seas paret. Steam In Is	le ma Lr	topsoil	Mandan	1 0	5
Backfill placed from 300 ft to 460 ft. Matter	CUTTINGS REAME	gravel		5	12
Filter pack from 2. to 2. Material	Size	sandy clay		12	40
		gave!		40	46
Explosives used: Yes Type Amount		-	hard sandy clay	46	97
(5a) ABANDONMENT USING UNHYDRATED		gravel and gre		97	114
Proposed Amount Actual Amo	unt		th some clay mix	114	118
(6) CASING/LINER		-	rith some clay mix	118	158
Casing Liner Dia + From To Gaus	pe Sti Piste Wid Thrd	broken black	and grange rock	158	168
<ul> <li>16 X 1.5 298 37</li> </ul>		broken brown		168	185
			nd green rock	185	191
			rock with red & green laver	191	295
		hard brown ro		295	380
			n colored rock	380	400
	n of shoe(s)	hard black roo	ck .	400	407
Temp casing Yes Dia From	Te	brown rock		407	460
(7) PERFORATIONS/SCREENS		-		-	$\vdash$
Perforations Method Plazma cutter		L			
Screens Type Mate		Date Starte	d2/27/2014 Com	plete 4/3/2014	
Perf: Casing/ Screen Scm/slot	Slot #of Tele	(mahandad)	Water Well Constructor Certifi	ration	
	6 1170		the work I performed on the co		or alteration o
Perf Casing 16 168 298 375	6 1170	abandorment	of this well is in compliance	e with Oregon war	ter supply we
			standards. Materials used and in		
		the best of m	y knowledge and belief.		
		License Num	ber D	ate	
(8) WELL TESTS: Minimum testing time is 1 hour					
Pump Bailer ( Air	Flowing Artesian	Signed			
~ ~ ~		Annded We	ter Well Constructor Certificat	ian.	
Yield gal min Drawdown Drill stem/Pump dep	10	1	onsibility for the construction, d		or shandonme
1750	- "		ed on this well during the constru		
			gring this time is in compliance		
Tourseasure 60 °F Lab analysis Yes By			standards. This report is true to th		
	amount	License Num	ber 1919 Da	ate 4/5/2014	
Water quality concerns? [Yes (describe below) IDS Prom To Description	Amount Units		1414		
		Signed DA	INIEL MCLERAN (E-filed)		
		Contact Info	(optional) 208-941-0647		
THIS REPORT MUST BE SUBMITTED TO THE WATER	L-WATER RESOURCES		NO DAYS OF COMPLETION O	F WORK Form Va	coon.
IND REPORT MOST BE SUBSELLED IN THE WATER	CARLO CALLES DEPARTS	ATTENDED BARRIOGA	TO DATE OF COMPLETION O	- Marge room ag	-

