PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 9/25/2018

FROM: Groundwater Section Phillip I. Marcy and Justin Iverson
Reviewer's Name

SUBJECT: Application G- 18633 Supersedes review of 6/22/2018 (revisions highlighted)
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: **Joseph Alee** County: **Malheur**

A1. Applicant(s) seek(s) 0.222 cfs from 3 well(s) in the Powder Basin, _____ subbasin

A2. Proposed use Commercial 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 | MALH 54422 | 1 | Alluvium | 0.222 | 15S/45E-5 SE-NE | 2331'S, 4790'E fr NW cor S 5 |
| 2 | PROPOSED | 2 | Alluvium | 0.222 | 15S/45E-5 SE-NE | 1727'S, 4335'E fr NW cor S 5 |
| 3 | PROPOSED | 3 | Alluvium | 0.222 | 15S/45E-5 SE-NE | 1489'S, 4123'E fr NW cor S 5 |
| 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 | 2114 | 40 | 31 | 10/31/2017 | 62 | 0-18 | 0-45 | NA | 45-49 | 75 | 29 | Air |
| 2 | 2119 | NA | NA | NA | 100 | 0-25 | 0-50 | Unk | 35-100 | NA | NA | NA |
| 3 | 2117 | NA | NA | NA | 100 | 0-25 | 0-50 | Unk | 35-100 | NA | NA | NA |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Use data from application for proposed wells.

A4. **Comments:** Proposed wells 2 and 3 are slated to be constructed to greater depths than existing well 1, however they are unlikely to gain significant increases to yield since the only known productive aquifer at this location are sands and gravels typically reported between 20-60' below land surface. Well logs from deeper wells drilled in this area report thick successions of clay (up to hundreds of feet) below the productive alluvium targeted by this application. Therefore no alternative groundwater sources can be recommended here.

A5. ☒ **Provisions of the** Powder 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: _____

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**;
   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 existing POA well (MALH 54422), and the two proposed wells appear to have an efficient connection to the Snake River only during one or two months of the year when Brownlee Reservoir is above a stage of approximately 2068 feet amsl and in direct hydraulic connection with the coarse-grained sediments that are utilized by the well (see attached memo dated 9/25/2018). Several domestic wells and permitted well MALH 53410 utilize the same sand and gravel aquifer.

## 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 | **Unconsolidated sands and gravels** | ☐ | ☒ |
| 2 | **Unconsolidated sands and gravels** | ☐ | ☒ |
| 3 | **Unconsolidated sands and gravels** | ☐ | ☒ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |

**Basis for aquifer confinement evaluation:** There does not exist any substantial confining bed above the proposed aquifer within the proposed POA wells. In addition, the proposed production lithology is likely incised by the nearby Snake River.

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 | **Snake River** | **2071** | **2073** | **1329** | ☒ | ☐ | ☐ | ☐ | ☒ |
| 2 | 1 | **Snake River** | **~2071** | **2073** | **1680** | ☒ | ☐ | ☐ | ☐ | ☒ |
| 3 | 1 | **Snake River** | **~2071** | **2073** | **1800** | ☒ | ☐ | ☐ | ☐ | ☒ |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ |

**Basis for aquifer hydraulic connection evaluation:** The productive zone of well 1 is likely in direct hydraulic connection with the Snake River only when Brownlee Reservoir is at a stage above approximately 2068 feet amsl, which occurs for approximately 1 to 2 months out of most years (see attached memo). The remainder of the year the water level in the reservoir is below the base of the sand and gravel aquifer utilized by the existing and proposed PODs and likely drains to the reservoir from seeps emanating from the contact between the sand and gravel aquifer and the underlying clay aquitard. *This hydraulic geometry does not meet model assumptions of the widely accepted techniques for determining stream depletion in section C3a. below (e.g., Hunt 1999, 2003).

