ATTACHMENT 4D

Hydrologic Isolation of Existing Well from Surface Waters

by

Lindberg Geologic Consulting

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

August 26, 2022 Project No: 0441.00

Mr. Steven Jones
Post Office Box 2204
Redway, California 95560

Subject: Hydrologic Isolation of Existing Well from Surface Waters
1925 Elk Ridge Road, Briceland, APN: 220-272-003

To Whom It May Concern:

As requested, Lindberg Geologic Consulting has assessed the existing well on the above-referenced parcel to estimate its potential for hydrologic connectivity with any adjacent wetlands and or surface waters, and if pumping this well could affect surface waters in nearby water courses. Creeks in the vicinity of this well drain to South Fork Eel River. A California-Certified Engineering Geologist visited this site on April 8, 2022, to observe the subject well and local site conditions. Based on our professional experience, our observations, and research, it is our opinion the subject well has a low likelihood of being hydrologically connected to nearby surface waters in any manner that could affect adjacent wetlands and or surface waters in the vicinity. We understand that you plan to use water from this well to irrigate cannabis. We are not aware of the volume of water to be extracted or what the pumping schedule might be but expect that Mr. Jones can supply that information.

Based on the Humboldt County WebGIS mapping, this well is approximately 710 feet from the nearest mapped surface waters, an ephemeral tributary of Buck Gulch (Figure 1). Based on interpolation from the 1969 USGS Ettersburg topographic quadrangle map (Figure 1), and the Humboldt County WebGIS, well elevation is approximately 1,820 feet above sea level. Fisch Well Drilling reports the depth of the well is 120 feet. At the nearest point to this well, the elevation of the Buck Gulch headwaters are approximately 1,590 feet. The elevation of the bottom of the subject well is approximately 1,700 feet which is 110 feet above the elevation of Buck Gulch at the nearest point on the WebGIS map.

The well location is shown approximately on the attached figures. According to the Humboldt County Assessor and the WebGIS, this parcel 220-272-003 (Figure 2) encompasses approximately 43 acres. Based on our on-site GPS measurements, the subject well is located approximately at latitude 40.12866° north, and longitude 123.90029° west (±9'), in Section 7, T4S, R3E, HB&M.

This well was drilled by the agent of a prior owner and there is no driller's report of well completion (DWR 188). Fisch Well Drilling, a licensed well-drilling contractor (C-57 #683865) inspected this well on July 22, 2022. Fisch Well Drilling estimated the yield of this well at 12+ gallons per minute. Based on an eight-hour pump test, the total drawdown was reported to be 7 feet. Fisch pumped the well at 12+ gpm for five hours to draw the well down by 7 feet, following

which, the water level stabilized pumping continued at 12. We conclude from this that the sustained yield is 12 gpm. Fisch Well Drilling's Inspection Report and Recovery Test tabulation are attached. Fisch reports the well is cased at the surface with 5-inch diameter PVC. Total drilled depth is 120 feet. There is a concrete pad at the wellhead. Depth of the surface seal (if any) is unknown. The owner reports that a bentonite surface sanitary seal will be installed. Fisch reported "No issues noted" regarding the surface seal. Depth to first water was reported by Fisch on July 22 to be 72 feet below grade.

One spring is mapped in the southwest quarter of Section 7 on the USGS Ettersburg, Calif (1969) topographic quadrangle map (Figure 1). From the well, this nearest mapped spring appears to be at least 1,250 feet southeast, at an elevation of approximately 1,520 feet, on parcel 220-272-004. We observed no other springs mapped in what we estimate to be Section 7. We will discuss other, more-distal springs later in this report.

On the geologic map (Figure 4), by McLaughlin et al. (2000), this area is underlain by the early Eocene to Paleocene, rocks of the Yager Terrane of the Coastal Belt of the Franciscan Complex. McLaughlin described the Yager as follows: "Argillite and arkosic sandstone rhythmically interbedded, thin to medium bedded; massive to thickly bedded arkosic sandstone with minor interbeds of argillite; and minor lenses of polymict boulder to pebble conglomerate. Southwest of Garberville, unit highly folded, but locally may be penetratively sheared or broken. Argillite and interbedded fine-grained sandstone is commonly calcareous and may have abundant plant debris in places. Sandstone characteristically contains prominent detrital muscovite. Based on fossil dinoflagellates and on spores and pollen from carbonate concretions in argillite, age of terrane is late to middle Eocene. Locally the lower beds of the terrane may be as old as Paleocene (McLaughlin and others, 1994). The Yager terrane is divided into 3 subunits based principally on topographic expression in aerial photographs and outcrop data: Sheared and highly folded mudstone-Includes minor rhythmically interbedded sandstone, locally with lenses of conglomerate. Exhibits irregular topography lacking a well-incised system of sidehill drainages".

There is no Driller's Report of well completion available. We interpret this well to be completed in materials of higher relative permeability and transmissivity. Materials below 72 feet are the water-bearing aquifer materials having higher transmissivity and permeability. At the location of the subject well, the elevation of the water-bearing aquifer unit is thus at approximately 1,750 feet.

Below a few feet of thin topsoil, the earth materials encountered in the boring are likely the argillite and sandstone mapped by McLaughlin et al. (2000). Sheared and folded sandstone materials are expected to have a good hydraulic conductivity and constitute a significant aquifer. We speculate that the underlying sequence of materials in this well are lithologies within the Yager Terrane of the Coastal Belt of the Franciscan Complex. Yager sandstone would be expected to have a significantly higher hydraulic conductivity than the argillite and would make the sandstone the water bearing aquifer unit in this well.

