

California Department of Fish and Wildlife

Application

14016 - Notify for Emergency Work - Final Application

49609 - Shadow Light Ranch Emergency Landslide Stabilization

Region 1 (Coastal)

Status: Submitted

Submitted Date: 03/26/2024 6:17 PM

Additional Contacts: Joshua Sweet

Select any additional contacts within your organization that will also manage this Permit

An Applicant may designate and authorize an agent (e.g., lawyer, consultant, or other individual) to act as Designated Representative.

The Designated Representative is authorized to sign the notification and any agreement on behalf of the applicant. The Designated Representative listed here must be listed in the "Additional Contacts" field above to receive emails related to the notification and permit.

Designated Representative: Joshua Sweet

Applicant Information

Applicant:

- **User accounts must be registered using an individual's name.** If you will be submitting a notification on behalf of an organization (e.g., business, government agency, etc.) you can associate that organization with your personal user account during the registration process (see Organization Information section below).
- **Register for only one user account.** A single user account may be associated with multiple notifications/applications and/or multiple organizations. If you do not receive an automated confirmation email within a few minutes of registering, please check your Spam/Junk email folder.
- **New User Registration Approval** is not automated and may take up to 72 hours. Once approved, you will receive two emails, one containing your User ID, and one containing your temporary password. These emails may also go to your Spam/Junk email folder.
- **DO NOT** USE ALL CAPITAL LETTERS WHEN COMPLETEING THIS FORM.
  - **NOTE**: If ALL CAPS are used in any field on this form, the registration will be denied.

Title: Joshua (First Name) | (Middle Name) | Sweet (Last Name)

User Email:* admin@kingrangeandco.com

User Address:* Po Box 250

* Garberville (City) | California (State/Province) | 95542 (Postal Code/Zip)

User Phone:* 310-710-7549 (Phone) Ext.

Organization Information

- **Associating an EPIMS user** with an organization (either new or existing) allows other EPIMS users affiliated with that organization to revise the EPIMS account. The organization fields below should be completed using your project or business information.
- **If you are an applicant** that has hired or may hire a business or agent (e.g., lawyers and consultants) to assist you with the notification process, please fill out the Organization Information section with a unique organization name for your project using your project details (something relevant to the project being completed). Share this information with the person or company assisting you with your notification so they can associate with the same organization in EPIMS.
- **Consultants:** Both you and the applicant must have user accounts and the applicant must create an organization when they register (see Organization Information section below). The applicant is responsible for complying with the terms and conditions of the agreement and therefore must request consultants association to their organization.
- **Applicants:** To provide consultants access to your application create an organization during registration and direct your consultant to register with EPIMS. You (the applicant) are responsible for contacting the EPIMS Help Desk to associate a consultant with your organization.
- **Government Agencies:** To grant multiple employees access to an application, create an organization during registration and direct your employees to register with EPIMS under the same organization. The applicant is responsible for contacting the EPIMS Help Desk to associate a consultant with the applicant's organization in EPIMS.
- Enter the full name of the organization. **DO NOT USE ABBREVIATIONS OR ACRONYMS.**
- **DO NOT** USE ALL CAPITAL LETTERS WHEN COMPLETEING THIS FORM.
  - **NOTE**: If ALL CAPS are used in any field on this form, the registration will be denied.

Organization Type:* Business

Organization Name:* Shadow Light Ranch, LLC

Organization Website URL:

Address:* Po box 250

* Garberville (City) | California (State/Province) | 95542 (Postal Code/Zip)

Phone:* 310-710-7549 Ext.

Contact Information

Provide information for the Person, Business, or Agency that is responsible for the emergency work. If the emergency work is being conducted by a business, agency, or utility, provide the name of your designated representative. Name:* Joshua (First Name) Sweet (Last Name)

Business/Agency Name: Shadow Light Ranch, LLC

Street Address:* PO Box 250

* Garberville (City/Town) | California (State) | 95542 (Zip Code)

Phone Number:* 310-710-7549

Email:* joshua@kingrangeandco.com

Location of Work

Is the emergency work being conducted located at a physical address?

Physical Address:* Yes

Provide the street address where the project will take place. Work Site Address:* 960 SHADOW LIGHT RANCH RD

City:* Garberville

Zip Code* 95542

Provide the name of the county where the project will take place. If you do not see your county on this list, you are applying to the wrong region. Return to the Main Menu and start a new application in the correct region. County: * Humboldt County

Assessor's Parcel Number can be found on deeds and tax records. Work Site APN:* 223-061-038-000
APN Format: 000-000-000-000 (Always ends in "000")

Does the work site include multiple assessor parcels?

* Yes

223-073-005-000 (APN) | 223-073-004-000 (APN) | APN

APN APN APN

APN APN APN

APN APN APN

Access Google Maps Help to find your GPS latitude and longitude coordinates.
GPS Coordinates:*

40.092643 -123.769016

Latitude Minimum Requirement ##.##### Longitude Minimum Requirement -###.#####

Does the work site include multiple GPS coordinates?

* No

Additional GPS Coordinates:

Latitude Minimum Requirement ##.##### Longitude Minimum Requirement -###.#####

Additional GPS Coordinates:

Latitude Minimum Requirement ##.##### Longitude Minimum Requirement -###.#####

Additional GPS Coordinates:

Latitude Minimum Requirement ##.##### Longitude Minimum Requirement -###.#####

Additional GPS Coordinates:

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Additional GPS Coordinates:

Latitude Minimum Requirement ##.##### Longitude Minimum Requirement -###.#####

Additional GPS Coordinates:

Latitude Minimum Requirement ##.##### Longitude Minimum Requirement -###.#####

Affected Body of Water

Provide the name of the stream or lake in or near where the Covered Activity will occur. If the river, stream or lake is unnamed, please select "unnamed stream or lake" in the drop-down box.
The following websites may assist you in identifying the name of the stream or lake in or near the project.

- EPA Maps
- USGS The National Map

- Unnamed -

Searchable List: this is a very large list, click once and wait 2-3 seconds to let the drop-down open.

Disclaimer – CDFW cannot and does not portray the links provided above as an exhaustive and comprehensive inventory of all river, streams, or lakes statewide. Field verification will always be an important obligation of the applicant.

River, Stream, or Lake Affected:*

Provide the watercourse or waterbody to which the stream or lake identified above is tributary.

- **EPA Maps**
- **USGS The National Map**

Disclaimer – CDFW cannot and does not portray the links provided above as an exhaustive and comprehensive inventory of all river, streams, or lakes statewide. Field verification will always be an important obligation of the applicant.

Waterbody Tributary:*

Bear Canyon Creek
Searchable List: this is a very large list, click once and wait 2-3 seconds to let the drop-down open.

Wild and Scenic Rivers Act (WSRA)

Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?

The State Wild and Scenic Rivers Act (WSRA) is codified at Public Resources Code section 5093.50 et seq. and can be found at California Wild and Scenic Rivers Act.

If the project is located within a segment of a river or stream that is listed in the State or federal WRSA, CDFW cannot approve the proposed project unless it is consistent with the act(s).

No

Wild and Scenic Rivers?:*

Nature of Emergency Work

Date Emergency was Discovered:* 03/14/2024

Date Work Began:* 03/16/2024

If CDFW does not receive the emergency notification within 14 days after the work begins, or the work did not constitute emergency work, the entity responsible for the work may be subject to criminal or civil prosecution. Date Emergency Work Was or Will Be Completed:*	09/30/2025
Type of Property Affected:*	Levee or Other Bank Protection Select all that apply.
Describe Other:	Complete if "Other" is selected above.
Type of Emergency Work:*	Landslide Select all that apply.
Describe the Emergency Work:*	On March 14th, 2025 I was notified by an employee checking the water level monitoring system on "pond 1" who notified me that a landslide had occurred below the toe of the embankment. Character Limit: 5,000
Briefly describe the dimensions (e.g., length and width) of the area or areas affected by the emergency and the work area. Dimensions of Area Affected:*	~10000 SF area of impact. ~40-50'x100' prism slipped out across approximately 100'. Final disturbed area and stabilization to be evaluated by geological and engineering consultant SHN Character Limit: 5,000
Describe any work you intend to complete after the emergency to restore the affected area Restoration:*	Currently being evaluated. An engineering geologist will provide a stamped review letter or stability analysis depending on his assessment of the slide and a stabilization plan (geotechnical and erosion and sediment control) will be prepared. The total footprint of the disturbed area will be reviewed to determine if the area of impact was fully encompassed by the previously prepared grading and restoration plans, additional documents to follow pending design professional review. I am performing emergency de-watering of the pond to reduce load on the impacted embankment. Water is being de-watered from Pond 1 to Pond 2 (see attached draft restoration and grading plans, these will be submitted as an update to draft LSAA 1600-2018-0857-R1) Character Limit: 5,000

Documents and Maps

Row		
Description:	Engineering geologist initial assessment	Engineering Geologist Initial Review.pdf
Description:	Emergency correspondence with CDFW and the Waterbo	Emergency Correspondence to CDFW and Waterboard.pdf
Description:	Grading and restoration plans for Ponds 1 and 2	SLR_RP_Draft_11-16-2023 Pond 1 and 2.pdf
Description:		
Description:		

Electronic Signature

I hereby certify that to the best of my knowledge the information in this emergency notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the person, business, or agency responsible for the emergency work.

I Certify:* Yes

I understand that if CDFW does not receive this emergency notification within 14 days after the emergency work begins, or the work does not constitute emergency work, I and/or the person, business, or agency responsible for the emergency work may be subject to criminal or civil prosecution.

I Understand:* Yes

Electronic Signature:* Joushua Sweet
First and Last Name

Date:* 03/26/2024

Pond 1 Embankment Slope Failure - Shadow Light Ranch LLC

Gary Simpson <gsimpson@shn-engr.com> Mon, Mar 18, 2024 at 5:14 PM
To: "Utley, Shannon M@Waterboards" <ShannonM.Utley@waterboards.ca.gov>, Steven Luu <steven@slconsultinginc.com>, "Manthorne, David@Wildlife" <David.Manthorne@wildlife.ca.gov>
Cc: "Bauer, Scott@Wildlife" <Scott.Bauer@wildlife.ca.gov>, "Curtis, Joshua R.@Waterboards" <Joshua.Curtis@waterboards.ca.gov>, "Dougherty, Mona@Waterboards" <Mona.Dougherty@waterboards.ca.gov>, "Garwood, Rebecca@Wildlife" <Rebecca.Garwood@wildlife.ca.gov>, "Grady, Kason@Waterboards" <Kason.Grady@waterboards.ca.gov>, "Kippen, Dan@Waterboards" <Dan.Kippen@waterboards.ca.gov>, "Lewis, Patrick@Waterboards" <Patrick.Lewis@waterboards.ca.gov>, "Lynch, Brendan@Wildlife" <Brendan.Lynch@wildlife.ca.gov>, "Valverde, Jeremy@Wildlife" <Jeremy.Valverde@wildlife.ca.gov>, "admin@kingrangeandco.com" <admin@kingrangeandco.com>, "joshua@kingrangeandco.com" <joshua@kingrangeandco.com>, "mpera@hohmanandassociates.com" <mpera@hohmanandassociates.com>, "natalie@kingrangeandco.com" <natalie@kingrangeandco.com>, "Van de Wyngard, Christopher@Waterboards" <Christopher.VandeWyngard@waterboards.ca.gov>, "Feiler, Stormer@Waterboards" <Stormer.Feiler@waterboards.ca.gov>, "Murano, Taro@Waterboards" <taro.murano@waterboards.ca.gov>

Good afternoon:

I visited ponds at Shadow Light to review the reports of recent embankment failure. It's fair to say there was more there than I expected.

The area below Pond #1 had been impacted by a large slide complex that appears to consist of two main parts. The lower area, encompassing the low gradient slope below the pond embankment, has failed in a broad earthflow. The ground here has moved laterally an estimated 30± feet, and trees at the toe of the slope are all jackstrawed. The toe of the failure is apparent above the creek bank; material has piled up behind the vegetation. Debris appears to have stopped just shy of the Class II; it is choked with woody debris and negligible (if any) sediment delivery has occurred.

The lower slide extends up the slope to a 15+ foot high escarpment that extends into the toe of the embankment. The lower slide is interpreted to be a naturally-occurring failure that occurred first.

Due to the lower slide encroaching into the toe of the Pond #1 embankment, the embankment has almost entirely failed. To be clear, the embankment failure appears to have resulted due to the void formed by the lower slide. The embankment failure occurred as slumping, once toe support was removed.

The released pond water appears to have dissipated onto (into) the slide body of the lower slide, which is a low gradient jumble of chaotic slide blocks. There is no flow path through the lower slide mass and no apparent sediment delivery.

The failure complex has currently reached a state of equilibrium and there is a much-reduced potential for additional substantial movement. The potential for catastrophic embankment failure is negligible due to what occurred on the slope below. Removing the water from Pond #1 will reduce the potential for additional movement to a very low level.

Until the pond can be entirely removed and re-graded, the remaining embankment (once dry) should be notched to prevent any storage of water. The minor natural spring flow is negligible (not currently flowing) and will dissipate into the lower slide body. Minor erosion control may be applied at the slide toe, adjacent to the creek, but removing the (natural) transported debris is not feasible.

Let me know if you have any questions.

Gary

Gary D. Simpson, CEG

Sr. Engineering Geologist

SHN

(707) 441-8855

(707) 845-3046 (cell)

From: Utley, Shannon M@Waterboards <ShannonM.Utley@waterboards.ca.gov>
Sent: Monday, March 18, 2024 4:11 PM
To: Steven Luu <steven@slconsultinginc.com>; Manthorne, David@Wildlife <David.Manthorne@wildlife.ca.gov>
Cc: Bauer, Scott@Wildlife <Scott.Bauer@wildlife.ca.gov>; Curtis, Joshua R.@Waterboards <Joshua.Curtis@Waterboards.ca.gov>; Dougherty, Mona@Waterboards <Mona.Dougherty@waterboards.ca.gov>; Garwood, Rebecca@Wildlife <Rebecca.Garwood@wildlife.ca.gov>; Grady, Kason@Waterboards <Kason.Grady@waterboards.ca.gov>; Gary Simpson <gsimpson@shn-engr.com>; Kippen, Dan@Waterboards <Dan.Kippen@Waterboards.ca.gov>; Lewis, Patrick@Waterboards <Patrick.Lewis@Waterboards.ca.gov>; Lynch, Brendan@Wildlife <Brendan.Lynch@wildlife.ca.gov>; Valverde, Jeremy@Wildlife <Jeremy.Valverde@wildlife.ca.gov>; admin@kingrangeandco.com; joshua@kingrangeandco.com; mpera@hohmanandassociates.com; natalie@kingrangeandco.com; Van de Wyngard, Christopher@Waterboards <Christopher.VandeWyngard@waterboards.ca.gov>; Feiler, Stormer@Waterboards <Stormer.Feiler@waterboards.ca.gov>; Murano, Taro@Waterboards <taro.murano@waterboards.ca.gov>
Subject: RE: Pond 1 Embankment Slope Failure - Shadow Light Ranch LLC

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Steve and Josh,

[Quoted text hidden]

Pond 1 Embankment Slope Failure - Shadow Light Ranch LLC

Manthorne, David@Wildlife <David.Manthorne@wildlife.ca.gov> Sun, Mar 17, 2024 at 7:10 PM
To: Steven Luu <steven@slconsultinginc.com>
Cc: "Dougherty, Mona@Waterboards" <Mona.Dougherty@waterboards.ca.gov>, "Utley, Shannon M@Waterboards" <ShannonM.Utley@waterboards.ca.gov>, "Grady, Kason@Waterboards" <Kason.Grady@waterboards.ca.gov>, "Kippen, Dan@Waterboards" <Dan.Kippen@waterboards.ca.gov>, "Lewis, Patrick@Waterboards" <Patrick.Lewis@waterboards.ca.gov>, "Gsimpson@shn-engr.com" <Gsimpson@shn-engr.com>, "mpera@hohmanandassociates.com" <mpera@hohmanandassociates.com>, "admin@kingrangeandco.com" <admin@kingrangeandco.com>, "joshua@kingrangeandco.com" <joshua@kingrangeandco.com>, "natalie@kingrangeandco.com" <natalie@kingrangeandco.com>, "Bauer, Scott@Wildlife" <Scott.Bauer@wildlife.ca.gov>, "Lynch, Brendan@Wildlife" <Brendan.Lynch@wildlife.ca.gov>, "Curtis, Joshua R.@Waterboards" <Joshua.Curtis@waterboards.ca.gov>, "Garwood, Rebecca@Wildlife" <Rebecca.Garwood@wildlife.ca.gov>, "Valverde, Jeremy@Wildlife" <Jeremy.Valverde@wildlife.ca.gov>

Hi Steven,

I concur with Josh and Gary that the pond appears extremely unstable, and that attempting to dewater the pond seems like the best temporary solution. I believe it could be challenging to dewater the pond without a substantial pump, especially if wet weather returns. CDFW requests that a screen is used for the pumping activity. This will help avoid clogging of the pump and impingement of amphibians. The larger the volume of screen the better, with openings not to exceed 3/32 of an inch. Once pumping begins at a higher rate, the upper and lower ponds should be monitored to avoid additional unforeseen impacts. An emergency 1600 should be filed, but there is a two week window from the emergency activity start to submit the notification. Please let me know if you have any questions.

Thanks you

From: Steven Luu <steven@slconsultinginc.com>
Sent: Saturday, March 16, 2024 8:20 PM
To: Curtis, Joshua R.@Waterboards <Joshua.Curtis@Waterboards.ca.gov>
Cc: Dougherty, Mona@Waterboards <Mona.Dougherty@waterboards.ca.gov>; Utley, Shannon M@Waterboards <ShannonM.Utley@waterboards.ca.gov>; Grady, Kason@Waterboards <Kason.Grady@waterboards.ca.gov>; Kippen, Dan@Waterboards <Dan.Kippen@Waterboards.ca.gov>; Lewis, Patrick@Waterboards <Patrick.Lewis@Waterboards.ca.gov>; Gsimpson@shn-engr.com; mpera@hohmanandassociates.com; admin@kingrangeandco.com; joshua@kingrangeandco.com; natalie@kingrangeandco.com; Bauer, Scott@Wildlife <Scott.Bauer@wildlife.ca.gov>; Manthorne, David@Wildlife <David.Manthorne@wildlife.ca.gov>; Lynch, Brendan@Wildlife <Brendan.Lynch@wildlife.ca.gov>
Subject: Re: Pond 1 Embankment Slope Failure - Shadow Light Ranch LLC

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

We reached out today to David Manthorne's office line but have not heard back (understandable due to the weekend). We have filed for the CDFW EPIMS account to submit the emergency 1600 permit.

