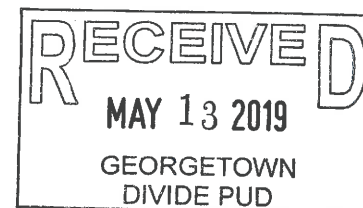


State Water Resources Control Board

May 6, 2019

PWS No. 0910013

Steve Palmer
General Manager
Georgetown Divide PUD
P. O. Box 4240
6425 Main Street
Georgetown, CA, 95634



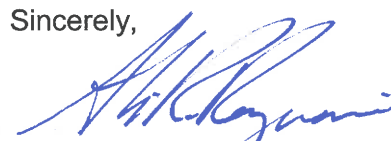
2019 COMPLIANCE INSPECTION OF THE GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT PUBLIC WATER SYSTEM (PWS NO. 0910013)

On April 12, 2019, Austin Peterson of the California State Water Resources Control Board Division of Drinking Water, accompanied by the Georgetown Divide Public Utility District (GDPUD) staff, inspected the GDPUD domestic water system (PWS No. 0910013).

Attached to this letter you will find a copy of the Compliance Inspection Report that documents inspection findings. **Please review the enclosed report and respond to the items listed in both the report and the Compliance Inspection Findings section (Appendix A) by the indicated response deadlines.**

If you have any questions, or if we can be of any assistance, please do not hesitate to contact Austin Peterson at (916) 341-5559, or by email at Austin.peterson@waterboards.ca.gov.

Sincerely,



Ali R. Rezvani, P.E.
Sacramento District Engineer
Division of Drinking Water
STATE WATER RESOURCES CONTROL BOARD

cc: Austin Peterson, P.E. – Water Resource Control Engineer, DDW, SWRCB

State Water Resources Control Board (SWRCB)
Division of Drinking Water
Field Operations Branch
Sanitary Survey and Compliance Inspection Report

Purveyor: Georgetown Divide Public Utilities District (GDPUD) System Number: 0910013
 Person(s) Contacted/Title(s)/Phone No.: Steven Palmer (General Manager), Darrell Creeks (Operations Manager)
 District Engineer: Ali R. Rezvani, P.E. Reviewing Engineer: Austin Peterson, P.E. – Water Resource Control Engineer
 Inspection Date(s): April 12, 2019 Last Inspection/Inspector: Bruce Berger, P.E. August 30-31, 2016

A. INTRODUCTION

1. PERMIT STATUS

California Code of Regulations, Title 22, Chapter 14: Water Permits

Full Permit: ORIGINAL PERMIT NO. 73-013 DATE OF ISSUE: March 13, 1973

Permit Amendment(s): PERMIT AMENDMENT NO. 01-09-05-PER-003 EFFECTIVE DATE: July 13, 2005

Permit Condition Compliance:

- System was to complete retrofit of ALT Treatment plant (not complete) Yes No
- _____ Yes No

Public Water System Classification: D-3 and T-3

Changes Since Last Permitting Action: Multiple. The Permit is 40 years old and many changes have been made in the system. The new Auburn Lakes Treatment plant is under construction. A new permit action is required and will be completed when the Auburn Lake Trails treatment plant upgrade has been completed.

Table 1 - Permit Summary

Permit Number	Permit Type	Permit Date	Comments
73-013	Full	13 March 1973	
01-09-05-PER-003	Amend	13 July 2005	

2. SYSTEM CHANGES

Changes Since Last Annual Inspection: Completion of Auburn Lake Trails water treatment plant. Replace aging distribution infrastructure including conveyance piping and unlined ditch areas.

Planned Future Changes: Two main replacement projects; one about 400-feet long and the other one about 1,000-feet long. No other significant improvements planned.

3. ENFORCEMENT HISTORY

Table 2 – Enforcement History

Enforcement Action	Date Issued	Comments
Compliance Order No. 01-09-04-CO-002	2004	CO requires the installation of 99.9% reduction of Giardia and 99.99% Reduction of viruses through filtration and disinfection at both the Walton Lake WTP and the Auburn Lake Trails WTP. This Compliance Order was still active at the time of this inspection.

Discussion and Appraisal: Auburn Lake Trails treatment plant continues operation while out of compliance. Last full permit was over 40 years ago.

4. CONSUMER AND PRODUCTION DATA

Table 3 - Finished water produced, purchased or sold.

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Service Connections:									
Total	3481	3,564	3,568	3,591	3,585	3840	3,662	3,625	3,638
Metered	3478	3,423	3,558	3,583	3,571	3776	3,656	3,625	3,638
Flat Rate	3	12	10	8	14	74	6	0	0
Population Served:									
Permanent	9,147	9,377	9,261	9,288	9,263	9,231	9,628	9,373	9,237
Seasonal	0	0	0	0	0	0	0	0	0
Water Production (MG):									
Total	637	553.6	519.9	519.8	656.94	520.2	479.75	526.7	550.0
Maximum Month	97.1	90.4	82.1	82.1	94.86	70.10	59.41	74.11	80.13
	(Jul)	(Jul)	(Ag)	(Ag)			(Jul)	(Jul)	(Jul)
Maximum Day	4.02	3.57	3.15	3.59	3.77	2.83	3.57	3.00	3.88

Discussion and Appraisal: Production is able to meet demands.

B. SOURCE

1. Approved sources

Table 4 – Sources

Sources	PS Code	Status	Capacity (gpm)	Comments/Deficiencies
Groundwater				
None	NA	NA	NA	No Groundwater sources
Surface Water				
Walton Lake Treatment Plant	0910013-001	Active	2,100	
Auburn Lake Treatment Plant	0910013-003	Active	2,100	New plant on-line in June 2019
Purchased from other systems				
None	NA	NA	NA	No Purchased water sources
Emergency Connections				
None	NA	NA	NA	No Emergency connection sources
Total Capacity (gpm):			4,200	

Discussion and Appraisal: System should find some emergency sources.

2. Interties for Purchases/Sales/Wheelings/Emergencies: GDPUD does not currently have any interties with other water systems. There are no viable water systems in the area for any interties between the two systems.

3. Date of last watershed sanitary survey(s): 2016 Watershed Sanitary Survey Update
Sanitary Hazards to Source Water: Forest activities, including timber harvesting, forest fires, and off-highway vehicle use. Recreation including camping, off road vehicles and body and non-body contact. Onsite wastewater systems, stormwater runoff/spills.
Body Contact Recreation: Yes
Sewer/septic proximity: Greater than 1,000 feet
Recreation within source waters/watershed: Stumpy Meadows Lake raw water reservoir is a recreational camping facility.

4. **Water Rights (Agency/Permit Number):**
State Water Resources Control Board Water Rights Permits A005644A, A016212, A016688, and A027174 were filed and granted in 1958 according to the 2016 Watershed Sanitary Survey update.
5. **Summary of Raw Water Bacteriological Sampling:** Raw water sampling meets standards.
6. **Significant changes to Watershed or source water quality since last inspection:** None
7. **Drought Preparedness**
 Has a "Water Supply Contingency Plan" been prepared: Yes No Other 4/30/2016
Surface Water Supplies:
 Contracted Supplies (all likely water reductions): Yes No Other NA
 Natural Supplies (Historical drought conditions): Yes No Other
Ground Water Supplies:
 Well Pumping Capacity (production metering): Yes No Other NA
 Ground-water Levels (sounding/manometry): Yes No Other NA
Storage:
 Daily Max Demand Tank Levels (daily record): Yes No Other
 Intertie evaluation (connection to a neighbor): Yes No Other NA
 Water Conservation (restrictions on unneeded use): Yes No Other
 Is there a "5-Year Capital Improvement Plan": Yes No Other
 Do water rates account for inflation and reserve funds: Yes No Other

Discussion and Appraisal: No other supply sources are available. Stumpy Meadows Reservoir is located within the American River Watershed. An American River Watershed Sanitary Survey has been prepared and updated as required. An update to the survey is planned for 2020. The update will be a combined effort with other water utilities in the same watershed.

C. TREATMENT

1. SURFACE WATER TREATMENT

a. Walton Lake WTP

i. General Information

Treatment plant classification for certification requirements: T-3
 Treatment method: Direct
 Total Virus/Giardia/Crypto. Log Removal Req'd: 4 virus / 3 giardia / 2 cryptosporidium
 Filtration Virus/Giardia/Crypto. Log Removal Credit: 1 virus / 2 giardia / 2 cryptosporidium
 Virus/Giardia/Crypto. Log Removal Req'd from CT: 3 virus / 1 giardia
 Treatment plant process diagram on file Yes No Other
 Treatment plant data sheets on file Yes No Other
 Operations and Maintenance Plan:
 Copy reviewed by the Division: Yes No Other
 Plan acceptable the Division: Yes No Other

Discussion and Appraisal: _____

ii. Raw Water Intake Operations

Intake facilities description(s): Water is pumped from the Walton Lake Raw Water pump station via three variable frequency drive (VFD) 30 hp pumps. The VFDs brings the WTP's flow up slowly after it starts and replaces the former constant drive pumps to avoid "hard starts". The total capacity of the pump units at the pump house is 2,400 (800 x 3) gpm. An on-site diesel generator provides auxiliary power for the raw water pumps and WTP.

iii. Pre-Treatment Process and Operations

Pre-treatment process description: There is an in-line mixer just downstream of the raw water pumps at Walton Lake. Coagulant and disinfectant added upstream of the in-line mixer.

Table 5 – Summary of chemicals used.

