

Groundwater Transfer Review Summary Form

Transfer/PA # T- 13401

GW Reviewer Joe Kemper Date Review Completed: 7/16/2020

Summary of Same Source Review:

☐ The proposed change in point of appropriation is not within the same aquifer as per OAR 690-380-2110(2).

Summary of Injury Review:

☐ The proposed transfer will result in another, existing water right not receiving previously available water to which it is legally entitled or result in significant interference with a surface water source as per 690-380-0100(3).

Summary of GW-SW Transfer Similarity Review:

☐ The proposed SW-GW transfer doesn't meet the definition of "similarly" as per OAR 690-380-2130.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations.



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

Ground Water Review Form:

- ☐ Water Right Transfer
☒ Permit Amendment
☐ GR Modification
☐ Other

Application: T-13401

Applicant Name: Devin Parker

Proposed Changes: ☐ POA ☒ APOA ☐ SW→GW ☐ RA
☐ USE ☐ POU ☐ OTHER

Reviewer(s): Joe Kemper

Date of Review: 7/16/2020

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 7/16/2020

The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:

- ☐ The water well reports provided with the application do not correspond to the water rights affected by the transfer.
- ☐ The application does not include water well reports or a description of the well construction details sufficient to establish the ground water body developed or proposed to be developed.
- ☐ Other _____

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1. Basic description of the changes proposed in this transfer: The applicant requests to add a JOSE 60625 as an APOA to the current valid POA JOSE 60035 under permit G-18220. No change in POU is requested.
 2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments: JOSE 60035 is 120 feet and produces water from a package of unconsolidated sands, clays, and gravels that are at least 300 feet deep at this location. The APOA, JOSE 60625, is 140 feet deep and accesses the same package of alluvium.
 3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No NA
b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.): na
 4. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another ground water right**?
☒ Yes ☐ No Comments: The proposed APOA is located approximately 400 feet closer to tax lot 2103 and 2101, which presumably have exempt use wells for domestic purposes. Pumping from the APOA vs the current POA will increase well to well interference at these domestic wells.
b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

☐ Yes ☒ No If yes, explain: The change in well-to-well interference that would result in moving all production from JOSE 60035 to JOSE 60625 is estimated using the Theis (1935) equation and bulk aquifer parameters representative of the local geology. The increase in interference is estimated to be less than 1 foot.

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

☒ Yes ☐ No Comments: The permitted POA is located just under a mile from both the East and West Forks of the Illinois River. The proposed APOA is located approximately 500 feet closer to the East Fork of the Illinois River, which would increase the resulting stream depletion to the East Fork.

b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: East Fork of the Illinois River ☒ Minimal ☐ Significant

Provide context for minimal/significant impact: The Hunt (1999) stream depletion model is used to estimate change in impacts to the East Fork of the Illinois River from the proposed APOA. Results indicate that this change would result in a 1-2% increase in stream depletion after 30 days, which is determined to be minimal.

