Groundwater Application Review Summary Form

Application # G- _19457_

GW Reviewer _James Hootsmans_ Date Review Completed: _12/23/2024_

Summary of GW Availability and Injury Review:

☐ Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

Summary of Potential for Substantial Interference Review:

☐ There is the potential for substantial interference per Section C of the attached review form.

Summary of Well Construction Assessment:

☐ The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

WATER RESOURCES DEPARTMENT

MEMO **_December 23, 2024_**

TO: **Application** G-**_19457_**

FROM: **GW:** **_James Hootsmans_**
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ **YES**
☒ **NO** The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries

☐ **YES**
☒ **NO** Use the Scenic Waterway Condition (Condition 7J)

☐ Per ORS 390.835, the Groundwater Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below

☐ Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water 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 water flows necessary to maintain the free-flowing character of a scenic waterway**

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is *unable to make a Preponderance of Evidence finding.*

Exercise of this permit is calculated to reduce monthly flows in _[Enter]_ Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 12/23/2024
FROM: Groundwater Section James Hootsmans
Reviewer's Name
SUBJECT: Application G- **19457** 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 groundwater 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: **Blake Spotten Trust, c/o Blake Spotten** County: **Clackamas**

A1. Applicant(s) seek(s) 0.135 cfs from 2 well(s) in the Willamette Basin, Molalla River subbasin

A2. Proposed use Irrigation Seasonality: March 1 through October 31

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

POA 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	PROP 592	1	Alluvial (Sand and Gravel)	0.135	5S/2E-6 SENE	2090' S, 260' W fr NE cor S 6
2	PROP 593	1	Alluvial (Sand and Gravel)	0.135	5S/2E-6 SENE	2210' S, 90' W fr NE cor S 6
3						
4						

* Alluvium, CRB, Bedrock

POA Well	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Drawdown (ft)	Test Type
1	400	0-200	0-400	TBD	TBD	NA	NA	NA
2	400	0-200	0-400	TBD	TBD	NA	NA	NA
3								
4								

POA Well	Land Surface Elevation at Well (ft amsl)	Depth of First Water (ft bls)	SWL (ft bls)	SWL Date	Reference Level (ft bls)	Reference Level Date
1	308					
2						
3						
4						

Use data from application for proposed wells.

A4. **Comments:** The applicant proposes to complete two Points of Appropriation (POA) approximately 0.3 miles northwest of the City of Molalla. The POAs, identified as PROP 592 and PROP 593 on the location map, are proposed to be developed in the alluvial groundwater system. The applicant proposed to pump 0.135 cfs (approximately 60.59 gallons per minute (gpm)) from the proposed POA. The total planned annual volume is 27 acre feet for 10.8 acres (Duty 2.5 acre-feet/acre). Based upon nearby logs and geologic maps, the proposed POA are to be completed in the deep portions of the Troutdale Aquifer.

Note: There is an existing Permit on this property owned by the applicant, G-17920, for year-round nursery use at a rate of 0.58 cfs. The permit was issued on December 7, 2017, and the completion date was December 7, 2022. The proposed POA was never drilled. The applicant is applying for a lessened amount of the same POU area in this current application (see location map).

In addition, there is a concurrent application adjacent to this property, G-19454, which is currently being processed. That application, and its proposed POA, are senior to this application.

A5. ☐ **Provisions of the** Willamette Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ **are**, *or* ☒ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments: The proposed POAs will produce groundwater from a confined aquifer. Therefore, per OAR 690-502-0240, the relevant Willamette Basin rules do not apply.

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

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

B1. **Based 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. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the groundwater resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:
   i. ☒ The permit should contain condition #(s) **7RLN, Water Use Reporting**;
   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 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 **Alluvial** 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.

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. **Groundwater availability remarks:** The proposed POAs (PROP 592 and 593) are situated in the Willamette Valley, with over 500 feet of alluvial sediments from surface elevation. Therefore, the proposed depth of 400 feet will mean that the proposed POAs will develop in these alluvial sediments. Sand and gravel beds with higher permeability occur throughout the sediments, separated by lower permeability silt and clay, which in turn confine deeper water-bearing zones as depth increases. The water table occurs 40 – 60 feet below land surface.

Groundwater elevations in nearby wells to the proposed POA have remained relatively stable over time, based on limited data, indicating a hydraulic connection to the nearby surface water bodies (see Observation Well Data) The proposed POA

are adjacent to intermittent stream Creamery Creek and within a mile of Bear Creek. Water levels in the area indicate that groundwater for the proposed use is likely not over appropriated.

