DIVISION OF WATER RIGHTS
REPORT OF INSPECTION

DATE AND TIME: August 9, 2016 at 10:00 AM

LOCATION: On property of Nancy K Donovan and Stephen J Peters located at 21451 Highway 128, Yorkville CA, 95494-9207

PARTICIPANTS: Kyle Wooldridge, Division of Water Rights
Chuck Arnold, Division of Water Rights
Shay Richardson, Division of Water Rights
Wesley Stokes, Department of Fish and Wildlife
Stephen Peters, Respondent
Nancy Donovan, Respondent

PURPOSE: The purpose of this inspection was to become familiar with the site and determine whether the physical features of the property and operation of the reservoirs have changed since the Division's September 15, 2010 site inspection.

Division of Water Rights and Department of Fish and Wildlife staff met with Mr. Peters and Ms. Donovan at their property where the reservoirs and vineyard are located. The vineyard consists of two blocks of vines north of the house. The eastern block is approximately 2.5 acres and the western block is approximately 5.5 acres.

Beyond the eastern vineyard block to the north is approximately 5.5 acres of fallow terraced hillside. The upper reservoir (Reservoir 1) is located uphill north of the terraced hillside, approximately 250 yards from the northern side of the eastern vineyard block. The lower reservoir (Reservoir 2) is located downhill and approximately 50 yards north of the western vineyard block. The downstream side of Reservoir 1 is approximately 250 yards west of the upstream end of Reservoir 2.

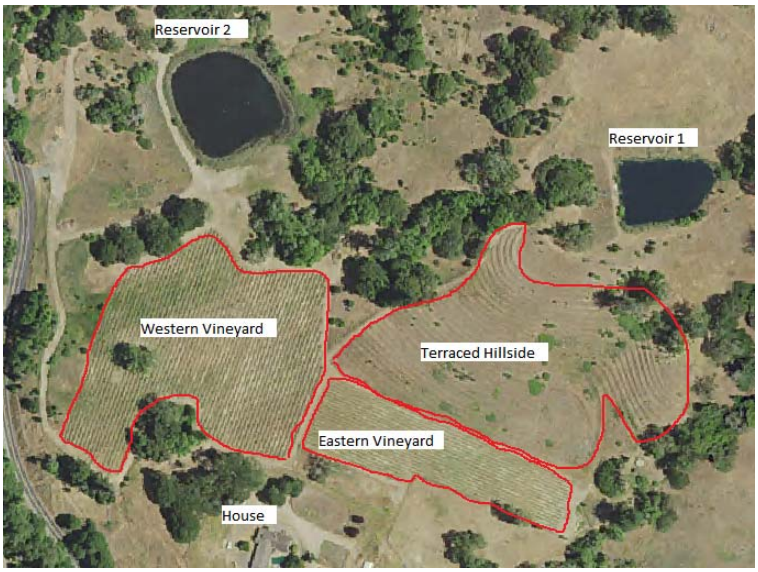

Figure 1: 2014 aerial photograph of property

Reservoir 1 is located on an unnamed stream that drains an approximately 10 acre hillside at the northern edge of Mr. Peters' property. The stream immediately upstream of the reservoir is surrounded by thick vegetation and did not have any flowing water during the inspection. Mr. Peters told Division staff that the reservoir fills quickly during and after the first significant rains of the year, and that streamflow is augmented by a system of horizontal pipes (wells) he installed in the drainage area above the reservoir.

Figure 2: Reservoir 1 facing east from the dam. The drainage area can be seen in the background.

Figure 3: Reservoir 1 facing downstream to the west. The dam can be seen on the far side of the reservoir.

Reservoir 1 is bounded by an approximately 24 feet high earthen dam on the west side. The maximum surface area of the reservoir is approximately 0.75 acres based on measurements of aerial photographs. Mr. Peters told Division staff the maximum depth of the reservoir was approximately 25 feet when it was built in the early 1990's. Based on the surface area and depth estimates, and a correction factor of 0.7, the maximum capacity of the reservoir is approximately 13 acre-feet.

A spillway pipe runs through the dam just below the top surface. The intake of the pipe is turned up at a 45 degree angle so that the level where water will begin to enter the spillway is slightly higher than the bottom of the spillway pipe. The spillway pipe runs through the dam and down a steep grade to the stream connecting the two reservoirs. During the inspection, the surface water level of the reservoir was approximately 3 feet below the spillway intake.

Figure 4: Spillway pipe leading down the face of the dam to the stream connecting the reservoirs.

Mr. Peters told Division staff that only Reservoir 1 is used for irrigation of the vineyard. The irrigation system is pressurized by gravity, and can be operated to irrigate both vineyards blocks, and with some modification can be used to irrigate the terraced hillside if Mr. Peters decides to expand his vineyard. Mr. Peters did not give a clear answer when asked during the inspection how often he irrigates, except that he doesn't start irrigating until late June, and only irrigates as often as necessary to produce the desired quality of grapes.

The upper portion of the stream connecting the reservoirs is steep and heavily vegetated. Division staff was able to access the stream approximately 100 yards downstream from Reservoir 1 and observed that the stream had well defined bed and banks although no water was flowing at that location.

Figure 5: Streambed between the reservoirs located 100 yards downstream of the outlet of the spillway pipe of Reservoir 1.

Approximately 25 yards upstream of Reservoir 2, a one inch metal pipe discharging a small flow of water surfaced out of the bank of the stream. The flowing water created a small pool below the pipe that submerged a few yards downstream. Mr. Peters explained that this horizontal well existed when he obtained the property, and that he improved the yield by drilling it deeper into the hillside.

Figure 6: Horizontal pipe emerging from the bank of the stream connecting the reservoirs

Reservoir 2 is bounded by an earth fill dam on the west and northwest sides. The maximum surface area of the reservoir is approximately 1.25 acres based on measurements of aerial photographs. Mr. Peters estimated the maximum depth to be approximately 20 feet. Based on the surface area and depth estimates, and a correction factor of 0.7, the maximum capacity of the reservoir is approximately 17 acre-feet.

Figure 7: Reservoir 2 facing north-west. The dam can be seen on the left and far sides of the reservoir.

COMPARISON TO PREVIOUS INSPECTION FINDINGS

The estimates for maximum surface area, depth, and volume of the reservoirs, as well as the acres of vineyard are all reasonably similar to the estimates Division staff made for the 2010 inspection. The small differences in the estimates would not have changed the findings made by Division staff in 2010 because the lack of a basis of right to divert and store water does not depend on the exact amount of water diverted and stored. An accurate reservoir survey should be conducted if Mr. Peters pursues a water right permit or certificate for either of the reservoirs.

Based on the information gathered during this inspection, as well as a review of aerial photography and statements from Mr. Peters, the physical features of the site and operation of the reservoirs and vineyards are substantially the same as they were when Division staff inspected the property on September 15, 2010. The two reservoirs continue to collect and seasonally store water for recreational use and fire protection, and Mr. Peters continues to re-divert water from storage in the upper reservoir for irrigation of a vineyard without a valid basis of right. Mr. Peters did not provide any evidence that he has taken any corrective action since the Draft CDO and ACL Complaint were issued in 2012.