

# Application for a Permit to Use Groundwater



Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem, Oregon 97301-1266  
503-986-0900  
www.oregon.gov/OWRD

## SECTION 1: APPLICANT INFORMATION AND SIGNATURE

### Applicant

NAME COLAHAN ENTERPRISES, INC./ ERIN DOUGLAS			PHONE (HM) 541-943-3280	
PHONE (WK)		CELL 541-410-4968		FAX
ADDRESS 45190 HWY 31				
CITY PAISLEY	STATE OR	ZIP 97636	E-MAIL* lizzymongo@hotmail.com	

### Organization

NAME COLAHAN ENTERPRISES, INC. /ERIN DOUGLAS			PHONE 541-943-3280		FAX
ADDRESS 45190 Hwy 31				CELL 541-410-4968	
CITY PAISLEY	STATE OR	ZIP 97636	E-MAIL* lizzymongo@hotmail.com		

### Agent – The agent is authorized to represent the applicant in all matters relating to this application.

AGENT / BUSINESS NAME JIM NEWTON/CASCADE GEOENGINEERING, LLC			PHONE (360) 907-4162		FAX
ADDRESS 21145 SCOTTSDALE DRIVE				CELL	
CITY BEND	STATE OR	ZIP 97701	E-MAIL* NEWTONJIM@HOTMAIL.COM		

Note: Attach multiple copies as needed

\* By providing an e-mail address, consent is given to receive all correspondence from the Department electronically. (Paper copies of the proposed and final order documents will also be mailed.)

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### By my signature below I confirm that I understand:

- I am asking to use water specifically as described in this application.
- Evaluation of this application will be based on information provided in the application.
- I cannot use water legally until the Water Resources Department issues a permit.
- Oregon law requires that a permit be issued before beginning construction of any proposed well, unless the use is exempt. Acceptance of this application does not guarantee a permit will be issued.
- If I get a permit, I must not waste water.
- If development of the water use is not according to the terms of the permit, the permit can be cancelled.
- The water use must be compatible with local comprehensive land-use plans.
- Even if the Department issues a permit, I may have to stop using water to allow senior water-right holders to get water to which they are entitled.

**I (we) affirm that the information contained in this application is true and accurate.**

Applicant Signature

Print Name and Title if applicable

Date

Applicant Signature

Print Name and Title if applicable

Date

## SECTION 2: PROPERTY OWNERSHIP

Please indicate if you own all the lands associated with the project from which the water is to be diverted, conveyed, and used.

- YES, there are no encumbrances.
- YES, the land is encumbered by easements, rights of way, roads or other encumbrances.
- NO, I have a recorded easement or written authorization permitting access.
- NO, I do not currently have written authorization or easement permitting access.
- NO, written authorization or an easement is not necessary, because the only affected lands I do not own are state-owned submersible lands, and this application is for irrigation and/or domestic use only (ORS 274.040).
- NO, because water is to be diverted, conveyed, and/or used only on federal lands.

**Affected Landowners:** List the names and mailing addresses of all owners of any lands that are not owned by the applicant and that are crossed by the proposed ditch, canal or other work, even if the applicant has obtained written authorization or an easement from the owner. *(Attach additional sheets if necessary).*

**Legal Description:** You must provide the legal description of: 1. The property from which the water is to be diverted, 2. Any property crossed by the proposed ditch, canal or other work, and 3. Any property on which the water is to be used as depicted on the map.

Lake County Tax Map T33S, R18E, WM, Tax Lots 203, 801, 802, and 1300

## SECTION 3: WELL DEVELOPMENT

WELL NO.	NAME OF NEAREST SURFACE WATER	IF LESS THAN 1 MILE:	
		DISTANCE TO NEAREST SURFACE WATER	ELEVATION CHANGE BETWEEN NEAREST SURFACE WATER AND WELL HEAD
Well 1	Chewaucan River	1,700 FT	80 FT
SVE-1	Chewaucan River	1,900 FT	70 FT
SVE-2	Chewaucan River	800 FT	70 FT
LITTLE HOT WELL	Chewaucan River	800 FT	70 FT

Please provide any information for your existing or proposed well(s) that you believe may be helpful in evaluating your application. For existing wells, describe any previous alteration(s) or repair(s) not documented in the attached well log or other materials *(attach additional sheets if necessary).*

See Attached Well Logs

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For Department Use: App. Number: \_\_\_\_\_

**SECTION 3: WELL DEVELOPMENT, continued**

Total maximum rate requested: **745 GPM\*** (each well will be evaluated at the maximum rate unless you indicate well-specific rates and annual volumes in the table below).

\*This rate is intended to be supplemental to the existing authorized rate of 1,755 gpm.

The table below must be completed for each source to be evaluated or the application will be returned. If this is an existing well, the information may be found on the applicable well log. *(If a well log is available, please submit it in addition to completing the table.)* If this is a proposed well, or well-modification, consider consulting with a licensed well driller, geologist, or certified water right examiner to obtain the necessary information.

OWNER'S WELL NAME OR NO.	PROPOSED	EXISTING	WELL ID (WELL TAG) NO.* OR WELL LOG ID**	FLOWING ARTESIAN	CASING DIAMETER	CASING INTERVALS (IN FEET)	PERFORATED OR SCREENED INTERVALS (IN FEET)	SEAL INTERVALS (IN FEET)	MOST RECENT STATIC WATER LEVEL & DATE (IN FEET)	PROPOSED USE			
										SOURCE AQUIFER***	TOTAL WELL DEPTH	WELL-SPECIFIC RATE (GPM)	ANNUAL VOLUME (ACRE-FEET)
WELL 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LAKE1627	<input type="checkbox"/>	16"	0-22	N/A	0-21	122		983		
WELL 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LAKE4448	<input type="checkbox"/>	8"	LINER INSTALLED 0 TO 770	476 – 545; 570 758	SAME	145		983		
SVE-1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LAKE52530	<input type="checkbox"/>	13 3/8"	0-900	not reported	0-900	not reported		1,360		
SVE-2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LAKE 52529	<input type="checkbox"/>	13 3/8"	0-495	not reported	0-495	not reported		1,260		
Little Hot Well	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LAKE1628	<input type="checkbox"/>	16"	0-270	100-240	0-22	83		315		
Little Hot Well	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LAKE 1626	<input type="checkbox"/>	8"	+2-300	N/A	SAME	120	RECEIVED	432		
Little Hot Well	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LAKE52582	<input type="checkbox"/>	UNCHANGED		N/A	0-23	not reported	NOV 23 2020	432		
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>						OWRD			

\* Licensed drillers are required to attach a Department-supplied Well Tag, with a unique Well ID or Well Tag Number to all new or newly altered wells. Landowners can request a Well ID for existing wells that do not have one. The Well ID is intended to serve as a unique identification number for each well.

\*\* A well log ID (e.g. MARI 1234) is assigned by the Department to each log in the agency's well log database. A separate well log is required for each subsequent alteration of the well.

\*\*\* Source aquifer examples: Troutdale Formation, gravel and sand, alluvium, basalt, bedrock, etc.

**SECTION 4: SENSITIVE, THREATENED OR ENDANGERED FISH SPECIES PUBLIC INTEREST INFORMATION**

This information must be provided for your application to be accepted as complete. The Water Resources Department will determine whether the proposed use will impair or be detrimental to the public interest with regard to sensitive, threatened or endangered fish species if your proposed groundwater use is determined to have the potential for substantial interference with nearby surface waters.

To answer the following questions, use the map provided in [Attachment 3](#) or the link below to determine whether the proposed point of appropriation (POA) is located in an area where the Upper Columbia, the Lower Columbia, and/or the Statewide public interest rules apply.

For more detailed information, click on the following link and enter the TRSQQ or the Lat/Long of a POA and click on "Submit" to retrieve a report that will show which section, if any, of the rules apply:

[https://apps.wrd.state.or.us/apps/misc/lkp\\_trsqg\\_features/](https://apps.wrd.state.or.us/apps/misc/lkp_trsqg_features/)

If you need help to determine in which area the proposed POA is located, please call the customer service desk at (503) 986-0801.

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**Upper Columbia - OAR 690-033-0115 thru -0130**

Is the well or proposed well located in an area where the Upper Columbia Rules apply?

Yes  No

If yes, you are notified that the Water Resources Department will consult with numerous federal, state, local and tribal governmental entities so it may determine whether the proposed use is consistent with the "Columbia River Basin Fish and Wildlife Program" adopted by the Northwest Power Planning Council in 1994 for the protection and recovery of listed fish species. The application may be denied, heavily conditioned, or if appropriate, mitigation for impacts may be needed to obtain approval for the proposed use.

If yes, and if the Department determines that proposed groundwater use has the potential for substantial interference with nearby surface waters:

- I understand that the permit, if issued, will not allow use during the time period April 15 to September 30, except as provided in OAR 690-033-0140.
- I understand that the Department of Environmental Quality will review my application to determine if the proposed use complies with existing state and federal water quality standards.
- I understand that I will install and maintain water use measurement and recording devices as required by the Water Resources Department, and comply with recording and reporting permit condition requirements.

**Lower Columbia - OAR 690-033-0220 thru -0230**

Is the well or proposed well located in an area where the Lower Columbia rules apply?

Yes  No

If yes, and the proposed groundwater use is determined to have the potential for substantial interference with nearby surface waters you are notified that the Water Resources Department will determine, by reviewing recovery plans, the Columbia River Basin Fish and Wildlife Program, and regional restoration programs applicable to threatened or endangered fish species, in coordination with state and federal agencies, as

appropriate, whether the proposed use is detrimental to the protection or recovery of a threatened or endangered fish species and whether the use can be conditioned or mitigated to avoid the detriment.

If a permit is issued, it will likely contain conditions to ensure the water use complies with existing state and federal water quality standards; and water use measurement, recording and reporting required by the Water Resources Department. The application may be denied, or if appropriate, mitigation for impacts may be needed to obtain approval of the proposed use.

If yes, you will be required to provide the following information, if applicable.

Yes  No The proposed use is for more than one cubic foot per second (448.8 gpm) and is not subject to the requirements of OAR 690, Division 86 (Water Management and Conservation Plans).

If yes, provide a description of the measures to be taken to assure reasonably efficient water use:

\_\_\_\_\_

**Statewide - OAR 690-033-0330 thru -0340**

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Is the well or proposed well located in an area where the Statewide rules apply?

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Yes  No

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If yes, and the proposed groundwater use is determined to have the potential for substantial interference with nearby surface waters you are notified that the Water Resources Department will determine whether the proposed use will occur in an area where endangered, threatened or sensitive fish species are located. If so, the Water Resources Department, Department of Fish and Wildlife, Department of Environmental Quality, and the Department of Agriculture will recommend conditions required to achieve "no loss of essential habitat of threatened and endangered (T&E) fish species," or "no net loss of essential habitat of sensitive (S) fish species." If conditions cannot be identified that meet the standards of no loss of essential T E fish habitat or no net loss of essential S fish habitat, the agencies will recommend denial of the application unless they conclude that the proposed use would not harm the species.

