Basin Conditions and Summer Planning

OBGMA

Jordan Kear, PG, CHG

28 January 2021

KEAR GROUNDWATER

Basin Conditions

–Precipitation to date

2020-2021 Water Year:

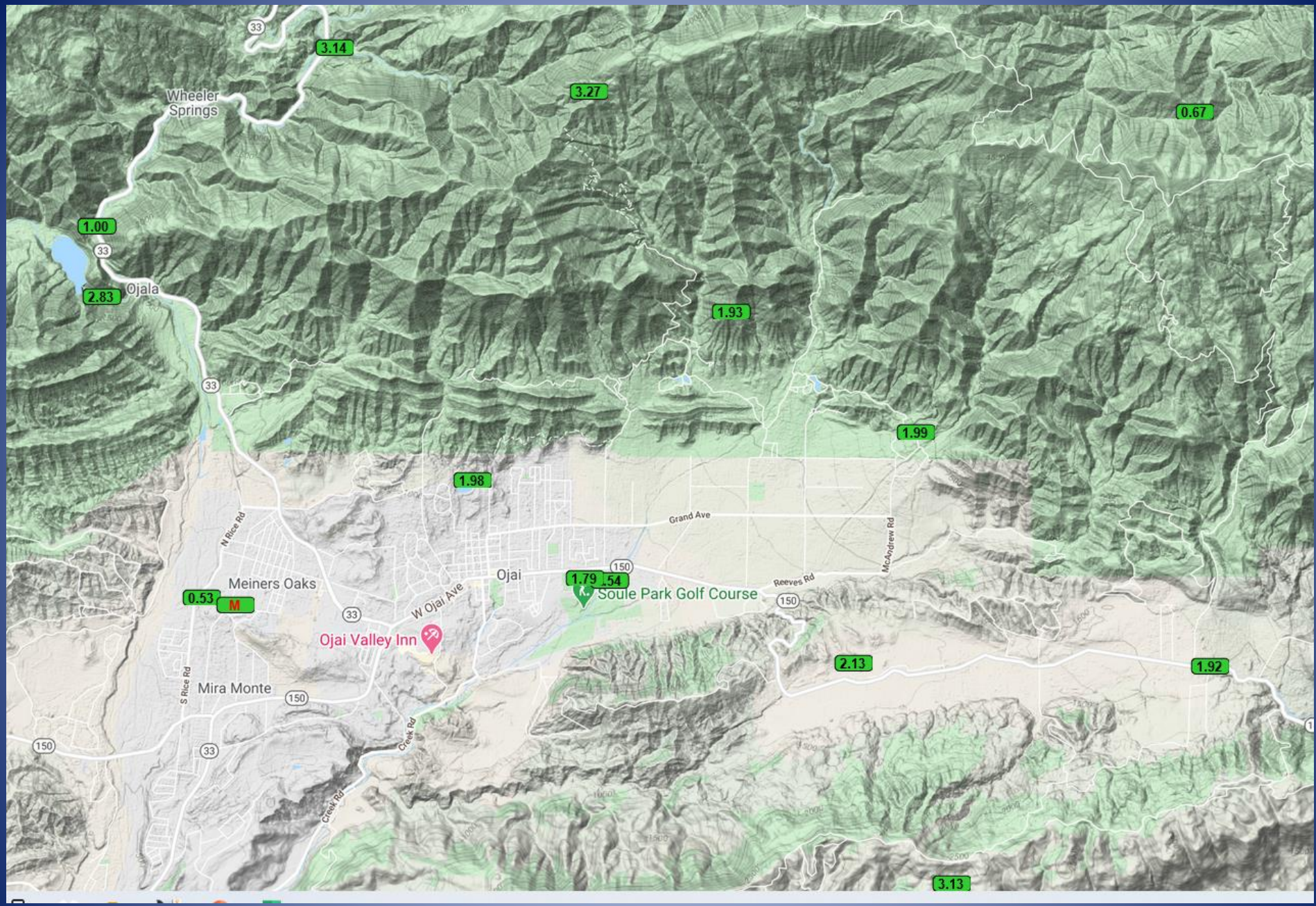
–Basin Storage

Key Well Area Depth to Water

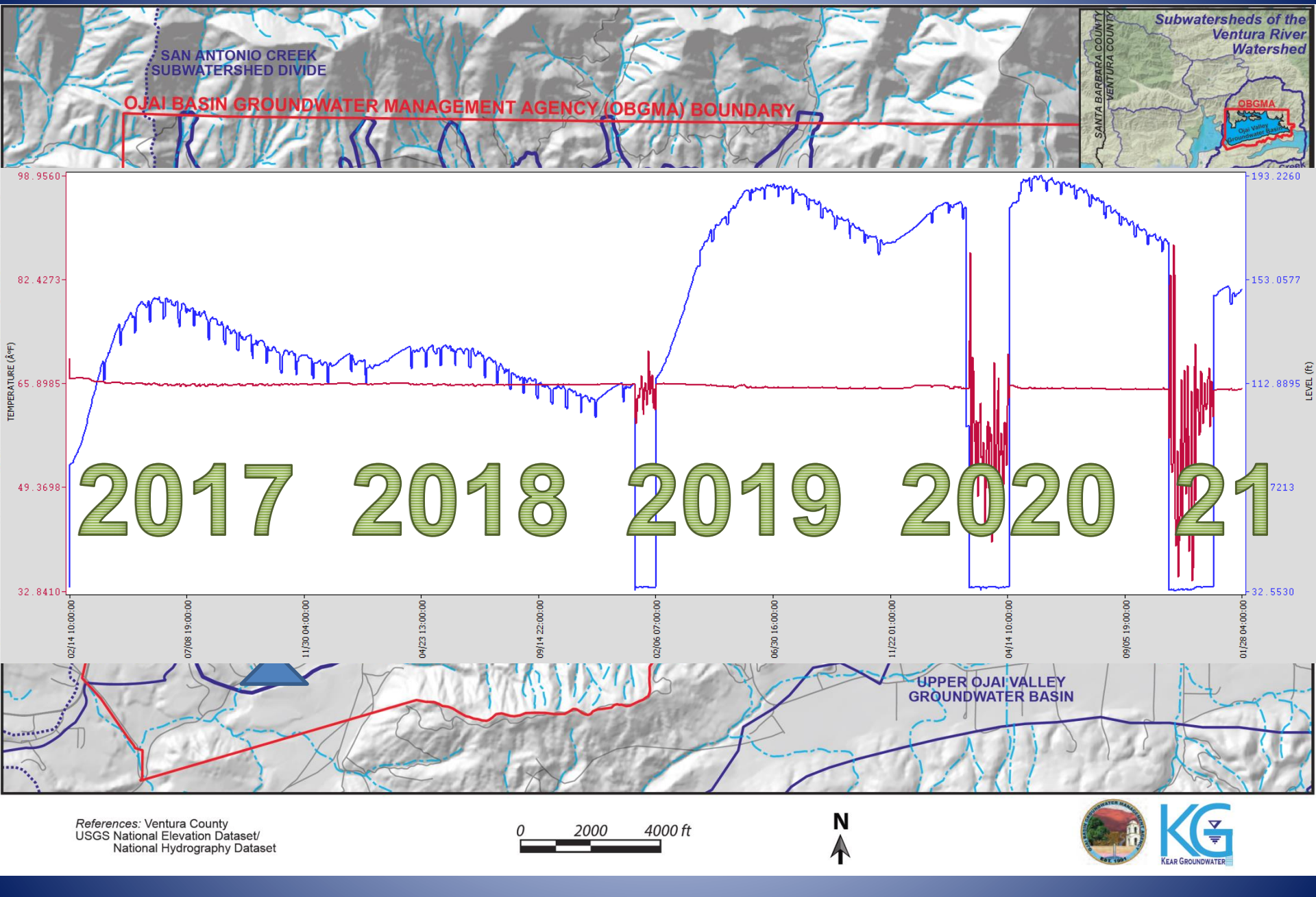
Percentage in Storage

–Outflow

San Antonio Creek Spill Point


Wheeler Springs
Ojala
Ojai
Meiners Oaks
Mira Monte
Ojai Valley Inn
Soule Park Golf Course
Grand Ave
W Ojai Ave
Reeves Rd
McAndrew Rd
N Rice Rd
S Rice Rd
Creek Rd
3.14
3.27
0.67
1.00
2.83
1.93
1.99
1.98
1.79
.54
0.53
M
2.13
1.92
3.13