**Water Availability Basin the well(s) are located within:** NA (The proposed POA locations do not lie within any WAB)

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? |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | ☐ | ☐ | | | ☐ | **~7500*** | ☐ | * | ☐ |
| 2 | 1 | ☐ | ☐ | | | ☐ | **~7500*** | ☐ | * | ☐ |
| 3 | 1 | ☐ | ☐ | | | ☐ | **~7500*** | ☐ | * | ☐ |
| | | ☐ | ☐ | | | ☐ | | ☐ | | ☐ |
| | | ☐ | ☐ | | | ☐ | | ☐ | | ☐ |

(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:** This section does not apply.

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:** The proposed POA well locations are not located within any WAB, therefore water availability determinations cannot be made as a part of this review. Refer to attached memo for further SW/GW remarks.

**References Used:** Local well log reports; Application G-18633; Application review LL-1729.

Brooks, H.C., McIntyre, J.R., Walker, G.W., 1976. Geology of the Oregon Part of the Baker $1^0$ by $2^0$ Quadrangle. Oregon Department of Geology and Mineral Industries Geological Map Series 7.

## 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.**

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**Water Availability Tables**
NA

**Well Location Map**

Oregon
Kate Brown, Governor

**Water Resources Department**
725 Summer St NE, Suite A
Salem, OR 97301
(503) 986-0900
Fax (503) 986-0904

REGISTERED
OREGON
JUSTIN IVERSON
G2045
GEOLOGIST
EXPIRES: 12/01/2018

**MEMORANDUM**

DATE: 9/25/18
TO: File G-18633
FROM: Justin Iverson
SUBJECT: Evaluation of stage variations of Brownlee Reservoir with respect to hydraulic connection with MALH 54422

In late August the applicant's agent raised a question with regard to the methodology used to measure the distance between POA #1 and the Snake River as pooled in Brownlee Reservoir. The memo addresses the applicant's concerns and includes additional data that was used to inform a superseding review of Application G-18633.

OAR 690-009-0040(3) states that "the Department shall determine the horizontal distance between any well in question and the nearest surface water source on the basis of the edge of the surface water source as also determined by the Department." These determinations are typically based on the Department's best available well location information and the National Hydrography Dataset high resolution spatial coverage of perennial surface water bodies.

In the case of the 6/22/2018 technical review of Application G-18633, the location of POD-1 (MALH 54422) was provided by the driller or well owner under the exempt use well reporting program. The nearest surface water source is Brownlee Reservoir, a hydroelectric reservoir on the Snake River channel. The NHD-digitized edge of Brownlee Reservoir appears to follow the reservoir edge as shown on the most recent USGS topographic map. The topographic map indicates that Brownlee Reservoir was drawn at a pool elevation of 2077 feet above mean sea level (ft amsl), the elevation of the dam spillway.

Idaho Power, which operates the dam, provides historic stage elevation data for Brownlee Reservoir on their website[1]. Figure 1 is a plot of the reservoir elevation for approximately the past 4 years. The pool elevation of Brownlee Reservoir ranges from a maximum of approximately 2077 ft amsl (6/16/17) to a minimum of approximately 2013 ft amsl (5/2/17) over that period. The spillway elevation of the dam corresponds to the highest recorded water levels over the past several years, indicating that the edge of the digitized pool on the NHD coverage and USGS topographic map shows the greatest extent of the pool. This resulted in the shortest possible measured distance to the subject well in the groundwater technical review of 6/22/2018.

The most recent readily available aerial image of the site (Figure 2) was taken on 10/14/2015. This date corresponds to a mean daily pool elevation of approximately 2053 ft amsl, as shown on Figure 1. The measured distance (using GIS software) from the well MALH 54422 to the edge of the pool as shown in this aerial image is approximately 1329 feet, which is greater than ¼ mile.

