

State of Idaho
Department of Water Resources
Permit to Appropriate Water
NO. 63-33760

Priority: April 10, 2013

Maximum Diversion Rate: 3.96 CFS

This is to certify, that VERNON H PECHT
18233 MALT RD
CALDWELL ID 83607-8901

has applied for a permit to appropriate water from:

Source: GROUND WATER

and a permit is APPROVED for development of water as follows:

BENEFICIAL USE

IRRIGATION

PERIOD OF USE

03/01 to 11/15

RATE OF DIVERSION

3.96 CFS

LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER SW1/4SE1/4 Sec. 36, Twp 04N, Rge 04W, B.M., CANYON County

PLACE OF USE: IRRIGATION

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N 03W 31									34.0	26.0	39.0	40.0					139.0
											L 4						
04N 04W 36													37.0	30.0	34.0		101.0

Total Acres: 240

CONDITIONS OF APPROVAL

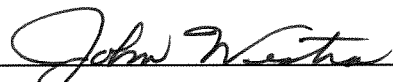
1. Proof of application of water to beneficial use shall be submitted on or before **July 01, 2014**.
2. Subject to all prior water rights.
3. Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code and applicable Well Construction Rules of the Department.
4. After specific notification by the Department, the right holder shall install a suitable measuring device or shall enter into an agreement with the Department to use power records to determine the amount of water diverted and shall annually report the information to the Department.
5. The Director retains jurisdiction to require the right holder to provide purchased or leased natural flow or stored water to offset depletion of Lower Snake River flows if needed for salmon migration purposes. The amount of water required to be released into the Snake River or a tributary, if needed for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this permit.

State of Idaho
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6. The right holder shall make full beneficial use of all surface water rights available to the right holder for irrigation of the lands authorized to be irrigated under this right. The right holder shall limit the diversion of ground water under this right to those times when the surface water supply is not available or the surface water supply is not reasonably sufficient to irrigate the place of use authorized under this right.
7. If the surface water right(s) appurtenant to the place of use is abandoned, forfeited, sold, transferred, leased or used on any other place of use, this right to divert ground water shall not be used without an approved transfer pursuant to Section 42-222, Idaho Code, or approval of the Department if a transfer is not required.
8. This right is limited to the irrigation of 198 acres within the authorized place of use in a single irrigation season.
9. This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 4.5 afa per acre at the field headgate for irrigation of the place of use.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this 21st day of June, 2013.



JOHN WESTRA, Western Regional Manager



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: www.idwr.idaho.gov

June 25, 2013

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Interim Director

VERNON H PECHT
18233 MALT RD
CALDWELL ID 83607-8901

RE: Permit No.63-33760

Permit Approval Notice

Dear Permit Holder:

The Department of Water Resources has issued the enclosed permit authorizing you to establish a new water right. Please be sure to thoroughly review the conditions of approval and remarks listed on your permit.

The permit is a PRELIMINARY ORDER issued by the Department pursuant to Section 67-5243, Idaho Code. It can and will become a final order without further action by the Department unless a party petitions for reconsideration or files an exception and/or brief within fourteen (14) days of the service date as described in the enclosed information sheet.

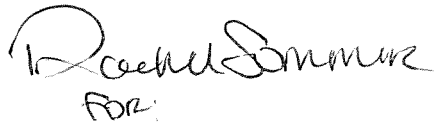
Enclosed is a form entitled 'Instructions for Proof of Beneficial Use.' Please read the instructions carefully since you must take further action to develop this permit into a licensed water right. Also enclosed is a form entitled 'Proof of Beneficial Use.' If your project is already completed, you should complete and submit this form immediately.

The right to drill a well is not a part of this permit to appropriate water. Beginning in July of 1987, a statute was enacted which requires a drilling permit for new well construction and deepening of existing wells. If the well(s) proposed for use under this water right permit were drilled or deepened after July 1, 1987, a separate drilling permit must be obtained from this Department. Please contact the Ground Water Protection Section located here at this office or our regional office nearest you.

Also, please note that water right owners are required to report any change of water right ownership and/or mailing address to the Department within 120 days of the change. Failure to report these changes could result in a \$100 late filing fee. Contact any office of the Department or visit the Department's homepage on the Internet to obtain the proper forms and instructions.

If you have any questions, please contact me at (208)334-2190.

Sincerely,



Rachel Sommers
FOR:

John Westra
Western Regional Manager

Enclosures

cc: ERO RESOURCES CORP

CERTIFICATE OF SERVICE

I hereby certify that on June 25, 2013 I mailed a true and correct copy, postage prepaid, of the foregoing PRELIMINARY ORDER(Approved Permit) to the persons listed below:

RE: WATER RIGHT NO. 63-33760

**VERNON H PECHT
18233 MALT RD
CALDWELL ID 83607-8901**

**ERO RESOURCES CORP
C/O NORM YOUNG
3314 GRACE ST
BOISE ID 83703**

A handwritten signature in black ink, reading "Rachel Sommer". The signature is written in a cursive style with a large, looping "R" and "S".

**Rachel Sommer
Administrative Assistant I**

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(To be used in connection with actions when a hearing was not held)

(Required by Rule of Procedure 730.02)

The accompanying order or approved document is a "Preliminary Order" issued by the department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action of the Department of Water Resources ("department") unless a party petitions for reconsideration, files an exception and brief, or requests a hearing as further described below:

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the department within fourteen (14) days of the service date of this order. **Note: the petition must be received by the department within this fourteen (14) day period.** The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after: (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding with the Director. Otherwise, this preliminary order will become a final order of the agency.

REQUEST FOR HEARING

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Director and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with IDAPA Rules 37.01.01302 and 37.01.01303 (Rules of Procedure 302 and 303).

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

Unless a different date is stated in a final order, the order is effective fourteen (14) days after its service date if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) The petition for reconsideration is disposed of; or
- (b) The petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.



RECEIVED

JUN 05 2013

WATER RESOURCES
WESTERN REGION

June 5, 2013

Steve Lester
Water Rights Supervisor
Western Region
Idaho Department of Water Resources
2735 Airport Way,
Boise, Idaho 83705-5082

Re: Application for permit No. 63-33760 (Vernon H. Pecht)

Dear Mr. Lester:

Mr. Pecht asked ERO Resources Corp to respond to your letter of April 30, 2013. As you know, he is seeking ground water to supplement the supply he receives from Wilder Irrigation District. The need for supplemental water is especially critical this year because Boise Project water is in shorter supply than expected when cropping commitments were made earlier this spring. Mr. Pecht's long-term crop rotation includes mint, sweet corn seed, onions and other high value crops that require water throughout the irrigation season to protect the substantial monetary and labor commitment inherent in producing these crops.