**SECTION 5: WATER USE**

USE	PERIOD OF USE	ANNUAL VOLUME (ACRE-FEET)
Supplemental Irrigation	Irrigation Season	0

**For irrigation use only:**

Please indicate the number of primary and supplemental acres to be irrigated (*must match map*).

Primary: \_\_\_\_\_ Acres Supplemental: 317.4 Acres

If you listed supplemental acres, list the Permit or Certificate number of the underlying primary water right(s):

Certificates 82231, 81169, 64777, 64776, and 82232

Indicate the maximum total number of acre-feet you expect to use in an irrigation season: 0

- If the use is **municipal or quasi-municipal**, attach **Form M**
- If the use is **domestic**, indicate the number of households: \_\_\_\_\_ (**Exempt Uses:** Please note that 15,000 gallons per day for single or group domestic purposes and 5,000 gallons per day for a single industrial or commercial purpose are exempt from permitting requirements.)
- If the use is **mining**, describe what is being mined and the method(s) of extraction (*attach additional sheets if necessary*): \_\_\_\_\_

**SECTION 6: WATER MANAGEMENT**

**A. Diversion and Conveyance**

What equipment will you use to pump water from your well(s)?

Pump (give horsepower and type): Well #1 equipped with 100 Hp line-shaft turbine; SVE-1 equipped with a 200 Hp lineshaft turbine; SVE-2 equipped with a 300 Hp line-shaft turbine; Little Hot Well estimated to be equipped with a 50 Hp submersible pump.

Other means (describe): \_\_\_\_\_

Provide a description of the proposed means of diversion, construction, and operation of the diversion works and conveyance of water.

Application of water will be conducted with existing wells, pumps and irrigation pivot and sprinklers.

**B. Application Method**

What equipment and method of application will be used? (e.g., drip, wheel line, high-pressure sprinkler)

*(attach additional sheets if necessary)*

All irrigation is applied using sprinkler and center pivots.

**C. Conservation**

Please describe why the amount of water requested is needed and measures you propose to: prevent waste; measure the amount of water diverted; prevent damage to aquatic life and riparian habitat; prevent the discharge of contaminated water to a surface stream; prevent adverse impact to public uses of affected surface waters *(attach additional sheets if necessary)*.

The requested supplemental rate of water is intended to authorize the permit holder to effectively apply water to grounds that under typical 1/80 cfs per acre flow rates would be inadequate to produce a sustainable crop while also reduce salts building in the soils as a result of elevated temperatures of groundwater. Conservation is imperative to promote agronomic application of water in excessively drained soils-unused groundwater returns to the groundwater system rapidly based on soil drainage.

**SECTION 7: PROJECT SCHEDULE**

- a) Date construction will begin: Already Begun
- b) Date construction will be completed: October 2020
- c) Date beneficial water use will begin: Irrigation Season 2021

**SECTION 8: RESOURCE PROTECTION**

In granting permission to use water the state encourages, and in some instances requires, careful control of activities that may affect adjacent waterway or streamside area. See instruction guide for a list of possible permit requirements from other agencies. Please indicate any of the practices you plan to undertake to protect water resources.

Water quality will be protected by preventing erosion and run-off of waste or chemical products.  
Describe: N/A

Excavation or clearing of banks will be kept to a minimum to protect riparian or streamside areas.  
**Note: If disturbed area is greater than one acre, applicant should contact the Oregon Department of Environmental Quality to determine if a 1200C permit is required.**  
Describe planned actions and additional permits required for project implementation: N/A

Other state and federal permits or contracts required and to be obtained, if a water right permit is granted:  
List: : N/A

## SECTION 9: WITHIN A DISTRICT

Check here if the point of appropriation (POA) or place of use (POU) are located within or served by an irrigation or other water district.

Irrigation District Name N/A	Address	
City	State	Zip

## SECTION 10: REMARKS

Use this space to clarify any information you have provided in the application (*attach additional sheets if necessary*).

Soil types underlying the proposed POU for Supplemental Irrigation are classified by the USDA Natural Resources Conservation Service (NRCS) as Well-Drained (65B – Deter loam) and Somewhat Excessively Drained (153A – McConnel very gravelly sandy loam). Figure 2, attached, provides the NRCS soil survey map information overlain onto the proposed irrigated area, clearly showing that soil type 153A is the predominant underlying soil type.

The NRCS detailed description for soil type 153A is attached. Per this description:

- Major Management Factors include “... available water capacity, permeability, seepage, ...”
- Under Livestock Grazing: “The risk of seepage and the very rapid permeability of the lower part of the soil limit the construction of livestock watering ponds and other water impoundments.”
- Under Cropland, General management considerations: “Because of the low available water capacity, light and frequent applications of irrigation water are needed.”

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## Minimum Requirements Checklist

Minimum Requirements (OAR 690-310-0040, OAR 690-310-0050 & ORS 537.140)

### Include this checklist with the application

**Check that each of the following items is included.** The application will be returned if all required items are not included. If you have questions, please call the Water Rights Customer Service Group at (503) 986-0900.

Please submit the original application and signatures to the Water Resources Department. Applicants are encouraged to keep a copy of the completed application.

- SECTION 1: Applicant Information and Signature
- SECTION 2: Property Ownership
- SECTION 3: Well Development
- SECTION 4: Sensitive, Threatened or Endangered Fish Species Public Interest Information
- SECTION 5: Water Use
- SECTION 6: Water Management
- SECTION 7: Project Schedule
- SECTION 8: Resource Protection
- SECTION 9: Within a District -N/A
- SECTION 10: Remarks

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#### Include the following additional items:

- Land Use Information Form with approval and signature of local planning department (*must be an original*) or signed receipt.
- Provide the legal description of: (1) the property from which the water is to be diverted, (2) any property crossed by the proposed ditch, canal or other work, and (3) any property on which the water is to be used as depicted on the map.
- Fees - Amount enclosed: \$ 3,610  
See the Department's Fee Schedule at [www.oregon.gov/owrd](http://www.oregon.gov/owrd) or call (503) 986-0900.
- Map that includes the following items:
  - Permanent quality and drawn in ink
  - Even map scale not less than 4" = 1 mile (example: 1" = 400 ft, 1" = 1320 ft, etc.)
  - North Directional Symbol
  - Township, Range, Section, Quarter/Quarter, Tax Lots
  - Reference corner on map
  - Location of each diversion, by reference to a recognized public land survey corner (distances north/south and east/west)
  - Indicate the area of use by Quarter/Quarter and tax lot identified clearly.
  - Number of acres per Quarter/Quarter and hatching to indicate area of use if for primary irrigation, supplemental irrigation, or nursery
  - Location of main canals, ditches, pipelines or flumes (if well is outside of the area of use)

**Note:** In addition to a groundwater application, a standard reservoir application is required to store groundwater in a reservoir. If an applicant proposes to divert water from a reservoir, a surface water application is also required.

# Water-Use Permit Application Processing

## 1. Completeness Determination

The Department evaluates whether the application and accompanying map contain all of the information required under OAR 690-310-0040 and OAR 690-310-0050. The Department also determines whether the proposed use is prohibited by statute. If the Department determines that the application is incomplete, all fees have not been paid, or the use is prohibited by statute, the application and all fees submitted are returned to the applicant.

## 2. Initial Review

The Department reviews the application to determine whether water is available during the period requested, whether the proposed use is restricted or limited by rule or statute, and whether other issues may preclude approval of or restrict the proposed use. An Initial Review (IR) containing preliminary determinations is mailed to the applicant. The applicant has 14 days from the mailing date to withdraw the application from further processing and receive a refund of all fees paid minus \$260. The applicant may put the application on hold for up to 180 days and may request additional time if necessary.

## 3. Public Notice

Within 7 days of the mailing of the initial review, the Department gives [public notice](#) of the application in the weekly notice published by the Department at [www.oregon.gov/owrd](http://www.oregon.gov/owrd). The public comment period is 30 days from publication in the weekly notice.

## 4. Proposed Final Order Issued

The Department reviews any comments received, including comments from other state agencies related to the protection of sensitive, threatened or endangered fish species. Within 60 days of completion of the IR, the Department issues a Proposed Final Order (PFO) explaining the proposed decision to deny or approve the application. A PFO proposing approval of an application will include a draft permit, and may request additional information or outstanding fees required prior to permit issuance.

## 5. Public Notice

Within 7 days of issuing the PFO, the Department gives public notice in the weekly notice. Notice includes information about the application and the PFO. Protest must be received by the Department within 45 days after publication of the PFO in the weekly notice. Anyone may file a protest. The protest filing fee is \$410.00 for the applicant and \$810.00 for non-applicants. Protests are filed on approximately 10 percent of Proposed Final Orders. If a protest is filed the Department will attempt to settle the protest but will schedule a contested case hearing if necessary.

## 6. Final Order Issued

If no protests are filed, the Department can issue a Final Order within 60 days of the close of the period for receiving protest. If the application is approved, a permit is issued. The permit specifies the details of the authorized use and any terms, limitations or conditions that the Department deems appropriate

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## FIGURES

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# **OWRD WELL LOGS**

NOTICE TO WATER WELL CONTRACTOR  
The original and first copy of this report  
are to be filed with the

WATER RESOURCES DEPARTMENT  
SALEM, OREGON 97310  
within 30 days from the date  
of well completion.

RECEIVED WATER WELL REPORT  
STATE OF OREGON  
OCT 24 1980  
WATER RESOURCES DEPT  
SALEM, OREGON  
lake 1627

per WWP  
11/1/82 JB  
33  
355/18E-2306  
State Well No. 355/18E-2306  
State Permit No. G-9765

(1) OWNER:

Name Ross Colahan  
Address Box 87 Hillsboro, Ore. 97123

(2) TYPE OF WORK (check):

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

(3) TYPE OF WELL:

Rotary  Driven   
Cased  Jetted   
Dug  Bored

(4) PROPOSED USE (check):

Domestic  Industrial  Municipal   
Irrigation  Test Well  Other

CASING INSTALLED:

Threaded  Welded   
16" Diam. from 0 ft. to 22 ft. Gage 1250  
" Diam. from ft. to ft. Gage  
" Diam. from ft. to ft. Gage

PERFORATIONS:

Perforated?  Yes  No

Type of perforator used

Size of perforations in. by in.  
perforations from ft. to ft.  
perforations from ft. to ft.  
perforations from ft. to ft.

(7) SCREENS:

Well screen installed?  Yes  No

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

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

a pump test made?  Yes  No If yes, by whom?  
d: gal./min. with ft. drawdown after hrs.  
" " " " " " " "  
" " " " " " " "  
Pump test 800 gal./min. with ft. drawdown after 1 hr.  
Artesian flow g.p.m.  
Temperature of water 77° Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Cement  
Well sealed from land surface to 31 ft.  
Diameter of well bore to bottom of seal 20 in.  
Diameter of well bore below seal 15 1/4 to 30" to 10" to 983  
Number of sacks of cement used in well seal 28 sacks  
How was cement grout placed? pressure grouted.

