

CAL FIRE



CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION
Sonoma – Lake – Napa Unit
1199 Big Tree Rd.
St. Helena, CA 94574

INVESTIGATION REPORT

CASE NUMBER: 17CALNU010057

CASE NAME: POCKET

DATE: October 9th, 2017

INCIDENT TYPE: Wildland Fire

INCIDENT INVESTIGATOR(s): Jeremy Ward
Fire Captain Specialist, Humboldt – Del Norte Unit

Matt Franklin
Fire Captain Specialist, San Bernardino Unit

Matt Gilbert
Battalion Chief, Tuolumne – Calaveras Unit

1 **1 - VIOLATIONS:**

2 **Public Resources Code 4293**

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

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

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

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

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

24

25 **Public Resources Code 4421**

26 A person shall not set fire or cause fire to be set to any forest, brush, or other
27 flammable material which is on any land that is not his own, or under his legal control,
28 without the permission of the owner, lessee, or agent of the owner or lessee of the land.

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1 **2 - SUMMARY:**

2 On October 9th, 2017, a vegetation fire was reported near Pocket Ranch Road
3 east of the community of Geyserville, California (Attachment 1). The fire, named the
4 Pocket Fire, began during a red flag warning issued by the National Weather Service
5 (Attachment 2). The fire burned approximately 17,357 acres of vegetation in State
6 Responsibility Area over the course of multiple days. The Pocket Fire also destroyed
7 six structures and damaged two others. The fire started around the same time multiple
8 other major fires started in northern California, creating a significant demand for
9 resources.

10

11 I, Jeremy WARD, was assigned along with CAL FIRE Captain Specialist Matt
12 FRANKLIN, to conduct the origin and cause investigation for the Pocket Fire.
13 Examination of fire pattern indicators and information provided by witnesses showed
14 the fire originated near an area of downed power lines at Pocket Ranch Road. Through
15 continued investigation, a downed conductor was later determined to be the cause of
16 the Pocket Fire. All other cause classes were excluded. The power lines belong to
17 Pacific Gas and Electric Company (PG&E). The power lines broke and contacted the
18 ground after a portion of the top of an oak tree broke and fell onto the power lines. An
19 arborist's inspection of the tree determined the tree had rot and signs of weakness that
20 should have been outwardly apparent prior to the Pocket Fire.

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1 **3 - SUSPECT:**

2 S-1

3 Pacific Gas and Electric Company

4 77 Beale Street

5 San Francisco, CA 94105

6 *Pacific Gas and Electric Company operates the power lines that fell and caused*
7 *the Pocket Fire.*

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1 **4 - VICTIMS & WITNESSES:**

2 **VICTIMS**

3 The Pocket Fire burned approximately 17,357 acres of vegetation and destroyed
4 three residential structures and three outbuildings across numerous parcels in
5 Sonoma County. The fire also damaged one residence and one outbuilding.
6 Other damage to real and personal properties occurred. Such values damaged
7 includes but is not limited to: vineyards, natural vegetation, infrastructure,
8 vehicles, and property improvements.

9
10 **WITNESSES**

11 W-1

12 Bob TODESCHINI
13 Fire Captain, CAL FIRE
14 1199 Big Tree Road
15 Saint Helena, CA 94574
16 707-967-1400 (main)
17 *Can testify to briefing me on fire on October 10th, 2017.*

18 W-2

19 Preston ADDISON
20 Resident
21 DOB: [REDACTED]

22 [REDACTED]
23 [REDACTED]
24 [REDACTED]
25 *Can testify to providing information about a possible witness.*

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1 W-3

2 James NAVE

3 Resident

4 DOB: [REDACTED]

5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]

9 [REDACTED] (home)

10 [REDACTED] (cell)

11 *Can testify to wind conditions and fire location on October 9th, 2017.*

12 W-4

13 Greg ESTRADA

14 General Manager, Alden Park Vineyards

15 DOB: [REDACTED]

16 [REDACTED]
17 [REDACTED]

18 [REDACTED] (cell)

19 *Can testify to fire location on October 9th and introducing WILLIAMS to me.*

20 W-5

21 Steven Kelly WILLIAMS

22 Resident, husband of W-6

23 DOB: [REDACTED]

24 AZ DL: [REDACTED]

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

29 [REDACTED] (cell)

30 *Can testify to wind conditions and fire location on October 9th, 2017.*

1 W-6

2 Candace Larue WILLIAMS

3 Resident, wife of W-5

4 DOB: [REDACTED]

5 CA DL: [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED] (cell)

11 *Can testify to wind conditions, fire location, and photos from October 9th, 2017.*

12 W-7

13 James Michael TOVANI

14 Fire Captain, Geyserville Fire Protection District

15 20975 Geyserville Avenue

16 Geyserville, CA 95441

17 707-857-4373 (main)

18 *Can testify to report of fire and fire conditions on October 9th, 2017.*

19 W-8

20 Matt FRANKLIN

21 Fire Captain Specialist, CAL FIRE

22 3800 N. Sierra Way

23 San Bernardino, CA 92405

24 909-881-6900 (main)

25 *Can testify to origin and cause investigation.*

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1 W-9

2 Matt GILBERT

3 Battalion Chief, CAL FIRE

4 785 Mountain Ranch Road

5 San Andreas, CA 95249

6 209-754-3831 (main)

7 *Can testify to assisting with investigation on October 12th – 14th, 2017.*

8 W-10

9 Shawn ZIMMERMAKER

10 Division Chief, CAL FIRE

11 6105 Airport Road

12 Redding, CA 96002

13 530-224-2490 (main)

14 *Can testify to case management and investigation support.*

15 W-11

16 Michael J. JONES

17 Employee, PG&E

18 77 Beale Street

19 San Francisco, CA 94105

20 707-382-6904

21 *Can testify to checking power lines for energy on October 11th, 2017.*

22 W-12

23 Erik ANESON

24 Volunteer Fire Fighter, Napa County Fire

25 Station 10 – Carneros

26 1598 Milton Road

27 Napa, CA 94559

28 707-252-6097

29 *Can testify to scene security the night of October 11th, 2017.*

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1 W-13

2 Andrew WHEELER

3 Volunteer Fire Fighter, Napa County Fire

4 Station 13 – Soda Canyon

5 2368 Soda Canyon Road

6 Napa, CA 94558

7 707-253-7087

8 *Can testify to scene security the night of October 11th, 2017.*

9 W-14

10 Peter LEUZINGER

11 Forester II, CAL FIRE

12 1199 Big Tree Road

13 Saint Helena, CA 94574

14 707-967-1400 (main)

15 *Can testify to his observations of involved tree and tree top.*

16 W-15

17 Mark PORTER

18 Consulting Arborist

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 *Can testify to his observations of involved tree and tree top.*

23 W-16

24 Dave KAROLY

25 Survey Party Chief, CAL FIRE

26 P.O. Box 944246

27 1300 U Street

28 Sacramento, CA 94244-2460

29 916-323-1044 (office)

30 *Can testify to LIDAR survey.*

1 W-17

2 Dan GREGORY
3 Geomatics Engineer, CAL FIRE
4 P.O. Box 944246
5 1300 U Street
6 Sacramento, CA 94244-2460
7 916-324-1644 (main)
8 *Can testify to LIDAR survey.*

