

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14104

GW Reviewer Joe Kemper Date Review Completed: 2/11/2026

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 Water Level Decline Condition Review:

Water levels at the original point(s) of appropriation have exceeded the allowed decline threshold defined by conditions in the originating water right.

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-14104

Applicant Name: Avion Water Co. Inc

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

Reviewer(s): Joe Kemper

Date of Review: 2/11/2026

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 3/13/26

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 _____

1. Basic description of the changes proposed in this transfer: Originating certificate 96354 authorizes a total of 25.19 cfs for quasi-municipal use from 14 wells in the Bend area. This transfer requests three APOAs in the Bend area and three APOAs located 25 miles to the northwest to certificate 96354. Well specific details are provided in the table below. The applicant requests adding the WCCE (Whychus Creek Canyon Estates) service area to the current place of use under certificate 96354.

The three WCCE wells are already permitted to pump 0.67 cfs under permit G-18608 for quasi-municipal purposes. The amended transfer requests moving 0.67 cfs from certificate 96354 to the WCCE wells and the WCCE service area.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
 Yes No Comments: The current POAs under this water right access the Deschutes regional groundwater system along flowpaths running NE through the Bend area. Proposed APOAs 15 (China Hat 4), 16 (Dyer 2 aka DESC 62703), and 17 (Dyer 3) are within 1 to 5 miles of the valid POAs and roughly along the same flowpaths of the Deschutes regional groundwater system. APOAs 15, 16, and 17 will access the same source as the existing authorized POAs.

Proposed APOAs 18 (WCCE Well 1 aka DESC 58127), 19 (WCCE Well 2 aka DESC 53193), and 20 (WCCE Well 3 aka DESC 53194) are located 20 to 25 miles to the northwest of the valid POAs. While they do access the Deschutes regional groundwater system, they are located along very different flowpaths within the system from POAs 1-14 (see contours in Map 2). Additionally, the WCCE wells are located just downgradient of the Whychus Creek ZOI and will likely increase impacts to Alder Springs and the lower reaches of Whychus Creek. Considering the distance between valid and proposed POAs and the difference in regional flowpaths, it is determined that **APOAs 18, 19, and 20 will not develop the same source as the existing authorized POAs.**

3. a) Is the existing authorized POA subject to a water level decline condition?

Yes No

Comments: Certificate 96354 requires the establishment of a water level measurement plan and has a condition that allows 25-feet of total decline from the reference level. The Water Level Measurement Plan stated that “the water reference level is the static water level from the well drillers logs on file in your office. The water level has not changed since the drilling of these wells.” As such, the drillers measurement the original well log for each well has been designated the reference level.

b) If yes, for each POA identify the reference level, most recent spring-high water level, and whether an applicable permit decline condition has been exceeded: See Table 1 below for well specific details.

- Note: water level records from many POAs on this water right do not have sufficiently accurate or consistent permit condition water levels to calculate total decline based on the well itself. The following findings are based on available water data from the applicant’s wells and adjacent observation wells with similar water level elevations and overall trends.
- Avion’s China Hat, Parrell Rd, Riverbend, and Tekampe Wells access a part of the aquifer that appears to have declined 10-20 feet (see Hydrograph 1). These wells are assumed not to have exceeded the 25-ft decline condition.
- Dyer Well 1 (DESC 58007) had a water level of 694 feet BLS (2730 ft AMSL) when it was drilled in the spring of 2007. There have been no other water levels submitted to OWRD for DESC 58007, but other wells in this part of the aquifer (DESC 58255, CROO 24, DESC 5045) have declined more than 25 feet since spring of 2007. CROO 24 has declined 27.95 feet from April 2007 to January 2026 (see Hydrograph 2). **Dyer Well 1 (DESC 58007) is assumed to have exceeded the 25-ft decline condition.**
- WCCE APOAs (DESC 58167, DESC 53193, & DESC 53194) reference levels under the pertinent Water Level Measurement plan would be the water levels on their original well logs. This part of the aquifer has declined 30-50 feet since these wells have been drilled (see Hydrograph 3). **Wells DESC 58167, DESC 53193, & DESC 53194 are assumed to have exceeded the 25-ft decline condition.**
- Sundance Well 1 (DESC 5725) accesses a part of the aquifer that appears to have declined 15-20 feet (see Hydrograph 4). This well is assumed not to have exceeded the 25-ft decline condition.

