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June 9, 2022

PG&E Responds to CAL FIRE's Report on 2021 Dixie Fire in Butte, Lassen, Plumas, Shasta, and Tehama Counties

OAKLAND, Calif. — Pacific Gas and Electric Company (PG&E) today issued the following statement regarding the CAL FIRE Investigation Report on the 2021 Dixie Fire:

PG&E's most important responsibility is the safety of our customers and the hometowns we serve.

This week we received a copy of the CAL FIRE Dixie Fire report, which we believe reflects more of the same information already publicly available. We previously shared an extensive amount of information on the fire and stand by our position that we acted as a prudent operator. This report does not change our perspective.

The District Attorneys (DAs) in the five counties affected by the Dixie Fire investigated the events and did not file criminal charges. The settlements that were reached with the DAs demonstrate the work we have done and have committed to do to prevent catastrophic wildfires.

Shortly after the fire, we took the following actions to protect our hometowns:

- Expedited our operational response practices in high fire-risk areas requiring response to any fault or outage on our electric system within 60 minutes or less.
- Implemented Enhanced Powerline Safety Settings (EPSS) to rapidly and automatically shut off power when objects such as a tree or branch fall onto a line.

These changes have dramatically reduced ignitions, and we believe EPSS would have prevented the Dixie Fire.

In addition, our civil settlement agreements with the five counties further strengthen our wildfire safety and response programs and are focused on helping rebuild the affected communities.

- Adding 80-100 new PG&E jobs based in these counties to increase local expertise and presence focused on completing critical safety work.
- Executing safety work and inspections in these counties as detailed in our Wildfire Mitigation Plan (WMP), including vegetation management inspections, which will be reviewed by an independent monitor.

- Providing funding and creating new utility vegetation management training programs at several college campuses across the North Valley.
- Implementing a new Direct Payment program for victims who lost homes in the fire. A little more than a month after the program was launched, we've received more than 100 claims and have had offers accepted by claimants. We continue to engage with eligible parties about the program.

In addition to these actions, we continue to evolve our broader comprehensive Community Wildfire Safety Program. Today that program includes:

- **Undergrounding and System Hardening:** We are rebuilding our electric system from the underground up. We are implementing our plan to underground 10,000 miles of distribution powerlines in high fire-risk areas, including at least 175 miles this year, ramping to about 3,600 miles through 2026. Additionally, we continue installing stronger poles and covered lines, and have added temporary distribution microgrids and new remote grids.
- **System Inspections and Vegetation Management:** Our crews inspect and perform maintenance on distribution and transmission circuits across our service area, including high fire-risk areas, on a recurring cycle using various inspection methods. This includes our Enhanced Vegetation Management (EVM) program that goes above and beyond regulatory requirements by expanding minimum clearances, removing overhanging branches, and assessing strike potential trees in high fire-risk areas. Since the EVM program began in 2019, we have completed more than 6,300 miles of EVM work with plans to perform an additional 1,800 miles of EVM work in 2022 focused on the highest risk areas.
- **Situational Awareness and Forecasting:** We use state-of-the-art weather forecasting, artificial intelligence, and machine learning to help detect, prevent, and respond to the risk of wildfires. PG&E has installed more than 1,300 weather stations since 2018 and plans to install or optimize 100 more weather stations in 2022, which will expand coverage to approximately one station every 20 line miles in high fire-risk areas. We also installed 502 high-definition wildfire cameras since 2018 and plan to add 98 more in 2022, to provide approximately 90% viewshed coverage in the high fire-risk areas.
- **Public Safety Power Shutoffs:** We utilize Public Safety Power Shutoffs (PSPS) as a last resort during extreme weather conditions to reduce the risk of catastrophic fire, while also minimizing the impact on customers. Our experienced meteorologists use cutting-edge weather models, using our advanced weather stations network to forecast risk on a granular basis and factoring in vegetation in proximity to overhead electrical lines. PSPS events are scoped using advanced risk models and more than 1,000 sectionalizing devices to surgically target power shutoffs.

We stand by the facts regarding the Dixie Fire we originally provided:

Shortly after the Dixie Fire started in 2021, we filed an Electric Incident Report with the California Public Utilities Commission stating that a large tree struck one of our normally operating powerlines.

The tree was alive, vital and growing vertically at the time of failure. Our vegetation management program inspects 100,000 miles of overhead powerlines every year. Inspectors patrolled this area with the tree multiple times over the years before the fire, including as recently as November 2020 and January 2021, and concluded the tree did not need to be removed. An examination of the electrical equipment by CAL FIRE's electrical consultant did not indicate a problem or failure.

The day of the fire was a blue-sky day, and there was no indication of an emergency until our troubleman arrived at the scene soon after the fire had started. Consistent with our policies and standards, the troubleman worked diligently for hours to get to the site, including after being turned away by a county road crew, and fought the fire heroically by himself before CAL FIRE arrived.

We believe we acted as a prudent operator, and we were working under an approved safety certificate and WMP. Trained professionals followed our management processes and procedures on inspections and vegetation management set out in an approved WMP.

About PG&E

Pacific Gas and Electric Company, a subsidiary of [PG&E Corporation](#) (NYSE:PCG), is a combined natural gas and electric utility serving more than 16 million people across 70,000 square miles in Northern and Central California. For more information, visit www.pge.com/ and <http://www.pge.com/about/newsroom/>.



CAL FIRE



CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

INVESTIGATION REPORT

CASE NUMBER:	21CABTU009205-58
CASE NAME:	DIXIE
DATE:	July 13, 2021
INCIDENT TYPE:	Vegetation Fire
INCIDENT INVESTIGATORS:	Matthew Palade (Fire Captain Specialist) Butte Unit Lance Berry (Battalion Chief) Northern Region

1 **VIOLATIONS**

3 **Public Resource Code 4293**

4 Except as otherwise provided in Sections 4294 to 4296, inclusive, any person that
5 owns, controls, operates, or maintains any electrical transmission or distribution line
6 upon any mountainous land, or in forest-covered land, brush-covered land, or grass-
7 covered land shall, during such times and in such areas as are determined to be
8 necessary by the director or the agency which has primary responsibility for the fire
9 protection of such areas, maintain a clearance of the respective distances which are
10 specified in this section in all directions between all vegetation and all conductors which
11 are carrying electric current:

12 (a) For any line which is operating at 2,400 or more volts, but less than 72,000
13 volts, four feet.

14 (b) For any line which is operating at 72,000 or more volts, but less than 110,000
15 volts, six feet.

16 (c) For any line which is operating at 110,000 or more volts, 10 feet.

17 In every case, such distance shall be sufficiently great to furnish the required clearance
18 at any position of the wire, or conductor when the adjacent air temperature is 120
19 degrees Fahrenheit, or less. **Dead trees, old decadent or rotten trees, trees**
20 **weakened by decay or disease and trees or portions thereof that are leaning**
21 **toward the line which may contact the line from the side or may fall on the line**
22 **shall be felled, cut, or trimmed so as to remove such hazard.** The director or the
23 agency which has primary responsibility for the fire protection of such areas may permit
24 exceptions from the requirements of this section which are based upon the specific
25 circumstances involved.

27 **Public Resource Code 4421**

28 A person shall not set fire or cause fire to be set to a forest, brush, or other flammable
29 material that is on land that is not the person's own land, or under the person's legal
30 control, without the permission of the owner, lessee, or owner's agent or lessee of the
31 land.

Penal Code 452

A person is guilty of unlawfully causing a fire when he recklessly sets fire to or burns or causes to be burned, any **structure, forest land or property**.

(b) Unlawfully causing a fire that causes an inhabited structure or inhabited property to burn is a felony punishable by imprisonment in the state prison for two, three or four years, or by imprisonment in the county jail for not more than one year, or by a fine, or by both such imprisonment and fine.

(c) Unlawfully causing a fire of a structure or forest land is a felony punishable by imprisonment in the state prison for 16 months, two or three years, or by imprisonment in the county jail for not more than six months, or by a fine, or by both such imprisonment and fine.

Penal Code 452.1

(a) Notwithstanding any other law, any person who is convicted of a felony violation of Section 452 shall be punished by a one-, two-, or three-year enhancement for each of the following circumstances that is found to be true:

(1) The defendant has been previously convicted of a felony violation of Section 451 or 452.

(2) A firefighter, peace officer, or other emergency personnel suffered great bodily injury as a result of the offense. The additional term provided by this subdivision shall be imposed whenever applicable, including any instance in which there is a violation of subdivision (a) of Section 452.

(4) The defendant proximately caused multiple structures to burn in any single violation of Section 452.

(b) The additional term specified in subdivision (a) of Section 452.1 shall not be imposed unless the existence of any fact required under this section shall be alleged in the accusatory pleading and either admitted by the defendant in open court or found to be true by the trier of fact.

Penal Code 454

(a) Every person who violates Section 451 or 452 during and within an area of any of the following, when proclaimed by the Governor, shall be punished by imprisonment in the state prison, as specified in subdivision (b):

(2) A state of emergency pursuant to Section 8625 of the Government Code.

(b) Any person who is described in subdivision (a) and who violates subdivision

(a), (b), or (c) of Section 451 shall be punished by imprisonment in the state

prison for five, seven, or nine years. All other persons who are described in

subdivision (a) shall be punished by imprisonment in the state prison for three,

five, or seven years.

SUMMARY

On Tuesday July 13, 2021 at approximately 5:07 PM, the Dixie Fire was reported in a remote area above the Cresta Dam in Plumas County, CA, near the community of Pulga. The fire ignited below the Pacific Gas and Electric (PG&E) Bucks 1101 12KV distribution circuit, between pole number 120772797 and an unmarked pole approximately 300 feet east. The fire ignited as a result of a 65' tall, damaged and decayed Douglas-Fir tree when it fell and contacted conductors at approximately 6:48 AM. Two of the three fuses blew (opened) upon initial contact with the conductors, but the third fuse remained closed and kept a line energized. The tree being in contact with energized conductors and the ground created a high impedance fault. The high impedance fault energized the tree, which caused heat and arcing to ignite a dry and receptive fuel bed over the course of 10 hours. Because PG&E had an excessively delayed response to the fault, the fire was not discovered until a PG&E troubleman W-1 arrived at scene at approximately 4:55 PM. Upon W-1's discovery, the fire was too large for him to contain and a 911 response was requested. Simultaneously the fire was visible from Highway 70 and multiple parties reported the fire via 911.

The Dixie Fire burned in a remote location which made access by fire personnel extremely difficult. In the initial attack phase of the fire a drone incursion caused critical air resources to be grounded. The Dixie fire was influenced by steep terrain, dry receptive fuel beds and drought conditions. The Dixie fire burned 963,309 acres of federal, state, and private lands in Butte, Plumas, Lassen, Tehama, and Shasta counties before it was contained on October 26, 2021. The Dixie fire destroyed 1311 structures and damaged 94. Of those 1311 destroyed were 763 residential homes, 12 multi family homes, 8 commercial residential homes, 148 nonresidential commercial structures and 466 detached structures. The Dixie fire destroyed the communities of Greenville and Canyon Dam and caused major damage to the communities of Chester and Janesville. One CAL FIRE Captain sustained major injuries and three CAL FIRE firefighters sustained minor injuries when they were struck by a tree while engaged in suppression efforts.