A geologic cross section of the area after McLaughlin and Others (2000) shows the general structural and stratigraphic relationships between the local geologic units (Figure 5). The coastal belt units of the Franciscan Complex are shown dipping to the northeast and bounded by thrust fault planes. On-site, no dip of the rock units could be observed in the bedrock because it was mantled with soil and hillslope colluvium and obscured by vegetation. We interpret the faults to be hydrologic boundaries of minimal permeability (due to grinding and shearing along the fault planes) which effectively separate portions of the coastal belt Franciscan units from each other, and limit groundwater flow between these fault-bound units. A hydrogeologic cross section is included as Figure 6 and shows the well and topography with an interpretation of the phreatic surface.

In our professional opinion, based on our experience, observations, and review of pertinent and available information, this well has a low potential of having any direct connection to surface waters. Static water was encountered by Fisch Drilling at 72 feet. Fisch also reported this well is sealed and that the sanitary seal (presumably through the upper 20 feet) has “No issues”. This should ensure isolation of any potential unconfined, near-surface aquifers from the deeper sandstone aquifer.

When considered with the stratigraphy and geologic structure, distances (horizontal and vertically) from the nearest surface waters, depth of the producing zone of this well (~72 feet), as well as its position relative to the nearest adjacent watercourses in Buck Gulch and Miller Creek, we conclude that the location and depth of this well is sufficient to preclude the potential for any hydraulic connectivity with surface waters, of which there are none closer than 1,520 feet on the southwest facing flank of Elk Ridge. Thus, the aquifer from which this well draws appears to be a confined subsurface aquifer not hydrologically connected to any surface waters or near-surface aquifer(s). In our professional opinion this well appears likely to be hydraulically isolated from nearby wells, surface waters, springs, or wetlands. Pumping the subject well should not affect nearby wells, surface waters, springs, or wetlands.

In our professional opinion, it appears that the aquifer tapped by the subject well is recharged by water infiltrating from source areas proximal to, and upslope from, the well site. As noted in the eight-hour “Recovery Test” (pump test) performed by Fisch Drilling, the yield of this well is reported to be 12 gallons per minute (gpm) on July 22, 2022, with seven feet of drawdown. At that rate this well could potentially produce 17,280 gallons per day. Twelve gallons per minute may be generally representative of this well’s long-term yield.

As discussed, in our opinion the subject well does not appear to be hydrologically connected to, or capable of influencing surface water flows in the nearest tributaries: Buck Gulch or Miller Creek. This well appears unlikely to be hydrologically isolated from the local springs or ephemeral wetlands (if any). Given the horizontal distances involved, and the elevation differences between the water-producing zone in the subject well, and the much-lower surface waters in the nearest springs and watercourses, any potential for hydrologic connectivity between surface waters and

groundwater in the bedrock aquifer appears minimal. Further, given an apparently limiting condition of 72 feet of materials above the water-bearing unit(s), the water-producing zone is considered hydrologically isolated from, and not demonstrably connected to any other aquifer(s) in the surrounding, slopes underlain by the Yager Terrane of the Coastal Belt Franciscan deposits.

On the Ettersburg USGS topographic quadrangle map the nearest mapped spring is shown ~1,250 feet southeast of the subject well at an elevation of approximately 1,520 feet on parcel 220-272-004. This spring is the nearest mapped spring to the subject well and is at an elevation 180 feet lower than the bottom of the subject well. About 3,700 feet and 4,010 feet northeast of the subject well there are two other mapped springs, both at approximately 1,650 feet elevation, on the northeast facing flank of Elk Ridge (Figure 1). Approximately one mile southwest of the subject well, on the west side of Tank Ridge on the Briceland 7.5' topographic quadrangle map (1969), in Section 13 (T4S, R2E), another spring is mapped at an elevation of approximately 920 feet. In our opinion, given the distance involved and the differences in elevation, it is highly unlikely that pumping the subject well could affect the flow is any of these springs.

We researched the California Department of Water Resources (DWR) database to determine if there were other wells within 1,000 feet of the subject well on our client's property. We could not locate any other wells in the same Section (Section 7) as this well site. No wells are listed in Section 12 to the west, nor in Section 8 to the east or Section 6 to the north. In Section 18, to the south of Section 7 where the subject well is located, the DWR database reports two wells. One is on parcel 220-241-020, more than 1.4 miles south southeast, and the other is identified as being on parcel 220-241-9, which cannot be found in the Humboldt County WebGIS system. From these data we conclude that there are no other wells in sufficient proximity to be affected by this subject well.

The Natural Resources Conservation Service's, online Web Soil Survey, shows the subject well to be located within the Sproulish-Canoecreek-Redwohly soil complex (#573, Figure 7), which the NRCS describes as well-drained. The Web Soil Survey Unit description is attached to this report. According to the NRCS' Map Unit Description, the mean annual precipitation at this site is 60 to 100 inches per year. Capacity of the most limiting layer to transmit water (Ksat) is described as moderately high to high (0.20 to 2.00 in/hr). If we can assume that ten percent of the "lower-end" 60 inches of precipitation is absorbed by the soils and does not flow across the surface to local watercourses, then approximately 21.5 acre-feet, or over seven million gallons, of water per year may be expected to recharge the local aquifer below this 43-acre subject property alone.

On the 28th of March, 2022, our Governor Gavin Newsome issued an executive order (N-7-22) relating to the ongoing drought California is experiencing. In his executive order, the governor outlined several measures the state will undertake to avoid and ameliorate the negative impacts of the current drought. Among these measures, it was ordered that counties, cities, and other public agencies have been prohibited from approving permits for new groundwater wells (or alteration of existing wells) in basins "***subject to the Sustainable Groundwater Management Act and classified as medium- or high-priority without first obtaining written verification from a Groundwater***

Sustainability Agency managing the basin or area of the basin where the well is proposed". Your well at 1925 Elk Ridge Road is not within a basin subject to the Act, and there has been no Groundwater Sustainability Agency established with authority over the area where it is sited.