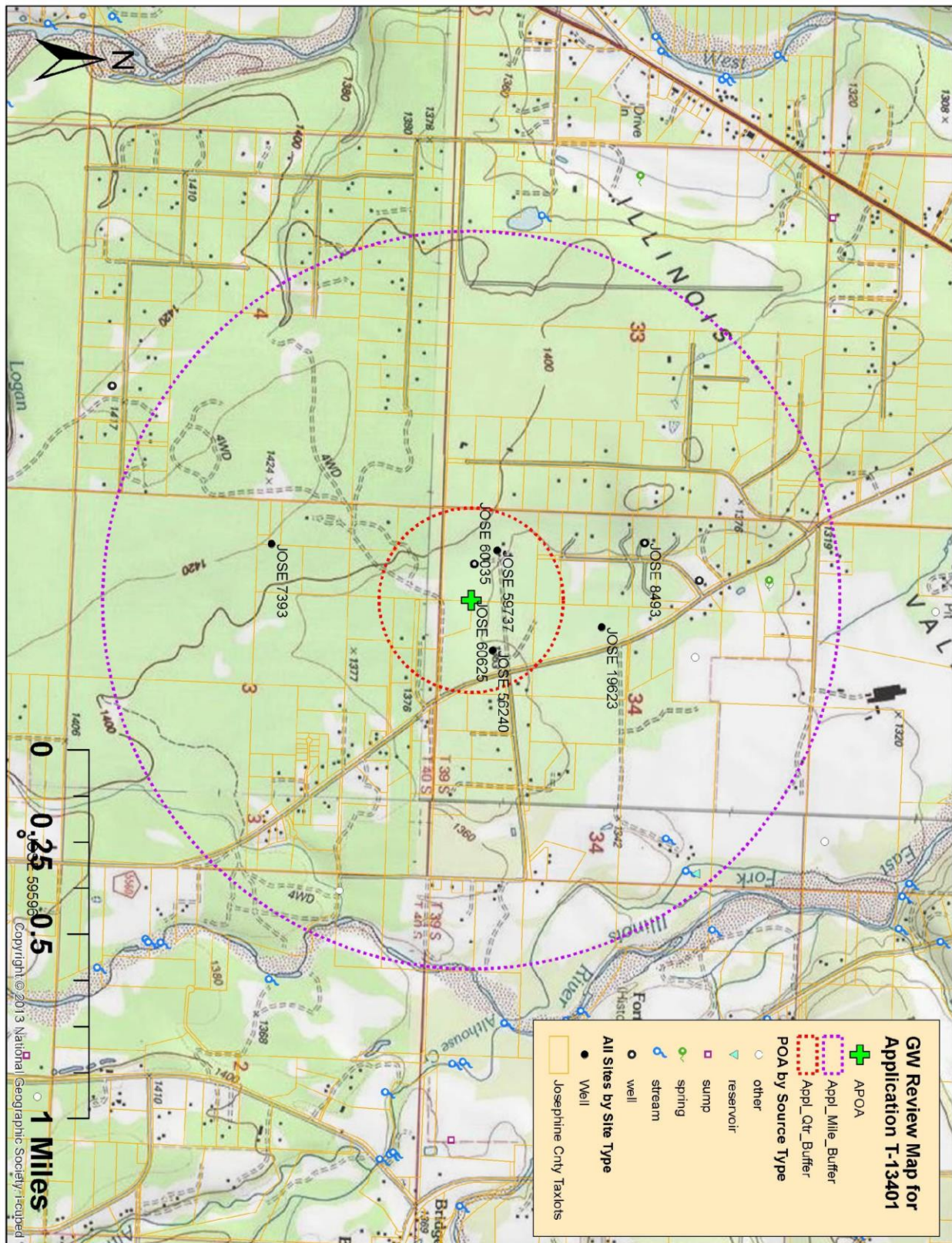
6. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?

☐ Yes ☐ No Comments: NA

7. What conditions or other changes in the application are necessary to address any potential issues identified above: NA

