PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date **19 June 2008**

FROM: Ground Water/Hydrology Section **Gerald H. Grondin**
Reviewer's Name

SUBJECT: Application G- **16958** Supersedes review of
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review ground water applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation**.

A. GENERAL INFORMATION:

Applicant's Name: **Severance, Travis & Kim** County: **Crook**

A1. Applicant(s) seek(s) (705 gpm) **1.57** cfs from **1** well(s) in the **Deschutes** Basin, **South Fork Crooked River** (note: Paulina Creek & Beaver Creek) subbasin Quad Map: **Paulina**

A2. Proposed use: **Irrigation (125.7 acres, primary)** Seasonality: **April 15 – October 1 (170 days)**

A3. Well and aquifer data **(attach and number logs for existing wells; mark proposed wells as such under logid)**:

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	**CROO 53341**	**1 Crooked River Well**	**Basalt**	**1.57**	**16S/23E-sec 28 BAB**	**1450' E, 660' S fr NW S 28**
2						
3						
4						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	**3750**	**300**	**34**	**01/10/07**	**330**	**0 – 18.5**	**+1.5 – 18.5**	**N.A.**	**N.A.**	**1100**	**?**	**A**

Use data from application for proposed wells.

A4. **Comments: Previous review was G-16468 for 4 proposed wells, 3.98 cfs, for 318.6 acres. Well identified as CROO 53341 from the description on the application.**

The well site is located in Paulina Valley where alluvium and other sediments overly basalt. The basalt is likely fractured, and ground water in it is likely hydraulically connected to the overlying alluvium and other sediments and subsequently to surface water.

A5. ☒ **Provisions of the Deschutes** Basin rules relative to the development, classification and/or management of ground water hydraulically connected to surface water ☐ **are**, *or* ☒ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments: **Well is located outside the USGS Deschutes Ground Water Study Area.**

A6. ☐ **Well(s) #** _____ , _____ , _____ , _____ , _____ , tap(s) an aquifer limited by an administrative restriction.
Name of administrative area:
Comments:

B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that ground water* 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 ground water 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 ground water portion of the injury determination as prescribed in OAR 690-310-130;

c. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the ground water resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing ground water rights or to the ground water resource:
   i. ☒ The permit should contain condition #(s) **7B AND 7N**;
   ii. ☐ The permit should be conditioned as indicated in item 2 below.
   iii. ☒ The permit should contain special condition(s) as indicated in item 3 below;

B2. a. ☐ **Condition** to allow ground water production from no deeper than _____ ft. below land surface;

b. ☐ **Condition** to allow ground water production from no shallower than _____ ft. below land surface;

c. ☐ **Condition** to allow ground water production only from the _____ ground water 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 Ground Water Section.

Describe injury –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. **Ground water availability remarks:**

The water well report identified for the proposed well (CROO 53341) indicates the well obtains water primarily from basalt starting at 300 ft below land surface, has a static water level of 34 feet below land surface, and has a yield of 1,100 gpm. The water in the basalt is likely hydraulically connected overlying alluvium and subsequently to surface water, but not at the nearest reach given the reported static water level.

The nearest state observation well found is State Obs Well 96 (CROO 2929, open to alluvium and basalt with 3000 gpm yield), about 24 miles south of the well site. It was monitored periodically from 1964 to about 1985. The ground water level at State Observation Well 96 generally fluctuated less than 2-feet and a maximum of about 10-feet during the period of record.

The next nearest state observation well found is State Obs Well 97 (CROO 2936, also open to alluvium and basalt with 1100 gpm yield), about 26 miles south of the well site. It was monitored periodically from 1963 to present. The ground water level at State Observation Well 97 generally fluctuated less than 2-feet and a maximum of about 5-feet during the period of record.

C. GROUND WATER/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**	☐	☒
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation:

The system is identified as generally unconfined with discontinuous low permeability layers causing local (limited, discontinuous) confinement.