Further, the Order states that counties, cities, and other public agencies have been prohibited from issuing permits for new groundwater wells (or alteration of existing wells) "***without first determining that extraction of groundwater from the proposed well is (1) not likely to interfere with the production and functioning of existing nearby wells, and (2) not likely to cause subsidence that would adversely impact or damage nearby infrastructure***". Note that this Order, and that cited in the preceding paragraph, are not applicable to "***wells that provide less than two acre-feet per year of groundwater for individual domestic users, or that will exclusively provide groundwater to public water supply systems***."

Based on our professional experience, observations, and research, it is our opinion the well at 1925 Elk Ridge Road is unlikely to be hydrologically connected to nearby surface waters or wells in any manner that might affect adjacent wetlands, wells, and or surface waters in the vicinity.

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

Sincerely,

David N. Lindberg, CEG
Lindberg Geologic Consulting

DNL:sll

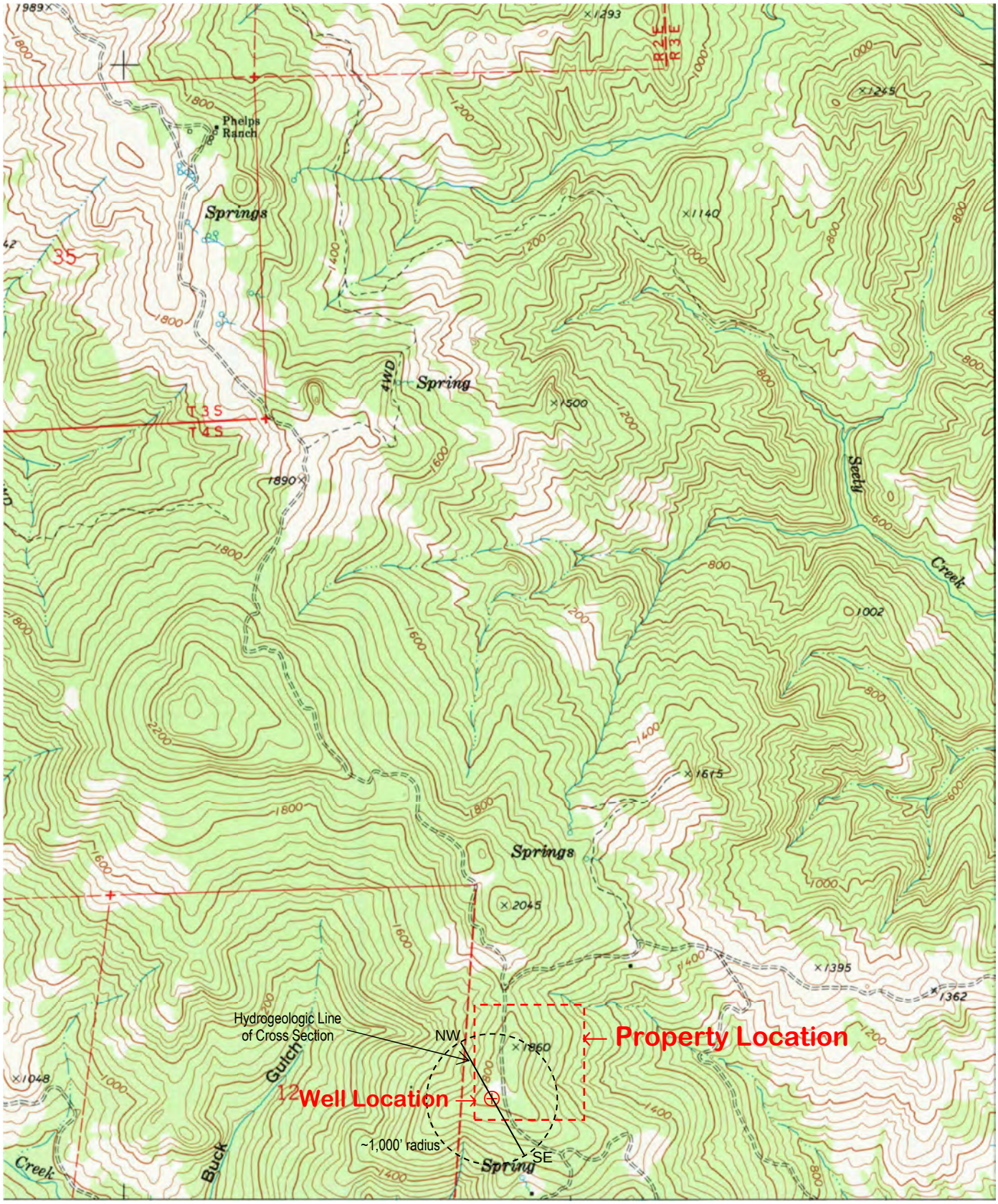
Attachments:
Figure 1: Topographic Map of Well Location
Figure 2: Humboldt County Assessor's Parcel Map
Figure 3: Satellite View of Well Site
Figure 4: Geologic Map
Figure 4a: Geologic Map Explanation
Figure 5: Geologic Cross Section
Figure 6: Hydrogeologic Cross Section
Figure 7: USDA-NRCS Soils Map of Well Site