1 The Dixie fire was the largest non-complex wildfire in California history and the second
2 largest in US history. Smoke from the Dixie fire caused unhealthy air quality over much
3 of the western united states including states as far east as Colorado and Utah. The
4 suppression cost to date is over 650 million dollars.

5
6 During the investigation CAL FIRE retained the expertise of Joe McNeil. MCNEIL is a
7 certified arborist and consultant. MCNEIL concluded the tree that fell across the
8 conductors was previously damaged and had visible outward signs of that damage and
9 decay which would have been noticeable at the ground level by inspectors pre fire,
10 without extraordinary effort.

11
12 California Public Resource Code 4293 states that **dead trees, old decadent or rotten**
13 **trees, trees weakened by decay or disease and trees or portions thereof that are**
14 **leaning toward the line** which may contact the line from the side or may fall on the line
15 shall be felled, cut, or trimmed so as to remove such hazard.

SUBJECT

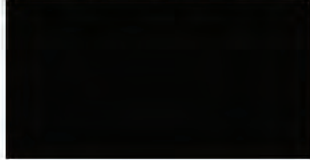
Pacific Gas and Electric (PG&E) Corporation
77 Beale Street
PO Box 770000
San Francisco, CA 94177
(415) 973-1000

WITNESSES**W-1** (PG&E Troubleman)**W-2** (PG&E Rock Creek Powerhouse)**W-3** (PG&E Acting Supervisor)

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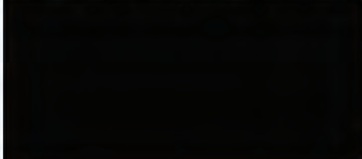
1 **W-4** (911 Caller)

2 Rich EPPERSON

3 

6 **W-5** (911 Caller)

8 Karla & Michael ALBERT

9 

12 **W-6** (911 Caller)

14 Ronnie NULPH

15 

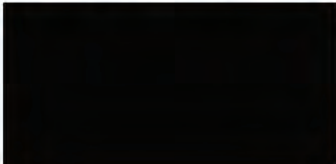
18 **W-7** (Butte County Public Works)

20 Miguel FLORES

21 

24 **W-8** (Butte County Public Works)

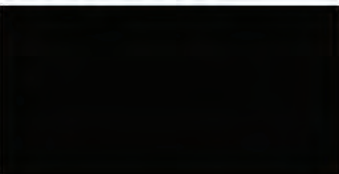
26 Kevin THOMAS

27 



1 **W-9** (Butte County Public Works)

2 Sean HASSEL



7 **VICTIMS**

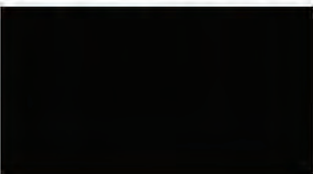
8 See attached Damage Inspection Summary (DINS)
9 (Attachment V)

11 **INVESTIGATORS**

13 **I-1** Matthew PALADE

14 Fire Captain / Peace Officer

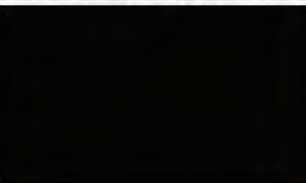
15 CAL FIRE Butte Unit



20 **I-2** Lance BERRY

21 Battalion Chief / Peace Officer

22 CAL FIRE Northern Region



Handwritten initials in blue ink, appearing to be 'SF' or similar, written over a horizontal line.

1 **I-3 Mike THOMPSON**

2 Assistant Chief / Peace Officer

3 CAL FIRE Northern Region

4 [REDACTED]
5 [REDACTED]
6 [REDACTED]

7

8 **I-4 Shane LARSEN**

9 Forester 1 / Peace Officer

10 CAL FIRE Sacramento

11 [REDACTED]
12 [REDACTED]
13 [REDACTED]

14

15 **I-5 Jeremy MONROE**

16 Deputy Chief / Peace Officer

17 CAL FIRE Sacramento Headquarters

18 [REDACTED]
19 [REDACTED]
20 [REDACTED]

21

22 **I-6 Chip FOWLER**

23 Battalion Chief / Investigator

24 CAL FIRE Butte Unit

25 [REDACTED]
26 [REDACTED]
27 [REDACTED]

28

29

30

31

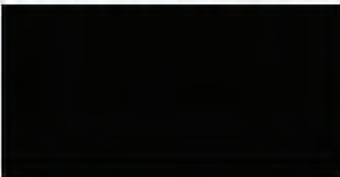


SPECIALISTS**SP-1 Joe MCNEIL**

McNeil Arboriculture

**SP-2 Scott HYLTON**

TSH Consulting

**SP-3 B&B High Voltage Line Contractors****SP-4 Element Security**

EVIDENCE

- 1 **EVIDENCE**
- 2
- 3 **E-1** Fuse from conductor #1
- 4 **E-2** Fuse from conductor #2
- 5 **E-3** Fuse from conductor #3
- 6 **E-4** Tree trunk in contact with conductor #1
- 7 **E-5** Tree limb in contact with conductor #1
- 8 **E-6** Piece of conductor#1
- 9 **E-7** Piece of conductor #1 showing arcing.
- 10 **E-8** Piece of conductor #2 showing tree material embedded.
- 11 **E-9** Piece of conductor #3 showing burn where tree rested.
- 12 **E-10** Piece of conductor #2 showing arcing.
- 13 **E-11-1** Subject tree trunk (bottom)
- 14 **E-11-1.1** Sub section of E-11 for McNeil Arboriculture
- 15 **E-11-1.2** Sub section of E-11 for McNeil Arboriculture
- 16 **E-11-2** Subject tree trunk (middle)
- 17 **E-11-3** Subject tree trunk (top)
- 18 **E-11-1.2** Sub section of E-11 for McNeil Arboriculture
- 19 **E-12** Subject tree stump (root)
- 20 **E-13** Subject tree stump
- 21 **E-13-1** Sub section of E-13 for McNeil Arboriculture
- 22 **E-13-2** Sub section of E-13 for McNeil Arboriculture
- 23 **E-13-3** Sub section of E-13 for McNeil Arboriculture
- 24 **E-13-4** Sub section of E-13 for McNeil Arboriculture
- 25 **E-13-5** Sub section of E-13 for McNeil Arboriculture
- 26 **E-13-6** Sub section of E-13 for McNeil Arboriculture
- 27 **E-13-7** Sub section of E-13 for McNeil Arboriculture
- 28 **E-13-8** Sub section of E-13 for McNeil Arboriculture
- 29 **E-13-9** Sub section of E-13 for McNeil Arboriculture
- 30 **E-14** Origin photos (SD card) 152 Images
- 31 **E-15** Evidence collection photos (SD card) 152 Images

1 **E-16** Evidence collection photos (SD card) 48 Images

2 See attached evidence log sheet (Attachment H)

CONDITIONS

Weather conditions on July 13, 2021, at approximately 6:48 AM (time of the initial subject tree failure) as recorded at the Jarbo Gap weather station located at 11972 CA-70, Oroville, CA 95965, were as follows.

Temperature: 76-80 degrees Fahrenheit

Wind: 20-22 MPH from the North East

Relative Humidity: 16 percent

Weather conditions on July 13, 2021, at approximately 5:00 PM (time of the Dixie fire dispatch) as recorded at the Jarbo Gap weather station were as follows.

Temperature: 91-94 degrees Fahrenheit

Wind: 12-14 MPH from the southwest

Relative Humidity: 25 percent

CAL FIRE Lightning data base indicated that there was no lightning activity in or around the Dixie Fire origin between at least June 30, 2021 and July 13, 2021.

Typically, high, and gusty winds exist in the Feather River canyon. Great Basin morning heating results in air expansion that is funneled through the Feather River Canyon in the early mornings during normal weather patterns. Several perpendicular creek drainages converge with the Feather River Canyon creating turbulent wind patterns throughout the mornings and afternoons.

California Governor, Gavin Newsom issued a State of Emergency Proclamation on April 21, 2021, due to ongoing drought conditions. That proclamation remained in affect throughout the duration of the Dixie Fire.

See proclamation (Attachment U)

ORIGIN AREA

Elevation: Approximately 2358 feet above sea level.

Latitude & Longitude: 39 52'29.14" N X 121 22'42.47" W

Fuels: Mixed brush and annual grasses with a mix of conifer and oak trees.

Terrain: Mid slope on an approximate 50% grade west of the Feather River with an east aspect.

Access: Access to the Dixie Fire's origin is Highway 70 to Pulga Road, to Camp Creek Road. Camp Creek Road is a narrow, two track dirt/rock road with several narrow bridge crossings. Camp Creek Road could be accessed via Rock Creek Road, however that section of road is washed out and impassable. It is approximately 11 miles from Highway 70 to the Dixie Fire's origin and takes approximately 1 hour to drive.

EQUIPMENT

The Pacific Gas & Electric Bucks 1101 12KV distribution circuit. Pole # 120772797, an unmarked pole approximately 300 feet east, all 3 conductors and equipment associated with both poles.

No other equipment was identified as being a contributing factor to the ignition of the Dixie Fire.

PROPERTY

Plumas County Assessor's parcel number 002-290-007 located at the origin is a 2,578-acre block of federal land, protected under CAL FIRE direct protection area (DPA). The property is further described in Book 2, Page 29 of the Plumas County Assessors map. (See attachment Y)

See attached CAL FIRE Damage Inspection Summary (DINS) for the list of damaged properties. (See attachment V)



NARRATIVE

On Tuesday July 13, 2021 at approximately 5:07 PM, the California Department of Forestry and Fire Protection (CAL FIRE) Oroville Emergency Command Center (ECC) received multiple reports and 911 calls of a vegetation fire in the Highway 70 canyon on the west side of the Feather River above Cresta Dam.

The first 911 caller identified himself as [REDACTED] W-2 (PG&E employee) and was calling from 3371 Highway 70 (Rock Creek Powerhouse). [REDACTED] W-2 stated he was relaying the information second hand and could only report the fire was located on the hillside above Cresta Dam in the Highway 70 canyon.

The second report of the fire came from Rich EPPERSON via radio to CAL-FIRE Butte ECC, at approximately 5:12 PM. EPPERSON was the engine strike team leader of a group of engines (ST-3225C) returning home from the Beckworth Fire. EPPERSON reported the fire to be in the Highway 70 canyon approximately 3 miles from the Butte County line and approximately three quarters of the way uphill. EPPERSON stated the fire was well established and approximately forty feet by forty feet in size, burning under powerlines. EPPERSON was reporting the fire from Highway 70.

At approximately 5:15 PM, Oroville ECC dispatched a full (high level) wildland fire response consisting of 6 engines, 2 dozers, 2 hand crews, 2 water tenders, 1 air attack, 2 tankers, 1 copter, 1 battalion chief, 1 training officer and 1 prevention officer. I had prevention coverage and was on the initial dispatch. I responded from my office at 220 Grand Avenue, Oroville, CA.