Was a drive shoe used?  Yes  No Plugs Size: location ft.  
Did any strata contain unusable water?  Yes  No  
Type of water? depth of strata  
Method of sealing strata off  
Was well gravel packed?  Yes  No Size of gravel:  
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Tillamook Driller's well number 124  
NW 1/4 SW 1/4 Section 23 T. 35.5 R. 18E W.M.  
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 60 gal at 170 ft.  
Static level 122 ft. below land surface. Date Oct. 22-8  
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 15 1/2 to 20

Depth drilled 983 ft. Depth of completed well 983 ft.

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.

MATERIAL	From	To	SWL
Brown Top soil	0	2	
Brown Basalt & clay	2	108	
Brown Basalt & clay	108	181	
170' w/pt seam			
Brown clay	181	210	
Brown shale	210	251	
Bl. clay	251	286	
med hard shale	286	291	
med hard blue shale	291	297	
Brown shale	297	330	
thin Brown shale	330	720	
720' Hot water			
shale	720	775	
Hard Basalt	775	800	
Hard shale	800	983	

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Work started Sept 1 1980 Completed Oct 22 1980  
Date well drilling machine moved off of well Oct 22 1980

Drilling Machine Operator's Certification:

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

[Signed] Stan Adams Date Oct 23, 1980  
(Drilling Machine Operator)

Drilling Machine Operator's License No. 1302

Water Well Contractor's Certification:

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

Name Tyle Adams  
(Person, firm or corporation) (Type or print)

Address Box 499 Hillsboro, Ore. 97123

[Signed] Tyle Adams  
(Water Well Contractor)

Contractor's License No. 670 Date Oct 23, 1980

LAKE 1627

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

AUG 10 2015

SALEM, OR

Application for  
**Well ID Number**

Do not complete if the well already has a Well Identification Number.

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**I. OWNER INFORMATION**

Current Owner Name (please print): Colahan Enterprises **OWRD**  
Mailing Address: PO Box 300  
City, State, Zip: Paisley, Oregon 97636  
Mail Well ID Tag to:  SAME AS ABOVE  In Care Of (C/O)  
Name & Address: Attn: Lynn Culp, Surprise Valley Electrification Corp. (SVEC); 516 US Highway 395 E.  
City, State, Zip: Alturas, CA, 96101

**II. WELL LOCATION INFORMATION** (Please fill out as completely as possible)

Township: 33S (North / South) Range: 18E (East / West) Section: 23  
Tax Lot: 1300 County Lake NW 1/4 of the SW 1/4  
GPS Coordinates: already assigned OWRD well log numbers: LAKE 1627/4448 - but no ID #  
Street Address of Well, City: → 42.69393 -120.568195  
If the property had a different street address in the past: \_\_\_\_\_

**III. GENERAL WELL INFORMATION** (Please fill out as completely as possible)

Use of Well (domestic, irrigation, commercial, industrial, monitoring): irrigation  
Date Well Constructed (or property built): Sept 1980 Total Well Depth: 983' Casing Diameter: 16"  
Owner at time the well was constructed (if known): Ross Colahan  
Other Information: Well name: Hot Well

SUBMITTED BY (please print): Lynn Culp / Surprise Valley Electric Corp.  
PHONE: (530) 233-3511 EMAIL &/or FAX: lynnsvec@frontier.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:

Received Date:

8-10-15

Well Log Number:

LAKE 1627 (ORIG.)  
LAKE 4448 (ALT.)

Well Identification #:

L-119827

NOTICE TO WATER WELL CONTRACTOR  
 The original and first copy of this report are to be filed with the  
 STATE ENGINEER, SALEM, OREGON 97310  
 within 30 days from the date of well completion.

*Lake 4448*

LAKE 4448  
 WATER WELL REPORT  
 STATE OF OREGON  
 (Please type or print)  
 (Do not write above this line)

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OCT 2 1981

Lake County  
 State Well No. 335/18E-23C d  
 State License No. G-10791  
 WATER RESOURCES DEPT  
 SALEM, OREGON  
Landowner  
 Recondition

(1) OWNER:

Name Ross Calahan  
 Address Box 89 Paisley Ore

(2) TYPE OF WORK (check):

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

(3) TYPE OF WELL:

Rotary  Driven   
 Cable  Jetted   
 D  Bored

(4) PROPOSED USE (check):

Domestic  Industrial  Municipal   
 Irrigation  Test Well  Other

CASING INSTALLED:

Threaded  Welded   
 " Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Gage \_\_\_\_\_  
 " Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Gage \_\_\_\_\_  
 " Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Gage \_\_\_\_\_

PERFORATIONS:

Perforated?  Yes  No.  
 Type of perforator used Factory 1/8" x 4"  
 Size of perforations 1/8 in. by 4 in.  
1656 perforations from 476 ft. to 545 ft.  
1840 perforations from 669 ft. to 758 ft.  
1584 perforations from 570 ft. to 669 ft.

(7) SCREENS:

Well screen installed?  Yes  No  
 Manufacturer's Name \_\_\_\_\_  
 Type \_\_\_\_\_ Model No. \_\_\_\_\_  
 Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level  
 Was a pump test made?  Yes  No If yes, by whom?  
800 gal./min. with 8 ft. drawdown after 4 hrs.  
 " " " " " "  
 " " " " " "  
 Baller test \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
 Artesian flow N/A g.p.m.  
 Temperature of water 21.2 ° Depth artesian flow encountered \_\_\_\_\_ ft.

(9) CONSTRUCTION:

Well seal—Material used NOT DISTURBED  
 Well sealed from land surface to \_\_\_\_\_ ft.  
 Diameter of well bore to bottom of seal \_\_\_\_\_ in.  
 Diameter of well bore below seal \_\_\_\_\_ in.  
 Number of sacks of cement used in well seal \_\_\_\_\_ sacks  
 Number of sacks of bentonite used in well seal \_\_\_\_\_ sacks  
 Brand name of bentonite \_\_\_\_\_  
 Number of pounds of bentonite per 100 gallons of water \_\_\_\_\_ lbs./100 gals.  
 Was a drive shoe used?  Yes  No Plugs \_\_\_\_\_ Size: location \_\_\_\_\_ ft.  
 Did any strata contain unusable water?  Yes  No  
 Type of water? \_\_\_\_\_ depth of strata \_\_\_\_\_  
 Method of sealing strata off \_\_\_\_\_  
 Was well gravel packed?  Yes  No Size of gravel: \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

(10) LOCATION OF WELL:

County \_\_\_\_\_ Driller's well number \_\_\_\_\_  
SE 1/4 SW 1/4 Section 23 T. 33 S R. 18 E W.M.  
 Bearing and distance from section or subdivision corner \_\_\_\_\_

(11) WATER LEVEL: Completed well.

Depth at which water was first found 170 ft.  
 Static level 145 ft. below land surface. Date 9-22-81  
 Artesian pressure \_\_\_\_\_ lbs. per square inch. Date \_\_\_\_\_

(12) WELL LOG:

Diameter of well below casing N/A  
 Depth drilled Ø ft. Depth of completed well 770 ft.

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.

MATERIAL	From	To	SWL
installed liner only			
178' 1/4" x 8" Liner			
<del>From 592 TO 770'</del>			
24' .375 wall x 12" From			
616' TO 640			
+1' TO 616 FT 1/4" x			
12" Liner			
<del>Line</del> Both 12" E' 8"			
Liner has a drive shoe.			

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Work started 7/17 1981 Completed 9-29 1981  
 Date well drilling machine moved off of well 9-28 1981

Drilling Machine Operator's Certification:

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

[Signed] \_\_\_\_\_ Date \_\_\_\_\_, 19\_\_\_\_  
 (Drilling Machine Operator)

Drilling Machine Operator's License No. \_\_\_\_\_

Water Well Contractor's Certification:

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

Name Landowner Board # BDD 231 9815  
 (Person, firm or corporation) (Type or print)

Address Box 89 Paisley Ore

[Signed] Ross Calahan  
 (Water Well Contractor)

Contractor's License No. \_\_\_\_\_ Date \_\_\_\_\_, 19\_\_\_\_

LAKE 4448

RECEIVED BY OWRD



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

AUG 10 2015

SALEM, OR

Application for Well ID Number

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OWRD

Do not complete if the well already has a Well Identification Number.

I. OWNER INFORMATION

Current Owner Name (please print): Colahan Enterprises
Mailing Address: PO Box 300
City, State, Zip: Paisley, Oregon 97636
Mail Well ID Tag to: [ ] SAME AS ABOVE [x] In Care Of (C/O)
Name & Address: Attn: Lynn Culp, Surprise Valley Electrification Corp. (SVEC); 516 US Highway 395 E.
City, State, Zip: Alturas, CA, 96101

II. WELL LOCATION INFORMATION (Please fill out as completely as possible)

Township: 33S (North / South) Range: 18E (East / West) Section: 23
Tax Lot: 1300 County Lake NW 1/4 of the SW 1/4
GPS Coordinates: already assigned OWRD well log numbers: LAKE 1627/4448 - but no ID #
Street Address of Well, City: -> 42.69393 -120.568195
If the property had a different street address in the past:

III. GENERAL WELL INFORMATION (Please fill out as completely as possible)

Use of Well (domestic, irrigation, commercial, industrial, monitoring): irrigation
Date Well Constructed (or property built): Sept 1980 Total Well Depth: 983' Casing Diameter: 16"
Owner at time the well was constructed (if known): Ross Colahan
Other Information: Well name: Hot Well

SUBMITTED BY (please print): Lynn Culp / Surprise Valley Electric Corp.
PHONE: (530) 233-3511 EMAIL &/or FAX: lynnsvec@frontier.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:

Received Date: 8-10-15

Well Log Number: LAKE 1627 (orig.) LAKE 4448 (ALT.)