Given the risk of further failure of the embankment, the decision was made to begin dewatering to relieve pressure on the embankment and reduce potential sediment delivery in the event of a failure. De-watering has begun using four water lines (two 3/4", one 1-1/4" and one 1-3/4") via siphon flow from Pond 1 into Pond 2. Joshua is working to mobilize a larger trash pump tomorrow.

Attached is a photolog showing the condition of the embankment and the de-watering operations.

Sincerely,

Steve Luu

On Fri, Mar 15, 2024 at 4:52 PM Curtis, Joshua R.@Waterboards <Joshua.Curtis@waterboards.ca.gov> wrote:

> Mr. Luu,
>
> From the images provided, there appears to be water on the slope which is indicative of potential, imminent catastrophic failure. Please take all appropriate safety precautions while resolving this emergency. The North Coast Regional Board in consultation with the Division of Water Rights support you taking limited emergency actions to avoid pond failure as soon as possible. We recommend considering dewatering into the lower pond at a velocity that does not cause bed and bank erosion downstream. Additionally, you should confer with CDFW prior to any action and we recommend requesting an emergency 1600 permit from them to dewater the reservoir.
>
> This email does not abrogate any obligations of Shadow Light Ranch, LLC; The Hills, LLC; and Joshua Sweet pursuant to the settlement of the state's litigation with those parties (Humboldt County Superior Court Case No. CV2001113).
>
> Please report back to us every 24 hours as to the status of the pond. If you have any emergency issues requiring Regional Board input over the weekend, please call Mona Dougherty at 707-445-6129. We will reach out on Monday to work with you to resolve any remaining issues.
>
> Sincerely,
>
> Josh Curtis
>
> Note: I have copied CDFW staff on this email exchange for their awareness.
>
> ---
>
> *Managing and protecting California's water resources is a critical and complex task—particularly during periods of drought. We each have a role to play in sustaining California's water supply and building the state's resiliency against the effects of climate change.*
>
> *For Drought Updates and Information related to the Water Boards, please visit* Drought | California State Water Resources Control Board.
>
> ---
>
> Joshua R. Curtis
>
> Assistant Executive Officer
>
> North Coast Regional Water Quality Control Board
>
> 5550 Skylane Blvd., Suite A
>
> Santa Rosa, CA 95403
>
> Pronouns: he, him, his
>
> Joshua.curtis@waterboards.ca.gov
>
> Office: 707-576-2695
>
> Mobile: 707-230-1908
>
> Fax: 707-523-0135

From: Steven Luu <steven@slconsultinginc.com>
Sent: Friday, March 15, 2024 12:54 PM
To: Utley, Shannon M@Waterboards <ShannonM.Utley@waterboards.ca.gov>
Cc: Cannabis, NorthCoast@Waterboards <NorthCoast.Cannabis@Waterboards.ca.gov>; Feiler, Stormer@Waterboards <Stormer.Feiler@waterboards.ca.gov>; Gary Simpson <Gsimpson@shn-engr.com>; Mark Pera <mpera@hohmanandassociates.com>; admin <admin@kingrangeandco.com>; joshua <joshua@kingrangeandco.com>; natalie <natalie@kingrangeandco.com>
Subject: Pond 1 Embankment Slope Failure - Shadow Light Ranch LLC

EXTERNAL:

Hello,

I am writing to notify all parties about a slope failure that was observed yesterday at the embankment of Pond 1 at Shadowlight Ranch.

Gary Simpson at SHN has been scheduled to inspect and provide stabilization recommendations at his earliest availability which is Monday March 18th.

Per the phone discussion between Gary and Josh Sweet, Gary recommended that the pond be dewatered to relieve load on the embankment but Josh is precluded from this action in the stipulated judgement. We wish to seek direction on this matter and emergency authorization to begin dewatering if deemed appropriate.

The property is available for inspection at your convenience.

Please see below photos below.







POND DECOMMISSIONING PLAN
for
SHADOW LIGHT RANCH LLC
GARBERVILLE, CA

CAUTION:
UNAUTHORIZED CHANGES & USES

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONALS.

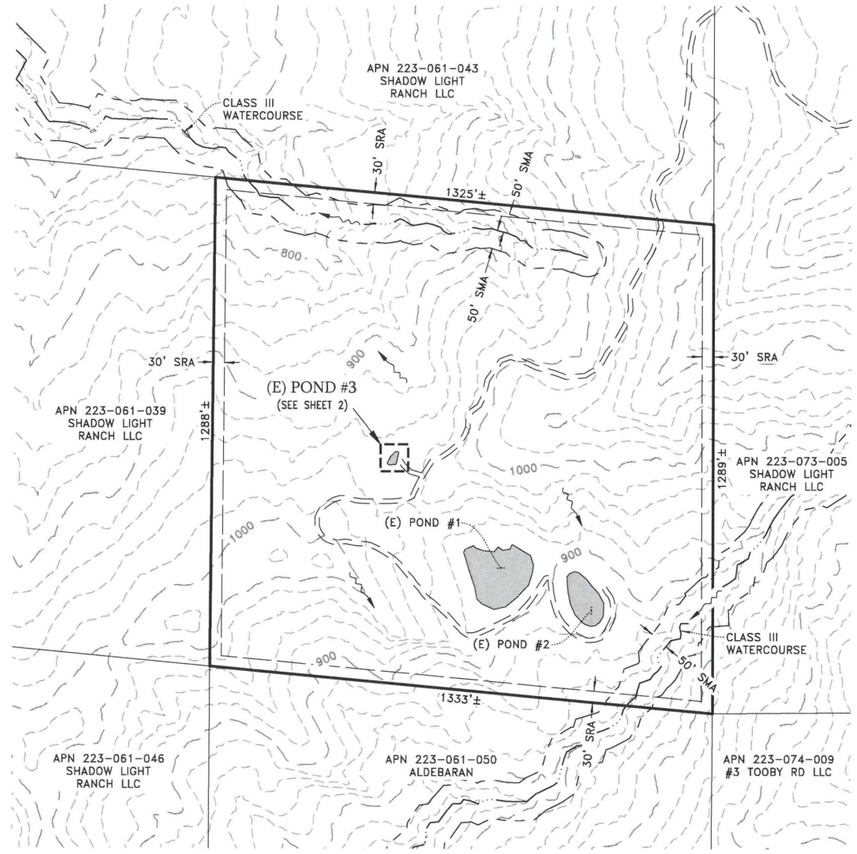
NOTES

GENERAL NOTES

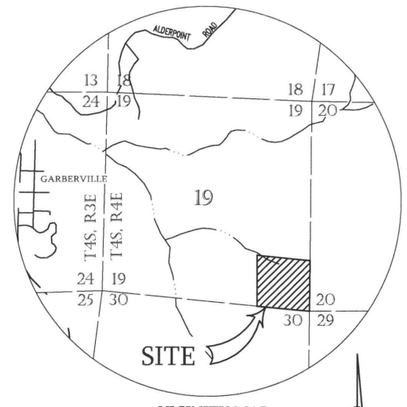
1. THE PARCEL IS SPLIT-ZONED AGRICULTURE EXCLUSIVE (AE) AND TIMBER PRODUCTION ZONE (TPZ) WITH A B-5 COMBINING ZONE, HAS A GENERAL PLAN DESIGNATION OF AGRICULTURAL GRAZING (AG) AND IS IN THE STATE RESPONSIBILITY AREA (SRA).
2. THE PROPERTY IS CURRENTLY DEVELOPED WITH THREE (3) PONDS, AS SHOWN HEREON.
3. PER CURRENT FEMA MAPPING, THE GRADED AREA AT THE POND SITE IS NOT DESIGNATED TO BE SUBJECT TO FLOODING.
4. IT IS UNKNOWN AT THIS TIME WHETHER THE SITE IS UNDERLAIN BY SENSITIVE HABITAT AREAS, WETLAND AREAS OR ARCHAEOLOGICAL RESOURCES.
5. CONTOURS ARE BASED ON USGS 1-METER DIGITAL ELEVATION MODELS AND ARE AT 20-FOOT INTERVALS AS SHOWN HEREON.

GRADING & EROSION CONTROL NOTES

6. APPROXIMATELY 65 C.Y. OF SOIL MATERIAL WILL BE RELOCATED TO ACCOMPLISH THE POND DECOMMISSIONING AS SHOWN HEREON.
7. A FIELD INVESTIGATION WAS CONDUCTED ON OCTOBER 31, 2023 FOR THE PURPOSE OF INSPECTING THE POND (KNOWN AS POND #3) AND FORMULATING A PLAN FOR DECOMMISSIONING THE POND. THE POND'S BERM SHALL BE REMOVED, WITH THE EXCAVATED MATERIAL PLACED AS FILL IN THE LOWEST PORTION OF THE POND TO PREVENT THE RETENTION OF RAINWATER (REFER TO SHEET 2 HEREIN, FOR FULL PARTICULARS).
8. DUST SHALL BE CONTROLLED BY WATERING DURING CONSTRUCTION.
9. ALL GROUND BARED BY EARTH-MOVING ACTIVIEIS SHALL RECEIVE EROSION CONTROL TREATMENT PRIOR TO THE ONSET OF THE WINTER RAINS. EROSION CONTROL TREATMENT SHALL CONSIST OF THE FOLLOWING:
   a. SPREAD NATIVE SEED MIX AT THE MANUFACTURERS RECOMMENDED RATE.
   b. SPREAD STRAW AT THE RATE OF 2 TONS/ACRE.
   c. STRAW SHALL BE STABLE AND NOT SUBJECT TO REMOVAL BY WIND. THE STRAW SHALL BE PLACED WITH PARTIAL EMBEDMENT INTO THE SOIL OR TREATED WITH A SUITABLE STABILIZING EMULSION.
10. SITE MONITORING PRIOR TO AND AFTER SIGNIFICANT STORM EVENTS SHALL BE MADE BY THE APPLICANT (OR OWNER), TO VERIFY THAT THE EXISTING EROSION CONTROL MEASURES ARE SATISFACTORY, AND TO DETERMINE IF ADDITIONAL MEASURES ARE REQUIRED. ADDITIONAL EROSION & SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED, AS NECESSARY, TO MINIMIZE EROSION AND/OR SEDIMENT LEAVING THE SITE.
11. THE GOAL OF THIS PLAN IS TO MINIMIZE SEDIMENT LEAVING THE SITE, AND TO ENSURE THAT ANY SEDIMENT THAT DOES LEAVE WILL HAVE AN INSIGNIFICANT IMPACT DOWNSTREAM.
12. RESTORED CUT AND FILL SLOPES ARE TO BE GRADED AT 3:1 MAXIMUM UNLESS OTHERWISE SHOWN HEREON
13. REVEGETATION WILL OCCUR VIA SEEDING AND NATURAL PROCESSES



SITE PLAN
SCALE: 1" = 400'
(IF PRINTED AT 11x17)



VICINITY MAP
SCALE: 1" = 4,000'

DIRECTIONS TO THE SITE

HWY 101 TO REDWOOD DRIVE TO ALDERPOINT ROAD TO FLAT ROCK ROAD TO 960 SHADOW LIGHT ROAD.

LEGEND

SYMBOL	INDICATES
	DIRECTION OF SURFACE WATER RUNOFF/FLOW DIRECTION
(P)	PROPOSED
(E)	EXISTING
(TYP.)	TYPICAL
CL	CENTER LINE
MAX.	MAXIMUM
SRA	STATE RESPONSIBILITY AREA SETBACK
SMA	STREAMSIDE MANAGEMENT AREA SETBACK (PER HUMBOLDT COUNTY GIS)
BMP's	BEST MANAGEMENT PRACTICES
1000	CONTOURS AT 20-FOOT INTERVALS
	ORIGINAL GROUND SURFACE
	PROPOSED CUT MATERIAL
	PROPOSED FILL MATERIAL

DRAWING INDEX

SHEET	DRAWING
1	COVER / TITLE SHEET / SITE PLAN
2	POND DECOMMISSIONING, CROSS SECTIONS & DETAILS

0 200' 400'

REGISTERED PROFESSIONAL ENGINEER
KIMBERLY D. PRESTON
No. 62665
CIVIL
STATE OF CALIFORNIA

Kimberly D. Preston 12-6-23
KIMBERLY D. PRESTON DATE
R.C.E. 62665

OWNER/APPLICANT
SHADOW LIGHT RANCH LLC
c/o JOSHUA SWEET
P. O. BOX 250
GARBERVILLE, CA 95542
(310) 710-7549

APN 223-061-038

NO.	REVISION	DATE	BY

OMSBERG & PRESTON
402 E Street
Eureka, California
95501
Telephone
(707) 443-8651
SURVEYORS PLANNERS ENGINEERS

DESIGNED BY DK	DATE 11/28/23
DRAWN BY CWB	DATE 11/28/23
CHECKED BY KDP	DATE 12/06/23

POND DECOMMISSIONING PLAN
for
SHADOW LIGHT RANCH LLC
In the unincorporated area of Humboldt County
Section 19, T.4S., R.4E. H.B.&M.

SCALE	
AS SHOWN	
JOB NO.	
23-2315	
SHEET	OF
1	2

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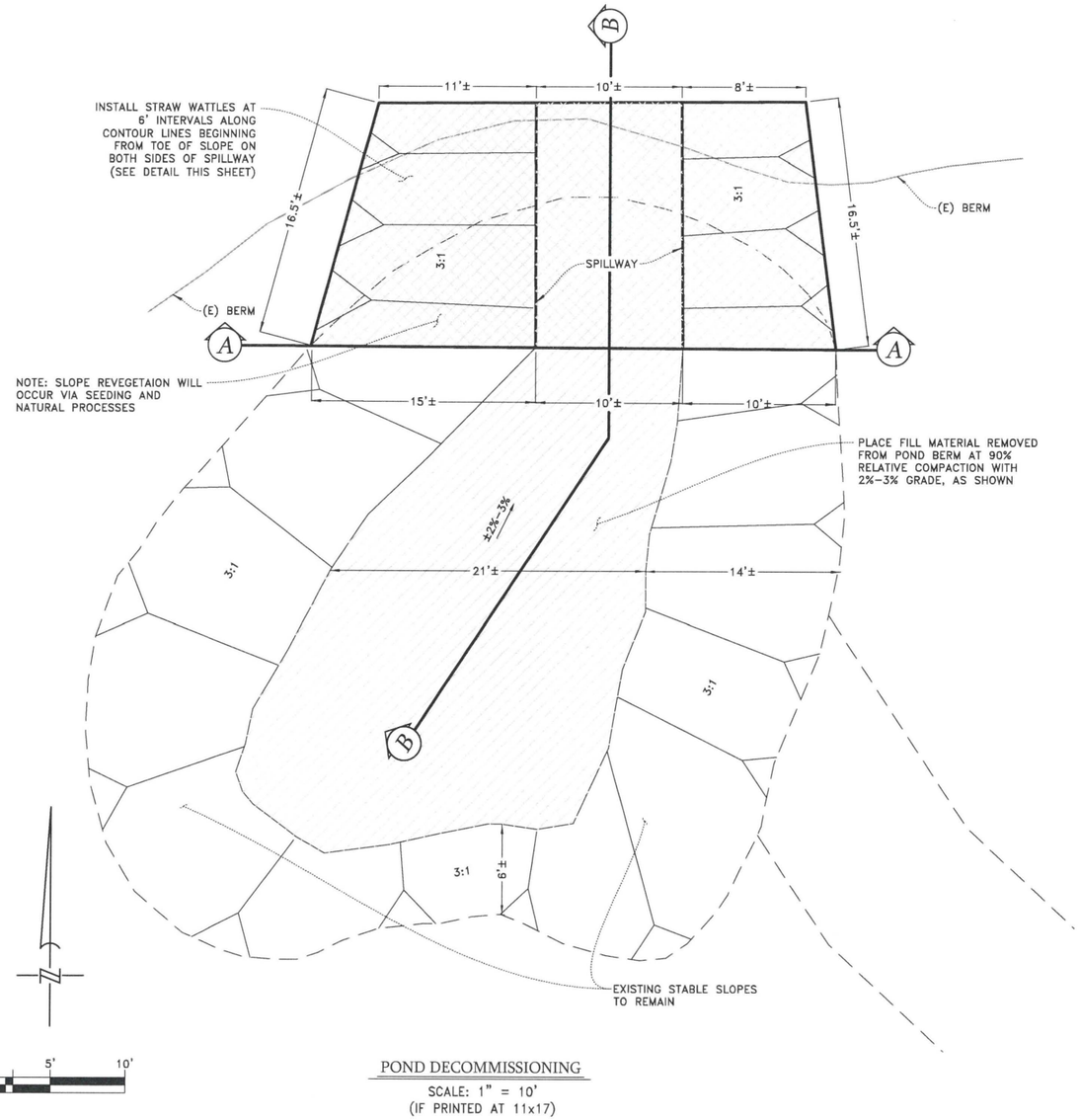
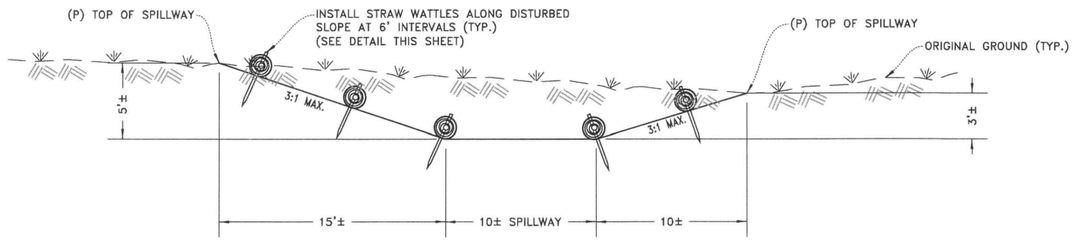


POND DECOMMISSIONING

SCALE: 1" = 10'
(IF PRINTED AT 11x17)



SECTION 'A-A'

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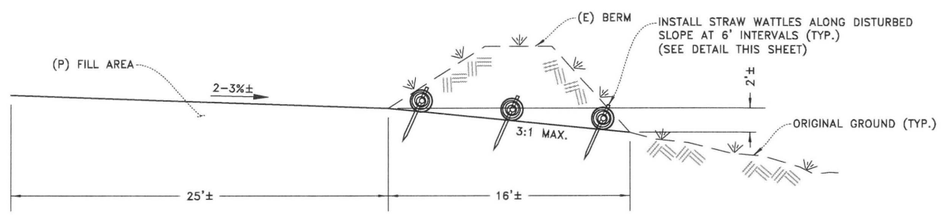

SECTION 'B-B'

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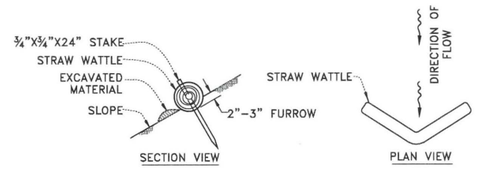


STRAW WATTLE DETAIL

NOT TO SCALE

APN 223-061-038

NO.	REVISION	DATE	BY

OMSBERG & PRESTON
402 E Street
Eureka, California
95501
Telephone
(707) 443-8651
SURVEYORS PLANNERS ENGINEERS

DESIGNED BY: DK — DATE: 11/28/23
DRAWN BY: CWB — DATE: 11/28/23
ENGINEER OF WORK: K. Preston — DATE: 12-6-23
KIMBERLY D. PRESTON RCE: 62665

POND DECOMMISSIONING, CROSS SECTIONS & DETAILS

for

SHADOW LIGHT RANCH LLC

In the unincorporated area of Humboldt County
Section 19, T.4S., R.4E. H.B.&M.