At approximately 5:42 PM, air attack 120 arrived over the fire, assumed "DIXIE" air attack, and reported the fire to be approximately 2 acres with a slow rate of spread. DIXIE air attack coordinated air resources attempting to surround the fire with retardant and keep it in check until ground resources could arrive. At approximately 6:31 PM,

DIXIE air attack reported the fire was holding at approximately 2 acres with retardant
LE80 (Rev. 7/2011)

1 around the perimeter, and copter 903 was continuing with water drops. At approximately
2 6:49 PM, Battalion 2113, Byron VANCE arrived at the Incident Command Post located
3 at 11975 Highway 70, Oroville, CA 95965 (Scooters Café) and assumed DIXIE Incident
4 Command. At approximately 7:49 PM, VANCE contacted Oroville ECC and requested
5 a law enforcement response due to a drone operating in the fire area. At approximately
6 8:01 PM, DIXIE air attack contacted Oroville ECC and advised he was ceasing all air
7 operations due to drone activity over the fire.

8
9 At approximately 9:00 PM, while attempting to access the fire via Camp Creek Road, I
10 came across a PG&E troubleman who I identified by name as [REDACTED] W-1
11 [REDACTED] W-1 was located at a bridge approximately 2 miles south of the fire. The bridge
12 had several signs posted around it stating the bridge was out of service for repair.
13 [REDACTED] W-1's PG&E bucket truck was located on the fire side (north) side of the bridge.
14 CAL FIRE Engine 2183 was parked on the south side of the bridge blocking
15 [REDACTED] W-1's egress. It was later determined Engine 2183 had parked at the bridge,
16 and walked into the fire on foot, not feeling it was safe to drive across the bridge. After
17 coordinating the movement of Engine 2183 and getting [REDACTED] W-1's bucket truck
18 across the bridge, I conducted a brief interview with [REDACTED] W-1 who told me the
19 following in summary:

20
21 [REDACTED] W-1 stated that earlier in the day Cresta Dam had experienced a power
22 outage, (later determined thru Supervisory Control and Data Acquisition data to
23 have occurred at 6:48 AM) and he drove up Camp Creek Road at approximately
24 1:30 PM to inspect the power lines and determine the problem. When he got to
25 the bridge, he encountered Butte County Public Works employees who told him
26 the bridge was closed for repairs and would be impassable for at least a couple
27 of hours. [REDACTED] W-1 stated he waited for the workers to complete the work,
28 which took approximately two hours, after which he continued up Camp Creek
29 Road until he found a pole that had two blown fuses and what he described as a
30 green tree across all three phases of conductors. [REDACTED] W-1 stated he
31 positioned his bucket truck and started to raise his bucket to pull the third fuse

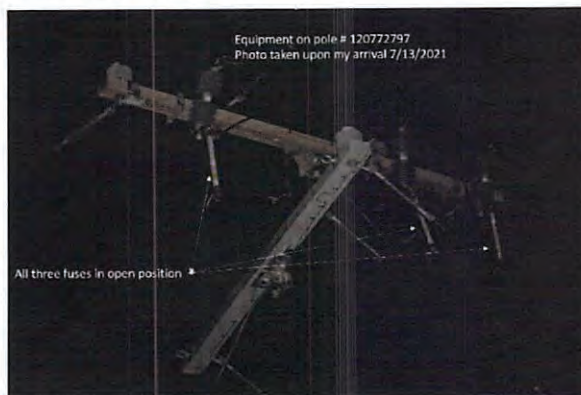
1 which was in the closed position. As he raised his bucket, he smelled smoke,
2 looked down hill and noticed a fire on the downhill side below the conductors.

3 W-1 stated he quickly pulled the remaining fuse, lowered his bucket, and
4 attempted to extinguish the fire with his water can (extinguisher). W-1
5 stated the fire was burning in pine needles and wasn't very large, but it quickly
6 got into a manzanita bush and he realized he could not contain the fire with the
7 water he had. W-1 stated he then attempted to contact anyone he could
8 via two-way radio to report the fire. Initially he did not get a response, but a short
9 time later someone responded to his calls and called 911. W-1 told me
10 that if I continued up Camp Creek Road, I would see the power pole and fire on
11 my right-hand side.

12
13 I collected a contact number for W-1 and continued up Camp Creek Road to the
14 fire. I arrived at approximately 9:45 PM and observed a vegetation fire on the steep
15 downhill (east) side of Camp Creek Road burning in brush and timber. The fire was
16 backing slowly downhill with approximately one foot flame lengths and appeared to be
17 contained on the edges by fire retardant dropped from air tankers. Engine 2183's crew
18 had started cutting hand line downhill on the south flank (edge) of the fire. The south
19 flank of the fire was located off a power line easement running east down hill toward
20 Cresta Dam.

21
22 I started to conduct my origin and cause investigation by walking the edge of Camp
23 Creek Road and then down the fires south flank looking for macro fire pattern indicators,
24 such as needle freeze and angle of char. While walking Camp Creek Road, I observed
25 a power pole on the downhill (east) side of Camp Creek road on the edge of the fire.
26 The conductors attached to this pole ran downhill toward Cresta Dam and north along
27 Camp Creek Road. I photographed the number on the pole (120772797), examined the
28 equipment on the top of the pole and noticed all three fuses were in the open position. I
29 photographed the equipment on the pole. Due to the time of night, the steep terrain
30 and suppression efforts, I found it very difficult to continue the investigation and decided
31 it was best to remain on the south flank hand line and not enter the burned area to

1 preserve the scene for the next day. At approximately 9:53 PM, I noticed increased fire
2 activity located in a steep draw. Within a few minutes the fire increased and made an
3 uphill run as it consumed an area of unburned brush and small trees. I observed a
4 moderate amount of ember cast over Camp Creek Road which threatened the
5 unburned (west) slope. As Magalia Crew 5 (Mag 5) arrived at the fire's edge I
6 expressed my concerns of a possible spot fire to the captain. Mag 5 Captain positioned
7 his crew members along Camp Creek Road to patrol for spot fires. I continued downhill
8 approximately 150 feet along the handline. With my flashlight I observed a pine tree
9 laying across all three conductors. Mag 5 Captain transmitted over the radio that the fire
10 had spotted across Camp Creek Road and was making a run uphill with a moderate
11 rate of spread. I photographed the tree across all three conductors and retreated up the
12 hill to Camp Creek Road.



13
14 On July 14, 2021, at approximately 12:30 AM, based upon my conversation with
15 **W-1** and the evidence at scene, I sent a text message to CAL FIRE Prevention
16 Bureau Chief Mike WATERS and told him the cause of the fire looked to be PG&E as
17 the result of a tree down on power lines. WATERS advised me he would arrange for a
18 CAL FIRE contracted arborist to examine the tree. I remained on scene and became a
19 Division Group Supervisor (DIV B).

20
21 At approximately 12:30 PM, I was relieved by the incoming Division Group Supervisor
22 who told me resources would not be accessing the fire via Camp Creek Road due to the
23 road being too narrow for large engines and crew buses. Instead, all fire resources
24 would access the area via Highway 70 across the river or above from the U- Line and

1 would not be working in or nearby the origin area.

2
3 At approximately 2:00 PM, I met with WATERS and members of the Butte County
4 District Attorney's Office at the CAL FIRE Butte County Fire Prevention Bureau office
5 located at 220 Grand Avenue, Oroville, CA. I advised them that due to the time of night
6 and fire conditions, I had not conducted a complete origin and cause investigation of the
7 fire. I advised them that based upon my observations at scene, such as the tree across
8 all three phases of conductor and witness statements taken from W-1 I could
9 not rule out powerlines as a cause for the Dixie Fire. I advised them I needed to
10 examine the scene more thoroughly and complete my origin and cause investigation
11 prior to making a determination. WATERS advised me in addition to the arborist he
12 would contact additional CAL FIRE contracted specialists and CAL FIRE Investigators
13 to help examine the scene. We agreed to have a briefing the next morning at 9:00 AM,
14 to discuss the details and develop a plan before returning to the scene.

15
16 On July 15, 2021 at approximately 9:00 AM, I met with Element Security, TSH Electrical
17 Consulting (Scott HYLTON), Arboriculture Consultants (Todd and Joe MCNEIL) CAL
18 FIRE investigators (Mike WATERS, Lance BERRY and Mike THOMPSON) and Butte
19 County District Attorney's office (Marc Noel, Chris Oakley, John Duffy, Nick Moore and
20 Jennifer Dupre-Tokos). The meeting took place at the CAL FIRE Butte County Fire
21 Prevention Bureau office. During the meeting, I summarized my interview with
22 W-1 and the limited photos I had taken. We developed a plan to place
23 ELEMENT security at the intersection of Camp Creek Road and Dixie Road to restrict
24 access and complete a log of everyone entering or leaving the area. BERRY,
25 THOMPSON, and I would conduct an origin and cause investigation prior to allowing
26 CAL FIRE contractors such as HYLTON and MCNEIL to enter the scene if needed.
27 Butte County DA Investigators would remain out of the area as well while the origin and
28 cause investigation was conducted but would be allowed to observe and photograph as
29 needed.