- The Conestoga Well (DESC 5722) is in a part of the aquifer that shows some stable water levels and some declines (see Hydrograph 5). There is not a preponderance of evidence that the well has exceeded the 25-ft decline condition.
 - The Deschutes River Woods Well (DESC 55124) accesses a part of the aquifer that appears to have declined 10-20 feet since 2003 (see Hydrograph 6). This well does not appear to have exceeded the 25-ft decline condition.
4. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
 Yes No Comments: 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
5. 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: Proposed APOAs 15,16, and 17 are in close proximity to other POAs owned by Avion Water Co. This transfer will result in an increase in interference between those wells. The Dyer and China Hat well clusters appear to be at least 0.5 miles from adjacent senior groundwater users.
- There are tax lots within as little as 0.25 miles of APOAs 18, 19, and 20 with exempt-use wells that could be affected by well-to-well interference from the applicant's 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: Proposed APOAs 15, 16, and 17 will increase interference with other wells within the Dyer and China Hat well clusters, but because those wells are owned and managed by the applicant, that interference is not considered injury here.
- Because of the target aquifer's high storage/permeability and overall thickness, it is unlikely that any resulting groundwater interference from POAs 18, 19, and 20 would be large enough to be considered injury under current rule and statute.
6. 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 Deschutes regional groundwater system is largely disconnected from surface water in the Bend area until the Crooked and Deschutes River confluence area, which is 25-30 miles to the north. Assuming that there is no enlargement of this water right, the addition of APOAs 15, 16, and 17 would **not** increase interference with surface water because the location change of pumping is minimal compared to the nearest connection with surface water.
- As noted in Section 2 above, APOAs DESC 58167, DESC 53193, & DESC 53194 are located along different flowpaths and will likely increase interference with Alder Springs and the middle and lower reaches of Whychus Creek.
- 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: Whychus

Minimal Significant

Stream:

Minimal Significant

Provide context for minimal/significant impact: Various publications from the cooperative Deschutes basin groundwater study have documented the efficient connection between surface water and groundwater in the basin. Moving pumping from the Bend area to the WCCE area will increase stream depletion of Alder Springs and the middle and lower reaches of Whychus Creek.

- 7. 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
- 8. What conditions or other changes in the application are necessary to address any potential issues identified above: _____
- 9. Any additional comments: _____

References

Gannett, M. W. and Lite, K. E., 2004, Simulation of Regional Ground-Water Flow in the Upper Deschutes Basin, Oregon, USGS Water Resources Investigation Report 2003-4195, 84 p., <https://pubs.er.usgs.gov/publication/wri034195>

Gannett, M. W. and Lite, K. E., 2013, Analysis of 1997-2008 Groundwater Level Changes in the Upper Deschutes Basin, Central Oregon, USGS Scientific Investigations Report 2013-5092, 34p., <https://pubs.er.usgs.gov/publication/sir20135092>

Gannett, M. W., Lite Jr, K. E., Morgan, D. S., and Collins, C. A., 2001, Ground-Water Hydrology of the Upper Deschutes Basin, Oregon, USGS Water-Resources Investigations Report 00-4162, 74 p., <https://pubs.usgs.gov/wri/wri004162/pdf/WRIR004162.pdf>

Gannett, M.W., Lite, K.E., Jr., Risley, J.C., Pischel, E.M., and La Marche, J.L., 2017, Simulation of groundwater and surface-water flow in the upper Deschutes Basin, Oregon: U.S. Geological Survey Scientific Investigations Report 2017-5097, 68 p., <https://doi.org/10.3133/sir20175097>.

Groundwater Information System (GWIS). Oregon Water Resources Department. https://apps.wrd.state.or.us/apps/gw/gw_info/gw_info_report/gw_search.aspx Accessed 2/10/2026

