LINDBERG GEOLOGIC CONSULTING
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Post Office Box 306
Cutten California 95534
(707) 442-6000

March 30, 2023 Project No: 0105.02

Mr. Josh Gatlin
Hillstrong LLC
Post Office Box 753
Hydesville, California 95547

Subject: Hydrologic Isolation of Well WCR2014-006784 (legacy #e0207747)
From Surface Waters, 1891 Crooked Prairie Road, Redway, APN: 221-171-022

To Whom It May Concern:

As requested, Lindberg Geologic Consulting has assessed an existing permitted well on the above-referenced parcel to estimate its potential for hydrologic connectivity with any adjacent wetlands and or surface waters, and if pumping well WCR2014-006784 might affect nearby surface waters. The nearest tributaries in the vicinity of this well are a perennial tributary of Blue Slide Creek and the perennial stream in Mattole Canyon (Figure 1).

A California-Certified Engineering Geologist visited this site on February 7, 2023, to observe the subject well and local site conditions. Based on our research, observations, and our professional experience, 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 springs, wetlands and or surface waters in the vicinity. We define the "vicinity" as the area within a 1,000-foot radius of the subject well (Figure 1), an area of approximately 72 acres. We understand the proposed use of this well is 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 that information is provided elsewhere in the application.

Based on Humboldt County's WebGIS and the Assessor's Parcel Map (Figure 2), parcel 221-171-022 encompasses approximately 80 acres. Our GPS located the subject well at latitude 40.15388° north, and longitude 123.98224° west (±9'). This well is in Section 32, T3S, R2E, and is 200 feet deep. The wellhead is at an elevation of approximately 1,240 feet (Figure 1) and the elevation of the bottom of the well is therefore 1,040 feet. The screened interval begins at 1,180 feet, and ends at 1,100 feet.

The Humboldt County WebGIS shows two watercourses within one mile of the well site. To the southeast more than1,340 feet is a perennial tributary of Blue Slide Creek. More than 1,880 feet northwest is the perennial stream in Mattole Canyon. Based on interpolation from the "Ettersburg, Calif." (1969) topographic quadrangle maps (Figure 1), and the Humboldt County WebGIS, the well site elevation is 1,240 feet. The elevation of the nearest watercourse, the perennial tributary of Blue Slide Creek, is approximately 820 feet. The deepest screen in well WCR2014-006784 is 1,100 feet, making the perennial tributary of Blue Slide Creek 280 feet lower.

The well location is shown approximately on the attached figures, and was drilled by Fisch Drilling, of Hydesville, California, in March 2014, under Humboldt County well permit #13/14-0100. Fisch Drilling is a licensed well-drilling contractor (C-57 #683865). Fisch Drilling submitted their attached well completion report (DWR 188) on April 2, 2014. The driller estimated a yield of 20 gpm on March 31, 2014, based on a 4-hour air lift pump test. Reported total drawdown during the pump test was 78 feet.

Total drilled depth of this well is 200 feet. The borehole diameter is 10-inches from grade to total depth. From the surface to 60 feet, 5-inch diameter blank PVC casing was installed. From 60 feet to 140 feet 5-inch slotted (0.032-inch slot) PVC casing was installed. Per County requirements, a bentonite surface sanitary seal was installed from grade to 20 feet. From 20 feet to 140 feet, the annulus was backfilled filled with a filter pack of 3/8 inch pea gravel. The well is cased and sealed through any potential shallow subsurface aquifers in the uppermost 20 feet per regulation. Depth to first water was reported at 67 feet. Static water level in the completed developed well was 21 feet when the driller conducted the pump test on March 31, 2014.

There are no springs mapped within 1,000 feet of the subject well on the Ettersburg topographic map (Figure 1). The closest spring to well WCR2014-006784 is to the southwest, in Section 31, on APN 221-171-023. This spring is estimated to be more than 1,650 feet southwest, at an elevation of 1,140 feet.

This parcel is located within California's Coast Range Geomorphic Province, in the Central Belt of the Franciscan Complex (McLaughlin et at., 2000), a seismically active region in which large earthquakes are expected to occur during the economic life span (70 years) of any developments on the subject property. Geologic mapping by McLaughlin shows that the site is underlain by intact sandstone and argillite (co4) of the Coastal Belt of the Franciscan Complex (Figure 4).

According to the NRCS Web Soil Survey, the near-surface (0 - 2") soils consist of slightly decomposed plant material, then gravelly loam to a depth of 6 inches, paragravelly clay loam to 13 inches, gravelly loam to 21 inches, clay loam to 47 inches, paragravelly silty clay loam to 63 inches and paragravelly silty clay loam to 79 inches. Soils are interpreted to be uniformly distributed across that portion of the subject parcel underlain by Coastal Belt parent materials.

Materials reported on the geologic log of the driller's well completion report (attached) include three feet of "Top Soil". From three to 61 feet the driller logged "Silty Clay", followed by 27 feet (61-88'), of "Soft Sandstone, Brown/Blue". In the final 112-feet (88-200'), "Blue Sandstone" was logged. The first water-bearing aquifer unit was encountered at 67 feet, elevation 1,173 feet.

Below the surface, the earth materials encountered in the bore are likely sandstone and argillite of the Coastal Belt Franciscan Complex, as mapped by McLaughlin et al., (2000). Sheared, fractured, and folded metasedimentary rock materials can have variable hydraulic conductivity, but can also, under the right conditions, constitute significant aquifers. We interpret the sequence "Soft

Sandstone " and "Blue Sandstone" as described by the driller, to be within the coastal belt intact sandstone and argillite (co4) of the Franciscan Complex. Sections of the profile apparently have favorable hydraulic conductivity, making them, in our interpretation, the primary water bearing unit(s) in this well.

A geologic cross section of the area after McLaughlin et al., (2000) shows the structural and stratigraphic relationships between the regional geologic units (Figure 5). The coastal belt rocks are shown dipping east and bounded by thrust fault plane contacts. On-site, no dip of the rock units could be observed because they are mantled with soil and colluvium and obscured by vegetation. We interpret the faults in the subsurface to be hydrologic boundaries of reduced permeability (due to grinding and shearing along the fault planes), effectively separating units of the Franciscan from each other hydrologically, and limiting groundwater flow between the fault-bound units.