Available data indicates basalt dips to a syncline coincident with Beaver Creek; for most wells, the static water level for basalt and alluvium is generally shallow and generally coincident with Paulina Creek in Paulina Valley and Beaver Creek in that drainage. Exceptions are few. The driller reported static water level for CROO 53341 intercepts Paulina Creek in T16S/R23E-sec 23 DBA (about 13,000 feet east) rather than the nearest reach (about 2200 feet north).

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**	**Paulina Creek**	**3716**	**3720**	**13,000**	☒	☐	☐	☐	☒
1	**2**	**Beaver Creek**	**3716**	**3670**	**10,200**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation:

Available data indicates basalt dips to a syncline coincident with Beaver Creek; for most wells, the static water level for basalt and alluvium is generally shallow and generally coincident with Paulina Creek in Paulina Valley and Beaver Creek in that drainage. Exceptions are few.

The driller reported static water level for CROO 53341 intercepts Paulina Creek in T16S/R23E-sec 23 DBA (about 13,000 feet east) rather than the nearest reach (about 2200 feet north).

The reported static water level is above Crooked River/Beaver Creek.

Water Availability Basin the well(s) are located within: BEAVER CR > CROOKED R – AT MOUTH

C3a. **690-09-040 (4):** Evaluation of stream impacts for <u>each well</u> 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 < ¼ 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?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

C3b. **690-09-040 (4):** Evaluation of stream impacts <u>by total appropriation</u> 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:

Given the driller reported static water level, the connection with surface water is more than one mile.

The driller reported static water level for CROO 53341 intercepts Paulina Creek in T16S/R23E-sec 23 DBA (about 13,000 feet east) rather than the nearest reach (about 2200 feet north).

The reported static water level is above Crooked River/Beaver Creek, about 10,200 feet to the south.

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.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	**1**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
Well Q as CFS		**0.00**	**0.00**	**0.00**	**1.57**	**1.57**	**1.57**	**1.57**	**1.57**	**1.57**	**0.00**	**0.00**	**0.00**
Interference CFS		**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
		%	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Well Q as CFS													
Interference CFS													
(A) = Total Interf.		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
(B) = 80 % Nat. Q		**19.80**	**45.00**	**100.0**	**137.0**	**97.80**	**76.70**	**23.50**	**10.90**	**11.50**	**7.53**	**10.20**	**15.70**
(C) = 1 % Nat. Q		**0.198**	**0.450**	**1.000**	**1.370**	**0.978**	**0.767**	**0.235**	**0.109**	**0.115**	**0.075**	**0.102**	**0.157**
(D) = (A) > (C)		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
(E) = (A / B) x 100		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

(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.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	**2**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
Well Q as CFS		**0.00**	**0.00**	**0.00**	**1.57**	**1.57**	**1.57**	**1.57**	**1.57**	**1.57**	**0.00**	**0.00**	**0.00**
Interference CFS		**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
		%	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Well Q as CFS													
Interference CFS													
(A) = Total Interf.		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
(B) = 80 % Nat. Q		**19.80**	**45.00**	**100.0**	**137.0**	**97.80**	**76.70**	**23.50**	**10.90**	**11.50**	**7.53**	**10.20**	**15.70**
(C) = 1 % Nat. Q		**0.198**	**0.450**	**1.000**	**1.370**	**0.978**	**0.767**	**0.235**	**0.109**	**0.115**	**0.075**	**0.102**	**0.157**
(D) = (A) > (C)		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
(E) = (A / B) x 100		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

(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: _____

The well is more than 1.00 mile from where the driller reported static ground water level intercepts Paulina Creek and more than 1.00 mile from Beaver Creek, Interference with Paulina Creek and Beaver Creek is likely but was not calculated, awaiting site specific aquifer property data.

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 ground water use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☐ The permit should contain condition #(s)_____;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:**

Condition with 7B, 7N, and 7J if a permit is issued.

Previous review was G-16468 for 4 proposed wells, 3.98 cfs, for 318.6 acres.

Well identified as CROO 53341 from the description on the application.

The well site is located in Paulina Valley where alluvium and other sediments overly basalt. The basalt is likely fractured, and ground water in it is likely hydraulically connected to the overlying alluvium and other sediments and subsequently to surface water.