State of California Well Completion Report: None Available

Fisch Well Drilling, Well inspection Report, and Recovery Test data sheet

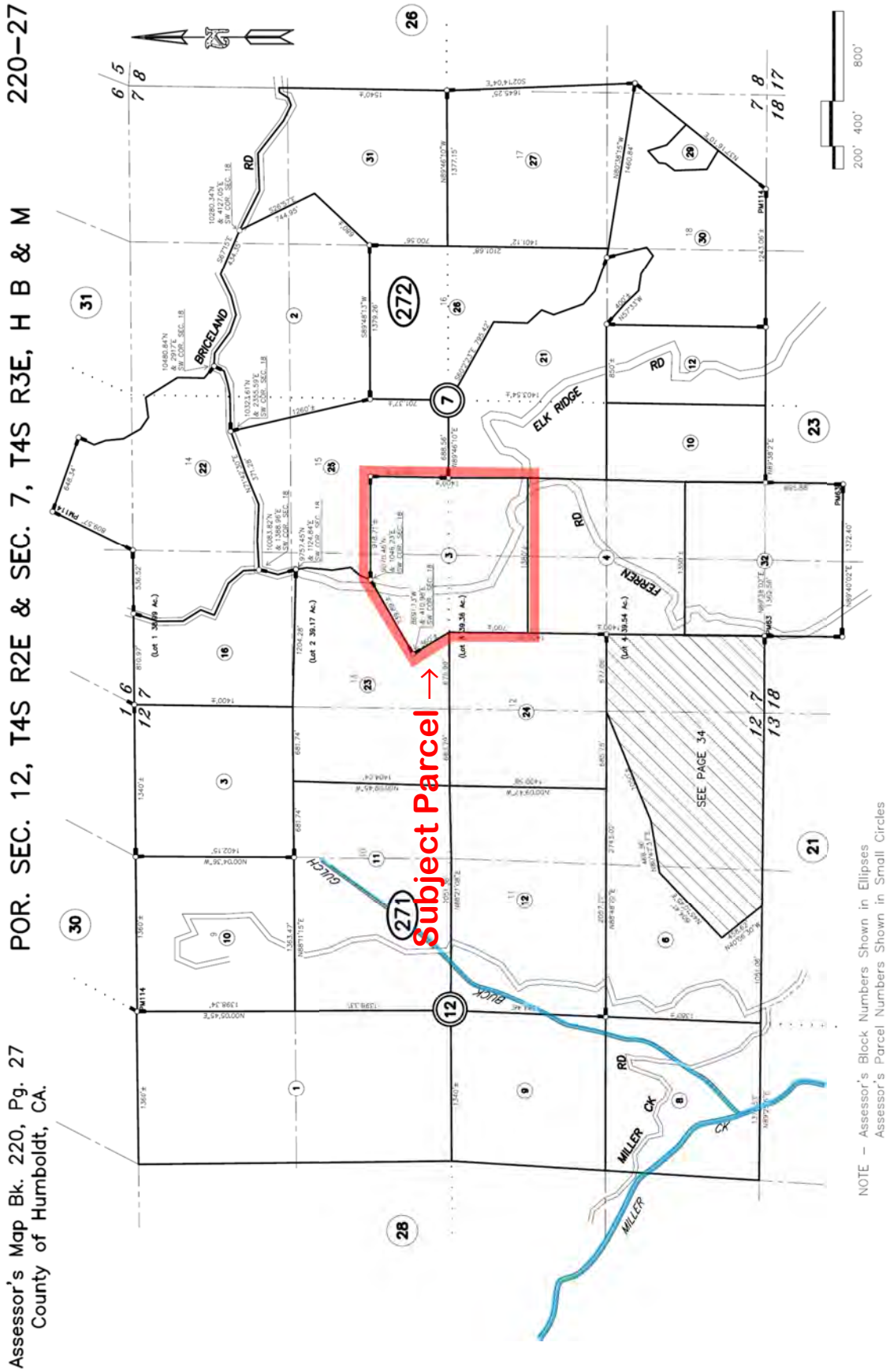
Web Soil Survey, USDA-NRCS Unit Description:
Sproulish-Canoecreek-Redwohly Soil Complex, Number 573, 15 to 30 percent slopes

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 1
Post Office Box 306	Elk Ridge Road near Briceland, Humboldt County	August 26, 2022
Cutten, CA 95534	APN: 220-272-003, Mr. Steven M. Jones, Client	Project 0441.00
(707) 442-6000	Topographic Map of Well Location (locations approximate)	1" ≈ 2,100'