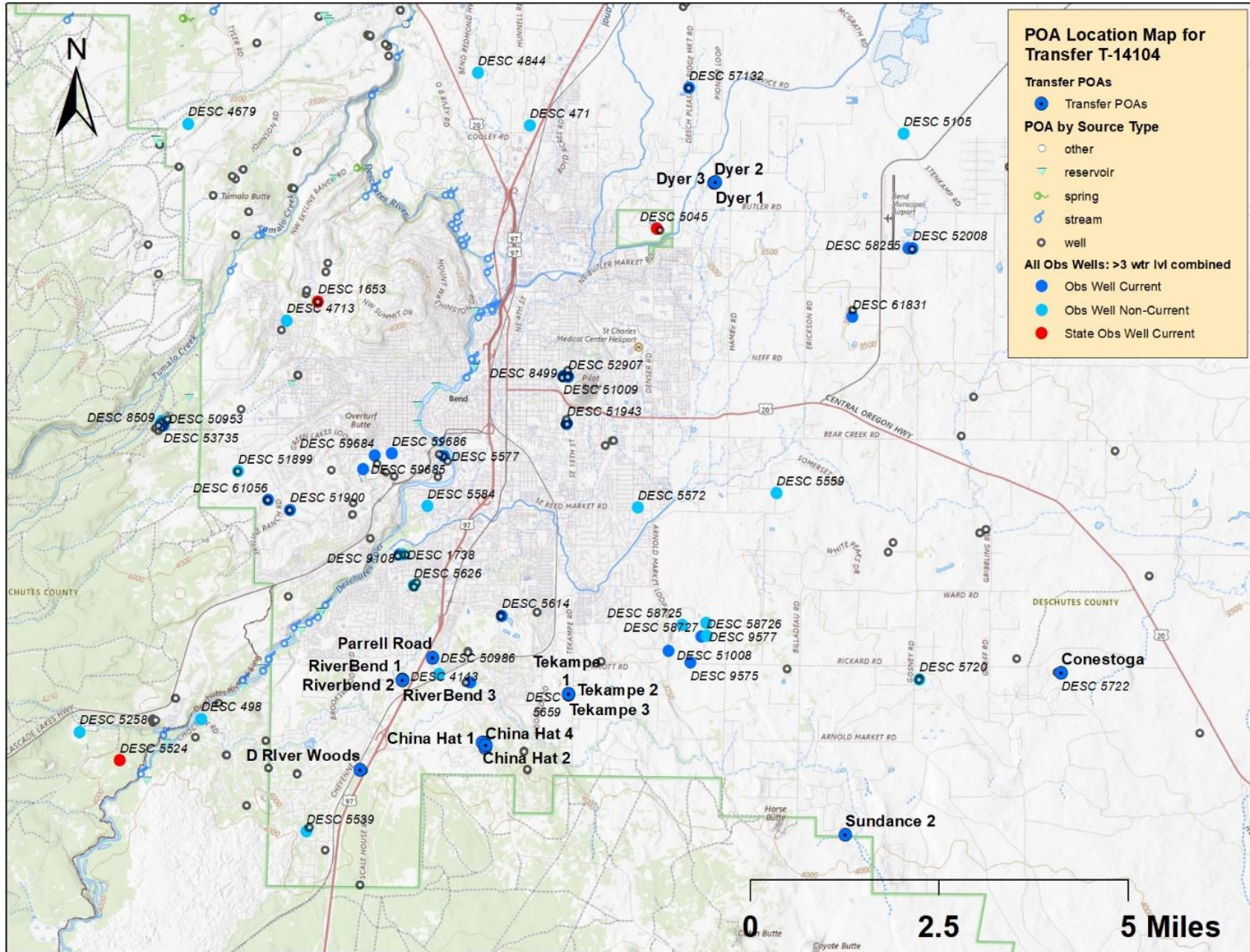
Lite, K. E. and Gannett, M. W., 2002, Geologic Framework of the Regional Ground-Water Flow System in the Upper Deschutes Basin, Oregon. USGS Water-Resources Investigation Report 02-4015, 44 p., <https://pubs.er.usgs.gov/publication/wri024015>

Sherrod, D. R., Taylor, E. M., Ferns, M. L., Scott, W. E., Conrey, R. M. and Smith, G. A., 2004, Geologic Map of the Bend 30-x-60-Minute Quadrangle, Central Oregon. U. S. Geological Survey Geologic Investigations Series Map I-2683. 49p., <https://pubs.usgs.gov/imap/i2683/>