Your letter requests information about 1) the amount of water required for the project, 2) the availability of ground water to satisfy project needs, and 3) the potential for impact and injury to other water rights because of the proposed well location.

Responses to these questions are summarized in the next section with supporting information in the following sections. The source of the information is water right files, driller reports and published technical reports. ERO has not made a field review of the proposed project and has not field checked the information obtained from the records.

Summary:

- Question 1: What is the annual volume of supplemental ground water to be appropriated by Application for Permit No. 63-33760?
Response: The estimated annual volume of water to be diverted is about 350 af per year. The long-term average annual withdrawal will be less than 350 af per year.
- Question 2: Will the aquifer system provide an adequate annual volume at a rate sufficient water to satisfy Application for Permit No. 63-33760?
Response: Recent hydrologic studies indicate that aquifers in the Boise Valley have adequate un-appropriated water to satisfy Application for Permit No. 63-33760, drillers' reports for existing irrigation wells in the area indicate that an appropriately constructed well can obtain water at the requested rate and water levels in wells monitored in the area indicate that water levels are not declining.

Denver
1842 Clarkson St.
Denver, CO 80218
303.830.1188

Boise
3314 Grace St.
Boise, ID 83703
208.373.7983

Durango
1065 Main Ave., Ste. 200
Durango, CO 81301
970.422.2136

Western Slope
P.O. Box 932
161 South 2nd St.
Hotchkiss, CO 81419
970.872.3020

- Question 3: Demonstrate likely impacts to wells within about a one-mile radius from the proposed well and discuss potential injury to senior water rights associated with these wells.

Response: Estimates of draw down that would occur at the nearest wells, if the proposed well takes water from the same water bearing zones is estimated to be from 5 to 8 feet. These impacts can be avoided by either constructing a well with a depth of 50 to 120 feet to appropriate water from a relatively shallow gravel aquifer located above the water bearing zones typically taken by these domestic wells (if this aquifer is encountered when the well is constructed) or by constructing a deeper well cased and sealed to only take water from water-bearing zones located below and isolated from the zones relied upon by nearby domestic wells.

1) Quantity of Water to be Appropriated:

The proposed well will be located within the requested permissible place of use to supply water through the existing open ditch system for application to the fields so delivery losses will be minimal. The on-farm water use efficiency, including conveyance and field application losses, is estimated to be about 70 percent. This is based upon drip irrigation at 90 percent efficiency used on the 28-acre onion field, sprinkler irrigation at 75 percent efficiency for 40 acres of mint, and furrow irrigation at 60 percent efficiency (Ref.: "Guidelines for the Evaluation of Irrigation Diversion Rates," IDWR 1971, Page 8a) on the remaining 130 acres of mint and sweet corn seed. The estimated efficiency is consistent with an efficiency estimate calculated by comparing Boise Project's normal year allocation of 3.75 af per acre to the weighted average consumptive irrigation requirement of Mr. Pecht's 2013 crop rotation within the place of use for which water is requested this year (2.62 af per acre, see Table 1 appended to this letter).

The application seeks water to irrigate 198 acres within a 240-acre permissible place of use. The number of acres of each crop to be irrigated this year and the anticipated volume of water needed to supplement Boise Project water received through Wilder Irrigation District is summarized in Table 1 appended to this letter. This analysis estimates that a volume of about 345 af is required to replace the expected shortage in canal deliveries to satisfy the average consumptive irrigation requirement of the crops.

Another method of determining the required amount of supplemental water is to estimate the volume of water needed to finish the crops after termination of Boise Project water. If Boise Project water is available to about July 15 this year, the volume of water required for each month remaining in the irrigation season for the crop rotation listed in Table 1 is:

	CIR*
July	72 acre-feet
August	103
September	54
October	26
Total (July/October)	255 acre-feet

* Consumptive Irrigation Requirement based upon ET Idaho estimate of mean seasonal precipitation deficit from <http://data.kimberly.uidaho.edu/ETIdaho>.

Assuming 70 percent application efficiency, the volume of supplemental ground water required to finish the 2013 irrigation season is about 365 af. This estimate compares closely to the 345 af estimate from Table 1. For purposes of this letter report, the estimated amount of supplemental ground water required is rounded to 350 af for this year. Of this amount, about 250 af will be consumptively used, leaving about 100 af to return to the Boise River Basin water supply. The volume of supplemental ground water is likely greater this year than the long-term average diversion amount because water will only be diverted from the well when an adequate supply is not available from Wilder Irrigation District.

A diversion rate of 1450 gpm is needed to provide 72 af during the last half of July, the highest demand period for supplemental water, at an application efficiency of 70 percent. This is about 80 percent of the 1780 gpm diversion rate sought by Application for Permit No. 63-33760. However, the diversion rate actually required is larger than that calculated using monthly averages because the pump will not operate continuously (downtime required for maintenance, power outage, changing irrigation sets, etc.) and the irrigation requirement during the peak-use period exceeds the monthly average. Thus, the requested diversion rate is reasonably required.

2) Availability of Water.

The Boise River Basin (IDWR Administrative Basin 63) has un-appropriated water available to satisfy the application. The proposed well seeks to divert water from the aquifer system in Administrative Basin 63. Recent studies by the Idaho Department of Water Resources and cooperating agencies estimate that recharge to the Treasure Valley aquifer system is about 1 million af per year. A significant amount of ground water leaves the basin in the Boise River and as ground water underflow (Ref: "Water Budget for the Treasure Valley Aquifer System for the Years 1996 and 2000," IDWR 2004, page ii).

The aquifer system in Administrative Basin 63 is capable of yielding water at the rate sought in the application. A review of drillers' reports (summarized in Table 2 appended to this letter) constructed for irrigation purposes indicates that aquifers in the Caldwell area are capable of producing water at the rate sought in the application. Although the reported discharge is less than the rate sought by Mr. Pecht, the specific capacity reported for some of the wells indicates that the applied for rate can be obtained with a reasonable increase in draw down. For example, linear extrapolation of the reported test results for the wells drilled for Settle, House (SESE Sec 6) and Scroggins suggests that a diversion rate of 1780 gpm can be obtained with 60 feet, or less, of draw down in the producing well. The productivity reported for other wells is not as great as these three wells, but changes to the well construction (use of screens, gravel pack, etc.) and application of post-construction development procedures would result in increased water yield.