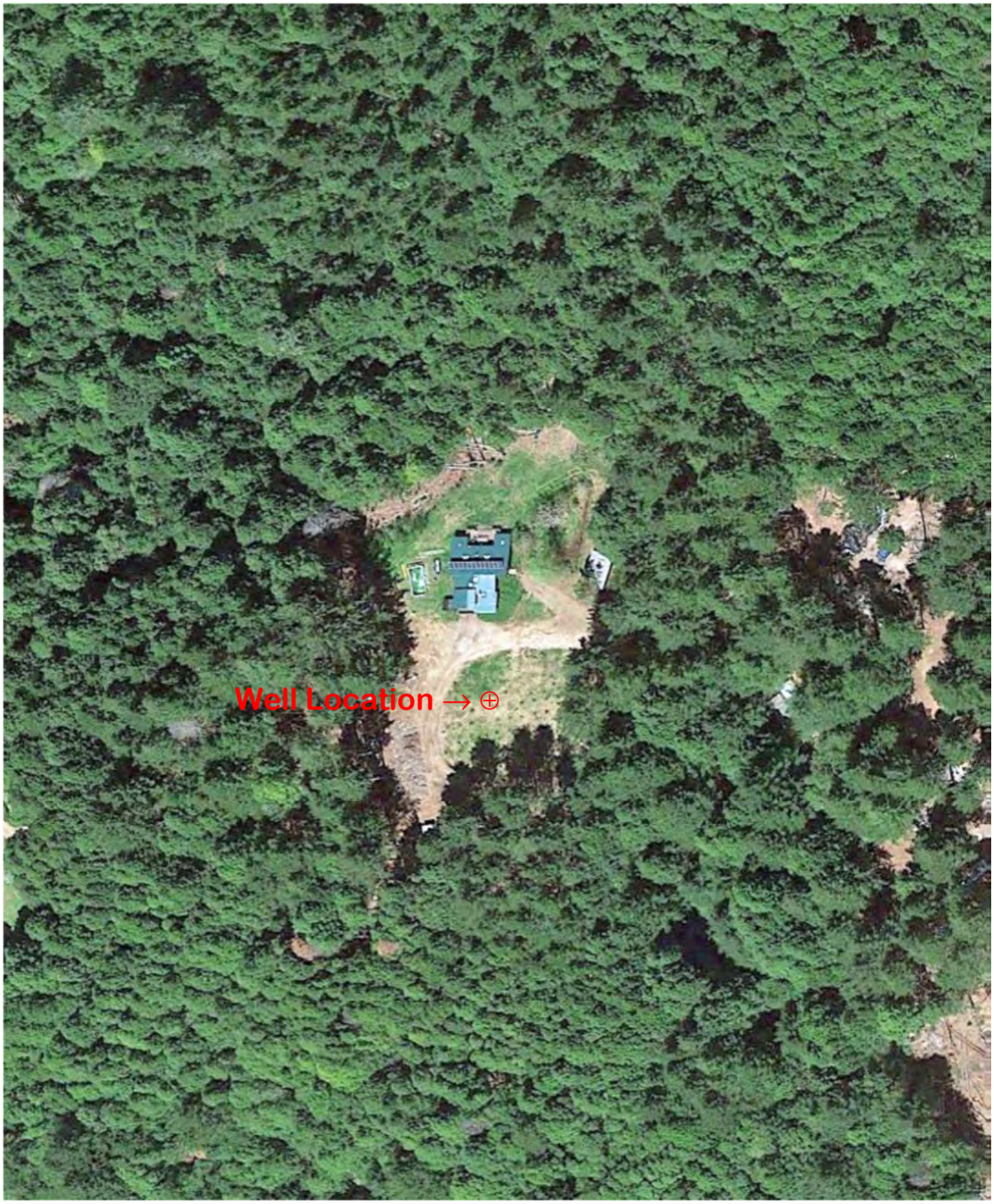


Modified from: USGS "Ettersburg, Calif.", 7.5' quadrangle (1969). N ≈

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 2
Post Office Box 306	Elk Ridge Road near Briceland, Humboldt County	August 26, 2022
Cutten, CA 95534	APN: 220-272-003, Mr. Steven M. Jones, Client	Project 0441.00
(707) 442-6000	Humboldt County Assessor's Parcel Map (locations approximate)	Scale as Shown