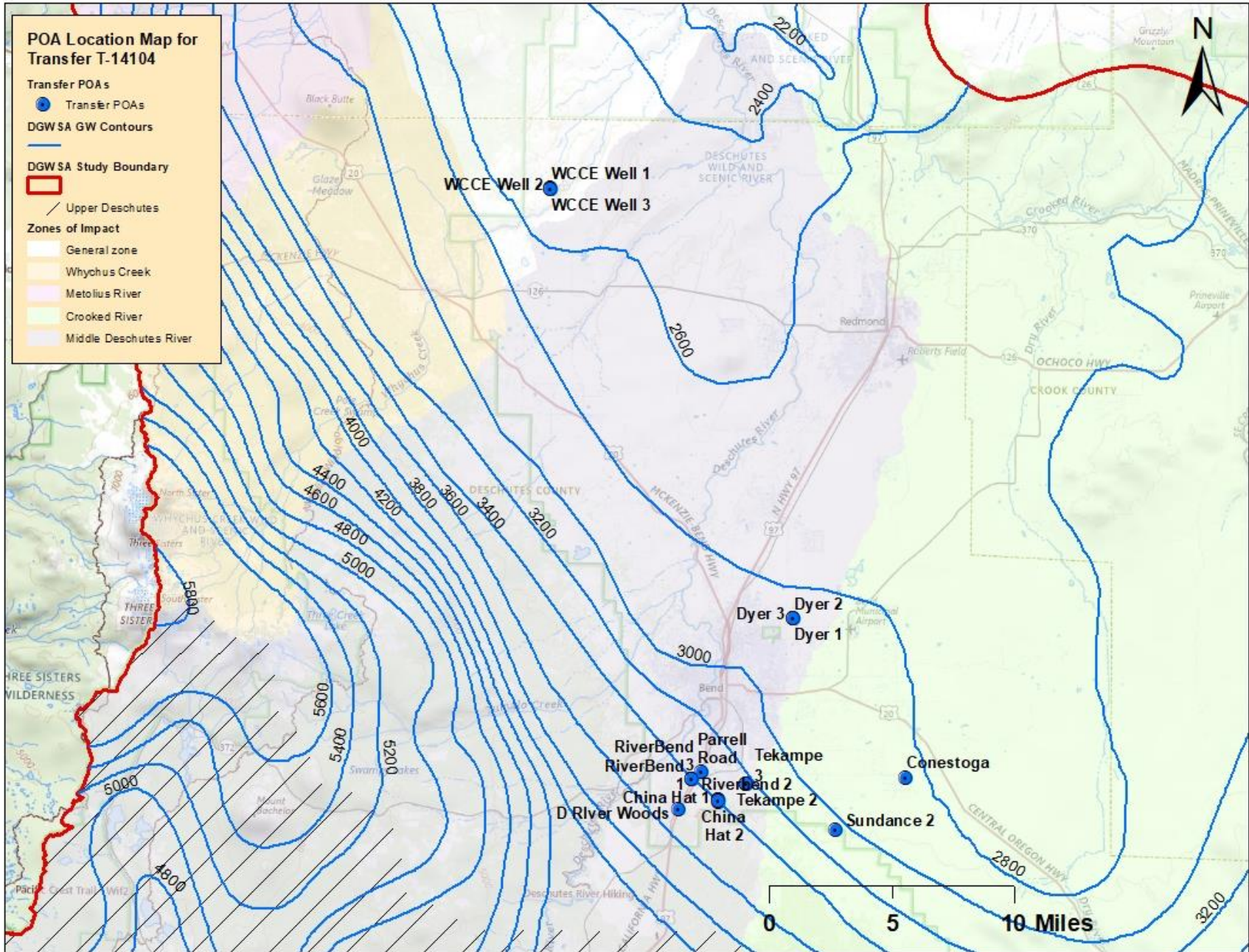
Table 1. Well Summary Table

POA #	POA Name	POA Status	OWRD LOGID	TRS	Legal Location	Reference Level (ft bls)	Reference Level Date	Apparent Decline (ft)	Exceeded 25-ft Decline
1	CHINA HAT 1	Approved	DESC 50740	18S/12E-29 NE/NE	400' S, 900' W FR NE COR, S29	499	2/4/1997	10-20	No
2	CHINA HAT 2	Approved	DESC 52881	18S/12E-29 NE/NE	400 FT S & 1024 FT W FR NE COR, S29	501	2/28/2000	10-20	No
3	DRW	Approved	DESC 55124	18S/12E-30 SW/NW	254 FT N & 327 FT W FR SE COR, SWNW, S30	405	1/13/2003	10-20	No
4	CONESTOGA	Approved	DESC 5722	18S/13E-22 NE/NW	370 FT S & 300 FT W FR N1/4 COR, S22	800	2/11/1978	<25	No
5	PARRELL RD	Approved	DESC 50986	18S/12E-17 SW/SW	200 FT N & 570 FT E FR SW COR, S17	387	6/12/1995	10-20	No
6	RIVERBEND 1	Approved	DESC 5640	18S/12E-19 SW/NE	1380 FT S & 1500 FT W FR NE COR, S19	388	2/18/1980	10-20	No
7	RIVERBEND 2	Approved	DESC 4143	18S/12E-19 SW/NE	1360 FT S & 1490 FT W FR NE COR, S19	390	7/5/1993	10-20	No
8	RIVERBEND 3	Approved	DESC 57475	18S/12E-19 SW/NE	1392 FT S & 1501 FT W FR NE COR, S19	386	6/6/2006	10-20	No
9	TEKAMPE 3	Approved	DESC 5660	18S/12E-21 SE/NE	2260 FT S & 315 FT W FR NE COR, S21	375	5/16/1987	10-20	No
10	TEKAMPE 2	Approved	DESC 528	18S/12E-21 SE/NE	2240 FT S & 325 FT W FR NE COR, S21	374	4/4/1979	10-20	No
11	TEKAMPE 1	Approved	DESC 5659	18S/12E-21 SE/NE	2240 FT S & 310 FT W FR NE COR, S21	373	6/16/1989	10-20	No
12	SUNDANCE 2	Approved	DESC 5725	18S/12E-31 NW/NE	1225 FT S & 1985 FT W FR NE COR, S31	855	9/15/1975	15-20	No
13	DYER 1	Approved	DESC 58007	18S/12E-14 NE/SE	1935 FT N & 1051 FT W FR SE COR, S14	694	5/10/2007	27.95	Yes
14	CHINA HAT 3	Approved	DESC 61639	18S/12E-29 NE/NE	663 FT S & 771 FT W FR NE COR, S29	511.75	5/24/2019	10-20	No
15	CHINA HAT 4	Proposed	Not Yet Drilled	18S/12E-29 NE/NE	760' S, 840' W FR NE COR, S29	NA	NA	10-20	No
16	DYER 2	Proposed	DESC 62703	17S/12E-14 NE-SE	1930' N, 1150' W fr SE cor S 14	692	5/20/2021	11.6	No
17	DYER 3	Proposed	Not Yet Drilled	17S/12E-14 NE-SE	1920' N, 1155' W fr SE cor S 14	NA	NA	NA	No
18	WCCE Well 1	Proposed	DESC 58167	14S/11E-17 SW-SW	1120' N, 650' E fr SW cor S 17	520	8/1/2007	30-50	Yes
19	WCCE Well 2	Proposed	DESC 53193	14S/11E-17 SW-SW	950' N, 695' E fr SW cor S 17	498	7/14/2000	30-50	Yes
20	WCCE Well 3	Proposed	DESC 53194	14S/11E-17 SW-SW	925' N, 635' E fr SW cor S 17	501	7/20/2000	30-50	Yes