30
31 At approximately 11:00 AM, I placed ELEMENT security at the intersection of Camp
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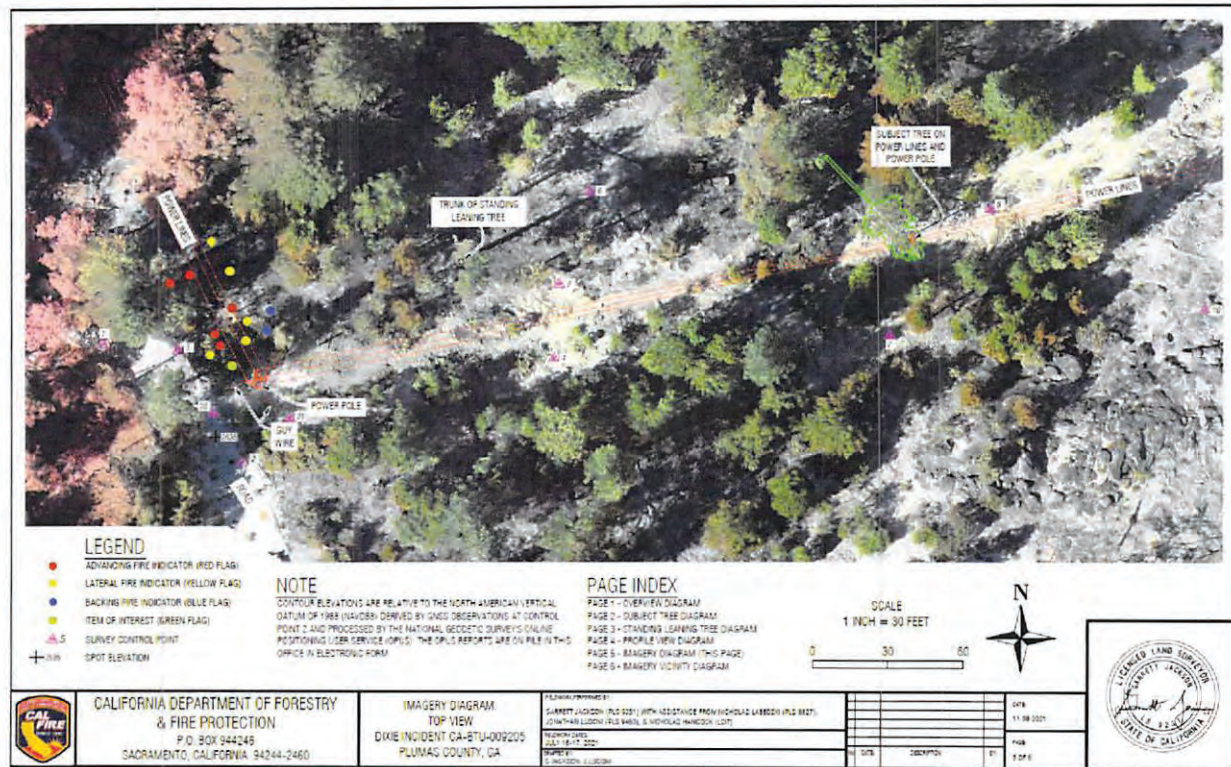
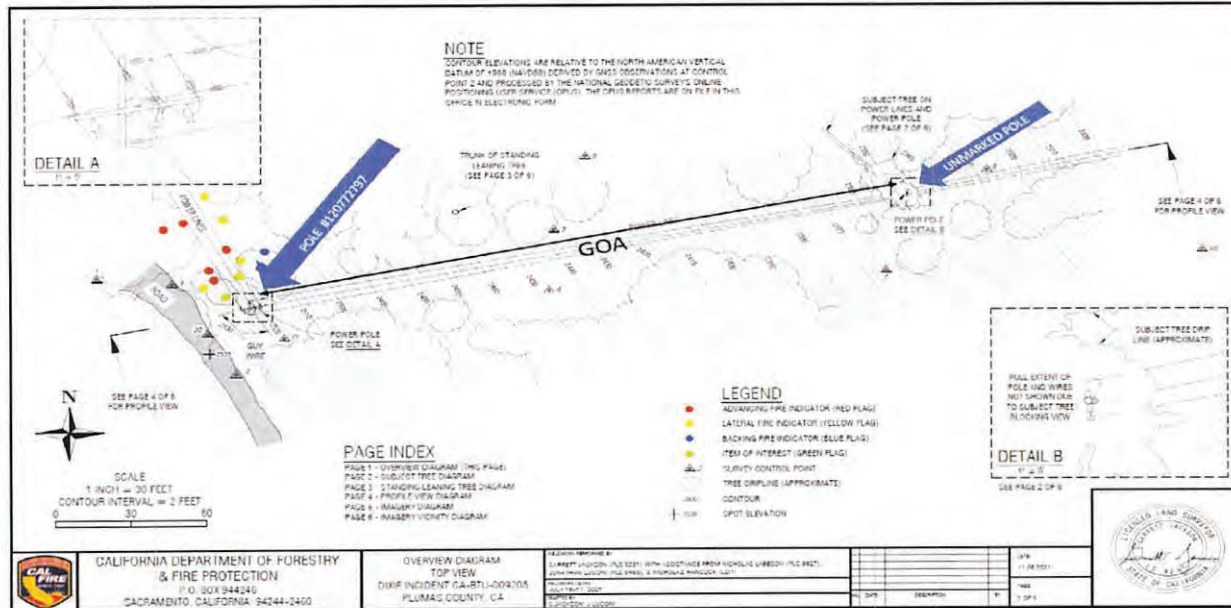
1 Creek and Dixie Road. At approximately 11:45 AM, we arrived at the origin and found it
2 to be undisturbed. At approximately 12:30 PM, BERRY, THOMPSON and I started
3 conducting the origin and cause investigation by first walking the edge of Camp Creek
4 Road and identifying the flanks of the fire that I had witnessed the evening of July 13,
5 2021. Next, we walked around the fire in a clock wise and counterclockwise direction
6 starting with the south flank where power pole 120772797 intersects with Camp Creek
7 Road and Engine 2183's hand line began. We observed macro fire pattern indicators
8 such as angle of char, foliage freeze, and protection that indicated the general origin
9 area (GOA) to be between power pole 120772797 and an unmarked pole approximately
10 300 feet east and downhill toward Cresta Dam. Between these two poles and nearest
11 the unmarked pole was a tree (subject tree) approximately 65 feet in length laying
12 across all three conductors. This section of line was later determined to be identified by
13 PG&E as the Bucks 1101 circuit.



14
15 Fire suppression efforts within the GOA such as retardant drops, helicopter water drops
16 and handline construction in the light sandy soil made determining and locating a
17 specific origin area (SOA) very difficult. Nevertheless, we were able to determine
18 several areas of interest within the GOA. Those areas had fire pattern indicators such
19 as angle of char, lower intensity burning, sooting and staining. These fire pattern
20 indicators would be consistent with those found in the SOA.

21
22 Based upon these fire pattern indicators and witness statements from [REDACTED] W-1 we
23 determined the SOA was located between pole 120772797 and the unmarked pole. The
24 ignition area, or areas, was located within this SOA. No other sources of ignition

- 1 besides the powerlines and its associated equipment were located within the GOA.



At approximately 2:30 PM, we allowed HYLTON (TSH Electrical) and MCNEIL (arboricultural) to enter the scene to examine the subject tree and powerline

[Handwritten signature]

1 components. After their initial assessment of the components, I met with each
2 separately and asked how they would like to proceed and what we needed to examine
3 further.

4
5 HYLTON informed me he believed the fuses attached to pole 120772797 were
6 classified as "exempt" based upon his examination with binoculars. HYLTON stated two
7 of the three fuses were missing a red cap on the expulsion end (end facing ground
8 when fuse is in the closed position). HYLTON stated that he would need to examine the
9 fuses more closely to determine if they had operated as designed. HYLTON also
10 informed me he would like to examine all the equipment on the pole and all three
11 conductors more closely. I advised HYLTON I would arrange for a CAL FIRE contractor
12 to remove the equipment for his examination.

13
14 MCNEIL informed me after his preliminary evaluations of the subject tree he felt the tree
15 was compromised and not healthy before the fire. MCNEIL stated he would need to
16 examine the tree further to determine its pre – existing condition. MCNEIL advised me
17 he would need approximately 6 feet of the trunk removed and hauled out for
18 examination. He advised me it was ok to remove the trunk in sections if I marked the
19 orientation of the tree beforehand. MCNEIL advised me he would also like to have the
20 stump removed for evaluation and would send me picture schematics of how he would
21 like it to be cut. I told MCNEIL I would arrange for the tree and stump to be removed.
22 We then departed the scene for the day.



1 On July 16, 2021, at approximately 8:00 AM, I met with members from CAL FIRE
2 Technical Services at 220 Grand Avenue, Oroville, CA for a briefing. At briefing we
3 discussed the plan and objectives to conduct a drone flight and Light Intensity Distance
4 and Ranging (LIDAR) scan of the GOA and surrounding area. At approximately 9:30
5 AM, we concluded our briefing and drove to the origin area. Due to road conditions
6 (rocks and debris) in the travel route, we had a skid steer tractor clear the path. We
7 arrived at the origin area at approximately 1:30 PM. CAL FIRE Technical Service's
8 members conducted a drone flight of the GOA, overhead powerlines, and surrounding
9 vegetation.

10
11 After the drone flight was completed, BERRY and I used a handheld metal detector to
12 look for any type of metallic material that could have been expelled from the blown
13 fuses below the pole labeled 120772797. We conducted our search approximately 20
14 feet out from the base of the pole to the north, south, east, and west. Other than metal
15 debris from years of utility line work, we did not find anything that would have possibly
16 expelled from the fuses. We did collect one small piece of wire as an item of interest,
17 but later determined it was most likely waste discarded from previous utility work. The
18 wire did not resemble anything that could have been expelled from the fuse or overhead
19 equipment.

20
21 After completing our search with the metal detector, CAL FIRE Technical Services
22 members set up their equipment for LIDAR scanning. At approximately 6:00 PM, we
23 departed the origin area with a plan to return and finish LIDAR scanning the next
24 morning.

25
26 On July 17, 2021, at approximately 8:00 AM, I met with members from CAL FIRE
27 Technical Services, HYLTON and B&B High Voltage (utility line contractors) at 220
28 Grand Avenue, Oroville, CA for briefing. At briefing we discussed a plan for HYLTON
29 and B&B High Voltage to examine the Bucks 1101 circuit from the nearest switch to the
30 origin area and determine a plan to safely remove all necessary equipment in the
31 coming days. After briefing was concluded BERRY took CAL FIRE Technical Services

1 members to the origin to complete their LIDAR scan. I took HILTON and B&B to the
2 Cresta Dam to examine the Bucks 1101 circuit from that vantage point. From the area
3 of Cresta dam I was able to see the subject tree laying across the conductors with the
4 naked eye and even more clearly with the use of binoculars. We observed the
5 conductors ran downhill from Camp Creek Road, across the Feather River to the Cresta
6 Dam and a secondary pole which most likely fed the lighting system for the Elephant
7 Butte tunnel. We drove up the Highway 70 canyon for several miles following the
8 conductors looking for the termination point or switch. We traced the conductors to a
9 pole with a switch located off Highway 70 and labeled 941. The switch was locked with
10 a PG&E lock and posted with a "MAN on LINE" tag. The tag read "RC For Fire"
11 attached to 941 and dated 7-13-21. The tag did not have a time referenced. I
12 photographed the tag and we proceeded to the origin.



13
14
15 We arrived at the origin at approximately 11:30 PM, and staged until approximately 1:00
16 PM, waiting for the completion of LIDAR. Once LIDAR was complete, we determined it
17 was safe to remove the fuses from pole 120772797. B&B employees used climbing
18 equipment to access the fuses. They photographed and removed the fuses and left all
19 other equipment intact. HYLTON examined all three fuses and tested them for
20 continuity. In electronics, a continuity test is the checking of an electric circuit to see if
21 current flows (that it is in fact a complete circuit). A continuity test is performed by
22 placing a small voltage (wired in series with an LED or noise-producing component such
23 as a piezoelectric speaker) across the chosen path. If electron flow is inhibited by
24 broken conductors, damaged components, or excessive resistance, the circuit is "open"
25 HYLTON concluded the two fuses from conductors 1 and 2 were in fact blown (open)

- 1 and did not have any continuity. Conductor 3 was not blown and did have continuity.
2 After HILTON examined the fuses, BERRY photographed while I packaged and labeled
3 them as evidence.
4
5 Fuse from conductor #1 (southern conductor) or far right conductor looking downhill
6 from Camp Creek Road was labeled E-1.