Chemicals Used	Injection Point	Dosage	ANSI/NSF Std. 60 Cert.	Comments
Sodium Hypochlorite	Raw water pump Station		Yes	Pre and post-chlorination
Soda Ash	After filters		Yes	pH adjustment
Polymer	Raw Water Pump Station		Yes	Coagulant

Mixing/flocculation facilities: Yes No Other _____
 Sedimentation/clarification facilities: Yes No Other _____
 Plant pretreatment meets DBPR TOC removal reqs. [conventional/pkg.]: _____
 Metering pump control method: Manual Automatic Other _____
 Metering pump calibration frequency/method: None
 Metering pump feed rate optimization method: flow paced
 Coagulation/flocculation optimized at all times for 80% reduction in turbidity: Yes
 Backup metering pumps: Yes No Other _____

Discussion and Appraisal: The chemical additions used at the WLWTP are as follows: (a) polymer as a coagulant aid is injected at the inline static mixer located at the raw water pump station; (b) chlorine (as sodium hypochlorite) is used for pre- and post-chlorination (disinfection); and (c) soda ash is added for pH adjustment. The pre-chlorination is added at Pull Box No. 2 (prior to filtration) and the post-chlorination and soda ash is added after filtration and before the clearwell. Finished water quality samples are taken from Pull Box No. 3. The chemical additions utilize a programmable logic controller (PLC) to automate the metering pumps (polymer by streaming current, pre-chlorination by flow, post-chlorination by chlorine residual, and soda ash by pH).

iv. Filtration Process and Operations

Filtration process description: After the coagulation process, water (under pressure) flows into one of three mixed media pressure filters (three 8' x 30').

The filter-media is made up of three materials: anthracite coal (12-inch), fine sand (18-inch) and gravel (12-inch). The anthracite has an effective size of 0.6-0.8 mm and a uniformity coefficient of 1.6. The silica sand has an effective size of 0.45-0.55 mm and a uniformity coefficient of 1.6.

Filter Media (materials, depths etc.): anthracite coal (12-inch), fine sand (18-inch) and gravel (12-inch).

Age of Filter Media: Not known **Filter media last inspected:** Not Known
Maximum Approved Filter Loading/Flux Rate: 3 gpm/sqft
Operational Filter Loading/Flux Rate: 2gpm/sqft
Filter Load/Flux Rate Control Method: Flow control with pumps at intake.

Number of Redundant Filter Units: 3
Maximum Transmembrane Pressure (TMP) — [membrane treatment only]: _____
Standby power available: Yes No Other _____
Treatment plant meets appropriate design criteria: Yes No Other _____
Filters operated to minimize rapid startup/shutdown: Yes No Other _____
Filter rates varied to meet system demand: Yes No Other _____
Filter-to-waste available: Yes No Other _____

Filter-to-waste discharge to: Ditch

Filter Inspection Frequency: Annually

Discussion and Appraisal: None.

v. **Backwash Operations**

Backwash process description: The Walton Lake raw water pumps are used to backwash the filters. Three cells are used to filter one cell on each filter vessel.

Backwashing frequency and/or initiation requirements: Filters are backwashed individually Monday, Wednesday and Friday, or as necessary. The surface wash operates first and operates for about 6 minutes. The backwash is about 7 minutes total. The flush to waste cycle typically lasts about 15 minutes.

Source of backwash influent water: Treated surface water

Backwash reclamation process description: Backwash waste is pumped to the 100,000 gallon sedimentation basin for solids settlement. Clarified decanted water is sent to the irrigation ditch and slug is periodically sent to sludge drying beds and then hauled off for disposal.

Percent backwash effluent water recovery: >90%

Backwash reclamation injection point: NA

Surface wash or Air scour used: Yes No Other

Discussion and Appraisal: None.

vi. **Disinfection**

Pre-chlorination: Sodium Hypochlorite Post-chlorination: Sodium Hypochlorite
Chemical Used: Sodium Hypochlorite Chemical Used: Sodium Hypochlorite
Injection Point: at intake pump Injection Point: After filters

Giardia/Cryptosporidium/Virus Log Inactivation Req.: 4 virus / 3 giardia / 2 cryptosporidium

Giardia/Cryptosporidium/Virus Log Filter Credit: 1 virus / 2 giardia / 2 cryptosporidium

Giardia/Crypto/Virus Removal Req. from Contact Storage: 3 virus / 1giardia / 0 cryptosporidium

Minimum filtrate chlorine residual (r) 0.4 Maximum raw water pH 7.5

Minimum raw water temperature 5C Maximum contact basin flow (Q) 2100 gpm

Contact basin volume (V) 600,000 gal Contact basin baffling coefficient (T_{10}/T) 0.5

EPA required CT Value for 1 log Inactivation of Giardia ($CT_{99.9}$): 55 mg-min/L

$Theoretical\ Detention\ Time\ (TDT) = V/Q = (600,000) / (2,100) = 286\ minutes$

$Contact\ Time\ (T_{10}) = TDT * T_{10}/T = (286\ minutes) * (0.5) = 143\ minutes$

$Minimum\ CT\ Value\ (CT_{CALC}) = T_{10} * r = 143\ min * 0.4\ mg/L = 57.2\ mg-min/L$

Calculated theoretical CT value ratio ($CT_{CALC} / CT_{99.9}$) = $(57.2 / 55) = 1.04$

CT requirements met before the first service connection ($CT_{CALC} / CT_{99.9}$) > 1: 1.04

Trace distribution system residuals in at least 95% of samples: 0.4

Chlorination data sheet on file with the Division: Yes No Other

Discussion and Appraisal: _____

vii. **Overall Treatment Plant Appraisal**

Discussion and Appraisal: At time of inspection all alarms worked properly. Plant site was clean and seemed to be run effectively. The installation of VFDs on the raw water pumps has allowed the

plant to ramp on and off slowly. This allows the tanks to be filled at a slower rate which in turn reduces the number of starts and stops for the treatment plant.

b. Auburn Lake Trails Water Treatment Plant (3650 Sweetwater Trail, Cool, CA)

Discussion and Appraisal: The ALTWTP was not inspected since it will be decommissioned shortly once the new treatment plant is commissioned. The new ALTWTP is scheduled to be operational in June 2019. This existing treatment facility is still out of compliance with Compliance Order #01-09-04CO-002 issued on February 23, 2004, that required Georgetown Divide Public Utility District (GDPUD) to provide surface water treatment that effectively reduces giardia cysts and viruses by 3 and 4 logs, respectively, through filtration and disinfection at its Auburn Lake Trails Water Treatment Plant (ALTWTP).

2. DISINFECTION

Process Description: Sodium Hypochlorite is injected pre and post filtration, flow paced.
Continuous disinfection provided: Yes No Other _____
Provisions for emergency chlorination provided: Yes No Other _____
Description of monthly treatment records: Daily logs kept on amount of chemical used
Disinfection chemicals ANSI/NSF Std. 60 Certified: Yes No Other _____

Discussion and Appraisal: GDPUD is consistently able to meet chlorine residual requirements.

D. DISTRIBUTION SYSTEM

1. DISTRIBUTION SYSTEM INFORMATION

Distribution system classification: D-3
Distribution system maps on file: Yes No Other _____
Distribution system data sheets on file: Yes No Other _____
Discussion and Appraisal: _____

2. CONSTRUCTION PRACTICES

California Code of Regulations, Title 22, Chapter 16: California Waterworks Standards

Facilities constructed to meet Waterworks Standards: Yes No Other _____
Water/Sewer Separation practices meet Waterworks Standards: Yes No Other _____
Lead pipes, joints, or solder used in the distribution system: Yes No Other _____

Discussion and Appraisal: Georgetown Divide PUD is able to maintain pressure throughout the different pressure zone through gravity feed and the use of Pressure Reducing Stations, and Booster Pump Stations.

3. PRESSURE ZONES

Table 7 - Distribution pressure zones summary.

Pressure Zone Name	Pressure Range (psi)	Water Sources	No. of Conn.	Comments
1	30-120	Walton WTP	200	approx.
2	30-120	Walton WTP	1219	approx.
3	30-120	Walton WTP	231	approx.
4	30-120	Walton WTP	346	approx.
5	30-120	Walton WTP	207	approx.
6	30-120	ALT WTP	820	approx.
7	30-120	ALT WTP	680	approx.
8	30-120	ALT WTP	98	approx.

Discussion and Appraisal: GDPUD manages multiple pressure zones.

4. BOOSTER PUMP AND PRESSURE REDUCING STATIONS

California Code of Regulations, Title 22, Chapter 16, Article 4: Pumping Stations

Table 8 - Summary of booster stations

Station	Capacity	Status	From Zone	To Zone	Comments
Hotchkiss Hill PS	40 gpm	active	1	1	Local Zone
Reservoir Rd PS	100 gpm	active	5	5	Local Zone
Irish Lane PS	30 gpm	active	4	4	Local Zone
Blackridge PS	30 gpm	active	6	6	Local Zone
Angel Camp PS	40 gpm	active	6	6	Local Zone

Discussion and Appraisal: The Angel Camp pump station pressure switch was leaking and in need of replacement. Overall, the Angel Camp pump station plumbing will need to be replaced in the near future due to age and condition. Each pump station and pressure reducing station should be thoroughly evaluated and GDPUD is encouraged to develop a maintenance/replacement schedule. There are approximately 70 pressure reducing stations throughout the distribution system. One recent replacement made a notable difference in the operations, further reinforcing the need for a robust assessment, maintenance, and/or replacement program.

5. WATER MAINS AND SERVICE CONNECTIONS

California Code of Regulations, Title 22, Chapter 16, Article 5: Water Mains and Appurtenances

Transmission Facilities: The system is almost entirely operated by gravity feed. There are isolated high elevation areas where water is pumped to a tank which feeds the customers by gravity.