From

Date: 03/17/2015

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MALH 53	867
STATE OF OREGON WATER SUPPLY WELL REPORT (as required by ORS 537.765 & OAR 690-205-0210)	WELL LABEL # L 101316 START CARD # 1013668
Instructions for completing this report are on the last page of this form.	START CARDY 1013068
(1) LAND OWNER  First Name (1) CHA-D  Company Address 2.785 DULY CVELK KD  City Utile  State CR 7:p 97188  (2) TYPE OF WORK PNew Well   Deepening   Conversion	(9) LOCATION OF WELL (legal description)  County Malkey Twp 185 Nor S Range 432 E or W W.  Sec 7 VE 114 of the 540 114 Tax Lot 400  Tax Map Number Lat  Lat 44 00 S8 5 or DMS or D
Alteration (repair/recondition)	Long 1/7: 29:23 "or DMS or D
(3) DRILL METHOD   Rotary Air	Street Address of Well (or nearest address) Same  (10) STATIC WATER LEVEL
(4) PROPOSED USE Domestic Trigation Community	Date SWL(psi) • SWL(ft)
(4) PROPOSED USE Domestic Irregation Community Industrial/Commercial Tryestock Downtering Injection	Completed Well 5-3/-// 82
Thermal Other Labe	Flowing Artesian? Yes Dry Hole? Yes
(5) BORE HOLE CONSTRUCTION Special Sundard: Yes (attach copy) Dapth of Completed Well 280 ft.	WATER BEARING ZONES Depth water was first found 120
100000000000000000000000000000000000000	SWL Date From To Est Flow SWL (pii) + SWL (fi)
BORE HOLE Dia From To Material From To Amount Control	5-34 80 168 100 82 5-3-4 28 255 150 82
12 0 40 Bentalle 0 40 32	5-2-1 28 255 150 82
	(11) WELL LOG Ground Elevation
How was scal placed. Method   A   B   C   D   E	Material From To
Backfill placed from ft. to ft. Material	N= # N== 13
Filter pack from ft. to ft. Material Size	green Chapters 32 120
Explosives used: Yes Type Amount	Oren christa David Illate 120 168
(6) CASING/LINER	gran Way And Start 230 855
Cong Linr Das + From To Gauge Steel Plants Welded Thrd	day glin 255 280
	RECEIVED
	JUN-1 0 2011
Shoe   Inside   Outside   Other Location of shoo(s)	
Temporary casing  Yes Diameter From To	WATER RESOURCES DEPT
(7) PERFORATIONS/SCREENS	Date Surred 5-3/-// Completed 5-3/-//
Perforations Method	
Screens Type Material	(unbonded) Water Well Constructor Certification  1 certify that the work I performed on the construction, deepening, alteration,
Perf Scro Cang Line Die From To width length slots size	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
CONTROL MODELLO AND	(bonded) Water Well Constructor Certification
(8) WELL TESTS: Minimum testing time is 1 hour Pump Builer Afric Plowing Artesian  Yield galvion Drawdown Drill stem/Pump depth Duration (hr)	I accept responsibility for the construction, deepening, afteration, or abundonment work performed on this well during the construction dans 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 knowled
Tomperature 43 *7 Lab analysis (1 Yes By	and belief.  License Number 1867

ORIGINAL - WATER RESOURCES DEPARTMENT ONE COPY FOR CONSTRUCTOR ONE COPY FOR CUSTOMER THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK 10/16/2006

# STATE OF OREGON EXEMPT USE WELL MAP

## **Oregon Water Resources Department**

725 Summer St NE, Salem, OR 97301 (503)986-0900



(as required by ORS 537.545 & OAR 690.190)
This map is supplemental to the WATER SUPPLY WELL REPORT

### LOCATION OF WELL

Latitude: 43.98070000 Longitude: -117.57910000

Datum: WGS84

Township/Range/Section/Quarter-Quarter Section:

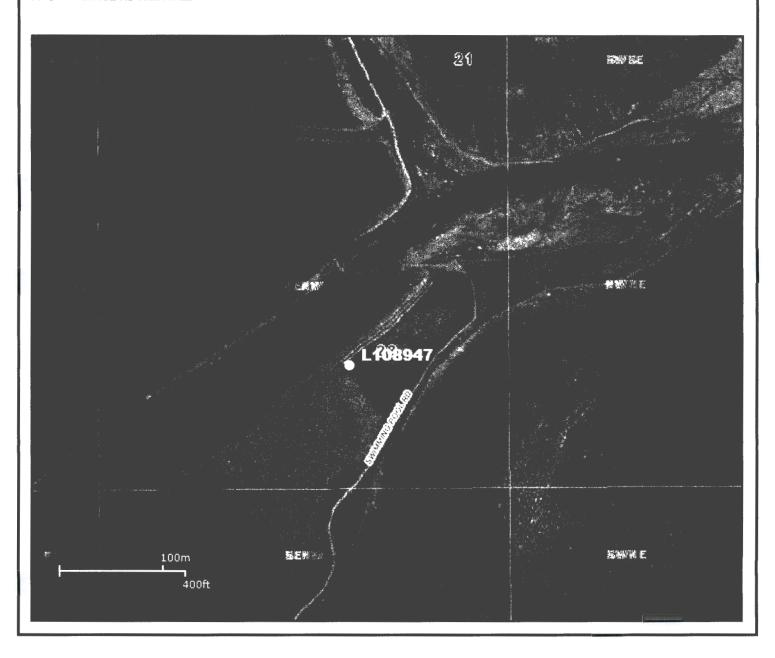
WM 18.00S 42.00E 28 NENW

Address of Well:

3393 OLD STAGE RD WESTFALL

Well Label: L108947 Well Log: MALH 54108 Printed: May 30, 2014

DISCLAIMER: This map is intended to represent the approximate location of the exempt use well provided by the land owner. It is not intended to be construed as survey accurate in any manner.