Well Identification #: L-119827



SVE-1

# LAKE 52530

WELL I.D. # L \_\_\_\_\_

(1) LAND OWNER Well Number SVE #1  
 Name Colahan Enterprises  
 Address P.O. Box 300  
 City Passaic State OR Zip 97636

(2) TYPE OF WORK  
 New Well  Deepening  Alteration (repair/recondition)  Abandonment

(3) DRILL METHOD:  
 Rotary Air  Rotary Mud  Cable  Auger  
 Other \_\_\_\_\_

(4) PROPOSED USE:  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Livestock  Other \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION:  
 Special Construction approval  Yes  No Depth of Completed Well 1360 ft.  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE		SEAL		Sacks or pounds	
Diameter	From To	Material	From To		
	0 1360		0 900		

How was seal placed: Method  A  B  C  D  E  
 Other \_\_\_\_\_

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

Casing/Liner	Diameter	From To	Gauge	Material			
				Steel	Plastic	Welded	Threaded
	13 3/8"	0 900		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Drive Shoe used  Inside  Outside  None  
 Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:  
 Perforations Method \_\_\_\_\_  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tube/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailor  Air  Flowing Artesian  
 Yield gal/min Drawdowns Drill stem at Time

~ 1,000				1 hr.
---------	--	--	--	-------

Temperature of water \_\_\_\_\_ Depth Artesian Flow Found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom \_\_\_\_\_  
 Did any strata contain water not suitable for intended use?  Too little  
 Salty  Muddy  Odor  Colored  Other \_\_\_\_\_  
 Depth of strata: \_\_\_\_\_

(9) LOCATION OF WELL by legal description:  
 County LAKE Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 33 S N or S Range 18 E (E or W. WM.)  
 Section 23 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_  
 Tax Lot \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) 2,050 ft N & 1,370 ft E from SW corner of section 23

(10) STATIC WATER LEVEL:  
 \_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
 Artesian pressure \_\_\_\_\_ lb. per square inch Date \_\_\_\_\_

(11) WATER BEARING ZONES:  
 Depth at which water was first found \_\_\_\_\_

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:  
 Ground Elevation \_\_\_\_\_

Material	From	To	SWL
See attached			

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OWRD

Date started \_\_\_\_\_ Completed \_\_\_\_\_

SOURCE OF DATA/INFO  
 File T-11860  
 File LL-1450

COMPILED BY: Gerald Grendin  
OWRD Groundwater Section

DATE: 22 July 2014

# LAKE 52530

## LITHOGRAPHIC DESCRIPTION OF OIL OR GAS WELL

(Not required if a mud log is submitted)

STATE OF OREGON • DEPT OF GEOLOGY & MINERAL INDUSTRIES • 229 BROADALBIN ST SW • ALBANY OR 97321

(In compliance with rules and regulations pursuant to ORS 520.)

### (1) Permittee Information

Name	Surprise Valley Electrification Corp.
Mailing Address	516 US Hwy 395 E
City/State/Zip	Alturas, CA 96101
Telephone	530.233.3511
Fax	530.233.2190
Email	lynnsvec@frontier.com
Prepared by	Lynn Culp, Silvio Pezzopane, Roy Mink, Kyle Makovsky

### (2) Well Information

Well No.	SVE #1
DOGAMI ID No.	36-037-90009 Lake 448

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NOV 23 2020

OWRD

General Manager

5/29/2012

Signature

Title

Date

### (3) Well Cuttings

Depth		Description
From	To	
0	40	Brown clay soil and gravelly sand
40	75	Brownish-grey rounded mixed volcanic (basalt, rhyolite, andesite, tuff, pumice) gravel, qtz-rich sand
75	105	Grey quartz-rich sand, with thin brown and grey clay beds, Water Bearing (WB)
105	150	Greyish-brown mixed volcanic gravel, qtz-sand, and clay, WB
150	165	Brown mixed volcanic (basalt, rhyolite, andesite) gravel, rounded sand and clay
165	175	Brown clayey sand and mixed gravels
175	225	Blackish grey basalt gravel, w/ sand and clay beds, WB
225	240	Blackish grey to brown basalt and andesite gravel, and sand
240	305	Varicolored mixed volcanic (basalt, rhyolite, andesite, tuff) gravel and sand, w/ brown clay beds
305	360	Brown gravelly sand and brown clay beds
360	390	Varicolored (grey, brown, black, red, green) basalt, rhyolite, andesite gravel, sand, and brown clay, WB
390	415	Brownish grey and red volcanic gravel, sand, and clay, WB
415	435	Varicolored mixed volcanic gravel (basalt, rhyolite, andesite, tuff), rounded, reddish brown sand and clay
435	490	Varicolored coarse volcanic gravel, rounded, red to brown sand, brown sticky clay beds
490	530	Varicolored volcanic pebble gravel, rounded, w/ sand and reddish brown sticky clay
530	540	White calcite, black and grey basalt andesite, red rhyolite, red and grey tuff w/ brownish red sticky clay
540	575	Red sticky clay ash, vesicular and fibrous pumice clasts, minor sand, grey pebbles
575	640	Red and grey tuffs w/ altered vesicles, minor grey to greenish to black basalt, andesite, rhyolite, WB?
640	675	Red rhyolite tuff and grey andesite w/ altered vesicles, greenish basalt, blades of calcite
675	715	Light grey basalt, reddish brown and green alteration stains, altered vesicles, pyrite, euhedral calcite and quartz
715	715	Light greyish green rhyolite, reddish brown to dark purple basalt?, altered vesicles, pyrite, calcite and quartz
715	795	Dark greenish grey andesite?, dark purplish brown basalt, minor light red and white tuff, rare euhedral quartz
795	870	Dark grey to brown basalt w/ white pumice chunks, rare red and white tuff cinders, rare euhedral quartz
870	905	Dark greenish grey to dark purplish brown basalt, few pumice, rare euhedral and calcite quartz
905	920	Grey to white calcite flakes, possible fracture zone? no rock data - lost circulation, samples floated up during trip out
920	950	Brown sticky slick clay ash, large (<2 cm dia.) euhedral calcite chunks, red cinders and pumice, dries hard
950	1000	Purple, grey, and brown lithic tuff, poorly-welded?, soft waxy, sticky ashy clay, small calcite and quartz crystals
1000	1050	Green, grey, and brown andesite, alteration stains, red lithic tuff, cinders?, large euhedral calcite and quartz crystals
1050	1080	Dark greenish grey andesite, reddish purple stains, hard, fine-grained, large euhedral calcite flakes (fractures?)
1080	1100	no data - no returns
1100	1100	Red, grey, white, and brown lithic tuff or volcanoclastic sediment (depth uncertain, samples floated up during cleaning)
1100	1120	no data - no returns - lost circulation
1120	1120	Dark greenish grey andesite, reddish purple clay? stains, hard, fine-grained, red lithic tuff w/ euhedral quartz crystals, (depth uncertain, sample picked out of the drill collar)
1120	1133	no data - no returns
1133	1133	Reddish brown, lithic tuff, poorly-welded?, sticky clay, dries hard, small calcite and quartz crystals (depth uncertain, sample stuck to the drill bit face)
1133	1235	no data - no returns
1235	1315	Dark greenish grey andesite, red lithic tuff, euhedral quartz crystals, (depth uncertain, sample stuck to the bailer)
1315	1360	no data - no returns
	1360	- Total Depth

LAKE 52530



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

Application for
Well ID Number

RECEIVED BY OWRD

NOV 03 2014

SALEM, OR

Do not complete if the well already has a Well Identification Number.

I. OWNER INFORMATION

Current Owner Name (please print): Surprise Valley Electrification Corp. (SVEC); Attn: Lynn Culp
Mailing Address: 516 US Highway 395 E
City, State, Zip: Alturas, CA, 96101
Mail Well ID Tag to: [X] SAME AS ABOVE [ ] In Care Of (C/O)
Name & Address:
City, State, Zip:

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II. WELL LOCATION INFORMATION (Please fill out as completely as possible)

Township: 33S (North / South) Range: 18E (East / West) Section: 23
Tax Lot: 1300 County Lake NE 1/4 of the SW 1/4
GPS Coordinates: already assigned a OWRD well Log number: LAKE 52530 - but does not have ID number
Street Address of Well, City:
If the property had a different street address in the past:

III. GENERAL WELL INFORMATION (Please fill out as completely as possible)

Use of Well (domestic, irrigation, commercial, industrial, monitoring): industrial/geothermal & irrigation
Date Well Constructed (or property built): August 2012 Total Well Depth: 1360 Casing Diameter: 13 3/8 "
Owner at time the well was constructed (if known): SVEC is well owner - Colahan's own the property
Other Information: Well name: SVE-1

SUBMITTED BY (please print): Lynn Culp
PHONE: (530) 233-3511 EMAIL &/or FAX: lynnsvec@frontier.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department.

Received Date:

11-3-14

Well Log Number:

LAKE 52530

Well Identification #:

L-117043

# LAKE 52529

JVF-2

WELL I.D. # L \_\_\_\_\_

(1) **LAND OWNER** Well Number SVE4a  
 Name Colahan Enterprises  
 Address P.O. Box 300  
 City Paisley State OR Zip 97636

(2) **TYPE OF WORK**  
 New Well  Deepening  Alteration (repair/recondition)  Abandonment

(3) **DRILL METHOD:**  
 Rotary Air  Rotary Mud  Cable  Auger  
 Other \_\_\_\_\_

(4) **PROPOSED USE:**  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Livestock  Other \_\_\_\_\_

(5) **BORE HOLE CONSTRUCTION:**  
 Special Construction approval  Yes  No Depth of Completed Well 1260 ft.  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE		SEAL	
Diameter	From To	Material	From To
	0 1260		0 495

How was seal placed: Method  A  B  C  D  E  
 Other \_\_\_\_\_

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) **CASING/LINER:**

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	13-1/8"	0	495	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Drive Shoe used  Inside  Outside  None  
 Final location of shoe(s) \_\_\_\_\_

(7) **PERFORATIONS/SCREENS:**

Perforations Method \_\_\_\_\_

Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tube/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) **WELL TESTS:** Minimum testing time is 1 hour

Pump  Baller  Air  Flowing  Artesian  
 Yield gal/min Drawdowns Drill stem ml Time I hr.

~ 2,000 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

Temperature of water \_\_\_\_\_ Depth Artesian Flow Found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom \_\_\_\_\_  
 Did any strata contain water not suitable for intended use?  Too little  
 Salty  Muddy  Odor  Colored  Other \_\_\_\_\_  
 Depth of strata: \_\_\_\_\_

(9) **LOCATION OF WELL** by legal description:  
 County LAKE Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 33S N or (S) Range 18E (B) or W. WM. \_\_\_\_\_  
 Section 23 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_  
 Tax Lot \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) 2,665 ft N & 1,725 ft W  
from SE corner of section 23

(10) **STATIC WATER LEVEL:**  
 \_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
 Artesian pressure \_\_\_\_\_ lb. per square inch Date \_\_\_\_\_

(11) **WATER BEARING ZONES:**

Depth at which water was first found \_\_\_\_\_

From	To	Estimated Flow Rate	SWL

(12) **WELL LOG:**  
 Ground Elevation \_\_\_\_\_

Material	From	To	SWL
See attached			

Date started \_\_\_\_\_ Completed \_\_\_\_\_

**SOURCE OF DATA/INFO**

File T-11860  
 File LL-1450

**COMPILED BY:** Gerald Grandin  
OWRD Groundwater Section

**DATE:** 22 July 2014

# LAKE 52529

## LITHOGRAPHIC DESCRIPTION OF OIL OR GAS WELL

(Not required if a mud log is submitted)

STATE OF OREGON • DEPT OF GEOLOGY & MINERAL INDUSTRIES • 229 BROADALBIN ST SW • ALBANY OR 97321

(In compliance with rules and regulations pursuant to ORS 520.)