Based on observations, review of pertinent and available information, and our experience, it is our professional opinion that this well has a low potential of having any direct or significant connection to proximal surface waters. First water was reportedly encountered at 67 feet. This well is sealed through the upper 20 feet of any potential unconfined, near-surface aquifers with which it might communicate hydraulically through the borehole.

When considered with the stratigraphy, and the underlying geologic structure, plus the distances (horizontal and vertically) from the nearest surface waters, and the depth of the producing zone of this well (from 67 to 140 feet), as well as the position of the well above and away from the nearest surface waters in the area, we conclude that the depth of the surface seal, is sufficient to preclude the potential for hydraulic connectivity with perennial surface waters, of which there are none closer than 1,340 feet in the perennial tributary of Blue Slide Creek, at an elevation of 820 feet. Thus, the water source from which this well draws appears to be a subsurface aquifer not demonstrably connected to any surface waters or unconfined, near-surface aquifer(s). This well appears, in our professional opinion, likely to be hydraulically isolated from nearby wells, surface waters, springs or wetlands.

The estimated yield of this well was 20 gallons per minute (gpm) on March 31, 2014. Drawdown was reported to be 78 feet after Fisch Drilling's four-hour air-lift pump test. At 20 gpm, this well would potentially produce 28,800 gallons per day. As noted in the well completion report, this capacity may not be representative of this well's long-term yield. Additional drawdown and recovery testing would be necessary to estimate a sustainable long-term yield of the site well.

This subject well does not appear to be hydrologically connected to, or capable of influencing surface water flows in the perennial tributary of Blue Slide Creek, or the perennial stream in Mattole Canyon. Nor does this well appear likely to be hydrologically connected to any local springs or ephemeral wetlands. Given the horizontal distances involved, and the elevation differences between the subject well, and the surface waters of the nearest watercourses, and springs, the potential for significant hydrologic connectivity between surface water and

groundwater in the Coastal Belt Franciscan aquifer rocks appears unlikely. As mentioned, on the USGS, Ettersburg topographic quadrangle map there is one spring mapped in Section 32, southwest of well WCR2014-006784. There are no other significant (mapped) springs or wetlands in the vicinity of this subject well.

We researched the California Department of Water Resources' database to find permitted wells within 1,000 feet of the subject well. Based on the information available at the present time, there is one well that meets that criterion. The only well within 1,000 feet is a 10 gpm on the subject parcel, more than 65 feet to the west (WCR2017-003300, attached). The well is in Section 32, it was drilled to 300-feet deep and completed at 240-feet, 100 feet below the screen in WRC2014-006784. The well site is also at an elevation of 1,240 feet. We understand that WCR2017-003300 is to be utilized for domestic water supply.

As groundwater mimics topography and responds to the force of gravity, in general any near surface unconfined aquifer will flow down slope in a direction subparallel to topography. The ground surface slopes primarily to the southeast thus, the near surface unconfined aquifer flows toward the perennial tributary of Blue Slide Creek. A pump is installed in the subject well.

In our professional opinion, it appears that the aquifer tapped by the subject well is recharged by water infiltrating through the soil and bedrock from upslope source areas both proximal and distal to the well site. Any ephemeral streams in the vicinity of the well may also contribute recharge when they flow during runoff generating storm events.

The United States Department of Agriculture's (USDA), Natural Resources Conservation Service's (NRCS), online Web Soil Survey, shows the subject well within soils of the Sproulish-Canoecreek-Redwohly complex, on slopes of 30 to 50 percent, (#574, Figure 7), which the NRCS describes as a well-drained soil. The Web Soil Survey's unit description is attached to this report. Mean annual precipitation is listed by the NRCS as 60 to 100 inches per year. Capacity of the most limiting soil layer to transmit water (Ksat) is described as low to moderately low to high (0.06 to 2.00 in/hr) with a depth to the water table of greater than 80 inches.

If during the wet season, only ten percent of the "low end" precipitation estimation of 60 inches is absorbed by the soils/bedrock and does not flow across the ground surface and into local watercourses (or be lost to evapotranspiration), then approximately 40 acre-feet, or more than 13 million gallons of water per year (MGPY), may be expected to recharge the local aquifers below this 80 acre subject property. Given the same amount of precipitation (60") and the same 10 percent partitioned to recharge, then within a 1,000-foot radius of the subject well, recharge can be estimated. Recharge within the 72 acres enclosed by a circle having a 1,000-foot radius, would be 36 acre-feet, and more than 11.7 MGPY. Our estimates are conservative; United States Geological Survey (USGS) researchers estimate that in northwest California, approximately 33 percent of precipitation goes to recharge (Flint, et al., 2103).

On February 13, 2023, Governor Newsom signed Executive Order N-3-23 which, in part, extended a previous executive order (N-7-22) relating to the ongoing drought in California which the Governor had issued on March 28, 2022. In executive order N-7-22, the governor outlined 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*". This well at 1891 Crooked Prairie Road, Redway, is not within a basin subject to the Act, and there has been no Groundwater Sustainability Agency established with authority over the area where this permitted well is sited.

The Governor's order states that counties, cities, and other public agencies are prohibited from issuing permits for new groundwater wells (or altering 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*". The conditions in the Order 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 observations, research, and experience, it is our professional opinion that the well WCR2014-006784, located at 1891 Crooked Prairie Road, Redway, on APN 221-171-022, has a low likelihood of being hydrologically connected to nearby surface waters or neighboring wells in any manner that might significantly have a negative impact or effect on proximal wetlands, wells, and or surface waters.