SCALE: AS SHOWN
JOB NO.: 23-2315
SHEET 2 OF 2

O:\Projects_Civil3D\23-2315_Sweet (Pond AsBuilt)\dwg\2315_ASBLT_02.dwg 12/6/2023 2:18 PM

Shadowlight Ranch Pond #3 Restoration Plan
APN 223-061-038

Project Description

Pond #3 is a legacy stock pond situated on a topographic bench, approximately 300 feet upslope of the headwaters of an unnamed Class II stream, with potential for subsurface hydrologic connection to this stream. The pond appears to be fed by a nearby spring and sheetflow from rainwater. As per the Stipulated Final Judgement against Shadowlight Ranch et al, the ponds onsite must be rendered incapable of retaining water. On October 31, 2023, Omsberg & Preston (O&P) staff conducted a site visit to assess Pond #3 and collect data for its decommissioning. The conclusion from this visit is that more soil was removed to create the pond than is contained within the retaining berm and given that the pond has existed for many decades, the best option for restoration of this area is to decommission the pond by removing the retaining berm and restoring the disturbed area with seeding and planting of native vegetation. The retaining berm of the pond is between three to five feet in height and 15 feet wide by 25 feet in length. The proposed project is to remove the retaining berm and for the excavated material to be placed and stabilized in the lowest portion of the pond to prevent the retention of water, as outlined in the Pond Decommissioning Plan by O&P dated 12/6/2023. At the direction of the Regional Water Board, this plan shall be updated with additional erosion control measures, including the installation of straw wattles at and below the outlet of the proposed spillway and additional seeding and planting, as outlined below.

Revegetation Recommendations

Given the relatively flat area surrounding and within the pond footprint currently supports hydrophytic vegetation, it is likely that soil conditions and hydrology exist that allow for the enhancement of these potential seasonal wetlands by seeding and planting hydrophytic vegetation within the disturbed area of the pond and the removed retaining berm. In May of 2022, Native Ecosystems Inc. (NEI) assessed vegetative conditions onsite and found nearby existing areas of native wetland species which could be planted within the disturbed area with potential for high success of colonization. Therefore, it is recommended that seeding takes place following restoration, with planting of native grasses and forbs following adequate rainfall in the autumn and early winter months prior to freeze for the highest potential for success. If planting at this time is not feasible due to onsite conditions, new plantings should be watered within 24

hours of planting, and at a minimum weekly until the rainy season begins. Plantings should be installed in single species clusters of 5-20 individuals with spacing dependent on size and species type. Given the area is in a dominant oak woodland and grasslands region, it is recommended to seed and plant a dominant portion of *Danthonia californica* alongside wetland graminoids such as *Juncus effusus* and *Juncus patens*, and native forbs such as *Lupinus bicolor* and *Ranunculus occidentalis*, all of which have been identified onsite. This will help enhance biodiversity and improve habitat diversity for a wide variety of animal and insect species. Monitoring will occur over three years, during which a survival rate and native coverage of 85% shall be considered successful. Monitoring reports will be submitted to the appropriate agencies in a timely manner.

Reference: 018064

November 6, 2023

Joshua Sweet
Shadow Light Ranch, LLC
P.O. Box 250
Garberville, CA

Subject: Engineering Geologic Assessment of the Proposed Restoration at Pond #3, Shadow Light Ranch, Garberville, California; APN 223-061-038

Joshua Sweet:

SHN is providing this engineering geologic assessment to inform the proposed restoration work at Pond #3 at the Shadow Light Ranch, near Garberville, California. The pond restoration work is being completed as part of a legal agreement with the State and the information is being provided as part of a comprehensive application that includes a variety of other work at the site. The intent of this letter report is to identify and discuss potential mass wasting-related impacts associated with the proposed work, especially as they relate to water quality, and to provide mitigation recommendations, as appropriate. The proposed work at Pond #3 is relatively minor, and it does not appear that Humboldt County grading permitting will be required.

The subject pond is located at the following coordinates:

Latitude:	40.093858
Longitude:	-123.770490

Site Conditions

Pond #3 is a small, spring-fed stock pond created many years ago during the development of the original "Tooby Ranch." In fact, the ponds are often referred to locally as "Tooby ponds," as they dot the landscape in the area. The subject pond is about 60 feet long, 40 feet wide, and about 5 feet deep (based on staff measurements). It occurs in an upland setting, along a drainage divide, and appears almost exclusively spring-fed from a source just to the southwest (previous flow estimates identified a catchment area of about an acre).

Pond #3 has a nominal, 1- to 2-foot-high embankment; it appears that the spoils from excavation of the stock pond were placed in the shallow stream channel downstream of the pond to retain water and distributed over the surrounding ground as a low berm. The modest channel (a few feet wide and deep) is apparent downstream of the filled area. Flow into the pond is minor and seasonally ephemeral. There is no spillway, yet there is no apparent overflow; sufficient quantities of the retained water appear to be flowing through the buried channel to maintain equilibrium.

The area northwest of the pond is relatively low gradient and there is no geomorphic evidence of landsliding or unstable ground in the discharge area.

Proposed Project

We understand the intention is to daylight the pre-existing channel downstream of the pond to reduce water retention and allow through-flow of the pond (no net storage). The pond will not be backfilled. We expect this minor restoration work to require minimal earthwork.

Discussion

The proposed channel restoration at Pond #3 is a minor project with a limited, focused scope. The potential impacts related to geologic conditions at the site associated with the work are negligible. Because the pond does not overflow under current conditions due to low flows and hydraulic connection to the channel downstream of the pond, we do not expect significant change to downstream flows. As such, there is a negligible potential for impacts related to the integrity of the subject hillslopes or long-term water quality conditions at the site.

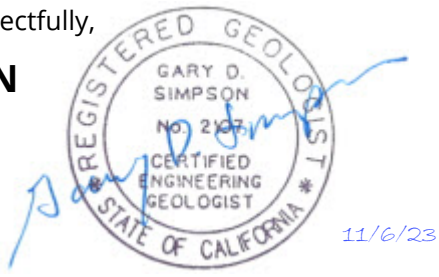
Removal of stored fill soils from the channel area has the potential for short-term impacts related to sediment and turbidity, which we understand will be addressed in the project restoration plan.

Based on the small volume of potential spoils, it does not appear that a Humboldt County grading permit is required. The spoils should be moved to a suitable disposal site and treated to control erosion, as appropriate.

We trust this focused engineering geologic assessment provides the information necessary to develop the application information requested by the Regional Water Quality Control Board. If additional information is required, please let us know and we will be happy to address any concerns or comments.

Respectfully,

SHN



Gary D. Simpson, CEG
Sr. Engineering Geologist

GDS:ame

LINDBERG GEOLOGIC CONSULTING
David N. Lindberg, CEG
Post Office Box 306
Cutten California 95534
(707) 442-6000

August 26, 2020 Project No: 0260.04

The Hills LLC
Mr. Josh Sweet
Post Office Box 250
Garberville, California 95542

Subject: Hydrologic Isolation of Existing Well from Surface Waters,
960 Shadow Light Ranch Road, Garberville, APN 223-073-004

Dear Mr. Sweet:

As requested, Lindberg Geologic Consulting has assessed your well on the above-referenced property to determine if it could potentially have hydrologic connectivity with nearby surface waters, so that pumping the well could affect surface water from nearby tributaries of Bear Canyon Creek (Figure 1). In our opinion it is unlikely that this well has a potential to be hydrologically connected to any of the nearby surface waters in a manner to affect surface flows. This well was drilled under county permit (#19/20-0154), in October of 2019, by Fisch Drilling of Hydesville. Fisch Drilling is a licensed (C-57 #683865) well-drilling contractor. Fisch filed the well completion report (DWR 188) in November 15, 2019 (copy attached). The well location is shown approximately on Figures 1 and 3.

Borehole depth was 240 feet, diameter was 10 inches, and the surface seal consists of bentonite from the ground surface to 20 feet below the ground surface (bgs). From 20 feet to the total depth of 240 feet bgs, the annulus was backfilled with a 3/8-inch pea gravel filter pack. From the surface to the total depth, the well was constructed of 6-inch diameter, low-carbon steel casing (ASTM grade A53) pipe, screened from depths of 90 to 235 feet. Depth to static water level in the completed and developed well was 92 feet bgs on October 31, 2019.

Parcel 223-073-004 (Figure 2) has an area of between 81.02 GIS acres (per County Planning), and 94 acres (per Assessor's web site, and the "assessed lot size" on WebGIS). Parcel 223-073-004 is zoned for agriculture (AG). The subject well is located at latitude 40.097818° north, and latitude 123.761395° west, approximately 1,860 feet northeast of the nearest mapped blue line stream, a small tributary of Bear Canyon Creek, and more than 2,000 feet from any other perennial watercourses (Figures 1 and 3). This parcel is in the southwest ¼ of Section 20, (T4S, R4E, HB&M). Based on the USGS Garberville topographic quadrangle map (Figure 1), the well elevation is approximately 1,500 feet above sea level. Elevation of the channel of the small tributary of Bear Canyon Creek at the nearest point to the well is approximately 1,000 feet, while the elevations of the other proximal watercourses to the southwest are less than 1,000 feet.

On the geologic map (Figure 4) the parcel is shown to be underlain by a landscape-scale Quaternary landslide. Landslide deposits originated in, and is underlain by mélange of the Central Belt of the Franciscan Complex. Central Belt mélange is described by McLaughlin and

Others (2000) as consisting of "a matrix of clayey, penetratively sheared argillite and fine-grained sandstone, locally with intercalated green tuff and hard elliptical carbonate concretions armored with scaly black argillite. Includes blocks up to several kilometers across, of diverse lithologies and ages. Age range of the Central belt is based on the paleontologic and isotopic age range of rocks in the mélange and on inferred range in age of penetrative shearing, boudinage, and related deformation that occurred during mélange formation".

On this parcel, the Central Belt Mélange is underlain on a fault contact by Wildcat group rocks (QTw) which is described by McLaughlin and Others (2000) as "Marine and nonmarine overlap deposits (late Pleistocene to middle Miocene), thin-bedded to massive, weakly lithified siltstone, fine- to medium-grained sandstone, silty to diatomaceous mudstone and locally soft, scaly mudstone. Locally includes lenses of pebble to boulder conglomerate, carbonate concretions, abundant molluscan fossils, woody debris, and horizons of rhyolitic volcanic ash that are greater than 1 meter thick in some areas. Includes the Wildcat Group of Ogle (1953), the Bear River beds of Haller (1980), and related outlier Neogene deposits isolated along faults near Briceland, Garberville, Benbow, Piercy, Bridgeville and northeast of Weott". The fault contact is thought to dip to the northeast at an angle of approximately 30 degrees.

Bedding and foliation in the QTw overlap deposits strikes northwest and dips 28° to 62° northeast according to the geologic map (Figure 4). Some beds are overturned and these beds exhibit the steeper dips. Materials reported by the driller on the geologic log of the well completion report show topsoil from zero to 4 feet, brown sandstone from 4 to 27 feet, shale from 27 to 72 feet, blue green sand stone from 72 to 143 feet, shale from 143 to 191 feet, blue sand stone from 191 to 228 feet, and soft shale from 228 to 240 feet. The materials logged and described by the driller in 2019, appear consistent with the geologic descriptions of the Central Belt Mélange, and Wildcat Group (QTw).

In our professional opinion, based on our experience, site observations, and review of pertinent information available, this well has a minimal likelihood of having any direct connection to nearby surface waters. Our conclusion is supported by the depth of the well (240 ft.), the distance from (~1,860 feet), and the elevation (~500 feet) above the closest Bear Canyon Creek tributaries, the mapped strike and dip of QTw bedding, the depth of the screened interval (90 to 235 feet bgs), depth to static water (92 feet bgs), and completion in sandstone (per driller) occurring between 90 and 235 feet bgs. Further, a comparison of well water with water from the Upper Pond and Pods A and C shows the well water to be distinctive with comparatively higher sodium, iron, manganese, potassium, sulfate and born. Magnesium was significantly lower in the well water. The irrigation water analysis reports from A & L Western Laboratories is are attached.

With the static water level at 92 feet bgs, and the top of the water bearing formation thus at approximately 1,410 feet of elevation, or 410 feet higher in elevation than the closest tributary of Bear Canyon Creek at its closest point. With the QTw formation dipping northeast, away from the nearest tributaries of Bear Creek, we interpret groundwater to flow down dip toward

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the northeast from the well-site. Thus Bear Canyon Creek (main stem) higher in the stratigraphic section than the sourced aquifer as are the closest unnamed tributaries. Nearby creeks are supplied with base flow from the shallowest aquifer with is within the Quaternary landslide deposits (Qls), and are thus interpreted to be hydrologically separated from the QTw formation from which the water is being drawn at depth.

The sandstone aquifer tapped by this well appears to be sandwiched between units of shale that presumably dip to the northeast. Surface water infiltrating through the Qls materials beneath this site is expected to flow sub-parallel to the ground surface in the upper, unconfined aquifer. The producing aquifer extends from 72 to 228 feet bgs. Groundwater infiltrating from the surface through the Qls and mélange units should, upon reaching the QTw materials, flow in the down-dip in the sandstone aquifer section. Geometrically, this suggests that this well is drawing water from an aquifer at a considerably greater depth in the section than what is exposed at the surface, and thus should have no hydrologic influence on the surface flow in Bear Canyon Creek or its tributaries. If the dip is consistent, the sandstone aquifer tapped by the well is far below the channel of any creeks to the northeast.

Based on our professional experience, it appears likely that the aquifer from which the subject well draws groundwater is recharged by water slowly infiltrating from the surface from the abundant annual precipitation the area receives. The "Water Level and Yield of Completed Well" section of the Well Completion Report shows the static water level dropped to 50 feet from a static water depth of 92 feet in four hours when pumped at 50 gallons per minute in October 2019.

In our opinion, and given the horizontal and vertical distances and elevation differences between this well and the surface waters of the nearby tributaries of Bear Canyon Creek, or other nearby watercourses, and given the apparent limiting conditions of the aquifer (i.e., depth of sandstone, strike and dip of bedding), it would appear extremely unlikely for the subject well to be hydrologically connected to, or to influence surface water flows in of Bear Canyon Creek, its nearby tributaries, or other nearby watercourses.

Please contact us if you have questions or concerns regarding our findings and conclusions.