### (1) Permittee Information

Name	Surprise Valley Electrification Corp.
Mailing Address	516 US Hwy 395 E.
City/State/Zip	Alturas, CA 96101
Telephone	530.233.3511
Fax	530.233.2190
Email	lynnsvec@frontier.com
Prepared by	Lynn Culp, Kyle Makovsky, Roy Mink, Silvio Pezzopane

### (2) Well Information

Well No.	SVE #2
DOGAMI ID No.	36-037-90027 Lake 1628

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NOV 23 2020

OWRD

General Manager

5/29/2012

Signature

Title

Date

### (3) Well Cuttings

Depth		Description
From	To	
0	40	Brown clay soil and gravelly sand
40	60	Light brown ash fragments, reddish rhyolite, black basalt, minor calcite/quartz
60	80	Light brown/grey ash, red rhyolite, black basalt, cinders, rounded grains, black and red cuttings magnetic
80	105	Light grey/brown ash, red rhyolite, black basalt, rounded grains, chert and obsidian magnetic
105	125	Light grey/brown ash, red rhyolite, black basalt, rounded grains, purple, orange alteration, green stone
125	155	Grey/brown ash, red rhyolite, black basalt, rounded grains, black and grey chips magnetic, light tan pumice fragments
155	185	Grey/brown rhyolite, black basalt, magnetic, white/grey pumice green stone, minor alteration stains
185	210	Grey/brown rhyolite, red rhyolite with alteration, black basalt, white/grey pumice
210	245	Grey/brown rhyolite, red rhyolite, black basalt, light brown pumice
245	300	Grey/brown rhyolite, red and brown rhyolite, black basalt, pumice, rounded grains
300	340	Brown/grey rhyolite, rounded w/ some alteration, light grey tuff, black basalt/rhyolite; light grey tuff, feldspar chips
340	360	Grey/light brown rhyolite, dark grey/black rhyolite, light red/yellow altered rhyolite, some chips rounded
360	410	Grey/brown rhyolite, dark grey/black basalt, light red/yellow altered rhyolite, grey/white pumice, rounded pebbles
410	420	Black basalt, light brown rhyolite, some alteration
425	430	no data - no returns
435	460	Black basalt, light brown/grey rhyolite, red altered rhyolite
460	465	Fine sand of light brown/grey rhyolite, black basalt/rhyolite; light brown/red altered rhyolite
465	475	Light brown/grey rhyolite, black basalt/rhyolite, yellow/red altered rhyolite
475	490	Large amount fine sand, smaller cuttings are same as above with white alteration/pumice
490	510	Altered tuff, light grey to reddish brown to dark brown, waxy texture, amorphous silica present
510	530	no data - no returns
530	565	Dark to light gray basalt, andesite, white and green alteration minerals
565	620	Porphyritic basalt and andesite, pink/dark green/white alteration, opaline quartz, amorphous silica, calcite rhombs
620	695	Dark gray, green, purple, and red basalt, amorphous silica, euhedral quartz, and calcite in vesicles
695	710	Porphyritic andesite, opaline quartz
710	790	Gray green and red basalt, altered, fibrous banded white mineral, calcite rhombs, crystalline and opaline quartz
790	800	Olivine rich basalt, little alteration
800	815	Porphyritic andesite and basalt rock, highly altered, clear crystalline quartz, banded alteration
815	845	Amygdaloidal basalt, amygdules are green, white banded, botryoidal texture, calcite grains
845	890	Gray basalt, little to no alteration
890	905	Vesicular/amygdaloidal basalt, high amount of crystalline quartz filling vesicles
905	920	Basalt with pyrite mineralization
920	930	Gray basaltic andesite
930	960	Gray/red/purple basalt, calcite rhombs, some amygdaloidal calcite
960	1010	Dark gray and green basalt, calcite rhombs
1010	1070	Highly altered vesicular/amygdaloidal basalt, pyrite mineralization, dark green/white/pink alteration minerals
1070	1260	no data - no returns
	1260	- Total Depth

LAKE 52529



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

# Application for Well ID Number

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NOV 23 2020

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NOV 03 2014

SALEM, OR

Do not complete if the well already has a Well ID Application Number.

### I. OWNER INFORMATION

Current Owner Name (please print): Suprise Valley Electrification Corp. (SVEC); Attn: Lynn Culp  
Mailing Address: 516 US Highway 395 E  
City, State, Zip: Alturas, CA, 96101  
Mail Well ID Tag to:  SAME AS ABOVE  In Care Of (C/O)  
Name & Address: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_

### II. WELL LOCATION INFORMATION (Please fill out as completely as possible)

Township: 33S (North / South) Range: 18E (East / West) Section: 23  
Tax Lot: 1300 County Lake SW 1/4 of the NE 1/4  
GPS Coordinates: already assigned a OWRD well Log number: LAKE 52529 - but does not have ID number  
Street Address of Well, City: \_\_\_\_\_  
If the property had a different street address in the past: \_\_\_\_\_

### III. GENERAL WELL INFORMATION (Please fill out as completely as possible)

Use of Well (domestic, irrigation, commercial, industrial, monitoring): industrial/geothermal & irrigation  
Date Well Constructed (or property built): Feb 2012 Total Well Depth: 1260 Casing Diameter: 13 3/8 "  
Owner at time the well was constructed (if known): SVEC is well owner - Colahan's own the property  
Other Information: Well Name: SVE-2

SUBMITTED BY (please print): Lynn Culp  
PHONE: (530) 233-3511 EMAIL &/or FAX: lynnsvec@frontier.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:  
Received Date: 11-3-14 Well Log Number: LAKE 52529 Well Identification #: L-117044

LITTLE HOT WELL

LAKE 1628

LAKE 1628

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM 10, OREGON within 30 days from the date of well completion.

RECEIVED WATER WELL REPORT APR 7 1964 STATE OF OREGON STATE ENGINEER SALEM, OREGON

State Well No. 33/18-23G
State Permit No.

(1) OWNER: SALEM, OREGON
Name Ross Colohan
Address Paisley, Oregon

(2) LOCATION OF WELL:
County Lake Driller's well number
SW 1/4 NE 1/4 Section 23 T. 53S R. 18 E W.M.
Bearing and distance from section or subdivision corner
1 1/2 miles NW of Paisley, Oregon

(3) TYPE OF WORK (check):
Well [X] Deepening [ ] Reconditioning [ ] Abandonment [ ]
Abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic [ ] Industrial [ ] Municipal [ ]
Irrigation [X] Test Well [ ] Other [ ]
(5) TYPE OF WELL:
Rotary [ ] Driven [ ]
Cable [X] Jetted [ ]
Dug [ ] Bored [ ]

(6) CASING INSTALLED:
16" Diam. from 0 ft to 270 ft. Gage 250
" Diam. from ft to ft. Gage
" Diam. from ft to ft. Gage

(7) PERFORATIONS:
Type of perforator used Mills
Size of perforations 1/4 in. by 4 in.
1400 perforations from 100 ft to 240 ft.

(8) SCREENS:
Well screen installed [ ] Yes [X] No
Manufacturer's Name
Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:
Well seal—Material used in seal puddled clay
Depth of seal 22 ft. Was a packer used? NO
Diameter of well bore to bottom of seal 22 in.
Were any loose strata cemented off? [ ] Yes [X] No Depth
Was a drive shoe used? [X] Yes [ ] No
Was well gravel packed? [ ] Yes [X] No Size of gravel:
Gravel placed from ft. to ft.
Did any strata contain unusable water? [ ] Yes [X] No
Type of water? Depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 83 ft. below land surface Date 4/3/64
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level.
Was a pump test made? [X] Yes [ ] No If yes, by whom? Contractor
Yield: 150 gal./min. with 83 ft. drawdown after 3 hrs.

(12) WELL LOG:
Diameter of well below casing 8
Depth drilled 315 ft. Depth of completed well 315 ft.
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

Table with 3 columns: MATERIAL, FROM, TO. Rows include soil zone, loose gravel and sand, clay & sand, volcanic gravel & clay, gravel, med. seepage of water, gravel & clay, med. gravel & brn., hard-packed sand and clay, soft sandy clay, brown, sticky clay & gravel, loose gravel, fine waterbed, boulders & clay, gray, sandy clay, brown, fine gravel, waterbearing, sticky clay & gravel, gray, fine sand, white, waterbed, clay & gravel, brn., fine sand, wht. & pink, water, sandy clay & gravel, fine, med. gravel, waterbearing, sticky clay, brn., basalt rock w/ clay stringers, brown.

Work started 3/7/64 1964 Completed 4/3/1964
Date well drilling machine moved off of well 4/4 1964

(13) PUMP:
Manufacturer's Name
Type: H.P.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Jack Stooksberry, Jr. (Type or print)
Address Route 2, Box 47, Lakeview, Ore.
Drilling Machine Operator's License No. 45
[Signed] Jack Stooksberry, Jr. (Water Well Contractor)
Contractor's License No. 211 Date 4/3, 1964

LAKE 1628



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

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SALEM, OR

Application for  
**Well ID Number**

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NOV 23 2020

OWRD

Do not complete if the well already has a Well Identification Number.

**I. OWNER INFORMATION**

Current Owner Name (please print): Colahan Enterprises  
Mailing Address: PO Box 300  
City, State, Zip: Paisley, Oregon 97636  
Mail Well ID Tag to:  SAME AS ABOVE  In Care Of (C/O)  
Name & Address: Attn: Lynn Culp, Surprise Valley Electrification Corp. (SVEC); 516 US Highway 395 E.  
City, State, Zip: Alturas, CA, 96101

**II. WELL LOCATION INFORMATION** (Please fill out as completely as possible)

Township: 33S (North / South) Range: 18E (East / West) Section: 23  
Tax Lot: 1300 County Lake SW 1/4 of the NW 1/4  
GPS Coordinates: already assigned OWRD well log numbers: LAKE 1628/1626/52582 - but no ID #  
Street Address of Well, City: → 42.697274 -120.55813  
If the property had a different street address in the past: \_\_\_\_\_

**III. GENERAL WELL INFORMATION** (Please fill out as completely as possible)

Use of Well (domestic, irrigation, commercial, industrial, monitoring): irrigation; application pending for industrial  
Date Well Constructed (or property built): April 1964 Total Well Depth: current 270' Casing Diameter: 16"  
Owner at time the well was constructed (if known): Ross Colahan  
Other Information: Well name: Little Hot Well

SUBMITTED BY (please print): Lynn Culp / Surprise Valley Electric Corp.  
PHONE: (530) 233-3511 EMAIL &/or FAX: lynnsvec@frontier.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:

Received Date:  
8-10-15

Well Log Number:  
LAKE 1628 (ORIG.)  
LAKE 1626 (DEEP)  
LAKE 52582 (ALT.)