9 W-18

10 Crystal NAULT
11 Dispatch/Scheduling Manager, SVT Gruppe Inc.
12 P.O. Box 270
13 Napa, CA 94559
14 707-927-2200 (office)
15 *Can testify to providing security staff for scene.*

16 W-19

17 Aaron James (A.J.) RAYFIELD
18 Security Guard, SVT Gruppe Inc.
19 P.O. Box 270
20 Napa, CA 94559
21 707-927-2200 (office)
22 *Can testify to securing scene.*

23 W-20

24 Benvindo DEL SANTOS
25 Security Guard, SVT Gruppe, Inc.
26 P.O. Box 270
27 Napa, CA 94559
28 707-927-2200 (office)
29 *Can testify to securing scene.*

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1 W-21

2 Sam ARREGUIN

3 Security Guard, SVT Gruppe Inc.

4 Napa, CA 94559

5 707-927-2200 (office)

6 *Can testify to securing scene.*

7 W-22

8 Michael GINN

9 Fire Investigator, Fire Cause Analysis

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 *Can testify to representing PG&E as a fire investigator.*

14 W-23

15 Russ WEST

16 Fire Captain Specialist, CAL FIRE

17 1199 Big Tree Road

18 Saint Helena, CA 94574

19 707-967-1400 (main)

20 *Can testify to transfer of evidence.*

21 W-24

22 Gary UBOLDI

23 Fire Captain Specialist, CAL FIRE

24 1199 Big Tree Road

25 Saint Helena, CA 94574

26 707-967-1400 (main)

27 *Can testify to entering evidence into electronic database.*

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1 W-25

2 Jim NOLT

3 Consulting Electrical Engineer

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

7 *Can testify to viewing items of evidence including conductors and fulgurite.*

8 W-26

9 Joe BALDWIN

10 Battalion Chief, CAL FIRE

11 1199 Big Tree Road

12 Saint Helena, CA 94574

13 707-967-1400 (main)

14 *Can testify to collecting LEUZINGER's photos and statement as evidence.*

15 W-27

16 Raymond CHO

17 Senior Utilities Engineer, California Public Utilities Commission (CPUC)

18 505 Van Ness Avenue

19 San Francisco, CA 94102

20 415-703-2236

21 *Can testify to assisting with PG&E data. Responded to Pocket Fire.*

22 W-28

23 Wilson TSAI

24 Utilities Engineer, CPUC

25 505 Van Ness Avenue

26 San Francisco, CA 94102

27 415-703-1359

28 *Responded to Pocket Fire.*

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1 **5 - EVIDENCE:**

2 Item 1A

3 Approximately five-foot long portion of oak tree cut from remainder of tree top,
4 split along most of its length to near saw-cut end, with apparent rot near middle
5 area of split. Item 1A separated from 1B during collection.

6

7 Item 1B

8 Approximately three-foot long portion of oak tree cut from remainder of tree top,
9 split along most of its length to near saw-cut end. Item 1B separated from Item
10 1A during collection.

11

12 Item 2

13 Approximately eight-foot long portion of oak tree collected near Items 1A and 1B,
14 split along entire length, with apparent rot near middle of its length.

15

16 Item 3

17 Fulgurite found on Pocket Ranch Road near downed conductor (documented as
18 power line during collection), approximately 2 inches by 1 ¼ inches in size.

19

20 Item 4

21 Conductor collected from east side of pole "7", cut approximately 24 inches from
22 center of insulator, with broken end marked, "C". Documented as power line
23 during collection.

24

25 Item 5

26 Conductor collected from west side of pole "7", cut approximately 24 inches from
27 center of insulator, with broken end marked, "A". Documented as power line
28 during collection.

29

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1 Item 6

2 Conductor collected from east side of pole "6", cut approximately 24 inches from
3 center of insulator, with broken end marked, "B". Documented as power line
4 during collection.

5

6 Item 7

7 Conductor collected from west side of pole "6", cut approximately 22 inches from
8 center of insulator due to splice, with broken end marked, "A". Documented as
9 power line during collection.

10

11 Item 8

12 Conductor collected from ground along east side span, between Items 4 and 6,
13 with broken ends marked "B" at the northern end, and "C" at the southern end.
14 Documented as power line during collection.

15

16 Item 9

17 DVD containing photographs related to the Pocket Incident using FCS
18 FRANKLIN's assigned camera. Contains Photos 0001 through 0168.

19

20 Item 10

21 DVD containing photographs related to the Pocket Incident using my assigned
22 camera. Contains Photos 1058 through 1330. These files were renamed as
23 0169 through 0441 on a working disk to be sequential to the numbered photos in
24 Item 9. Item 10 also contains photos provided by W-3 C. WILLIAMS and photos
25 taken in the field of chain of custody logs.

26

27 Item 11

28 USB drive containing Forester LEUZINGER's photographs and report.

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6 – CONDITIONS:

The Pocket Fire started on land consisting of open grass and oak woodland vegetation with Little Sulphur Creek east of the fire's origin. Elevations in the initial areas of the fire are approximately 800 to 1600 feet. The topography along Pocket Ranch Road is mostly rolling hills, with few narrow or steep drainages. The area is rural, with unpaved roads maintained through a landowner's association. Vineyards of varying sizes are scattered across areas of Pocket Ranch Road and Ridge Oaks Road. Large ranches are also found in the area. Many residences are large, custom structures. This area is classified as State Responsibility Area, with the land falling under the protection of CAL FIRE. Electrical service provided via above-ground power lines can be found in the area. The power lines in the area belong to PG&E, except for two locations where sections of power lines to properties were reported privately owned and maintained. These properties were outside the origin area. These locations are shown on Attachment 3

WEATHER (Attachment 4):

Date: Sunday, October 8th, 2017
Time: 11:56 PM
Temperature: 64 degrees Fahrenheit
Relative Humidity: 12 percent
Wind Speed: 48 miles per hour
Wind Gust: 79 miles per hour
Wind Direction: North-northeast
Source: Hawkeye RAWS, ID: HWKC1
GPS Coordinates: 38.735086,
-122.837058
Elevation: 2024 feet above sea level
Description: Remote Automated Weather Station located approximately 4.4 miles southeast of origin, near Ridge Ranch Road approximately ¼ mile west of Geysers Road.

1 **7 –EQUIPMENT:**

2 The equipment involved in the Pocket Fire included power lines owned by
3 PG&E. These power lines were part of the Cloverdale 1102 Circuit, within the Sonoma
4 Division (in other documentation provided by PG&E, Sonoma is designated as a
5 district). The power lines were reported by PG&E employees to be 12 KV and made
6 from #6 copper wire. The power lines involved one span between two wooden poles
7 and crossed Pocket Ranch Road twice near a switchback in the road. The poles at the
8 ends of this span were marked with painted numbers “6” at the northern, downhill pole,
9 and “7” at the southern, uphill pole. Handheld GPS showed the poles to be found at
10 the following locations:

11

12 Pole “6” at N 38° 46.235’, W 122° 54.324’

13 Pole “7” at N 38° 46.189’, W 122° 54.278’

14

15 All coordinates recorded in the field by me during this investigation were made
16 using a Garmin Model 64s handheld GPS using WGS84 datum.