The well is more than 1.00 mile from where the driller reported static ground water level intercepts Paulina Creek and more than 1.00 mile from Beaver Creek, Interference with Paulina Creek and Beaver Creek is likely but was not calculated, awaiting site specific aquifer property data.

References Used:

Application File: G-16958

Brown, C.E. and Thayer, T.P. 1966. Geologic map of the Canyon City quadrangle, northeastern Oregon: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-447.

Swanson, D.A. 1969. Reconnaissance geologic map of the east half of the Bend quadrangle, Crook, Wheeler, Jefferson, Wasco, and Deschutes Counties, Oregon: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-568.

Gonthier, J.B. 1985. A description of aquifer units in eastern Oregon: U.S. Geological Survey Water Resources Investigations Report 84-4095, 39 p., maps.

Walker, G. W. (editor) 1990. Geology of the Blue Mountains region of Oregon, Idaho, and Washington; Cenozoic geology of the Blue Mountains region: U.S. Geological Survey Professional Paper 1437, 135 p.

Paulina quadrangle map (USGS map, 1:24,000 scale)

State Observation Wells: 96 (CROO 2929) and 97 (CROO 2936)

Multiple well reports (well logs) found for: Paulina Valley and Beaver Creek drainages

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #**: **1** **Logid: CROO 53341**

D2. **THE WELL does not meet current well construction standards based upon:**
- a. ☐ review of the well log;
- b. ☐ field inspection by _____;
- c. ☐ report of CWRE _____;
- d. ☐ other: (specify) _____

D3. **THE WELL construction deficiency**:
- a. ☐ constitutes a health threat under Division 200 rules;
- b. ☐ commingles water from more than one ground water reservoir;
- c. ☐ permits the loss of artesian head;
- d. ☐ permits the de-watering of one or more ground water reservoirs;
- e. ☐ other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

D5. **THE WELL**
- a. ☐ **was**, *or* ☐ **was not** constructed according to the standards in effect at the time of original construction or most recent modification.
- b. ☒ I don't know if it met standards at the time of construction.

D6. ☐ **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. ☐ Well construction deficiency has been corrected by the following actions: _____

_____ _____, 200____.

(Enforcement Section Signature)

D8. ☐ **Route to Water Rights Section (attach well reconstruction logs to this page).**

CROO 53341

CROO 53341

01-11-2007

Amended

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

WELL LABEL # L 88294

START CARD # 1000455

(1) LAND OWNER

Owner Well I.D. 1383

First Name TRAVIS Last Name SEVERANCE

Company

Address 5455 S CROOKED RIVER HWY

City PRINEVILLE State OR Zip 97754

(2) TYPE OF WORK

☒ New Well ☐ Deepening ☐ Conversion ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud ☐ Reverse Rotary ☐ Other

(4) PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Community ☐ Industrial/ Commericial ☐ Livestock ☐ Dewatering ☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION

Special Standard ☐ Attach copy

Depth of Completed Well 330.00 ft.

BORE HOLE Dia	From	To	SEAL Material	From	To	Amt	sacks/ lbs
12	0	18.5	Bentonite	0	18.5	11	S
8	18.5	330					

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E

☒ Other POURED IN DRY

Backfill placed from ft. to ft. Material

Filter pack from ft. to ft. Material Size

Explosives used: ☐ Yes Type Amount

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
◉	○	8	☒	1.5	18.5	.250	◉	○		
○	○		☐				○	○		
○	○		☐				○	○		
○	○		☐				○	○		
○	○		☐				○	○		

Shoe ☐ Inside ☐ Outside ☐ Other Location of shoe(s)

Temp casing ☐ Yes Dia From To

(7) PERFORATIONS/SCREENS

Perforations Method

Screens Type Material

Perf/ Screen	Casing/ Screen Liner	Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ 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)
1,100		326	1

Temperature 52 °F Lab analysis ☐ Yes By

Water quality concerns? ☐ Yes (describe below)

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County Crook Twp 16.00 S N/S Range 23.00 E E/W WM