12” of rain on valley floor
typically before surface
flow crosses basin



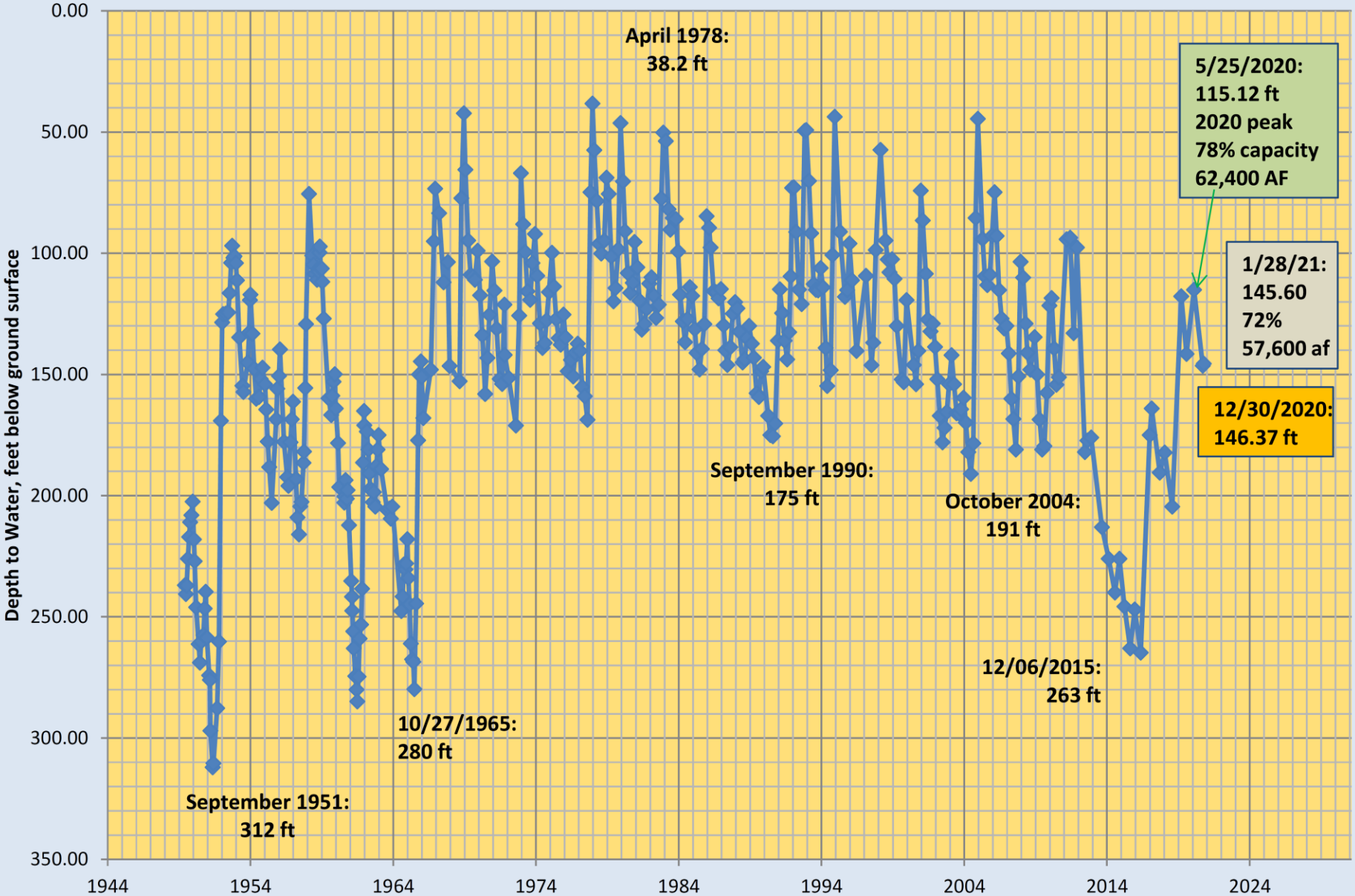
References: Ventura County
USGS National Elevation Dataset/
National Hydrography Dataset