The closest groundwater right to the proposed POA is Permit G-17920, in the proposed tax lot 800. This existing Permit on this property is owned by the applicant, G-17920, for year-round nursery use at a rate of 0.58 cfs. The permit was issued on December 7, 2017, and the completion date was December 7, 2022. The proposed POA was never drilled. The applicant is applying for a lessened amount of the same POU area in this current application.

The next closest groundwater right are domestic wells within a quarter mile of the POAs. However, there is a concurrent application adjacent to this property, G-19454 immediately to the south, which is currently being processed. That application, and its proposed POA, are senior to this application. All the POU for the neighboring right is within a quarter mile of the proposed POA 1 and 2 and the neighboring POA is approximately 350 feet away from Proposed POA 2 (PROP 593). The City of Molalla municipal water rights are within a mile radius of the POA as well.

A Theis (1935) drawdown analysis was conducted to assess the potential well-to-well interference with the neighboring groundwater right due to pumping of the proposed POA in the amounts requested. Analysis with this proposed well on the neighboring application was chosen because it is the shortest distance away from Proposed POA 1 and 2 and therefore a more conservative analyses than using the distance to nearby domestic wells. Hydraulic parameters used for the analyses were derived from regional data and studies (Pumping Test Reports; Conlon et al., 2003, 2005; Woodward et al., 1998) or are within a typical range of values for the parameter within the hydrogeologic regime (Freeze and Cherry, 1979). To be conservative, it was assumed that pumping would occur for the entire irrigation seasson at the maximum rate, irrespective of time to reach the total annual volume. Results of the Theis (1935) analysis indicate that, at the maximum rate, well-to-well interference is unlikely due to the low pumping rate (see Theis Drawdown Analysis, attached).

Reported yields from regional wells (5S 2E Sections 5 and 6) range from less than 1 to ~ 800 gpm, with a median of 35 gpm (see attached Well Statistics). The requested rate of 0.135 cfs (~60.59 gpm) therefore represents ~7.5 percent of the maximum yield reported for water wells in this area, and ~173 percent of the median reported yield. Therefore, it is likely the applicant will be able to achieve the requested pumping rate with the proposed POA.

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	**Alluvium**	☒	☐
2	**Alluvium**	☒	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Water bearing zones are overlain by several hundred feet of fine-grained alluvial sediments, creating a confined to semi-confined groundwater system at depth. Similarly constructed wells nearby have static water levels above the water bearing zone within the well.

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**	**Bear Creek**	**240 - 260**	**260 - 320**	**4285**	☒	☐	☐	☐	☒
2	**1**	**Bear Creek**	**240 - 260**	**260 - 320**	**4270**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Water levels in nearby wells from similar depths as the proposed POA are equal or close to elevations of adjacent streams elevations. The presence of fine-grained sediments indicates a likely inefficient hydraulic connection.

Water Availability Basin the well(s) are located within:
Proposed POA: (ID# 69796) MOLALLA R> WILLAMETTE R – AT MOUTH
SW1: (ID# 151) PUDDING R > MOLALLA R - AB MILL CR

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 (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, 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?
1	**1**	☐	☐			☐	**67.30**	☐	**<<25%**	☐
2	**1**	☐	☐			☐	**67.30**	☐	**<<25%**	☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

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: Interference with hydraulically connected streams should be well below 25% in the first 30 days of pumping with the presence of fine-grained sediments between the upper water bearing zone and the streambeds of Bear Creek and other regionals streams. Results of stream depletion models (Hunt 2003) in this regional area indicate less than 1% of the pumping rate after 30 days. In addition, the proposed seal interval to a depth of 160 feet will also assist in limiting impacts to nearby perennial and intermittent streams. The pumping rate is much lower than 1% of the 80% of natural flow in both Water Availability Basins that could be influenced by pumping.

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
		%	%	%	%	%	%	%	%	%	%	%	%
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													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(A) = Total Interf.												
(B) = 80 % Nat. Q												
(C) = 1 % Nat. Q												
(D) = (A) > (C)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / 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:

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)_____;

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

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

References Used: Application Files: G19457, G-19454, G18417

Conlon T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, Ground-Water Hydrology of the Willamette Basin, Oregon: U.S. Geological Survey Scientific Investigations Report 2005–5168, 83 p.