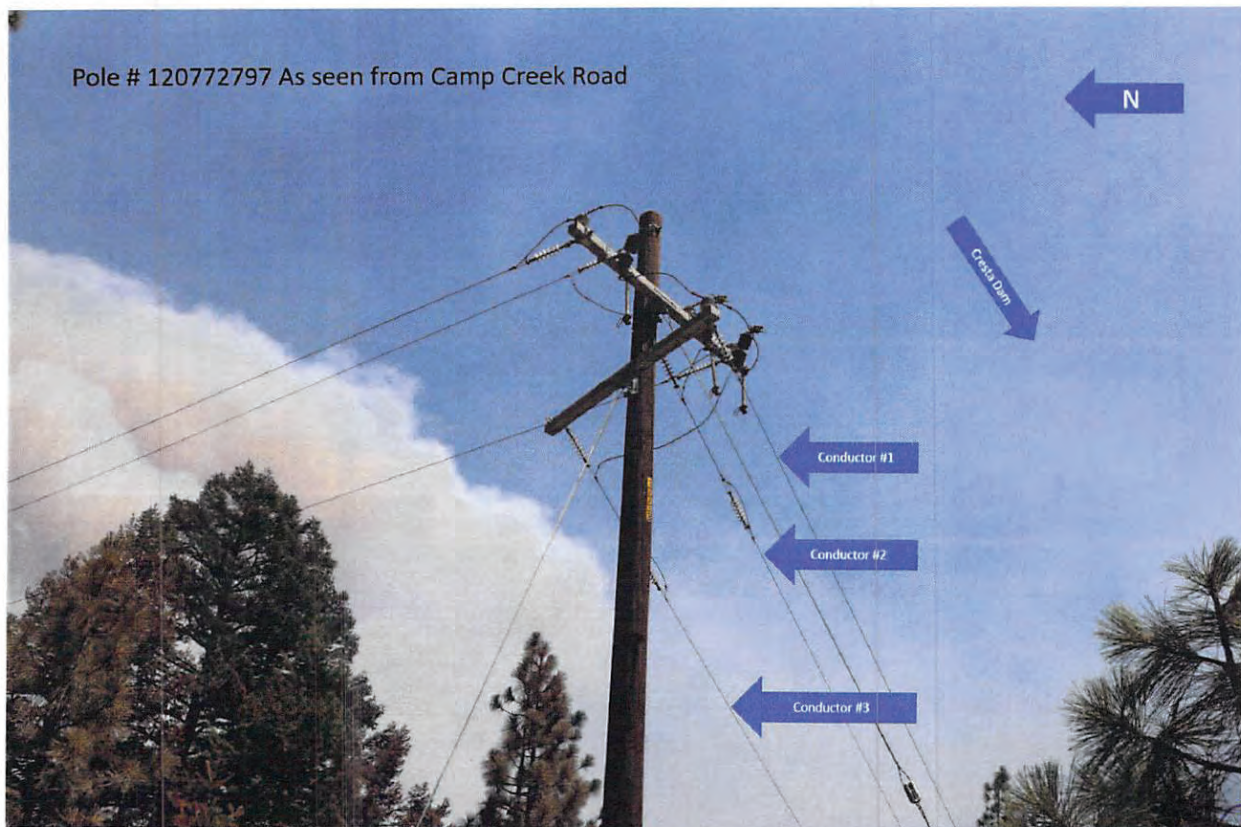
- 7
8 Fuse from conductor #2 (middle conductor) was labeled E-2.



- 1 Fuse from conductor #3 (northern conductor) or far left conductor looking downhill from
- 2 Camp Creek Road was labeled E-3.



3



4

JTB

1 After removal and packaging of the fuses we departed the origin.

2
3 On July 18, 2021, at approximately 9:00 AM, I met with CAL FIRE Investigators, CAL
4 FIRE private contractors, Butte County District attorney's representatives, Office of
5 Energy and Infrastructure Safety (OEIS), PG&E troubleman, PG&E attorneys and
6 PG&E private contractors at Scooters Café located at the intersection of Highway 70
7 and Deadwood Road. The plan was to examine, photograph and collect PG&E owned
8 equipment and the subject tree from the GOA. Before the operation took place all
9 representatives who were going to enter the scene were asked to sign a roster for
10 accountability and take part in a safety briefing. The following personnel from the
11 various entities were in attendance.

12
13 Jennifer DUPRE-TOKOS (BCDA)

14 Rick DUPRE-TOKOS (BCDA)

15 Marc NOEL (BCDA)

16 Jon DUFFY (BCDA)

17 Chris OAKLEY (BCDA)

18 Elizabeth MCALPINE (OEIS)

19 Caroline Thomas JACOBS (OEIS)

20 Scott HYLTON (TSH Electrical)

21 Greg BAIRD (B&B Line)

22 Alixa TAGGART (B&B Line)

23 Justin RAMIREZ (B&B Line)

24 Martin CASTRO (B&B Line)

25 [REDACTED] (PG&E)

26 [REDACTED] (PG&E EXPONENT)

27 [REDACTED] (PG&E EXPONENT)

28 [REDACTED] (PG&E)

29 [REDACTED] (PG&E)

30 Shawn ZIMMERMAKER (CAL FIRE)

31 Lance BERRY (CAL FIRE)

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1 Peter SMITH (CAL FIRE)
2 Randy SHAULIS (CAL FIRE contract tree faller)
3 Robert VAUGHN (CAL FIRE contract tree faller)
4

5 At approximately 10:00 AM we departed Scooters and arrived at the origin at
6 approximately 10:45 AM. Upon our arrival CAL FIRE contractors with B&B High Voltage
7 and a PG&E troubleman worked to ground the electrical equipment and make it safe for
8 tree removal and evidence collection. The line was grounded and deemed safe at
9 approximately 12:00 PM.

10
11 Due to fire activity, span of control and scene safety it was asked that all non-CAL FIRE
12 employees/contractors except for [REDACTED] (PG&E Troubleman) stay out of the
13 working area while line work or tree work was taking place. Once the equipment was
14 safely on the ground, respective entities such as PG&E contractors, OEIS and District
15 Attorney officials could observe and photograph. Several times during these operations
16 PG&E contractors and employees had to be reminded to keep their distance.

17
18 At approximately 12:30 PM, BERRY accompanied CAL FIRE contract faller Randy
19 SHAULIS down to the subject tree and photographed him while he cut the subject tree
20 free from the conductors. Before the tree was cut, BERRY used orange marking paint to
21 mark the tree's orientation on the trunk. Once the tree was free of the conductors
22 BERRY examined the tree and advised SHAULIS how he wanted it cut for evidence
23 purposes. SHAULIS cut two sections from the top of the tree that had come into contact
24 and rested on the conductors. BERRY photographed and packaged those sections of
25 the trunk as evidence, labeled E-4 and E-5.



Handwritten signature or initials in blue ink, located next to the 'Officer Initials' label.

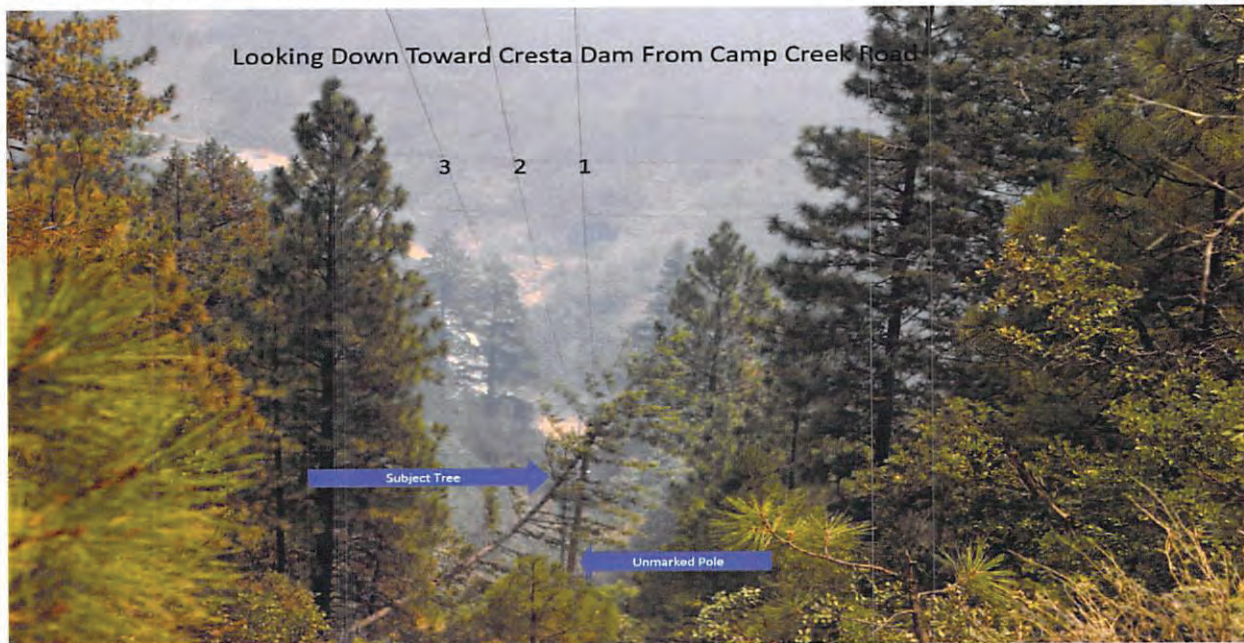
Once the tree was free from the conductors, members from B&B High Voltage removed the following equipment from the pole nearest Camp Creek Road labeled 120772797.

1. South phase cutout
2. Middle phase cutout
3. North phase cutout
4. North phase (top arm) high side jumper
5. Middle phase (top arm) high side jumper
6. South phase (top arm) high side jumper
7. West phase (low side) jumper off buck arm
8. Middle phase (low side) jumper off buck arm
9. East phase (low side) jumper off buck arm

The equipment was laid out on Camp Creek Road in the same orientation as it was removed. The equipment was examined and photographed by CAL FIRE electrical consultant Scott HYLTON. After his initial evaluation HYLTON advised me, he did not see anything that stood out to him that indicated a problem or failure of these items. The equipment was then evaluated and photographed by PG&E contractors who, despite being directed not to handle it continued to do so. At the direction of Butte County District Attorney's Office personnel, the equipment was packaged, inventoried, and labeled. The equipment was not assigned evidence numbers but were considered items of interest.

Once the equipment was taken from the pole, each conductor spanning from pole 120772797 downhill to the unmarked pole was lowered and examined by HYLTON for damage or signs of failure. PG&E contractors were allowed to examine, measure and photograph. Once again despite being told not to handle potential evidence PG&E employees and contractors continued to do so. Once examined and photographed each piece of damaged conductor was removed in a section and packaged as evidence. The conductor was then spliced with a new section and raised back into position. The following pieces of conductor showed signs of damage or failure. They were removed

1 and packaged as evidence.