Table 9 - Summary of water mains

Material	Amount @ %	Size	Condition
Transite	40%	4-12"	Good
PVC	50%	2-12"	Good
Steel	2%	4-6"	Good
Ductile Iron	8%	4-10"	Good

Water Main and Service Connection Leak History: According to the 2017 annual report, the water system had zero (0) reports of service connection breaks/leaks, water main breaks, water outages, and boil water notices.

Discussion and Appraisal: GDPUD does not complete significant main replacement projects annually. The distribution system, given GDPUD's extensive service area, represents a significant percentage of their assets and cannot be neglected. GDPUD is encouraged to consider a main replacement program in order to avoid a situation in which the distribution systems fails at a pace that poses an economic burden to the district.

E. FINISHED WATER STORAGE

California Code of Regulations, Title 22, Chapter 16, Article 3: Distribution Reservoirs

Table 10 - Reservoir and storage tank summary.

Name	Year Installed	Type	Coating	Cap. (MG)	Last Insp.	Last Cleaning	Status
Walton Lake Clearwell No. 1	1974	Welded Steel	Epoxy	0.3	1/29/2015	2013	Good
Walton Lake Clearwell No. 2	1991	Welded Steel	Epoxy	0.3	1/29/2015	2013	Good
Hotchkiss Hill No. 1	1974	Welded Steel	Epoxy	0.5	1/29/2015	2011	Good
Hotchkiss Hill No. 2 (subdv)	1974	Welded Steel	Epoxy	0.06	1/29/2015	2011	Good
Black Oak Mine (aka: Garden Valley)	1978	Welded Steel	Epoxy	0.3	1/29/2015	2010	Good
Garden Park	1978	Welded Steel	Epoxy	0.2	1/29/2015		Good
Kelsey	1992	Welded Steel	Epoxy	0.214	1/29/2015		Good
Spanish Dry Diggins	1978	Welded Steel	Epoxy	0.2	1/29/2015		Good
ALT – Angel Camp	1971	Welded Steel	Epoxy	0.5	1/29/2015		Good
ALT – Deer Ravine	1971	Welded Steel	Epoxy	0.25	1/29/2015	2011	Good
ALT–Clearwell No. 1		Welded Steel	Epoxy	0.043	1/29/2015	2013	Good
ALT–Clearwell No. 2		Welded Steel	Epoxy	0.034	1/29/2015	2013	Good

Legend:
 SRV/SSV = Screened Roof Vent/Screened Side Vent
 SO = Screened Overflow
 DS = Drain to Sewer
 SAH = Sealed Access Hatch

Reservoir data sheets on file: Yes No Other _____
Storage capacity meets Waterworks Standards: Yes No Other _____
Reservoir design meets Waterworks Standards (See B.2): Yes No Other _____

Discussion and Appraisal: All Storage Tanks had SRV and SO. Most drained to ravines. GDPUD is considering adding additional storage to the distribution system. The Walton clearwells were recoated within the last two years and the coating on the exterior appears excellent. The vent screen needs to have smaller openings to prevent access from insects and/or rodents. Other tank vent screens also were too large. GDPUD should conduct a survey of all tank vent screens and add screening with smaller openings as needed. The site gage on the Walton WTP clearwell had openings that should be closed with a threaded plug. The Black Oak Mine tank had a hornet nest in the roof hatch. Measures should be taken to mitigate hornets or other insect/bird/rodent nests near the tank hatches. The coatings on the conduit of the Kelsey and Deer Ravine tanks was failing and sloughing off into the tank. The conduits should be replaced to prevent the sanitary concern. It is recommended GDPUD conduct a survey of the conduit condition in the other tanks and replace failing conduits as appropriate. At the Kelsey tank, a pile of pine needles had collected on the roof. It is recommended that GDPUD conduct a routine cleaning effort to prevent such occurrences. The pine needles can damage the coating of the tank, retain moisture, and can be attractive to nuisance pests and rodents. With few exceptions, the tank ringwalls did not extend above the existing ground. As a result, debris and vegetation collected at the base of the tank. Moisture can accumulate below the tank causing corrosion that cannot be addressed by the water system until holes develop in the bottom of the tank. ALT – Clearwells 1 and 2 will be decommissioned once the new ALTWTP is put into service.

F. PUMPS, PUMP FACILITIES and CONTROLS

1. PUMPS & PUMP FACILITIES

Table 11 – System Pumps

Location	Active/ Standby	Capacity (gpm)	Comments
Hotchkiss Hill PS	active	40 gpm	
Reservoir Rd PS	active	100 gpm	
Irish Lane PS	active	30 gpm	
Blackridge PS	active	30 gpm	
Angel Camp PS	active	40 gpm	

Discussion and Appraisal: The Angel Camp pump station had a leaking pressure switch which should be replaced.

2. CONTROLS

a. Control System

Primary system Control Method: SCADA Level Switches/Man. Other _____
Backup system Control Method: Manual Level Switches Other _____
Description of treatment records: _____

Filter Effluent Monitoring: Individual Combined Other _____
Turbidity monitoring for each filter: Yes No Other _____
Turbidity sample location is pre-clearwell: Yes No Other _____
Historical Turbidity MCL Exceedances: None recent
Monitoring locations are adequate: Yes No Other _____
***Direct Membrane Integrity Testing:** Method: _____ Frequency: _____
***Indirect Membrane Integrity Testing:** Method: _____ Frequency: _____

Table 12 - Monitoring and Alarm Summary

Parameter	Location	Sample Freq.	Recording (Yes/No)	Alarmed (Yes/No)	Alarm Set Pt.	Comments
Chlorine residual	Walton Treatment plant	continuous	Yes	Yes	0.2 mg/L	To clearwell
Chlorine residual	ALT Treatment plant	continuous	Yes	Yes	0.2 mg/L	To Clearwell
Turbidity	Walton Treatment plant	continuous	Yes	Yes	0.25 mg/L	CFE, IFE
Turbidity	ALT Treatment plant	continuous	Yes	Yes	0.25 mg/L	CFE, IFE
Clearwell level	Walton Treatment plant	continuous	Yes	Yes	10 feet	EPTDS
Clearwell level	ALT Treatment plant	continuous	Yes	Yes	15 feet	EPTDS

Legend:
 EPTDS = Entry Point to Distribution System
 CFE = Combined Filter Effluent
 IFE = Individual Filter Effluent

Sensor Calibration Frequency: Turbidimeters are calibrated Quarterly. Alarms were checked during inspection and functioned as expected.

b. Alarms

Alarm set points are adequate: Yes No Other _____
 Alarm Testing Frequency: Monthly

Discussion and Appraisal: Alarms all worked properly at inspection

G. WATERWORKS STANDARDS SOURCE AND STORAGE CAPACITY

Per Section 64554, Article 2, Chapter 16, Division 4, Title 22, of the CCR, a public water system's source capacity shall be able to meet the system's maximum day demand (MDD). The highest MDD over the most recent 10 years of usage data is 4.02 MG (2,800 gpm). The total source capacity is 4,200 gpm.

According to Section 64554(a)(2), Article 2, Chapter 16 (California Water Works Standards), Division 4, Title 22 of the CCR, a public water system that serves more than 1,000 service connections shall be able to meet four hours of peak hourly demand (PHD) with source capacity, storage capacity, and/or emergency source connections. The PHD in the most recent 10 years of 6.03 MGD (4,220 gpm) can be met for 4 consecutive hours.

GDPUD has not had any problems with water shortages in the past. The source capacity seems acceptable. There is also approximately 2 million gallons of available storage in the water system to meet peak demands. However, the weak point of their raw water source is the conveyance facilities to the water treatment plants. If the conveyance facilities fail, GDPUD will need to repair them immediately in order to restore service. Repairing the facilities could prove to be difficult depending on the time of year and/or the location of the failure. In the winter, some of the facilities could be covered in snow and some of the facilities are in areas that can be difficult to access with heavy equipment. Because of this vulnerability to the delivery system, it is recommended GDPUD maintain a vigorous inspection and maintenance program as well as an emergency response program. GDPUD is also encouraged to continue to seek independent reliable sources of drinking water in case of emergencies. For example, strategically located groundwater wells would be one way to provide water if the raw water canal was unavailable.

H. MONITORING, REPORTING and DATA VERIFICATION

1. BACTERIOLOGICAL MONITORING

California Code of Regulations, Title 22, Chapter 15, Article 3: Bacteriological Quality

Program Description: 3 Samples weekly

Bacteriological Sample Siting Plan (BSSP):

Copy received by Division: Yes No Other _____

BSSP acceptable: Yes No Other _____

Sampler: GDPUD Staff

Laboratory: Diamond Water Laboratory Phone: 530-823-0354 ELAP Cert. No.: 2113

Factor controlling sample size: Population Service Connections

Number of samples required: 3/week Number of samples taken: 3/week

Raw water sampling frequency: Monthly

Reports submitted late (after 10th of the month): None

MCL violations: None

Discussion and Appraisal: A new (BSSP) was submitted to Division for review and comment in 2015. Approval letter was sent March 24, 2015.

2. CHEMICAL MONITORING

California Code of Regulations, Title 22, Chapter 15, Articles 4 through 17 inclusive: Inorganic Chemicals, Radioactivity, Organic Chemicals, Secondary Drinking Water Standards, et al.

Program Description: There are two surface water treatment systems.