Freeze and Cherry, 1979, Groundwater, Prentice-Hall, Inc.

Gannett, M.W. and Caldwell, R., 1998, Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington, Professional Paper 1424-A, 32 p: U. S. Geological Survey, Reston, VA.

Hunt, B. 2003. Unsteady stream depletion when pumping from semiconfined aquifer: Journal of Hydrologic Engineering, January/February, 2003.

Woodward, Gannett and Vaccaro, 1998, Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-B.

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #**: _____ **Logid:** _____

D2. **THE WELL does not appear to 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 or other comment is described as follows:** _____

_____

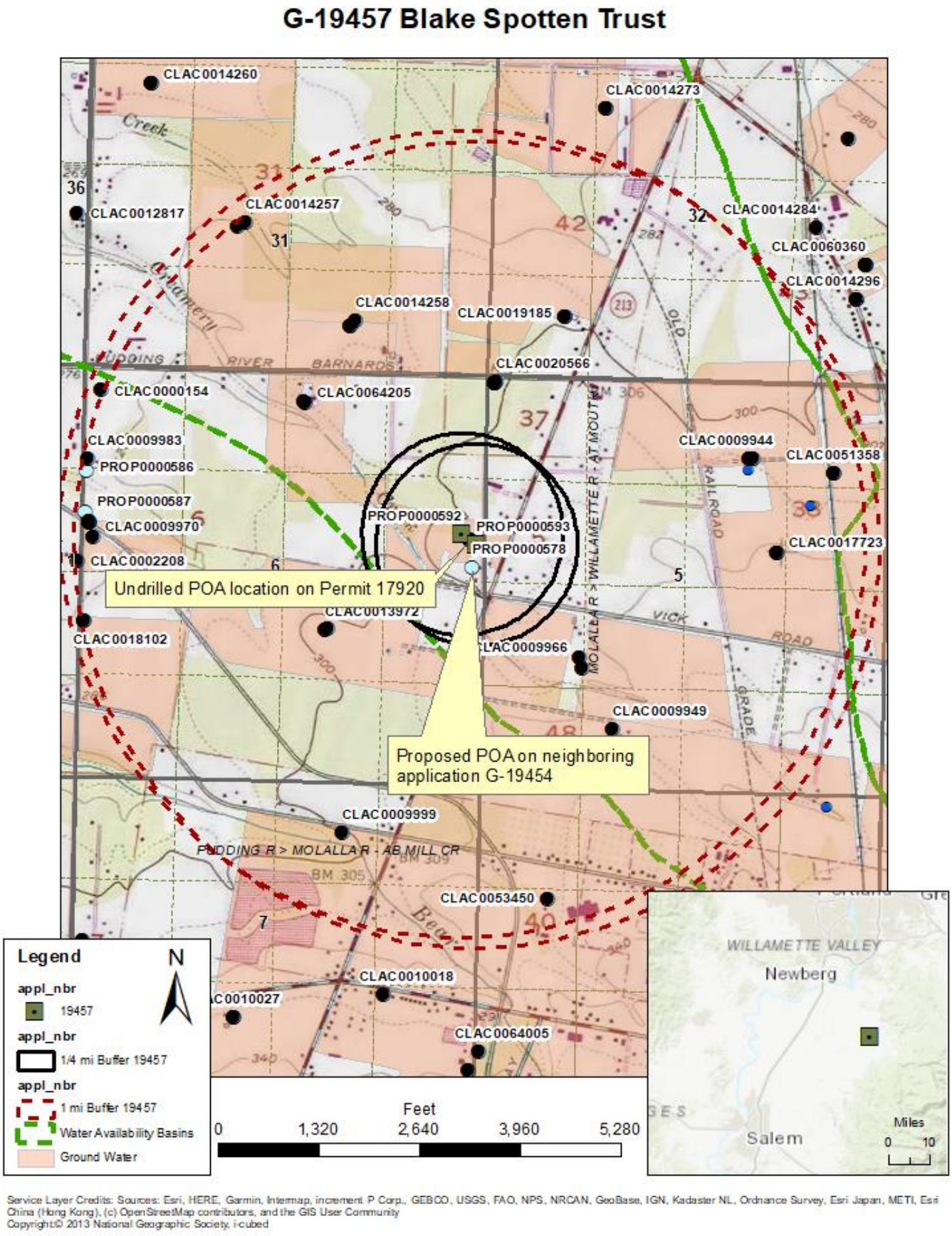
_____

_____

_____

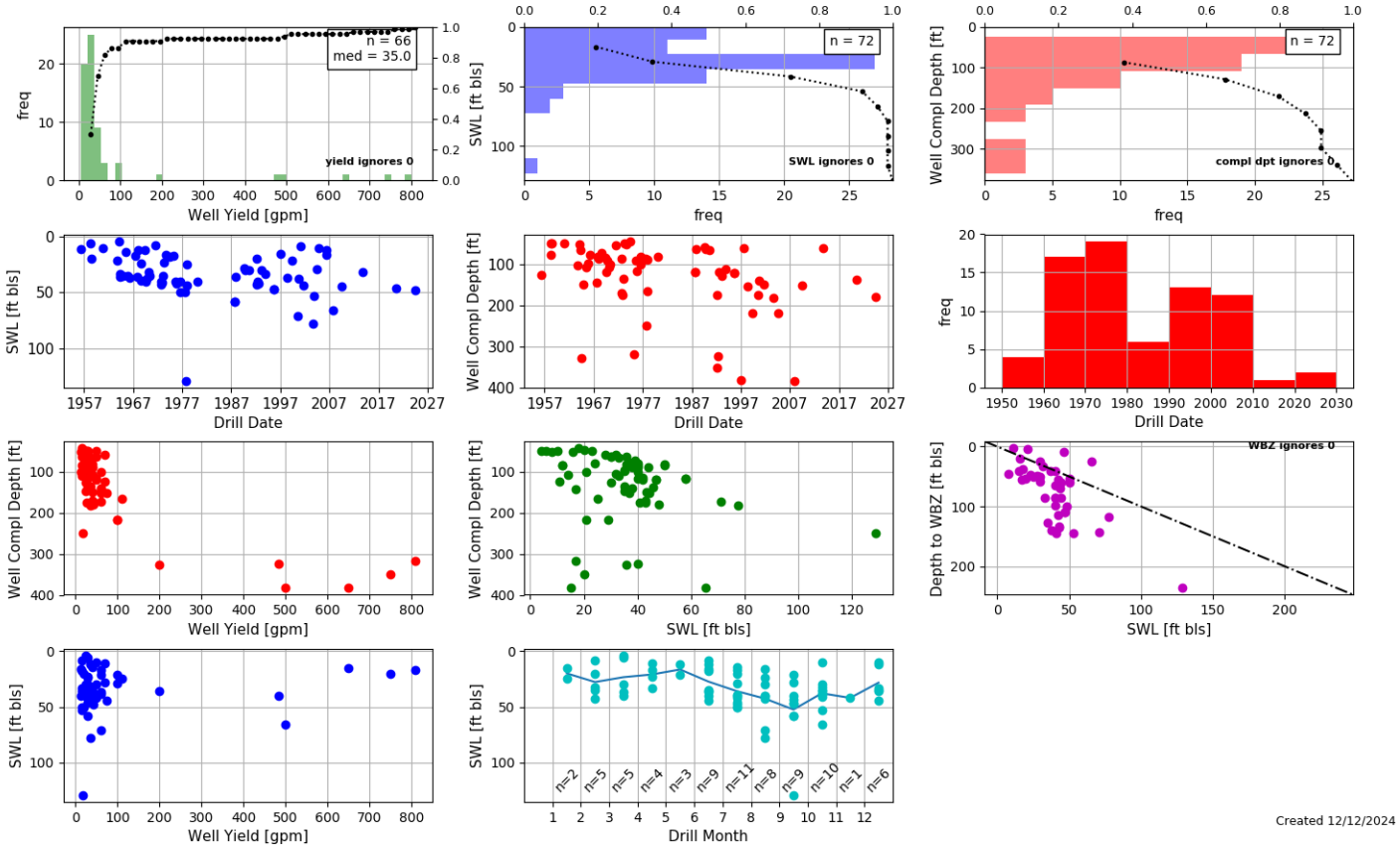
D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Well Location Map