17

18 In this report, I use the term power line(s) to describe electrical components that
19 are inclusive of more than the conductor(s). For example, power line(s) may be used to
20 describe an area including: poles, conductors, insulators, hardware, etc. I use the term
21 conductor(s) to describe the wire(s) used to carry electrical energy.

22

23 Pole “6” used a wooden cross-arm to support the power lines, while pole “7”
24 used metal brackets attached to the sides of the pole. There were two electrical
25 conductors on this set of power lines (one on the western side of the poles and one on
26 the eastern side). These conductors were collected as evidence as five separate
27 pieces. Four pieces remained attached to the two poles following the breaks in the
28 conductors. The fifth piece was found as a separate portion of the eastern span. It was
29 found on the ground, near the broken end of the conductor attached to the east side of
30 pole “6”.

31

1 **8 - PROPERTY:**

2 The Pocket Fire burned approximately 17,357 acres. During the fire, six
3 structures were destroyed. Two structures were damaged by the fire. Assessment of
4 fire damage was completed for all habitable structures and outbuildings having a
5 footprint greater than 10 feet by 12 feet. The Damage Inspection Report for the Pocket
6 Fire (Attachment 5) provides further details regarding the assessment.

7
8 Two Specific Origin Areas (SOA) were identified for the Pocket Fire. Both were
9 near a portion of Pocket Ranch Road. This portion of the road is not accurately
10 depicted on most maps; however, it is visible on satellite imagery. Local landowners
11 identified the road as Pocket Ranch Road, and a nearby address marker at a gate
12 identified the road as the access to 22000 Pocket Ranch Road.

13
14 The coordinates for the SOAs are:

15
16 Upper Origin

17 North 38° 46.204'
18 West 122° 54.298'

19
20 Lower Origin

21 North 38° 46.224'
22 West 122° 54.316'

23
24 Based on Sonoma County GIS data available online, I concluded the fire
25 originated on Sonoma County parcel, APN 141-140-033.

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1 9 - NARRATIVE:

2 On October 9th, 2017, at approximately 2:44 AM, the Geyserville Fire Protection
3 District received a report of a fire west of Geyserville. The firefighters were just about to
4 respond when a male drove to the district's Station 1 and reported a fire to the east.
5 The male pointed in that direction. The firefighters looked and immediately saw a glow
6 along the ridge to the east and responded with a fire engine. The fire was burning on
7 State Responsibility Area land within CAL FIRE's Sonoma – Lake – Napa (LNU) Unit.
8 This incident was given the name Pocket due to its location near Pocket Ranch Road,
9 east of the community of Geyserville. The CAL FIRE LNU Emergency Command
10 Center (ECC) recorded the dispatch time as 3:30 AM (Attachment 1). This was after
11 the Geyserville Fire engine responded. This dispatch time was reported by CAL FIRE
12 as the start time of the incident, and is not the estimated start time of the fire.
13

14 The fire would eventually consume approximately 17,357 acres of vegetation
15 and destroy six structures. It would take more than two weeks to fully control the
16 Pocket Fire. The Pocket Fire occurred around the same time as multiple other major
17 fires began in counties across northern California, creating a large demand for
18 resources. CAL FIRE requested investigators from across the state to conduct origin
19 and cause investigations of the fires. I was assigned investigation of the Pocket Fire,
20 along with CAL FIRE Fire Captain Specialist (FCS), Matt FRANKLIN. I responded to
21 multiple fires in my home Unit on October 8th, including one to which I was committed
22 through the afternoon of October 9th. Following that commitment, I slept for several
23 hours and departed early October 10th for Sonoma County.
24

25 October 10th, 2017:

26 After arriving in Sonoma County, I phoned the CAL FIRE LNU ECC and asked
27 for directions to the Pocket Fire. I was told the report they received for the fire was at
28 the intersection of Pocket Ranch Road and Ridge Oaks Road in Geyserville. I checked
29 for the area on a map and found these two roads intersected twice. I drove to Ridge
30 Oaks Road and followed it to the southern intersection with Pocket Ranch Road. I saw

1 two water tenders, but no fire. I then continued north on Pocket Ranch Road. At
2 approximately 7:30 AM, I met with CAL FIRE Fire Captain Bob TODESCHINI at a
3 structure near the fire's southern edge along Pocket Ranch Road. He estimated the
4 fire was 1,000 acres or more in size and said there were very few resources on the fire.
5 He said he thought the first-in resources were local government engines from
6 Geyserville Fire. I asked him if he had any idea where the origin was. He said he didn't
7 know, but pointed up the road toward the north and said he'd guessed somewhere that
8 way.

9
10 The fire did not appear to be actively burning that I could see. A strong inversion
11 was settled in over the area, keeping the smoke from dispersing. While this temporarily
12 kept the fire activity low, it made visibility poor. As I continued driving along Pocket
13 Ranch Road, I found it difficult to see beyond several hundred feet in some areas to tell
14 if an area had burned or not. While driving north toward the northern intersection of
15 Pocket Ranch Road and Ridge Oaks Road, I could see areas along the road which
16 showed heavy consumption and scorching of fuels indicative of advancing fire. Based
17 on fire weather forecasts, radio weather reports, and firefighting experience, I expected
18 to see indications of fire spread from the north and east to the south and west. I saw
19 macroscale fire pattern indicators visible from the road that demonstrated the fire
20 generally moved from the north and northeast, aside from a few areas where it
21 appeared topography had greatest influence. Indicators included, angle of char on
22 trees and brush, foliage freeze on trees and brush, and a clean burn in open grass
23 areas where grass stems were consumed by fire. One area of the topographic
24 influence was found near a fork in the road with a sign indicating Alden Vineyards was
25 to my left. A narrow drainage paralleled the road for several hundred feet. Foliage
26 freeze within parts of this drainage showed winds and possibly fire moving up the
27 drainage from the south. Driving further north, the drainage appeared to be below a
28 ridge and likely sheltered from any prevailing winds. After passing a damaged gate on
29 Pocket Ranch Road marked "22000", I continued north and started downhill. Fuels
30 were heavily consumed near the top of the hill, with signs of angle of char and foliage

1 freeze indicating the fire had come up to the top of the hill from the north to northeast. I
2 continued and arrived at an area of switchbacks in the road. In this area, I found power
3 lines that were obviously damaged as a conductor had fallen on the downhill side of the
4 road. I continued past this conductor by driving under it along the uphill side of the
5 road. After driving through the next switchback, I found additional conductors down in
6 the road. I stopped here and could see a general appearance of more consumption
7 and scorching of fuels on the uphill side compared to the downhill side. There was
8 what appeared to be one area of advancing fire pattern indicators along the downhill
9 side of the road, beyond the conductors. These indicators of angle of char and foliage
10 freeze showed fire spread to be uphill, crossing the road. Not wanting to drive over the
11 downed conductors, I continued attempting to access other parts of the fire to the north
12 to look for fire pattern indicators.