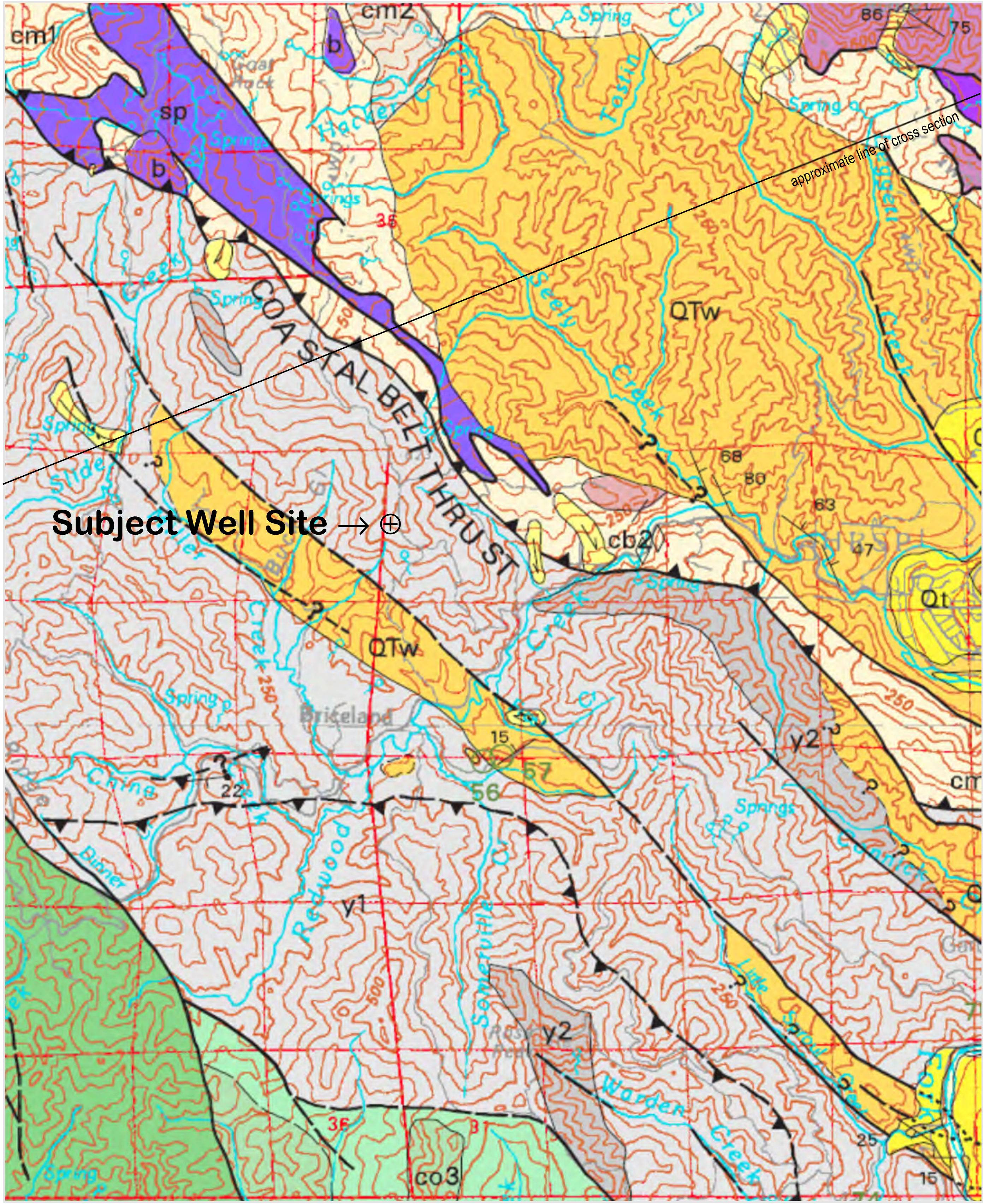


Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 3
Post Office Box 306	Elk Ridge Road near Briceland, Humboldt County	August 26, 2022
Cutten, CA 95534	APN: 220-272-003, Mr. Steven M. Jones, Client	Project 0441.00
(707) 442-6000	Satellite View of Well Site (locations approximate)	1" ≈ 110'



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	Elk Ridge Road near Briceland, Humboldt County	August 26, 2022
Cutten, CA 95534	APN: 220-272-003, Mr. Steven M. Jones, Client	Project 0441.00
(707) 442-6000	Geologic Map (locations approximate)	1" ≈ 5,700'



Modified from: McLaughlin and Others, 2000. N ≈ ↑

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 4a
P. O. Box 306	Elk Ridge Road near Briceland, Humboldt County	August 26, 2022
Cutten, CA 95534	APN: 220-272-003, Mr. Steven M. Jones, Client	Project 0441.00
(707) 442-6000	Geologic Map Explanation	No Scale

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)
- rc — 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:

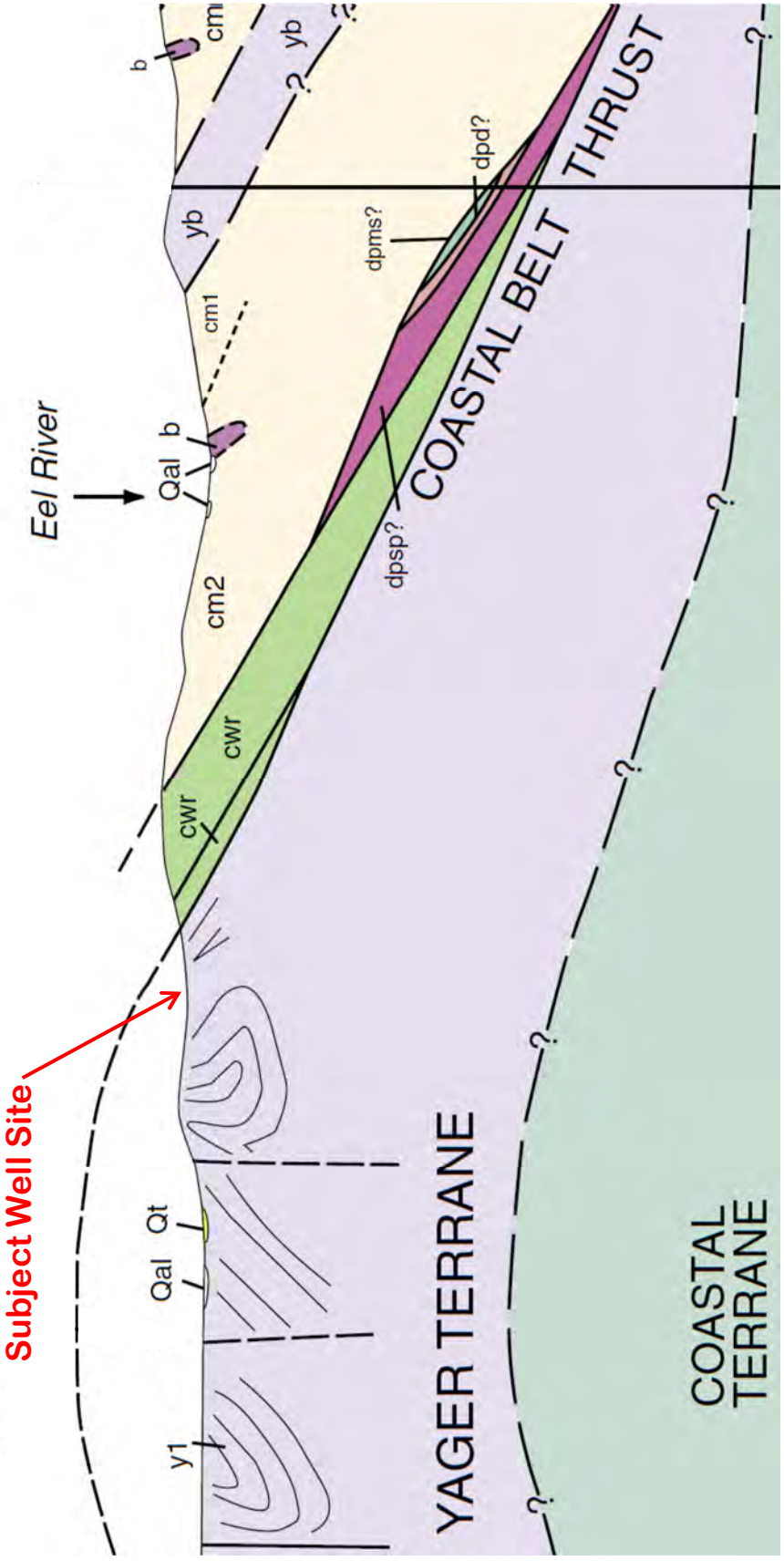
- Synclinal or synformal axis
- Anticlinal or antiformal axis
- Overturned syncline
- Landslide (Qls)

