

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date 6/30/2015

FROM: Ground Water/Hydrology Section K. Lite
Reviewer's Name

SUBJECT: Application G- 18064 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 ground water 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: Linda Tribby County: Jefferson

- A1. Applicant(s) seek(s) (1,795 gpm) 4.0 cfs from 3 well(s) in the Deschutes Basin,
Willow Creek subbasin Quad Map: Gray Butte and Grizzly Butte
- A2. Proposed use: Irrigation Seasonality: April 1 – October 31
- 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	**Jeff 728/795	1	Deschutes & John Day	4.0	13S/14E-sec 11 CBC	1350' N & 50' E fr SE cor S 10
2	Prop	2	Deschutes & John Day	4.0	13S/14E-sec 11 CAA	90' S & 500' W fr C1/4 cor S 11
3	Prop	3	Deschutes & John Day	4.0	13S/14E-sec 11 CBC	1350' N & 2000' E fr SW cor S 11
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	3195	95	95	08/22/1978	240?	20?	160?	?	?	480	total	A
2	3200											
3	3200											

Use data from application for proposed wells.

- A4. **Comments: **The well report has already been associated with a different location on Appl. G-17959. The well may be constructed into water-bearing zones within the Deschutes Formation and John Day Formation. The permeability in the John Day unit is likely from secondary fractures, based on the age (old) of the rocks. The orientations of fracture surfaces are unknown. Also, there are many springs mapped within a few miles of the proposed poa's.**

- A5. ☐ **Provisions of the Deschutes** _____ Basin rules relative to the development, classification and/or management of ground water hydraulically connected to surface water ☐ are, or ☒ are not, activated by this application. (Not all basin rules contain such provisions.)
Comments: The well is located outside the USGS Deschutes groundwater study area.

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

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

B1. Based upon available data, I have determined that ground water* 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 ground water 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 ground water 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 ground water resource; or
- d. ☒ will, if properly conditioned, avoid injury to existing ground water rights or to the ground water resource:
- i. ☒ The permit should contain condition #(s) 7B,7N;
 - 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 ground water production from no deeper than _____ ft. below land surface;
- b. ☐ Condition to allow ground water production from no shallower than _____ ft. below land surface;
- c. ☐ Condition to allow ground water production only from the _____ ground water 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 Ground Water 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. Ground water availability remarks: Some of the acreage in this application appears to be the same as in G-17959.

The nearest similarly constructed state observation well (obs well 1306 (Jeff 466)) is located about 11.5 miles to the northwest. The water level trend in observation well 1306 has been monitored periodically since the mid-1980s. The ground water level has fluctuated about 8 feet during the period of record. Climate influence is likely the cause of most of the trend.

Condition: Water use from this well will not be allowed under this permit until the well construction is confirmed with a down-hole video, and proper casing and seal is verified.

C. GROUND WATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Deschutes and John day Formations	☐	☒
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation:

Some of the water-bearing zones in the well are likely semi-confined within fracture zones in the John Day fm.

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	RimRock Springs	3100	3070	14,500	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: **The relation between the springs and the groundwater flow system at the proposed poa is unknown. Water level elevation is about 3100 ft amsl (in poa#1) and that elevation is slightly above the likely down-gradient springs. The springs are within a wildlife management area and part of the Crooked River National Grasslands.**

Water Availability Basin the well(s) are located within: **Willow Cr > Deschutes R - At Mouth**

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?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

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: _____

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													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y
(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: _____

No stream depletion was calculated because no model was found to be appropriate for use in this hydrogeologic setting.

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 ground water use under this permit can be regulated if it is found to substantially interfere with surface water:
- ☒ The permit should contain condition #(s) 7B;
 - ☒ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. SW / GW Remarks and Conditions The relation between the springs and the groundwater flow system at the proposed poa's is unknown. Water level elevation is about 3100 ft amsl (in poa #1) and that elevation is slightly above the likely down-gradient springs. The springs are within a wildlife management area and part of the Crooked River National Grasslands.

References Used:

USGS Geologic Map I-2683; Gray Butte and Grizzly Mtn quadrangle maps; Appl file G-18064; State Observation Well data for 1306 (Jeff 466); water well reports for Jeff 795, Jeff 728, and Jeff 466; Pump test data provided by John Short

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: 1 Logid: Jeff 728/795

D2. **THE WELL does not 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:**

- a. ☐ constitutes a health threat under Division 200 rules;
- b. ☐ commingles water from more than one ground water reservoir;
- c. ☐ permits the loss of artesian head;
- d. ☐ permits the de-watering of one or more ground water reservoirs;
- e. ☒ other: (specify) See Below:

D4. **THE WELL construction deficiency is described as follows:** The well construction cannot be verified with current information.

D5. **THE WELL** a. ☐ was, or ☐ was not constructed according to the standards in effect at the time of original construction or most recent modification.

b. ☒ I don't know if it met standards at the time of construction.

