

OK.
KJE

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator
Subject: Review of Water Right Application G-18540
Date: August 9, 2018

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Joe Kemper reviewed the application. Please see Joe's Groundwater Review and the Well Log.

Applicant's Well #1 (JACK 3215): Based on a review of the Well Report, Applicant's Well #1 appears to protect the groundwater resource.

The construction of Applicants Well #1 may not satisfy hydraulic connection issues.

RECEIVED

JACK 3215

JACK 3215

355/2W-2ac

STATE OF OREGON WATER WELL REPORT (as required by ORS 537.785)

APR 04 1988

WATER RESOURCES DEPT. SALEM, OREGON

(1) OWNER: Name Monte & Betty Bewley, Address 829 Hazel St., City Central Point, State Ore., Zip 97502

(2) TYPE OF WORK: [X] New Well, [] Deepen, [] Recondition, [] Abandon

(3) DRILL METHOD: [X] Rotary Air, [] Rotary Mud, [] Cable, [] Other

(4) PROPOSED USE: [X] Domestic, [] Community, [] Industrial, [] Irrigation, [] Thermal, [] Injection, [] Other

(5) BORE HOLE CONSTRUCTION: Special Construction approval Yes No, Depth of Completed Well 220 ft., Explosives used [] Yes [X] No, Type, Amount

Table with columns: HOLE (Diameter, From, To), SEAL (Material, From, To), Amount (sacks or pounds)

How was seal placed: Method [] A [] B [] C [] D [] E, [X] Other Poured Dry, Backfill placed from, Gravel placed from

(6) CASING/LINER: Table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded

(7) PERFORATIONS/SCREENS: [] Perforations Method NA, [] Screens Type, Material

Table for perforations with columns: From, To, Slot size, Number, Diameter, Tele/pipe size, Casing, Liner

(8) WELL TESTS: Minimum testing time is 1 hour, [] Pump, [] Bailer, [X] Air, [] Flowing Artesian, Yield gal/min, Drawdown, Drill stem at, Time

Temperature of water 52, Depth Artesian Flow Found, Was a water analysis done?, Did any strata contain water not suitable for intended use?, [] Salty, [] Muddy, [] Odor, [] Colored, [] Other, Depth of strata

(9) LOCATION OF WELL by legal description: County Jackson, Latitude, Longitude, Township 35S N or S, Range 2W, E or W, WM, Section 2 SW 1/4 NE 1/4, Tax Lot 501, Lot, Block, Subdivision, Street Address of Well (or nearest address) 16682 Jones Rd., White City, Ore. 97503

(10) STATIC WATER LEVEL: 45 ft. below land surface, Date 3/30/88, Artesian pressure lb. per square inch, Date

(11) WATER BEARING ZONES: Table with columns: From, To, Estimated Flow Rate, SWL

(12) WELL LOG: Table with columns: Material, From, To, SWL

Date started 3/30/88, Completed 3/30/88

(unbonded) Water Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief. Gribble Well Drilling, WWC Number, Signed, Date

(bonded) Water Well Constructor Certification: I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. This report is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief. Signed Sig. Mulkomb, WWC Number 205, Date 3/30/88



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

RECEIVED

AUG 11 2010

Application for
Well ID Number

WATER RESOURCES DEPT
SALEM, OREGON

Do not complete if the well already has a Well I.D Number or if you do not own the property where the well is located.

I. OWNER INFORMATION

Current Owner Name (please print): EILEEN T. PLENT
Mailing Address: 16682 JONES RD
City, State, Zip: WHITE CITY OR, 97503
Mailing Address (to send Well I.D.): _____
City, State, Zip: SAME AS ABOVE

II. WELL INFORMATION

Township: 35 (North/South) Range: 2 WEST (East/West) Section: 2
Tax Lot: 352 W020002501 County JACKSON 1/4 _____ 1/4 _____
Lot: 501 Block: _____ Subdivision: _____
Owner at time the well was constructed, (if known): BEWLEY, MONTE T & BETTY
If the property had a different street address in the past: _____

III. GENERAL WELL INFORMATION (Do not complete this section if the well report is attached)

Street Address of Well, City, State: 16682 JONES RD
Type of Well (domestic, irrigation, commercial, industrial, monitoring, etc.): DOMESTIC
Date Well Constructed: 1988 Well Depth: 135' Casing Diameter: 2
Other Information: NOT SURE ABOUT WELL DEPTH, APPROX.