0 2000 4000 ft

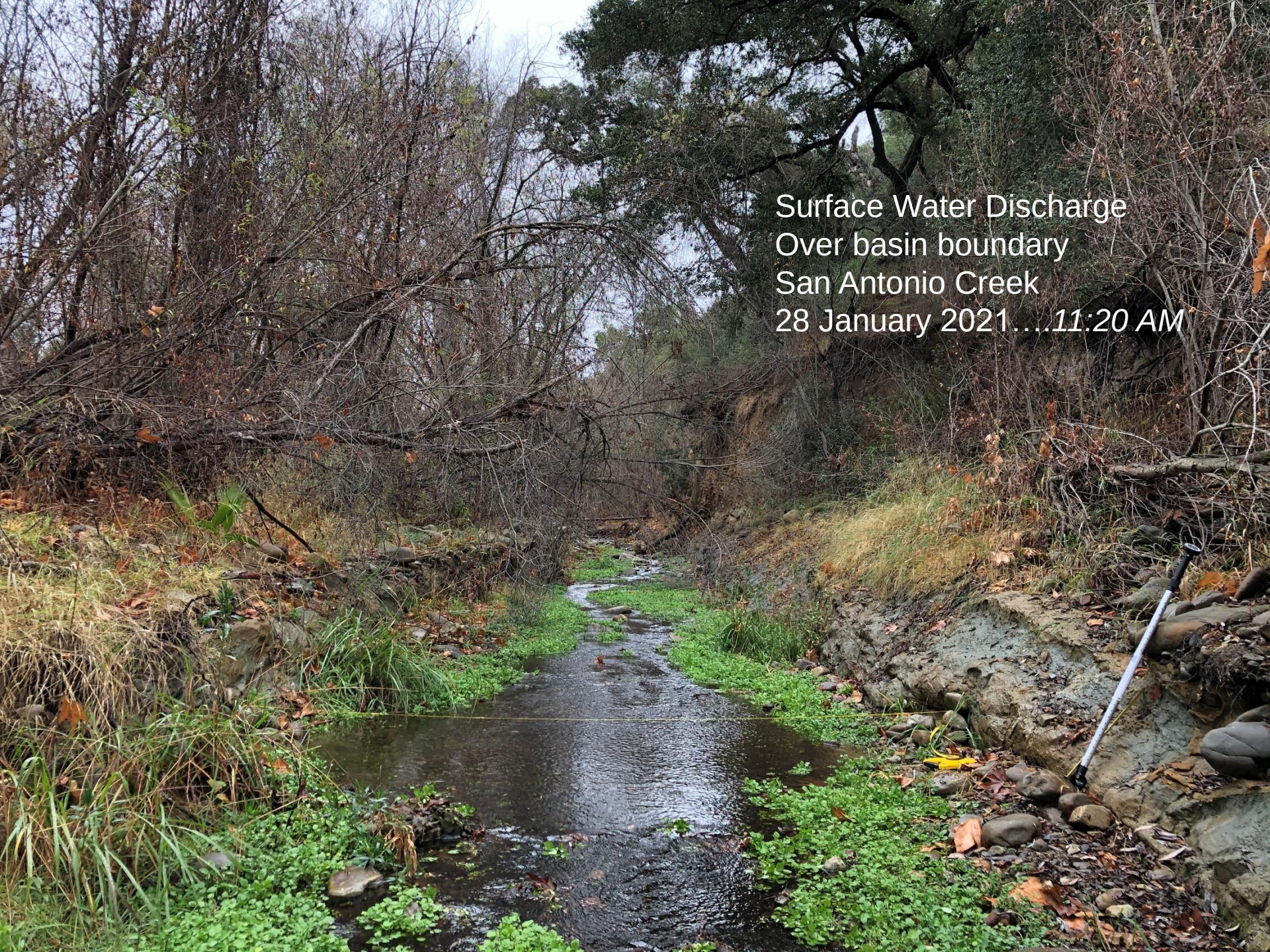
N

KEAR GROUNDWATER

Depth to Water: Ojai Basin Key Well Area 04N/22W-5L8 (Carne and Grand)



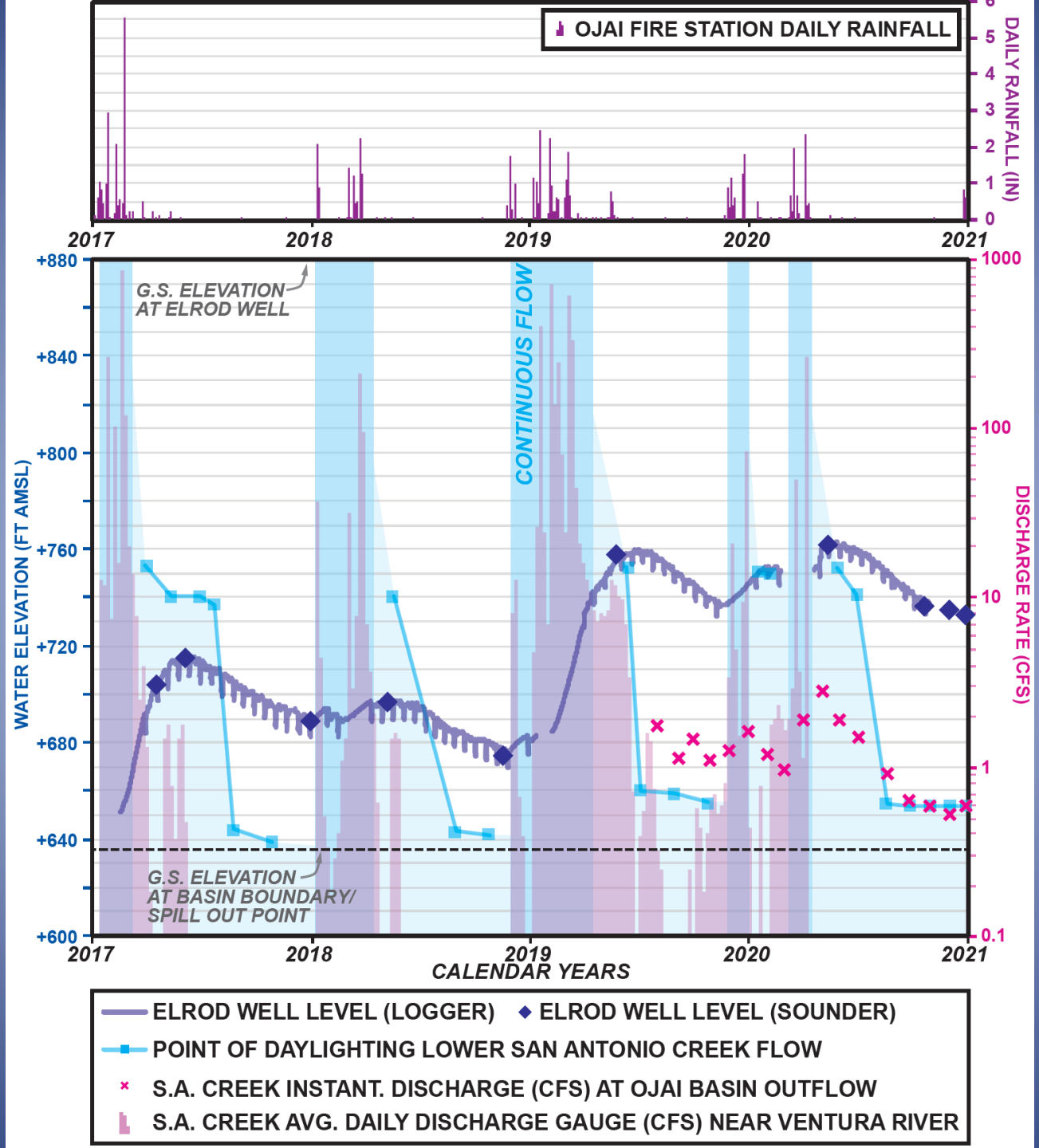
First Daylighting water in San Antonio Creek