D6. ☐ **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

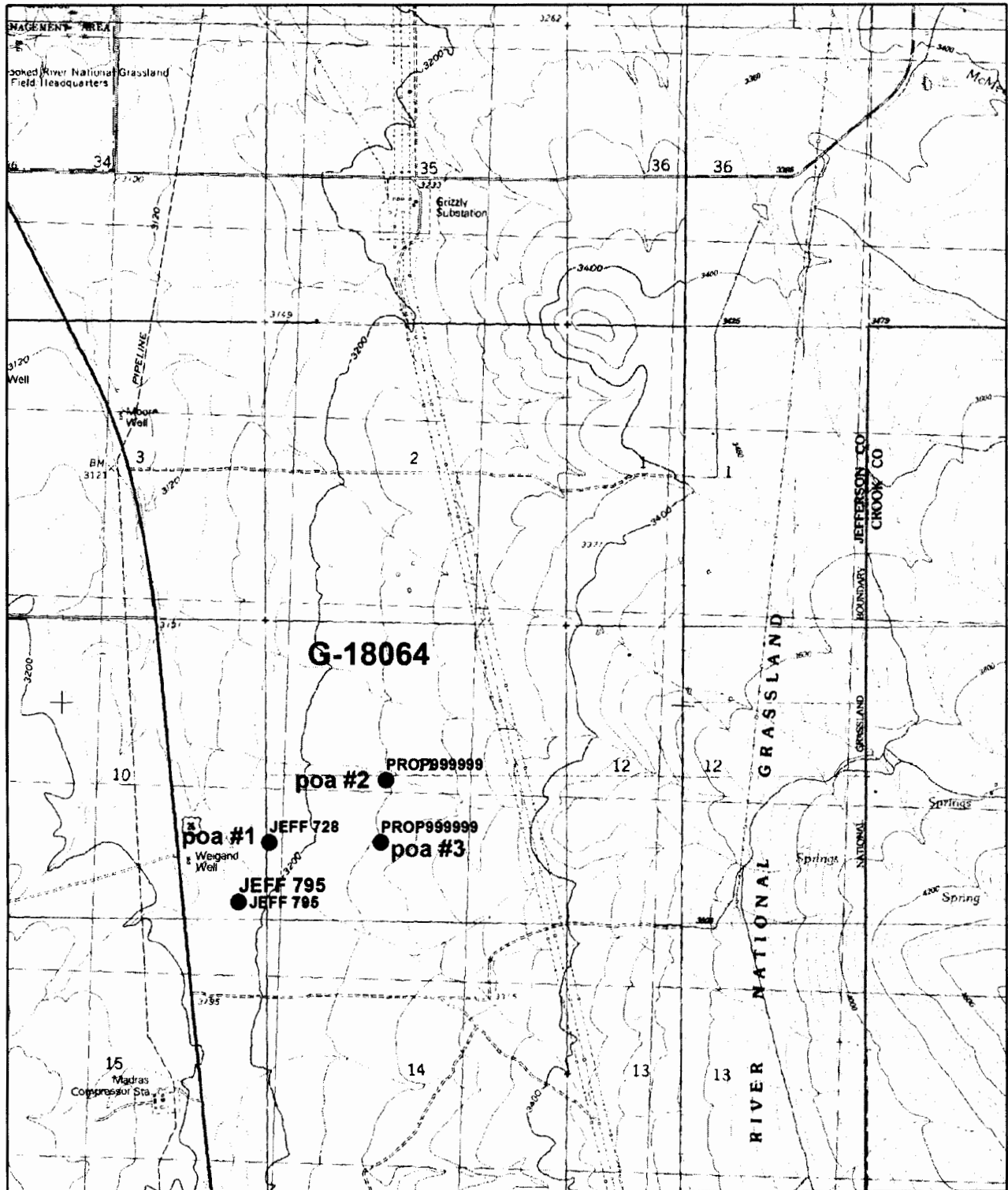
THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. ☐ Well construction deficiency has been corrected by the following actions: _____

_____, 200_____
(Enforcement Section Signature)

D8. ☐ **Route to Water Rights Section (attach well reconstruction logs to this page).**