SUBMITTED BY (please print): Eileen T. Plent 8-04-2010
PHONE: 541-826-9455 FAX: _____

Send application to Oregon Water Resources Department; 725 Summer Street NE, Suite A; Salem, Oregon 97301-1266; fax (503) 986-0902. Applications are processed and Well I.D. Numbers are mailed every Tuesday.

JACK 3215

104348

For Official Use Only by the Oregon Water Resources Department		
Received Date:	Well Log Number:	Well Identification Tag #:

Groundwater Application Review Summary Form

Application # G- 18540

GW Reviewer Joe Kemper

Date Review Completed: 8/8/2018

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.

JK 8/8/18

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).

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 8/8/2018
 FROM: Groundwater Section Joe Kemper
 Reviewer's Name
 SUBJECT: Application G- 18540 Supersedes review of NA
 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: D & D Organics (Marquez) County: Jackson

A1. Applicant(s) seek(s) 0.1 cfs from 1 well(s) in the Rogue River Basin,
Upper Rogue subbasin

A2. Proposed use Nursery (8 acres) Seasonality: Year-Round

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	JACK 3215	1	Bedrock	0.1	35S/2W-2 SW-NE	1350' S, 500' E fr N1/4 cor S 2
2						
3						
4						
5						

* 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	1565	56	45	3/30/1988	220	0-23	0-39	NA	NA	100		Air

Use data from application for proposed wells.

A4. **Comments:** _____

A5. **Provisions of the** Rogue (OAR 690-515) 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 Rogue Basin rules contain no such provision.

A6. **Well(s) #** _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
 Name of administrative area: _____
 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) 7C (7-yr SWL); 7J; Medium 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 _____ 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 applicant’s proposed POA will be producing from fractured bedrock of the Payne Cliffs Formation. Wells in this aquifer system typically produce less than 50 gpm. There are no current OWRD observation well data within 1 mile of the proposed POA so aquifer over-appropriation cannot be determined. However, a cluster of observation wells accessing the Payne Cliffs Formation 1-2 miles to the south shows relatively stable water levels over the previous 10-20 years (see Figure 3).

The closest valid POA is >3300 feet from the applicant’s well. Adjacent taxlot density (as a proxy for well development) is moderate and the Department is unaware of historic interference problems. Similarly, the above mentioned cluster of wells has a higher development density and water levels do not show systemic decline. Considering these lines of evidence, it is unlikely that the proposed use at the rate requested will cause injury to adjacent senior users.

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	Fractured Bedrock of Payne Cliffs Fm	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: The well log for the applicant's well reports first water at 56 feet BLS, the major WBZ at 198-200 feet BLS, and a SWL of 45 feet. Adjacent well logs report similar confined conditions.

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?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Constance Creek	1520	1330	~18000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Snider Creek	1520	1370	~10000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Observed SWL elevations are higher than perennial stream elevations, indicating that groundwater flows towards and discharges to surface water. The applicant's well is located approximately 500 feet from a low saddle on the divide between Snider and Constance Creeks. Pumping affects would likely intercept subsurface flow in the Snider Creek basin. Thus the applicant's well is assumed to be hydraulically connected to Snider Creek.

*Distance measured to Constance Creek is to the nearest point where the creek is assumed to be hydraulically connected to the groundwater system based on aerial imagery and OWRD staff site visits.

Water Availability Basin the well(s) are located within: ROGUE R > PACIFIC OCEAN - AB CURRY G AT GAGE # 270; also evaluated for SNIDER CR > ROGUE R - AT MOUTH # 71626

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 < 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?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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?
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: There are no hydraulically connected surface water sources within 1 mile of applicant's POA.

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	2	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%
Well Q as CFS		0.033*	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033
Interference CFS		<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01
(A) = Total Interf.		<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01
(B) = 80 % Nat. Q		8.4	17.2	12.4	8.61	4.44	2.07	1.23	1.04	0.94	0.9	1.01	4.33
(C) = 1 % Nat. Q		0.084	0.172	0.124	0.0861	0.0444	0.0207	0.0123	0.0104	0.0094	0.009	0.0101	0.0433
(D) = (A) > (C)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(E) = (A / B) x 100		<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%

(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: Pumping effects on SW 2 are evaluated using the Hunt (2003) stream depletion model with aquifer parameters representative of the local geology. Model parameters and results for the closest well-surface water source combination are presented in Figure 4. Stream depletion was not calculated for SW 1 because the WAB figures are based on Rogue River flows (1% of minimum 80% exceedance is 11.3 cfs, which is much greater than the proposed rate).