Ground water levels in the area are stable. Ground water level data available from IDWR's webpage (www.idwr.idaho.gov/hydro.online) were reviewed for wells within several miles of the proposed well site. This review determined that ground water levels in the area are stable and do not exhibit significant, continuing declines. Figure 1 (appended to this letter) includes hydrographs downloaded from Hydro.online for three wells within about 1 mile of the proposed well location.

3). Impact and Injury to other Rights.

Review of nearby domestic wells. As noted in your letter, the proposed well location is near to a number of domestic wells. Drillers' reports on file for wells near the proposed location are summarized in Table 3 appended to this letter. The list includes wells for which drillers' reports are available within about a one-mile radius of the proposed well site, but may not include some that are approaching the one-mile boundary. However, the list does include the wells nearest to the proposed well location most likely to be affected. The domestic wells are typically constructed to exclude the first water encountered in gravel and sand zones identified as the well is constructed and to take water from a layer or layers of fine sand at depths ranging from typically 150 to 250 feet below land surface. The most common method of constructing the wells is to terminate the drive shoe attached to an un-perforated casing, extending from above land surface, in a clay layer above the first water-bearing zone supplying water to the well.

Impacts to the domestic wells can be mitigated by constructing the proposed well to take ground water from either a) the gravel zone above the zones typically appropriated by the domestic wells, or b) sand layers below those typically appropriated by the domestic wells. The first option may not provide sufficient water to satisfy Application for Permit No. 63-33760 because the gravel layer is not always reported on the driller's reports and is not always reported to contain water when it is encountered. However, some of the irrigation wells listed in Table 2 take water from this zone and because of the favorable aquifer characteristics, the cone of depression that would result from pumping the well proposed in Application for Permit No. 63-33760 would be localized. Other wells have been constructed in the Caldwell area using the second option of casing and sealing out the zones of water typically used for domestic wells. For example, a well constructed for Sienna Hills located 6 to 8 miles from the proposed well location but in similar aquifer conditions as evidenced by a comparison of lithology in drillers' reports produced about 1400 gpm with about 60 feet of draw down (See Figure 2 appended to this letter for a well design schematic for the Sienna Hills well). This well is constructed to exclude water from zones above 330 feet.

Pumping impacts on nearby wells. Figures 3 and 4 appended to this letter show estimates of the draw down that can be expected in wells located at various distances from the proposed well. These estimates are for the two alternatives described above, i.e., Alternative 1 is for a well constructed to take water only from the gravel aquifer located above the water zones appropriated by most of the nearby domestic wells. Alternative 2 is for a well constructed to take water only from sand zones below the zones used by most of the nearby domestic wells. The estimates were made using **I·calcul**⁸ a tool (Ref: www.I·calcul.com) that solves the Theis Equation. The validity of the calculations from this tool was checked using a similar tool available from State of Utah Division of Water Rights (Ref: www.waterrights.utah.gov/wellinfo/theis).

The Theis equation estimates the draw down that can be expected at various distances from the pumped well for various pumping rates and pumping periods for a confined aquifer using a number of assumptions about the extent and nature of the aquifer and the construction of the well. Because these assumptions may not be fully satisfied, the draw downs shown in Figures 3 and 4 are only estimates.

Alternative 1. This alternative assumes that the proposed well is completed in a saturated zone of coarse sand and gravel above the water bearing zones tapped by the domestic wells in the area. Although not shown on every driller's report and not always

saturated if shown, a coarse sand and gravel aquifer is often found within the first 100 ft below land surface. The transmissivity of this aquifer is about 90,000 gal/day/ft (based upon the pumping tests reported for the Settle and Scroggins wells, see Table 2) and a storativity of 0.15. Pumping of the proposed well at 1780 gpm for 45 days during the high irrigation demand period during late July and August after Boise Project water is no longer available is estimated to cause a decline of about 5 feet at a distance of 900 feet from the pumped well. Pumping a volume of 350 af at a rate of 880 gpm (the continuous rate needed to divert 350 af during for 105-day period of late July through October) is estimated to cause a decline of less than 4 feet in a well 900 feet away producing from the same water bearing zones.

The driller's report for the nearest well (Arriaga) shows that the water producing zone is a sand layer at approximately 200 feet below land surface with un-perforated well casing extending to 198 feet to an overlying 10-ft thick clay layer. The estimated amount of draw down will not impact this well because it takes water from a water-bearing zone with extensive separation from the shallow gravel zone the applicant would use under this alternative. Based upon Table 3, this is the case for all of the nearby domestic wells except the well drilled for Kratzberg that does tap a shallow gravel aquifer. The estimated draw down at the end of the irrigation season at the Kratzberg well, about 1700 ft away from the proposed well, is about 3 feet. The driller's report for the Kratzberg well documents an adequate depth of water in the well to allow the well to continue to function with 3 feet of decline.

Alternative 2. This alternative assumes that the well is completed in a deeper aquifer below the water bearing zones usually tapped by the local domestic wells. This aquifer is characterized by layers of fine sand separated by layers of clay similar to that developed for the Sienna Hills well. The aquifer characteristics assumed for this well are transmissivity of 40,000 gal per day per foot and storativity of 0.15 based upon testing of the Sienna Hills well after it was developed using a jetting procedure. Pumping of the proposed well for 45 days during late July and August at 1780 gpm will cause an estimated draw down in the same aquifer zone as the proposed well of about 8 ft at a distance of 900 ft. Diversion of 350 af at an average pumping rate of 880 gpm for 105 days during the late July through October period results in an estimated draw down of about 6 ft at a distance of 900 ft from the pumped well.

Just as in Alternative 1, the draw down estimates overstate the draw down that will occur in the existing domestic well located 900 ft to the west of the proposed well location because of the separation of the water bearing zones. With appropriate casing and sealing procedures, the proposed well will not injure the senior water rights associated with the existing wells in the area.

The two alternatives are presented in this letter so that IDWR has information during its review to perhaps approve the application without the delay of working through successive submittals of information. Mr. Pecht's preference is the shallower well in the upper gravel aquifer, but this option is not certain to supply the needed water so that the deeper well alternative may be the only choice. Note also that the analysis of the draw down impacts assumes that the proposed well is located at the north end of the 40-acre parcel identified as the place of use on Application for Permit No. 63-33760 (i.e., SWSE 36 T4N R4W). Again, this was done to expedite data submittal for this location that balances the distance of the proposed well from existing wells. While this location is an option, the applicant will locate the well at the south end of this parcel nearer the

electric power line if IDWR issues the permit with casing and sealing requirements to separate the water producing zone used by the proposed well from those used by the nearest domestic wells.