13

14 I met a male in a van driving through Alden Vineyards. He identified himself as
15 Preston ADDISON (Attachment 6). He told me a vineyard worker named Armando was
16 there the first night of the fire and could provide more information. He provided me a
17 phone number and address for Armando, but I did not have cell service and could not
18 find the address. I continued driving in the area.

19

20 I later met with FRANKLIN on Pocket Ranch Road. We worked together
21 exploring the fire and looking for possible witnesses. We also placed yellow barrier
22 tape across Pocket Ranch Road to identify the conductors as a safety risk and keep
23 people out of the area. We met a male on another road in the area. The male
24 identified himself as James NAVE and explained the road led to his house at [REDACTED]
25 [REDACTED] FRANKLIN and I discovered maps of this area, such as Google
26 Maps, did not accurately represent all the portions of the roads. Google Maps shows
27 the road where we met NAVE being Ridge Ranch Road, however his address was on
28 Pocket Ranch Road. NAVE drew a map of the area for us (Attachment 7). NAVE told
29 us he was home the night the fire started. He said the wind speeds were about 25 to
30 30 miles per hour from the northeast at about 9:00 PM on October 8th. NAVE said the

1 winds increased through the night. He told us he noticed smoke in the air about 10:00
2 PM that night. When he called to report it, he said he was told there were numerous
3 fires burning. He told us he did not believe the smoke he noticed at 10:00 PM was from
4 this fire and he did not see any fire at the time. NAVE said later that night, about 3:00
5 to 3:30 AM on October 9th, he woke to the sound of roof tiles blowing off his roof. He
6 told us that was when he went outside and saw fire on the hillside west of his residence.
7 NAVE said he could see the glow of the fire over the ridge to the west. NAVE said he
8 called a neighbor to the southwest, Mark HARRIS, who told NAVE his house was
9 already threatened by the fire.

10
11 FRANKLIN and I met a male near Alden Park Vineyards. The male identified
12 himself as Greg ESTRADA. ESTRADA was the General Manager for Alden Park
13 Vineyards. He said he was not in the area the night the fire started, but returned on
14 October 9th. ESTRADA did not witness the fire during its early hours, but did provide
15 information on some areas where the fire had and had not burned on the day of
16 October 9th. I asked ESTRADA if he could put us in contact with Armando, who
17 ADDISON said I should talk to about the night of the fire. ESTRADA also said
18 Armando was there the night of the fire. ESTRADA also said Armando told him that all
19 the tractors from the vineyard had burned in the fire that night. ESTRADA said no
20 tractors burned and they were all parked near the entrance to the vineyard. I had seen
21 the tractors where ESTRADA mentioned. This reported misperception of events led
22 FRANKLIN and I to believe that Armando might not be a reliable witness. We decided
23 to pursue other witnesses and return to search for Armando if we did not find other
24 information to aid us.

25
26 ESTRADA directed us to local resident Kelly WILLIAMS, who we were told was
27 at home at the Pocket Ranch when the fire started. We were guided to WILLIAMS's
28 residence at [REDACTED] using an alternate route shown to us by
29 ESTRADA. The alternate route ran near the bottom of a drainage between Alden
30 Vineyards and Little Sulphur Creek. This route avoided the section of downed power

1 lines in the road. We met an adult male who identified himself as Steven (Kelly)
2 WILLIAMS who arrived at the residence by UTV (Utility Task/Terrain Vehicle) about the
3 same time. WILLIAMS told us he had just come the other way (through the area of the
4 power lines). WILLIAMS said he tore down the yellow tape since he and neighbors had
5 already driven over the power lines multiple times and was not concerned about them
6 being energized. I told WILLIAMS not to drive that area anymore and not to bypass
7 any more taped-off areas. We asked WILLIAMS about events the night of the fire. He
8 said he went to bed on Sunday night (October 8th) at about 10:00 to 10:30 PM. He said
9 the strong winds kept waking him up through the night. WILLIAMS told us he went
10 outside to the deck about 3:30 AM (October 9th) and saw fire on the hill to the southeast
11 burning toward an A-frame house (satellite imagery shows the A-frame more south than
12 southeast). WILLIAMS's wife, Candace, showed me photos of the fire she had taken
13 on her cell phone. The photos show the fire moved from near the ridge south of their
14 residence downhill toward Little Sulphur Creek. Candace WILLIAMS forwarded me
15 seven of her photos (CW1 through CW7). All show a progression of the fire backing
16 down toward the creek. The first photo, CW1, shows the fire near the ridge with a glow
17 above it, indicating more fire beyond the ridge. WILLIAMS told us the power went out
18 that night and estimated it happened between 10:00 PM and 2:00 AM. WILLIAMS said
19 the road to the residence became blocked by fire and he and his wife were evacuated
20 by helicopter around 8:00 AM. WILLIAMS and ESTRADA attempted to lead us to
21 another vantage point by circling around the fire to the south. The attempt was
22 unsuccessful due to Ridge Oaks Road being blocked by fire. Fire activity increased
23 after the lifting of the inversion layer, and FRANKLIN and I were diverted to protect a
24 structure in the area until suppression resources arrived.

25

26 The trip to and from WILLIAMS's residence along the alternate route provided us
27 with additional knowledge of the fire's behavior. The alternate route and Pocket Ranch
28 Road from the area of the downed power lines to WILLIAMS's residence form a rough
29 "T" shape. The vertical and top right sections of the "T" represent Pocket Ranch Road.
30 The top left section would represent the alternate route, with Alden Vineyards at the far

1 left. The top of the "T" is north, and runs in an east-west direction in a drainage roughly
2 perpendicular to Little Sulphur Creek. As we drove the top of the "T", we saw that the
3 fire intensity on the south (uphill) side of the road had been low. Consumption of fuels
4 was limited to grasses and leaf litter. The leaves on low tree branches and on brush
5 had little damage. This indicated the fire had backed down the hill, from south to north.
6 Fire had also burned on the opposite side of the east-west drainage, up toward a house
7 at the top of the hill. Fire retardant on that side of the hill indicated that side had not
8 burned until after daylight when air tankers could operate over the fire. ESTRADA
9 confirmed the fire had not reached the bottom of the drainage at the alternate route
10 when he first saw it. Photos CW4, CW5 and CW7 also appear to show the fire had not
11 reached the bottom of the drainage perpendicular to Little Sulphur Creek nor had it
12 crossed to the other side.

13

14 The information provided by NAVE, ESTRADA, WILLIAMS, and C. WILLIAMS
15 was consistent (Attachment 8). NAVE saw fire on the hillside to the west. WILLIAMS
16 described the fire was to his southeast, burning toward the A-frame house (west of
17 NAVE's residence). Attachment 9 shows an overview of the area. NAVE also
18 described a glow from fire beyond the ridge. Photo CW1 shows a glow beyond the
19 ridge. The witness observations, along with expected fire behavior based on the
20 weather conditions, fuels and topography, and observations made by FRANKLIN and I,
21 of both the fire's location and of fire pattern indicators, led us to an area we believed
22 was nearing the heel of the fire. The advancing side of this area was near the top of
23 the switchbacks past the damaged gate to [REDACTED] Pocket Ranch Road. As we earlier
24 drove the alternate route to the WILLIAMS's residence, we observed that route showed
25 signs of low intensity backing fire. This was downhill from the switchbacks, and
26 demonstrated fire originated between the top of the switchbacks and the alternate
27 route.