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 Well Location Map
Figure 2: Humboldt County Assessor's Parcel Map
Figure 3: Satellite Image of Well location

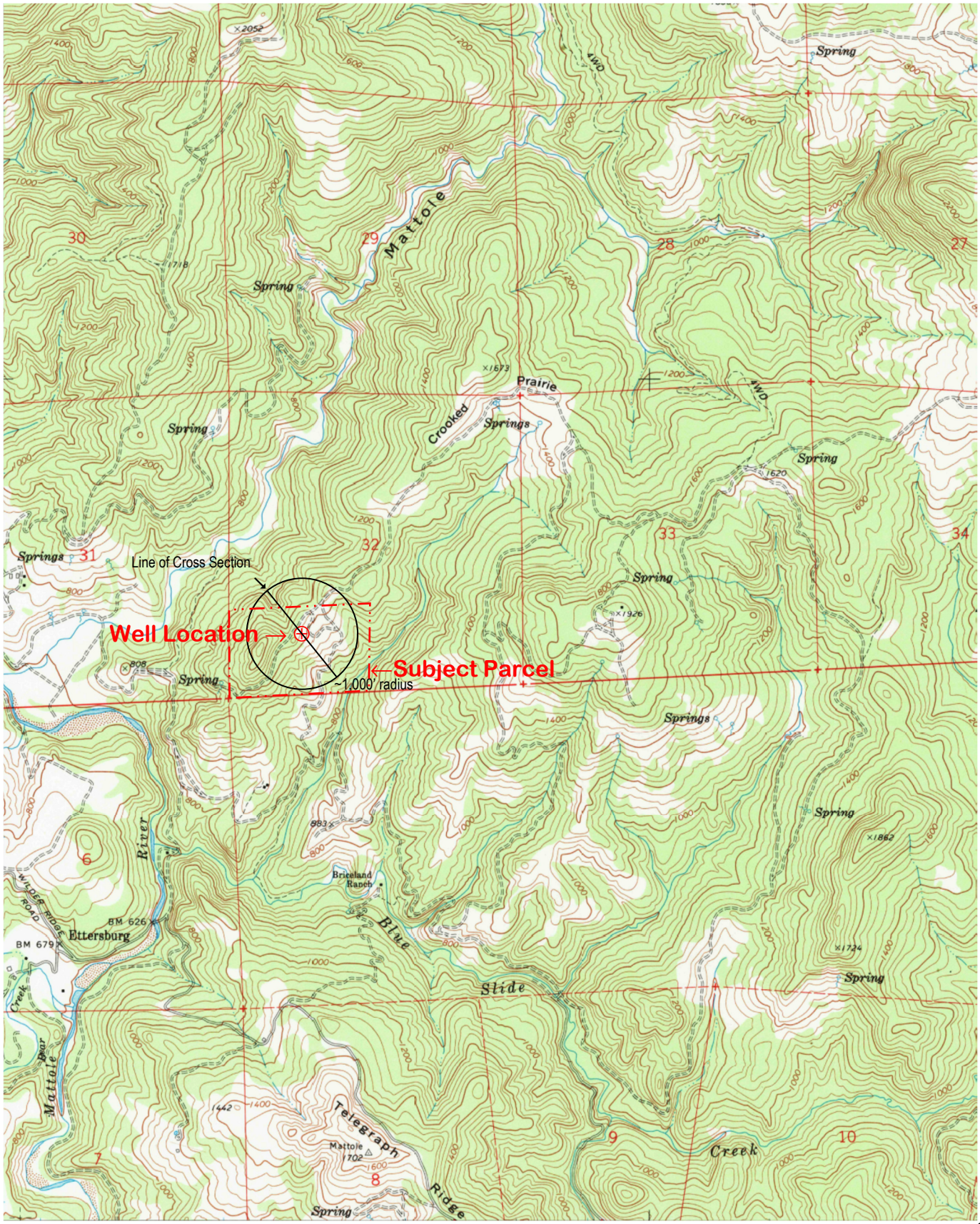
Figure 4: Geologic Map
Figure 4a: Geologic Map Explanation
Figure 5: Generalized Geologic Cross Section
Figure 6: Hydrogeologic Cross Section
Figure 7: USDA-NRCS Soils Map

State of California Well Completion Report:
WCR2014-006784, APN: 221-171-022 (Subject Well, legacy #e0207747)
WCR2017-003300, APN: 221-171-022 (also on the subject property)

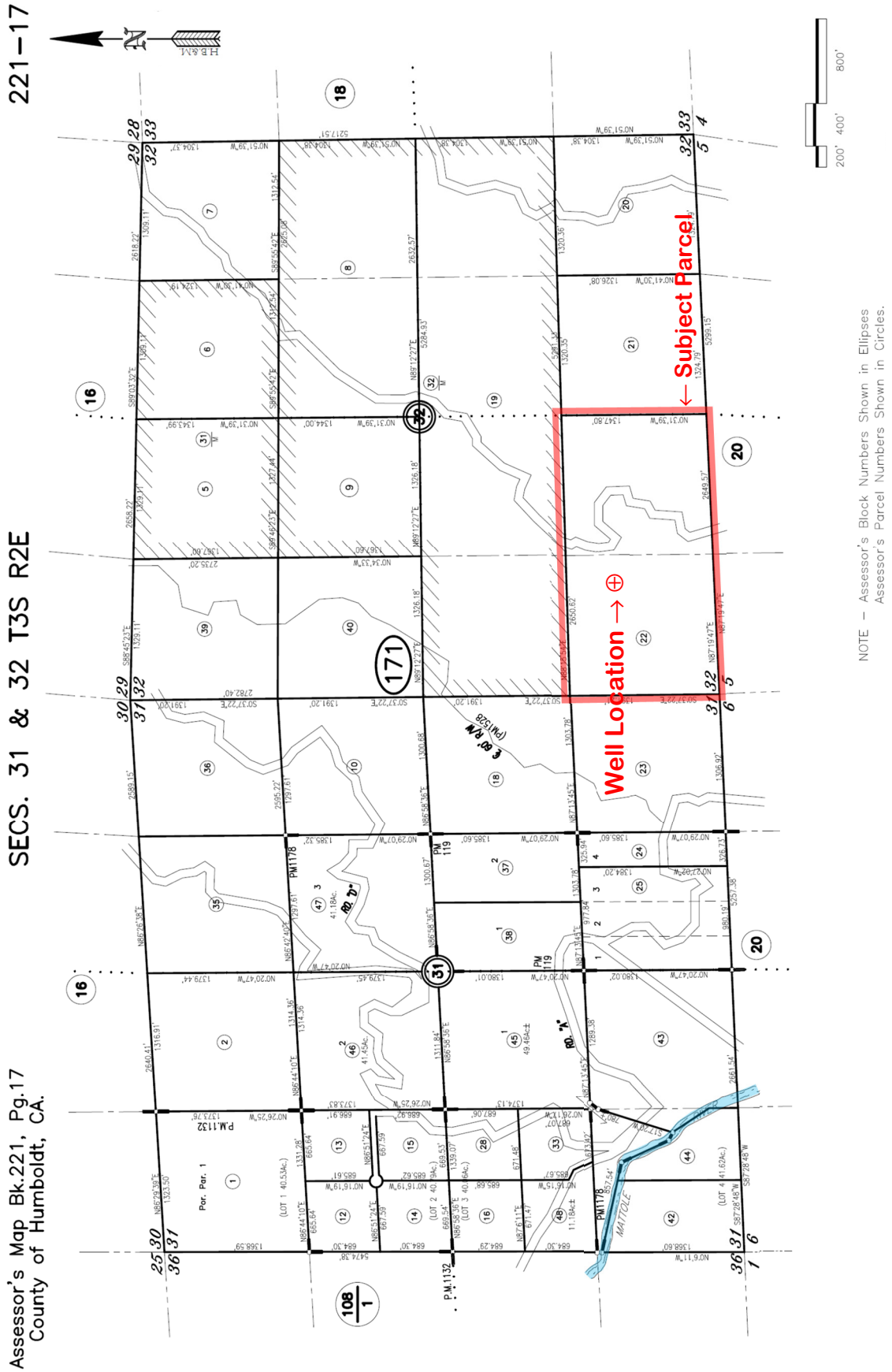
Web Soil Survey, NRCS Map Unit Description:
Sproulish-Canoecreek-Redwohly complex, #574, 30 to 50 percent slopes.