Sampler: Staff

Laboratory: California Lab Services **Phone:** 916-638-7301

ELAP Cert. No.: 1233

Discussion and Appraisal: Satisfactory

a. Inorganic Chemicals

Table 14 – Inorganic Chemical Monitoring Summary

Source	Frequency	Waivers	Last Monitoring Date	Next Monitoring Date	MCL Violations	Comments
Walton Treatment plant	Every Three years		2017	2020	None	
ALT Treatment plant	Every three years		2017	2020	None	

Discussion and Appraisal: In compliance and up to date.

b. Secondary Drinking Water Standards

Table 15 - Secondary Drinking Water Standards Monitoring Summary

Source	Frequency	Waivers	Last Monitoring Date	Next Monitoring Date	MCL Violations	Comments
Walton Treatment plant	Every Three years		2017	2020	None	
ALT Treatment plant	Every three years		2017	2020	None	

Discussion and Appraisal: In compliance and up to date

c. Nitrates/Nitrites

Table 16 - Nitrates Chemical Monitoring Summary

Source	Frequency	Waivers	Last Monitoring Date	Next Monitoring Date	MCL Violations	Comments
Walton Treatment plant	Annually		November 2018	November 2019	None	
ALT Treatment plant	Annually		November 2018	November 2019	None	

Table 17 - Nitrite Chemical Monitoring Summary

Source	Frequency	Waivers	Last Monitoring Date	Next Monitoring Date	MCL Violations	Comments
Walton Treatment plant	Every Three years		November 2018	November 2021	None	
ALT Treatment plant	Every three years		November 2018	November 2021	None	

Discussion and Appraisal: Satisfactory

d. Regulated Volatile Organic Chemicals (VOC)

Table 18 - Regulated VOCs Monitoring Summary

Source	Frequency	Waivers	Last Monitoring Date	Next Monitoring Date	MCL Violations	Comments
Walton Treatment plant	Every Three years		2017	2020	None	
ALT Treatment plant	Every three years		2017	2020	None	

NOTE: VOC/SOC MCL compliance based on quarterly running annual average per 22CCR64445.1(c)(5)(B)

Discussion and Appraisal: In compliance and up to date

e. Regulated Synthetic Organic Chemicals (SOC)

Table 19 - Regulated SOC Monitoring Schedule

Source	Frequency	Waivers	Last Monitoring Date	Next Monitoring Date	MCL Violations	Comments
Walton Treatment plant	Every Three years		2017/18	2020	None	None
ALT Treatment plant	Every three years		2017/18	2020	None	None

NOTE: VOC/SOC MCL compliance based on quarterly running annual average per 22CCR64445.1(c)(5)(B)

Discussion and Appraisal: Given that the ALTWTP is downstream of the Walton Lake WTP, the SOC's have historically been sampled there and considered representative of both locations.

f. **Radiological**

Table 20 - Radiological Monitoring Summary

Source	Frequency	Waivers	Last Monitoring Date	Next Monitoring Date	MCL Violations	Comments
Walton Treatment plant	Every 9 years		2013/2015	2022	None	
ALT Treatment plant	Every 9 years		2013/2015	2022	None	

Discussion and Appraisal: Gross Alpha, Uranium, and the Radiums should all be taken at the same time during the next sample round.

g. **Perchlorate**

Table 21 - Perchlorate Monitoring Summary

Source	Frequency	Waivers	Last Monitoring Date	Next Monitoring Date	MCL Violations	Comments
Walton Treatment plant	Annually		November 2018	November 2019	None	
ALT Treatment plant	Annually		November 2018	November 2019	None	

Discussion and Appraisal: Last sample results were non-detect.

h. **Other Chemical Monitoring Requirements**

Discussion and Appraisal: None

3. **DISINFECTION BYPRODUCTS RULE**

a. **Stage 1 D/DBP Rule**

Program Description: System submitted to the Division a TTHM sampling plan. Current sampling does not show elevated levels of TTHMs.

Sampling Plan:

Copy received by the Division: Yes No Other _____

Sampling plan acceptable: Yes No Other _____

Plan Date: _____

Number of samples required: _____ Number of samples taken: _____

MCL violations: None

Discussion and Appraisal: System was in compliance for the Stage 1 Rule.

b. **Stage 2 D/DBP Rule**

Schedule: Quarterly

Consecutive Systems: NA

Table 22 – Disinfection Byproducts quarterly sample results.

Date Sampled	Quarterly Average (ppb) (TTHM / HAA5)	Yearly Average (ppb) (TTHM / HAA5)	High Sample Result (ppb) (TTHM / HAA5)	Comments
1/10/2014	20.0/13.8	17.8/16.2	17.0/22.9	
4/11/2014	38.5/28.7	30.5/16.7	56/32.9	
7/11/2014	31.7/15.5	29.9/18.4	43/21.9	
10/10/2014	43.0/14.1	42.8/18.4	33.3/17.6	
1/9/2015	34.5/24.3	36.9/20.2	44.0/30.9	
4/10/2015	30.5/16.0	34.9/18.0	32.0/17.0	
7/10/2015	44.0/11.5	38.0/16.5	63.0/12.0	
10/9/2015	42.0/15.5	37.9/16.6	46.0/18.0	
1/14/2016	41.5/23.5	39.5/16.6	21.0/30.0	
4/12/2016	46.0/19.5	43.4/16.6	58.0/25.0	
7/12/2016	23.0/9.6	38.1/17.5	23.0/10.0	
10/11/2016	18.5/10.4	32.3/15.8	21.1/11.0	
1/17/2017	34.0/16.0	30.4/13.9	42.0/22.0	
4/15/2017	29.5/15.1	26.3/12.8	45.0/24.0	
7/7/2017	30.0/9.0	25.5/12.6	24.0/11.0	
10/10/2017	18.0/9.6	25.4/12.4	21.0/11.0	
1/16/2018	25.5/17.0	23.3/12.6	34.0/23	
4/12/2018	28.0/16.5	22.9/13.0	41.0/24	
7/16/2018	20.0/9.6	22.9/13.2	22.0/12	
10/30/2018	24.5/12.8	24.5/14.0	32.0/17.6	
1/22/2019	18.7/22.5	22.8/15.3	26.8/31	

Discussion and Appraisal: In Compliance. TTHMs appear to be going down over the last two years. The TTHM RAA concentrations were recently in the low twenty ppb; whereas in 2015, 2016, and the beginning of 2017, the concentrations were in the thirties and even forty ppb range. HAA5 RAA concentrations have decreased slightly over the last two years.

c. **LT2ESWTR Monitoring Requirements**

Schedule: Every other week

Discussion and Appraisal: GDPUD submitted a monitoring plan dated May 31, 2018. The Division approved the plan on June 18, 2018 and monitoring is on-going.

4. **LEAD AND COPPER RULE**

California Code of Regulations, Title 22, Chapter 17.5: Lead and Copper

Program Description: Lead & copper monitoring was last conducted in 2016.

Lead and Copper Sampling Plan:

Copy received by Division: Yes No Other _____

Sampling plan acceptable: Yes No Other _____

Plan Date: July – September 2012

Number of samples required: 20 **Number of samples taken:** 20

AL Exceedances: NA

Table 23 - Lead and Copper monitoring summary

Round	Date	No. Samples	90% Lead (ppb)	90% Copper (ppb)
1	1993	80	7.6	240
2	1994	22	4	250
3	1995	22	3	13
4	1999	23	8	50
5	2003	20	ND	ND
6	7/17/12	18	ND	ND
7	8/9/16	20	ND	ND

Discussion and Appraisal: GDPUD completed the required Lead and copper sampling for 2016. The next sampling Lead and Copper sampling is due in 2019. Lead and copper samples shall be collected between June through September.

5. CONSUMER CONFIDENCE REPORT

California Code of Regulations, Title 22, Chapter 15, Article 20: Consumer Confidence Report

Send Date/Anticipated Send Date: 2018 CCR (for year 2017) sent in June.
Copy received by Division: Yes No Other _____
Certification received by Division: Yes No Other _____
Report contents acceptable: Yes No Other _____

Discussion and Appraisal: The water system is up to date on the CCR program. The 2019 CCR (for year 2018) will be sent in June 2019.

I. SYSTEM MANAGEMENT AND OPERATION

1. OPERATOR CERTIFICATION

California Code of Regulations, Title 22, Chapter 13: Operator Certification

a. Distribution operator certification requirements: D-3
Chief Operator: D-3 **Shift Operator:** D-2

b. Treatment operator certification requirements: T-3
i. Walton and ALT WTP
Chief Operator: T-3 **Shift Operator:** T-2

Table 24 - Certified distribution operators

Operator's Name – Certification Number	Distribution Operator's Grade and Number	Distribution Operator's Expiration date	Comments
Kyle Madison	9179 D3	1/1/2021	Chief Operator
Jason Smith	35272 D2	10/1/2020	
Chris Barbour	32447 D3	12/1/2020	
Jacob Walsh	46442 D2	1/1/2022	
Eric Tyler	49954 D2	5/1/2021	

NOTE: Expiration dates were verified at the Waterboards Operator Certification website.
<http://www.waterboards.ca.gov/ps/ddwem/technical/certification/opcert.html>

Table 25 – Certified Treatment Operators

Operator's Name – Certification Number	Treatment Operator's Grade and Number	Treatment Operator's Expiration date	Comments
Darrell Creeks	20453 T3	3/1/2021	
Marty Ceirante	30656 T4	6/1/2022	Chief Operator
Jeff Pulfer	35389 T3	1/1/2021	
Chris Barbour	29771 T2	7/1/2020	

Discussion and Appraisal: Satisfactory.

2. OPERATIONS & MAINTENANCE PLAN

a. Treatment Plant Operations & Maintenance Plan:

Copy reviewed by the Division: Yes No Other ALTWTP to be updated
 Plan acceptable the Division: Yes No Other _____

b. Valve Exercising & Maintenance Program

Program Description: During my inspection, I was informed the District does not have a formal valve maintenance program.