Sincerely,

David N Lindberg

CERTIFIED ENGINEERING GEOLOGIST
DAVID N. LINDBERG
No. 1895
EXP. 02/29/24
DNL
STATE OF CALIFORNIA

David N. Lindberg, CEG
Lindberg Geologic Consulting

DNL:sll

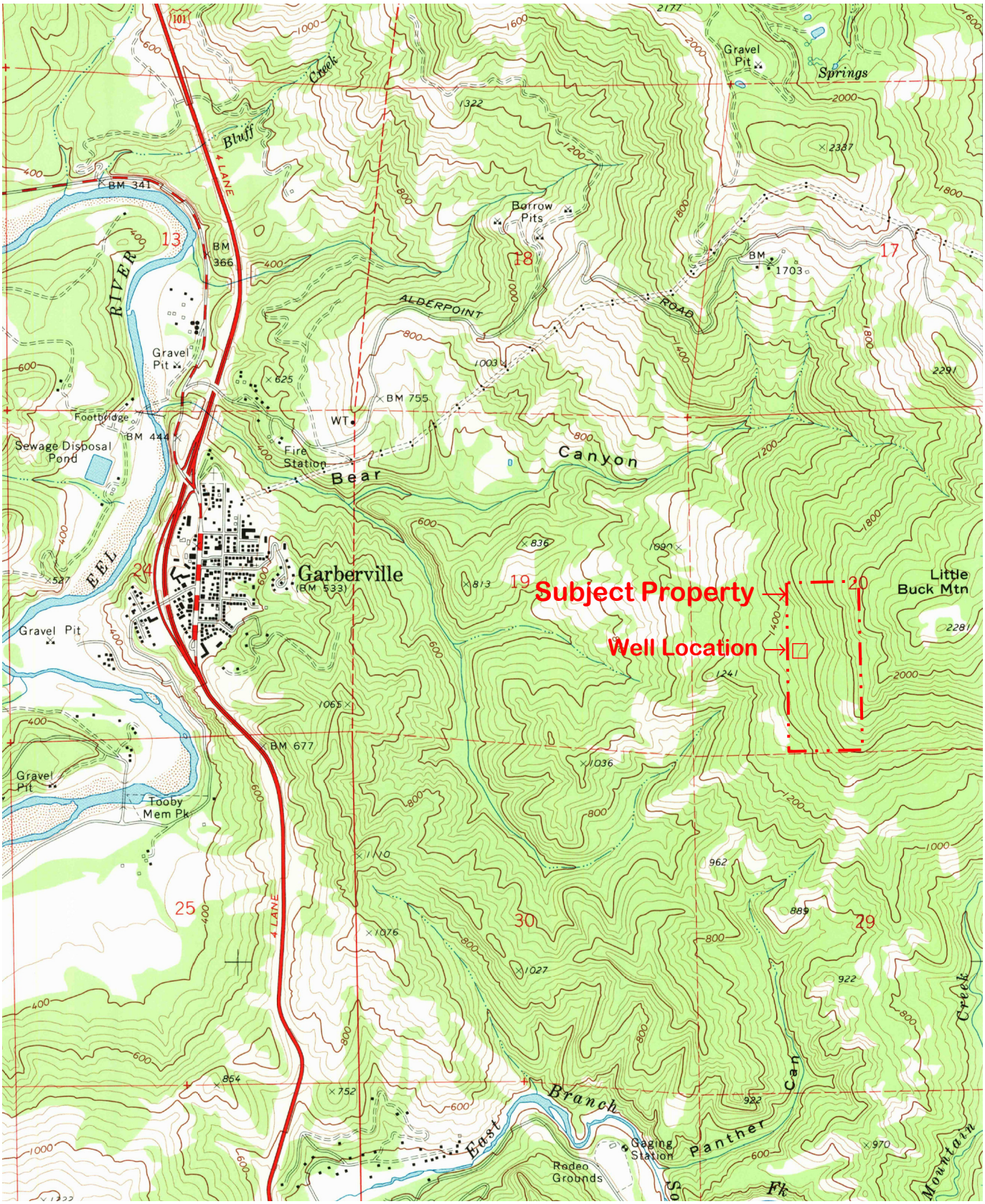
LINDBERG GEOLOGIC CONSULTING
David N. Lindberg, CEG
Post Office Box 306
Cutten California 95534
(707) 442-6000

Attachments:

Figure 1	Topographic Map of Well Location
Figure 2	Assessor's Parcel Map of 223-073-004
Figure 3	Satellite Image of Wellsite and Vicinity
Figure 4	Geologic Map
Figure 4a	Geologic Map Explanation

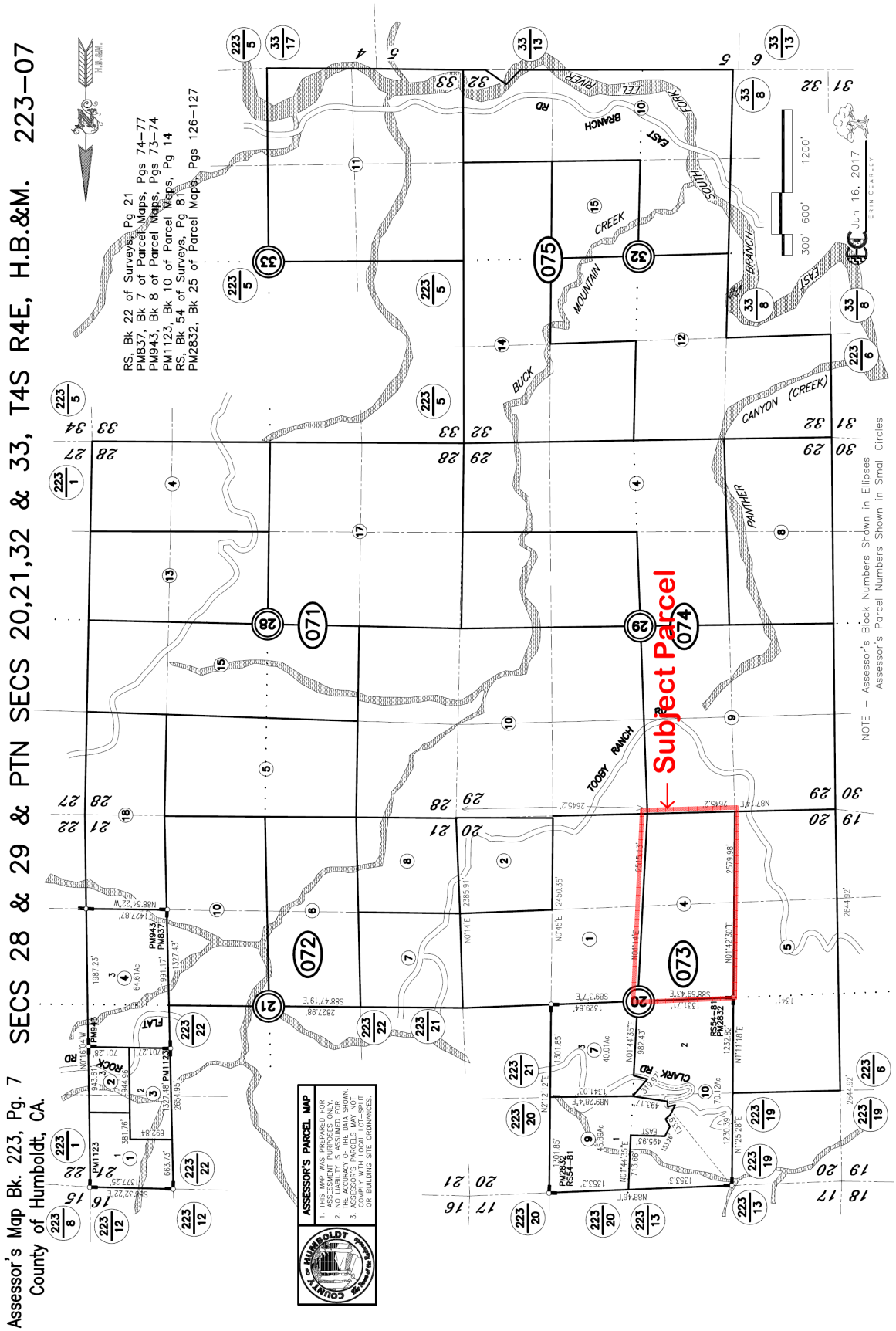
Attached: State of California Well Completion Report
Irrigation Water Analysis Reports, A & L Western Agricultural Laboratories

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 1
Post Office Box 306	Shadow Light Ranch, Clark Road, Garberville, Humboldt County	August 26, 2020
Cutten, CA 95534	APN's 223-073-004, Mr. Joshua Sweet, Client	Project 0260.04
(707) 442-6000	Topographic Location Map (Locations Approximate)	1 inch ≅ 2,100 feet

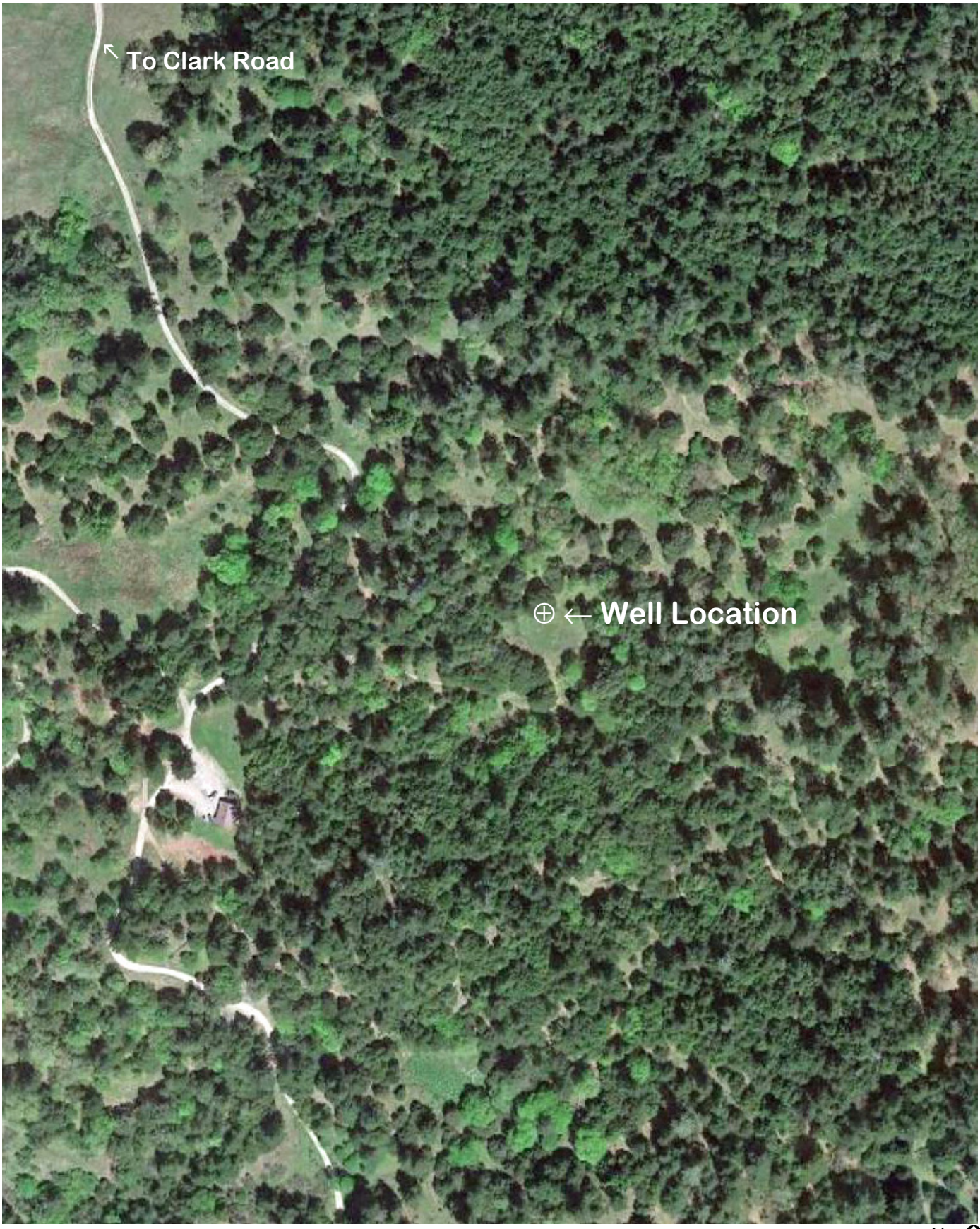


Modified from: USGS "Garberville, Calif.", 7.5' Quadrangle, (1970). N ≅

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 2
Post Office Box 306	Shadow Light Ranch, Clark Road, Garberville, Humboldt County	August 26, 2020
Cutten, CA 95534	APN's 223-073-004, Mr. Joshua Sweet, Client	Project 0260.04
(707) 442-6000	Assessor's Parcel Map; Book 223, Page 7. (Locations Approximate)	Scale as Shown

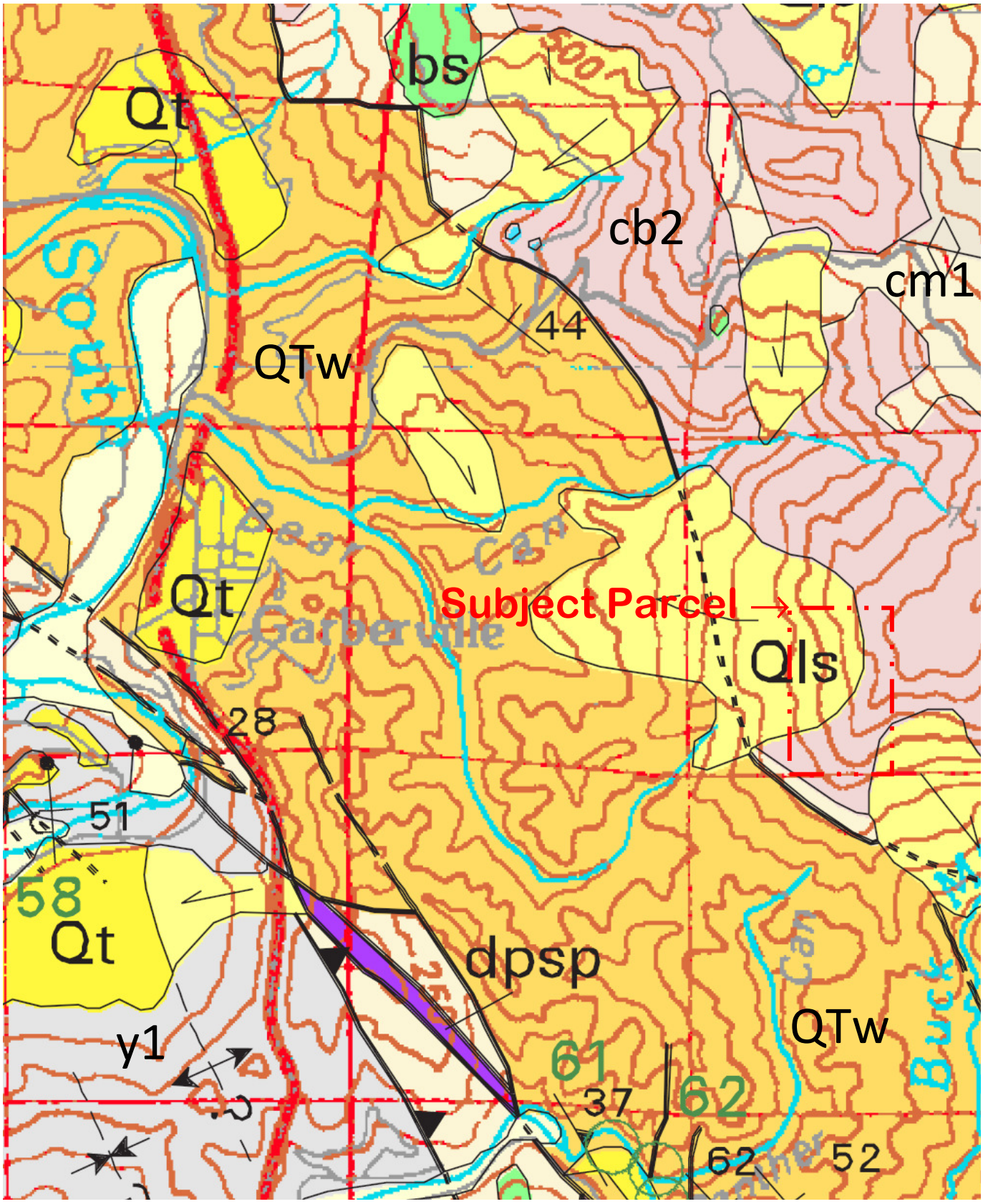


Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 3
Post Office Box 306	Shadow Light Ranch, Clark Road, Garberville, Humboldt County	August 26, 2020
Cutten, CA 95534	APN's 223-073-004, Mr. Joshua Sweet, Client	Project 0260.04
(707) 442-6000	Satellite Image of Project Site (all locations approximate)	1" ≅ 250'



Modified from: Google Earth Imagery of April 21, 2019. N ≅

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 4
Post Office Box 306	Shadow Light Ranch, Clark Road, Garberville, Humboldt County	August 26, 2020
Cutten, CA 95534	APN's 223-073-004, Mr. Joshua Sweet, Client	Project 0260.04
(707) 442-6000	Geologic Map of Project Region	1 inch ≅ 2,300 feet



Modified from: McLaughlin et al., 2000. N ≅

DESCRIPTION OF MAP UNITS

QUATERNARY AND TERTIARY OVERLAP DEPOSITS

- Qal — Alluvial deposits (Holocene and late Pleistocene?)
- Qm — Undeformed marine shoreline and aolian deposits (Holocene and late Pleistocene)
- Qt — Undifferentiated nonmarine terrace deposits (Holocene and Pleistocene)
- Qls — Landslide deposits (Holocene and Pleistocene)
- QTog — Older alluvium (Pleistocene and [or] Pliocene)
- QTw — Marine and nonmarine overlap deposits (late Pleistocene to middle Miocene)
- Ti — Volcanic rocks of Fickle Hill (Oligocene)

COAST RANGES PROVINCE

FRANCISCAN COMPLEX

-- Coastal Belt --

Coastal terrane(Pliocene to Late Cretaceous)

Sedimentary, igneous, and metamorphic rocks of the Coastal terrane (Pliocene to Late Cretaceous):

- co1 — Melange
- co2 — Melange
- co3 — Broken sandstone and argillite
- co4 — Intact sandstone and argillite
- cob — Basaltic Rocks (Late Cretaceous)
- cols — Limestone (Late Cretaceous)
- m — Undivided blueschist (Jurassic?)

King Range terrane (Miocene to Late Cretaceous)

- Krp — Igneous and sedimentary rocks of Point Delgada (Late Cretaceous)
- m — Undivided blueschist blocks (Jurassic?)

Sandstone and argillite of King Peak (middle Miocene to Paleocene[?]):

- krk1 — Melange and (or) folded argillite
- krk2 — Highly folded broken formation
- krk3 — Highly folded, largely unbroken rocks
- krl — Limestone
- krc — Chert
- krb — Basalt

False Cape terrane (Miocene? to Oligocene?)

- fc — Sedimentary rocks of the False Cape terrane (Miocene? to Oligocene?)

Yager terrane (Eocene to Paleocene?)

Sedimentary rocks of the Yager terrane (Eocene to Paleocene?):

- y1 — Sheared and highly folded mudstone
- y2 — Highly folded broken mudstone, sandstone, and conglomeratic sandstone
- y3 — Highly folded, little-broken sandstone, conglomerate, and mudstone
- Ycgl — Conglomerate

-- Central belt --

Melange of the Central belt (early Tertiary to Late Cretaceous):

Unnamed Metasandstone and meta-argillite (Late Cretaceous to Late Jurassic):

- cm1 — Melange
- cm2 — Melange
- cb1 — Broken formation
- cb2 — Broken formation
- cwr — White Rock metasandstone of Jayko and others (1989) (Paleogene and [or] Late Cretaceous)
- chr — Haman Ridge graywacke of Jayko and others (1989) (Cretaceous?)
- cfs — Fort Seward metasandstone (age unknown)
- cls — Limestone (Late to Early Cretaceous)
- cc — Chert (Late Cretaceous to Early Jurassic)
- bs — Basaltic rocks (Cretaceous and Jurassic)
- m — Undivided blueschist blocks (Jurassic?)
- gs — Greenstone
- c — Metachert
- yb — Metasandstone of Yolla Bolly terrane, undivided
- b — Melange block, lithology unknown

-- Eastern Belt --

Pickett Peak terrane (Early Cretaceous or older)

Metasedimentary and metavolcanic rocks of the Pickett Peak terrane (Early Cretaceous or older):

- ppsm — South Fork Mountain Schist
- mb — Chinquapin Metabasalt Member (Irwin and others, 1974)
- ppv — Valentine Springs Formation
- mv — Metabasalt and minor metachert

Yolla Bolly terrane (Early Cretaceous to Middle Jurassic?)