28

29 FRANKLIN and I returned to this area after being relieved by a fire engine at the
30 structure we stopped to protect. We had learned the alternate route to WILLIAMS's

1 residence at the Pocket Ranch was only suitable for pickup trucks and smaller vehicles.
2 As I was driving back to this area, I contacted the Division Supervisor for that part of the
3 fire. I told him of the downed power lines and to only let fire engines through the area if
4 they were needed for structure protection at the Pocket Ranch because there was no
5 other access. I told him smaller vehicles could use the alternate route and described it.

6
7 Within the overall area near the switchbacks were the downed power lines.
8 When FRANKLIN and I put up the yellow barrier tape, we saw multiple fulgurites in the
9 road. Nearly all the fulgurites were found close to an area of sooting and discoloration
10 of one conductor. These fulgurites would have been created when the conductor was
11 energized. Because Pocket Ranch Road was going to be the only access for fire
12 engines to the structures at the Pocket Ranch, FRANKLIN and I decided to photograph
13 the power lines and fulgurites before any other vehicle traffic passed. I did not observe
14 any noticeable changes to the conductors compared to when FRANKLIN and I placed
15 the barrier tape in the morning. We placed four orange cones, two on each side of the
16 downed conductors, to guide any fire engines through a portion of the road that would
17 avoid contact with the broken end of a conductor and some of the fulgurites. There
18 were several times during the investigation FRANKLIN and I had to let fire apparatus
19 pass through to get to the Pocket Ranch. During these times, we ensured only
20 necessary equipment passed, directed drivers where to pass, and told them to keep
21 straight and not turn while passing through the cones.

22
23 During the investigation, both mine and FRANKLIN's department-issued
24 cameras were used. Because the cameras started with differing file numbers,
25 photographs from my issued camera were renumbered to coincide sequentially with
26 those from FRANKLIN's. Attachment 10 shows the renumbering of the photographs.
27 The Photographic Log (Attachment 11) provides the date and times the photographs
28 were taken. Attachment 12, Photographs, includes those taken that evening (0169 –
29 0240) showing overview of the power line and road areas, positioning of the conductors
30 in and near the road, areas of discoloration or bending of conductors, and fulgurites. I

1 also sketched the position of the conductors in the road (Attachment 13). Because of
2 the fading daylight, we were unable to continue assessing indicators. We had observed
3 some indicators over a large area from the road, but had not yet seen enough to
4 determine a manageable area to secure. The large area we were assessing was
5 accessible by road from three sides and would require guards posted at each location.
6 Due to the large area and a lack of available resources caused by the demand from
7 other fires, we decided to not post security guards for the night. Security for the night
8 consisted of the verbal instruction given to the Division Supervisor and to WILLIAMS.

9
10 October 11th, 2017

11 FRANKLIN and I arrived back at the switchbacks on Pocket Ranch Road at
12 approximately 8:00 AM. We estimated the directions to the residences of NAVE and
13 WILLIAMS from the switchbacks. We found the switchbacks to fit within the areas
14 those witnesses described seeing the fire. We began to assess macroscale indicators
15 in the overall area. We again discussed indicators of angle of char and foliage freeze
16 visible from the road as we drove in. These indicators near the top of the hill and where
17 we met NAVE the day before, showed advancing spread to the south and some more
18 to the southwest, angling toward the east side of a vineyard.

19
20 FRANKLIN and I began walking the area we determined the previous night to
21 possibly be the overall fire area (or heel of the fire). We covered a large area,
22 approximately ten acres in size (Attachment 14). Doing so, we determined this was the
23 overall fire area, and we began to narrow down the General Origin Area (GOA) through
24 continued assessment of macroscale indicators. Visible around the road, near the top
25 of the hill were indications of advancing spread including angle of char/scorch, overall V
26 pattern of more consumed fuels, and foliage freeze. Working around to the east side,
27 we identified a transition to lateral and then backing fire as we progressed down the
28 slope toward Little Sulphur Creek. Indicators here included grass stems, which
29 transitioned from consumed near the top, to stem-fall in lateral and backing areas
30 farther downhill. Angle of char/scorch in these areas became parallel to the slope, and

1 lower branches of trees and brush were only scorched or unburned. White ash
2 deposits and some foliage freeze showed unsheltered areas of the east-facing slope
3 were exposed to east, upslope winds. Continuing our perimeter search to the north, the
4 slope turned from east-facing to north-facing. Fire pattern indicators showed backing
5 fire spread down this slope as well. Indicators of protection, grass stem, white ash, and
6 foliage freeze showed the fire backed downslope against north to northeast, upslope
7 winds. Moving back up the western side of the area showed a transition to higher
8 intensity fire farther uphill. As we reached areas along the vineyard which were less
9 sheltered from trees, we again saw signs of foliage freeze where winds had blown from
10 the northeast and east. We also found a lesser drainage aligned with the general
11 northeast wind conditions where the fire advanced toward the vineyard in wind and
12 slope alignment.

13

14 Photos 0428, 0429, and 0441, aerial photographs taken during a helicopter flight
15 on October 24th, 2017, show the overall topography of this area. The backing fire
16 indicators we saw on the east side of the area were consistent with the photos taken by
17 C. WILLIAMS and of the description of the fire by the residents who saw the fire around
18 3:30 AM. NAVE's description of the fire he saw west of his house also was consistent
19 with the backing fire indicators. Observations FRANKLIN and I made in this overall fire
20 area led us to two areas to begin investigating as possible GOAs.

21

22 From the area where the conductors were found lying in the road, there looked to
23 be one origin above the road and one below. We considered the possibility the one
24 above the road started from a spot fire from the possible origin below. The advancing
25 vectors of these two areas however were not in-line, where spot fires would most likely
26 occur. The advancing vector from below the road continued across Pocket Ranch
27 Road where it burned in the lesser drainage with the wind-slope alignment toward the
28 vineyard. The apparently separate advancing fire vector above the road was east of
29 the one in the lesser drainage. We saw these to be separate runs above the road
30 because an area of heavier brush and small trees between the two areas was less

1 consumed, with lateral fire spread indicators on each side. These indicators included
2 white ash deposits and/or sooting on exposed sides of indicators, protection on
3 unexposed sides of rocks and vegetation, and foliage freeze found at an angle to
4 advancing spread. Seeing there were two areas to examine, we used the term,
5 "upper", for the uphill (southern) origin, and "lower" for the one downhill (northern) from
6 the portion of Pocket Ranch Road running between them. While examining fire pattern
7 indicators in the overall fire area below the road, it became apparent a portion of a tree
8 was on the ground by the downed conductors. I did not notice the tree portion on
9 October 10th, when I walked below the road approximately 25 feet to photograph the
10 lower power pole and a suspended portion of a conductor. The portion of tree
11 appeared at least partially burned, indicating it did not fall after the fire passed. We
12 observed it was on top of one conductor. A forester and an arborist had been
13 requested to assist CAL FIRE investigators if needed at any of the fires. We requested
14 they respond when available to examine the tree portion and the related tree.