Reference:
Flint et al.: Fine-scale hydrologic modeling for regional landscape applications: the California Basin Characterization Model development and performance. Ecological Process, 2013, 2:25. (doi:10.1186/2192-1709-2-25)

Lindberg Geologic Consulting	Engineering-Geologic Well Connectivity Assessment Report	Figure 1
Post Office Box 306	Crooked Prairie Road, Garberville, APN: 221-171-022	March 30, 2023
Cutten, CA 95534	Well WCR2014-006784, Mr. Josh Gatlin, Hillstrong, LLC Client	Project 0150.02
(707) 442-6000	Topographic Well Location Map (locations approximate)	1" ≈ 2,500'



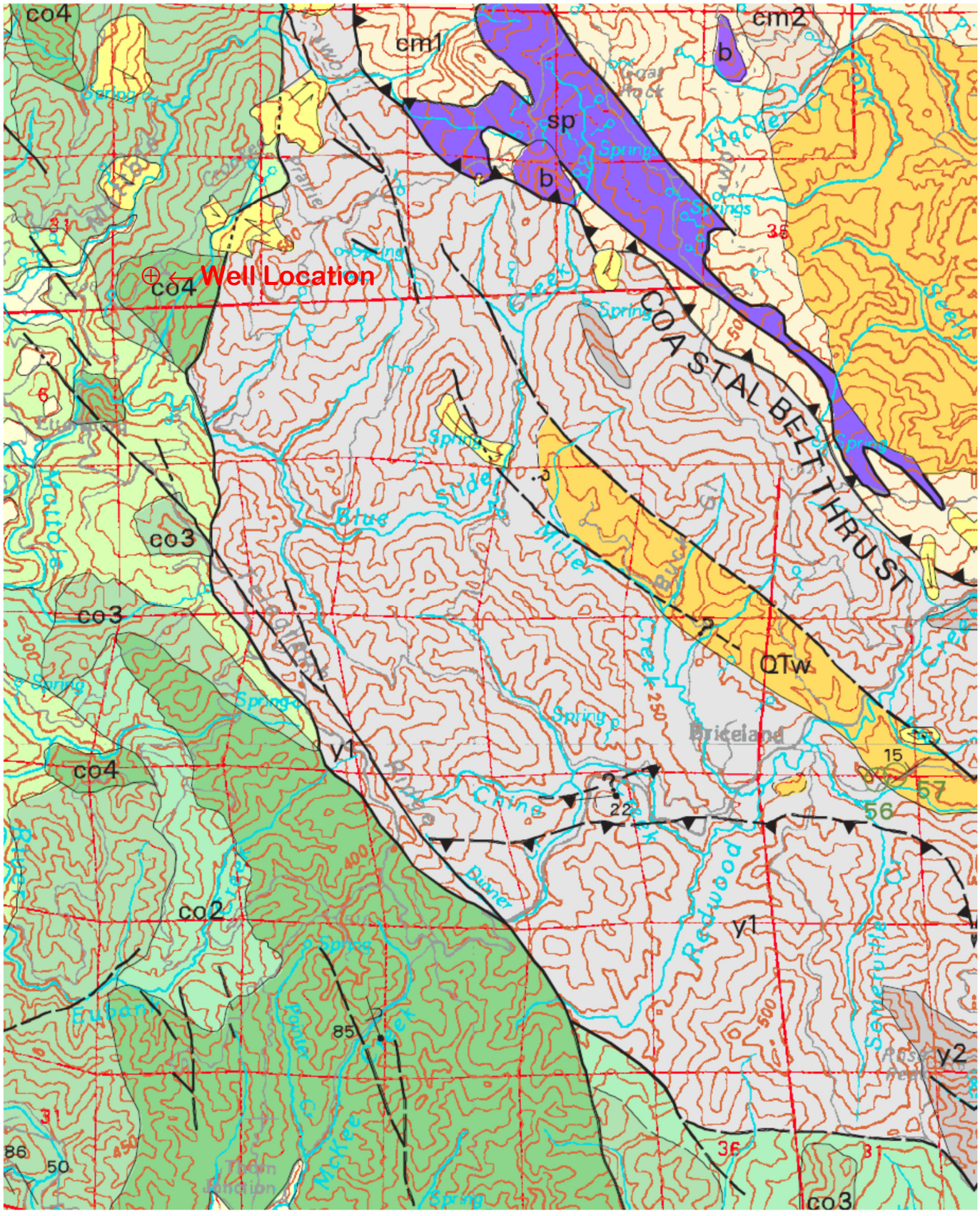
Lindberg Geologic Consulting	Engineering-Geologic Well Connectivity Assessment Report	Figure 2
Post Office Box 306	Crooked Prairie Road, Garberville, APN: 221-171-022	March 30, 2023
Cutten, CA 95534	Well WCR2014-006784, Mr. Josh Gatlin, Hillstrong, LLC Client	Project 0150.02
(707) 442-6000	Humboldt County Assessor's Parcel Map (locations approximate)	Scale as Shown