Please contact me or David Shaw at ERO (208-373-7983) if additional information is needed to expedite approval of Application for Permit 63-33760.

Sincerely,

A handwritten signature in black ink, appearing to read 'Norm Young', with a large, stylized flourish at the end.

Norm Young, P.E.

Appended information:

Table 1. Supplemental Ground Water Needed for 2013 Season

Table 2. Summary of Drillers' Reports on File for Irrigation Wells in the Area.

Table 3. Summary of Drillers' Reports on File for Domestic Wells in the Area.

Figure 1. Hydrographs for wells near the proposed well location.

Figure 2. Sienna Hills well construction.

Figure 3. Draw down estimates for a well completed in the shallow gravel aquifer.

Figure 4. Draw down estimates for a well completed in the deeper sand aquifer.

cc. Vernon Pecht

Table 1. Supplemental Ground Water Needed for 2013 Season

Crop	2013 acres	CIR ¹ Acre Feet per Acre	CIR for acreage in 2013 Acre Feet	Volume required at 70% efficiency	Volume from Wilder ID ² Acre Feet	Supplemental Diversion Volume Required in 2013 Acre Feet
Mint	100	3.24	324	463	200	263
Sweet Corn Seed ³	70	1.71	120	171	140	31
Onions	28	2.67	75	107	56	51
Total	198	2.62 (ave)	519	741	396	345

1. Consumptive Irrigation Requirement based upon ET Idaho estimate of mean seasonal precipitation deficit from <http://data.kimberly.uidaho.edu/ETIdaho>.
2. Boise Project Board of Control April 22, 2013 allotment of 1 acre-foot per acre delivery to farm head gate from <http://boiseproject.net> plus carry-over held by Mr. Pecht.
3. CIR for late-planted sweet corn is used for sweet corn seed.

Table 2. Summary of Drillers' Reports on File for Irrigation Wells in the Area.

Owner on Driller's Report & Year Drilled	Location ¼ ¼, Section, Township and Range	Approx. Distance from Req. Well (Miles)	Depth & Diam	Static Water Level (Feet)	Primary Water Zone Material and Depth	Construction Method/ Details	GPM/ Drawdown/ Specific Capacity/ Est. Trans- missivity ¹
George Weitz 1955	SESE Sec. 36 4N 4W	½ mile	186 ft/ 12 in	104	Sand 90 to 140ft	Cable tool Cased to 156 feet perf.	420 gpm. 44 ft (?) 10 gpm/ft 14,000 gal/day/ft
J. M. House 1958	NESW Sec. 6 3N 3W	1 mile	253 ft 12 in	--	Sand 235 to 246 ft	Cable tool Cased to 228 ft not perforated	500 gpm Drawdown not listed
J. M. House 1958	NESE Sec. 36 4N 4W	½ mile	App. 250 ft/ 12 in	100	Sand, 235 to 246 ft	Cable tool Cased to 227 ft	450 gpm/ 55 ft/ 8 gpm/ft 12,000 gal/day/ft
J. M. House 1958	SESE Sec.6 3N 3W	1 ½ mile	255 ft/ 12 in	95	Sand 222 to 237 ft	Cable tool Cased to 220 ft, perf. in prod. zone	740 gpm/ 34 ft/ 22 gpm/ft 32,000 gal/day/ft
Tom Settle 1966	SWNW Sec. 36 4N 4W	¾ mile	195 ft/ 12 in	70	Sand, Various layers	Cable tool Cased to 185, unsealed, unperforated	650 gpm/ 10 ft 65 gpm/ft 97,500 gal/day/ft
Dirk Johnson 1991 deepened 2001	SESE Sec. 1 3N 4W	1 mile	160 ft 10 in	28	Sand and Gravel 60 to 120 ft Sand layers to 160 ft	Air rotary Cased to 140 ft, sealed to 20 ft, perforated 88 to 118 ft	500 gpm Drawdown not reported.
Schuyler Enochs	SENE Sec. 36	½ mile	226 ft 10 in	114	Sand layers 190	Air rotary Cased to 178 ft, sealed to 20	400 gpm Drawdown ERO Resources Corporation

1991	4N 4W				to 222 ft	ft, not perforated	not reported
Jerome Scroggin 1992	SENW Sec. 2 3N 4W	1 ¼ mile	330 ft 28 in	35	Gravel & sand layers 70 to 300 ft	Rotary Casing with screen intervals to 300 ft & gravel pack	600 gpm 10 ft 60 gpm./ft 90,000 gal/day/ft
Delbert Schmitt 1994	SWNE Sec.6 3N 3W	1 mile	340 ft 10 in to 8 in	100	Sand layers 170 to 340 ft	Air rotary Cased to 333 ft, sealed to 18 ft not perforated (?)	300 gpm 40 ft 7.5 gpm/ft 11,000 gal/day/ft
Charles Siewert 1994	NWNW Sec. 6 3N 3W	¾ mile	344 ft 20 in	35	Sand layers 40 to 340 ft	Rotary 10 in casing/screen intervals to 335 ft & gravel pack	Not tested
Charles Siewert 2011	NWSW Sec. 6 3N 3W	1 mile	302 ft 12 in	109	Sand layers 120 to 300 ft	Rotary 8 in casing/screen intervals to 300 ft & sand pack	300 gpm 180 ft (?) 2 gpm/ft 2500 gal/day/ft

1. Transmissivity estimated by multiplying specific capacity by 200 (Ref. Ground Water Handbook, Keith E. Anderson, National Ground Water Association, 1993, Page 307. Units converted by multiplying by 7.5 gallon per cubic foot.

Table 3. Summary of Drillers' Reports on File for Domestic Wells in the Area.