Approximate number of valves: 1,100 **Valve exercising frequency:** 0 in 2017

Adequacy of valve locations: _____

Discussion and Appraisal: The District should develop a valve exercise program that provides for all control valves to be exercised at least once every five years.

c. Distribution System Flushing Program

Program Description: Reportedly, the system is flushed annually by the fire department on a systematic basis. The system is also flushed on an as needed basis

Approximate number of dead ends: 180 **Percent with flushing valves:** 97.1% (175)

Flushing frequency: 0 in 2017. Based on 2017 annual report. As needed.

Discussion and Appraisal: The District should develop a routine flushing program of it's dead-ends.

d. Water Main Disinfection Plan

Program Description: Reportedly, all main repairs are disinfected according to the AWWA specifications. Main repairs are made by swabbing the short sections of pipe with chlorine solution. These sections are then flushed out and a bacteriological water sample is collected tested by the Districts own state-approved laboratory.

Compliance with AWWA C-651 standard: Yes No Other _____

Discussion and Appraisal: The District appears to have a good main disinfection program.

e. Customer Complaint Program

Program Description: GDPUD does not have a formal program. Calls are received at the office and distributed to appropriate staff for follow up.

Table 26 – Customer Complaints in 2017

Type	Reported to the Division	Comments
Taste and Odor	6	Flushing in area. CL residual tested and normal.
Color	12	Varies, Flushing and increased treatment plant flows. CL residual tested and normal.
Turbidity	0	
Worms and Other Visible Organisms	0	
Pressure	0	
Illness	0	
Other	1	Irritant
Total	19	

f. Cross-Connection Control Program

California Code of Regulations, Title 17, Division 1, Chapter 5, Group 4: Drinking Water Supplies

Program Description: Has a program. Ordinance enacted in 1991. A cross-connection survey was completed in 2017.

Cross-connection control spec.: Darrell Creeks **Certification No.:** 01877 **Telephone:** (530) 333-4356

Copy received by the Division: X Yes No Other

Ordinance Acceptable: Yes X No Other

Table 27 – Backflow Prevention Devices

Year	Tot. Devices	Air Gaps	Newly Installed	No. Tested	No. Failed	No. Replaced
2014	31	5	0	6	0	0
2015	31	5	2	8	0	0
2016	62	5	15	15	0	0
2017	76	5	14	14	0	0

Discussion and Appraisal: GDPUD is currently drafting a new cross-connection control program.

g. Storage Facility Inspection & Maintenance Program

Program Description: Weekly the tanks are visually inspected by the operators

Frequency of storage tank inspection: **Acceptable:** X Yes No Other

Frequency of storage tank cleaning: **Acceptable:** X Yes No Other

3. EMERGENCY RESPONSE PROGRAM

a. Emergency Notification Plan (ENP):

Plan Date: 6/13/2014

Copy received by the Division: X Yes No Other

ENP Acceptable: X Yes No Other

b. Emergency Response Plan (ERP):

Plan Date: 6/13/2014

Copy received by the Division: X Yes No Other

ERP Acceptable: X Yes No Other

Discussion and Appraisal: The ERP is currently under development. Once complete, the new plan will be submitted to the Division for review.

a. Fire:

Is Defensive Space of 100-feet (California Public Resources Code 4291) maintained around all structures owned, operated, and managed by the Community Water System? Yes No

Discussion and Appraisal: While some of the facilities have 100-feet of defensive space, some of the sites do not. GDPUD does not own the surrounding properties and does not have the ability to provide the defensive space. GDPUD should be aware of the value of establishing defensive spaces and all areas should be cleared of material that could either cause fire or become fuel for a natural fire to the greatest extent possible.

b. Flooding:

Has the water system had a history of flooding? Yes No

Are any of the drinking water facilities owned, operated, and managed by the Community Water System vulnerable to flooding? Yes No

Discussion and Appraisal: According to the water system, none of the facilities were at risk of flooding.

c. Drought:

Has the water system had any history of drought related shortages and/or outages? Yes No

Is water system prepared for drought related shortages or outages? (Interties, backup supply, increased storage, etc.) Yes No

Discussion and Appraisal: There are measures in place such as water conservation measures, drought contingencies, interties, storage, conjunctive use, and customer outreach measures relating to drought shortages.

d. Backup Power

Is backup power available via portable generators or permanent generators? Yes No

If liquid fuel is used, is it properly contained and stored away from the drinking water supply sources? Yes No

Is backup generator tested on a routine schedule? Yes No

Discussion and Appraisal: All generators are tested twice monthly.

J. OVERALL SYSTEM APPRAISAL

There are two surface water treatment plants that receive raw water from the Stumpy Meadows reservoir. The Walton Lake WTP appeared to be operating well and construction at the new Auburn Lakes WTP will be complete this summer. The storage reservoirs are spread throughout the distribution system and improvements to the tanks have either been completed or are scheduled to be completed over the next few years. GDPUD should consider whether additional storage is needed. The pump stations are ageing and should be closely evaluated to determine if replacement is needed or routine maintenance is adequate. GDPUD should continue to strengthen the conveyance facilities from the reservoir to the treatment plants as a failure in those facilities will have a significant impact on their operations.

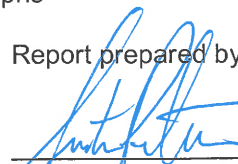
GDPUD has a large service area and, in comparison, a small number of customers. Given the small rate base and large service area, it can be a challenge to adequately fund infrastructure improvements. GDPUD should carefully administer their capital improvement plan and funding approach. For example, the distribution system covers a large area and GDPUD should consider implementing a water main replacement program that spreads the costs out over time versus all at once as pipelines start to age and fail.

K. APPENDICES

Appendix A
Appendix B

Compliance Inspection Findings
Compliance Inspection Photographs

Report prepared by:

 5/2/19

Austin Peterson, P.E.
Water Resource Control Engineer

**APPENDIX A
COMPLIANCE INSPECTION FINDINGS**

System Name: Georgetown Divide Public Utility District System Number: 0910013

Item No.	Description of Defect or Hazard	Order	Complete by Date
1	The 2004 Compliance Order No. 01-09-04-CO-002 Amendment No.1 remains in place with a compliance date of December 31, 2008. This CO requires the installation of 99.9% reduction of Giardia and 99.9% reduction of viruses through filtration and disinfection at the Auburn Lake Trails Water Treatment Plant.	B	-
2	pH buffer solutions – pH buffer solutions had expired. Solutions should be changed in accordance with manufacturers recommendations and solutions that have expired should not be used.	D	Immediately
3	Walton Lake Clearwells and All Tanks – Inspect clearwell vents screens and install screens with mesh size that will prohibit insect access. Conduct survey of all tanks to ensure vent screen openings are small enough to prevent insect access.	C	August 30, 2019
4	Walton Lake Clearwells – Cap openings on the site gage fittings.	C	August 30, 2019
5	Black Oak Mine Tank – Clear bee hive from roof hatch. Take measures to ensure bees or other insects are not accessing the interior of the tank via the roof hatch.	C	August 30, 2019
6	Deer Ravine Tank – The coating on the electrical conduit at the roof hatch was failing. Replace failing electrical conduit.	C	August 30, 2019
7	Electrical Conduit in Tanks – Besides the Deer Ravine Tank, the conduit at Kelsey tank was also failing. All conduits in the tanks should be evaluated to ensure the conduit coatings are not failing.	C	August 30, 2019

Order of Hazard:

- A. Critical Health Hazard - Action must be taken immediately.
- B. Serious Health Hazard - Action must be taken as soon as possible.
- C. Potential Health Hazard - Must be corrected as work load permits.
- D. System or operational defect resulting in poor waterworks practice.
- E. Other Deficiency – Nonhazardous.