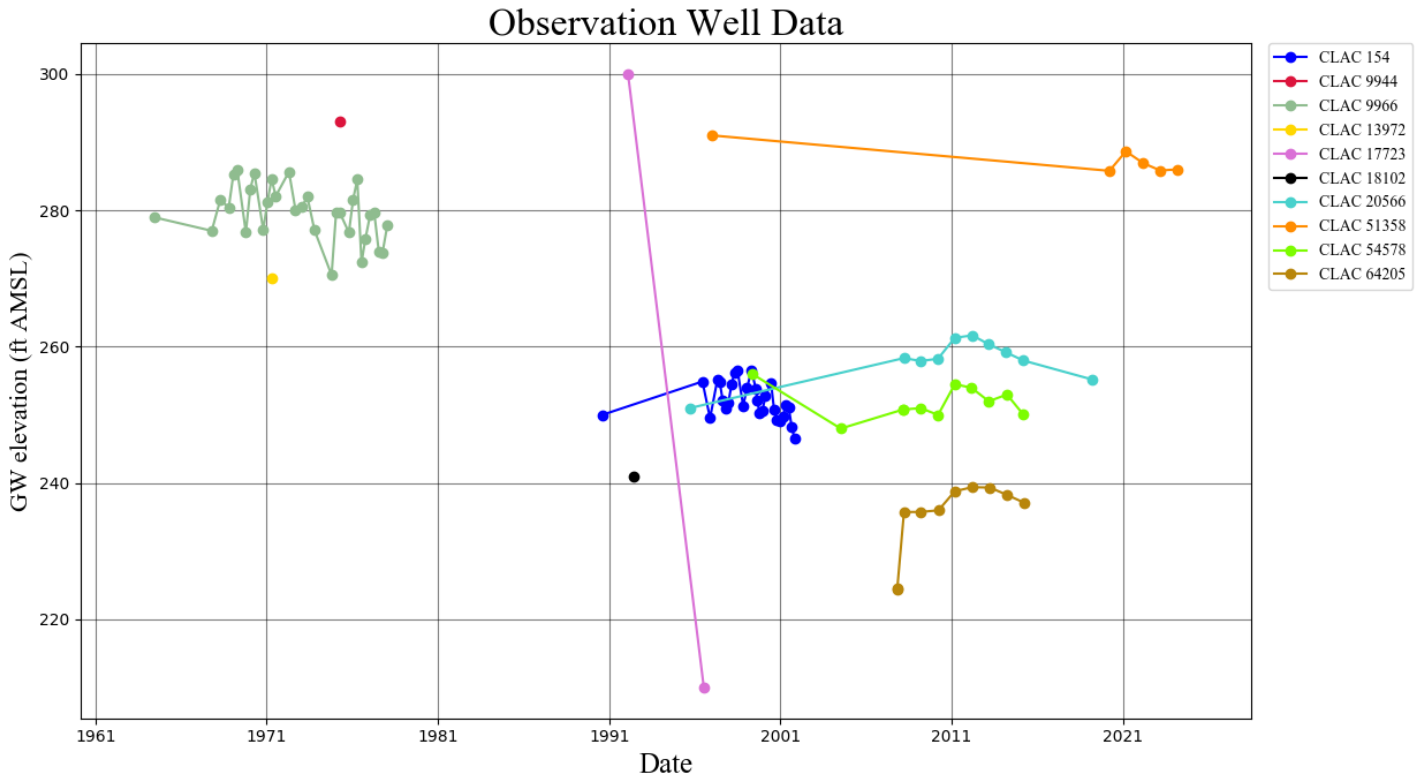


Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

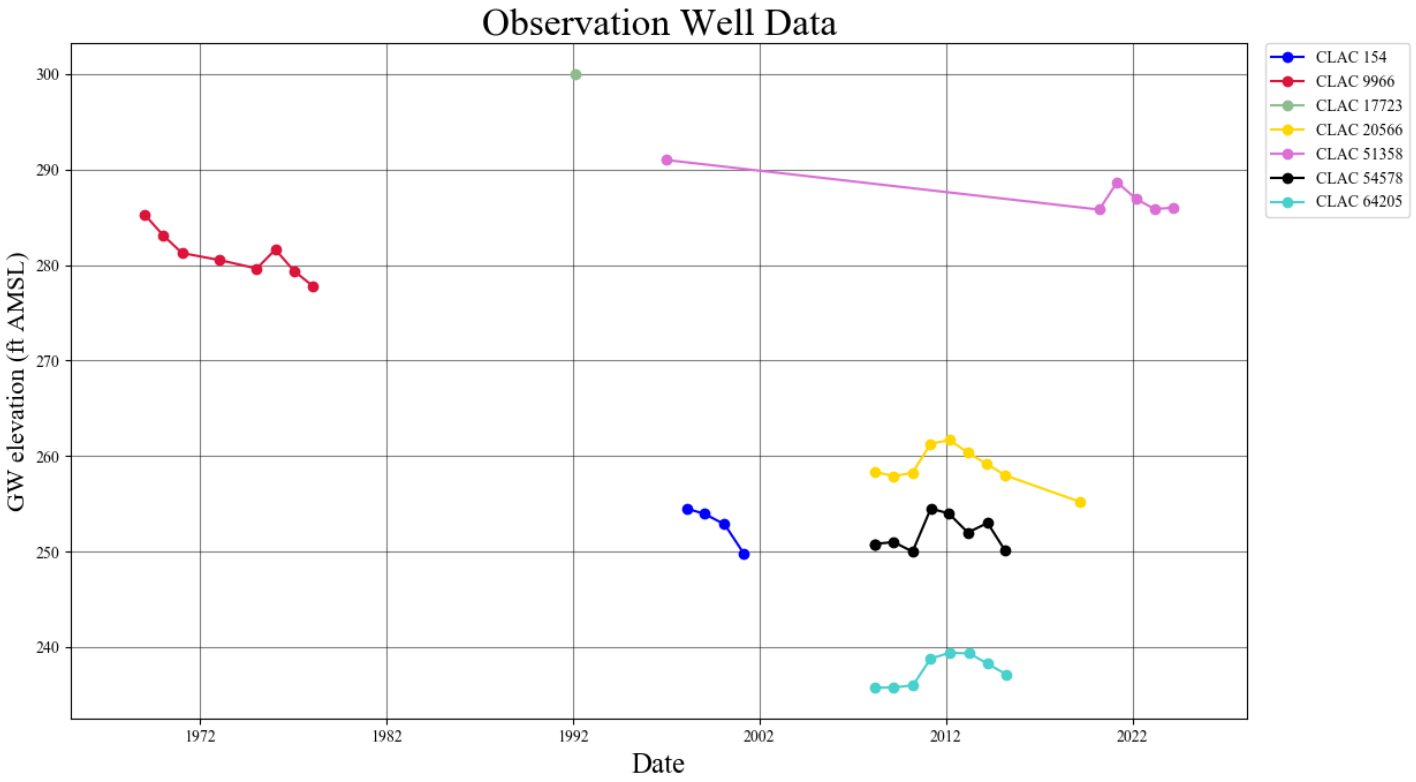