2
3
4 **Conductor #1** (southern conductor) Approximately 5 feet of conductor was removed
5 and packaged as evidence labeled E-6. This conductor showed remnants of tree bark
6 and materials transfer approximately 4-5 feet uphill (west) from the insulator on the
7 unmarked pole and within 16 inches from the insulator where the tree came to rest. This
8 section of conductor also showed signs of deformation, arcing, and flattening where the
9 tree contacted the conductor.

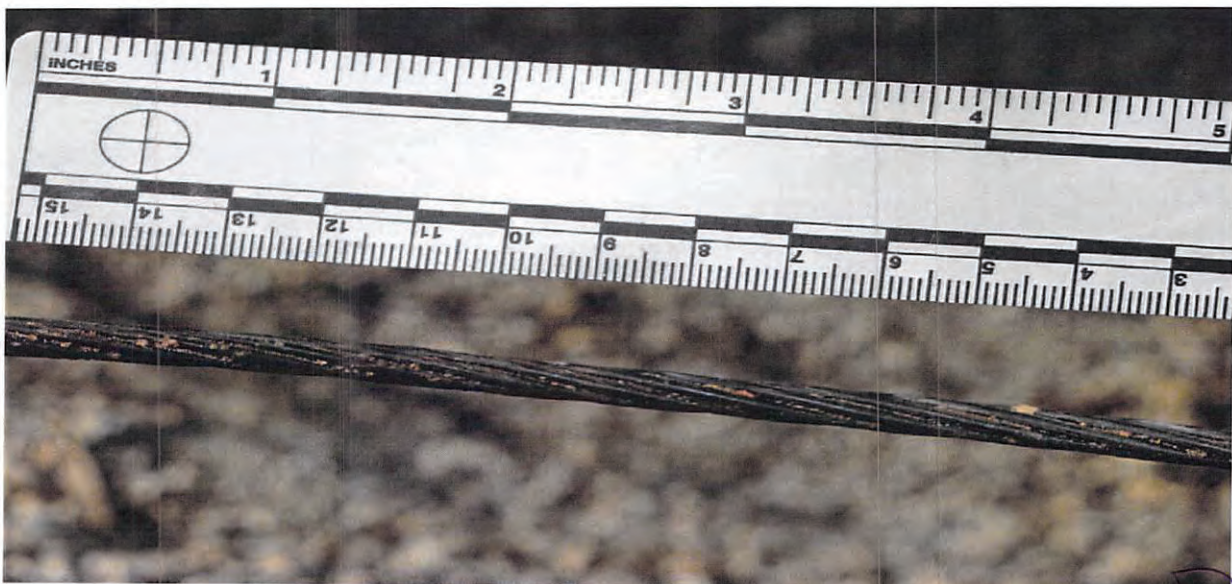


- 1 **Conductor #1** (southern Conductor) Approximately 34 feet uphill (west) from the
2 insulator on the unmarked pole. Approximately 12 inches of conductor was removed
3 and packaged as E-7. This section of conductor showed signs of fresh arcing and
4 beading in multiple spots over the approximate 12-inch section.



5
6

- 7 **Conductor #2** (middle conductor) Approximately 5 feet of conductor was removed and
8 packaged as E-8. This conductor showed remnants of tree bark and materials transfer
9 from approximately 6 feet uphill (west) and up to 16 inches from the insulator on the
10 unmarked pole.



11

1
2 **Conductor #2** (middle conductor) Approximately 12 inches of conductor was removed
3 and packaged as E-10. This section of conductor was located approximately 32 feet
4 uphill from the insulator on the unmarked pole. This section of conductor showed signs
5 of fresh arcing and beading in multiple spots over the approximate 12-inch section.



6
7
8 **Conductor #3** (north conductor) Approximately 4 feet of conductor was removed and
9 packaged as E-9. This section of conductor showed signs of tree bark and material
10 transfer from approximately 34 feet uphill of the unmarked pole to within approximately
11 12 inches of the insulator on the unmarked pole. It also showed black remnants where
12 the tree trunk made constant contact after coming to rest. This area was located
13 approximately 33 inches uphill from the insulator.



1
2 Once we completed the on-site evaluation and collection of the electrical equipment, we
3 used a rope system to winch the base of the subject tree to the roadway. The tree was
4 then marked with orange paint to represent the bottom, middle and top sections. The
5 subject tree was then cut into 3 separate pieces for ease of transportation and
6 evaluation with MCNEIL's consultation. PG&E contractors were asked not to touch the
7 items but were allowed to examine, measure and photograph. Once again, despite
8 being asked not to touch, they did so anyway. The following evidence numbers were
9 assigned to each section.

10
11 "Bottom" was marked as E-11-1

12 "Middle" was marked as E-11-2

13 "Top" was marked as E-11-3



14
15
16 At approximately 6:30 PM, all personnel were accounted for and vacated the origin
17 area. All evidence was transported and secured in a CAL FIRE owned storage
18 container.

19
20 On July 21, 2021, at approximately 10:00 AM, BERRY and I arrived at the origin area
21 with CAL FIRE Peace Officer Jeremy MONROE and CAL FIRE Battalion Chief Chip

1 FOWLER both qualified fire investigator's (INVF). MONROE and FOWLER were
2 brought to the origin area to evaluate and if possible, narrow the SOA that had been
3 previously determined. MONROE and FOWLER had no knowledge of the fire, other
4 than what the public knew at that time and had not been involved in any of the previous
5 investigation roles. MONROE and FOWLER were given a brief layout of the area and
6 what I observed upon my arrival at scene on July 13, 2021. MONROE and FOWLER
7 were not given any direction or input as to what was being considered the GOA.
8 BERRY and I stayed on the road while MONROE and FOWLER observed the scene
9 and made their determination. (See attachment K. LE71 supplemental report from
10 MONROE and FOWLER)

11
12 On July 21, 2021, CAL FIRE Officer Shane LARSEN conducted interviews with Butte
13 County Public Works employees Sean HASSEL, Miguel FLORES and Kevin THOMAS.
14 HASSEL, FLORES and THOMAS were working on the bridge on Camp Creek Road on
15 July 13, 2021. They told LARSEN the following in summary.

16
17 They identified the bridge on Camp Creek as bridge 12C-0432 and stated that
18 they had started work on July 13, 2021 at approximately 9:00 or 9:30 AM. The
19 bridge had been flagged for repair due to some missing and rotten deck boards.
20 At approximately 1:30 PM, a PG&E employee, described as a 6-foot tall, clean
21 cut white male approximately 40 years old arrived at the bridge. The PG&E
22 employee stated, "I guess the bridge really is closed. I will tell the boss we need
23 a helicopter or something". The PG&E employee did not express any need or
24 urgency to get across the bridge and left. No other PG&E personnel attempted to
25 access the bridge while they were there, and they saw no helicopters or drones
26 flying in the area. They stated that they concluded work on the bridge at
27 approximately 3:20 PM and did not see or smell any smoke or fire during their
28 work. (See attachment's R&Q. Supplemental LE-71 reports from LARSEN)

29
30 On July 22, 2021, at approximately 11:00 AM, BERRY and I returned to the origin area
31 with a CAL FIRE contracted tree faller to remove the subject tree stump for evidence
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1 and further examination by CAL FIRE contracted arborist MCNEIL. With a digging tool
2 we exposed the soil around the base of the stump to cut the root system below the soil
3 line. This was done to ensure we had all the pertinent pieces of the stump that had been
4 exposed pre and post fire for forensic analysis.
5



6
7 After exposing the root system below the soil level, the stump and a large portion of the
8 root were photographed and cut loose. The stump and root were then packaged in
9 protective bubble wrap and loaded into a cargo net and flown by long line below the
10 Butte County Sheriff's Department helicopter to the Shady Rest Area along Highway 70.
11 The stump and root were then loaded into a CAL FIRE flatbed vehicle and driven to a
12 secure CAL FIRE evidence storage facility. The flatbed was followed by BERRY during
13 transport. The tap root was labeled as E-12 and the stump was labeled as E-13.



14
15
16 On July 23, 2021, at 9:00 PM, Element Security was relieved, and the scene was
17 released by CAL FIRE Officers.

1
2 On July 23, 2021, CAL FIRE Officer Shane LARSEN conducted an interview with PG&E
3 employee [REDACTED] W-3, who told LARSEN the following in summary.

4
5 [REDACTED] W-3 stated he is a troubleman with PG&E, but is also filling in as a
6 supervisor, overseeing 15 troublemen, including [REDACTED] W-1 [REDACTED] W-3
7 stated that [REDACTED] W-1 had been dispatched late in the morning to check out a
8 fuse at Cresta Dam. [REDACTED] W-3 stated that he was unaware of any outages.
9 [REDACTED] W-3 stated that [REDACTED] W-1 had not contacted him over the course of the day
10 regarding the tag. [REDACTED] W-3 stated that [REDACTED] W-1 had later told him that while
11 trying to make access up Camp Creek Road, he had encountered Butte County
12 Public Works and could not cross the bridge and had to wait a couple hours
13 before getting across. [REDACTED] W-3 stated at approximately 4:45 PM on July 13,
14 2021 he heard [REDACTED] W-1 who sounded frantic, calling out via two-way radio to
15 Rocklin PG&E station. Rocklin was not answering back. [REDACTED] W-3 attempted to
16 contact [REDACTED] W-1 via two-way radio. When [REDACTED] W-1 responded several
17 minutes later he told [REDACTED] W-3 that there was a fire and he needed someone to
18 come and help fight it. He stated that the fire was up on the hill above Cresta
19 Dam, it was on the ground, and it hadn't gotten into the trees yet, and they were
20 going to need a helicopter. [REDACTED] W-1 told [REDACTED] W-3 that the fire was located
21 "approximately 1 span, load side of fuse cut-outs 17733, on the Bucks Creek
22 1101."

23 (See attachment T. Supplemental LE-71 report from LARSEN)

24
25 On Monday, August 2, 2021, at approximately 11:00 AM, I met with Joe MCNEIL at 220
26 Grand Avenue, Oroville CA. The purpose of the meeting was for MCNEIL to examine
27 and test portions of the subject tree and stump.