Melange Blocks:

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

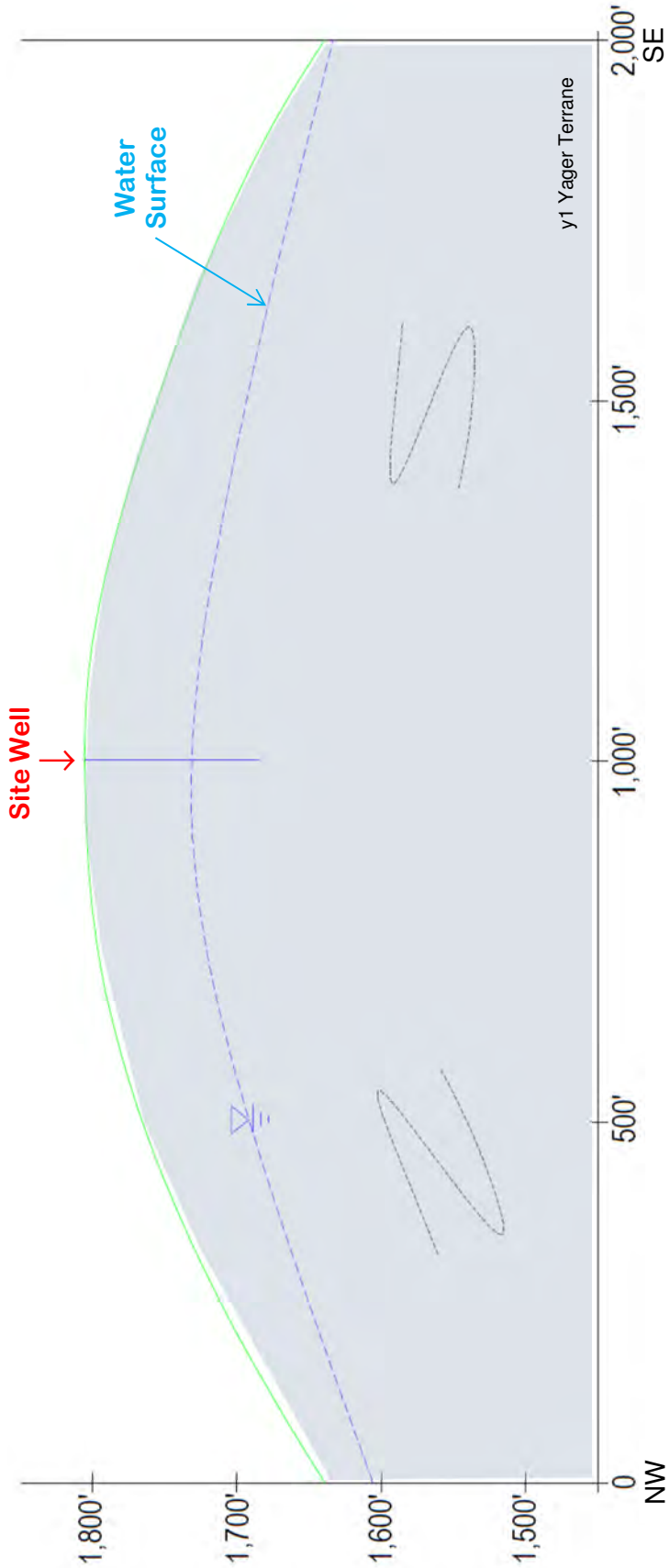
GEOLOGY OF THE CAPE MENDOCINO, EUREKA, GARBERVILLE, AND SOUTHWESTERN PART OF THE HAYFORK 30 X 60 MINUTE QUADRANGLES AND ADJACENT OFFSHORE AREA, NORTHERN CALIFORNIA (McLaughlin et al., 2000)

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 5
Post Office Box 306	Elk Ridge Road near Briceland, Humboldt County	August 26, 2022
Cutten, CA 95534	APN: 220-272-003, Mr. Steven M. Jones, Client	Project 0441.00
(707) 442-6000	Satellite View of Well Site (locations approximate)	Not to Scale



Modified from: McLaughlin and Others, 2000, N ≈

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 6
Post Office Box 306	Elk Ridge Road near Briceland, Humboldt County	August 26, 2022
Cutten, CA 95534	APN: 220-272-003, Mr. Steven M. Jones, Client	Project 0441.00
(707) 442-6000	Hydrogeologic Cross Section (locations approximate)	V.E. ≈ 2x



In this vertically exaggerated (~2x) cross section, the view is looking up slope toward the northeast. Groundwater flow in the cross section is toward the viewer, or out of the page. Groundwater is presumed to flow from recharge areas in the high ground to the east and northeast, to the southwest toward Burr Creek. Bedrock subgrade is composed of abundantly fractured mélange (argillite and sandstone) of the Central Belt of the Franciscan Complex (cm1). These deposits are one of several components of the Central Belt Franciscan Complex. Groundwater is envisioned as flowing through zones of fractured sandstone in the mélange. Fractures are interpreted to be the primary preferential flow paths for groundwater in this area.