Metasedimentary and metaigneous rocks of the Yolla Bolly terrane (Early Cretaceous to Middle Jurassic?):

- ybt — Taliaferro Metamorphic Complex of Suppe and Armstrong (1972) (Early Cretaceous to Middle Jurassic?)
- ybc — Chicago Rock melange of Blake and Jayko (1983) (Early Cretaceous to Middle Jurassic)
- gs — Greenstone
- c — Metachert
- ybh — Metagraywacke of Hammerhorn Ridge (Late Jurassic to Middle Jurassic)
- c — Metachert
- gs — Greenstone
- sp — Serpentinite
- ybd — Devils Hole Ridge broken formation of Blake and Jayko (1983) (Early Cretaceous to Middle Jurassic)
- c — Radiolarian chert
- ybi — Little Indian Valley argillite of McLaughlin and Ohlin (1984) (Early Cretaceous to Late Jurassic)

Yolla Bolly terrane

- yb — Rocks of the Yolla Bolly terrane, undivided

GREAT VALLEY SEQUENCE AND COAST RANGE OPHIOLITE

Elder Creek(?) terrane

- ecms — Mudstone (Early Cretaceous)

Coast Range ophiolite (Middle and Late Jurassic):

- ecg — Layered gabbro
- ecsp — Serpentinite melange

Del Puerto(?) terrane

Rocks of the Del Puerto(?) terrane:

- dpms — Mudstone (Late Jurassic)

Coast Range ophiolite (Middle and Late Jurassic):

- dpt — Tuffaceous chert (Late Jurassic)
- dpb — Basaltic flows and keratophyric tuff (Jurassic?)
- dpd — Diabase (Jurassic?)
- dpsp — Serpentinite melange (Jurassic?)
- sp — Undivided Serpentinized peridotite (Jurassic?)

KLAMATH MOUNTAINS PROVINCE

Undivided Great Valley Sequence:

- Ks — Sedimentary rocks (Lower Cretaceous)

GREAT VALLEY SEQUENCE OVERLAP ASSEMBLAGE

Hayfork terrane

Eastern Hayfork subterrane:

- eh — Melange and broken formation (early? Middle Jurassic)
- ehls — Limestone
- ehsp — Serpentinite

Western Hayfork subterrane:

- whu — Hayfork Bally Meta-andesite of Irwin (1985), undivided (Middle Jurassic)
- whwg — Wildwood (Chanchelulla Peak of Wright and Fahan, 1988) pluton (Middle Jurassic)
- whwp — Clinopyroxenite
- whji — Diorite and gabbro plutons (Middle? Jurassic)

Rattlesnake Creek terrane

- rcm — Melange (Jurassic and older)
- rcls — Limestone
- rcc — Radiolarian chert
- rcis — Volcanic Rocks (Jurassic or Triassic)
- rcic — Intrusive complex (Early Jurassic or Late Triassic)
- rcp — Plutonic rocks (Early Jurassic or Late Triassic)
- rcum — Ultramafic rocks (age uncertain)
- rcpd — Blocky peridotite

Western Klamath terrane

Smith River subterrane:

- srs — Galice? formation (Late Jurassic)
- srv — Pyroclastic andesite
- srgb — Glen Creek gabbro-ultramafic complex of Irwin and others (1974)
- srpd — Serpentinized peridotite

MAP SYMBOLS

- Contact
- Fault
- Thrust fault
- Trace of the San Andreas fault associated with 1906 earthquake rupture

Strike and dip of bedding:

- Inclined (10/20)
- Vertical
- Horizontal
- Overturned (10/20)
- Approximate (20)
- Joint (10)
- Strike and dip of cleavage (10)

Shear foliation:

- Inclined (10)
- Vertical

Folds:

- Synclinal or synformal axis
- Anticlinal or antiformal axis
- Overturned syncline
- Landslide (Qls)

Melange Blocks:

- Serpentinite
- Chert
- Blueschist
- Greenstone
- Fossil locality and number (10)

GEOLOGY OF THE CAPE MENDOCINO, EUREKA, GARBERVILLE, AND SOUTHWESTERN PART OF THE HAYFORK 30 X 60 MINUTE QUADRANGLES AND ADJACENT OFFSHORE AREA, NORTHERN CALIFORNIA (McLaughlin et al., 2000)

State of California

Well Completion Report

Form DWR 188 Complete 1/3/2020

WCR2019-016356

Owner's Well Number | Date Work Began: 10/17/2019 | Date Work Ended: 10/31/2019

Local Permit Agency: Humboldt County Department of Health & Human Services - Land Use Program

Secondary Permit Agency | Permit Number: 19/20-0154 | Permit Date: 09/23/2019

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: XXXXXXXXXXXXXXXXXXX

Mailing Address: XXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXX

City: XXXXXXXXXXXXXXXXXXX | State: XX | Zip: XXXXX

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Irrigation - Agriculture

Well Location

Address: 0 Wallan RD

City: Garberville | Zip: 95542 | County: Humboldt

	Deg.	Min.	Sec.		
Latitude	40	5	52.1447	N	
Longitude	-123	45	41.0219	W	

Dec. Lat.: 40.097818 | Dec. Long.: -123.761395

Vertical Datum | Horizontal Datum: WGS84

Location Accuracy | Location Determination Method

APN: 223-073-005

Township: 04 S

Range: 04 E

Section: 20

Baseline Meridian: Humboldt

Ground Surface Elevation

Elevation Accuracy

Elevation Determination Method

Borehole Information

Orientation: Vertical | Specify

Drilling Method: Other - under-ream down hole hammer | Drilling Fluid: Air

Total Depth of Boring: 240 Feet

Total Depth of Completed Well: 240 Feet

Water Level and Yield of Completed Well

Depth to first water: 98 (Feet below surface)

Depth to Static Water Level: 92 (Feet) | Date Measured: 10/31/2019

Estimated Yield*: 50 (GPM) | Test Type: Air Lift

Test Length: 4 (Hours) | Total Drawdown: 142 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	4	top soil
4	27	brown sand stone
27	72	shale
72	143	blue green sand stone
143	191	shale
191	228	blue sand stone
228	240	soft shale

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	90	Blank	Low Carbon Steel	Grade: ASTM A53	0.188	6			
1	90	235	Screen	Low Carbon Steel	Grade: ASTM A53	0.188	6	Milled Slots	0.05	
1	235	240	Blank	Low Carbon Steel	Grade: ASTM A53	0.188	6			

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	Other Bentonite		Sanitary Seal
20	240	Filter Pack	Other Gravel Pack	3/8 inch	Pea Gravel

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	240	10

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: FISCH DRILLING (Person, Firm or Corporation)

3150 JOHNSON ROAD (Address) | HYDESVILLE (City) | CA (State) | 95547 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 11/15/2019 (Date Signed) | 683865 (C-57 License Number)

Attachments

scan.pdf - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

A & L WESTERN AGRICULTURAL LABORATORIES

1311 WOODLAND AVE #1 • MODESTO, CALIFORNIA 95351 • (209) 529-4080 • FAX (209) 529-4736

REPORT NUMBER: 20-230-039 **CLIENT:** 9999-D

SUBMITTED BY: BEN BRECKENRIDGE

SEND TO: THE HILLS LLC
PO BOX 250
GARBERVILLE, CA 95542-

GROWER: JOSHUA SWEET

DATE OF REPORT: 08/19/20

IRRIGATION WATER ANALYSIS REPORT

Sample ID	Lab Number	Sodium Na meq/L	Calcium Ca meq/L	Magnesium Mg meq/L	Carbonate CO_3 meq/L	Bicarbonate HCO_3 meq/L	Chloride Cl meq/L	Conductivity E.C. dS/m	pH	Copper Cu ppm	Iron Fe ppm	Manganese Mn ppm	Zinc Zn ppm
UPPER POND	63083	0.39	0.50	0.74	0.00	1.80	0.14	0.16	7.1		<0.04	0.01	
POD-C	63084	0.39	1.60	0.58	0.00	2.56	0.14	0.29	7.0		0.07	0.01	
POD-A	63085	0.30	1.75	0.66	0.00	2.90	0.11	0.30	7.9		<0.04	<0.01	

Sample ID	Phosphorus P ppm	Potassium K ppm	Nitrate NO_3 ppm	Sulfate SO_4 ppm	Boron B ppm	Dissolved Solids ppm	Adjusted S.A.R.	Langelier Saturation Index
UPPER POND	0.01	1.0	< 2	1	0.01	145	0.45	
POD-C	0.02	1.3	< 2	6	0.05	216	0.40	
POD-A	<0.01	1.0	< 2	6	0.01	238	0.31	

NOTES:

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

A & L WESTERN AGRICULTURAL LABORATORIES

1311 WOODLAND AVE #1 • MODESTO, CALIFORNIA 95351 • (209) 529-4080 • FAX (209) 529-4736

REPORT NUMBER: 20-191-158 **CLIENT:** 9999-D

SUBMITTED BY: BEN BRECKENRIDGE

SEND TO: THE HILLS LLC
PO BOX 250
GARBERVILLE, CA 95542-

GROWER: JOSHUA SWEET

DATE OF REPORT: 07/15/20

IRRIGATION WATER ANALYSIS REPORT

Sample ID	Lab Number	Sodium Na meq/L	Calcium Ca meq/L	Magnesium Mg meq/L	Carbonate CO_3 meq/L	Bicarbonate HCO_3 meq/L	Chloride Cl meq/L	Conductivity E.C. dS/m	pH	Copper Cu ppm	Iron Fe ppm	Manganese Mn ppm	Zinc Zn ppm
1 WELL	62693	2.96	0.95	0.16	0.00	4.20	0.11	0.44	7.8		0.32	0.03	

Sample ID	Phosphorus P ppm	Potassium K ppm	Nitrate NO_3 ppm	Sulfate SO_4 ppm	Boron B ppm	Dissolved Solids ppm	Adjusted S.A.R.	Langelier Saturation Index
1 WELL	0.01	2.1	< 2	11	1.48	364	4.50	

NOTES:

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

11643

Ask...
Fisch Drilling .com
WHEN YOU WANT TO KNOW ABOUT WATER!

3150 JOHNSON RD.
HYDESVILLE, CA.
(707)768-9800
dave@fischdrilling.com

RECEIVED
DEC 22 2020
Humboldt County
Cannabis Svcs.

November 15, 2019

Joshua Sweet
Shadow Light Ranch
P.O. Box 250
Garberville, CA. 95542

Shadow Light Ranch
Wallan road.
Garberville, CA. 95542

Results of site review of Shadow Light Ranch, APN 223-073-005. The well site in question is located Wallan road, on parcel 223-073-005 this well was completed October 31 2019.

The well was completed in the Franciscan Sandstone; the well was drilled into perched bedrock with no hydraulic connection to any surface water or any part of a larger shallow homogeneous aquifer.

Considering the depth of the well, it appears to falls within guidelines of a non-jurisdictional well of similar depth in the surrounding area.
Any questions please call (707)768-9800.

Thank You,

David Fisch
Fisch Drilling

State of California

Well Completion Report

Form DWR 188 Submitted 11/15/2019

WCR2019-016356

Owner's Well Number | Date Work Began 10/17/2019 | Date Work Ended 10/31/2019

Local Permit Agency Humboldt County Department of Health & Human Services - Land Use Program

Secondary Permit Agency | Permit Number 19/20-0154 | Permit Date 09/23/2019

Well Owner (must remain confidential pursuant to Water Code 13752)

Name SHADOW LIGHT RANCH, LLC, Joshua Sweet

Mailing Address P.O. Box 250

City Garberville State CA Zip 9542

Planned Use and Activity

Activity New Well

Planned Use Water Supply Irrigation - Agriculture

Well Location

Address 0 Wallan RD

City Garberville Zip 95542 County Humboldt

	Deg.	Min.	Sec.			Deg.	Min.	Sec.	
Latitude	40	5	52.1447	N	Longitude	-123	45	41.0219	W

Dec. Lat. 40.097818 Dec. Long. -123.761395

Vertical Datum Horizontal Datum WGS84

Location Accuracy Location Determination Method

APN 223-073-005

Township 04 S

Range 04 E

Section 20

Baseline Meridian Humboldt

Ground Surface Elevation

Elevation Accuracy

Elevation Determination Method

Borehole Information

Orientation Vertical Specify

Drilling Method Other - under-ream down hole hammer Drilling Fluid Air

Total Depth of Boring 240 Feet

Total Depth of Completed Well 240 Feet

Water Level and Yield of Completed Well

Depth to first water 98 (Feet below surface)

Depth to Static Water Level 92 (Feet) Date Measured 10/31/2019

Estimated Yield* 50 (GPM) Test Type Air Lift

Test Length 4 (Hours) Total Drawdown 142 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	4	top soil
4	27	brown sand stone
27	72	shale
72	143	blue green sand stone
143	191	shale
191	228	blue sand stone
228	240	soft shale

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	90	Blank	Low Carbon Steel	Grade: ASTM A53	0.188	6			
1	90	235	Screen	Low Carbon Steel	Grade: ASTM A53	0.188	6	Milled Slots	0.05	
1	235	240	Blank	Low Carbon Steel	Grade: ASTM A53	0.188	6			

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	Other Bentonite		Sanitary Seal
20	240	Filter Pack	Other Gravel Pack	3/8 inch	Pea Gravel

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	240	10

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: FISCH DRILLING
Person, Firm or Corporation

3150 JOHNSON ROAD | HYDESVILLE | CA | 95547
Address | City | State | Zip

Signed: *electronic signature received* | 11/15/2019 | 683865
C-57 Licensed Water Well Contractor | Date Signed | C-57 License Number

Attachments

scan.pdf - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

lacy@fischdrilling.com

From: Fisch Drilling <chris@fischdrilling.com>
Sent: Friday, November 15, 2019 11:56 AM
To: lacy@fischdrilling.com
Subject: FW: OSWCR: Thank you for submitting Well Completion Report WCR2019-016356

From: OSWCR-NoReply@water.ca.gov <OSWCR-NoReply@water.ca.gov>
Sent: Friday, November 15, 2019 11:55 AM
To: chris@fischdrilling.com
Subject: OSWCR: Thank you for submitting Well Completion Report WCR2019-016356

*****Please do not reply to this e-mail message*****

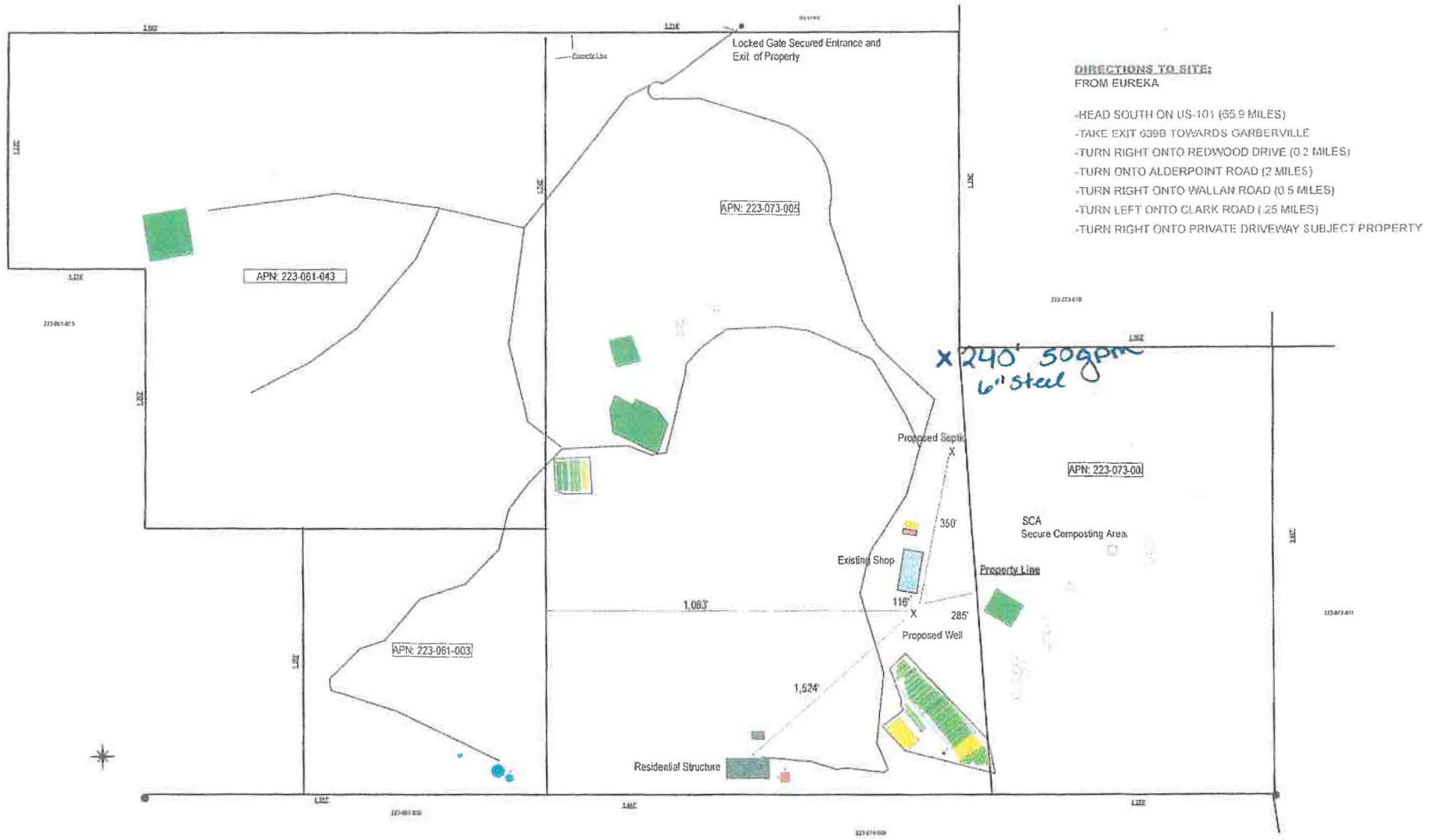
Thank you for submitting your Well Completion Report - A New Production or Monitoring Well, **WCR2019-016356**, using the Online System for Well Completion Reports (OSWCR). The Department of Water Resources will review it for completeness. You will be notified if additional information is required. If you have any questions, please call your local DWR Region Office WCR contact.