Georgetown Divide Public Utility District
2019-08-30 10:00 AM

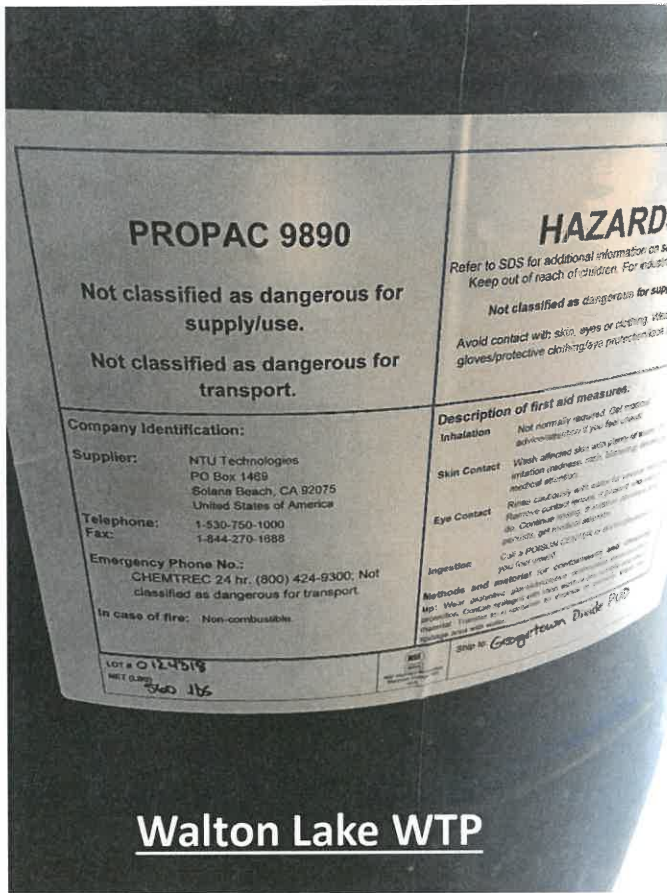
APPENDIX B
COMPLIANCE INSPECTION PHOTOGRAPHS

Walton Lake WTP

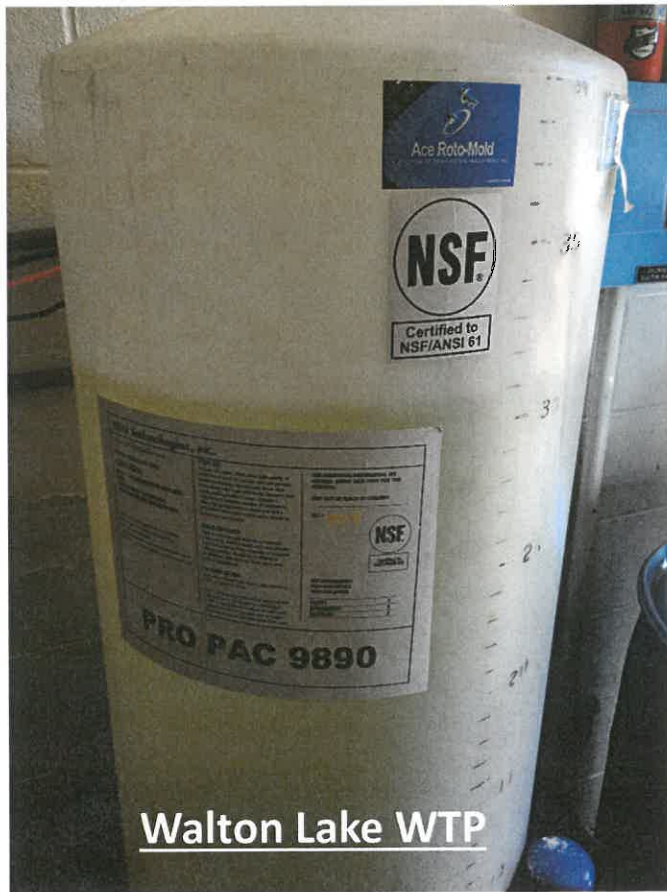


Walton Lake WTP





Walton Lake WTP



Walton Lake WTP



Georgetown Divide Public Utility District
Walton Lake Treatment Plant

Date: 4/11/2019

Operator: W Daily Operating Log

Peak Trans. Rate - MGD _____ Peak Prod. Meter _____ Total Production _____
 Lake Level 9.4 a.m. p.m. Total Cals. X 1,000 3045905 Filter Cals. _____
 Finished Water _____ Process Day's Total Cals. X 1,000 562 Filter Pumps _____

Chlorine Res. mg/l _____ pH 8.22 a.m. p.m. _____
 Chlorine Res. mg/l _____ Chlorine Res. mg/l Pre _____ pH 7.0 a.m. p.m. _____
 Turbidity 1.42 Turbidity 1.26 Temp °F 51.4

Storage Tank Peak Level ft. 30.1 Time 9:50 a.m. Total Plant Hours 2937.2
 Peak Level ft. _____ Time _____ Daily Plant Hours _____

Plant Voltage - High Volt - 115V 220V 480V Low Volt - 120V 240V Total KW Hours _____
 System Pumps _____ Total Pump Hours _____ Daily Plant Hours _____

Amperes: _____
 Individual Filter: _____
 Turbidity: _____
 Filter Name: _____
 Comb. Filter Prod. _____
 P.S.I. In _____ Out _____ Diff _____
 Filter Flow Meter _____
 Filter Rate = GPM _____
 Total Cals. = 1,000 _____
 Difference _____

CHEMICALS

Chlorine 12.5%	Soda Ash - 10%	Polymer 8890
Pump Setting % _____	Pump Setting % _____	Pump Setting % _____
On/Off Start <u>100</u>	Stop _____ Int. Down _____	On/Off Start <u>31.75</u>
On/Off Stop _____	Start <u>27.25</u> Int. Down _____	On/Off Stop _____
On/Off Total _____	_____ Lbs. _____	On/Off Total _____
On/Off Read _____	<input type="checkbox"/> Soda Ash Filled _____ Lbs.	<input type="checkbox"/> Polymer Filled _____ Gals.
<input type="checkbox"/> Chlorine Filled _____		

CT Value = _____
 Calculated Overall Inactivation Value

Minimum Temp °F 42 Weather _____ Rainfall Inches _____
 Maximum Temp °F 60 Total Inches _____