# STATE OF OREGON WATER SUPPLY WELL REPORT (as required by OPS 537 765 & OAB 690 205 0210)

### MALH 54108

WELL I.D. LABEL# L START CARD #

	rage 1 01 1
108947	
1022015	

(as required by ORS 537.765 & OAR 690-205-0210)	3/13/2014	ORIGINAL LOG #	4 1022013	
	3/13/2014	ORIGINAL LUG #	<i>'</i>	
(1) LAND OWNER Owner Well I.D.  First Name DICK Last Name JORDAN		TION OF WELL (L)		
Company JR LAND AND LIVESTOCK		ATION OF WELL (legal		_
Address PO BOX 800		Twp 18.00 S		
City HARPER State OR Zip 97906	Sec 28	NE 1/4 of the NW	_ 1/4   lax Lot <u>80</u>	)()
(2) TYPE OF WORK X New Well Deepening Conversion	on Tax Map Nu	nper	Lot	DMS or DE
Alteration (complete 2a & 10)   Abandonment(compl	ete 5a) Lang	mber	0000	- DMS or DE
(2a) PRE-ALTERATION Dia + From To Gauge Stl Plstc Wld Thrd	Long	Street address of well (6 N	Jearest address	
Casing: Gauge Sti Fish Wild Find		STAGE RD WESTFALL		
Material From To Amt sacks/lbs				
Seal:				
(3) DRILL METHOD	(10) STA	TIC WATER LEVEL	eta GIVII ( ) I	GHH (A)
Rotary Air Rotary Mud Cable Auger Cable Mud	Existing	Well / Pre-Alteration	ite SWL(psi) +	SWL(II)
Reverse Rotary Other	Complet	red Well 2/27/201	4	97
(4) PROPOSED USE Domestic X Irrigation Community		Flowing Artesian?	Dry Hole?	
Industrial/ Commercial Livestock Dewatering	WATER BEA	ARING ZONES Depth v	water was first found	280.00
Thermal Injection Other	SWL Date			
(5) BORE HOLE CONSTRUCTION Special Standard (Attac	ch copy) (2/27/2014		* '	
Depth of Completed Well 460.00 ft.	ch copy) 2/27/2014	280 460	1500	97
BORE HOLE SEAL	sacks/			
Dia From To Material From To Amt				
20         0         104         Bentonite Chips         0         4         200	<del></del>			
15 104 360 Cement 4 104 70 8 360 460	S			
8 300 400	(11) WELI	L LOG Ground Elevat	ion	
How was seal placed: Method A B XC D E		Material Material	From	То
Other	topsoil		0	4
Backfill placed from ft. to ft. Material	gravel and gr	ey rock	. 4	12
Filter pack from ft. to ft. Material Size	black basalt vellow clay	1777	12 23	23
Explosives used: Yes Type Amount	black basalt		25	25 35
(5a) ABANDONMENT USING UNHYDRATED BENTONITE		ck with some clay	35	50
Proposed Amount Actual Amount	grey basalt		50	72
(6) CASING/LINER	red and brow		72	75
Casing Liner Dia + From To Gauge Stl Plstc Wld	Thrd black basalt	n rock with some clay mixed	75	83
● ○ 16 × 2 104 .375 ● ○ □		asalt w/fractured layers	83 280	280 460
R 9		is a contract of the contract	200	100
Shoe Inside Outside Other Location of shoe(s)	└┤			-
Temp casing Yes Dia From To				1
7) PERFORATIONS/SCREENS				
Perforations Method				
Screens Type Material	Date Starte	ed1/16/2014 Cor	mplete 2/28/2014	
Perf/ Casing/ Screen Scrn/slot Slot # of	Γele/	*	<u> </u>	
Screen Liner Dia From To width length slots pig	70 5120	Water Well Constructor Certi		ing alteration o
		t of this well is in complian		
		standards. Materials used and i	information reported	above are true t
		y knowledge and belief.		
	License Nun	iberI	Date	
(8) WELL TESTS: Minimum testing time is 1 hour	Signed			
Pump Bailer • Air Flowing Artesi	an			
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)  1500 460 1	¬ l` ′	ater Well Constructor Certifica		
1500 460 1		onsibility for the construction,		
		ned on this well during the construction uring this time is in complian		
Temperature 60 °F Lab analysis Yes By		standards. This report is true to t		
			Date 3/13/2014	
Water quality concerns? Yes (describe below) TDS amount To Description Amount Un	its			
		ANIEL MCLERAN (E-filed)		
	Contact Info	(optional)		
ORIGINAL - WATER RESOU	RCES DEPARTMENT			