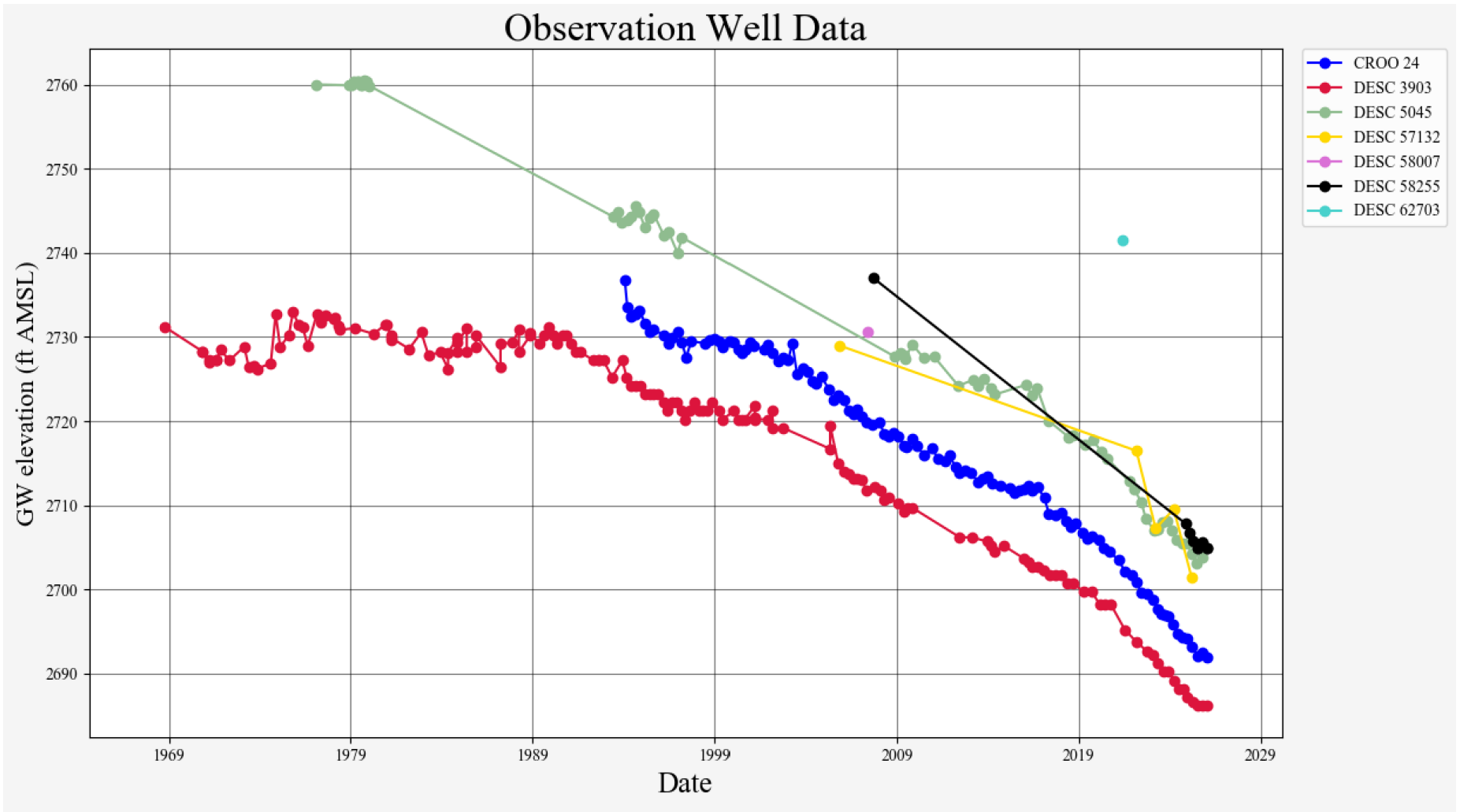
Map 1. Bend Area Avion Wells



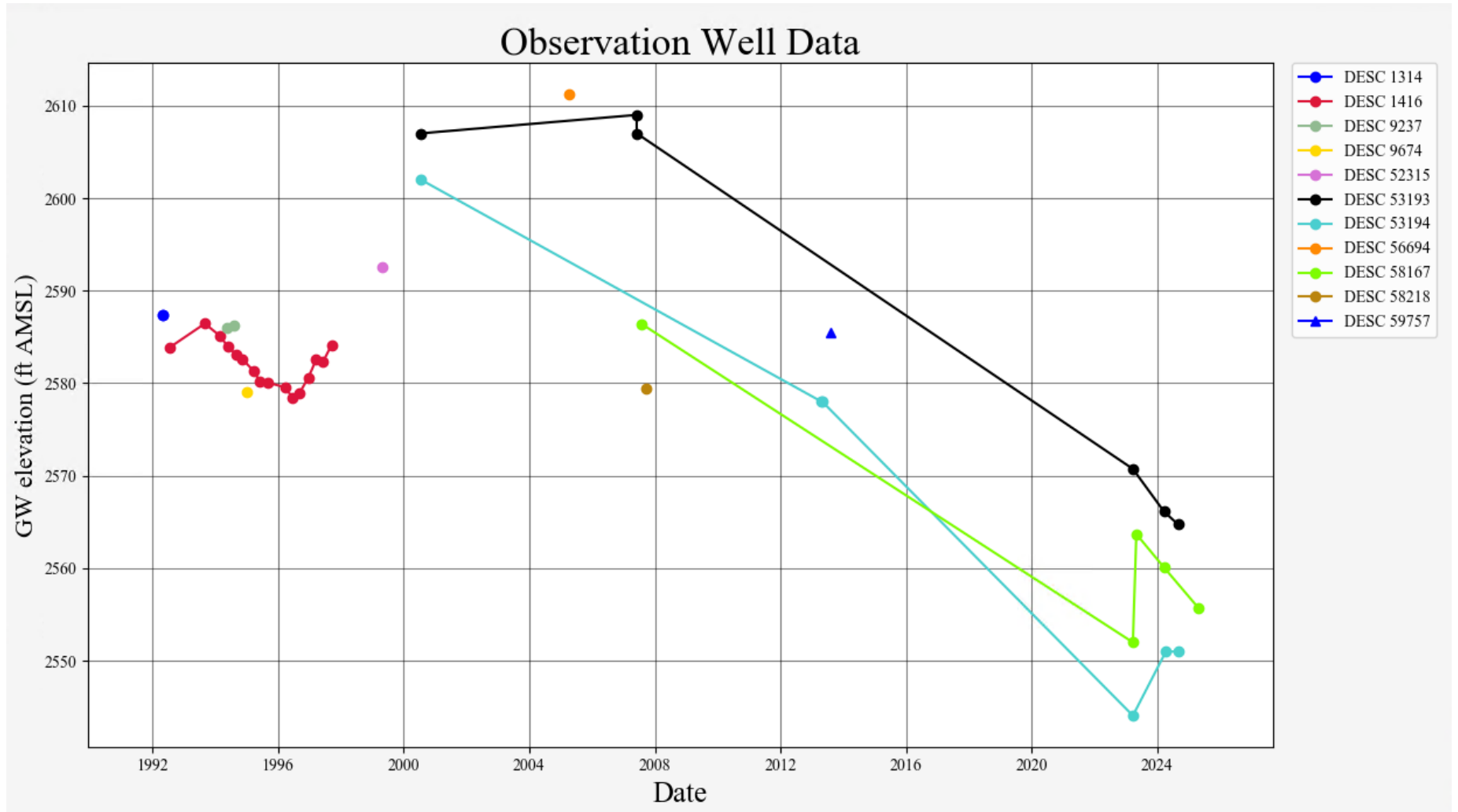
Map 2: Wells from WCCE Service Area, Greater Avion Service Area, published groundwater contours, & Mitigation Program Zones of Impact