Well Identification #:  
L-119826



STATE OF OREGON  
**WATER WELL REPORT**  
 (as required by ORS 537.765)

**LAKE 1626** *Lake 1626*  
 APR 17 1987

*33S/18E-23ac*  
*Leap*

**(1) OWNER:**  
 Name Ross Colohan & Son Owner's Well Number: \_\_\_\_\_  
 Address P.O. BOX  
 City Paisely State Oreg. Zip 97636

**(2) TYPE OF WORK:**  
 New Well  Deepen  Recondition  Abandon

**(3) DRILL METHOD:**  
 Rotary Air  Rotary Mud  Cable  Other

**(4) PROPOSED USE:**  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Other \_\_\_\_\_

**BORE HOLE CONSTRUCTION:**  
 Depth of Completed Well 415 ft.  
 Special Standards date of approval \_\_\_\_\_

HOLE meter	From	To	SEAL		Amount sacks or pounds
			Material	From To	
3"	306	430	xxx	not disturbed	

How was seal placed? Method  A  B  C  D  E  
 Other not disturbed

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

**(6) CASING/LINER:**

Casing:	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
	3"	+2	300	.188	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

location of shoe(s) \_\_\_\_\_

**PERFORATIONS/SCREENS:**

Perforations Method none  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>

**(8) WELL TESTS: Minimum testing time is 1 hour**

Pump  Bailer  Air  Flowing Artesian

Yield gal/min	Pumping level	Drill stem at	Time 1/2 hr
50		415	1 hr

Temperature of water 175° Depth Artesian Flow Found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom no  
 Did any strata contain water not suitable for intended use?  Too little  
 Salty  Muddy  Odor  Colored  Other no  
 Depth of strata: \_\_\_\_\_

**(9) LOCATION OF WELL by legal description:**  
 County Lake Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 33S N or S, Range 18E E or W, WM.  
 Section 23 SW 1/4 NE 1/4  
 Tax Lot \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) \_\_\_\_\_

**(10) STATIC WATER LEVEL:**  
120 ft. below land surface. Date Mar. 18-87  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

**(11) WELL LOG:** Ground elevation unknown

Material	From	To	WB?	SWL
Hard Grey Basalt	306	329		
Mild Brown Lava	329	331		
Hard Grey Basalt	331	337		
Mild Brown Lava	337	339		
Broken Lava, W/B	339	353	WR-	
Hard Basalt	353	360		
White Clays	360	375		
Brown & Blue Clays	375	430		
Brown & Blue Clays	430	432		

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Date started Mar. 9-87 Completed Mar. 18-87

**(unbonded) Water Well Constructor Certification:**  
 I constructed this well in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.  
 Signed [Signature] Date Mar. 22-87

**(bonded) Water Well Constructor Certification:**  
 I accept responsibility for construction of this well and its compliance with all Oregon water well standards. This report is true to the best of my knowledge and belief.  
 Signed [Signature] Date 4-9-87  
 Company Orvail Buckner Well Drilling, Inc. Co. No. \_\_\_\_\_

LAKE 1626



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

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SALEM, OR

Application for  
**Well ID Number**

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Do not complete if the well already has a Well Identification Number.

**I. OWNER INFORMATION**

Current Owner Name (please print): Colahan Enterprises  
Mailing Address: PO Box 300  
City, State, Zip: Paisley, Oregon 97636  
Mail Well ID Tag to:  SAME AS ABOVE  In Care Of (C/O)  
Name & Address: Attn: Lynn Culp, Surprise Valley Electrification Corp. (SVEC); 516 US Highway 395 E.  
City, State, Zip: Alturas, CA, 96101

**II. WELL LOCATION INFORMATION** (Please fill out as completely as possible)

Township: 33S (North / South) Range: 18E (East / West) Section: 23  
Tax Lot: 1300 County Lake SW 1/4 of the NW 1/4  
GPS Coordinates: already assigned OWRD well log numbers: LAKE 1628/1626/52582 - but no ID #  
Street Address of Well, City: → 42.697274 -120.55813  
If the property had a different street address in the past: \_\_\_\_\_

**III. GENERAL WELL INFORMATION** (Please fill out as completely as possible)

Use of Well (domestic, irrigation, commercial, industrial, monitoring): irrigation; application pending for industrial  
Date Well Constructed (or property built): April 1964 Total Well Depth: current 270' Casing Diameter: 16"  
Owner at time the well was constructed (if known): Ross Colahan  
Other Information: Well name: Little Hot Well

SUBMITTED BY (please print): Lynn Culp / Surprise Valley Electric Corp.  
PHONE: (530) 233-3511 EMAIL &/or FAX: lynnsvec@frontier.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:

Received Date:  
8-10-15

Well Log Number:  
LAKE 1628 (ORIG.)  
LAKE 1626 (DEEP.)  
LAKE 52582 (ALT.)

Well Identification #:  
L-119826

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

WELL LABEL # L

START CARD # 209512

**(1) LAND OWNER** Owner Well I.D. 33/18-23G

First Name Ross Last Name Colhan  
 Company \_\_\_\_\_  
 Address 38650 HWY 31  
 City Paisley State Or Zip 97636

**(2) TYPE OF WORK**  New Well  Deepening  Conversion  
 Alteration (repair/recondition)  Abandonment

**(3) DRILL METHOD**  
 Rotary Air  Rotary Mud  Auger  Cable Mud  
 Reverse Rotary  Other \_\_\_\_\_

**(4) PROPOSED USE**  Domestic  ~~Residential~~  Community  
 Industrial/ Commercial  Livestock  Dewatering  
 Thermal  Injection  Other \_\_\_\_\_

**(5) BORE HOLE CONSTRUCTION** Special Standard  (Attach copy)  
 Depth of Completed Well \_\_\_\_\_ ft.

BORE HOLE			SEAL		sacks/	
Dia	From	To	Material	From	To	lbs
			<u>NEAT GUM</u>	<u>23</u>	<u>35</u>	

How was seal placed: Method  A  B  C  D  E  
 Other \_\_\_\_\_

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Filter pack from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

Explosives used:  Yes Type \_\_\_\_\_ Amount \_\_\_\_\_

**(6) CASING/LINER**

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Shoe  Inside  Outside  Other Location of shoe(s) \_\_\_\_\_  
 Temp casing  Yes Dia \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

**(7) PERFORATIONS/SCREENS**  
 Perforations Method \_\_\_\_\_  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

Perf/S	Casing/Screen	Dia	From	To	Scm/slot width	Slot length	# of slots	Tele/pipe size

**(8) WELL TESTS: Minimum testing time is 1 hour**

<input type="radio"/> Pump	<input type="radio"/> Bailer	<input type="radio"/> Air	<input type="radio"/> Flowing Artesian
Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)

Temperature \_\_\_\_\_ °F Lab analysis  Yes By \_\_\_\_\_  
 Water quality concerns?  Yes (describe below)  
 From \_\_\_\_\_ To \_\_\_\_\_ Description NOV 18 2014 Amount \_\_\_\_\_ Units \_\_\_\_\_

**(9) LOCATION OF WELL (legal description)**

County LAKE Twp 33 S N/S Range 18 E E/W WM  
 Sec 23 SW 1/4 of the NE 1/4 Tax Lot 1300  
 Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
 Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
 Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
 Street address of well  Nearest address

1-1/2 miles NW of Paisley, Oregon

**(10) STATIC WATER LEVEL**

Existing Well / Predeepening	Date	SWL (psi)	+ SWL (ft)
Completed Well			

Flowing Artesian?  Dry Hole?

**WATER BEARING ZONES** Depth water was first found \_\_\_\_\_

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)

**(11) WELL LOG** Ground Elevation \_\_\_\_\_

Material	From	To
<u>Remove original puddled</u>		
<u>CLAY SEAL with overshoot</u>		
<u>replace with 24" cement</u>		
<u>seal to 23'</u>		

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Date Started 7-30-14 Completed 7-30-14

**(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 \_\_\_\_\_  
 Password: (if filing electronically) \_\_\_\_\_  
 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 1946 Date 11-12-14  
 Password: (if filing electronically) \_\_\_\_\_  
 Signed [Signature]  
 Contact Info (optional) \_\_\_\_\_

**WATER SUPPLY WELL REPORT**  
continuation page

**LAKE 52582**

WELL I.D. # L \_\_\_\_\_  
START CARD # 209512

**(5) BORE HOLE CONSTRUCTION**

BORE HOLE			SEAL				sacks/ lbs
Dia	From	To	Material	From	To	Am't	

**FILTER PACK**

From	To	Material	Size

**(6) CASING/LINER**

Casing Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
○									
○									
○									
○									
○									
○									
○									
○									
○									
○									

**(7) PERFORATIONS/SCREENS**

Per/S creen	Casing/ Liner	Screen Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size

**(8) WELL TESTS: Minimum testing time is 1 hour**

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)

**Water Quality Concerns**

From	To	Description	Amount	Units
		RECEIVED BY OWRD		
		NOV 18 2014		

**(10) STATIC WATER LEVEL**

Water Bearing Zones

SWL Date	From	To	Est Flow	SWL(psi)	+ SWL(ft)

**(11) WELL LOG**

Material	From	To

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**Comments/Remarks**


LAKE 52582



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

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SALEM, OR

Application for  
**Well ID Number**

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Do not complete if the well already has a Well Identification Number.

**I. OWNER INFORMATION**

Current Owner Name (please print): Colahan Enterprises  
Mailing Address: PO Box 300  
City, State, Zip: Paisley, Oregon 97636  
Mail Well ID Tag to:  SAME AS ABOVE  In Care Of (C/O)  
Name & Address: Attn: Lynn Culp, Surprise Valley Electrification Corp. (SVEC); 516 US Highway 395 E.  
City, State, Zip: Alturas, CA, 96101

**II. WELL LOCATION INFORMATION** (Please fill out as completely as possible)

Township: 33S (North / South) Range: 18E (East / West) Section: 23  
Tax Lot: 1300 County Lake SW 1/4 of the NW 1/4  
GPS Coordinates: already assigned OWRD well log numbers: LAKE 1628/1626/52582 - but no ID #  
Street Address of Well, City: → 42.697274 -120.55813  
If the property had a different street address in the past: \_\_\_\_\_

**III. GENERAL WELL INFORMATION** (Please fill out as completely as possible)

Use of Well (domestic, irrigation, commercial, industrial, monitoring): irrigation; application pending for industrial  
Date Well Constructed (or property built): April 1964 Total Well Depth: current 270' Casing Diameter: 16"  
Owner at time the well was constructed (if known): Ross Colahan  
Other Information: Well name: Little Hot Well

SUBMITTED BY (please print): Lynn Culp / Surprise Valley Electric Corp.  
PHONE: (530) 233-3511 EMAIL &/or FAX: lynnsvec@frontier.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:		
Received Date: <u>8-10-15</u>	Well Log Number: <u>LAKE 1628 (ORIG.)</u> <u>LAKE 1626 (DEEP)</u> <u>LAKE 52582 (ALT.)</u>	Well Identification #: <u>L-119826</u>

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**LAND USE FORM**

# Land Use Information Form



Oregon Water Resources Department  
 725 Summer Street NE, Suite A  
 Salem, Oregon 97301-1266  
 503-986-0900  
 www.oregon.gov/OWRD

**Applicant**

NAME COLAHAN ENTERPRISES, INC./ ERIN DOUGLAS			PHONE (HM) 541-943-3280	
PHONE (WK)		CELL 541-410-4968		FAX
ADDRESS 45190 HWY 31				
CITY PAISLEY		STATE OR	ZIP 97636	E-MAIL* lizzymongo@hotmail.com

**A. Land and Location**

Please include the following information for all tax lots where water will be diverted (taken from its source), conveyed (transported), and/or used or developed. Applicants for municipal use, or irrigation uses within irrigation districts may substitute existing and proposed service-area boundaries for the tax-lot information requested below.