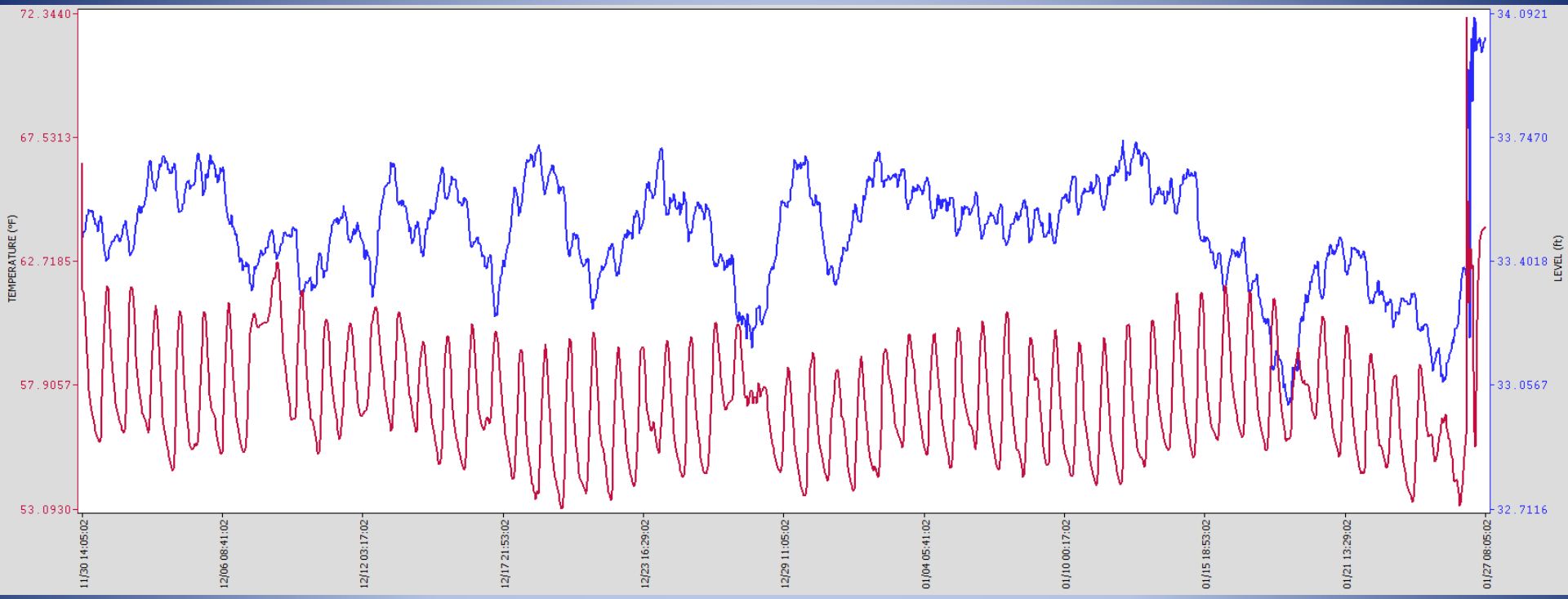

Surface Water Discharge
Over basin boundary
San Antonio Creek
28 January 2021….*11:20 AM*

Monthly readings

- Surface outflow
- Snapshot-based
- 30 to 45 AF/mo
- WY 2020-21: 148 AF to date

FLOW TRANSECT SURVEYS AT OJAI BASIN OUTFLOW		
Date	San Antonio Creek Flow Measurement (cfs)	Montgomerey Creek Flow Measurement (cfs)
29-Jul-2019	1.77	-
5-Sep-2019	1.14	-
26-Sep-2019	1.45	-
26-Oct-2019	1.09	-
26-Nov-2019	1.27	-
31-Dec-2019	1.63	-
29-Jan-2020	1.20	-
26-Feb-2020	0.96	-
31-Mar-2020	1.91	0.37
30-Apr-2020	2.80	0.54
28-May-2020	1.89	0.21
30-Jun-2020	1.51	0.08
18-Aug-2020	0.93	<0.01
24-Sep-2020	0.64	0.00
29-Oct-2020	0.59	0.00
30-Nov-2020	0.52	0.00
30-Dec-2020	0.60	0.05
28-Jan-2021	0.67	0.07


OJAI FIRE STATION DAILY RAINFALL
DAILY RAINFALL (IN)
0
1
2
3
4
5
6
2017
2018
2019
2020
2021
+880
+840
+800
+760
+720
+680
+640
+600
WATER ELEVATION (FT AMSL)
G.S. ELEVATION AT ELROD WELL
CONTINUOUS FLOW
G.S. ELEVATION AT BASIN BOUNDARY/ SPILL OUT POINT
1000
100
10
1
0.1
DISCHARGE RATE (CFS)
CALENDAR YEARS
ELROD WELL LEVEL (LOGGER)
ELROD WELL LEVEL (SOUNDER)
POINT OF DAYLIGHTING LOWER SAN ANTONIO CREEK FLOW
S.A. CREEK INSTANT. DISCHARGE (CFS) AT OJAI BASIN OUTFLOW
S.A. CREEK AVG. DAILY DISCHARGE GAUGE (CFS) NEAR VENTURA RIVER