[1] https://idastream.idahopower.com/Data/Chart/ChartId/49/Interval/Custom/2014/09/11/2018/09/19

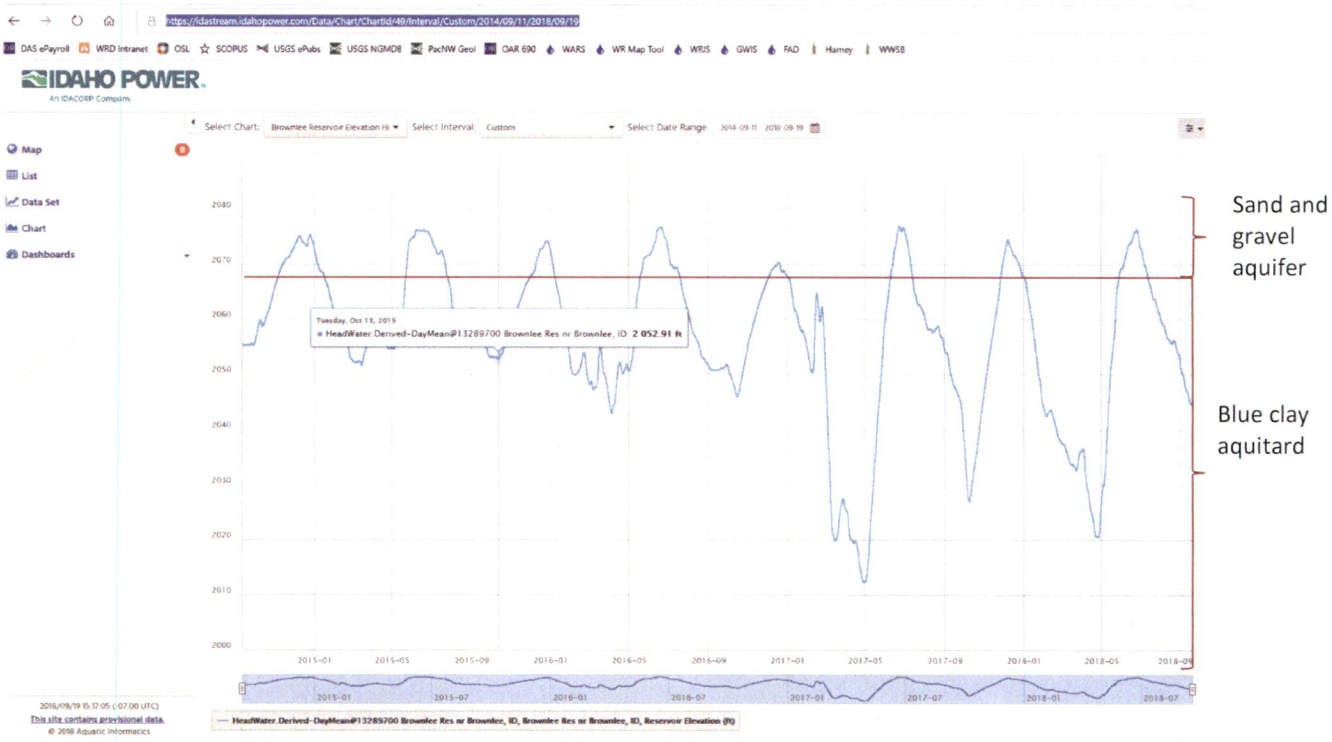


**Figure 1:** Screenshot of webpage showing stage elevation of Brownlee Reservoir, Sept 2014 to present[1]

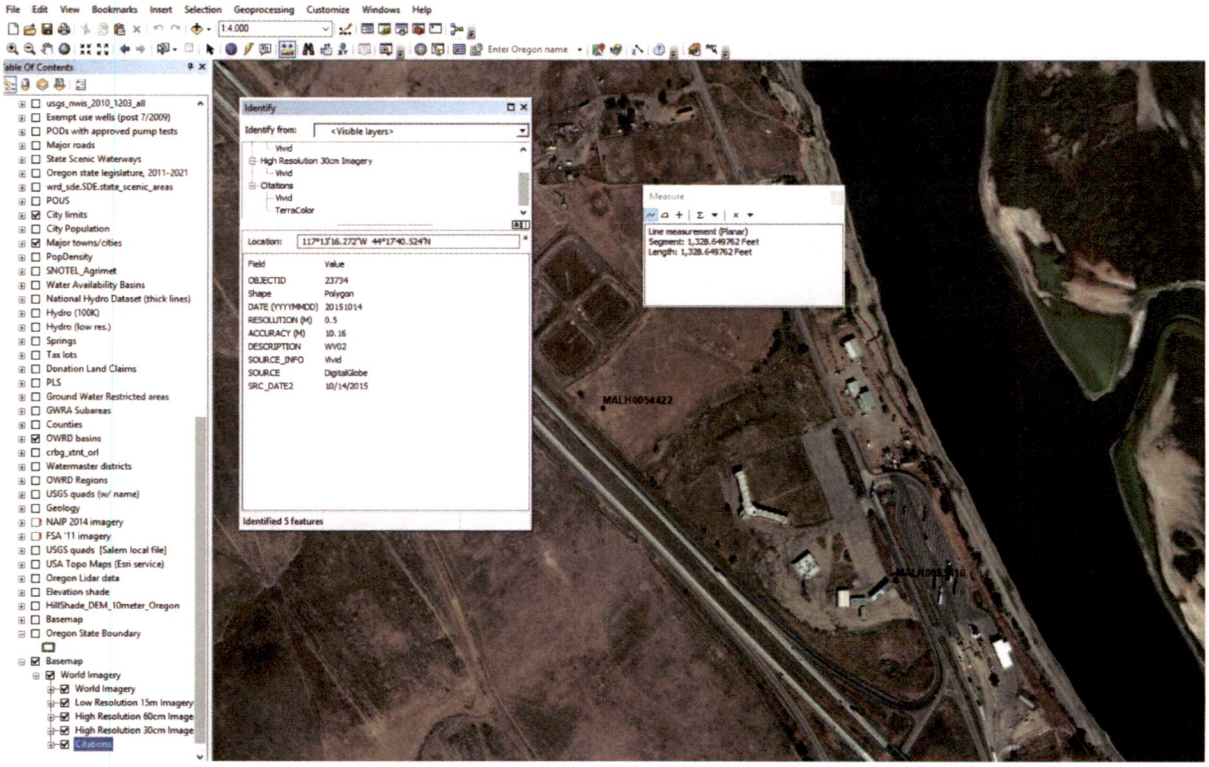


**Figure 2:** Screenshot of MALH 54422 underlain by most recent aerial image taken on 10/14/2015

In reviewing the effect of Brownlee Reservoir pool elevation on the measured distance from POA 1 to the edge of the nearest surface water source, the effect of the pool elevation range on the ability to quantifiably estimate the interference with that surface water source from pumping POA 1 was also reassessed.

OAR 690-009-0040(4)(d) states that "(4) All wells that produce water from an aquifer that is determined to be hydraulically connected to a surface water source shall be assumed to have the potential to cause substantial interference with the surface water source if the existing or proposed ground water appropriation is within one of the following categories ... (d) The ground water appropriation, if continued for a period of 30 days, would result in stream depletion greater than 25 percent of the rate of appropriation... Using the best available information, stream depletion shall be determined or estimated by the Department, employing at least one of the following methods:
(A) Suitable equations and graphical techniques that are described in pertinent publications ...
(B) A computer program or ground water model that is based on such or similar equations or techniques."