Well Statistics



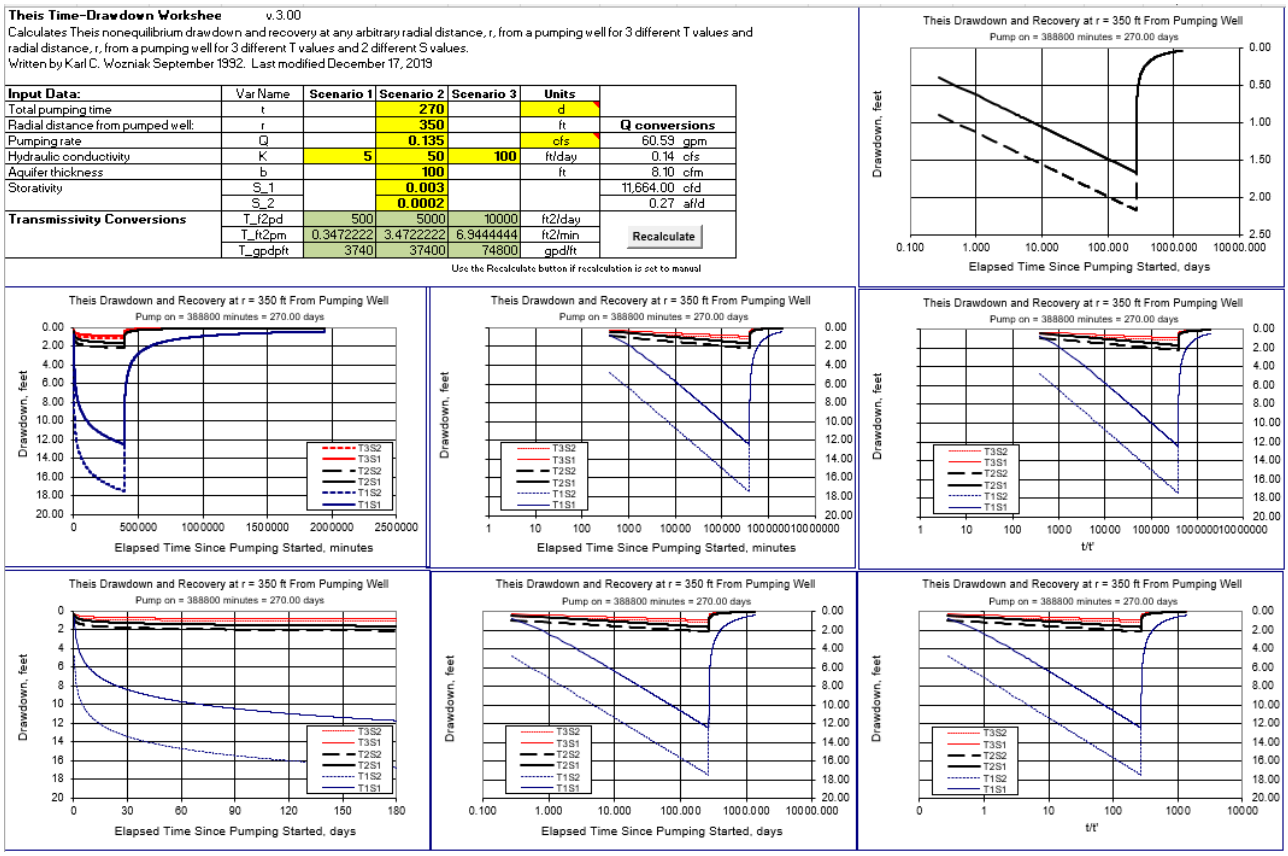
Water-Level Measurements in Nearby Wells – All Months