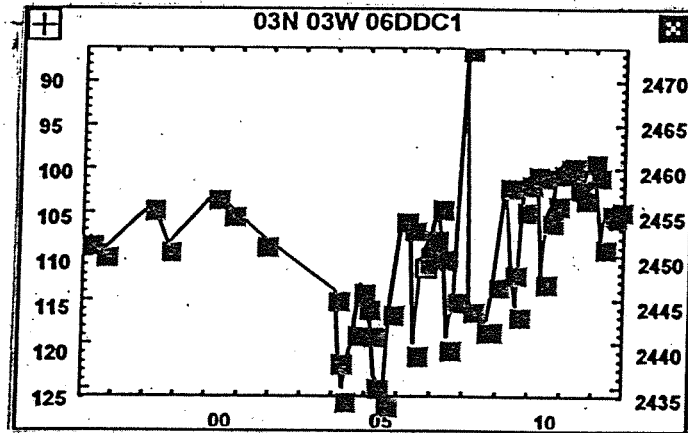
Owner on Driller's Report & Year Drilled	Location $\frac{1}{4}$ $\frac{1}{4}$, Section, Township and Range	Approx. Distance from Req. Well (Feet)	Depth (Feet)	Static Water Level (Feet)	Primary Water Zone Material and Depth	Construction Details
Kratzberg 1980	SWNE Sec. 36 4N 4W	1700	65	22	Sand & Gravel 48 to 65 ft	Cased to 63 ft Not perforated. 20 ft seal
Tucker 1997	SENE Sec. 36 4N 4W	1800	144	40	Sand & Gravel 135 to 144 ft	Cased to 134 ft. Not perforated 18 ft seal
Enochs 2001	NENW Sec.36	2800	865	98	Sand layer at 865 ft	Cased to 854 ft. Not perforated. 14 ft seal.
Settle 1994	SWNW Sec. 36	2800	210	110	Sand layer at 210 ft	Cased to 206 ft. Not perforated. 23 ft seal.
Hungate 1996	SWNW Sec.36	3200	429	120	Sand layer at 429 ft	Cased to 424 ft. Not perforated? 20 ft seal.
Armenta 1974	NWSW Sec. 36	1500	158	78	Sand layer 157 to 158 ft	Cased to 153 ft. Not perforated. 20 ft seal.
Hughes 1997	NESW Sec. 36	1200	186	80	Sand layer 186 ft	Cased to 181 ft. Not perforated. 18 ft seal.
Banda 1993	NESW Sec. 36	1300	213	110	Sand layer at 210 to	Cased to 207 ft. Not perforated.

					213 ft	20 ft seal.
Pfost 1996	NESW Sec. 36	1500	190	111	Sand layer 190 ft	Cased to 176 ft. Not perforated. 23 ft seal.
Pearson 1991	SESW Sec. 36	1300 ft	165	55	Sand layer 165 ft	Cased to 153 ft. Not perforated. 18 ft seal
Smith 1996	NWSE Sec. 36	1200 ft	585	105	Sand layer 585 ft	Cased to 564 ft. Not perforated. 24 ft seal
Arriaga 2000	NWSE Sec. 36	900 ft	203	85	Sand layer 193 to 203 ft	Cased to 198 ft. Not perforated. 18 ft seal
Starr 1971	SESE Sec. 36	1500	121	65	Sand layer 121 ft	Cased to 120 ft. Not perforated. 18 ft seal
Hibbard 2000	SESE Sec. 36	1300	215	120	Sand layer 207 to 215 ft	Cased to 198 ft. Not perforated. 18 ft seal
Walker 1998	NENE Sec. 1	2300	180	96	Sand layers 165 to 180 ft	Cased to 158 ft. Not perforated. 18 ft seal
Upton 1999	NENE Sec. 1	2100	203	80	Sand layer 190 to 203 ft	Cased to 176 ft. Not perforated. 20 ft seal
Hibbard Constr. 2003	NENE Sec. 1	1800	211	91	Sand layer 199 to 211 ft	Cased to 197 ft. Not perforated. 18 ft seal
Whitaker 2007	NENE Sec. 1	1700	326	144	Sand layer 312 to 326 ft	Cased to 305 ft. Screen 311 to 326 ft 18 ft seal
Paynter	NENE	1500	263	96	Sand layer 258	Cased to 256 ft. Screen

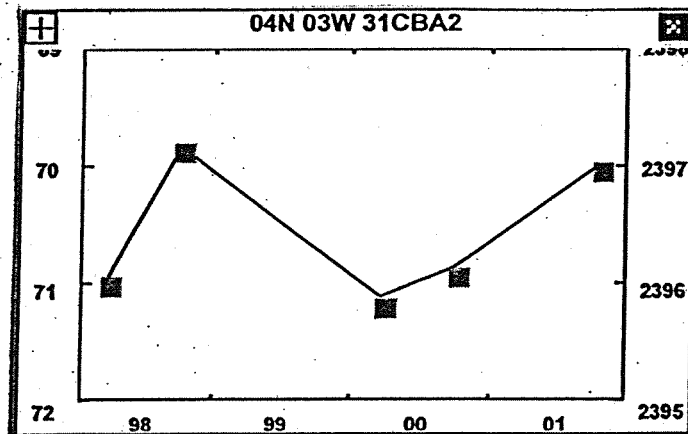
1997	Sec. 1				to 263 ft	258 to 263 18 ft seal
Cotner 2001	NWNE Sec. 1	1300	147	70	Sand layer at 147 ft	Cased to 136 ft. Not perforated. 18 ft seal
Harris 1974	NENW Sec. 1	1800	114	23	Sand layer at 114 ft	Cased to 113 ft. Not perforated. 18 ft seal

Figure 1. Hydrographs for wells near the proposed well location.

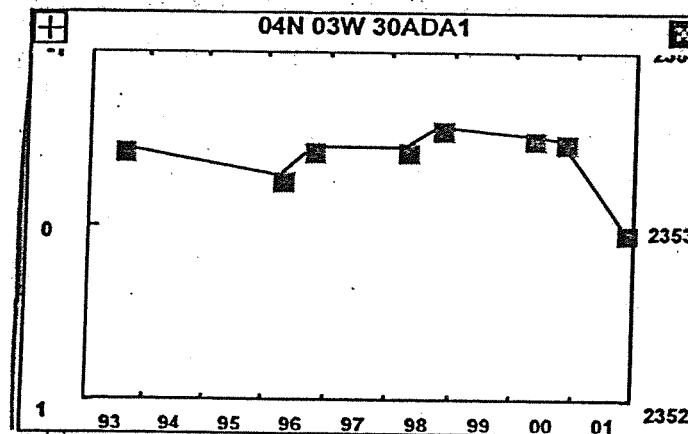
Well No. 03N 03W 06DDC1. A 255 ft irrigation well located approximately 1 mile Southeast of the proposed location of the Pecht well.



Well No. 04N 03W 31CBA2. A domestic well located approximately ½ mile East of the proposed location of the Pecht well.



Well No. 04N 03W 30 ADA1. A 192 ft domestic well located approximately 2 miles Northeast of the proposed location of the Pecht well.