# STATE OF OREGON EXEMPT USE WELL MAP

(as required by ORS 537.545 & OAR 690.190)
This map is supplemental to the WATER SUPPLY WELL REPORT

### **Oregon Water Resources Department**

725 Summer St NE, Salem, OR 97301 (503)986-0900



### LOCATION OF WELL

Latitude: 44.02878000 Longitude: -117.58190000

Datum: WGS84

Township/Range/Section/Quarter-Quarter Section:

WM 18.00S 42.00E 4 SESW

Address of Well:

3393 OLD STAGE RD WESTFALL

Well Label: L108948 Well Log: MALH 54113 Printed: May 30, 2014

DISCLAIMER: This map is intended to represent the approximate location of the exempt use well provided by the land owner. It is not intended to be construed as survey accurate in any manner.



### STATE OF OREGON

### MALH 54113

		Page 1 of 2
CLL I.D. LABEL# L		
START CARD #	1022374	

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

4/5/2014

VELL I.D. LABEL# L	108948
START CARD #	1022374
ORIGINAL LOG #	

(1) LAND OWNER Owner Well I.D.		
First Name DICK Last Name JORDAN	(9) LOCATION OF WELL (legal description)	
Company JR LAND AND LIVESTOCK	County MALHEUR Twp 18.00 S N/S Range 42.00	E E/W WM
Address PO BOX 800	County MALHEOR TWP 18.00 S IN/S Range 42.00	E/W WIVI
City HARPER State OR Zip 97906	Sec 4 SE 1/4 of the SW 1/4 Tax Lot 5	00
(2) TYPE OF WORK New Well Deepening Conversion	Tax Map Number     Lot       Lat     " or 44.02878000       Long     " or -117.58190000	
Alteration (complete 2a & 10) Abandonment(complete 5a)	Lat or 44.02878000	DMS or DD
(2a) PRE-ALTERATION	Long " or117.58190000	DMS or DD
Dia + From To Gauge Stl Plstc Wld Thrd	Street address of well Nearest address	
Casing:	3393 OLD STAGE RD WESTFALL	
Material From To Amt sacks/lbs		
Seal:		
(3) DRILL METHOD	(10) STATIC WATER LEVEL	
Rotary Air Rotary Mud Cable Auger Cable Mud	Date SWL(psi) -	F SWL(ft)
Reverse Rotary Other	Existing Well / Pre-Alteration	
	Completed Well 4/3/2014	76
(4) PROPOSED USE Domestic Irrigation Community	Flowing Artesian? Dry Hole?	
Industrial/ Commercial Livestock Dewatering	WATER BEARING ZONES Depth water was first found	97.00
Thermal Injection Other	SWL Date From To Est Flow SWL(psi)	
		· 5WE(II)
(5) BORE HOLE CONSTRUCTION Special Standard (Attach copy)	3/3/2014 97 114 25	97
Depth of Completed Well 460.00 ft.	5/1/2014 168 298 1500	76
BORE HOLE SEAL sacks/		
Dia From To Material From To Amt Ibs		
20 0 298 Bentonite Chips 0 4 300 P		
12 298 306 Cement 4 160 7800 P		
6 306 460 Bentonite Chips 160 168 600 P	(11) WELL LOG Ground Flouring	
	Glound Elevation	
How was seal placed: Method A B XC D E	Material From	To
Other	topsoil 0	5
Backfill placed from 300 ft. to 460 ft. Material CUTTINGS/REAMIN	gravel 5	12
Filter pack from ft. to ft. Material Size	sandy clay 12	40
Explosives used: Yes Type Amount	gravel 40	46
	sandstone or hard sandy clay 46	97
(5a) ABANDONMENT USING UNHYDRATED BENTONITE	gravel and grey rock mix 97	114
Proposed Amount Actual Amount	Black rock with some clay mix 114	118
(6) CASING/LINER	yellow rock with some clay mix 118	130
(6) CASING/LINER Casing Liner Dia + From To Gauge Stl Plstc Wld Thrd	black, brown, and orange rock 130	158
● 16 X 1.5 298 .375 ● X	broken black rock 158	168
	broken brown rock (caved) 168	185
	broken grey and green rock 185	191
	broken brown rock with red & green layer 191	295
	hard brown rock 295	380
Shoe Inside Outside Other Location of shoe(s)	grey and green colored rock 380	400
	hard black rock 400	407
Temp casing Yes From To	brown rock 407	460
(7) PERFORATIONS/SCREENS		
Perforations Method Plazma cutter		
Screens Type Material	Date Started2/27/2014 Complete 4/3/2014	
Perf/ Casing/ Screen Scrn/slot Slot # of Tele/		
Screen Liner Dia From To width length slots pipe size	(unbonded) Water Well Constructor Certification	
Perf         Casing         16         168         298         .375         6         1170	I certify that the work I performed on the construction, deepen	
	abandonment of this well is in compliance with Oregon w	
	construction standards. Materials used and information reported	above are true to
	the best of my knowledge and belief.	
	License Number Date	
(8) WELL TESTS: Minimum testing time is 1 hour		
Pump Bailer • Air Flowing Artesian	Signed	<del> </del>
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)	(bonded) Water Well Constructor Certification	
1500 298 10		n or shandanmant
	I accept responsibility for the construction, deepening, alteration work performed on this well during the construction dates reported	
	performed during this time is in compliance with Oregon w	
Townston (O PE Laborateria V Dec	construction standards. This report is true to the best of my knowl	
Temperature 60 °F Lab analysis Yes By		<i>D</i>
Water quality concerns? Yes (describe below) TDS amount From To Description Amount Units	License Number 1818 Date 4/5/2014	
Description Amount Office	Signed DANIEL MCLERAN (E-filed)	
	Contact Info (optional) 208-941-0647	
	Contact fillo (optional) 200-7-1-0047	