Lindberg Geologic Consulting	Engineering-Geologic Well Connectivity Assessment Report	Figure 3
Post Office Box 306	Crooked Prairie Road, Garberville, APN: 221-171-022	March 30, 2023
Cutten, CA 95534	Well WCR2014-006784, Mr. Josh Gatlin, Hillstrong, LLC Client	Project 0150.02
(707) 442-6000	Satellite Image of Well Location (locations approximate)	1" ≈ 500'

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

Lindberg Geologic Consulting	Engineering-Geologic Well Connectivity Assessment Report	Figure 4
Post Office Box 306	Crooked Prairie Road, Garberville, APN: 221-171-022	March 30, 2023
Cutten, CA 95534	Well WCR2014-006784, Mr. Josh Gatlin, Hillstrong, LLC Client	Project 0150.02
(707) 442-6000	Geologic Map (locations approximate)	1" ≈ 4,900'



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

Lindberg Geologic Consulting	Engineering-Geologic Well Connectivity Assessment Report	Figure 4a
P. O. Box 306	Crooked Prairie Road, Garberville, APN: 221-171-022	March 30, 2023
Cutten, CA 95534	Well WCR2014-006784, Mr. Josh Gatlin, Hillstrong, LLC Client	Project 0150.02
(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)
- 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
- Vertical
- Horizontal
- Overturned
- Approximate
- Joint
- Strike and dip of cleavage

Shear foliation:

- Inclined
- Vertical

Folds:

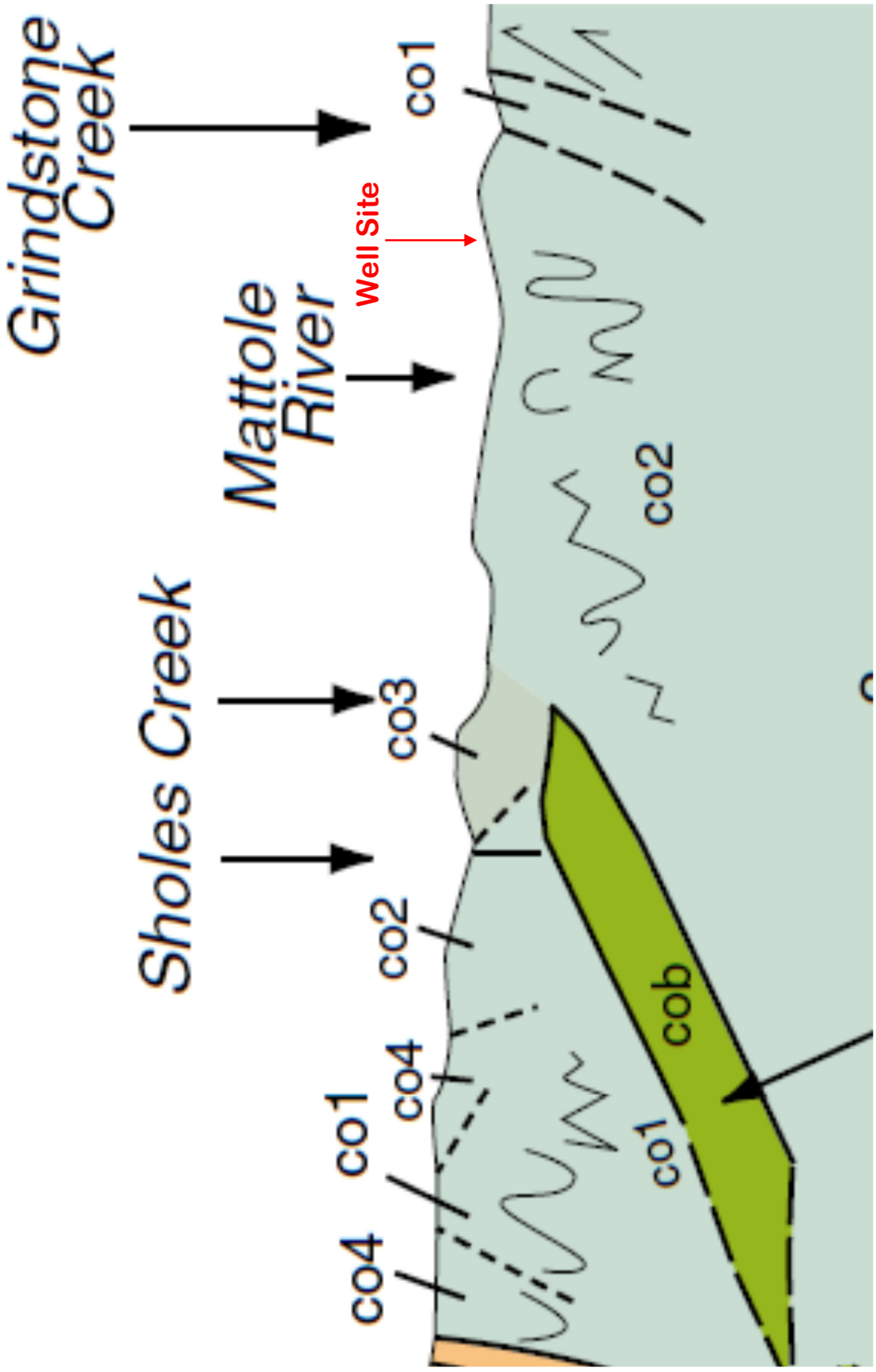
- Synclinal or synformal axis
- Anticlinal or antiformal axis
- Overturned syncline
- Landslide