G-18064: Gray Butte and Grizzly Mtn Quadrangles

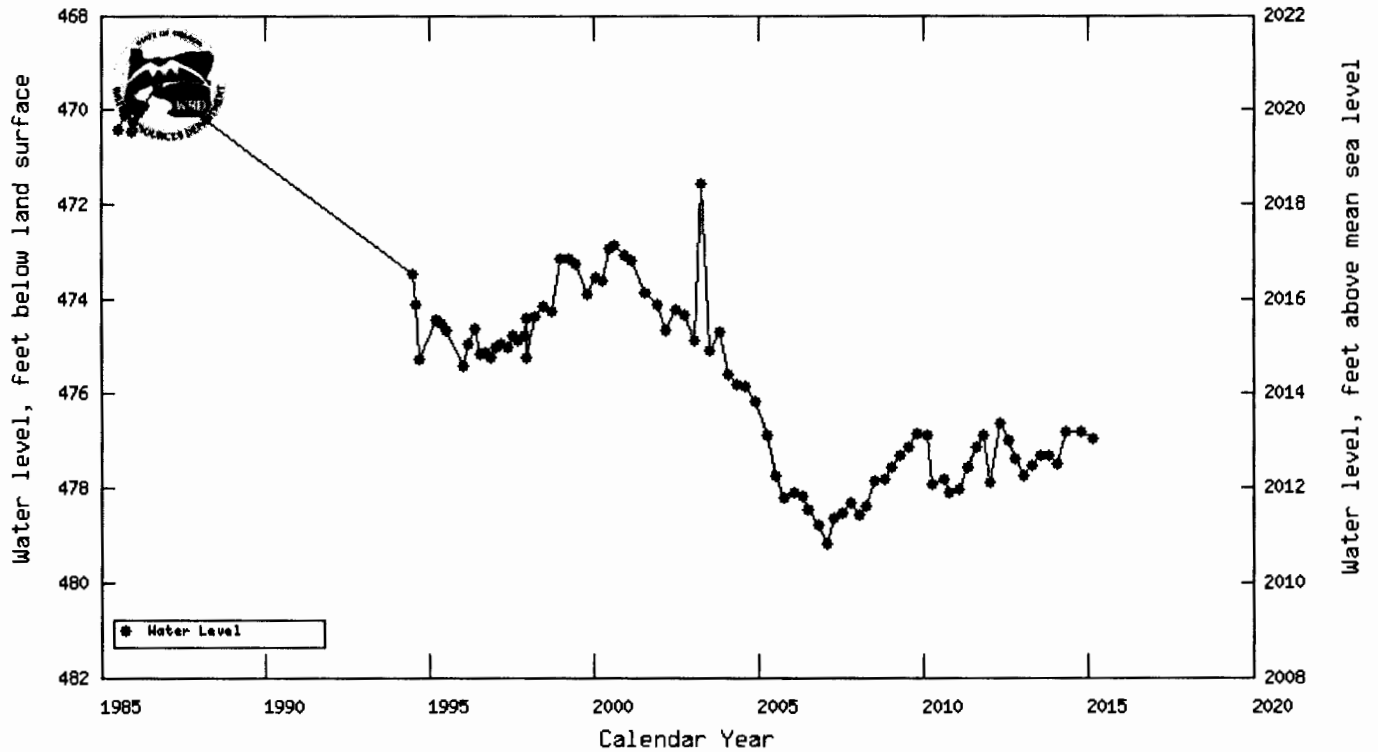


0 0.15 0.3 0.6 0.9 1.2 Miles

Oregon Water Resources Department (OWRD) Well Location
 OWRD Logid
 OWRD Well Tag (Well ID)
 OWRD State Observation Well Number
 Total well depth (feet below land surface)
 Land surface elevation (feet above mean sea level)
 Primary use of well
 Primary aquifer system

11.00S/13.00E-24bcd1
 JEFF 466

 1306
 590
 2490
 DOMESTIC



RECEIVED WATERWELL REPORT

STATE OF OREGON
(Please type or print)

State Well No.

State Permit No.

Name Andy Morrow
Address 1246 Chestnut Madras Ill

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

Rotary	☐	Driven	☐	Domestic	☐	Industrial	☐	Municipal	☐
Cable	☒	Jetted	☐	Irrigation	☒	Test Well	☐	Other	☐
Dug	☐	Bored	☐						

8" Diam. from 0 ft. to 160 ft. Gage 250
" Diam. from " ft. to " ft. Gage
" Diam. from " ft. to " ft. Gage

Type of perforator used Cutting torch
Size of perforations 1/8 in. by 60 in.
540 perforations from 60 ft. to 160 ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " " " "
" " " " " "
Bailer test 50 gal./min. with 3 ft. drawdown after 1 hr.
Artesian flow low g.p.m.
Temperature of water 61° Depth artesian flow encountered low ft.

Well seal—Material used Bentonite
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 14 in.
Diameter of well bore below seal 12 in.
Number of sacks of cement used in well seal 6 sacks
How was cement grout placed? Bentonite was
poured dry down around the
casing

Gravel placed from 20 ft. to 160 ft.

County Helford Driller's well number 522
SW 1/4 NE 1/4 Section 10 T. 13S R. 14E W.M.
 Bearing and distance from section or subdivision corner

Depth at which water was first found 95 ft.
 Static level 90 ft. below land surface. Date 7/21/78
 Artesian pressure _____ lbs. per square inch. Date _____

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

[illegible]

Date well drilling machine moved off of well 7/2/1978

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

Drilling Machine Operator's License No. 389

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. *A. H.*

Address Rt. 3 Box 202, Princeton, NJ 07755

1-25-38

[Signed] _____
(Water Well Contractor)

Contractor's License No. 444 Date 7/21 1978

SF*45654-110