A review of the well log for MALH 54422, and nearby well MALH 53410 located approximately 950 feet to the SSE (logs attached) indicates the stratigraphy in the area consists of water bearing sand and gravel underlain by blue clay. The contact between the sand and gravel and the blue clay occurs at approximately 2068 feet amsl, which is denoted by a horizontal line drawn on Figure 1. The productive zones of these wells are likely efficiently hydraulically connected to the Snake River only when Brownlee Reservoir is at a stage above approximately 2068 feet amsl, which occurs for approximately 1 to 2 months out of the year (see Figure 1). The remainder of the year the water level in the reservoir is below the base of the sand and gravel aquifer utilized by the existing and proposed PODs and the aquifer likely drains to the reservoir from seeps emanating from the contact between the sand and gravel aquifer and the underlying clay aquitard. This hydraulic geometry does not meet model assumptions of the widely accepted techniques for determining stream depletion as per OAR 690-009-0040(4)(d)(A) (e.g., Hunt 1999, 2003).

Revisions Requested **MALH 54422**

2017
NEW WELL

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

**WELL I.D. LABEL# L** 118135
**START CARD #** 211445
**ORIGINAL LOG #**

**(1) LAND OWNER** Owner Well I.D. 2
First Name _____ Last Name _____
Company Huntington Travel Plazza
Address 486 NW 9th St
City Ontario State Or Zip 97914

**(2) TYPE OF WORK** [X] New Well [ ] Deepening [ ] Conversion [ ] Alteration (complete 2a & 10) [ ] Abandonment (complete 5a)

**(2a) PRE-ALTERATION**

| | Dia | + | From | To | Gauge | Stl | Plstc | Wld | Thrd |
|---|---|---|---|---|---|---|---|---|---|
| Casing: | | | | | | | | | |

| | Material | From | To | Amt | sacks/lbs |
|---|---|---|---|---|---|
| Seal: | | | | | |

**(3) DRILL METHOD**
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other _____

**(4) PROPOSED USE** [ ] Domestic [ ] Irrigation [ ] Community
[X] Industrial/ Commericial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [X] Other Test

**(5) BORE HOLE CONSTRUCTION** Special Standard [ ] (Attach copy)
Depth of Completed Well 62 ft.

BORE HOLE

| Dia | From | To |
|---|---|---|
| 10 | 0 | 34 |
| 6 | 34 | 62 |
| | | |
| | | |

SEAL

| Material | From | To | Amt | sacks/lbs |
|---|---|---|---|---|
| Bentonite | 0 | 18 | 550 | |
| | | Calculated | 400 | |
| | | | | |
| | | Calculated | | |

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E
[X] Other Bentonite
Backfill placed from _____ ft. to _____ ft. Material Colorado Silica Sand
Filter pack from 18 ft. to 34 ft. Material Sand Size 6/9
Explosives used: [ ] Yes Type _____ Amount _____

**(5a) ABANDONMENT USING UNHYDRATED BENTONITE**
Proposed Amount _____ Pounds Actual Amount _____ Pounds

**(6) CASING/LINER**

| Casing | Liner | Dia | + | From | To | Gauge | Stl | Plstc | Wld | Thrd |
|---|---|---|---|---|---|---|---|---|---|---|
| ● | | 6 | | 1 | 49 | .250 | ● | | X | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Shoe [ ] Inside [X] Outside [ ] Other Location of shoe(s) 49
Temp casing [ ] Yes Dia _____ From _____ To _____

**(7) PERFORATIONS/SCREENS**
Perforations Method Torch
Screens Type _____ Material _____

| Perf/Screen | Casing/Liner | Screen Dia | From | To | Scrn/slot width | Slot length | # of slots | Tele/pipe size |
|---|---|---|---|---|---|---|---|---|
| Perf | Casing | 6 | 45 | 49 | .188 | 5 | | 6 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

**(8) WELL TESTS: Minimum testing time is 1 hour**
○ Pump ○ Bailer ◉ Air ○ Flowing Artesian

| Yield gal/min | Drawdown | Drill stem/Pump depth | Duration (hr) |
|---|---|---|---|
| 20 | | 60 | 4 |
| 75 | 29 | 60 | 6 |
| | | | |