High temporal resolution creek stage data

-3 minute interval

-Temperature correlation

-relatively consistent, must be barometrically pressure-corrected

Summer Plan: Southern Depth Discrete Monitoring Well

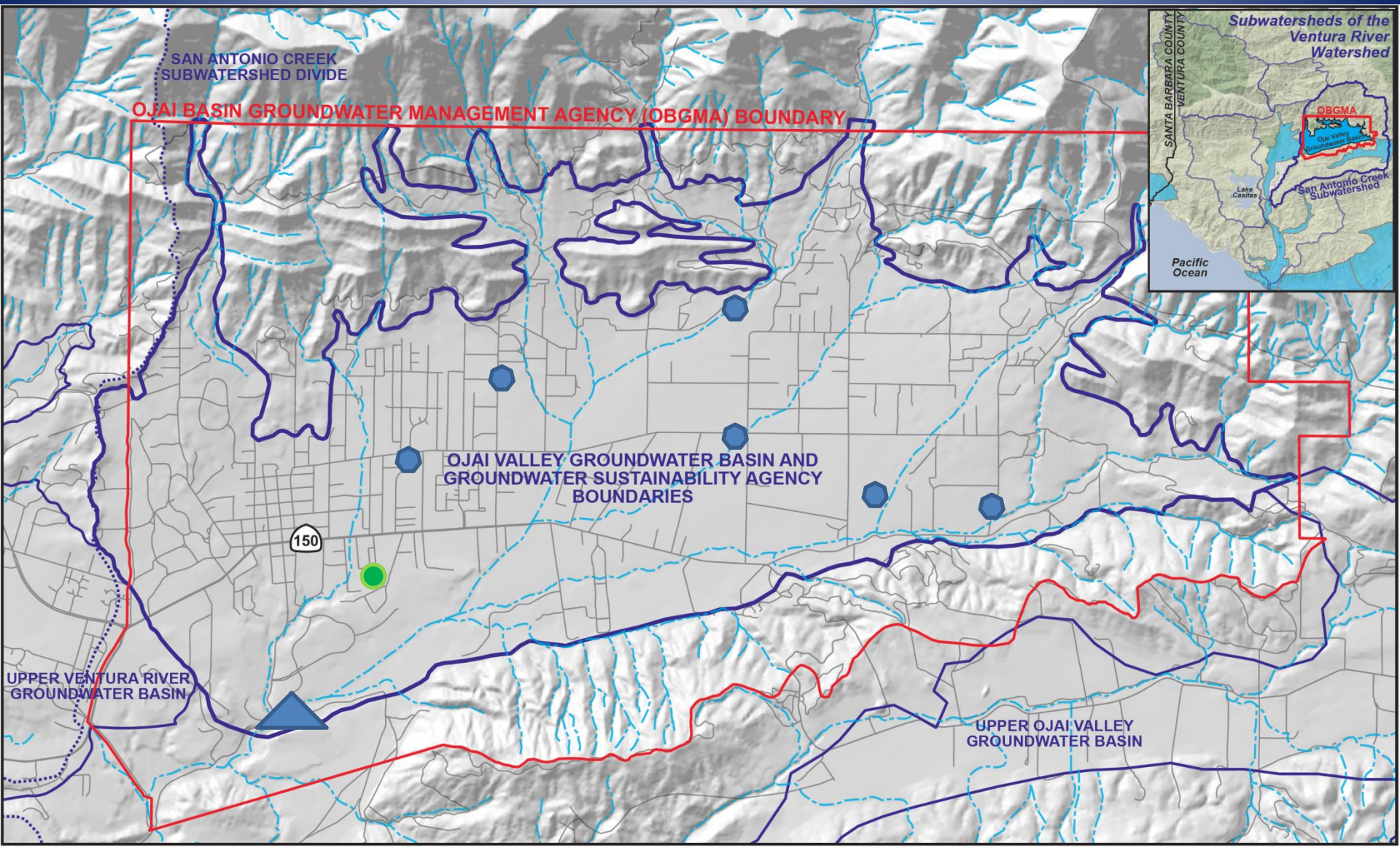
–Funded by WCB Grant

–Permitting

City of Ojai: Encroachment permit, well permit

OBGMA: well permit

Ventura County: Well Permit



References: Ventura County
USGS National Elevation Dataset/
National Hydrography Dataset