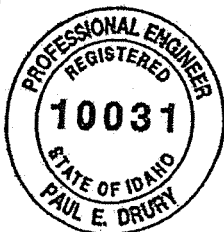
Yellowish Brown



Grayish Olive



Well Design



ERO

As-Constructed

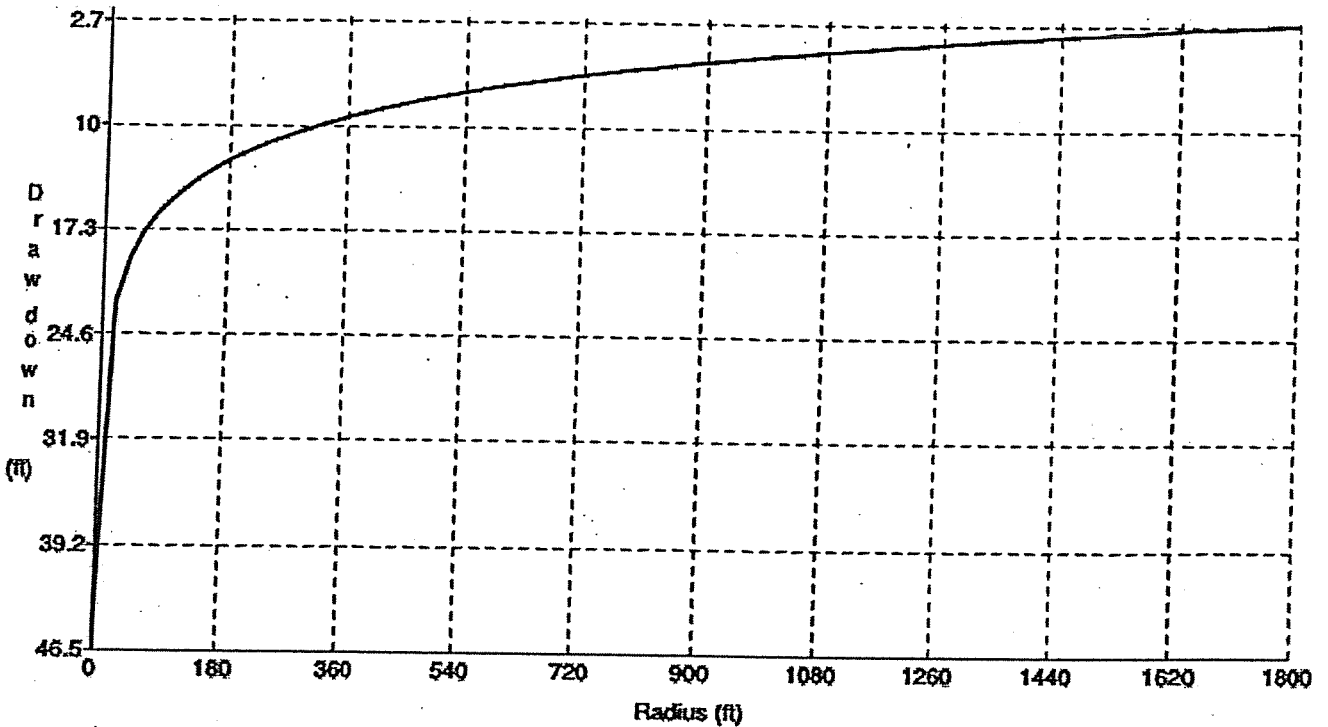
Scale: NTS

Sienna Hills
Irrigation Well

Produced for:
Howell-Murdoch
Development Inc.
File: 3150
February 19, 2008

ERO
Resources
Corporation

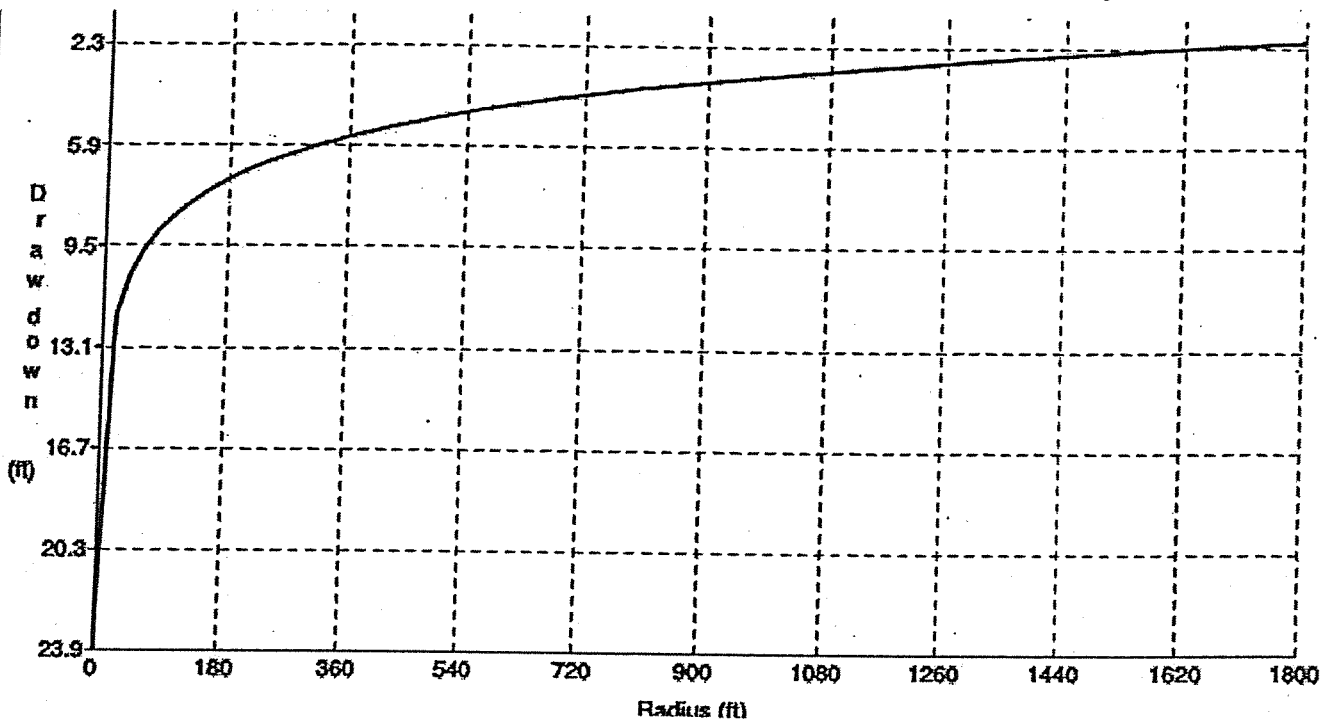
Figure 3. Draw down estimates for a well completed in the shallow gravel aquifer.