Temperature 59 °F Lab analysis [ ] Yes By _____
Water quality concerns? [ ] Yes (describe below) TDS amount _____

| From | To | Description | Amount | Units |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**(9) LOCATION OF WELL (legal description)**
County MALHEUR Twp 15 S N/S Range 45 E E/W WM
Sec 4 NW 1/4 of the SE 1/4 Tax Lot 306
Tax Map Number _____ Lot _____
Lat 44 ° 17 ' 42.46" or 44.29511111 DMS or DD
Long -117 ° 13 ' 42.76" or -117.22852778 DMS or DD
◉ Street address of well ○ Nearest address
5945 Hwy 30 Huntington Or 97907

**(10) STATIC WATER LEVEL**

| | Date | SWL(psi) | + | SWL(ft) |
|---|---|---|---|---|
| Existing Well / Pre-Alteration | | | | |
| Completed Well | 10-31-2017 | | | 31 |

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found 40

| SWL Date | From | To | Est Flow | SWL(psi) | + | SWL(ft) |
|---|---|---|---|---|---|---|
| 10-31-2017 | 40 | 49 | 30 | | | 31 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**(11) WELL LOG** Ground Elevation _____

| Material | From | To |
|---|---|---|
| Top Soil | 0 | 6 |
| Brwon Sandy Clay | 6 | 17 |
| Sand | 17 | 28 |
| Sand and Gravel | 28 | 48 |
| Blue Clay | 48 | 62 |

RECEIVED
MAR 26 2018
OWRD

Date Started 10-27-2017 Completed 10-31-2017

**(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 _____
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 682 Date 11-02-2017
Signed _____
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: 6/25

G-18633

MALH 53410

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

WELL LABEL # L 85147

START CARD # 19866

**Instructions for completing this report are on the last page of this form.**

**(1) LAND OWNER** Owner Well I.D. 85147
First Name _____ Last Name _____
Company Joe Tyler & Plaza
Address 5945 Hwy 30
City Huntington State OR Zip 97908

**(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/Commercial ☐ Livestock ☐ Dewatering ☐ Injection ☐ Thermal ☐ Other _____

**(5) BORE HOLE CONSTRUCTION** Special Standard: ☐ Yes (attach copy)
Depth of Completed Well 97 ft.

| BORE HOLE Dia | From | To | Material | SEAL From | To | Amount | Sacks/lbs |
|---|---|---|---|---|---|---|---|
| 12 | 0 | 40 | Bentonite | 0 | 20 | | 54 |
| 8 | 40 | 97 ft | | | | | |

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other From surface
Backfill placed from _____ ft. to _____ ft. Material _____
Filter pack from 20 ft. to 40 ft. Material Pea gravel Size 3/8"
Explosives used: ☐ Yes Type _____ Amount _____

**(6) CASING/LINER**

| Csng | Linr | Dia | + | From | To | Gauge | Steel | Plastic | Welded | Thrd |
|---|---|---|---|---|---|---|---|---|---|---|
| X | | 8" | | +1 | 40 | .250 | ✓ | | ✓ | |

Shoe ☐ Inside ☒ Outside ☐ Other Location of shoe(s) 40 ft
Temporary casing ☒ Yes Diameter 12 From +1 To 35

**(7) PERFORATIONS/SCREENS**
Perforations Method Mechanical
Screens Type _____ Material _____

| Perf | Scrn | Csng | Linr | Screen Dia | From | To | Screen/ slot width | Slot length | # of slots | Tele/ pipe size |
|---|---|---|---|---|---|---|---|---|---|---|
| X | | X | | | 28 | 34 | 1/4 | 15" | 32 | 8" |

**(8) WELL TESTS: Minimum testing time is 1 hour**
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

| Yield gal/min | Drawdown | Drill stem/Pump depth | Duration (hr) |
|---|---|---|---|
| 15 gpm | 3 ft | 40 ft | 2 hrs |