MALH 54113

VELL I.D. LABEL# L	108948	
START CARD #	1022374	
ORIGINAL LOG#		-

4	/5/	/2	01	4

		4/5/2014	O	RIGINAL LOG #			
(2a) PRE-ALTERATION		Water Q	uality Conce	rns			
Dia + From To Gauge Stl Plstc W	d Thrd	From	То	Description	An	nount	Units
Material From To Amt sack	s/lbs						+
(5) BORE HOLE CONSTRUCTION		I	TIC WATE				
BORE HOLE SEA	AL	SWL Dat	e From	To Est F	low SWL(ps	i) +	SWL(ft)
Dia From To Material From	340	cks/ bs				$\dashv \vdash \dashv$	
						$-\square$	
						$\dashv$	
						$\Box\Box$	
						$\dashv \vdash \vdash$	
FILTER PACK		(11) WEI	L LOG				
From To Material Size		(-1)	Material		From		То
			Material		11011		
(6) CASING/LINER		_		·			
	Sti Diete Wid Th	rd					
Casing Liner Dia + From To Gauge	Stl Plstc Wld Th						
	8911	-					
	8 8 H F	1					
		]					
	88HF	-   -					
		<b>_</b>					
		]					
(7) PERFORATIONS/SCREENS		1				-	
Perf/ Casing/ Screen Scrn/slot	Slot # of T	ele/					
Screen Liner Dia From To width		e size					
							-
						L	
			its/Remarks				
(8) WELL TESTS: Minimum testing time is	1 hour			the pipe to hold the ce		3' of bei	ntonite
Yield gal/min Drawdown Drill stem/Pump de		Ontop so th	ie cement did no	ot bleed through to the	aquitet		
Tiona gairinii Diawaowii Diili stein/Fump de	Zuration (III)						

# STATE OF OREGON EXEMPT USE WELL MAP

(as required by ORS 537.545 & OAR 690.190)
This map is supplemental to the WATER SUPPLY WELL REPORT

# Oregon Water Resources Department

725 Summer St NE, Salem, OR 97301 (503)986-0900



### LOCATION OF WELL

Latitude: 44.01625 Longitude: -117.48972 Datum: WGS84

Township/Range/Section/Quarter-Quarter Section: 18S 43E 7 NESE

Address of Well: 2900 BULLY CREEK RD

Well Label #: L101316 Well Log: MALH 53867 Printed: Jul 06, 2011

DISCLAIMER: This map is intended to represent the approximate location of the exempt use well provided by the land owner. It is not intended to be construed as survey accurate in any manner.