SCN Manual Auto
 Alarms On
 Plant in Auto

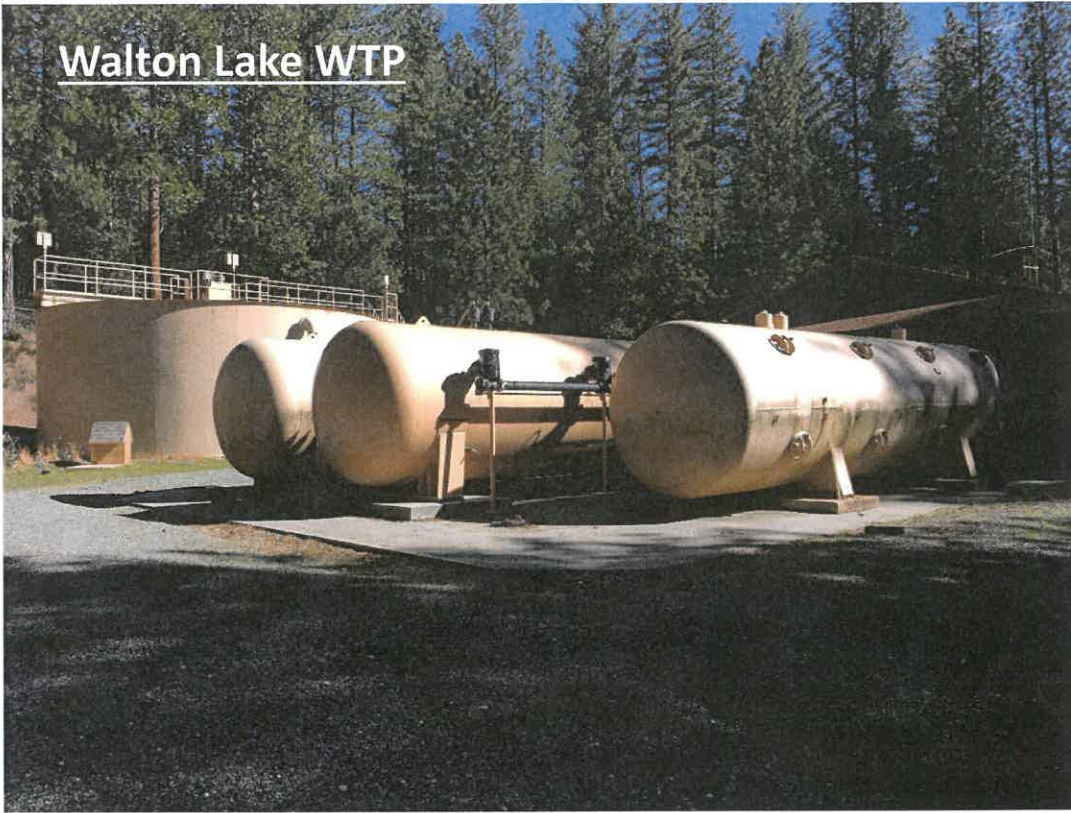
Remarks: _____

Walton Lake WTP



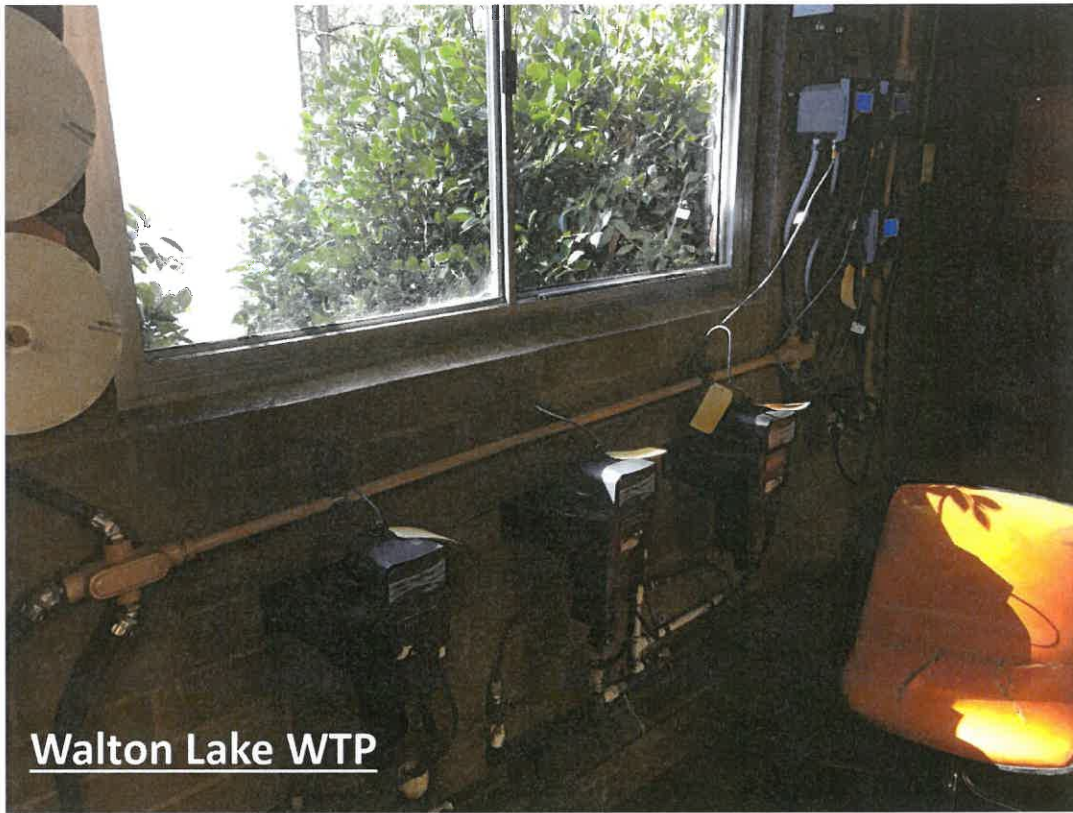
Walton Lake WTP

Walton Lake WTP



Walton Lake WTP





Walton Lake WTP



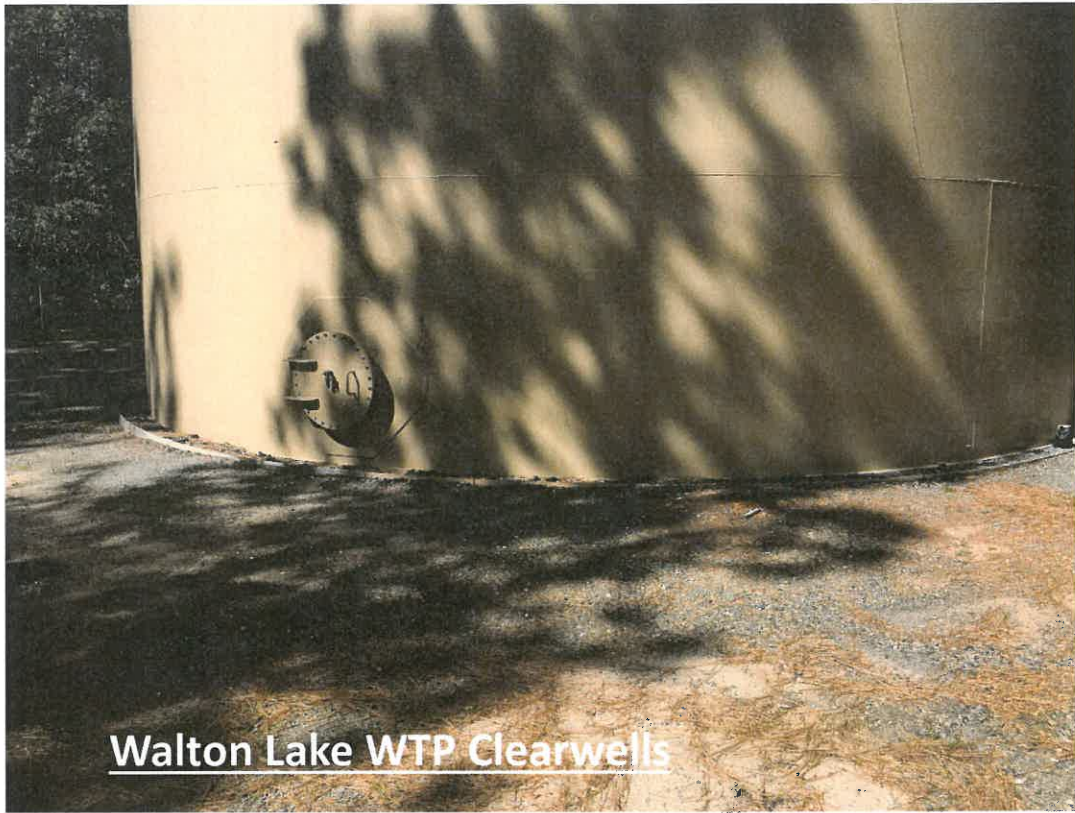
Walton Lake WTP



Walton Lake WTP



Walton Lake WTP

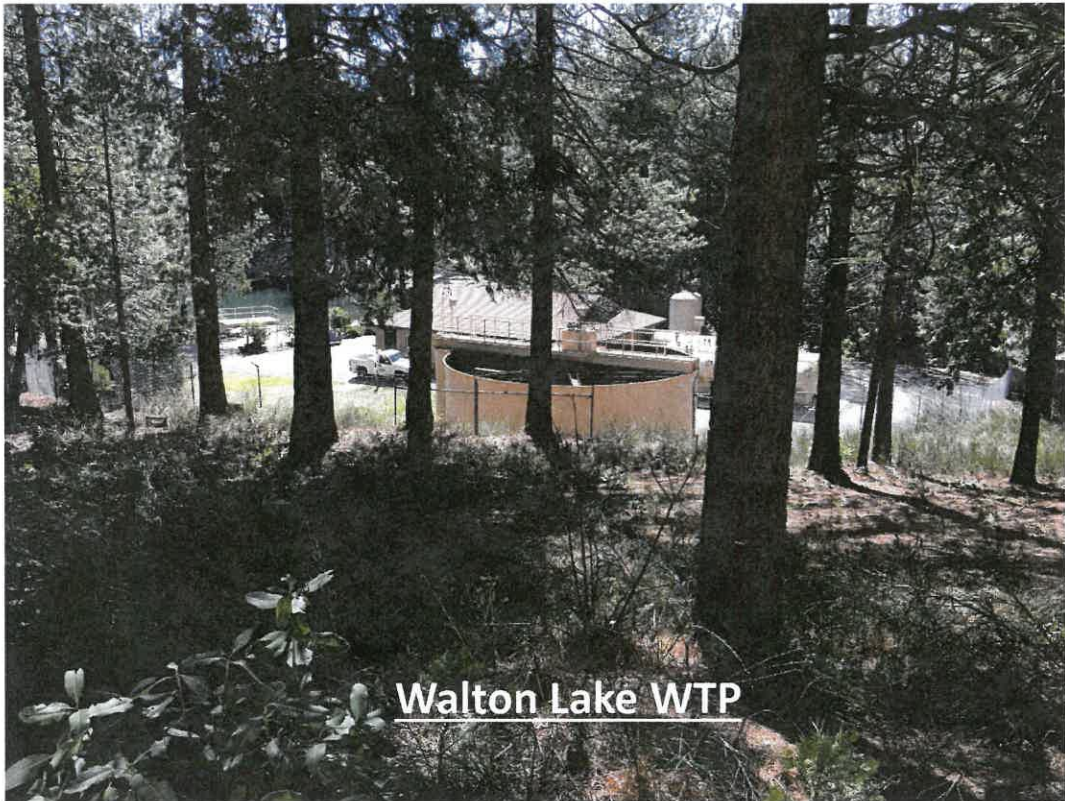


Walton Lake WTP Clearwells



Walton Lake WTP Clearwells

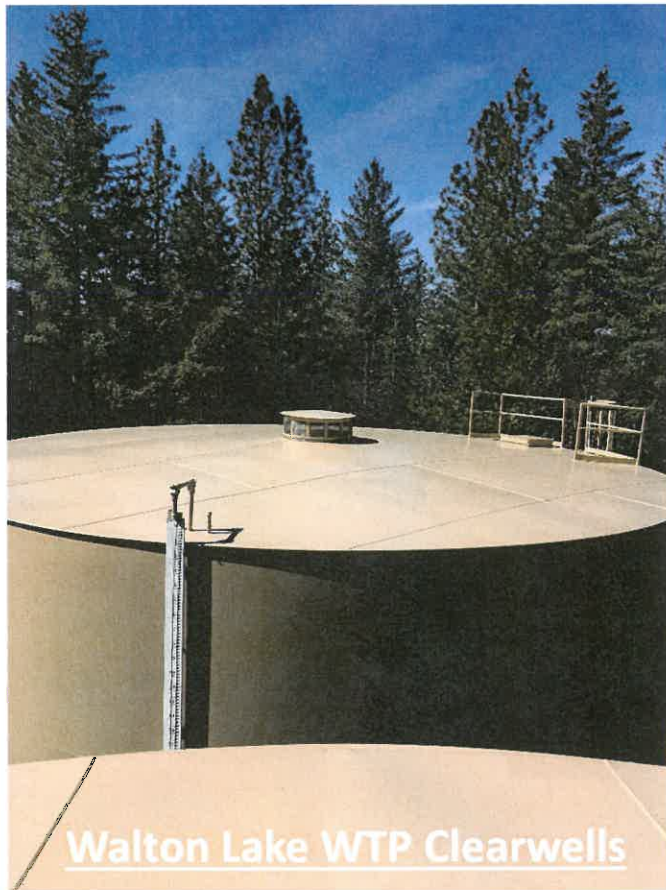