DWR Northern Region Office
April Scholzen
(530)529-7368
April.Scholzen@water.ca.gov

To view this record, log in to OSWCR, or use the following link:
https://civicnet.resources.ca.gov/DWR_WELLS/urlrouting.ashx?type=1000&Module=WellCompletion&capID1=19CAP&capID2=00000&capID3=00DHT&agencyCode=DWR_WELLS

Licensed Contractor: FISCH DRILLING License Number: 683865
Well Owner: Joshua Sweet Shadow Light Ranch, LLC
Well Owner Address: P.O. Box 250 Garberville CA 9542

Well Address: 0 Wallan RD, Garberville, CA 95542 County: Humboldt Parcel: 223-073-005
Latitude/Longitude: 40.097818°N, -123.761395°W
Submitted: 11/15/2019
Record Status: Submitted



DIRECTIONS TO SITE:
FROM EUREKA

-HEAD SOUTH ON US-101 (65.9 MILES)
-TAKE EXIT 639B TOWARDS GARBERVILLE
-TURN RIGHT ONTO REDWOOD DRIVE (0.2 MILES)
-TURN ONTO ALDERPOINT ROAD (2 MILES)
-TURN RIGHT ONTO WALLAN ROAD (0.5 MILES)
-TURN LEFT ONTO CLARK ROAD (25 MILES)
-TURN RIGHT ONTO PRIVATE DRIVEWAY SUBJECT PROPERTY

The Hills, LLC
Water Source, Rain Catchment Overview and Water Management Plan

This analysis is to identify the baseline impact of the pre-existing cultivation areas which were developed and operated using illegal surface water diversions evaluated against the proposed well diversion and rain catchment systems

Baseline Conditions

Water was historically supplied by illegal surface water diversions in the baseline condition.

Pre-existing full sun outdoor canopy totals:
22,200 SF (Parcel 1 APN 223-061-043)
32,500 SF (Parcel 2 APN 223-061-038, 223-073-004, -005)
3,500 SF (Parcel 3 APN 223-061-046)
58,200 SF Outdoor

Pre-existing mixed light canopy totals:
6,2400 SF (Parcel 2 APN 223-061-038, 223-073-004, -005)
1,500 SF (Parcel 3 APN 223-061-046)
7,740 SF Mixed Light

At an estimated 15 gallons per square foot for the full sun outdoor in pots, hand watered and 12.5 gallons per square foot for mixed light (pots in greenhouses, hand watered), the total estimated water usage is:

58,200 SF X 15 gallons per SF per year = 873,000 gallons
7,740 SF X 12.5 gallons per SF per year = 96,750 gallons

Total water usage is estimated at baseline levels of 969,750 gallons.

Interim Conditions

Based on 2019 waterboard reporting, for the interim permitted and cultivated canopy of 10,000 square feet of mixed light and 47,300 square feet of outdoor, the total water usage was 741,340 gallons, approximately 12.9 gallons per square foot canopy. This represents a reduction of 228,410 gallons from baseline levels. Efficient drip irrigation systems were implemented to irrigate pots in lieu of hand watering.

Proposed Conditions

The project will be broken out into multiple phases. Water is currently supplied by a permitted well diversion.

The following is a breakdown of rain catchment surfaces and estimated usage and diversion reduction by phase.

Garberville CA has an average annual rainfall of 57 inches of rainfall per year pr the Western Regional Climate Center however the water balance analysis is based on the record setting 2020-2021 water year drought (~29.12 inches of rainfall). See appended analysis by phase and historic water records from the Eel River Camp gage located just north of Redway.

Rain Catchment Surface and Storage Summary Phase 1 (2022)

BLDG A, 1,200 SF (E) Warehouse;

BLDG B 5,050 SF (P) Warehouse

6,250 SF Rain Catchment Surface

Existing storage tank volume: 59,500 gallons

Water use estimated at:

12 gallons per square foot canopy for 10,000 square feet of mixed light (utilizing raised beds and drip irrigation).

10 gallons per square foot canopy for 37,440 square feet of light deprivation outdoor canopy (utilizing raised beds and drip irrigation)

15 gallons per square foot canopy for 3,500 square feet of full sun outdoor canopy, in pots.

5 gallons per square foot canopy for 10,000 square feet of commercial nursery canopy.

See appended analysis for a water balance based on current severe drought conditions.

An estimated well diversion of 516,557 gallons is proposed based on drought conditions representing a reduction of over 215,000 gallons from interim conditions and over 450,000 gallons over baseline conditions.

Rain Catchment Surface and Storage Summary Phase 2 (2023 or later)

Phase 1 Catchment Surface Area = 6,250 SF

BLDG C 7,090 SF

Cultivation Agritek – 10,000 SF

Total Phase 2 Rain Catchment Surface Area = 23,340 SF

Water storage expansion – 100,000 gallons – total storage = 159,500 gallons

18 gallons per square foot canopy for 10,000 square feet of full season mixed light.

10 gallons per square foot canopy for 37,440 square feet of light deprivation outdoor canopy (utilizing raised beds and drip irrigation)

15 gallons per square foot canopy for 3,500 square feet of full sun outdoor canopy, in pots.

7.5 gallons per square foot canopy for 10,000 square feet of commercial nursery canopy (full season).

A total of 756,900 gallons of water use is proposed mitigated by 289,686 gallons of rain catchment based on a water balance using current severe drought conditions rainfall data. A net well diversion of 467,214 gallons is expected, a reduction of 498,00 gallons from baseline conditions and a reduction of 49,343 gallons from Phase 1 conditions.

Rain Catchment Surface and Storage Summary Phase 3 (2024 or later)

Additional rain catchment surface from the 10,000 SF nursery Agritek and future building D would further increase rain catchment surface and provide further improvement to the operations. The development of these structures will be based on market conditions.

Drought Year Water Balance Analysis (2020-2021 Water Year) for Phase 1 Operations

Year					**2020**	**2021**							
Month	Sept	Oct	**Nov***	Dec	Jan	Feb	Mar	Apr	May	June	July	**Aug***	TOTAL
Precipitation (IN)	0.09	0.1	3.78	5.03	9.94	4.75	4.05	1.04	0	0.32	0.02	0	29.12
Rain Catchment (GAL) Roof Area 6,250 SF	351	390	14726	19596	38725	18505	15778	4052	0	1247	78	0	113447
Estimated Water Use (GAL)	109005	57315	27345	0	0	0	7500	18500	62065	94472.5	113817.5	114380	604400
Net to Storage or Use (GAL)	-108654	-56925	-12619	19596	38725	18505	8278	-14448	-62065	-93226	-113740	-114380	
Well Diversion (GAL)	108654	56925	12619	0	0	0	0	0	17013	93226	113740	114380	516557
Storage Volume (59.5K GAL max)	0	0	0	19596	58321	59500	59500	45052	0	0	0	0	
	***Continues from August 2021**		**Start of Analysis**									***Continue from Sept 2020**	

*Analysis conservatively uses 2020 September and October weather data which represent the most severe recent drought conditions

Precipitation data from Eel River Camp RAWS station

Phase 1

10000 ml

			March	April	May	June	July	August	September	October	November	
9000 dep												
3500 fso	12	10000 ml			0.05	0.1	0.15	0.175	0.2	0.175	0.1	0.05	1
10000 nursery	15	3500 fso			0	0.05	0.125	0.175	0.2	0.25	0.15	0.05	1
22200 dep	10	37440 dep				0.1	0.15	0.2	0.2	0.2	0.1	0.05	1
6240 dep	5	10000 nursery		0.15	0.25	0.2	0.275	0.175	0.1	0	0	0	1

37440

			March	April	May	June	July	August	September	October	November	
	12	10000 ml		0	6000	12000	18000	21000	24000	21000	12000	6000	120000
	15	3500 fso		0	0	2625	6562.5	9187.5	10500	13125	7875	2625	52500
	10	37440 dep		0	0	37440	56160	74880	74880	74880	37440	18720	374400
	5	10000 nursery		7500	12500	10000	13750	8750	5000	0	0	0	57500
		Total		7500	18500	62065	94472.5	113817.5	114380	109005	57315	27345	604400

Drought Year Water Balance Analysis (2020-2021 Water Year) for Phase 2 Operations

Year					2020	2021							
Month	Sept	Oct	**Nov***	Dec	Jan	Feb	Mar	Apr	May	June	July	**Aug***	TOTAL
Precipitation (IN)	0.09	0.1	3.78	5.03	9.94	4.75	4.05	1.04	0	0.32	0.02	0	29.12
Rain Catchment (GAL) Roof Area 23,340 SF	1309	1455	54994	73179	144613	69106	58922	15131	0	4656	291	0	423655
Estimated Water Use (GAL)	116505	67815	38345	14000	14000	14000	27000	37000	78065	108222.5	122567.5	119380	756900
Net to Storage or Use (GAL)	-115196	-66360	16649	59179	130613	55106	31922	-21869	-78065	-103567	-122277	-119380	
Well Diversion (GAL)	115196	66360	0	0	0	0	0	0	0	44001	122277	119380	467214
Storage Volume (159.5K GAL max)	0	0	16649	75828	159500	159500	159500	137631	59566	0	0	0	

***Continues from August 2021**

Start of Analysis

***Continue from Sept 2020**

*Analysis conservatively uses 2020 September and October weather data which represent the most severe recent drought conditions

Precipitation data from Eel River Camp RAWS station

Phase 1

10000 ml

9000 dep

3500 fso

10000 nursery

22200 dep

6240 dep

37440

			Jan	Feb	March	April	May	June	July	August	September	October	November	December	
3500 fso	12	10000 ml	0.075	0.075	0.1	0.1	0.15	0.15	0.175	0.2	0.175	0.125	0.1	0.075	1.5
10000 nursery	15	3500 fso				0	0.05	0.125	0.175	0.2	0.25	0.15	0.05		1
22200 dep	10	37440 dep					0.1	0.15	0.2	0.2	0.2	0.1	0.05		1
6240 dep	5	10000 nursery	0.05	0.05	0.15	0.25	0.2	0.275	0.175	0.1	0.075	0.075	0.05	0.05	1.5

		Jan	Feb	March	April	May	June	July	August	September	October	November		
12	10000 ml	9000	9000	12000	12000	18000	18000	21000	24000	21000	15000	12000	9000	153000
15	3500 fso	0	0	0	0	2625	6562.5	9187.5	10500	13125	7875	2625	0	52500
10	37440 dep	0	0	0	0	37440	56160	74880	74880	74880	37440	18720	0	374400
10	10000 nursery	5000	5000	15000	25000	20000	27500	17500	10000	7500	7500	5000	5000	135000
	Total	14000	14000	27000	37000	78065	108222.5	122567.5	119380	116505	67815	38345	14000	714900

Eel River Camp California

Looking from the station



Looking to North

Compass Image

More Images



Looking to the station

Sorry,

No photo available

Looking to North

Compass Image

Tip: To view from different directions, place your mouse cursor over the compass images above. To view a larger image, click on a compass direction or the preview image.

Photos taken: May 2009

Station Information

Location	Eel River Camp California		
Latitude	40° 08' 18"	**NESS ID**	CA2AC1F8
Longitude	123° 49' 25"	**NWS ID**	040421
Elevation	446 ft.	**Agency**	S&PF

prev month **Station Summary** next month

Eel River Camp California

Monthly Summary for

September, 2020

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
1	245	527	1.8	232	14.0	68	93	51	69	106	47	65	96	27	53	58	0.00
2	246	234	0.7	238	8.0	60	73	51	59	79	46	82	98	57	54	56	0.00
3	247	407	1.1	235	11.0	66	87	52	68	96	47	75	100	39	56	59	0.00
4	248	479	2.9	38	17.0	65	86	53	68	99	49	70	98	38	54	58	0.00
5	249	537	3.5	36	19.0	68	89	48	69	100	43	63	98	28	52	57	0.00
6	250	477	0.8	269	11.0	75	110	51	76	120	48	57	98	10	52	60	0.00
7	251	530	1.8	277	20.0	78	109	54	79	122	49	46	91	8	48	59	0.00
8	252	334	0.6	222	7.0	70	94	52	70	100	47	53	86	16	49	57	0.00
9	253	22	0.2	262	3.0	61	67	52	60	68	49	73	92	58	52	56	0.00
10	254	159	0.5	244	6.0	57	69	49	55	74	45	84	99	56	51	53	0.00
11	255	259	0.4	258	6.0	60	81	48	60	89	42	79	100	36	52	55	0.00
12	256	308	0.5	233	9.0	62	91	48	63	97	43	72	100	16	50	55	0.00
13	257	408	1.4	232	14.0	64	89	45	64	101	40	63	99	17	46	53	0.00
14	258	448	2.0	227	14.0	62	84	47	64	96	41	66	98	21	47	53	0.00
15	259	438	1.7	250	15.0	63	88	43	65	101	36	72	99	15	51	55	0.00
16	260	481	2.2	199	14.0	70	86	59	74	102	57	74	97	42	61	64	0.00
17	261	413	2.5	244	17.0	70	84	62	74	99	61	68	91	32	58	62	0.00
18	262	324	2.0	268	16.0	62	75	51	64	87	47	80	99	52	55	58	0.00
19	263	447	2.4	39	16.0	65	83	50	68	99	45	74	100	37	54	58	0.00
20	264	457	2.5	331	18.0	66	87	51	68	99	44	62	97	18	48	55	0.00
21	265	428	2.5	339	15.0	62	83	46	64	96	40	72	99	35	51	55	0.00
22	266	409	3.0	41	14.0	65	83	50	68	98	45	64	94	28	51	56	0.00
23	267	453	2.4	244	18.0	64	79	47	67	92	42	75	99	40	54	58	0.00
24	268	365	1.9	265	13.0	65	77	50	67	88	46	74	98	41	55	59	0.09
25	269	434	1.5	295	15.0	64	81	48	67	95	43	67	100	24	50	55	0.00
26	270	423	3.4	330	21.0	67	80	55	69	92	52	69	95	43	56	59	0.00
27	271	351	3.5	29	17.0	69	90	55	70	103	52	58	90	24	51	58	0.00
28	272	264	0.7	0	7.0	64	92	49	63	99	45	66	93	20	50	55	0.00
29	273	285	0.6	238	9.0	63	91	46	62	99	42	65	96	22	47	53	0.00
30	274	386	0.9	265	13.0	66	98	45	66	109	40	66	97	17	50	56	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
Total	11487															0.09
Ave.	383	1.7	264	13.2	65.5	86.0	50.3	66.6	96.8	45.8	68	97	31	52	57	
Max.	537	3.5		21.0	78	110	62	79	122	61	84	100	58	61	64	0.09
Min.	22	0.2		3.0	57	67	43	55	68	36	46	86	8	46	53	0.00

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° 1 ly = 1 cal/cm² = 4.1855 J/cm² = 3.6855 BTU/ft² = .01163 KW-hr/m²

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Eel River Camp California

Monthly Summary for

October, 2020

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb	Total Precip. inches
1	275	315	0.9	291	14.0	67	97	50	66	102	45	66	99	13	51	57	0.00
2	276	362	1.4	289	24.0	67	97	49	66	105	44	60	98	11	47	55	0.00
3	277	400	1.2	259	13.0	66	97	45	66	109	39	58	98	13	45	53	0.00
4	278	331	1.5	345	13.0	62	84	47	62	92	41	68	98	28	49	54	0.00
5	279	289	0.5	345	9.0	60	88	44	59	96	38	74	99	26	49	53	0.00
6	280	340	0.6	239	12.0	59	92	43	58	102	35	66	99	14	43	50	0.00
7	281	385	1.6	247	13.0	56	84	36	55	97	29	68	98	18	42	47	0.00
8	282	286	1.2	234	10.0	55	78	43	57	89	38	78	99	37	47	50	0.00
9	283	359	2.0	238	14.0	60	75	51	63	89	51	74	93	45	51	54	0.00
10	284	148	1.2	286	15.0	59	68	52	59	73	51	90	100	72	56	57	0.09
11	285	378	1.9	171	14.0	58	76	45	60	87	40	74	100	33	47	51	0.01
12	286	380	1.7	322	17.0	60	82	42	62	95	37	75	100	35	50	53	0.00
13	287	370	2.0	349	14.0	63	84	48	65	96	43	73	100	30	52	56	0.00
14	288	376	4.6	33	20.0	65	76	55	68	88	52	63	96	26	51	56	0.00
15	289	374	2.4	340	17.0	64	89	48	64	99	42	61	95	22	47	53	0.00
16	290	374	2.0	349	19.0	67	98	42	66	109	37	56	98	11	44	53	0.00
17	291	362	2.3	26	19.0	65	90	46	66	101	39	61	96	22	48	55	0.00
18	292	360	2.9	31	21.0	62	83	45	63	95	39	67	99	26	48	53	0.00
19	293	365	3.0	30	18.0	60	78	48	61	90	43	74	98	39	50	54	0.00
20	294	348	3.1	21	18.0	62	82	46	64	94	43	66	97	31	48	54	0.00
21	295	345	5.8	42	29.0	58	72	47	59	84	42	69	95	44	47	51	0.00
22	296	348	4.9	43	22.0	55	71	40	56	84	34	56	84	26	37	45	0.00
23	297	343	2.0	326	18.0	53	77	33	53	90	26	60	98	17	35	43	0.00
24	298	302	2.8	25	19.0	54	68	42	56	80	37	75	94	52	46	49	0.00
25	299	314	2.2	330	15.0	51	75	35	51	83	27	63	96	18	36	43	0.00
26	300	332	0.9	322	14.0	50	80	28	49	93	21	40	73	3	19	37	0.00
27	301	338	0.9	169	13.0	53	86	31	51	98	24	48	79	12	29	41	0.00
28	302	332	0.6	236	8.0	53	85	32	51	98	24	58	95	14	34	42	0.00
29	303	326	0.8	237	8.0	51	83	32	50	96	25	63	97	17	35	42	0.00
30	304	318	1.8	186	14.0	52	78	32	51	91	25	63	96	23	36	43	0.00
31	305	313	0.4	243	5.0	53	84	36	53	94	30	74	99	22	42	46	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb	Total Precip. inches
Total	10512															0.10
Ave.	339	2.0	314	15.5	58.7	82.5	42.4	59.0	93.5	36.8	66	96	26	44	50	
Max.	400	5.8		29.0	67	98	55	68	109	52	90	100	72	56	57	0.09
Min.	148	0.4		5.0	50	68	28	49	73	21	40	73	3	19	37	0.00

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° 1 ly = 1 cal/cm² = 4.1855 J/cm² = 3.6855 BTU/ft² = .01163 KW-hr/m²