Melange Blocks:

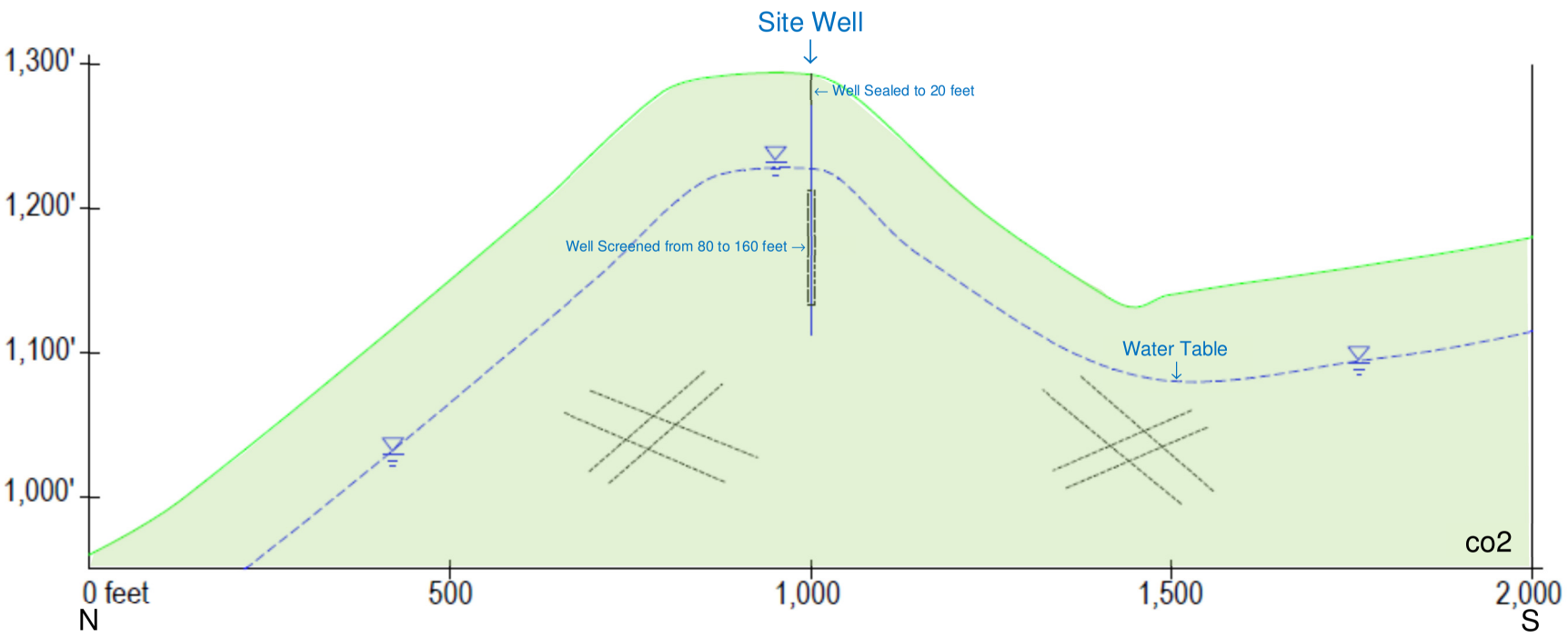
- Serpentinite
- Chert
- Blueschist
- Greenstone
- Fossil locality and number

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 Well Connectivity Assessment Report	Figure 5
Post Office Box 306	Crooked Prairie Road, Garberville, APN: 221-171-022	March 30, 2023
Cutten, CA 95534	Well WCR2014-006784, Mr. Josh Gatlin, Hillstrong, LLC Client	Project 0150.02
(707) 442-6000	Generalized Geologic Cross Section (locations approximate)	Not to Scale



Modified from: McLaughlin, et al., (2000)



In this vertically exaggerated (~2x) cross section, the view is looking to the east-northeast toward Elk Ridge and Dickson Butte. Groundwater flow in this cross section is west-southwest, or toward the viewer, out of the page. Groundwater is presumed to flow from recharge areas in the higher ground to the east-northeast. This well is sited high above Mattole Canyon. Subgrade is composed of mélange (argillite and sandstone) of the Coastal Belt of the Franciscan Complex. Groundwater is envisioned to flow through bedrock fractures. Fractures are interpreted to be the primary permeability, providing preferential flow paths for the local groundwater. The driller noted that first water encountered at 80 feet. Static water level was reported to be 65 feet below the surface. A bentonite seal was installed from the 2-feet to the 22-foot depth. This well is cased to 80 feet below the ground surface and screened from 80 feet to 160 feet. This well thus draws groundwater from an 80-foot portion of the profile from 80 to 160 feet below the surface. Bedrock mapping (Figure 4) is from McLaughlin et al., (2000).