Lindberg Geologic Consulting	Engineering-Geologic Hydrogeologic Well Isolation Report	Figure 7
Post Office Box 306	Elk Ridge Road near Briceland, Humboldt County	August 26, 2022
Cutten, CA 95534	APN: 220-272-003, Mr. Steven M. Jones, Client	Project 0441.00
(707) 442-6000	USDA-NRCS Soils Map of Well Site (locations approximate)	Not to Scale

Modified from: USDA, NRCS Web Soil Survey, 2022. N ≈

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

3150 Johnson Rd.
Hydesville, CA 95547
(707) 768-9800
A, C-57, Haz Lic#683865

Well Inspection Report

Property Address: 1925 Elk Ridge Rd., Redway, CA	Date: July 22, 2022
Property Owner: Steve Jones	Phone: 360-907-8695
Other Info:	

Well Diameter	Well Depth	Water Level	AC/Gen/Solar	GPM Estimate
5" PVC	120'	72'	AC	12+

Pump(s) Description:	Treatment Equipment:	Storage Tanks (#/gal.)
1/2HP LB 230v Pump Tech	Did not see any	Seven (7) 5k tanks

Overall Hygiene Of Well Site: (poor) (fair) (**good**) (excellent)

Fixes: Clear brush and grass away from well head; add a small concrete pad.

Plumbing System: (poor) (**fair**) (**good**) (excellent)

Fixes: Recommend PVC plumbing instead off poly at well head.

Electrical System: (poor) (**fair**) (**good**)(excellent)

Fixes: Add a sub panel for electrical.

Treatment System: (poor) (fair) (good) (excellent)

Fixes: n/a

Notes:

No issues noted with well seal.

Samples Taken:

n/a

Fisch Drilling

LIC# 683865

RECOVERY TEST

Client: Steve Jones

Date: 7/22/2022

Location: 1925 Elk Ridge Road, Redway

Test Type: Recovery

Minutes	Time	Flow (GPM)	Static Level	Pumping Level	Draw Down
1	8:11	12	72	110	0'
2	8:12	12	72	110	1'
3	8:13	12	72	110	2'
4	8:14	12	72	110	3'
5	8:15	12	72	110	4'
6	8:16	12	72	110	4'
7	8:17	12	72	110	4'
8	8:18	12	72	110	4' 6"
9	8:19	12	72	110	4' 6"
10	8:20	12	72	110	5'
15	8:25	12	72	110	5'
20	8:30	12	72	110	5' 6"
25	8:35	12	72	110	5' 6"
30	8:40	12	72	110	5' 6"
35	8:45	12	72	110	5' 6"
40	8:50	12	72	110	5' 6"
45	8:55	12	72	110	6'
60	9:10	12	72	110	6'
90	9:40	12	72	110	6'
120	10:10	12	72	110	6'
150	10:40	12	72	110	6'
180	11:10	12	72	110	6' 6"
210	11:40	12	72	110	6' 6"
240	12:10	12	72	110	6' 6"
270	12:40	12	72	110	6' 6"
300	1:10	12	72	110	7'
330	1:40	12	72	110	7'
360	2:10	12	72	110	7'
390	2:40	12	72	110	7'
420	3:10	12	72	110	7'
450	3:40	12	72	110	7'
480	4:10	12	72	110	7'

3150 Johnson Road, Hydesville, CA 95547 Phone: 707-768-9800

Pump Setting: 110'

Total Gallons: 5720

Meter Start: 0099.3 x 100

Meter End: 0156.5 x 100

Humboldt County, South Part, California

573—Sproulish-Canoecreek-Redwohly complex, 15 to 30 percent slopes, warm

Map Unit Setting

National map unit symbol: 1v5w1
Elevation: 100 to 3,280 feet
Mean annual precipitation: 60 to 100 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Sproulish, warm, and similar soils: 45 percent
Redwohly, warm, and similar soils: 20 percent
Canoecreek, warm, and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sproulish, Warm

Setting

Landform: Mountain slopes, ridges
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Mountainflank, mountaintop
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone and/or residuum weathered from mudstone and/or residuum weathered from sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A1 - 1 to 6 inches: loam
A2 - 6 to 11 inches: loam
Bt1 - 11 to 24 inches: paragravelly silty clay loam
Bt2 - 24 to 47 inches: very paragravelly clay loam
BCt - 47 to 63 inches: very paragravelly loam

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F004BJ101CA - Fog-influenced, low elevation slopes and footslopes
Hydric soil rating: No

Description of Redwohly, Warm

Setting

Landform: Ridges, mountain slopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Residuum weathered from sandstone and/or residuum weathered from mudstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 8 inches: paragravelly loam
Bt - 8 to 20 inches: paragravelly loam
BCt - 20 to 28 inches: paragravelly loam
C - 28 to 79 inches: paragravel

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F004BJ101CA - Fog-influenced, low elevation slopes and footslopes
Hydric soil rating: No

Description of Canoecreek, Warm

Setting

Landform: Ridges, mountain slopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Colluvium and residuum derived from sandstone, mudstone, and conglomerate

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 6 inches: gravelly loam
AB - 6 to 19 inches: very gravelly loam
Bt1 - 19 to 31 inches: very gravelly loam
Bt2 - 31 to 41 inches: very gravelly sandy clay loam
Bt3 - 41 to 63 inches: very gravelly loam

Properties and qualities

Slope: 15 to 30 percent
Surface area covered with cobbles, stones or boulders: 1.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F004BJ102CA - Dry, steep mountain slopes
Hydric soil rating: No

Minor Components

Briceland

Percent of map unit: 5 percent
Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Caperidge, warm

Percent of map unit: 5 percent

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Mountaintop
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Kingrange

Percent of map unit: 3 percent
Landform: Mountain slopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Center third of mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Data Source Information

Soil Survey Area: Humboldt County, South Part, California
Survey Area Data: Version 10, Sep 6, 2021