*0.033 cfs represents the requested volume of water (24 AF) prorated for 365 days, as applicant requests year-round use.

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 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:** The applicant’s proposed POA would produce from an aquifer that has been determined to be hydraulically connected to surface water. The reviewer has not found a preponderance of evidence for the Potential for Substantial Interference (PSI) as per OAR 690-009.

References Used:

Hunt, B. 2003. *Unsteady Stream Depletion when Pumping from a Semiconfined Aquifer*. Journal of Hydrologic Engineering. Vol 8(1), pp 12-19

OWRD Groundwater Site Information System Database – Accessed 8/8/2018.

Wiley, T. J., and Hladky, F. R. , 1991, Geology and mineral resources of the Boswell Mountain quadrangle, Jackson County, Oregon: Oregon Department of Geology and Mineral Industries Geologic Map Series GMS-70, scale 1:24,000.

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.**

Figure 1. Water Availability Tables

ROGUE R > PACIFIC OCEAN - AB CURRY G AT GAGE 14359000
 ROGUE BASIN

Water Availability as of 8/6/2018

Watershed ID #: 270 ([Map](#))
 Date: 8/6/2018

Exceedance Level: 80% ▾
 Time: 4:24 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	2,180.00	1,130.00	1,050.00	0.00	1,200.00	-149.00
FEB	2,710.00	2,050.00	664.00	0.00	1,200.00	-536.00
MAR	2,750.00	1,820.00	932.00	0.00	1,200.00	-268.00
APR	2,810.00	1,040.00	1,770.00	0.00	1,200.00	574.00
MAY	2,750.00	367.00	2,380.00	0.00	1,200.00	1,180.00
JUN	1,760.00	343.00	1,420.00	0.00	1,200.00	217.00
JUL	1,330.00	368.00	962.00	0.00	1,200.00	-238.00
AUG	1,160.00	330.00	830.00	0.00	1,200.00	-370.00
SEP	1,130.00	275.00	855.00	0.00	1,200.00	-345.00
OCT	1,160.00	227.00	933.00	0.00	1,200.00	-267.00
NOV	1,370.00	345.00	1,030.00	0.00	1,200.00	-175.00
DEC	1,810.00	562.00	1,250.00	0.00	1,200.00	48.20
ANN	1,900,000.00	529,000.00	1,370,000.00	0.00	869,000.00	532,000.00

SNIDER CR > ROGUE R - AT MOUTH
 ROGUE BASIN

Water Availability as of 8/6/2018

Watershed ID #: 71626 ([Map](#))
 Date: 8/6/2018

Exceedance Level: 80% ▾
 Time: 4:26 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	8.40	1.80	6.60	0.00	26.00	-19.40
FEB	17.20	2.13	15.10	0.00	26.00	-10.90
MAR	12.40	1.39	11.00	0.00	26.00	-15.00
APR	8.61	0.51	8.10	0.00	11.80	-3.70
MAY	4.44	0.81	3.63	0.00	4.98	-1.35
JUN	2.07	1.13	0.94	0.00	4.92	-3.98
JUL	1.23	1.51	-0.28	0.00	2.58	-2.86
AUG	1.04	1.25	-0.21	0.00	1.60	-1.81
SEP	0.94	0.82	0.12	0.00	0.96	-0.84
OCT	0.90	0.27	0.63	0.00	1.00	-0.37
NOV	1.01	0.18	0.83	0.00	2.55	-1.72
DEC	4.33	0.91	3.42	0.00	14.70	-11.30
ANN	7,760.00	765.00	6,990.00	0.00	7,390.00	352.00