8. Any additional comments: NA

Technical Review Map



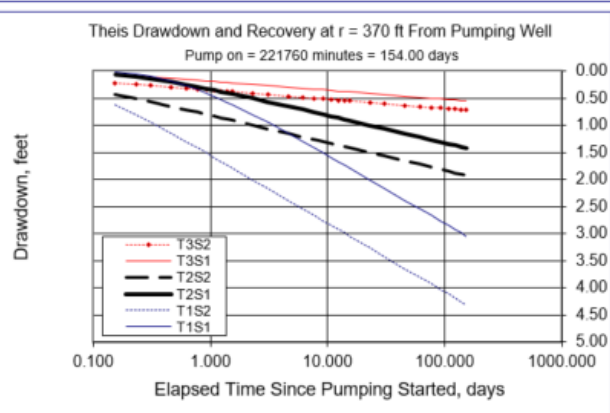
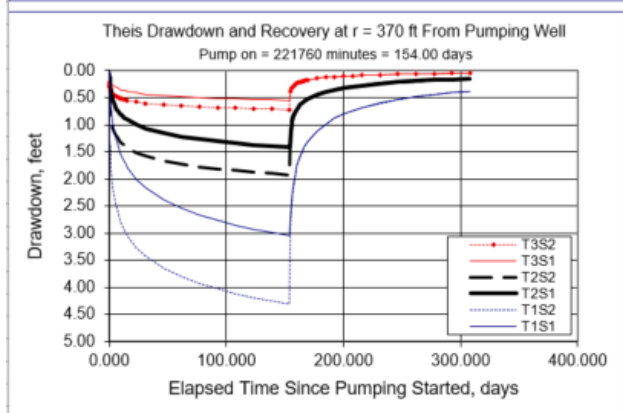
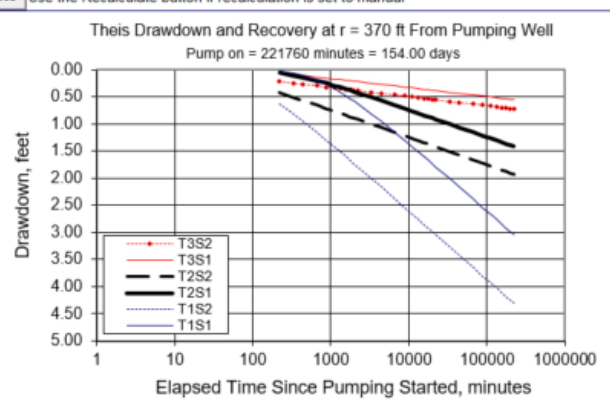
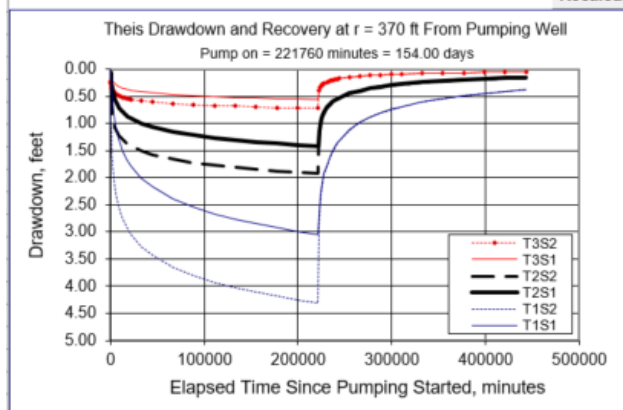
Theis (1935) Distance Drawdown Modeling

Written by Karl C. Wozniak September 1992. Last modified December 30, 2014

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		154		d	
Radial distance from pumped well:	r		370.00		ft	Q conversions
Pumping rate	Q		0.080		cfs	35.90 gpm
Hydraulic conductivity	K	10.000	25.000	75.000	ft/day	0.08 cfs
Aquifer thickness	b		100		ft	4.80 cfm
Storativity	S_1		0.01000			6,912.00 cfd
	S_2		0.00100			0.16 af/d
Transmissivity Conversions	T_ft2pd	1,000	2,500	7,500	ft2/day	
	T_ft2pm	0.6944	1.7361	5.2083	ft2/min	
	T_gpdpt	7,480	18,700	56,100	gpd/ft	

Recalculate

Use the Recalculate button if recalculation is set to manual



Hunt (1999) Stream Depletion Modeling

Application type:	T
Application number:	13401
Well number:	1
Stream Number:	1
Pumping rate (cfs):	0.08
Pumping duration (days):	154
Pumping start month number (3=March)	3.0

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	4750	5200	5200	ft
Aquifer transmissivity	T	2500	2500	2500	ft ² /day
Aquifer storativity	S	0.005	0.005	0.005	-
Aquitard vertical hydraulic conductivity	Kva	0.05	0.05	0.05	ft/day
Not used		1	1	1	
Aquitard thickness below stream	babs	3.0	3.0	3.0	ft
Not used		1	1	1	
Stream width	ws	50	50	50	ft

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	2	12	10	12	23	31	37	41	35	26	20	17	14
Depletion (cfs)	0.00	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.02	0.02	0.01	0.01