Sec ~~13~~ 28 NE 1/4 of the NE 1/4 Tax Lot 1300

Tax Map Number Lot

Lat ° 0 ' " or DMS or DD

Long ° 0 ' " or DMS or DD

○ Street address of well ◉ Nearest address

PAULINA VALLEY RD

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Predeepening				
Completed Well	01-10-2007			34

Flowing Artesian? ☐ Dry Hole? ☐

WATER BEARING ZONES Depth water was first found 300

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
01-10-2007	300	330	1,100			34

(11) WELL LOG

Ground Elevation

Material	From	To
SANDY TOP SOIL	0	2
DARK BROWN SANDSTONE	2	146
GREY BASALT	146	250
LIGHT BROWN SANDSTONE	250	266
GREY BASALT W/ CLAYSTONE SEAMS	266	330

RECEIVED
JAN 17 2007
WATER RESOURCES DEPT.
SALEM, OREGON

Date Started 01-09-2007 Completed 01-10-2007

(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

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. 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 584 Date 01-11-2007

Electronically Filed

Signed DARRELL MAPHET (E-filed)

Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT

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

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

CROO 53341
01-11-2007

Page 1 of 2

WELL LABEL # L 88294

START CARD # 1000455

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Owner Well I.D. 1383

First Name TRAVIS Last Name SEVERANCE

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(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud ☐ Reverse Rotary ☐ Other

(4) PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Community ☐ Industrial/ Commericial ☐ Livestock ☐ Dewatering ☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION

Special Standard ☐ (Attach copy)

Depth of Completed Well 330.00 ft.

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12	0	18.5	Bentonite	0	18.5	11	S
8	18.5	330					

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E

☒ Other POURED IN DRY

Backfill placed from ft. to ft. Material

Filter pack from ft. to ft. Material Size

Explosives used: ☐ Yes Type Amount

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
●	○	8	☒	1.5	18.5	.250	●	○		
○	○		☐				○	○		
○	○		☐				○	○		
○	○		☐				○	○		
○	○		☐				○	○		

Shoe ☐ Inside ☐ Outside ☐ Other Location of shoe(s)

Temp casing ☐ Yes Dia From To

(7) PERFORATIONS/SCREENS

Perforations Method

Screens Type Material

Perf/ Screen	Casing/ Screen Liner	Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ 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)
1,100		326	1

Temperature 52 °F Lab analysis ☐ Yes By

Water quality concerns? ☐ Yes (describe below)

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County Crook Twp 16.00 S N/S Range 23.00 E E/W WM

Sec 13 NE 1/4 of the NE 1/4 Tax Lot 1300

Tax Map Number Lot

Lat ° 0 ' " or DMS or DD

Long ° 0 ' " or DMS or DD

○ Street address of well ● Nearest address

PAULINA VALLEY RD

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Predeepening				
Completed Well	01-10-2007			34

Flowing Artesian? ☐ Dry Hole? ☐

WATER BEARING ZONES Depth water was first found 300

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
01-10-2007	300	330	1,100			34

(11) WELL LOG

Ground Elevation

Material	From	To
SANDY TOP SOIL	0	2
DARK BROWN SANDSTONE	2	146
GREY BASALT	146	250
LIGHT BROWN SANDSTONE	250	266
GREY BASALT W/ CLAYSTONE SEAMS	266	330

Date Started 01-09-2007 Completed 01-10-2007

(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

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. 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 584 Date 01-11-2007

Electronically Filed

Signed DARRELL MAPHET (E-filed)

Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT

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

Form Version: 0.88

WATER SUPPLY WELL REPORT - continuation page

CROO 53341
01-11-2007

WELL I.D. # L 88294

START CARD # 1000455

(5) BORE HOLE CONSTRUCTION

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

FILTER PACK

From	To	Material	Size

(6) CASING/LINER

Casing Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd

(7) PERFORATIONS/SCREENS

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

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

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

Water Quality Concerns

From	To	Description	Amount	Units

(10) STATIC WATER LEVEL

Water Bearing Zones

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

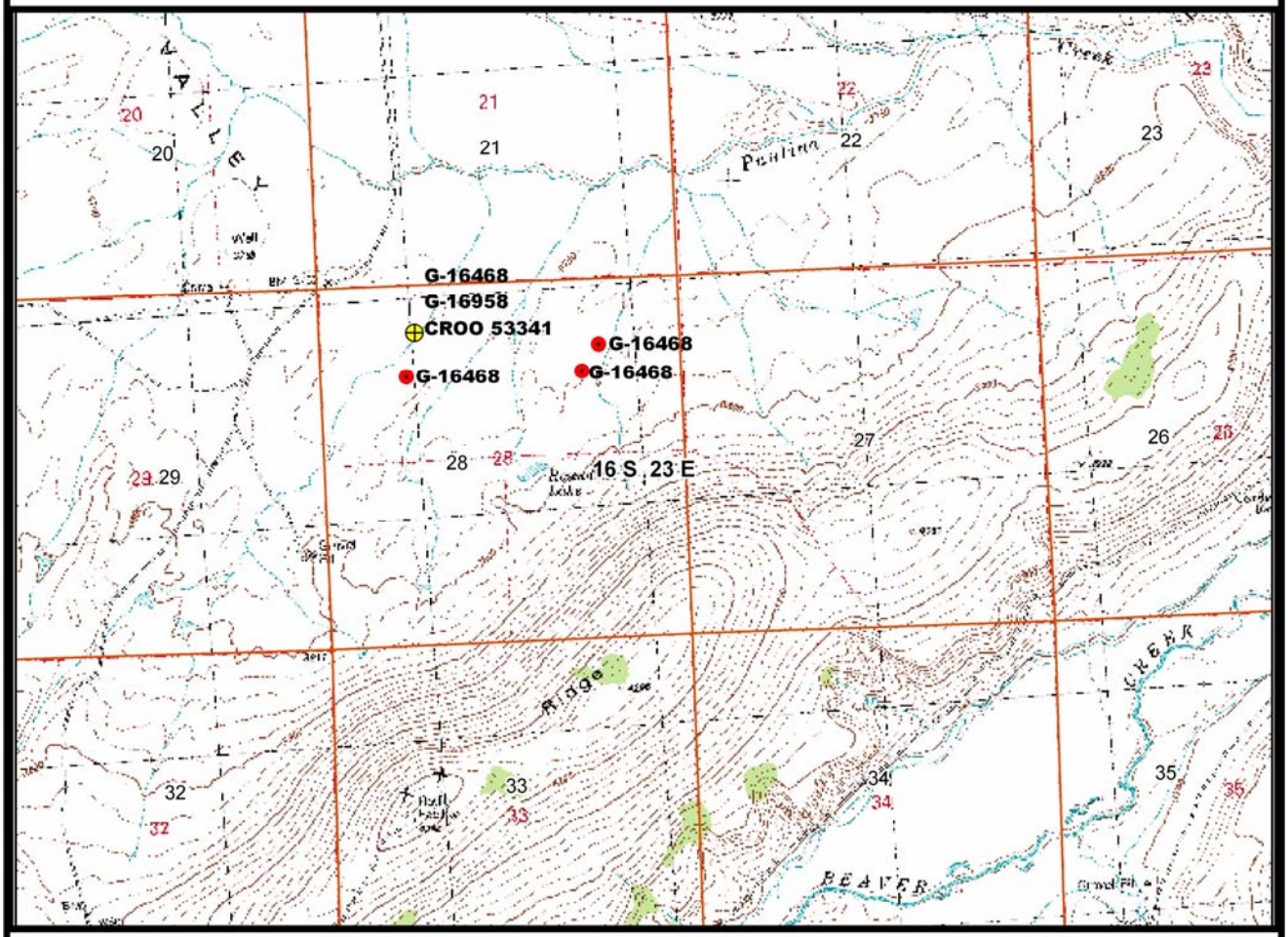
(11) WELL LOG

Material	From	To

Comments/Remarks

JIM WILLIAMS WAS HELPER DRILLER ON THIS JOB

Ground Water Application G-16958
Travis & Kim Severance

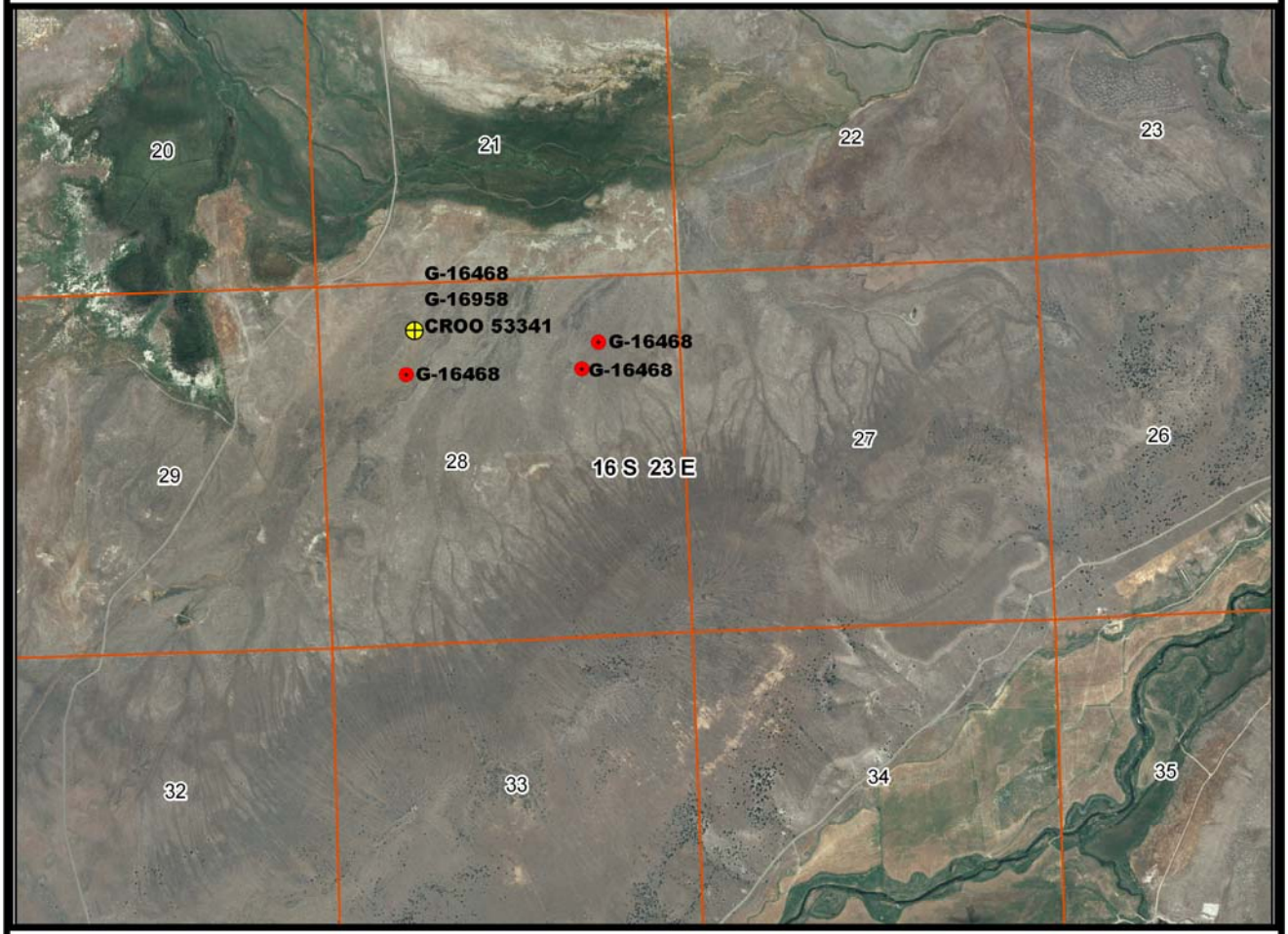


0 0.25 0.5 1 1.5 2
Miles

N

Proposed Well = yellow dot
Other Wells = red and blue dots
(existing or proposed)

Ground Water Application G-16958
Travis & Kim Severance



0 0.25 0.5 1 1.5 2
Miles

N

Proposed Well = yellow dot
Other Wells = red and blue dots
(existing or proposed)