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Eel River Camp California

Monthly Summary for

November, 2020

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
1	306	309	0.8	234	9.0	53	85	36	52	98	30	70	99	19	40	46	0.00
2	307	305	1.0	240	13.0	51	85	34	50	95	28	66	98	13	37	43	0.00
3	308	297	0.6	215	8.0	50	80	32	50	90	26	65	97	17	35	42	0.00
4	309	285	0.9	283	8.0	57	80	41	59	93	37	66	98	30	44	49	0.00
5	310	282	2.1	194	14.0	60	81	46	63	90	41	74	100	33	50	54	0.00
6	311	192	1.8	75	14.0	49	56	45	49	66	42	84	98	62	44	46	0.07
7	312	282	5.2	347	25.0	50	57	44	51	69	42	68	95	43	39	44	0.05
8	313	239	4.4	323	28.0	44	52	29	43	61	24	69	95	40	33	39	0.06
9	314	226	1.7	342	18.0	39	57	26	39	66	19	70	97	29	28	34	0.00
10	315	209	0.9	245	8.0	45	62	33	45	72	29	73	97	46	36	40	0.00
11	316	250	1.2	306	9.0	43	63	33	44	74	26	81	99	36	36	39	0.00
12	317	209	0.8	237	7.0	44	59	34	46	69	33	80	98	46	38	41	0.00
13	318	87	1.4	304	11.0	47	57	42	48	59	42	95	99	88	46	46	0.78
14	319	151	1.0	271	6.0	47	55	42	49	60	43	91	100	63	45	46	0.00
15	320	100	0.5	244	6.0	54	61	47	55	63	48	96	99	88	53	53	0.48
16	321	203	0.8	227	5.0	57	69	50	57	73	48	95	100	74	55	55	0.03
17	322	35	3.0	275	26.0	54	58	48	53	57	46	93	100	67	52	52	1.17
18	323	179	2.0	226	19.0	52	59	47	53	63	47	90	99	70	49	50	0.96
19	324	168	1.3	271	7.0	47	57	40	48	66	38	93	100	65	44	45	0.05
20	325	238	1.2	352	13.0	43	59	37	46	71	35	88	100	39	39	41	0.01
21	326	201	1.2	281	6.0	41	57	35	44	66	35	93	100	57	39	40	0.00
22	327	88	1.0	249	8.0	41	47	35	42	51	37	97	100	81	40	41	0.01
23	328	215	1.9	327	19.0	48	59	41	49	69	40	87	99	57	44	45	0.01
24	329	234	1.6	164	14.0	47	62	37	49	71	34	86	99	47	42	44	0.07
25	330	158	1.3	250	15.0	43	53	37	44	60	34	92	100	59	41	42	0.01
26	331	237	1.2	229	13.0	41	58	33	43	69	31	88	100	46	37	39	0.00
27	332	187	1.1	243	5.0	40	59	34	41	69	30	92	100	53	37	38	0.00
28	333	187	0.8	222	4.0	38	58	32	41	68	33	92	99	52	36	37	0.01
29	334	157	0.7	253	6.0	38	54	32	40	63	30	94	99	59	36	37	0.00
30	335	174	1.2	259	9.0	42	58	33	44	67	34	91	100	52	39	40	0.01

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
Total	6084															3.78
Ave.	203	1.5	263	11.8	46.8	61.9	37.8	47.8	70.3	35.4	84	99	51	41	44	
Max.	309	5.2		28.0	60	85	50	63	98	48	97	100	88	55	55	1.17
Min.	35	0.5		4.0	38	47	26	39	51	19	65	95	13	28	34	0.00

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Eel River Camp California

Monthly Summary for

December, 2020

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
1	336	224	0.9	251	13.0	46	63	36	47	72	34	87	99	49	42	43	0.00
2	337	169	0.4	243	5.0	44	61	38	46	70	39	94	100	57	42	43	0.00
3	338	115	0.3	272	4.0	43	53	39	44	60	37	96	100	73	42	42	0.01
4	339	150	0.8	299	4.0	41	58	37	43	67	34	95	100	62	40	41	0.00
5	340	84	0.8	243	9.0	42	51	35	44	55	36	97	100	84	42	42	0.02
6	341	216	1.7	299	12.0	48	61	37	49	70	33	87	99	48	43	45	0.00
7	342	195	1.0	249	6.0	44	65	36	46	75	36	91	100	49	41	42	0.01
8	343	175	1.0	291	5.0	42	60	35	44	70	36	94	100	59	40	41	0.00
9	344	140	2.5	16	17.0	45	56	38	46	62	33	92	100	73	43	44	0.01
10	345	212	1.8	339	16.0	45	59	34	46	69	29	82	99	40	39	42	0.00
11	346	60	0.5	183	5.0	40	44	35	41	46	35	97	99	93	39	40	0.26
12	347	75	0.7	191	6.0	48	51	44	49	54	44	96	99	88	47	47	0.11
13	348	60	1.6	311	14.0	49	53	41	49	53	38	95	99	82	47	48	1.26
14	349	128	1.4	251	7.0	43	52	40	45	59	41	95	99	72	42	43	0.01
15	350	62	0.5	145	5.0	45	48	41	46	50	42	98	100	92	44	45	0.11
16	351	57	1.5	199	18.0	51	56	47	52	57	48	97	99	91	50	50	1.00
17	352	159	2.5	325	20.0	45	53	37	46	61	35	87	99	59	41	43	0.11
18	353	184	0.7	218	5.0	42	56	36	44	67	33	92	100	59	39	40	0.00
19	354	131	0.4	279	5.0	44	54	37	46	62	38	95	100	73	42	43	0.01
20	355	125	0.5	245	10.0	49	57	45	50	65	43	95	100	74	47	48	0.00
21	356	70	1.1	270	20.0	49	53	44	50	56	41	92	100	79	47	48	0.20
22	357	213	1.7	293	14.0	42	54	33	42	64	30	88	99	57	38	40	0.00
23	358	165	1.5	261	6.0	38	53	33	41	64	31	93	99	62	36	37	0.00
24	359	169	1.5	270	21.0	41	58	32	44	69	34	92	100	66	39	40	0.01
25	360	33	3.2	197	20.0	52	56	47	51	54	47	85	93	55	47	49	1.00
26	361	208	1.7	30	12.0	48	57	43	50	68	43	91	99	64	46	47	0.44
27	362	197	1.2	232	6.0	43	57	39	46	69	37	90	99	51	40	42	0.00
28	363	150	1.2	225	5.0	40	53	36	42	65	34	95	100	68	38	39	0.00
29	364	143	1.0	231	5.0	38	51	34	40	60	34	97	100	73	37	37	0.01
30	365	61	0.8	191	7.0	40	45	34	41	46	34	98	100	89	40	40	0.44
31	366	116	0.7	212	6.0	46	54	42	47	58	43	95	100	75	44	45	0.01

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
Total	4247															5.03
Ave.	137	1.2	255	9.9	44.3	54.9	38.2	45.6	61.8	37.2	93	99	68	42	43	
Max.	224	3.2		21.0	52	65	47	52	75	48	98	100	93	50	50	1.26
Min.	33	0.3		4.0	38	44	32	40	46	29	82	93	40	36	37	0.00

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° 1 ly = 1 cal/cm² = 4.1855 J/cm² = 3.6855 BTU/ft² = .01163 KW-hr/m²

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Eel River Camp California

Monthly Summary for

July, 2021

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
1	182	681	6.2	61	18.0	69	87	59	74	102	59	64	82	34	55	60	0.00
2	183	702	3.1	80	15.0	74	97	55	79	114	53	60	94	15	55	61	0.00
3	184	717	2.9	97	15.0	75	98	53	79	112	49	57	97	13	54	61	0.00
4	185	700	2.9	95	15.0	73	94	55	78	111	53	60	90	32	56	61	0.00
5	186	698	2.4	86	14.0	73	98	53	78	113	49	56	94	22	53	59	0.00
6	187	709	3.4	66	18.0	68	92	52	73	110	49	63	92	26	52	57	0.00
7	188	704	5.0	57	20.0	65	81	50	69	93	45	65	92	38	51	56	0.00
8	189	718	3.3	43	17.0	66	88	48	71	103	45	62	96	28	50	56	0.00
9	190	707	3.4	70	17.0	70	96	48	75	111	45	56	92	20	50	57	0.00
10	191	702	3.5	43	16.0	69	95	49	73	109	45	61	94	22	51	57	0.00
11	192	716	3.3	48	19.0	68	92	51	73	107	46	61	92	25	51	57	0.00
12	193	713	4.0	41	20.0	65	87	47	69	102	43	65	96	32	50	55	0.00
13	194	700	3.8	60	18.0	66	90	47	71	103	43	63	96	27	50	56	0.00
14	195	684	3.2	41	19.0	65	87	48	70	102	46	65	95	31	51	56	0.00
15	196	696	4.1	70	18.0	64	83	54	69	98	53	64	84	37	50	55	0.00
16	197	690	4.3	41	17.0	65	82	49	70	96	46	61	94	32	50	55	0.00
17	198	687	4.3	23	20.0	67	86	50	71	102	48	61	94	29	51	56	0.00
18	199	702	3.3	21	22.0	69	95	48	72	106	44	61	95	24	51	57	0.00
19	200	640	3.9	25	20.0	68	89	51	70	101	48	61	99	28	52	57	0.00
20	201	713	3.9	346	24.0	66	86	47	68	96	42	63	100	24	50	56	0.00
21	202				21.0		81	55		93	52		88	35			
22	203				19.0		87	51		99	47		89	22			
23	204	692	3.4	19	20.0	71	94	47	72	103	43	54	100	20	48	57	0.00
24	205	654	2.5	45	19.0	73	101	50	75	112	45	55	93	20	51	59	0.00
25	206	604	2.1	127	13.0	74	100	51	76	111	47	57	98	23	54	60	0.00
26	207	587	2.6	134	14.0	73	94	54	76	105	51	54	90	28	54	60	0.00
27	208	308	1.4	260	11.0	69	87	59	70	96	55	72	100	36	58	61	0.02
28	209	648	1.9	247	16.0	77	102	57	80	114	54	57	100	15	55	62	0.00
29	210	663	2.0	244	15.0	80	105	58	82	117	54	46	88	12	52	62	0.00
30	211	670	2.2	257	16.0	81	107	60	83	118	55	44	79	8	50	61	0.00
31	212	652	1.9	208	19.0	74	103	54	75	116	49	55	93	17	53	60	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
Total	19456															0.02
Ave.	671	3.2	52	17.6	70.3	92.4	51.9	73.8	105.6	48.5	59	93	25	52	58	
Max.	718	6.2		24.0	81	107	60	83	118	59	72	100	38	58	62	0.02
Min.	308	1.4		11.0	64	81	47	68	93	42	44	79	8	48	55	0.00

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° 1 ly = 1 cal/cm² = 4.1855 J/cm² = 3.6855 BTU/ft² = .01163 KW-hr/m²

prev month Station Summary next month

Eel River Camp California

Monthly Summary for

January, 2021

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb	Total Precip. inches
1	1	125	1.3	205	14.0	47	55	43	49	64	44	93	100	64	45	46	0.35
2	2	83	0.9	224	9.0	50	55	47	51	57	48	95	100	80	49	49	0.14
3	3	85	1.5	290	10.0	52	57	49	52	59	49	94	99	83	50	51	0.13
4	4	64	2.8	226	23.0	50	57	44	49	55	43	92	99	81	47	48	1.47
5	5	176	0.8	75	8.0	45	55	40	47	65	38	90	98	63	42	43	0.00
6	6	50	1.1	351	8.0	45	51	40	46	52	41	99	100	97	44	45	0.63
7	7	141	1.0	223	10.0	47	53	42	48	60	42	93	99	73	45	45	0.39
8	8	191	1.1	329	12.0	47	56	40	49	66	38	89	99	49	43	45	0.28
9	9	166	1.7	292	7.0	43	55	38	45	66	39	93	100	63	41	42	0.00
10	10	110	0.6	140	6.0	48	55	43	49	58	44	96	100	82	47	47	0.24
11	11	145	1.3	359	9.0	49	57	46	51	67	46	91	99	64	46	47	0.00
12	12	25	1.3	136	10.0	53	57	48	54	57	48	96	99	92	52	53	1.56
13	13	123	1.0	17	9.0	57	64	54	57	69	52	95	100	78	55	56	0.34
14	14	190	0.9	73	6.0	54	67	49	56	76	49	92	100	65	51	52	0.00
15	15	114	0.5	180	7.0	51	60	47	53	67	47	96	100	75	50	50	0.00
16	16	193	1.5	33	13.0	52	65	42	54	74	39	85	100	54	47	49	0.01
17	17	232	1.1	11	12.0	49	68	38	51	79	37	85	100	43	44	46	0.00
18	18	252	1.7	348	13.0	48	70	36	48	80	32	77	98	28	40	44	0.00
19	19	253	1.1	275	12.0	43	66	31	43	76	28	81	99	21	35	39	0.01
20	20	229	0.4	240	6.0	39	62	29	40	73	26	87	98	40	34	36	0.00
21	21	152	0.8	253	10.0	41	56	34	42	60	32	88	99	56	37	39	0.13
22	22	189	1.7	20	15.0	45	52	40	47	60	39	84	98	62	40	42	0.13
23	23	260	2.4	350	19.0	44	55	36	45	68	34	82	99	53	38	41	0.00
24	24	62	2.4	314	23.0	41	45	37	41	47	34	89	95	78	38	40	0.43
25	25	161	3.1	331	24.0	40	46	34	41	54	33	80	97	60	34	37	0.00
26	26	36	1.8	262	16.0	36	41	32	36	40	33	93	99	81	34	35	1.18
27	27	101	3.4	213	24.0	45	50	38	45	51	39	87	98	67	41	43	0.62
28	28		1.2	12	7.0	43	47	41	44	53	42	95	98	82	42	43	0.91
29	29	190	1.4	322	10.0	44	52	38	46	64	39	87	96	61	40	41	0.03
30	30	108	1.7	269	15.0	47	55	42	48	57	42	88	98	60	43	45	0.07
31	31	40	2.2	265	13.0	50	54	45	49	54	45	92	98	78	48	48	0.89

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb	Total Precip. inches
Total	4246															9.94
Ave.	142	1.5	294	12.3	46.6	56.1	40.7	47.6	62.2	40.1	90	99	66	43	45	
Max.	260	3.4		24.0	57	70	54	57	80	52	99	100	97	55	56	1.56
Min.	25	0.4		6.0	36	41	29	36	40	26	77	95	21	34	35	0.00

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° 1 ly = 1 cal/cm² = 4.1855 J/cm² = 3.6855 BTU/ft² = .01163 KW-hr/m²

prev month Station Summary next month

Eel River Camp California

Monthly Summary for

February, 2021

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb	Total Precip. inches
1	32	42	2.3	252	29.0	48	54	42	48	53	40	95	98	88	47	47	1.27
2	33	201	1.5	266	13.0	46	55	38	47	61	36	89	99	52	43	44	0.07
3	34	216	2.4	320	18.0	43	52	35	44	61	32	85	98	56	38	41	0.26
4	35	293	1.6	320	14.0	42	60	32	44	69	31	84	99	45	37	39	0.00
5	36	304	2.8	335	16.0	45	59	33	48	70	34	85	99	55	40	42	0.01
6	37	311	3.3	338	17.0	47	63	36	48	72	34	79	98	42	39	42	0.00
7	38	301	2.9	357	16.0	45	61	36	46	69	34	80	97	45	39	42	0.00
8	39	176	1.3	19	8.0	46	56	41	48	64	41	84	96	61	41	44	0.00
9	40	154	0.5	280	5.0	47	56	40	48	63	37	88	98	58	43	45	0.00
10	41	257	0.9	277	7.0	47	65	40	50	76	41	87	99	45	43	44	0.00
11	42	42	1.1	240	11.0	45	53	42	46	52	42	97	99	87	45	45	0.84
12	43	148	1.0	186	5.0	49	54	45	50	59	45	93	99	76	47	48	0.09
13	44	220	2.1	332	15.0	47	55	38	48	62	36	86	99	53	42	44	0.42
14	45	87	0.2	318	4.0	44	47	39	45	49	40	97	99	93	43	43	0.45
15	46	139	1.8	157	14.0	49	55	43	50	57	43	92	99	78	47	48	0.12
16	47	283	2.3	323	21.0	47	55	41	49	64	40	82	99	53	41	43	0.00
17	48	310	1.5	5	11.0	47	60	35	48	70	33	76	98	37	38	42	0.00
18	49	73	0.8	252	8.0	44	52	36	45	54	34	94	99	76	42	43	0.63
19	50	198	2.0	174	16.0	48	56	43	50	63	43	87	99	54	44	46	0.35
20	51	271	4.5	358	22.0	47	54	41	48	64	39	78	97	57	39	43	0.24
21	52	358	3.5	46	16.0	47	61	34	49	71	32	75	97	44	38	42	0.00
22	53	339	3.7	37	19.0	50	64	40	51	76	39	78	97	51	43	46	0.00
23	54	381	3.8	64	17.0	51	60	44	52	72	41	70	91	40	41	45	0.00
24	55	387	4.5	36	20.0	46	58	34	47	67	31	70	96	42	36	41	0.00
25	56	388	3.5	349	22.0	47	63	33	49	75	31	72	97	39	37	42	0.00
26	57	275	6.5	11	34.0	46	53	39	47	61	38	65	87	53	35	41	0.00
27	58	387	4.8	29	34.0	47	55	42	49	66	38	62	78	44	34	41	0.00
28	59	398	2.2	34	15.0	47	67	32	48	76	30	74	97	37	37	42	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb	Total Precip. inches
Total	6941															4.75
Ave.	248	2.5	351	16.0	46.6	57.2	38.4	47.9	64.9	37.0	82	97	56	41	43	
Max.	398	6.5		34.0	51	67	45	52	76	45	97	99	93	47	48	1.27
Min.	42	0.2		4.0	42	47	32	44	49	30	62	78	37	34	39	0.00