Township	Range	Section	¼ ¼	Tax Lot #	Plan Designation (e.g., Rural Residential/RR-5)	Water to be:	Proposed Land Use:
33S	18E	13	SW SW	203		<input type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	Supplemental Irrigation
33S	18E	14	SE SE	801		<input type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
33S	18E	23	NE NW	802		<input type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
33S	18E	23	NE ¼; SE NW; NE SW; NW SW; NE SW	1300		<input checked="" type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
33S	18E	24	NW NW SW NW	1300		<input type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	

List all counties and cities where water is proposed to be diverted, conveyed, and/or used or developed:

Paisley; Lake County

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**B. Description of Proposed Use**

Type of application to be filed with the Water Resources Department:

- Permit to Use or Store Water
- Water Right Transfer
- Permit Amendment or Groundwater Registration Modification
- Limited Water Use License
- Allocation of Conserved Water
- Exchange of Water

Source of water:  Reservoir/Pond  Groundwater  Surface Water (name) \_\_\_\_\_

Estimated quantity of water needed: 745  cubic feet per second  gallons per minute  acre-feet

Intended use of water:  Irrigation  Commercial  Industrial  Domestic for \_\_\_\_\_ household(s)  
 Municipal  Quasi-Municipal  Instream  Other \_\_\_\_\_

Briefly describe:

Supplemental irrigation to provide additional water due to the rapidly draining soils where the primary rights are located.

**Note to applicant:** If the Land Use Information Form cannot be completed while you wait, please have a local government representative sign the receipt at the bottom of the next page and include it with the application filed with the Water Resources Department.



### For Local Government Use Only

The following section must be completed by a planning official from each county and city listed unless the project will be located entirely within the city limits. In that case, only the city planning agency must complete this form. This deals only with the local land use plan. Do not include approval for activities such as building or grading permits.

**Please check the appropriate box below and provide the requested information**

- Land uses to be served by the proposed water uses (including proposed construction) are allowed outright or are not regulated by your comprehensive plan. Cite applicable ordinance section(s): *Lake County Zoning Ordinance - Article 3*
- Land uses to be served by the proposed water uses (including proposed construction) involve discretionary land use approvals as listed in the table below. (Please attach documentation of applicable land use approvals which have already been obtained. Record of Action/land use decision and accompanying findings are sufficient.) If approvals have been obtained but all appeal periods have not ended, check "Being pursued."

Type of Land Use Approval Needed (e.g., plan amendments, rezones, conditional-use permits, etc.)	Cite Most Significant, Applicable Plan Policies & Ordinance Section References	Land Use Approval	
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued

Local governments are invited to express special land use concerns or make recommendations to the Water Resources Department regarding this proposed use of water below, or on a separate sheet.

NAME: <i>Danish Johnson</i>		TITLE: <i>Planning Director</i>
SIGNATURE: <i>[Signature]</i>	PHONE: <i>541-947-6036</i>	DATE: <i>22 May 2020</i>
GOVERNMENT ENTITY: <i>LAKE COUNTY PLANNING DEPT.</i>		

**Note to local government representative:** Please complete this form or sign the receipt below and return it to the applicant. If you sign the receipt, you will have 30 days from the Water Resources Department's notice date to return the completed Land Use Information Form or WRD may presume the land use associated with the proposed use of water is compatible with local comprehensive plans.

### Receipt for Request for Land Use Information

Applicant name: \_\_\_\_\_

City or County: \_\_\_\_\_ Staff contact: \_\_\_\_\_

Signature: \_\_\_\_\_ Phone: \_\_\_\_\_ Date: \_\_\_\_\_



**NRCS SOIL DESCRIPTIONS**

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**Characteristics of the Deter Soil**

*Position on landscape:* Lake terraces

*Parent material:* Kind—alluvium, lacustrine sediment;  
source—tuff, basalt, diatomite

*Elevation:* 4,700 to 5,000 feet

*Climatic factors:*

Mean annual precipitation—14 to 18 inches

Mean annual air temperature—45 to 48 degrees F

Frost-free period—70 to 110 days

*Typical profile:*

0 to 7 inches—very dark brown loam

7 to 19 inches—dark brown clay loam

19 to 34 inches—dark reddish brown clay

34 to 46 inches—reddish brown gravelly clay

46 to 60 inches—dark brown gravelly clay loam

*Depth class:* Very deep (more than 60 inches) to bedrock

*Drainage class:* Well drained

*Permeability:* Slow

*Available water capacity:* About 8 inches

*Hazard of erosion:* By water—moderate; by wind—slight or moderate

*Shrink-swell potential:* High between depths of 7 and 46 inches

**Contrasting Inclusions**

- Drews and Drewsgap soils that are on adjacent lake terraces
- Oxwall soils that are on adjacent, higher lying lake terraces and have low sagebrush in the potential plant community
- Salisbury soils that are on adjacent, higher lying lake terraces
- Soils that are similar to the Deter soil but have a hardpan or bedrock at a depth of 40 to 60 inches

**Major Uses**

Cropland, livestock grazing

**Major Management Factors**

Slope, water erosion, permeability, shrink-swell potential

**Dominant Vegetation in Potential Plant Community**

Idaho fescue, antelope bitterbrush, bluebunch wheatgrass

**Livestock Grazing**

*General management considerations:*

- The surface layer is saturated following snowmelt because of the slow permeability of the subsoil.
- The clayey subsoil restricts rooting depth.

*Suitable management practices:*

- If this unit is seeded, select plants that tolerate shrinking and swelling.
- Seed on the contour or across the slope where practical.
- Delay grazing until the surface layer is firm and the preferred forage plants have achieved sufficient growth to withstand grazing pressure.
- Minimize the risk of erosion by preserving existing plant cover, seeding, accumulating litter on the surface, and maintaining adequate plant cover.

**Cropland**

*General management considerations:*

- Because of the limited precipitation, continuous cropping is suitable only if the soil is irrigated. A suitable cropping system includes small grain and summer fallow.
- Because of the slope, this soil is best suited to sprinkler irrigation.
- Because of the high corrosivity to uncoated steel, protection from corrosion or use of noncorrosive material, such as concrete, aluminum, galvanized steel, or plastics, is needed for structures or pipelines.
- Irrigation water management is needed to prevent the buildup of a perched water table and to minimize erosion.
- A wide variety of trees and shrubs can be used for windbreaks and environmental plantings on this soil.
- The seedling mortality rate is severe because the high content of clay causes moisture stress.
- Cultivation or application of herbicides helps to control competing vegetation.

*Suitable management practices:*

- Irrigate during the dry period in summer.
- Use minimum tillage and return crop residue to the soil to increase the water intake rate and reduce soil compaction.
- Reduce the risk of erosion by chiseling stubble fields on the contour or across the slope in fall.

**65B—Deter loam, low precipitation, 0 to 5 percent slopes**

**Composition**

*Deter soil and similar inclusions—*85 percent

*Contrasting inclusions—*15 percent

**Characteristics of the Deter Soil**

*Position on landscape:* Lake terraces

*Parent material:* Kind—alluvium, lacustrine sediment;  
source—tuff, basalt, diatomite

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*Elevation:* 4,700 to 5,000 feet

*Climatic factors:*

- Mean annual precipitation—10 to 14 inches
- Mean annual air temperature—45 to 48 degrees F
- Frost-free period—70 to 110 days

*Typical profile:*

- 0 to 7 inches—very dark brown loam
- 7 to 19 inches—dark brown clay loam
- 19 to 34 inches—dark reddish brown clay
- 34 to 46 inches—reddish brown gravelly clay
- 46 to 60 inches—dark brown gravelly clay loam

*Depth class:* Very deep (more than 60 inches) to bedrock

*Drainage class:* Well drained

*Permeability:* Slow

*Available water capacity:* About 8 inches

*Hazard of erosion by water:* Slight or moderate

*Shrink-swell potential:* High between depths of 7 and 46 inches

### **Contrasting Inclusions**

- Mesman soils that are on adjacent, lower lying lake terraces
- Harriman soils that are on adjacent lake terraces
- Lasere soils that are on adjacent hills and have low sagebrush in the potential plant community
- McConnel soils that are on adjacent, lower lying gravelly lake terraces
- Soils that are similar to the Deter soil but have a hardpan or bedrock at a depth of 40 to 60 inches

### **Major Uses**

Cropland, livestock grazing

### **Major Management Factors**

Permeability, shrink-swell potential, droughtiness, water erosion

### **Dominant Vegetation in Potential Plant Community**

Bluebunch wheatgrass, Idaho fescue, antelope bitterbrush

### **Livestock Grazing**

*General management considerations:*

- The clayey subsoil restricts rooting depth.
- The low precipitation limits forage production and seedling survival.

*Suitable management practices:*

- If this unit is seeded, select plants that tolerate droughtiness and shrinking and swelling.
- Seed on the contour to reduce the risk of erosion.
- Delay grazing until the surface layer is firm and the

preferred forage plants have achieved sufficient growth to withstand grazing pressure.

### **Cropland**

*General management considerations:*

- Because of the limited precipitation, continuous cropping is suitable only if the soil is irrigated.
- Suitable irrigation methods include border and sprinkler systems.
- If border irrigation is used, leveling is needed for uniform application of water.
- To avoid exposing the subsoil, land smoothing that involves only shallow cuts is best suited.
- Because of the high corrosivity to uncoated steel, protection from corrosion or use of noncorrosive material, such as concrete, aluminum, galvanized steel, or plastics, is needed for structures or pipelines.
- Irrigation water management is needed to prevent the buildup of a perched water table and to minimize runoff.
- A wide variety of trees and shrubs can be used for windbreaks and environmental plantings on this soil.
- The seedling mortality rate is severe because the high content of clay causes moisture stress.
- Cultivation or application of herbicides helps to control competing vegetation.