15
16 The advancing area of the upper GOA began at Pocket Ranch Road, west of a
17 power pole marked with a painted "7" near the base. The upper GOA we determined to
18 be between Pocket Ranch Road on the north and south sides, along the area of thicker,
19 less consumed brush and trees on the west, and approximately 75 feet west of the road
20 switchback on the east side. We began moving through this area from the uphill side,
21 working laterally east and west in an "S" pattern while placing fire pattern indicator flags.
22 These indicator flags are visual markers used to demonstrate fire progression and aid
23 with scene documentation. We found indicators and clusters of indicators of advancing
24 fire, including: protection, grass stem, freezing, angle of char, sooting, staining, white
25 ash, and an overall V pattern of the area of more-consumed fuels. Red fire pattern
26 indicator flags were used to identify advancing fire pattern indicators.

27
28 As we moved to the east and west edges of the GOA, we saw transition zones
29 showing decreases in fire intensity. On the west side, fire transitioned from advancing
30 to lateral where it began to burn side-slope into an area of heavier fuels. Fuel

1 consumption was comparatively less than in the advancing area. Indicators of
2 protection, freezing, angle of char, sooting, staining, and white ash showed this
3 transition. On the east side, another transition zone was identified. This zone
4 transitioned from advancing fire spreading uphill toward the south-southwest, to lateral
5 spread side-slope and uphill to the southeast, and then transitioned to backing fire on
6 the east side approaching the switchback. It was evident by areas of protection, grass
7 stem, staining, and freeze where the fire was exposed to the east winds in this less
8 sheltered area. This was the same fire behavior seen in larger scale when we walked
9 the east side of the overall fire area earlier in the day. Yellow fire pattern indicator flags
10 were used to identify lateral fire pattern indicators.

11

12 FRANKLIN and I continued working back and forth down the hill until the
13 indicators were becoming less obvious in an area where the burned grass fuels were
14 intermixed with bare dirt. The remaining daylight did allow us to work around this area
15 where we saw signs of backing fire close to the portion of Pocket Ranch Road that ran
16 between the origins. We observed indicators of protection, grass stem, sooting, and
17 staining showing backing fire spread. Blue fire pattern indicator flags were used to
18 identify backing fire pattern indicators.

19

20 FRANKLIN and I concluded that day's examination of the scene at approximately
21 7:00 PM. At approximately 7:35 PM, a Pacific Gas and Electric (PG&E) employee
22 arrived in the area. The employee, Michael JONES, tested the power lines near pole
23 "7" and in the road, confirming they were deenergized. He said they were not grounded
24 and could still be dangerous. JONES left two orange cones at the conductor crossing
25 the road still attached to pole "7" and departed. Having confirmed this was the overall
26 fire area and identified a manageable area to protect, we had requested security to
27 maintain control of the scene. There was a shortage of private security personnel from
28 the demand caused by the multiple major fires. Two firefighters from Napa County Fire
29 were assigned to keep the scene secure that night. Erik ANESON and Andrew
30 WHEELER arrived around midnight, and were briefed on the situation. They were

1 instructed to only let through any fire engines needing to get to or from the Pocket
2 Ranch and advised of the alternate route. We briefed them on safety considerations
3 including the ungrounded power lines and the uncontrolled fire. They were also
4 instructed not to discuss the scene with others. FRANKLIN and I departed.

5
6 October 12th, 2017

7 FRANKLIN and I arrived back at scene at approximately 9:35 AM and relieved
8 the Napa County firefighters. ANESON said that no vehicles had passed through the
9 site during their shift. That morning I photographed pole "7" due to concerns an oak
10 tree (visible in background of Photo 0241), burned at its base, might fall into the pole. I
11 observed no noticeable changes in the condition of the pole or its attached conductors
12 from the times I saw it on October 10th, 2017. These photographs document the pole
13 and its attached conductors in Photos 0241 through 0245.

14

15 I then began working with FRANKLIN in the lower (northern) GOA. The south
16 side of the lower GOA we determined to be at Pocket Ranch Road where it ran
17 between the two origin areas. The north side we determined to be several yards below
18 the power pole marked with a painted "6". The west side was in a flat open area of
19 grass leading uphill into heavier vegetation toward Pocket Ranch Road. The east side
20 was determined east of the spur ridge and a line of oak trees roughly in-line with the
21 power line path.

22

23 Photo 0106 shows where the advancing fire vector of the lower origin was
24 identified below Pocket Ranch Road. We examined this origin area in the same
25 manner as the upper one. We used red, yellow, and blue fire pattern indicator flags to
26 mark advancing, lateral, and backing fire pattern indicators, respectively. We started
27 working our way downhill from the road, moving east and west in an "S" pattern. We
28 identified advancing fire spread indicators between lateral transition zones on the east
29 and west sides. The advancing vector was identified by indicators of: protection, grass
30 stem, freezing, angle of char, sooting, staining, white ash, and again an overall V

1 pattern of more highly consumed fuels. The base, or point, of the V was near the fallen
2 portion of tree lying on the conductor.

3

4 The east and west edges of this lower advancing vector showed signs similar to
5 those seen at the upper origin area. Fire intensity was relatively lower in these areas of
6 transition, shown by more remaining grass stems and lower levels of scorching and
7 charring of foliage. On the west side, a tree had fallen which appeared only burned
8 near its base. Its green leaves and unburned branches showed it fell after the fire had
9 passed. A flat, open area was west of this fallen tree. Grass stem and protection
10 indicators showed the fire moved laterally to the west through the area. On the north
11 side of the flat, the topography changed to the overall north-facing slope, and the fire
12 transitioned to a backing vector. On the east side of the fallen tree were more lateral
13 indicators west of the advancing vector. This included an area of lesser consumption of
14 fuels. Photo 0125 shows some of this area as well as the flat area in the top-left corner.
15 Patterns of protection, freezing, angle of char, sooting, staining, and white ash were
16 found along the lateral zone. The east side lateral area identified was similar to the one
17 seen at the upper origin area. This area showed a southeast lateral vector where the
18 fire moved side-slope and uphill at an angle to Pocket Ranch Road. Downhill from this
19 area, closer to the fallen tree top, the lateral fire spread was more to the east where it
20 burned a short distance up to the spur ridge along the power line path. East of the spur
21 ridge, evidence of the east winds again became apparent in the more open, less
22 sheltered areas. Considerably more grass stems remained in this area showing the fire
23 backed into the wind as it moved east. Indicators of grass stem, protection, sooting,
24 staining, and white ash were present at the east side lateral area.

25

26 Moving downhill through the advancing area between the lateral areas east and
27 west showed these areas coming together close to the downed tree top lying on the
28 conductor. FRANKLIN and I continued around this area that we knew to be nearing the
29 Specific Area of Origin (SOA). We began to work the area we knew showed backing
30 fire spread to continue to establish the SOA. We started assessing indicators below

1 power pole "6". Fuels north (downslope) of pole "6" showed lower intensity burning,
2 with little damage to low hanging leaves of trees and brush. Many more grass stems
3 remained and tree leaves were less consumed than in areas under the trees in the
4 advancing and lateral zones. Other indications of backing fire included: protection,
5 freezing, angle of char/scorch, and sooting.