Temperature 64 °F Lab analysis ☐ Yes By _____
Water quality concerns? ☐ Yes (describe below)

| From | To | Description | Amount | Units |
|---|---|---|---|---|
| | | | | |

**(9) LOCATION OF WELL (legal description)**
County Malheur Twp 15S N or S Range 45 E or W W.M.
Sec 4 SW 1/4 of the NW 1/4 Tax Lot 301
Tax Map Number _____ Lot _____
Lat ___ ° ___ ' ___ . ___ " or ___ . ___ DMS or DD
Long ___ ° ___ ' ___ . ___ " or ___ . ___ DMS or DD
Street Address of Well (or nearest address) 5945 Hwy 30 Huntington, OR 97908

**(10) STATIC WATER LEVEL**

| | Date | SWL(psi) | + | SWL (ft) |
|---|---|---|---|---|
| Existing Well/Predeepening | | | | |
| Completed Well | 8-18-08 | | | 29-4" |

Flowing Artesian? ☐ Yes Dry Hole? ☐ Yes
WATER BEARING ZONES Depth water was first found 30 ft

| SWL Date | From | To | Est Flow | SWL (psi) | + | SWL (ft) |
|---|---|---|---|---|---|---|
| 8-18-08 | 30 | 34 | 15 gpm | | | 29-4" |

**(11) WELL LOG** Ground Elevation _____

| Material | From | To |
|---|---|---|
| topsoil | 0 | 4 |
| Sandy fine clay | 4 | 18 |
| gravel & sand | 18 | 30 |
| ~~Blue clay~~ | ~~30~~ | ~~34~~ |
| gravel & sand (WB) | 30 | 34 |
| Hard Blue clay | 34 | 97 |

RECEIVED
SEP 29 2008
WATER RESOURCES DEPT
SALEM, OREGON

Date Started 7-18-08 Completed 8-18-08

**(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 _____

Signed _____

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License Number 1485 Date 9-8-08

Signed Jon M Hp

Contact Info. (optional)

ORIGINAL – WATER RESOURCES DEPARTMENT ONE COPY FOR CONSTRUCTOR ONE COPY FOR CUSTOMER
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK 10/16/2006

# MEMO

**To:** Kristopher Byrd, Well Construction and Compliance Section Manager

**From:** Joel Jeffery, Well Construction Program Coordinator

**Subject:** Review of Water Right Application G-18633

**Date:** February 5, 2019

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

Applicant's Well #1 (MALH 54422): 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.

Applicant's Wells #2 and #3 are proposed wells and have not been constructed, therefore a review could not be completed.

Revisions Requested

**MALH 54422**

2017
NEW WELL

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

**WELL I.D. LABEL#** 118135
**START CARD #** 211445
**ORIGINAL LOG #**

**(1) LAND OWNER** Owner Well I.D. 2
First Name _____ Last Name _____
Company Huntington Travel Plazza
Address 486 NW 9th St
City Ontario State Or Zip 97914

**(2) TYPE OF WORK** [X] New Well [ ] Deepening [ ] Conversion [ ] Alteration (complete 2a & 10) [ ] Abandonment (complete 5a)

**(2a) PRE-ALTERATION**

| | Dia | + | From | To | Gauge | Stl | Plstc | Wld | Thrd |
|---|---|---|---|---|---|---|---|---|---|
| Casing: | | | | | | | | | |

| | Material | From | To | Amt | sacks/lbs |
|---|---|---|---|---|---|
| Seal: | | | | | |

**(3) DRILL METHOD**
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other

**(4) PROPOSED USE** [ ] Domestic [ ] Irrigation [ ] Community
[X] Industrial/ Commericial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [X] Other Test