Walton Lake WTP Clearwells



Walton Lake WTP

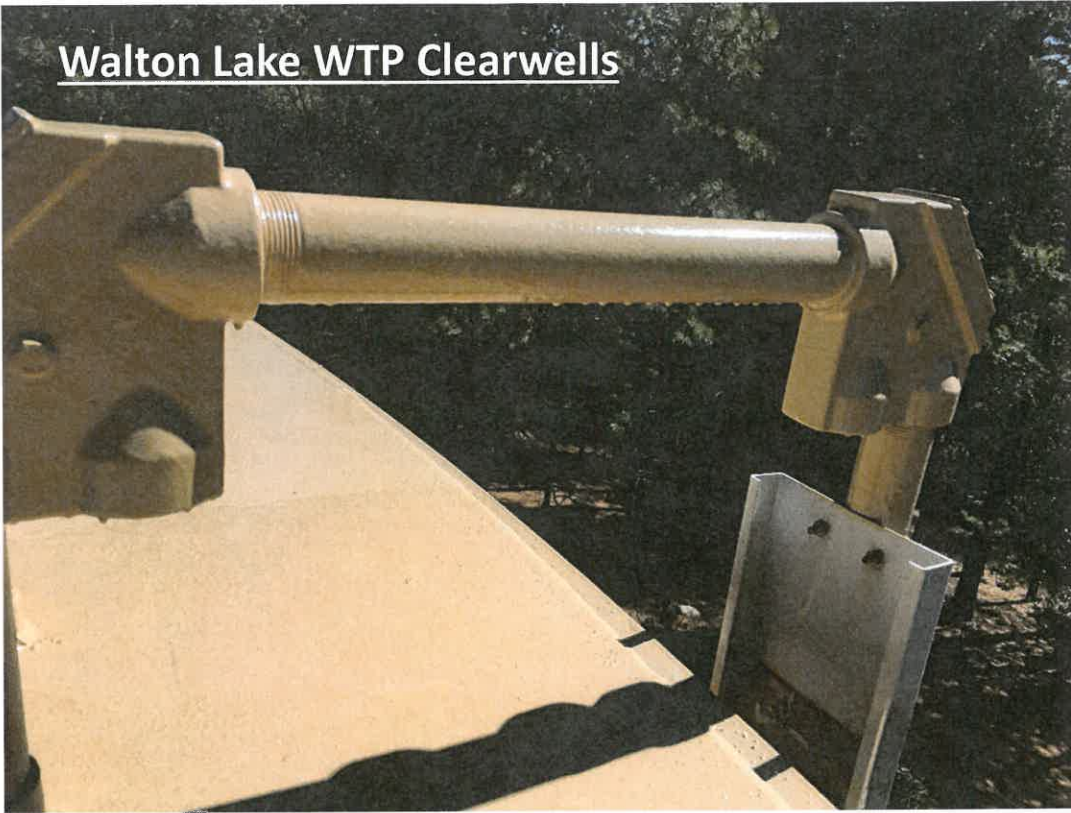


Walton Lake WTP Clearwells

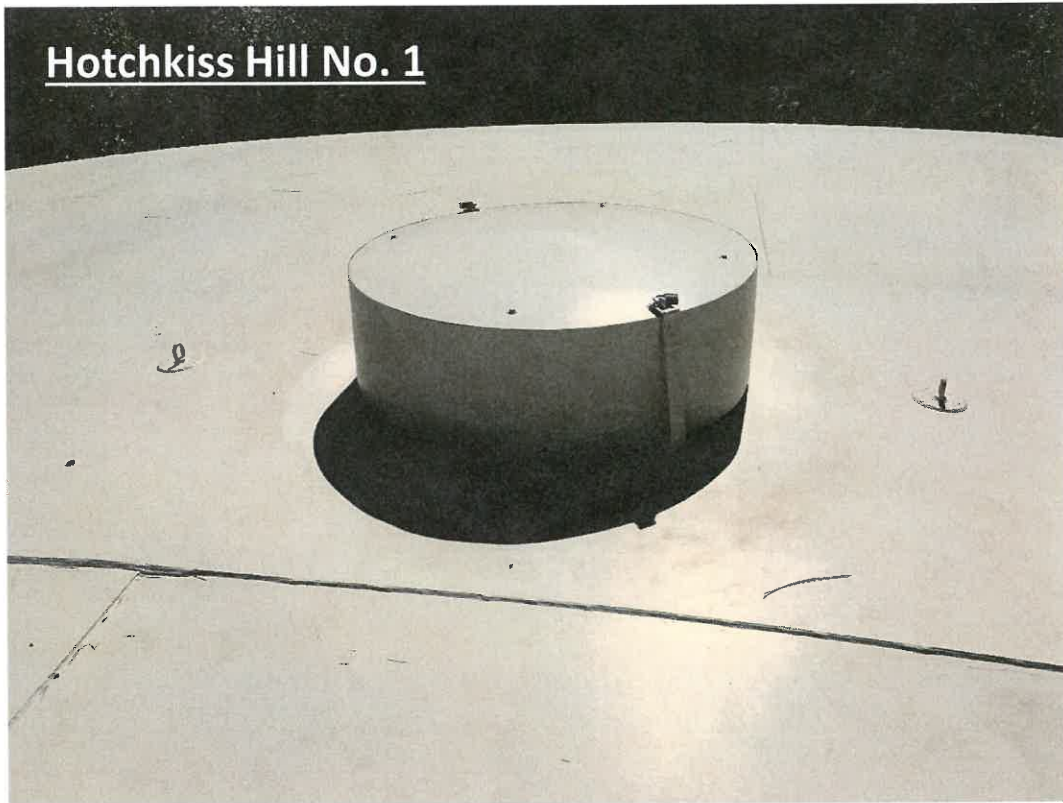


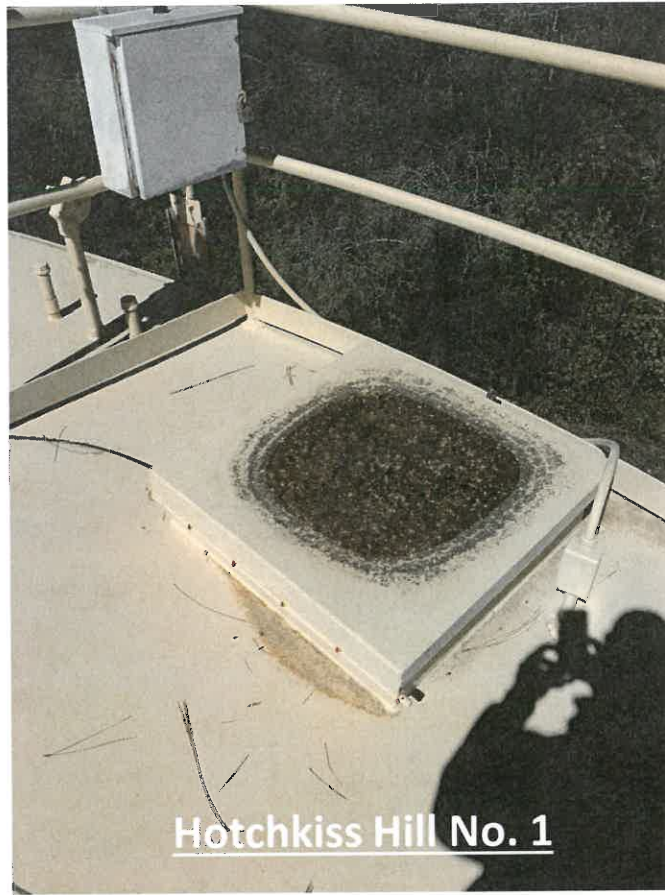
Walton Lake WTP Clearwells

Walton Lake WTP Clearwells



Hotchkiss Hill No. 1





Hotchkiss Hill No. 1



Hotchkiss Hill No. 1



Hotchkiss Hill No. 2

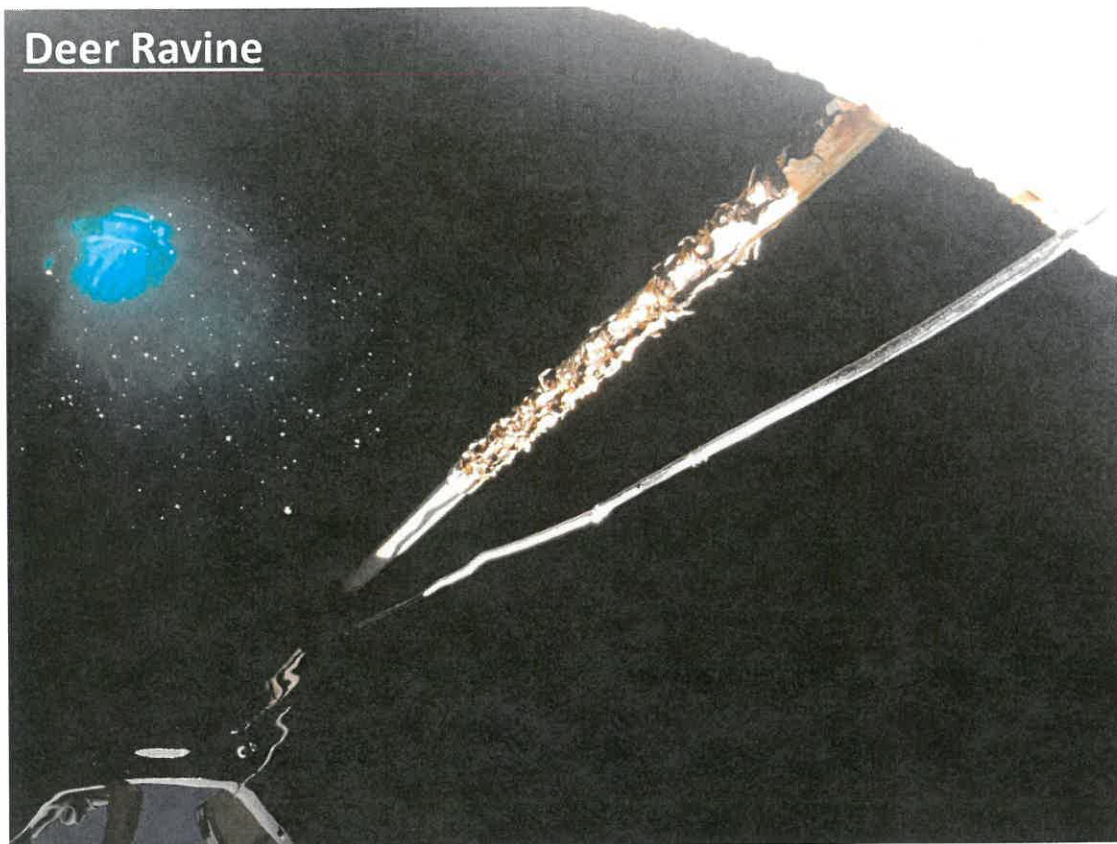


Black Oak Mine





Angel Camp Pump Station



Deer Ravine