6
7 At approximately 11:00 AM, CAL FIRE Forester Peter LEUZINGER and CAL
8 FIRE Battalion Chief Matt GILBERT arrived at scene. We led LEUZINGER to the area
9 where the downed piece of tree top was lying on the conductor, instructing him to be
10 careful of our indicator flags and the conductor. LEUZINGER said he would provide us
11 a written statement regarding his observations of the portion of tree top and the related
12 tree (Attachment 15). LEUZINGER identified an area of rot that was also evident to
13 FRANKLIN and me. The rot was evident in a split on the portion of tree top on the
14 ground as well as in a similar-shaped split on a nearby oak tree. LEUZINGER departed
15 while GILBERT remained at scene. LEUZINGER also included Photos PL_165 through
16 PL_171 with his statement of observations (Attachment 12).

17
18 GILBERT assisted FRANKLIN and I with further flagging of indicators. Together,
19 we completed flagging of the lower origin. We used lime green flags to show the
20 smallest area we could identify as the lower SOA (Photo 0003). This SOA was
21 approximately 5 feet by 14 feet in size. We then returned to the upper origin area
22 where we continued flagging. GILBERT assisted us for a short while prior to leaving.
23 Our progress was slow in this area due to the sparser fuels and intermixed bare dirt.

24
25 That afternoon two PG&E employees approached the scene. At approximately
26 1:35 PM, an employee arrived who was inspecting all the power lines and poles in the
27 area before the company would attempt to restore power. We discussed getting this
28 portion of downed power lines grounded. He said the power lines could be made safe
29 without disturbing the area where we were working. He told us they would work on
30 getting that done. We allowed the inspector into the upper portion of the lower GOA so

1 he could determine if there was any other damage to the poles or power lines to the
2 north and note the work that needed to be done. At approximately 3:35 PM another
3 PG&E employee arrived. We also discussed grounding of the power lines with him. He
4 told us he would get to a location of cell service and make some calls to see about
5 getting that done. He told us if we did not see him in about 15 minutes, it was unlikely
6 the grounding would happen that day. He did not return and no grounding occurred.

7
8 Scene security was now going to be provided by SVT Gruppe Incorporated
9 whenever FRANKLIN and I were not at scene. One security guard was assigned per
10 shift. Each night before we would depart, FRANKLIN and/or I would brief the assigned
11 security guard. The security guards were each briefed on the situation and our
12 expectations. These briefings included the same instructions given to Firefighters
13 ANESON and WHEELER. Debriefings also occurred when we would return to the
14 scene in the mornings. During the debriefings, there were two reports by the SVT
15 guards of vehicles passing to get to and from the Pocket Ranch. These involved one
16 truck during the shift beginning October 14th, and one engine during the shift beginning
17 October 15th. FRANKLIN and I departed at approximately 7:05 PM.

18
19 October 13th, 2017

20 FRANKLIN and I arrived back at the scene at approximately 7:50 AM. After
21 relieving the SVT security guard, we continued placing indicator flags in the upper origin
22 area working toward a SOA. The consulting arborist, Mark PORTER arrived
23 midmorning, along with GILBERT. We escorted PORTER to the area of the tree top
24 and showed him the involved tree. PORTER identified areas of rot in the tree top and
25 tree. He also described areas on the tree having visible signs of "woundwood".
26 PORTER showed us an area of the tree where removal of a large portion of the tree
27 had occurred years earlier. PORTER said these areas would allow pathogens to enter
28 the tree past the protective bark. He said these signs of weakness should have been
29 apparent to those inspecting the vegetation surrounding the power lines. In the
30 following days, I took photographs representing some of the observations PORTER

1 discussed. Photo 0071 shows an overview looking towards the east of the tree top
2 portions and the tree. Photo 0073 shows the break on the tree. Photo 0076 shows the
3 orientation of the break in relation to the powerline path. An example of the
4 "woundwood" PORTER described can be seen in Photo 0091, shown as a thick buildup
5 of wood around the opening. Photos 0092 through 0096 show the area where a portion
6 of the tree was previously removed. Photo 0093 shows how the area formed a flat
7 plane, indicative of that portion being removed. PORTER made notes and took
8 measurements and told us he would provide a report of his observations of the tree top
9 and tree (Attachment 16). PORTER described what portion of the tree top should be
10 collected for evidence based on the visible rot. These portions were later collected as
11 Items 1A, 1B, and 2 (Attachment 17). PORTER discussed having wood samples from
12 the items we would collect sent to a laboratory for testing. Further information on the
13 testing is included in his report.

14

15 FRANKLIN and I returned to flagging indicators at the upper origin area. At
16 approximately 3:30 PM, FRANKLIN began photographing fire pattern indicators in the
17 lower GOA using his assigned camera (Photos 0001 through 0037). He also
18 photographed an area of discoloration on the conductor near a portion of the broken
19 tree top that we had observed while assessing indicators at the lower origin (Photos
20 0008 through 0010). I continued assessing fire pattern indicators at the upper origin.
21 The upper SOA was determined to be above the cut-bank on the uphill side of Pocket
22 Ranch Road where the road ran between the two origin areas. The upper SOA was
23 approximately 4.5 feet by 10 feet in size, in the shape of a rectangle.

24

25 Two different search techniques were used for the two SOAs. A parallel lane
26 technique was chosen for the lower SOA. This technique uses a series of marked
27 lanes laid parallel to the advancing fire vector. The lanes systematically break the SOA
28 into manageable search areas. This technique was chosen for the lower SOA primarily
29 because of the orientation of the trunk portion of the tree top within the SOA. A
30 perpendicular technique would have placed a large obstacle within each lane, causing

1 the need to place separate lanes on each side of the trunk. I placed lanes at the lower
2 SOA as shown in Photos 0246 through 0255. I began the search on the downslope
3 side to avoid causing materials to roll down onto unsearched lanes. I conducted a
4 visual search of each lane using a straightedge to maintain a systematic search. I also
5 used a magnifying glass when necessary. The straightedge was longer than the width
6 of the lanes. This allowed me to use the entire length of the straightedge to guide the
7 visual search into an overlapping area of the adjacent lanes to ensure an area was not
8 overlooked. I looked for any indications of ignition, both from the conductor and from
9 other causes. I found no further signs of ignition. There were no other obvious
10 fulgurites, and I did not see evidence of any other ignition source. After completing the
11 visual search of each lane, I used a magnet to search that lane before moving to the
12 next. The magnet search yielded only small specks of dirt, likely containing iron. I did
13 not magnet search the portions of the lanes at the conductor since it still was not
14 grounded. The only source of ignition I found in the lower SOA was the conductor that
15 was under and along portions of the broken tree top. The area of conductor
16 discoloration shown in Photos 0008 through 0010 was found in search lane 3 (Photo
17 0251). Photo 0010 also shows a bulged area near the discoloration on the conductor.
18 This discoloration appeared similar to the areas of discoloration on the same conductor
19 where it was on the road and close to the fulgurites.

20

21 FRANKLIN and I completed examination of the scene that day and departed at
22 approximately 7:10 PM. Scene security was again being provided by an SVT Gruppe
23 Inc. security guard.