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Eel River Camp California

Monthly Summary for

March, 2021

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. V. mph	Wind Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb	Total Precip. inches
1	60	336	2.1	262	20.0	44	66	34	45	77	31	82	99	26	37	40	0.00
2	61	361	0.8	275	7.0	46	72	35	49	81	30	79	99	18	38	41	0.00
3	62	405	1.3	255	14.0	45	70	31	46	83	28	72	98	17	33	39	0.00
4	63	404	2.8	215	23.0	45	63	33	46	73	30	74	97	36	36	40	0.00
5	64	133	3.5	192	22.0	49	60	37	50	66	37	77	96	56	42	45	1.20
6	65	404	1.2	233	11.0	44	58	35	47	72	33	80	97	42	37	40	0.01
7	66	404	1.7	253	11.0	45	59	36	48	72	34	79	97	42	38	41	0.03
8	67	205	2.4	255	17.0	42	50	35	43	56	34	89	98	71	38	40	0.31
9	68	126	2.0	241	19.0	42	48	38	42	51	38	90	97	76	39	41	0.86
10	69	374	1.9	274	22.0	42	54	36	45	67	34	85	98	49	37	40	0.05
11	70	396	2.0	6	17.0	44	59	35	47	72	33	80	99	39	37	40	0.01
12	71	436	1.6	277	14.0	47	68	34	50	80	30	75	99	25	37	42	0.00
13	72	356	2.3	188	13.0	46	61	38	49	76	37	78	97	54	39	43	0.00
14	73	72	2.3	230	20.0	43	50	37	43	51	37	88	97	66	39	41	0.72
15	74	396	7.4	4	40.0	43	49	35	44	59	33	65	93	48	31	37	0.08
16	75	472	2.6	336	18.0	41	57	29	43	68	28	71	97	31	30	36	0.00
17	76	424	2.9	227	23.0	42	58	30	45	70	28	79	98	49	35	39	0.02
18	77	179	3.2	213	23.0	48	55	41	49	59	42	90	98	71	45	47	0.61
19	78	270	1.8	306	17.0	46	54	40	47	60	39	90	99	62	43	44	0.14
20	79	407	2.7	292	17.0	45	56	35	48	71	32	80	99	51	38	42	0.01
21	80	456	3.5	355	23.0	46	57	35	48	69	32	73	98	49	37	41	0.00
22	81	285	3.6	0	31.0	48	58	39	51	67	38	71	92	56	39	43	0.00
23	82	506	3.3	19	19.0	48	62	37	49	73	33	67	96	36	36	42	0.00
24	83	438	3.1	334	21.0	48	62	36	50	72	32	74	97	40	38	43	0.00
25	84	418	4.9	343	28.0	47	56	37	49	68	33	69	95	49	37	42	0.00
26	85	526	2.2	348	14.0	48	69	32	50	80	28	71	97	32	38	42	0.00
27	86	506	1.1	277	13.0	53	80	35	55	91	32	71	98	21	40	45	0.00
28	87	524	2.5	351	17.0	52	76	37	55	89	33	70	99	21	39	45	0.00
29	88		6.0	9	25.0	49	59	40	51	69	38	63	92	36	36	42	0.00
30	89	550	3.0	13	15.0	51	75	33	52	84	30	64	96	22	36	43	0.00
31	90	557	1.5	259	13.0	53	80	33	54	91	28	63	98	12	35	44	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. V. mph	Wind Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb	Total Precip. inches
Total	11325															4.05
Ave.	378	2.7	292	18.9	46.2	61.3	35.4	48.0	71.5	33.1	76	97	42	37	42	
Max.	557	7.4		40.0	53	80	41	55	91	42	90	99	76	45	47	1.20
Min.	72	0.8		7.0	41	48	29	42	51	28	63	92	12	30	36	0.00

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° 1 ly = 1 cal/cm² = 4.1855 J/cm² = 3.6855 BTU/ft² = .01163 KW-hr/m²

prev month **Station Summary** next month

Eel River Camp California

Monthly Summary for

April, 2021

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg.	Wet Bulb Fahrenheit	Total Precip. inches
1	91	555	1.8	238	16.0	53	78	33	53	88	29	60	96	13	33	43	0.00
2	92	497	2.0	258	15.0	50	72	32	51	84	29	65	96	19	35	42	0.00
3	93	354	2.9	222	17.0	50	59	39	53	70	35	73	94	55	41	45	0.00
4	94	372	1.7	239	14.0	51	65	44	54	76	43	74	93	43	42	46	0.00
5	95	503	2.2	344	15.0	51	70	37	54	82	34	70	92	35	41	45	0.00
6	96	543	2.0	253	14.0	50	74	34	52	85	30	70	98	18	38	43	0.00
7	97	504	2.6	85	16.0	50	64	44	53	77	40	72	89	48	41	45	0.00
8	98	575	3.3	355	17.0	49	66	37	52	79	34	67	93	39	38	43	0.00
9	99	522	5.1	25	19.0	48	60	37	51	72	33	72	94	54	39	43	0.00
10	100	589	6.0	18	25.0	49	63	36	52	77	33	63	92	42	36	43	0.00
11	101	582	3.8	355	19.0	50	68	35	51	79	31	68	95	39	38	43	0.00
12	102	599	3.0	26	20.0	53	76	34	54	87	29	63	98	19	36	44	0.00
13	103	605	3.5	354	28.0	51	69	36	52	81	32	59	96	22	34	43	0.00
14	104	604	1.9	327	21.0	51	73	32	51	86	27	58	97	19	32	41	0.00
15	105	613	2.0	244	14.0	51	73	31	51	87	27	58	96	14	31	41	0.00
16	106	603	1.6	297	17.0	55	81	33	56	93	29	62	96	20	38	45	0.00
17	107	606	1.5	345	17.0	58	83	38	59	96	33	60	98	17	39	47	0.00
18	108	619	1.8	341	18.0	59	85	36	59	96	31	57	97	16	39	48	0.00
19	109	612	4.0	24	21.0	55	73	39	56	85	34	62	95	23	40	46	0.00
20	110	537	5.2	38	24.0	53	62	47	57	76	45	72	88	56	45	48	0.00
21	111	620	4.0	27	18.0	55	73	42	58	86	37	68	95	28	42	48	0.00
22	112	625	5.0	45	23.0	55	73	41	58	87	39	65	95	26	41	47	0.00
23	113	523	2.5	182	16.0	55	74	38	57	87	33	62	97	26	39	46	0.00
24	114	443	3.5	204	19.0	51	58	47	54	71	46	72	93	50	42	46	0.01
25	115	321	2.1	268	15.0	47	54	41	49	61	39	86	97	62	43	45	1.03
26	116	382	1.9	286	13.0	48	58	37	50	71	32	77	96	51	40	44	0.00
27	117	638	2.6	341	17.0	53	74	37	57	87	37	68	99	26	40	46	0.00
28	118	661	1.7	279	15.0	59	83	37	61	96	32	63	98	16	41	49	0.00
29	119	634	2.4	34	16.0	59	81	41	61	94	36	59	97	29	42	49	0.00
30	120	613	2.5	346	16.0	58	75	39	61	88	34	64	95	30	44	50	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg.	Wet Bulb Fahrenheit	Total Precip. inches
Total	16455															1.04
Ave.	548	2.9	334	17.8	52.7	70.6	37.8	54.7	82.8	34.1	66	95	32	39	45	
Max.	661	6.0		28.0	59	85	47	61	96	46	86	99	62	45	50	1.03
Min.	321	1.5		13.0	47	54	31	49	61	27	57	88	13	31	41	0.00

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Eel River Camp California

Monthly Summary for

May, 2021

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
1	121	579	3.8	11	21.0	56	66	49	60	80	47	73	97	55	47	51	0.00
2	122	637	3.9	107	20.0	57	67	50	62	83	48	66	83	43	45	50	0.00
3	123	661	5.2	46	27.0	59	73	49	62	86	45	61	87	31	44	50	0.00
4	124	674	4.4	17	23.0	60	73	45	62	87	40	64	94	35	46	51	0.00
5	125	648	2.3	293	17.0	63	87	43	65	101	39	63	97	20	46	52	0.00
6	126	513	3.5	357	24.0	56	73	41	59	89	35	68	97	42	45	49	0.00
7	127	686	5.8	8	27.0	54	62	47	58	79	44	57	75	42	39	46	0.00
8	128	671	5.9	55	34.0	57	71	46	61	86	43	56	81	30	40	47	0.00
9	129	670	5.2	62	30.0	58	69	49	61	81	46	63	81	39	44	50	0.00
10	130	699	3.6	38	18.0	60	84	42	64	98	39	62	96	25	44	51	0.00
11	131	694	2.7	333	16.0	63	87	41	65	101	36	59	97	19	44	51	0.00
12	132	693	2.8	24	16.0	64	88	43	67	102	37	59	97	24	46	53	0.00
13	133	678	3.2	57	19.0	61	83	44	65	95	39	64	96	25	46	52	0.00
14	134	634	5.2	63	23.0	56	69	49	60	82	49	70	84	49	46	50	0.00
15	135	651	4.3	59	19.0	60	78	46	64	91	42	65	93	34	47	52	0.00
16	136	668	2.8	9	15.0	61	91	44	66	107	41	66	95	20	47	52	0.00
17	137	689	4.2	45	21.0	58	74	44	61	88	42	68	94	42	46	50	0.00
18	138	709	3.4	344	20.0	56	71	42	59	86	37	64	96	35	42	48	0.00
19	139	680	7.1	360	31.0	52	61	45	56	75	41	54	76	37	36	44	0.00
20	140	716	8.0	3	32.0	52	59	46	56	73	44	53	70	37	35	43	0.00
21	141	710	5.8	30	33.0	54	63	45	58	77	42	58	81	39	39	46	0.00
22	142	682	3.7	37	20.0	56	73	41	60	88	37	60	95	31	41	48	0.00
23	143	707	3.0	10	21.0	58	76	39	60	90	35	57	93	25	39	47	0.00
24	144	695	2.8	243	18.0	61	79	41	66	96	37	63	95	32	46	52	0.00
25	145	678	3.7	355	20.0	59	70	47	63	85	44	67	92	46	47	52	0.00
26	146	705	4.5	58	16.0	60	78	44	64	93	40	63	92	37	46	52	0.00
27	147	597	2.8	331	16.0	60	78	40	65	91	35	69	97	40	48	53	0.00
28	148	711	4.6	58	16.0	63	81	49	67	95	46	58	84	33	46	53	0.00
29	149	711	4.2	23	20.0	60	79	44	64	93	41	64	94	29	45	51	0.00
30	150	714	3.9	53	20.0	64	84	43	68	98	39	59	96	26	46	53	0.00
31	151	705	2.8	5	18.0	71	98	46	74	109	41	53	92	19	48	56	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
Total	20865															0.00
Ave.	673	4.2	29	21.6	59.0	75.6	44.6	62.7	89.8	41.0	62	90	34	44	50	
Max.	716	8.0		34.0	71	98	50	74	109	49	73	97	55	48	56	0.00
Min.	513	2.3		15.0	52	59	39	56	73	35	53	70	19	35	43	0.00

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° 1 ly = 1 cal/cm² = 4.1855 J/cm² = 3.6855 BTU/ft² = .01163 KW-hr/m²

prev month **Station Summary** next month

Eel River Camp California

Monthly Summary for

June, 2021

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
1	152	705	2.2	44	19.0	73	102	50	77	117	46	53	90	18	51	58	0.00
2	153	712	3.5	18	18.0	71	90	50	74	105	46	55	93	26	51	58	0.00
3	154	717	4.2	26	25.0	67	88	48	70	102	43	60	95	20	49	56	0.00
4	155	724	4.0	37	25.0	66	86	49	69	100	45	54	96	15	44	53	0.00
5	156	726	7.4	26	26.0	62	73	51	66	87	49	53	78	36	44	51	0.00
6	157	716	6.1	19	27.0	58	69	49	63	84	47	57	80	30	41	49	0.00
7	158	698	4.1	342	21.0	57	68	45	60	84	41	58	94	33	40	48	0.00
8	159	605	2.8	227	17.0	54	67	39	57	87	33	64	96	35	40	46	0.00
9	160	554	2.5	292	20.0	52	67	36	54	83	26	69	98	34	40	45	0.00
10	161	663	2.5	236	17.0	55	72	37	59	89	28	62	97	26	40	46	0.00
11	162	239	2.3	244	20.0	56	67	45	58	75	42	77	97	46	48	52	0.32
12	163	622	3.2	232	23.0	66	77	57	71	92	57	79	98	55	59	61	0.00
13	164	402	3.2	228	21.0	66	76	59	70	87	60	77	96	52	58	61	0.00
14	165	598	3.1	250	15.0	64	75	48	68	92	41	68	96	35	52	56	0.00
15	166	728	3.7	340	21.0	61	77	46	66	93	39	63	98	29	46	52	0.00
16	167	744	3.8	25	19.0	66	87	46	70	101	43	59	96	22	48	55	0.00
17	168	742	4.6	38	23.0	66	85	48	70	97	44	62	97	28	50	56	0.00
18	169	734	4.1	44	21.0	66	87	48	70	103	46	62	95	29	50	56	0.00
19	170	724	1.7	247	15.0	72	101	47	76	117	43	59	97	19	52	59	0.00
20	171	728	2.0	225	15.0	74	96	54	76	112	47	53	96	18	50	59	0.00
21	172	716	2.7	235	13.0	65	82	49	68	97	43	64	96	35	50	56	0.00
22	173	679	2.9	220	15.0	62	76	49	67	91	44	70	97	44	51	55	0.00
23	174	697	2.9	127	15.0	66	84	47	70	100	41	66	98	36	52	57	0.00
24	175	691	2.9	89	16.0	70	93	55	76	108	54	61	89	30	54	60	0.00
25	176	694	2.1	75	14.0	73	95	54	77	112	51	59	94	30	55	61	0.00
26	177	707	2.1	28	18.0	77	101	54	80	117	50	55	95	22	55	62	0.00
27	178				16.0		96	57		112	53		89	24			
28	179	710	2.4	231	20.0	71	89	54	75	107	50	62	93	31	55	60	0.00
29	180	702	3.7	24	22.0	73	95	53	77	110	48	59	97	23	54	61	0.00
30	181	694	4.9	53	20.0	69	87	55	74	101	51	67	95	38	56	60	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg. Fahrenheit	Air Temperature Max Deg. Fahrenheit	Air Temperature Min Deg. Fahrenheit	Fuel Temperature Mean Deg. Fahrenheit	Fuel Temperature Max Deg. Fahrenheit	Fuel Temperature Min Deg. Fahrenheit	Humidity Mean Percent	Humidity Max Percent	Humidity Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
Total	19373															0.32
Ave.	668	3.4	332	19.2	65.5	83.6	49.3	69.2	98.7	45.0	62	94	31	50	55	
Max.	744	7.4		27.0	77	102	59	80	117	60	79	98	55	59	62	0.32
Min.	239	1.7		13.0	52	67	36	54	75	26	53	78	15	40	45	0.00

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prev month **Station Summary** next month

Eel River Camp California

Monthly Summary for

August, 2021

Day of Month	Day of Year	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg.	Wet Bulb Fahrenheit	Total Precip. inches
1	213	660	2.7	217	18.0	72	94	52	73	104	47	52	98	18	49	58	0.00
2	214	678	2.2	249	15.0	68	92	50	70	105	45	51	97	9	43	54	0.00
3	215	611	1.8	262	14.0	72	100	48	72	110	44	54	99	6	47	57	0.00
4	216	674	2.4	245	16.0	71	97	49	72	108	43	52	100	9	45	56	0.00
5	217	561	2.9	92	21.0	65	82	47	66	92	42	69	97	41	53	57	0.00
6	218				19.0		90	54		103	51		100	24			
7	219	516	3.0	36	16.0	72	91	57	74	101	54	68	99	34	59	63	0.00
8	220	631	5.0	41	17.0	71	88	54	73	99	50	62	85	33	55	61	0.00
9	221	616	2.4	248	17.0	73	97	50	74	109	46	54	97	16	51	59	0.00
10	222	591	2.0	287	15.0	78	102	54	79	113	49	49	95	15	51	61	0.00
11	223	545	1.6	341	16.0	78	104	56	78	115	52	47	84	12	50	60	0.00
12	224	429	1.5	40	14.0	75	99	56	76	108	51	49	83	19	51	59	0.00
13	225	304	1.4	266	13.0	70	90	59	71	98	54	57	80	28	53	59	0.00
14	226	386	2.1	72	15.0	71	91	55	72	100	52	61	88	31	55	60	0.00
15	227	525	2.8	15	20.0	71	94	54	73	104	51	66	96	32	57	61	0.00
16	228	618	5.1	24	20.0	68	87	54	70	99	50	67	100	30	54	59	0.00
17	229	602	6.0	39	27.0	66	77	53	69	88	49	64	89	36	52	57	0.00
18	230	429	3.2	37	19.0	63	79	48	63	87	42	66	100	35	50	55	0.00
19	231	504	3.1	31	17.0	67	89	48	68	99	44	64	100	21	51	57	0.00
20	232	473	3.0	335	20.0	66	84	52	67	92	49	68	100	32	53	57	0.00
21	233	592	4.0	354	21.0	65	82	49	66	94	45	65	100	28	50	55	0.00
22	234	507	3.0	21	15.0	64	87	48	66	99	46	68	99	33	51	56	0.00
23	235	555	2.5	295	14.0	64	91	44	66	104	40	62	100	17	46	53	0.00
24	236	565	2.5	15	17.0	64	88	44	65	100	38	60	100	22	46	53	0.00
25	237	570	3.4	342	17.0	64	86	45	66	98	42	62	100	17	46	53	0.00
26	238	567	3.8	33	23.0	67	86	50	68	97	45	64	100	23	51	57	0.00
27	239	567	3.8	20	21.0	68	87	53	69	96	49	64	100	30	52	58	0.00
28	240	494	1.5	340	14.0	71	102	47	71	112	42	57	100	16	49	57	0.00
29	241	484	2.7	38	19.0	69	96	51	69	107	46	61	96	21	50	57	0.00
30	242	573	4.1	10	26.0	66	89	46	67	99	43	59	100	17	47	54	0.00
31	243	552	3.2	12	21.0	63	85	46	64	96	40	58	95	17	45	52	0.00

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. mph	Wind V. Dir. Deg	Wind Max. mph	Air Temperature Mean Deg.	Air Temperature Max Fahrenheit	Air Temperature Min	Fuel Temperature Mean Deg.	Fuel Temperature Max Fahrenheit	Fuel Temperature Min	Humidity Mean Percent	Humidity Max	Humidity Min	Dew Point Deg.	Wet Bulb Fahrenheit	Total Precip. inches
Total	16383															0.00
Ave.	546	3.0	7	18.0	68.7	90.5	50.7	69.9	101.2	46.5	60	96	23	50	57	
Max.	678	6.0		27.0	78	104	59	79	115	54	69	100	41	59	63	0.00
Min.	304	1.4		13.0	63	77	44	63	87	38	47	80	6	43	52	0.00

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