Figure 2. Well Location Map

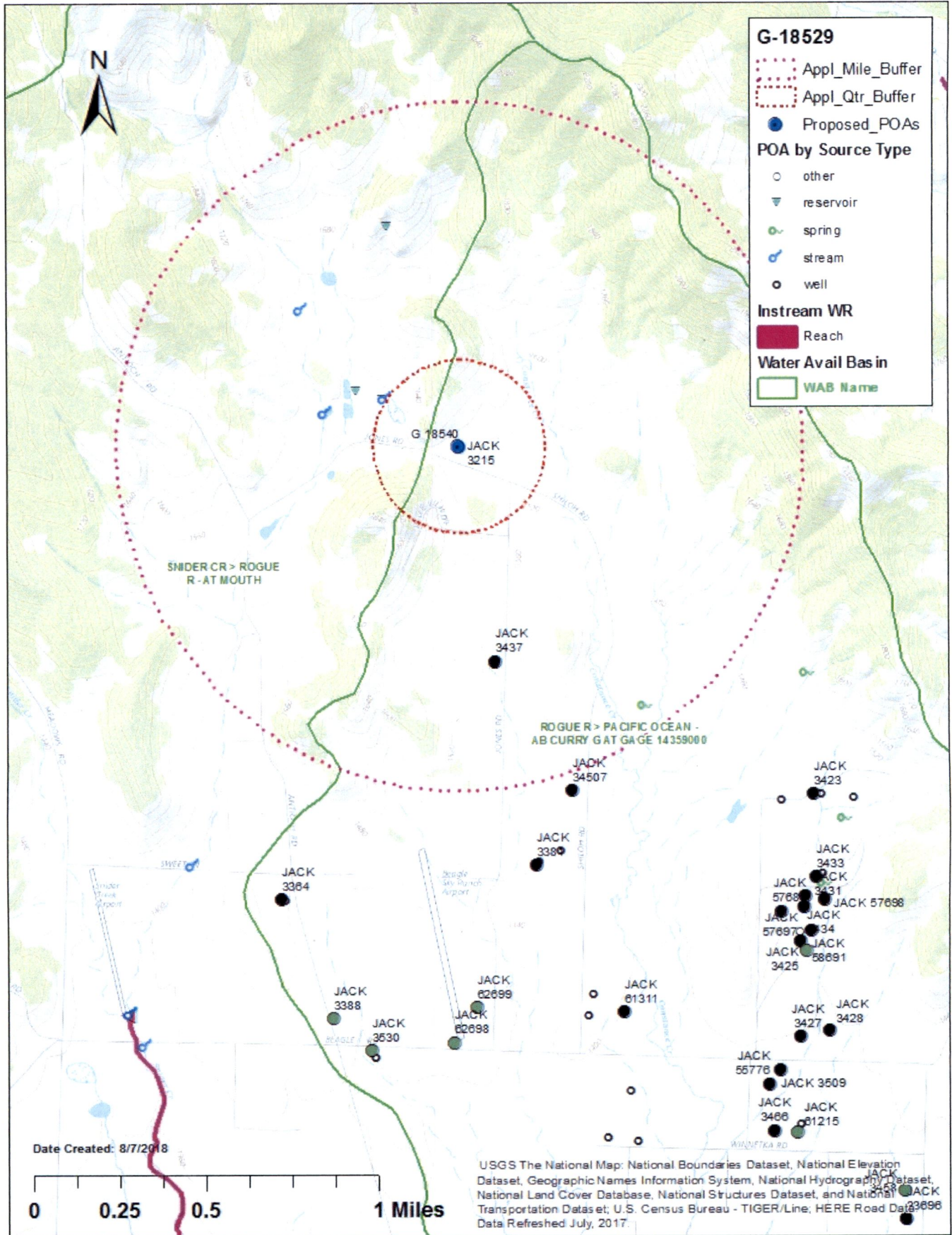


Figure 3. Water-Level Trends in Nearby Wells

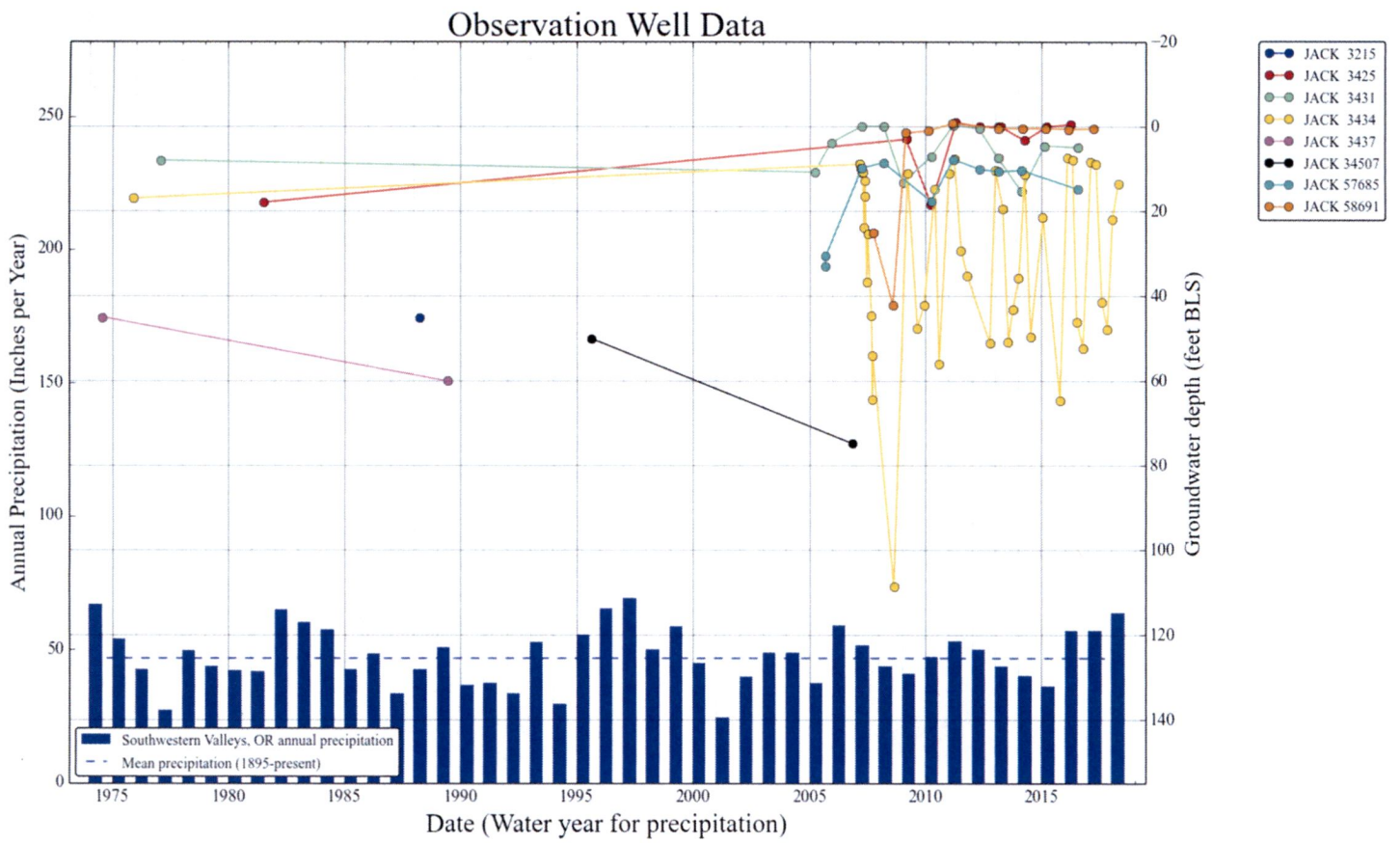


Figure 4. Stream Depletion Model

Application type:	G
Application number:	18540
Well number:	1
Stream Number:	2
Pumping rate (cfs):	0.033
Pumping duration (days):	365

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	10000	10000	10000	ft
Aquifer transmissivity	T	1000	2500	5000	ft ² /day
Aquifer storativity	S	.1	.01	.001	-
Aquitard vertical hydraulic conductivity	Kva	0.01	0.05	0.1	ft/day
Aquitard saturated thickness	ba	10.0	20.0	30.0	ft
Aquitard thickness below stream	babs	4.0	3.0	2.0	ft
Aquitard specific yield	Sya	0.2	0.2	0.2	-
Stream width	ws	10	15	20	ft

Stream depletion for Scenario 2:

Days	10	30	60	90	120	150	180	210	240	270	300	330	360
Depletion (%)	0	0	0	0	0	0	0	0	0	0	0	0	0
Depletion (cfs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