0 2000 4000 ft

N

KEAR GROUNDWATER

EEI
Service. Expertise. Solutions

BOREHOLE/WELL LOG — Number: MW-9E — Sheet: 1 of 1

Client: Lenonard Mann Trust Ojai

Location: 309C South Fulton Street, Ojai, California

Date Started: 5/16/2005 — Date Finished: 5/16/2005

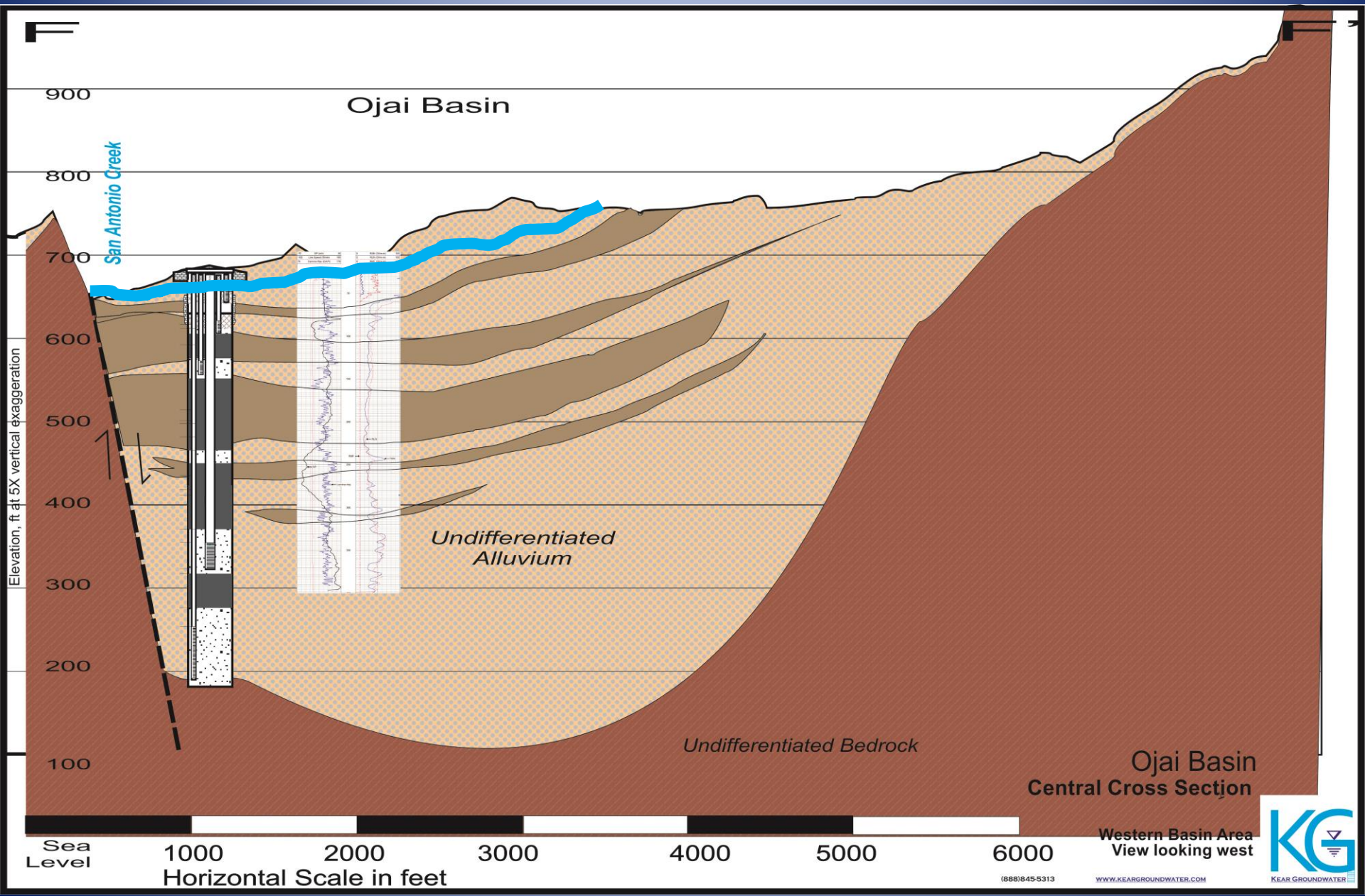
EEI Rep: Leland Green / Jeff Ditto

Drill Rig/Sampling Method: CME-75 / Hollow Stem Auger — Borehole Dia.: 8" — Casing Dia.: 2" — Casing Elevation (AMSL): -

SAMPLE LOG | BOREHOLE LOG | WELL LOG

Sample Number	Sample Time	OVA/PID (ppm)	Lab	Density Blows Per 6"	Depth In Feet	USCS Symbol	Graphic Log	Geologic Description	Well Description
MW9E-5'	12:57	13.5	X	10/13/16	0			-3" Asphalt, -6" of Base	
					5	ML		CLAYEY SAND, very fine to fine grained, dry, poorly graded, no hydrocarbon odor or staining, dark yellowish brown (10YR, 4/6)	
MW9E-10'	13:00	0.1	X	7/9/11	10			CLAYEY SILT with minor pebbles, very fine grained, dry, poorly graded, cohesive, plastic, no hydrocarbon odor or staining, brown, (10YR 4/3)	
MW9E-15'	13:04	1.0	X	19/50	15	CL		SILTY CLAY with minor pebbles, very stiff, dry, low plasticity, no hydrocarbon odor or staining, reddish brown (5yr 4/3)	
MW9E-20'	13:08	0.3	X	30/50	20	ML		SILT, very fine grained, dry, poorly graded, cohesive, plastic, no hydrocarbon odor or staining, yellowish red (5YR, 4/6)	
MW9E-25'	13:14	0.4	X	18/50	25	SM		Transition at 21' to: SILTY SAND with minor pebbles, very fine to medium grained, wat. poorly graded, no hydrocarbon odor or staining, yellowish brown (5YR, 4/6)	
								SANDY SILT with minor pebbles, very fine to fine grained, dry, poorly graded, no hydrocarbon odor or staining, reddish brown (5YR, 4/4)	