Lindberg Geologic Consulting
Post Office Box 306
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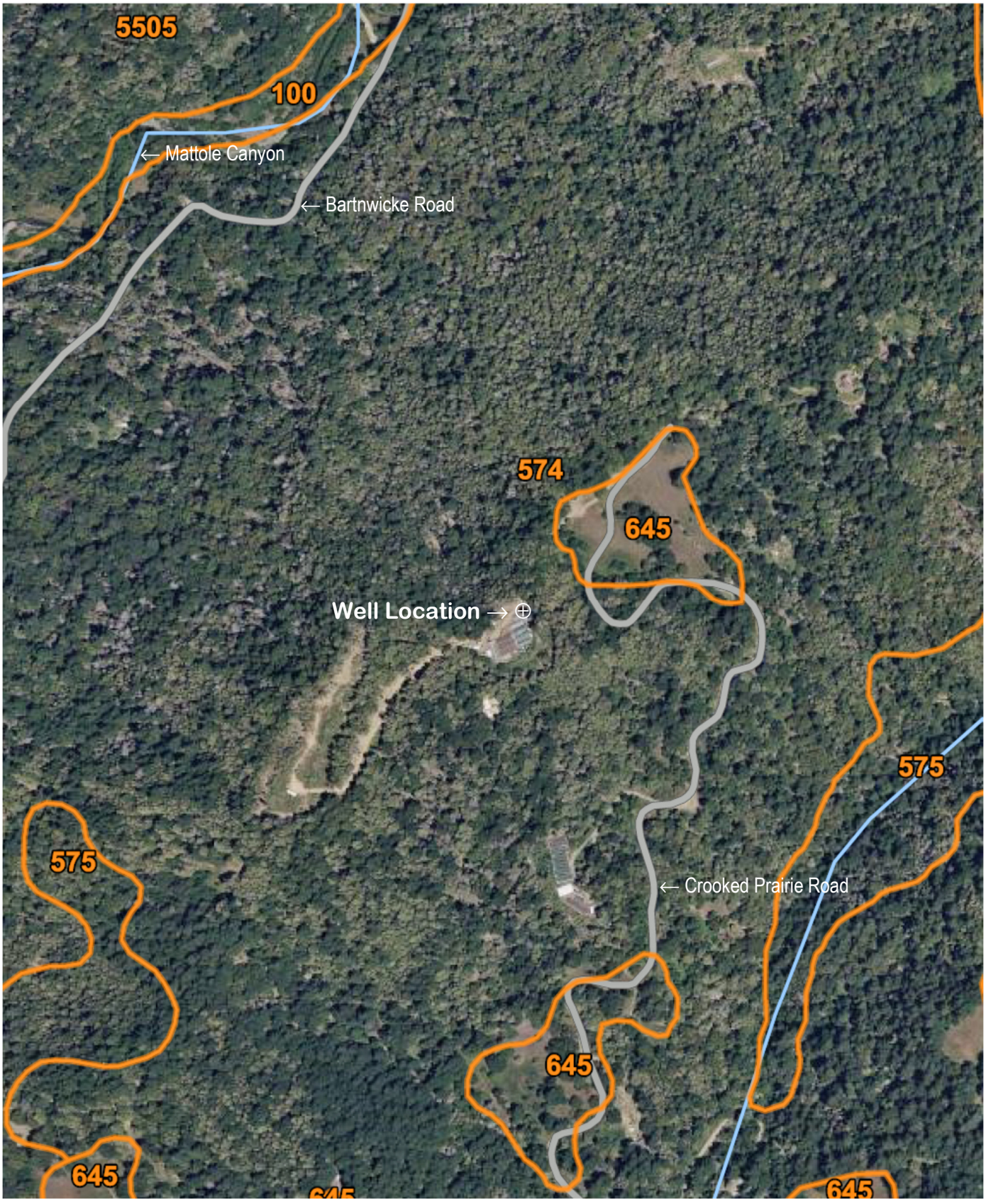
Engineering-Geologic Well Connectivity Assessment Report
2691 Crooked Prairie Road, Whitethorn, APN: 221-171-009
Well WCR2017-002236, Mr. Randy Dresdner, Client
Hydrogeologic Cross Section (locations approximate)

Figure 6
March 10, 2023
Project 0506.00
2 x VE

Lindberg Geologic Consulting	Engineering-Geologic Well Connectivity Assessment Report	Figure 7
Post Office Box 306	Crooked Prairie Road, Garberville, APN: 221-171-022	March 30, 2023
Cutten, CA 95534	Well WCR2014-006784, Mr. Josh Gatlin, Hillstrong, LLC Client	Project 0150.02
(707) 442-6000	USDA – NRCS Soil Map (locations approximate)	Scale Not Determined



Modified from: USGS-NRCS Web Soil Survey, March 28, 2023. N ≈

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e0207747

Page 1 of 2

Owner's Well Number 1

Date Work Began 03/31/2014 Date Work Ended 4/1/2014

Local Permit Agency Humboldt County E.H.D.

Permit Number 13/14-0100 Permit Date 1/21/14

DWR Use Only – Do Not Fill In

State Well Number/Site Number

N W

Latitude Longitude

APN/TRS/Other

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Direct Rotary Drilling Fluid

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	3	Top Soil
3	61	Silty Clay
61	88	Soft Sandstone, Brown/Blue
88	200	Blue Sandstone

Total Depth of Boring 200 Feet

Total Depth of Completed Well 140 Feet

Well Location

Address Crooked Prairie Rd.

City Ettersburg County Humboldt

Latitude ___ ___ ___ N Longitude ___ ___ ___ W (Deg. Min. Sec.)

Datum ___ Dec. Lat. ___ Dec. Long. ___

APN Book 221 Page 171 Parcel 022

Township 02S Range 02E Section 32

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North / West / East / South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. **Please be accurate and complete.**

Activity

◉ New Well
○ Modification/Repair
○ Deepen
○ Other
○ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

◉ Water Supply
☑ Domestic ☐ Public
☐ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
○ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

Water Level and Yield of Completed Well

Depth to first water 67 (Feet below surface)

Depth to Static Water Level 21 (Feet) Date Measured 03/31/2014

Estimated Yield * 20 (GPM) Test Type Air Lift

Test Length 4.0 (Hours) Total Drawdown 78 (Feet)

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

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	60	10	Blank	PVC Sch. 80	CL200	5		
60	140	10	Screen	PVC Sch. 80	CL200	5	Milled Slots	0.032

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
0	20	Bentonite	Sanitary Seal
20	140	Filter Pack	3/8" Pea Gravel

Attachments

☐ Geologic Log
☐ Well Construction Diagram
☐ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☑ Other Location Map

Attach additional information, if it exists

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 ___ (C-57 Licensed Water Well Contractor) 04/02/2014 (Date Signed) 683865 (C-57 License Number)