Water-Level Measurements in Nearby Wells – January to March Only



Theis Interference Analysis



Water Availability Tables

Water Availability Analysis
Detailed Reports

PUDDING R > MOLALLA R - AB MILL CR
WILLAMETTE BASIN

Water Availability as of 12/11/2024

Watershed ID #: 151 (Map)
Date: 12/11/2024

Exceedance Level: 80%
Time: 4:11 PM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations
Water Rights | Watershed Characteristics

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	1,040.00	125.00	915.00	0.00	80.00	835.00
FEB	1,180.00	114.00	1,070.00	0.00	80.00	986.00
MAR	1,010.00	76.50	934.00	0.00	80.00	854.00
APR	787.00	52.40	735.00	0.00	80.00	655.00
MAY	425.00	51.00	374.00	0.00	80.00	294.00
JUN	224.00	73.20	151.00	0.00	50.00	101.00
JUL	109.00	115.00	-6.28	0.00	40.00	-46.30
AUG	71.00	94.50	-23.50	0.00	36.00	-59.50
SEP	67.30	53.60	13.70	0.00	36.00	-22.30
OCT	91.60	11.50	80.10	0.00	50.00	30.10
NOV	363.00	48.50	314.00	0.00	80.00	234.00
DEC	957.00	118.00	839.00	0.00	80.00	759.00
ANN	706,000.00	56,300.00	650,000.00	0.00	46,500.00	606,000.00

Water Availability Analysis
Detailed Reports

MOLALLA R > WILLAMETTE R - AT MOUTH
WILLAMETTE BASIN

Water Availability as of 12/11/2024

Watershed ID #: 69796 (Map)
Date: 12/11/2024

Exceedance Level: 80%
Time: 4:21 PM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations
Water Rights | Watershed Characteristics

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	1,870.00	155.00	1,720.00	0.00	500.00	1,220.00
FEB	2,010.00	145.00	1,870.00	0.00	500.00	1,370.00
MAR	1,830.00	113.00	1,720.00	0.00	500.00	1,220.00
APR	1,530.00	86.80	1,440.00	0.00	500.00	943.00
MAY	927.00	98.40	829.00	0.00	500.00	329.00
JUN	431.00	120.00	311.00	0.00	500.00	-189.00
JUL	204.00	187.00	17.40	0.00	200.00	-183.00
AUG	139.00	157.00	-17.60	0.00	100.00	-118.00
SEP	134.00	83.20	50.80	0.00	150.00	-99.20
OCT	188.00	39.90	148.00	0.00	450.00	-302.00
NOV	637.00	79.80	557.00	0.00	500.00	57.20
DEC	1,700.00	150.00	1,550.00	0.00	500.00	1,050.00
ANN	1,320,000.00	85,400.00	1,240,000.00	0.00	295,000.00	966,000.00