Assumptions: Transmissivity: 90,000 gal/day/ft
Pumpage Rate: 1780 gpm

S: 0.15

Pumping Period: 45 days

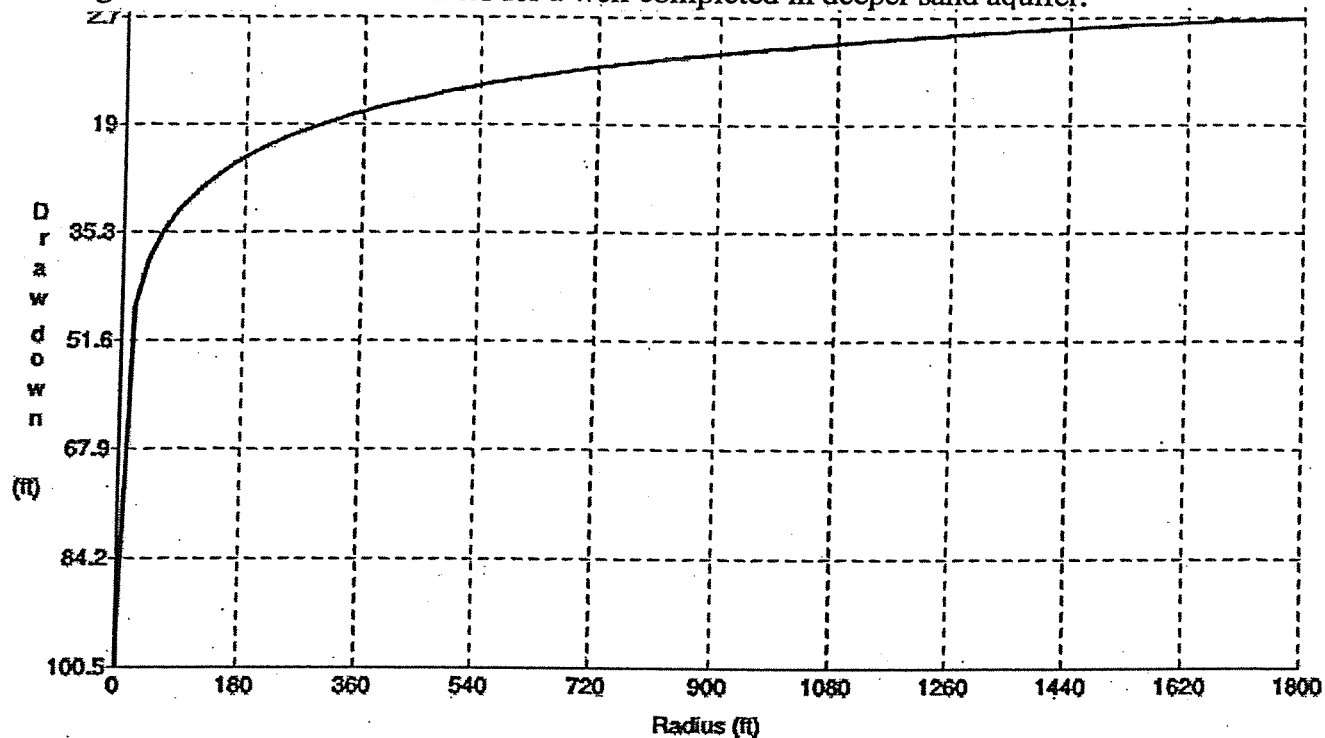


Assumptions: Transmissivity: 90,000 gal/day/ft
Pumpage Rate: 880 gpm

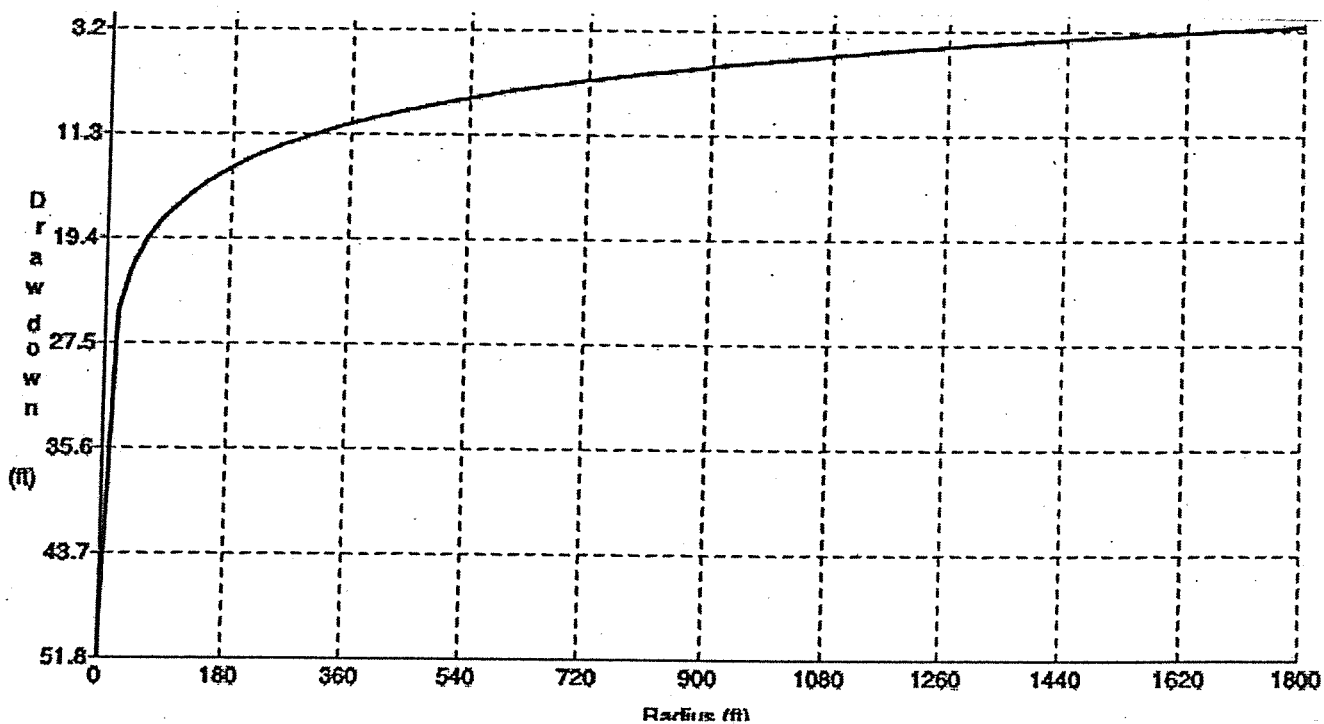
S: 0.15

Pumping Period: 105 days

Figure 4. Draw down estimates for a well completed in deeper sand aquifer.