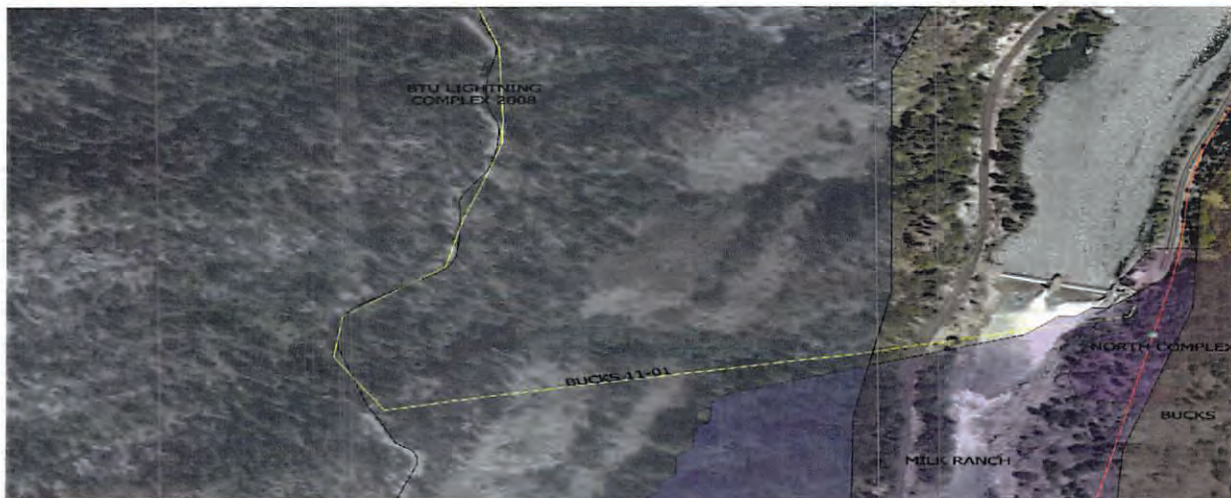
28
29 After MCNEIL's examination, he advised me the tree most likely had visible damage he
30 described as "cat facing" that may have been recognizable before the fire occurred.

31 MCNEIL explained that "cat facing" is a term used to describe damage to the tree trunk
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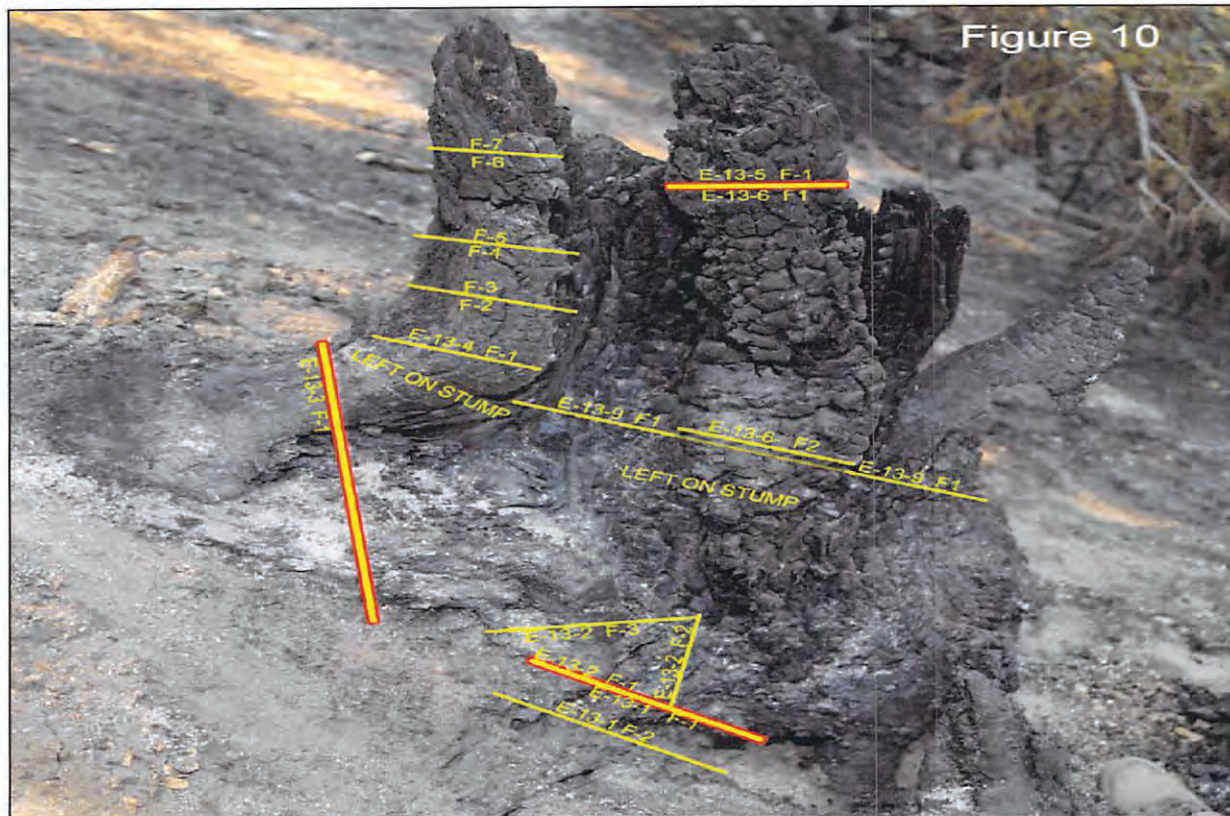
1 that generally occurs from a previous injury to the tree, such as fire damage or a
2 mechanical equipment strike. MCNEIL advised me he would like to cut several portions
3 from the stump and trunk for further testing and analysis. Due to the amount of damage
4 the base of the tree and stump sustained from the fire, MCNEIL felt this was the only
5 way to thoroughly examine the tree for age, degree of injury, decay, and stability. These
6 were all factors in determining whether the injury or stability of the tree was
7 recognizable pre fire.

8
9 Approximately five pieces were cut from the subject tree stump and labeled as evidence
10 numbers E-13-1, E-13-2, E-13-3, E-13-4, and E-13-5. All five pieces of evidence were
11 turned over to MCNEIL for testing and analysis. A chain of custody form was completed
12 and signed by MCNEIL and I. (See attachment M. LE-71 Stump evidence collection)

13
14 After MCNEIL's first visit he contacted me by phone and advised me he believed the
15 subject tree was damaged by some sort of event (most likely fire) in 2008 and again in
16 2015 or 2016. MCNEIL asked if I would be able to determine if there had been a fire or
17 other significant event in the area that could have damaged the subject tree. With the
18 use of CAL FIRE archived data and fire history maps, I determined that the 2008 Butte
19 lightning complex fire had burned through the footprint of the Dixie GOA. I was unable
20 to determine what the 2015/2016 event would have been. Based upon that information
21 MCNEIL advised me he would like to return for more samples of the subject tree stump.



On September 11, 2021, at approximately 11:00 AM, MCNEILL returned and met with CAL FIRE Officer Mark HILLSKOTTER. MCNEIL removed four more pieces of the subject stump for further analysis and testing. Those pieces were labeled as evidence numbers E-13-6, E-13-7, E-13-8, and E-13-9. A chain of custody form was completed and signed by HILLSKOTTER and MCNEIL.

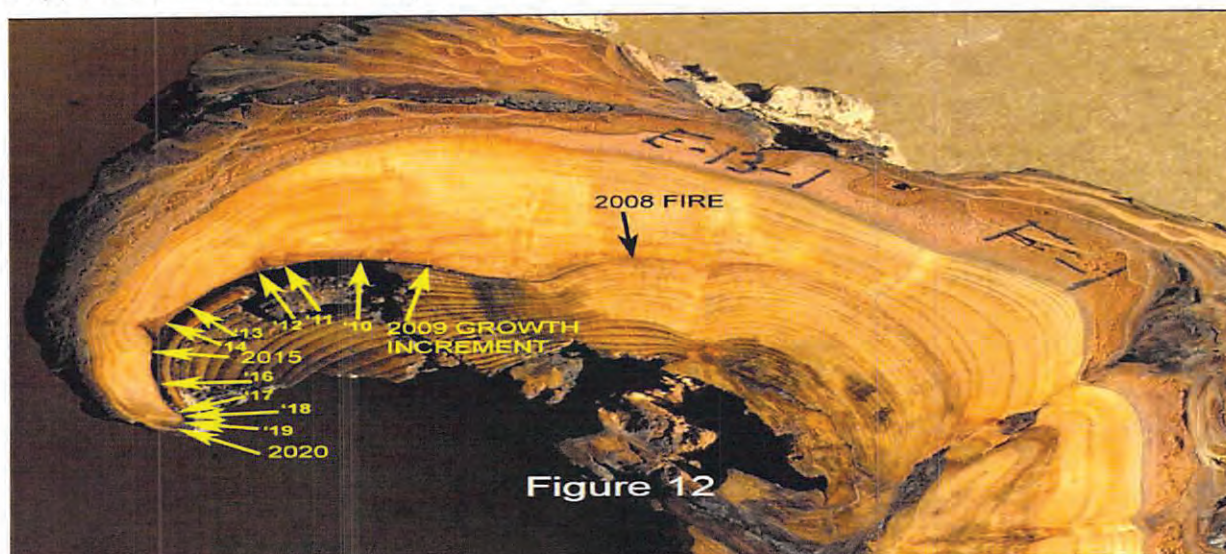


On October 10, 2021, I received MCNEIL's final report. In that report MCNEIL concluded that the subject tree was approximately ninety years old, approximately 15.8 inches in diameter and approximately 65 feet tall. "The tree was growing vertically without a lean" and was "alive and vital at the time of failure".

Based upon MCNEIL's evaluation the tree was likely significantly injured by the Butte Lightning Complex Fire in 2008 and by an unidentified event between 2015 and 2016. These injuries caused the live cambium (growing part of trunk) to be severely damaged.

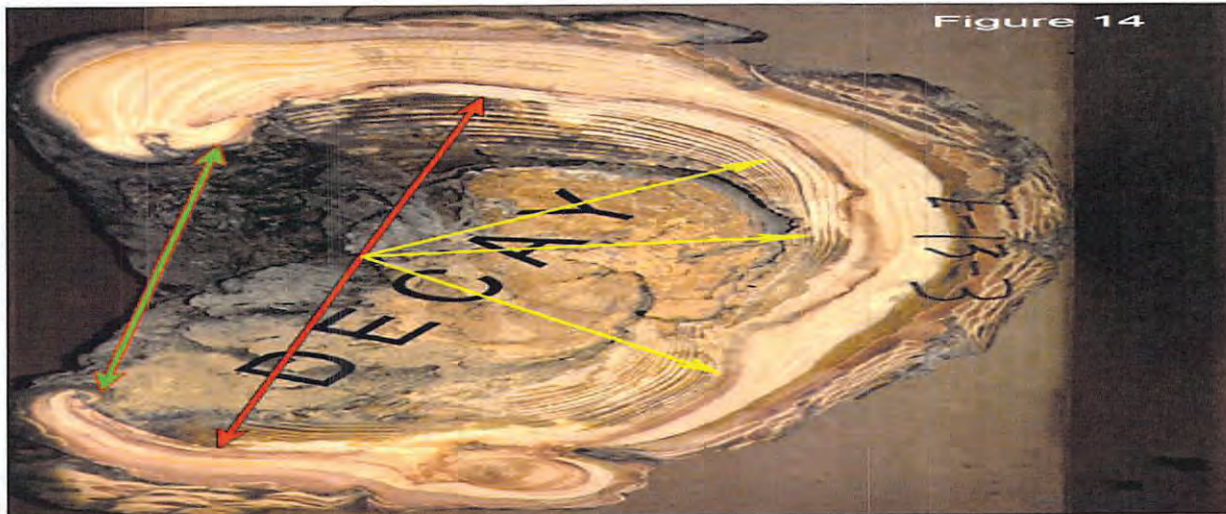
aged

1 and over time led to significant advanced decay at the base of the tree. MCNEILL' s
2 report also concluded the discovery of two "major buttressing and mechanically
3 supporting" roots had sustained damage from the 2008 Butte Lightning Complex which
4 killed a half to two thirds of the roots circumference. The south side of the lower trunk
5 burned in 2008, killed over half of the circumference, this would have formed a wound
6 with no bark cover, visible as exposed and decaying wood. MCNEIL concludes this
7 wound would have been visible from 18-38 inches above the ground. After the 2008 fire
8 the only live tissue keeping the tree canopy green was on the side away from the
9 conductors. After the unknown 2015/2016 event more than half of the tree in the lower
10 three feet was dead, open, and decaying. This left the tree with insufficient wood to
11 support the tree mechanically.