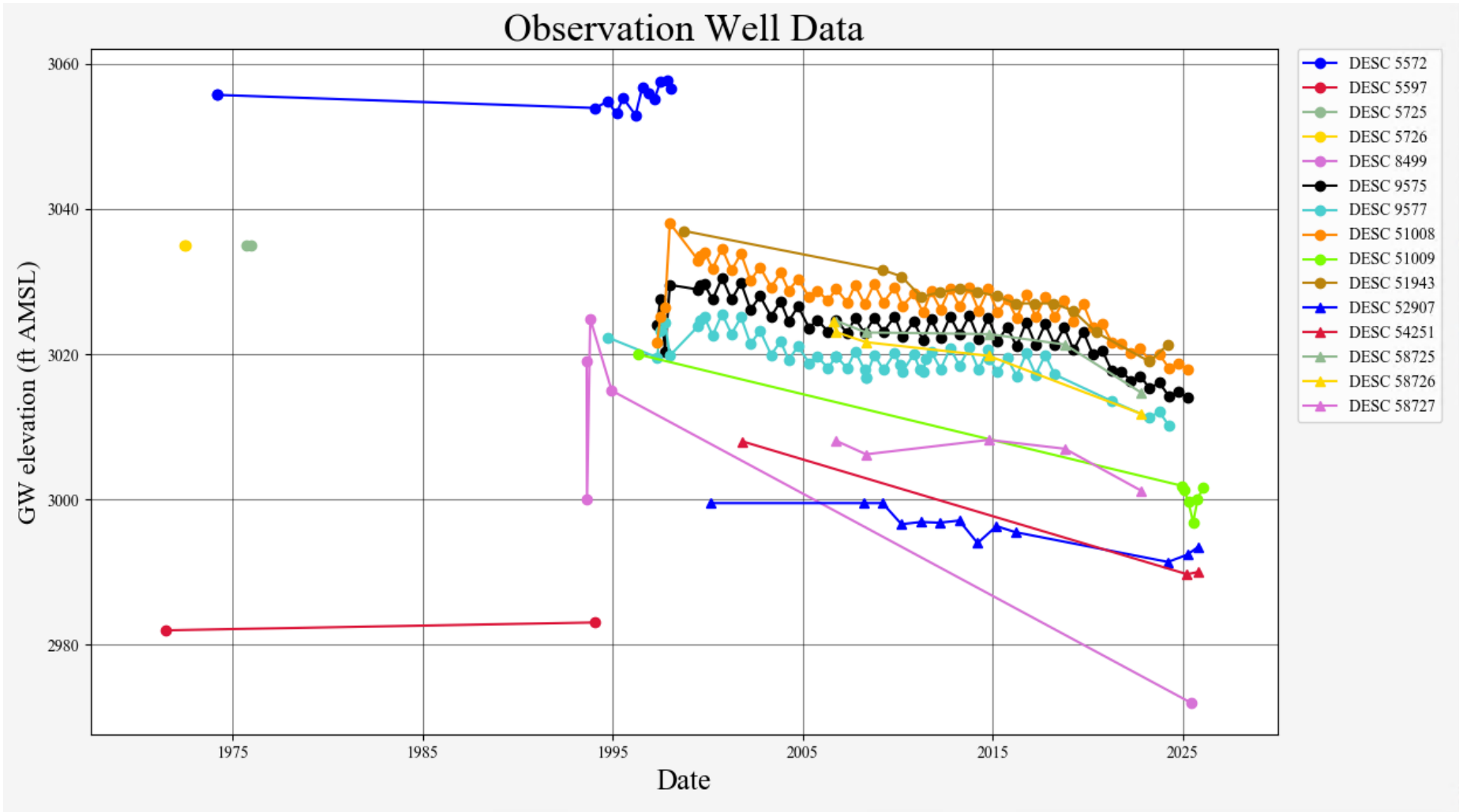
Hydrograph 2. Water level trends in observation wells adjacent to the Dyer Well 1 & 2 (DESC 58007 & DESC 62703).