Assumptions: Transmissivity: 40,000 gal/day/ft S: 0.15
Pumpage Rate: 1780 gpm Pumping Period: 45 days



Assumptions: Transmissivity: 40,000 gal/day/ft S: 0.15
Pumpage Rate: 880 gpm Pumping Period: 105 days

29512 888416

1 IDAHO DEPT. OF WATER RESOURCES

WESTERN REGION
2735 AIRPORT WAY
BOISE ID 83705

AFFIDAVIT OF PUBLICATION
STATE OF IDAHO)

County of Canyon)

SS.

Leann Nobella
of Nampa, Canyon County, Idaho, being
first duly sworn, deposes and says:

RECEIVED

MAY 28 2013

WATER RESOURCES
WESTERN REGION

1. That I am a citizen of the United States, and at all times hereinafter mentioned was over the age of eighteen years, and not a party to the above entitled action.
2. That I am the Principle Clerk of the Idaho Press-Tribune, a daily newspaper published in the City of Nampa, in the County of Canyon, State of Idaho; that the said newspaper is in general circulation in the said County of Canyon, and in the vicinity of Nampa and Caldwell, and has been uninterruptedly published in said County during a period of seventy-eight consecutive weeks prior to the first publication of this notice, a copy of which is hereto attached.
3. That the notice, of which the annexed is a printed copy, was published in said newspaper 2 times(s) in the regular and entire issue of said paper, and was printed in the newspaper proper, and not in a supplement.

That said notice was published the following:
05/16/2013 05/23/2013

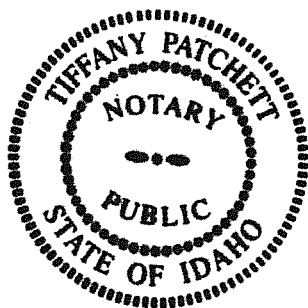
Leann Nobella

STATE OF IDAHO)

County of Canyon)

On this 23rd day of May in the year of 2013 before me a Notary Public, personally appeared. Leann Nobella, known or identified to me to be the person whose name is subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledge to me that he/she executed the same.

[Signature]
Notary Public for Idaho
Residing at Canyon County
My Commission expires 09/12/2018



LEGAL NOTICE

The following applications have been filed to appropriate the public waters of the State of Idaho:

63-33750

CONSTANCE SCOTT
HAROLD D SCOTT
4101 ALMA LN
NAMPA, ID 83686
Point of Diversion SWSE S12 T02N R02W CANYON
County Source GROUND WATER
Use: IRRIGATION 03/01 to 11/15 0.92 CFS
Total Diversion: 0.92 CFS
Date Filed: 3/8/2013
Place Of Use: IRRIGATION
T02N R02W S12 NWSE SWSE
Total Acres: 46
Water bearing zone to be appropriated is from 20 to 100 feet.

63-33758

PATTY MUSSELL
MIKE MUSSELL
PO BOX 3304
NAMPA, ID 83653
Point of Diversion SWNE S13 T02N R04W CANYON
County Source GROUND WATER
Use: IRRIGATION 03/01 to 11/15 0.72 CFS
Total Diversion: 0.72 CFS
Date Filed: 4/12/2013
Place Of Use: IRRIGATION
T02N R04W S13 SWNE
Total Acres: 36
Water bearing zone to be appropriated is from 50 to 400 feet.

63-33759

ROWN FARMS LLC
913 W RIVER STE 110
BOISE, ID 83702
Points of Diversion SWNE L2(NWNE) S2 T03N R04W
CANYON County Source GROUND WATER
Use: IRRIGATION 03/01 to 11/15 1.72 CFS
Total Diversion: 1.72 CFS
Date Filed: 4/12/2013
Place Of Use: IRRIGATION
T03N R04W S2 L2(NWNE) SWNE
Total Acres: 86
Water bearing zone to be appropriated is from 600 to 800 feet.

63-33760

VERNON H PECHT
18233 MALT RD
CALDWELL, ID 83607-8901
Point of Diversion SWSE S36 T04N R04W CANYON
County Source GROUND WATER
Use: IRRIGATION 03/01 to 11/15 3.96 CFS
Total Diversion: 3.96 CFS
Date Filed: 4/10/2013
Place Of Use: IRRIGATION
T04N R03W S31 NESW NWSW L4(SWSW) SESW
T04N R04W S36 NESE NWSE SWSE
Total Acres: 240
Water bearing zone to be appropriated is from 50 to 200 feet
for a proposed supplemental well.

63-33763

KARCHER FARM LLC
5001 FIFESHIRE PL N
BOISE, ID 83713
Point of Diversion SENE S17 T03N R03W CANYON
County Source GROUND WATER
Use: IRRIGATION 03/01 to 11/15 1.64 CFS
Total Diversion: 1.64 CFS
Date Filed: 4/22/2013
Place Of Use: IRRIGATION
T03N R03W S17 NENE SENE NESE
Total Acres: 82
Water bearing zone to be appropriated is from 100 to 400 feet.

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MAY 28 2013

WATER RESOURCES
WESTERN REGION

63-33768

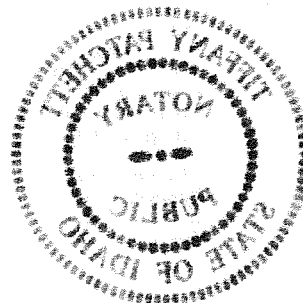
JEROME G WANDERS
15051 KINGS ROW DR
CALDWELL, ID 83607
Point of Diversion NESE S13 T03N R04W CANYON
County Source GROUND WATER
Use: IRRIGATION 03/01 to 11/15 2.9 CFS
Total Diversion: 2.9 CFS
Date Filed: 5/1/2013
Place Of Use: IRRIGATION
T03N R04W S13 ALL SE
Total Acres: 145
Water bearing zone to be appropriated for supplemental
irrigation is from 100 to 400 feet.

Permits will be subject to all prior water rights. For additional information concerning the property location, contact Western Region office at (208) 334-2190; or for a full description of the right(s), please see www.idwr.idaho.gov/apps/ExtSearch/WRFiling.asp. Protests may be submitted based on the criteria of Idaho Code § 42-203A. Any protest against the approval of this application must be filed with the Director, Dept. of Water Resources, Western Region, 2735 Airport Way, Boise ID 83705 together with a protest fee of \$25.00 for each application on or before 6/3/2013. The protestant must also send a copy of the protest to the applicant.

GARY SPACKMAN, Director

May 16, 23, 2013

888416



OK
6-10-13
RS