*Suitable management practices:*

- Irrigate during the dry period in summer.
- Use minimum tillage and return crop residue to the soil to increase the water intake rate and reduce soil compaction.

### **65C—Deter loam, low precipitation, 5 to 15 percent slopes**

### **Composition**

*Deter soil and similar inclusions—85 percent*

*Contrasting inclusions—15 percent*

### **Characteristics of the Deter Soil**

*Position on landscape:* Lake terraces

*Parent material:* Kind—alluvium, lacustrine sediment; source—tuff, basalt, diatomite

*Elevation:* 4,700 to 5,000 feet

*Climatic factors:*

- Mean annual precipitation—10 to 14 inches
- Mean annual air temperature—45 to 48 degrees F
- Frost-free period—70 to 110 days

*Typical profile:*

- 0 to 7 inches—very dark brown loam
- 7 to 19 inches—dark brown clay loam
- 19 to 34 inches—dark reddish brown clay

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**Contrasting Inclusions**

- Pit soils that are on adjacent lake terraces and have dominantly creeping wildrye, Nevada bluegrass, and silver sagebrush in the potential plant community
- Ozamis soils that are on adjacent lake terraces and have dominantly alkali sacaton and alkali bluegrass in the potential plant community
- Thunderegg soils that are on adjacent, slightly lower lying lake terraces and have dominantly tufted hairgrass in the potential plant community

**Major Uses**

Livestock grazing, wildlife habitat, cropland, hayland

**Major Management Factors**

Salinity, sodicity, available water capacity, wetness, frost action

**Dominant Vegetation in Potential Plant Community**

Nuttall alkaligrass, inland saltgrass

**Livestock Grazing**

*General management considerations:*

- This unit provides food and cover for wetland wildlife in spring.
- Grazing should be deferred during the period of nesting for waterfowl.
- Grazing when the soil is wet results in compaction and puddling of the surface.
- Salts reduce the amount of water available to plants and restrict seedling survival.
- Excess sodium in the soil results in nutrient imbalances and a caustic root environment.
- Dispersion and crusting of the soil surface reduce infiltration, cause ponding, and restrict seedling emergence and survival.
- The low available water capacity limits forage production and seedling survival.

*Suitable management practices:*

- Delay grazing until the soil is adequately drained and is firm enough to withstand trampling by livestock.
- If this unit is seeded, select plants that tolerate wetness, strong sodicity, strong salinity, and frost heaving and that provide cover for nesting waterfowl.

**Cropland and Hayland**

*General management considerations:*

- The concentration of salts and sodium limits the selection and production of hay and pasture plants and other crops.

- Removing salts and sodium is difficult unless the soil is drained.
- Irrigation may be needed to meet plant needs and leach salts below the root zone.
- Wetness limits the choice of plants and increases the risk of winterkill.
- A high water table early in spring restricts rooting depth and plant survival.
- The seasonal high water table provides supplemental moisture for plants late in summer and in fall.
- Because of a high potential for frost action, plants are subject to winterkill and other damage.
- The soil ties up large amounts of phosphorus, which limits the amount that is available to plants.
- Because of the high corrosivity to uncoated steel and concrete, protection from corrosion or use of noncorrosive material, such as galvanized steel, aluminum, or plastics, is needed for structures or pipelines.
- Irrigation and drainage are needed if this unit is intensively managed.
- The content of sodium in the soil can be reduced by applying proper amounts of soil amendments. Salts can be leached from the soil by applying good-quality irrigation water.
- Unless proper amounts of soil amendments are applied, removing salts causes dispersion and crusting of the soil surface.
- Irrigation water management is needed to prevent a rise in the level of the water table and the subsequent upward movement of salts and sodium in the soil.
- Drainage is difficult because of the nearly level slope and the lack of outlets.
- Trees and shrubs suitable for windbreaks and environmental plantings are limited, and the seedling mortality rate is severe because of the concentration of salts.

**153A—McConnel very gravelly sandy loam, 0 to 2 percent slopes**

**Composition**

McConnel soil and similar inclusions—85 percent  
Contrasting inclusions—15 percent

**Characteristics of the McConnel Soil**

*Position on landscape:* Lake terraces

*Parent material:* Kind—alluvium; source—tuff, basalt

*Elevation:* 4,500 to 4,800 feet

*Climatic factors:*

Mean annual precipitation—8 to 10 inches

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Mean annual air temperature—47 to 50 degrees F  
Frost-free period—90 to 110 days

**Typical profile:**

0 to 10 inches—dark yellowish brown very gravelly sandy loam  
10 to 22 inches—brown very gravelly coarse sandy loam  
22 to 60 inches—multicolored extremely gravelly loamy coarse sand

**Depth class:** Very deep (more than 60 inches) to bedrock, shallow or moderately deep (10 to 25 inches) to sand and gravel

**Drainage class:** Somewhat excessively drained

**Permeability:** Moderately rapid over very rapid

**Available water capacity:** About 2 inches

**Hazard of erosion:** By water—slight; by wind—slight or moderate

**Carbonates:** Between depths of 10 and 22 inches—strongly effervescent

**Contrasting Inclusions**

- Mesman soils that are on adjacent lake terraces and have dominantly basin big sagebrush and some black sagebrush and basin wildrye in the potential plant community
- Zorravista soils that are on adjacent dunes and have fourwing saltbush in the potential plant community
- Deter soils that are on adjacent, slightly higher lying lake terraces and have dominantly bluebunch wheatgrass in the potential plant community
- McNye soils that are on bedrock-controlled lake terraces
- Soils that have slopes of more than 2 percent

**Major Uses**

Livestock grazing, cropland

**Major Management Factors**

Gravel, available water capacity, permeability, seepage, wind erosion

**Dominant Vegetation in Potential Plant Community**

Indian ricegrass, Thurber needlegrass, Wyoming big sagebrush, needleandthread

**Livestock Grazing****General management considerations:**

- The low precipitation and low available water capacity limit forage production and seedling survival.
- The risk of seepage and the very rapid permeability of the lower part of the soil limit the construction of

livestock watering ponds and other water impoundments.

- This soil is subject to wind erosion if the vegetation is removed or degraded.
- This soil is suited to grazing in winter.
- Range seeding controls blowing and drifting sand.

**Suitable management practices:**

- Minimize the risk of wind erosion by maintaining adequate plant cover, seeding, and accumulating litter on the soil surface.
- If this unit is seeded, select plants that tolerate droughtiness.

**Cropland****General management considerations:**

- Irrigation is needed for crops.
- Because of the very rapid permeability of the lower part of the soil and the rapid water intake rate, sprinkler irrigation is best suited to this soil.
- Because of the low available water capacity, light and frequent applications of irrigation water are needed.
- Gravel in the surface layer causes rapid abrasion of tillage equipment.
- Because of the high corrosivity to uncoated steel, protection from corrosion or use of noncorrosive material, such as concrete, aluminum, galvanized steel, or plastics, is needed for structures or pipelines.
- Trees and shrubs for windbreaks and environmental plantings should be tolerant of droughtiness.
- The seedling mortality rate is severe because of the low available water capacity.
- Continuous cultivation, use of mulch, or application of herbicides helps to control competing vegetation and ensure establishment and survival of seedlings.

**Suitable management practices:**

- Irrigate during the dry period in summer.
- Adjust the application of irrigation water to the available water capacity, the water intake rate, and the needs of the crop grown to avoid overirrigating, control runoff, and prevent leaching of plant nutrients.
- Reduce the risk of wind erosion by planting crops in narrow strips at right angles to the prevailing wind, maintaining crop residue on the surface, and using minimum tillage.

**153C—McConnel very gravelly sandy loam, 2 to 15 percent slopes****Composition**

*McConnel soil and similar inclusions*—85 percent  
*Contrasting inclusions*—15 percent

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**GROUNDWATER APPLICATION FEE CALCULATOR**



**Oregon Water Resources Department  
Groundwater Application**

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Today's Date: Friday, April 17, 2020

Base Application Fee.		\$1,340.00
Number of proposed cubic feet per second (cfs) to be appropriated. (1 cfs = 448.83 gallons per minute)	1.66	\$700.00
Number of proposed Use's for the appropriated water. (i.e. Irrigation, Supplemental Irrigation, Pond Maintenance, Industrial, Commercial, etc) *	1	
Number of proposed groundwater points of appropriation. (i.e. number of wells) (include all injection wells, if applicable) **	4	\$1,050.00
Subtotal:		\$3,090.00
Permit Recording Fee. ***		\$520.00
* the 1st Water Use is included in the base cost. ** the 1st groundwater point of appropriation is included in the base cost. *** the Permit Recording Fee is not required when the application is submitted but, must be paid before a permit will be issued. It is fully refundable if a permit is not issued. If the recording fee is not paid prior to issuance of the Final Order, permit issuance will be delayed.	<b>Recalculate</b>	
Estimated cost of Permit Application		\$3,610.00

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**CASCADE**  
GEOENGINEERING

21145 Scottsdale DR, Bend, Oregon 97701  
360-907-4162 newtonjim@hotmail.com

November 20, 2020

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Dwight French, Water Right Services Division Administrator  
Oregon Water Resources Department  
725 Summer ST NE, Suite A  
Salem, Oregon 97301

**RE: APPLICATION FOR PERMIT TO USE GROUNDWATER; SUPPLEMENTAL  
GROUNDWATER IRRIGATION FOR INCREASE IN RATE, WITH ZERO DUTY;  
COLAHAN ENTERPRISES, INC.; PAISLEY, OREGON**

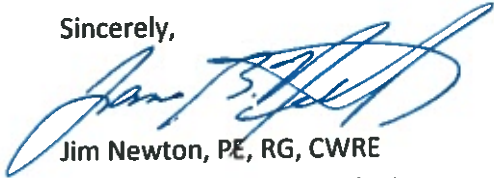
Dear Dwight:

This letter has been prepared by Cascade Geoengineering, LLC (CGE) to accompany a new Application for Permit to Use Groundwater (Application) on behalf of Colahan Enterprises, Inc. (Colahan). This Application was discussed with you on several occasions in 2019 to determine the best avenue to submit the Application in an attempt to increase the authorized flow rate from existing Colahan irrigation wells, without an increase in the duty already authorized under other water right certificates. Based on the rapidly or excessively draining soils in the place of use, the increase in flow rate assists Colahan in applying irrigation water that meets crop needs, while also reducing the potential for mineral buildup in the irrigated soils-the Colahan wells have elevated temperatures from geothermal heat sources in the area of Paisley, Oregon



If you have questions regarding this memorandum, please feel free to contact me at your convenience, I can be reached by telephone at 360-907-4162, or email [newtonjim@hotmail.com](mailto:newtonjim@hotmail.com).

Sincerely,



Jim Newton, PE, RG, CWRE  
Principal – Engineer-Geologist  
Cascade Geoengineering, LLC

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