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

State of California

Well Completion Report

WCR Form - DWR 188 Complete 08/28/2017

WCR2017-003300

Owner's Well Number 2 | Date Work Began 07/15/2017 | Date Work Ended 07/19/2017

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

Secondary Permit Agency | Permit Number 17/18-0030 | Permit Date 07/10/2017

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 1891 CROOKED PRAIRE RD

City REDWAY Zip 95561 County Humboldt

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

Dec. Lat. 40.1538120 Dec. Long. -123.9825060

Vertical Datum Horizontal Datum WGS84

Location Accuracy Location Determination Method

APN 221-171-022

Township 03 S

Range 02 E

Section 32

Baseline Meridian Humboldt

Ground Surface Elevation 1271

Elevation Accuracy 10 Ft

Elevation Determination Method GPS

Borehole Information

Orientation Vertical Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite

Total Depth of Boring 300 Feet

Total Depth of Completed Well 300 Feet

Water Level and Yield of Completed Wall

Depth to first water 60 (Feet below surface)

Depth to Static Water Level 82 (Feet) Date Measured 07/18/2017

Estimated Yield* 10 (GPM) Test Type Air Lift

Test Length 4 (Hours) Total Drawdown (Feet)

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

Geologic Log - Lite

Depth from Surface Feet to	Feet	Material Type	Material Color	Material Texture	Material Description
0	2	Soil or Organic	Brown	Organic	TOP SOIL
2	60	Claystone	Brown	W/Sandstone	CLAY LIKE WITH COBBLE STONE
60	80	Sand	Black & Gray	Fine To Coarse	BLACK COARSE WATER BEARING SAND
80	120	Conglomerate	Blue	Layered	BASALT LAYERED WITH BEARING WATER QUARTZ
120	160	Rock	Black & Gray	Layered	BLACK STONE WITH QUARTZ WATER BEARING
160	200	Conglomerate	Blue	Layered	BASALT WATER BEARING WITH QUARTZ
200	300	Sand	Black	Water Bearing	BASALT WITH BLACK COARSE WATER BEARING SAND

Casings

Casing #	Depth from Surface Feet to	Feet	Casing Type	Material	Casings Specifications	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	100	Blank	PVC	OD: 4.500 in. | Thickness: 0.337 in.	0.337	4.5			CURTALOC SDR 17
1	100	200	Screen	PVC	OD: 4.500 in. | Thickness: 0.337 in.	0.337	4.5	Milled Slots	32	CURTALOC SDR 17 .032 SLOT
1	200	220	Blank	PVC	OD: 4.500 in. | Thickness: 0.337 in.	0.337	4.5			SDR 17 CURTALOC
1	220	240	Screen	PVC	OD: 4.500 in. | Thickness: 0.337 in.	0.337	4.5	Milled Slots	32	SDR 17 CURTALOC W/.032 SLOT
1	240	260	Blank	PVC	OD: 4.500 in. | Thickness: 0.337 in.	0.337	4.5			SDR 17 CURTALOC

1	260	280	Screen	PVC	OD: 4.500 in. | Thickness: 0.337 in.	0.337	4.5	Milled Slots	32	SDR 17 CURTALOC .032 SLOT
1	280	300	Blank	PVC	OD: 4.500 in. | Thickness: 0.337 in.	0.337	4.5			SDR 17 CURTALOC W/ 4.5" CAP

Annular Material

Depth from Surface Feet to	Feet	Fill	Fill Type Details	Filter Pack Size	Description
0	25	Bentonite	Other Bentonite	3/8 CHIPS	HUMBOLDT COUNTY SEAL
25	300	Filter Pack	Other Gravel Pack	3/8 PEA GRAVEL	8 YARDS OF 3/8 PRE WASHED PEA-GRAVEL

Other Observations:

Borehole Specifications

Depth from Surface Feet to	Feet	Borehole Diameter (inches)
0	300	10.63

Certification Statement

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

Name: VICS WELL DRILLING INC (Person, Firm or Corporation)

3807 SIERRA HWY UNIT #6 (Address) | ACTON (City) | CA (State) | 93510 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/06/2017 (Date Signed) | 886439 (C-57 License Number)

Attachments

DRILLERS REPORT JOSH GATLIN.docx - Other

JOSHUA GATLIN APPROVED PERMIT.pdf - Permit

JOSH GATLIN PLOT PLAN.jpg - Location Map

WellReport_05222017_1_20170828_135814.pdf - WCR Final

DWR Use Only

Site Number / State Well Number

Latitude Deg/Min/Sec N

Longitude Deg/Min/Sec W

TRS:

APN:

Humboldt County, South Part, California

574—Sproulish-Canoecreek-Redwohly complex, 30 to 50 percent slopes, warm

Map Unit Setting

National map unit symbol: 2ml27
Elevation: 100 to 3,280 feet
Mean annual precipitation: 60 to 100 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Sproulish, warm, and similar soils: 50 percent
Canoecreek, warm, and similar soils: 20 percent
Redwohly, warm, and similar soils: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sproulish, Warm

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Concave, convex, 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 2 inches: slightly decomposed plant material
A - 2 to 6 inches: gravelly silt loam
Bt1 - 6 to 13 inches: paragravelly clay loam
Bt2 - 13 to 21 inches: gravelly loam
Bt3 - 21 to 47 inches: clay loam
Bt4 - 47 to 63 inches: paragravelly silty clay loam
Bt5 - 63 to 79 inches: paragravelly silty clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 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: High (about 10.3 inches)

Interpretive groups

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

Description of Canoecreek, Warm

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium and residuum derived from sandstone and mudstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 9 inches: gravelly loam
Bw1 - 9 to 15 inches: very cobbly loam
Bw2 - 15 to 31 inches: extremely cobbly loam
Bw3 - 31 to 49 inches: very cobbly sandy loam
C - 49 to 71 inches: extremely stony loamy sand

Properties and qualities

Slope: 30 to 50 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: Low (about 4.9 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

Description of Redwohly, Warm

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: 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 5 inches: paragravelly loam
Bt1 - 5 to 16 inches: very paragravelly loam
Bt2 - 16 to 33 inches: extremely paragravelly loam
C - 33 to 63 inches: paragravel

Properties and qualities

Slope: 30 to 50 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 3.1 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

Minor Components

Crazycoyote

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

Canoecreek

Percent of map unit: 4 percent

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Caperidge, warm

Percent of map unit: 4 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

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 12, Sep 2, 2022