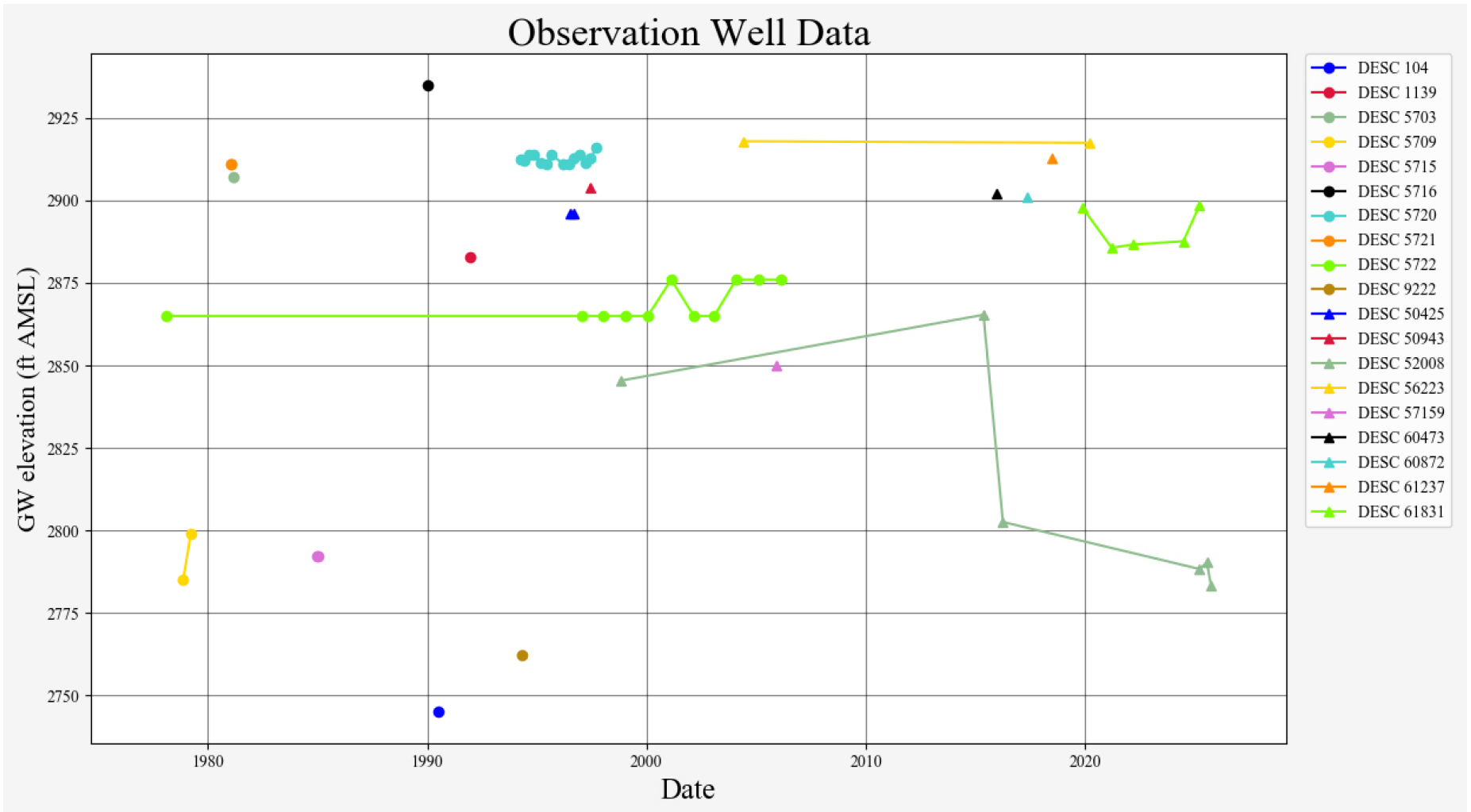
Hydrograph 3. Water level trends in observation wells adjacent to the Whychus Canyon Creek Estates Area. Longer-term observation wells indicate that water levels have declined 30-50 feet since the well log-based reference levels.



Hydrograph 4. Water level trends in observation wells adjacent to Sundance Well 1 (DESC 5725). Longer-term observation wells indicate that water levels have declined 15-20 feet since well log-based reference levels.



Hydrograph 5. Water level trends from observation wells adjacent to the Conestoga Well (DESC 5722). DESC 52008 does show more than 50 feet declines in portions of the aquifer with similar water level elevations to the NW, but DESC 61831 and DESC 56223 indicate water levels stable closer to DESC 5722.



Hydrograph 6. Water level trends from observation wells adjacent to the Deschutes River Woods Well (DESC 55124). Adjacent observation wells indicate that this part of the aquifer has declined 10-20 feet since 2003.