### **MALH 53867**

### STATE OF OREGON WATER SUPPLY WELL REPORT

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

WELL LABEL # L	101316	
START CARD#	1013668	

Instructions for completing this report are on the last page of this form.	
(1) LAND OWNER  First Name KiCHAND  Last Name CONDAN	(9) LOCATION OF WELL (legal description)
First Name NICHAN Last Name CONDAN	County Malkeur Twp 185 Nors Range 43E For W W.M.
Address 2785 BULLY EVELK KD	Sec 7 NE 1/4 of the SW 1/4 Tax Lot 400
City VALE State CR Zip 97718	Tax Map Number Lot  Lat 444 ° 60 ' 58 5" or DMS or DD
(2) TYPE OF WORK New Well Deepening Conversion	Lat 44.00.58.5" or DMS or DD
Alteration (repair/recondition)	Long 117 · 29 · 23 or
	Street Address of Well (or nearest address)
(3) DRILL METHOD  Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud	
Rotary Air Rotary Mud Cable Auger Cable Mud Reverse Rotary Other	(10) CTATIC WATER I EVEL
Reverse Rotary Other	(10) STATIC WATER LEVEL   Date   SWL(psi)   +   SWL (ft)
(4) PROPOSED USE Domestic Irrigation Community	Existing Well/Predeepening
☐ Industrial/Commercial ☐ Livestock ☐ Dewatering ☐ Injection	Completed Well 5-31-1/ 82
Thermal Other Last	Flowing Artesian? Yes Dry Hole? Yes
(5) BORE HOLE CONSTRUCTION Special Standard: Yes (attach copy)	WATER BEARING ZONES Depth water was first found
Depth of Completed Well <u>28C</u> ft.	SWL Date   From   To   Est Flow   SWL (psi)   + SWL (ft)
BORE HOLE SEAL	
Dia From To Material From To Amount Cols/lbs	5-3/7/ 120 168 100 82
12 0 40 Bentirelle 0 40 32	5-31-11 230 255 150 82
How was seal placed: Method A B C D E	(11) WELL LOG Ground Elevation
Down Dry Pace	Material From To
Backfill placed fromft. toft. Material	Dand Dine 0 32
Filter pack from ft. to ft. Material Size	green Christine 32 120
Explosives used: Yes Type Amount	Green Christa Sand Stale 120 168
(6) CASING/LINER	Glas DK Bean 168 230 955
Csng Linr Dia + From To Gauge Steel Plastic Welded Thrd	green Clay And Stucks 230 255 Clay often 255 280
8 t2 41 3/8 -	0.1
	RECEIVED
	NEGEIVED
	JUN 1 0 2011
	JUIN I O KINT
Shoe Inside Outside Other Location of shoe(s)	WATER RESOURCES DEPT
Temporary casing Yes Diameter From To	SALEM. OREGON
(7) PERFORATIONS/SCREENS	Date Started 5-3/-// Completed 5-3/-//
Perforations Method	
Screens Type Material	(unbonded) Water Well Constructor Certification  1 certify that the work 1 performed on the construction, deepening, alteration, or
	abandonment of this well is in compliance with Oregon water supply well
Screen slot Slot # of pipe	construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
Perf Scrn Csng Linr Dia From To width length slots size	the best of my knowledge and better.
	License Number Date
	Signed
(8) WELL TESTS: Minimum testing time is 1 hour	(bonded) Water Well Constructor Certification
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian	I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)	above. All work performed during this time is in compliance with Oregon water
250 250 2H	supply well construction standards. This report is true to the best of my knowledge
	and belief.
Temperature 43 °F Lab analysis  Yes By	License Number 186 / Date 5-31-11
Water quality concerns? Yes (describe below)	Signed Clan Conselerge
From To Description Amount Units	
	Contact Info. (optional)
	CONTROL CONTRO