**(5) BORE HOLE CONSTRUCTION** Special Standard [ ] (Attach copy)
Depth of Completed Well 62 ft.

| BORE HOLE Dia | From | To | SEAL Material | From | To | Amt | sacks/lbs |
|---|---|---|---|---|---|---|---|
| 10 | 0 | 34 | Bentonite | 0 | 18 | 550 | |
| 6 | 34 | 62 | | | Calculated | 400 | |
| | | | | | | | |
| | | | | | Calculated | | |

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E
[X] Other Bentonite
Backfill placed from ____ ft. to ____ ft. Material Colorado Silica Sand
Filter pack from 18 ft. to 34 ft. Material Sand Size 6/9
Explosives used: [ ] Yes Type ____ Amount ____

**(5a) ABANDONMENT USING UNHYDRATED BENTONITE**
Proposed Amount ____ Pounds Actual Amount ____ Pounds

**(6) CASING/LINER**

| Casing | Liner | Dia | + | From | To | Gauge | Stl | Plstc | Wld | Thrd |
|---|---|---|---|---|---|---|---|---|---|---|
| ◉ | ○ | 6 | | 1 | 49 | .250 | ◉ | ○ | X | |
| ○ | ○ | | | | | | ○ | ○ | | |
| ○ | ○ | | | | | | ○ | ○ | | |
| ○ | ○ | | | | | | ○ | ○ | | |
| ○ | ○ | | | | | | ○ | ○ | | |

Shoe [ ] Inside [X] Outside [ ] Other Location of shoe(s) 49
Temp casing [ ] Yes Dia: ____ From ____ To ____

**(7) PERFORATIONS/SCREENS**
Perforations Method Torch
Screens Type ____ Material ____

| Perf/S creen | Casing/ Liner | Screen Dia | From | To | Scrn/slot width | Slot length | # of slots | Tele/ pipe size |
|---|---|---|---|---|---|---|---|---|
| Perf | Casing | 6 | 45 | 49 | .188 | 5 | | 6 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

**(8) WELL TESTS: Minimum testing time is 1 hour**
( ) Pump ( ) Bailer (◉) Air ( ) Flowing Artesian

| Yield gal/min | Drawdown | Drill stem/Pump depth | Duration (hr) |
|---|---|---|---|
| 20 | | 60 | 4 |
| 75 | 29 | 60 | 6 |
| | | | |

Temperature 59 °F Lab analysis [ ] Yes By ____
Water quality concerns? [ ] Yes (describe below) TDS amount ____

| From | To | Description | Amount | Units |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**(9) LOCATION OF WELL (legal description)**
County MALHEUR Twp 15 S N/S Range 45 E E/W WM
Sec 4 NW 1/4 of the SE 1/4 Tax Lot 306
Tax Map Number ____ Lot ____
Lat 44 ° 17 ' 42.46" or 44.29511111 DMS or DD
Long -117 ° 13 ' 42.76" or -117.22852778 DMS or DD
(◉) Street address of well ( ) Nearest address
5945 Hwy 30 Huntington Or 97907

**(10) STATIC WATER LEVEL**

| | Date | SWL(psi) | + | SWL(ft) |
|---|---|---|---|---|
| Existing Well / Pre-Alteration | | | | |
| Completed Well | 10-31-2017 | | | 31 |

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found 40

| SWL Date | From | To | Est Flow | SWL(psi) | + | SWL(ft) |
|---|---|---|---|---|---|---|
| 10-31-2017 | 40 | 49 | 30 | | | 31 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**(11) WELL LOG** Ground Elevation ____

| Material | From | To |
|---|---|---|
| Top Soil | 0 | 6 |
| Brwon Sandy Clay | 6 | 17 |
| Sand | 17 | 28 |
| Sand and Gravel | 28 | 48 |
| Blue Clay | 48 | 62 |

RECEIVED
MAR 26 2018
OWRD

Date Started 10-27-2017 Completed 10-31-2017

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License Number 682 Date 11-02-2017
Signed ____
Contact Info (optional) ____

OREGON WATER RESOURCES DEPARTMENT
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK. Form 7/2010 6/05

G-18633