

STATE OF CALIFORNIA  
CALIFORNIA NATURAL RESOURCES AGENCY  
DEPARTMENT OF WATER RESOURCES  
DIVISION OF SAFETY OF DAMS

## INSPECTION OF DAM AND RESERVOIR IN CERTIFIED STATUS

Name of Dam Rattlesnake Canyon Dam No. 1029-3 County Los Angeles  
 Type of Dam Earth Type of Spillway Concrete weir and side channel  
 Water is ~25 feet below spillway crest and ~31 feet below dam crest.  
 Weather Conditions Sunny  
 Contacts Made Willie James with IRWD  
 Reason for Inspection Maintenance Inspection

### Important Observations, Recommendations or Actions Taken

As requested, the spalls with exposed wire mesh reinforcement have been satisfactorily repaired since the last inspection (Photo 4).

Please submit a copy of the CCTV inspection video to DSOD upon completion of the outlet pipe inspection.

Arrangements need to be made to fully cycle all outlet controls during the next inspection.

As requested, an updated instrumentation report was submitted, and it was reviewed in this report.

### Conclusions

From the known information and visual inspection, the dam, reservoir, and the appurtenances are judged safe for continued use.

### Observations and Comments

<u>Dam</u>	The asphalt-lined crest was level and well-aligned with some minor cracking. The upstream asphalt-lined face was uniform with some minor cracking. Minor cracks in the asphalt lining are long standing and do not pose a dam safety concern at this time. The visible portions of the faces, groins, and downstream toe appeared to be in satisfactory condition with no signs of instability or distress. Vegetation control was satisfactory. No significant rodent activity was observed.
<u>Spillway</u>	The approach, weir, side channel and downstream chute were clear and unobstructed. The concrete surfaces show some signs of aging but appeared to be in satisfactory condition with no significant cracks or spalls.  As requested, the spalls with exposed wire mesh reinforcement have been satisfactorily repaired since the last inspection.
<u>Outlet</u>	The low-level outlet is controlled by four upstream gate valves (top, middle, bottom, and main) and two downstream valves. As requested, the broken stems for the top and middle valves were repaired and the actuators were replaced. Reportedly, the valves were then cycled following the repair work. The downstream valve at the downstream toe was relocated a few feet downstream in May 2022 as part of the low-level outlet flowmeter project, and the valve was subsequently cycled. All outlet controls were last fully cycled in our presence on March 28, 2019. Arrangements will need to be made to fully cycle all outlet controls during the next inspection.  The flowmeter project was nearing completion during this inspection. The valve, manway, and flowmeter appeared to be installed satisfactorily and there were no dam safety concerns observed (Photos 6 and 7).

Photos taken? Yes  No  *CML* 8/10/2022 Inspected by C. M. Lancaster  
 cc for Owner/Book Date of Inspection 5/11/2022  
 Date of Report 8/5/2022 *RD* 8/10/2022

**INSPECTION OF DAM AND RESERVOIR IN CERTIFIED STATUS**Name of Dam Rattlesnake CanyonDam No. 1029-3Date of Inspection 5/11/2022**Observations and Comments**

During a prior closed-circuit television (CCTV) inspection of the outlet pipe, the owner found the results to be inconclusive due to scaling along the pipe interior. The owner plans to hydrojet the pipe interior and repeat the CCTV inspection by the end of the year. A copy of the CCTV inspection video needs to be provided to DSOD upon completion of the inspection.

Seepage

No signs of seepage were observed on the downstream face, groins, or toe of the dam. There are 6 subdrain pipes (Drains 2-5, 8, and 11) that outfall into a seepage vault downstream of the dam toe, and 2 drains (Flow Point North and Flow Point South) that outfall into a seepage vault in the downstream spillway channel. The following flow rates were estimated during the inspection:

Drain 2:	Dry	Drain 5:	Dry	FP North:	~1-2 gpm
Drain 3:	~0.5 gpm	Drain 8:	Dry	FP South:	~1 gpm
Drain 4:	~0.25 gpm	Drain 11:	Dry		

Seepage conditions were consistent with past inspections at similar reservoir elevations.

Inst

Instrumentation at the dam consists of 7 survey monuments, 16 open well piezometers, and 8 seepage drains. The latest instrumentation report was dated June 28, 2021, covering data through June 30, 2020.

*Survey Monuments:* Since the first survey in 1985, the monument data generally shows slight settlement and downstream movement trends, as is typically expected from an earthen dam of this size. The latest survey was performed on July 18, 2020. Since the last survey in 2019, movements have been minimal with the largest settlement movement being 0.018 feet and the largest downstream movement being 0.005 feet. All movements were considered minimal, and there were no concerning trends observed in the data.

*Open Well Piezometers:* Readings for the piezometers are recorded monthly. The majority of the piezometers either tracked the reservoir fluctuations closely or had attenuated responses to the fluctuations, except for Piezometers P-1A, P-2, P-35A, OW-3, and P-63. P-63 readings dropped ~17 feet in January of 2018 which reportedly was likely due to a drop in the reservoir. Since the drop, the readings have steadily increased ~10 feet; however, it still remains below the historical readings. P-63 needs to be reviewed each year as the elevation approaches historical ranges to ensure the increasing trend does not continue on to historical highs. The data does not indicate a high phreatic surface. Besides P-63, the readings remained within historical ranges and showed no concerning trends in the data.

*Seepage Drains:* Most of the seepage drain readings appear to track fluctuations in the reservoir either closely or with attenuated responses, except for Drains 2, 8, and 11. Drains 2, 8, and 11 were either dry or mostly dry during the reporting period, which follows their respective historical patterns. Flow Point North (which measures seepage from under the spillway and adjacent hillside) had a high seepage reading of ~4 gpm during the reporting period, while the remaining drains had readings under 2 gpm or read dry. There were no abnormalities observed in the seepage data.

The instrumentation data indicates the dam is performing satisfactorily, and no new instrumentation is deemed necessary at this time.

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1. Upstream face of the dam observed from the left abutment.



2. Downstream face of the dam observed from the right abutment.

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3. Spillway approach, weir, and side channel.



4. Repairs to the spalls with exposed wire mesh reinforcement.

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5. Flow Points North and South.



6. New manway and relocation of valve (red).

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7. New flowmeter.