FULTON STREET
OJAI VALLEY TRAIL
BIKE PATH
NO
MOTOR
VEHICLES
OR
MOTORIZED
BICYCLES
Except
Class 1 & 2


Ojai Basin
San Antonio Creek
900
800
700
600
500
400
300
200
100
Elevation, ft at 5X vertical exaggeration
Undifferentiated Alluvium
Undifferentiated Bedrock
Ojai Basin
Central Cross Section
Western Basin Area
View looking west
Sea Level
1000
2000
3000
4000
5000
6000
Horizontal Scale in feet
(888)845-5313
WWW.KEARGROUNDWATER.COM
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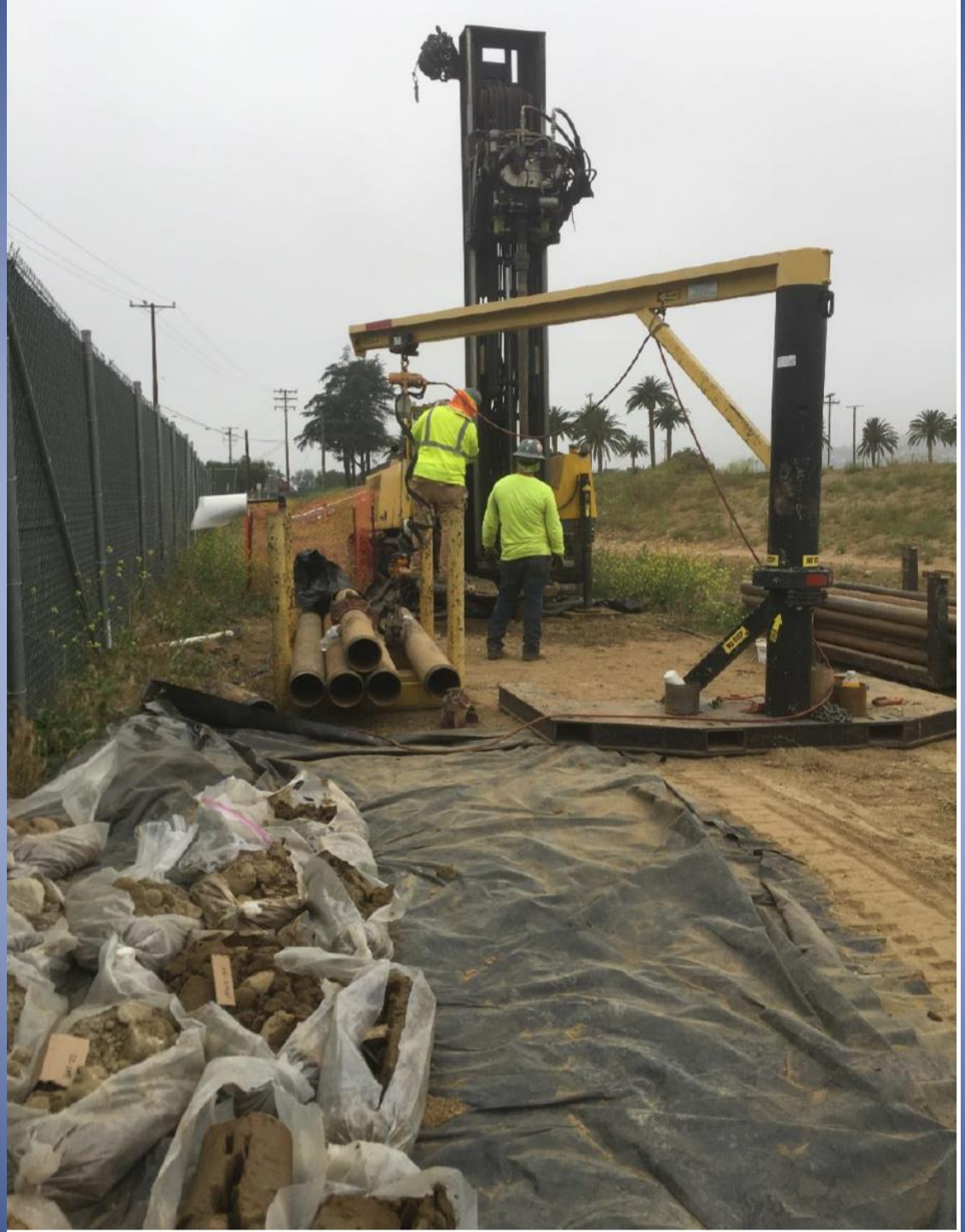
Schedule

- City Permitting: February 23
- OBGMA permit: February Meeting
- County Permit March 2021
- Drilling April
- Monitoring for 2021 peak Basin storage and Water Levels

Drilling Method Options

- Sonic Drilling Benefits:
  small footprint, low profile, continuous core, cuttings are dry and transportable, casing stabilizes borehole for piezometer installations and packing, sealing operations, crews have worked in City and tight locations
- Limitations: support yard distant, no elog before final design




DANGER
LOOK UP!
LET'S
DO
THIS.

Mud Rotary

Benefits include:

Proximity to drillers yard

Obtain elog prior to final well design

Development

Normal for water wells

Limitations include:

Fluid disposal

Cuttings mixed with mud, disposal

High profile

Large footprint

Mud invasion issues