12
13 MCNEIL concluded that the degraded condition of the base of the tree was the primary
14 cause of the failure and that the defect would have been visible without extraordinary
15 discovery effort, from under the conductors. It would have been visible as a cat face, an
16 open injury to the trunk. A visual inspection around the base of the tree would have
17 revealed the poor mechanical condition of the tree. A pre inspector who was close to
18 the tree for a brief visual inspection should have discovered the decay.



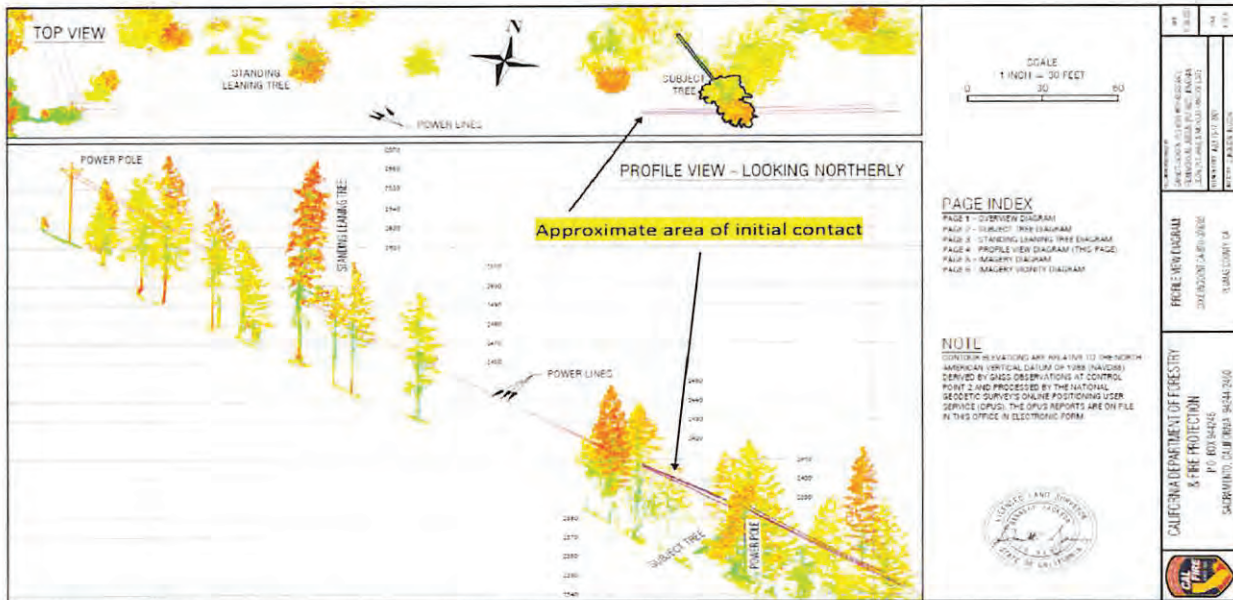


1
2
3 MCNEIL stated in the conclusion of his report that the International Society of
4 Arboriculture has adopted a Tree Risk Assessment Protocol within their Tree Risk
5 Assessment Qualification program. It is MCNEIL'S opinion that such an assessment,
6 following the protocol would have resulted in a risk rating of High for this Douglas fir
7 tree. (See MCNEIL'S full report attachment W)

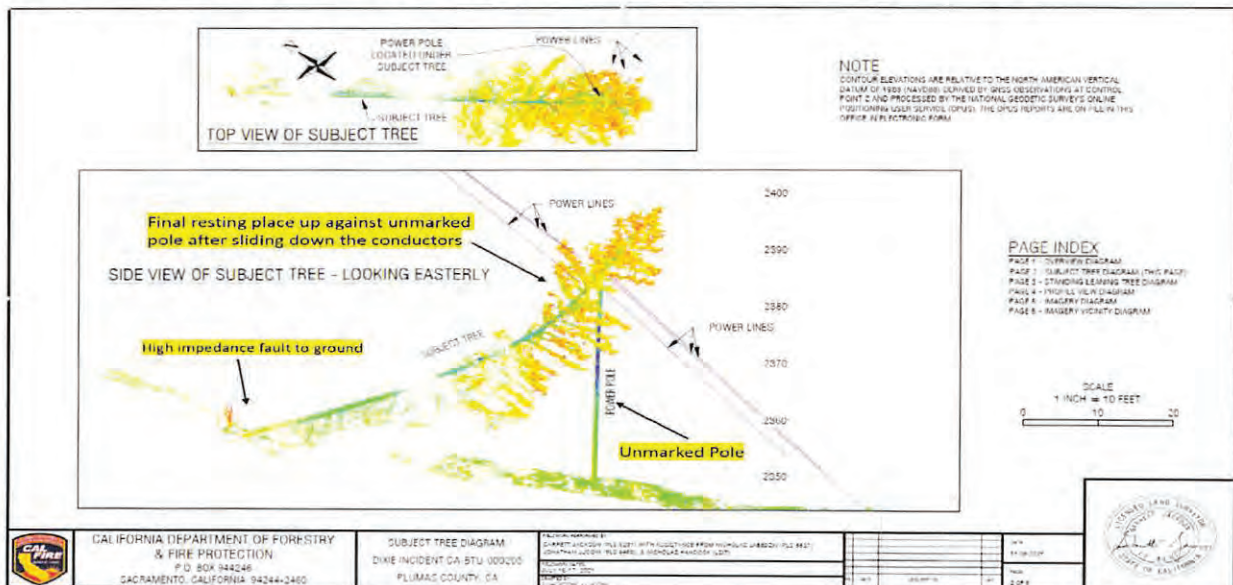
8
9 On October 12, 2021, at approximately 11:45 AM, MCNEIL returned all items of
10 evidence to me at 220 Grand Avenue, Oroville, CA. A chain of custody form was
11 completed and signed by MCNEIL and I. All evidence was returned to a secure CAL
12 FIRE storage facility.

13
14 On November 29, 2021, I received a copy of HYLTON's report. HYLTON concluded the
15 most probable scenario, based upon pole location, subject tree location, fuse status,
16 SCADA data and markings found on conductors is the subject tree fell across the line
17 approximately 32 feet west (uphill) of its final resting place (up against the unmarked
18 pole) at approximately 6:48 AM on July 13, 2021. The subject tree contacted all three
19 conductors (12kV) and, because the line is built on a steep slope, it slid down the
20 conductors and came to rest next to the pole. Two of the three fuses blew upon the
21 initial contact (fuses 1&2). The third fuse (fuse 3) remained intact and kept the line
22 energized. All three conductors were energized through back feed by the transformers

- 1 at Cresta Dam. This caused the tree to remain energized until the line was de –
 2 energized by PG&E.



- 3
 4 HYLTON concluded the tree being in contact with energized conductors (prior to PG&E
 5 de-energizing) and the ground created a high impedance fault. The tree may have
 6 initially stayed connected to the stump; or it may have broken loose and came to rest on
 7 the ground. In either case, the connection to the earth would create a poor (high
 8 impedance) path to ground. Poor electrical connections, especially at high voltage,
 9 create heat and cause arcing. (See HYLTON'S full report attachment X)



10

CONCLUSION

Based upon my training and experience, my personal observations, witness statements, and final reports generated by CAL FIRE consultants and contractors it is my determination the Dixie Fire was caused when a previously damaged and decaying Douglas-fir pine tree (subject tree) fell, contacted, and remained in all three phases of the Bucks 1101 circuit for approximately 10 hours, causing a high impedance fault and a path to ground. The high impedance fault and path to ground caused heating and arcing and eventually over the span of approximately 10 hours ignited a dry and receptive fuel bed.

It is my determination the prolonged response to the initial outage and fault that occurred at 6:48 AM, was a direct and negligent factor in the ignition of the fire. Had PG&E arrived on scene earlier, they could have detected the fault (subject tree in conductors) and opened the third fuse before it had time to ignite a receptive fuel bed. Per the SCADA data the fault and subsequent outage occurred at approximately 6:48 AM. Per witness statements from Butte County Public Works employees the bridge work did not commence until 9:00-9:30 AM. This provided several hours for PG&E to respond to the location of the fault prior to bridge work.

It is my determination that when PG&E could not access the fault because of the bridge work, they could have opened the 941 switch and de energized that portion of the Bucks 1101 circuit. It is common and historic knowledge that the Highway 70 corridor is known for extreme fire danger and poor access. Several large and devastating fires including the Camp Fire, (a PG&E caused fire) have ignited over the last several years in that geographical area. It is also common knowledge that the month of July in Butte County and surrounding areas is peak fire season, yet no sense of urgency was demonstrated by PG&E to determine the cause of the fault in a fire prone area during a severe time of year.

It is also my determination that through vegetative inspections required of PG&E the

LE80 (Rev. 7/2011)

1 subject tree (approximately 65 feet tall and located approximately 50 feet from the
2 conductors) should have been discovered and removed between 2008 and 2021. Had
3 the subject tree have been removed per Public Resource Code 4293 the Dixie Fire
4 would not have ignited on July 13, 2021.

ATTACHMENTS

- A. 911 Calls
- B. FC-34 Dispatch Report
- C. RAWS Weather Data
- D. LIDAR Maps
- E. Photo Log: Origin Investigation
- F. Photo Log: Equipment and Tree Evidence Collection
- G. Photo Log: Stump collection
- H. Evidence Log Sheet
- I. Evidence Chain of Custody
- J. Drone Flight Imagery
- K. Monroe Fowler LE-71
- L. Fire History Map
- M. McNeil Stump Evidence Collection #1 LE-71
- N. McNeil Stump Evidence Collection #2 LE-71
- O. Albert 911 Caller Interview LE-71
- P. Epperson 911 Caller Interview LE-71
- Q. Flores and Thomas Public Works Interview LE-71
- R. Hassel Public Works Interview LE-71
- S. Nulph 911 Caller Interview LE-71
- T. W-3 PG&E Supervisor Interview LE-71
- U. Drought State of Emergency Proclamation
- V. DINS Report
- W. McNeil Arboriculture Report
- X. TSH Consulting (Scott Hylton) Report
- Y. Plumas County Assessor's Parcel Map

END OF REPORT



Matthew Palade

Peace Officer #4416

CAL FIRE Butte