24

25 October 14th, 2017

26 I arrived the following morning at approximately 7:45 AM and relieved the SVT
27 security guard. FRANKLIN began the morning by visiting NAVE's residence, to see the
28 area from NAVE's reported vantage point when he first saw the fire. When FRANKLIN
29 returned to the origin scene, he told me NAVE described seeing fire in the area where
30 my department vehicle (visible from NAVE's residence) was parked at the east

1 switchback. While FRANKLIN followed up with the witness, I photographed the area of
2 the upper SOA (Photos 0256 through 0262). The area is identified by green flags in the
3 photos. While not visible in the photos, the lower SOA would be in the direction of the
4 top left of Photo 0262. Then I began a search of the upper SOA.

5
6 For this SOA, I chose to use a perpendicular lane technique. This technique was
7 chosen so that I could work from the downslope side where I would not cause materials
8 to roll into unsearched areas. These lanes were arranged perpendicular to the
9 advancing vector of the fire. The lanes were placed as shown in Photos 0263 through
10 0272. The same methods of visual and magnet searching were used at this SOA as
11 were used at the lower SOA. The visual search revealed no indications of ignition.
12 Unlike the lower SOA, no conductor was laying in this SOA. This allowed the magnet
13 search to be conducted throughout this SOA. Again, the only items identified by the
14 magnet were small specks of dirt. The only probable sources of ignition were either a
15 spot fire from below the road or contact of the power lines with the ground as they were
16 brought down by the tree top.

17
18 As I was completing the search of the upper SOA, Dave KAROLY and Dan
19 GREGORY, surveyors with CAL FIRE, arrived to perform a LIDAR survey of the scene.
20 LIDAR (Light Detection and Ranging or Light Imaging, Detection, and Ranging) can
21 create an accurate digital image, or model, of the objects surveyed (Attachment 18).
22 An electronic copy of data from the LIDAR surveys done by the CAL FIRE survey team
23 for multiple fires, including the Pocket Fire, will be stored at the CAL FIRE LNU Santa
24 Rosa evidence locker.

25
26 When the surveyors had completed their operations, FRANKLIN and I prepared
27 to collect portions of the tree top as evidence. I photographed the overall area, the
28 items to be collected, the involved tree, and the conductor running under the tree top. I
29 also photographed the tree top showing the removal cuts made to collect Items 1A and
30 1B. Photos 0038 through 0083 show these areas described. These photos were taken

1 by me using FRANKLIN's department-issued camera, as it already contained
2 photographs he had taken of indicators in the lower GOA. Using a chainsaw, I cut the
3 tree top where PORTER had said to cut it. PORTER said the cuts would allow us to
4 collect what was needed to represent the rot and break. This required two cuts as
5 PORTER said to remove it just past a fork in the trunk of the tree top. Photo 0081
6 shows the cuts made. A crack at the fork had caused too much damage to hold the
7 forked area together. The weight of one side of the fork could no longer be fully
8 supported by the remaining wood at the crack once removed from the supporting tree
9 top. When the upper cut was made, the top portion of the fork sagged toward the lower
10 portion (compare angle of cuts in Photos 0081 and 0083). After making the lower cut
11 and bringing both portions of the fork to the ground, we realized we would not be able to
12 move the pieces without them separating. There was almost no wood connecting the
13 two pieces together. Item 1 was then collected as two separate pieces, Items 1A and
14 1B. The larger of the two pieces was identified as Item 1A. Photos 0082 and 0083
15 show the area of separation of the two items. The portion of the trunk found separated
16 from the nearby tree top was collected as Item 2. It is shown in Photos 0062 and 0063.
17 GILBERT arrived around the time the surveyors were finishing and helped FRANKLIN
18 and I move the evidence items up to the road. GILBERT took custody of Items 1A, 1B,
19 and 2 and transported them to a CAL FIRE evidence locker in Middletown.

20

21 That afternoon it was determined FRANKLIN would be assigned to assist on
22 another fire the following day. Since I would be the only investigator at scene and did
23 not have cell service at the origin, we requested SVT provide site security 24 hours per
24 day. FRANKLIN and I departed at approximately 7:35 PM, with an SVT guard on site.

25

26 October 15th, 2017

27 I arrived at scene at approximately 7:30 AM. SVT security remained in the area
28 as requested in case I needed to leave the scene. I began the day taking additional
29 photographs of the involved tree (0084 through 0096). Again, I was using FRANKLIN's
30 camera. I also took several photos (0097 through 0100) to show the canopies of other

1 standing trees in the area so they could be compared to the canopy of the involved
2 tree. Photo 0084 shows the overall canopy of the involved tree to have less dense
3 foliage than some of the surrounding trees. Photo 0099 shows the involved tree at the
4 right edge of the photo and a tree at the center having a greener appearance of the
5 foliage than the involved tree. Photos 0101 through 0104 show other trees fallen over
6 and near the conductor. The green leaves and unburned tops show these trees fell
7 after the fire had burned through the area. I concluded use of FRANKLIN's camera by
8 photographing some of the flagged indicators in the lower origin area (Photos 0105
9 through 0168).

10
11 Later, I collected a fulgurite from the portion of the road between the two origin
12 areas as an example of the general characteristics of the fulgurites observed on Pocket
13 Ranch Road. The location the fulgurite (Item 3) was found is shown in Photos 0273
14 through 0275. Photos 0276 and 0277 show its approximate size. A hole, or tubular
15 formation, was visible at one edge of the fulgurite (Photo 0277). I used the metal rod
16 from an indicator flag to gauge the depth of the hole. Using a piece of tape to mark the
17 depth, I found the rod went into the ground over two and one-half inches (Photos 0278
18 and 0279). The fulgurite was found several inches from an area of discoloration on the
19 nearby conductor (Photo 0280). The discoloration had the appearance of being caused
20 by heat. The center of the discoloration appeared as a copper color. The edges were
21 black and sooty, and surrounding this was a green copper patina (Photos 0281 and
22 0282). Photo 0283 shows the tube formation after collecting the larger fulgurite pieces.
23 Photo 0284 shows what remained after collection.

24
25 The rest of the day I spent continuing to document the scene with photographs,
26 field sketches, measurements, and notes. I photographed a sampling of the flagged
27 indicators from the upper origin, as I had done in the lower origin. I generally took
28 overall, mid-range, and close-up photographs of the indicators to show their location
29 and orientation to the fire's spread (Photos 0285 through 0368).

1 The next series of photos (0369 through 0408) show both power poles and areas
2 of the power lines between them. The series starts at pole "7", works down the
3 conductor from the western side of the span to pole "6", then along the conductor from
4 the eastern span back to pole "7". I used a series of letters to identify the broken ends
5 of the conductors. Break "A" was on the western span. Breaks "B" and "C" were on the
6 eastern span. Break "A" occurred close to pole "7". This left most of the conductor
7 from the western span still attached to pole "6". PG&E confirmed the power came from
8 that side. This would account for the fulgurites found in the road near the conductor
9 that was attached to pole "6", but not on the conductor that was broken from pole "6"
10 and laying across the same section of road. The western span would later be collected
11 as Items 5 and 7, with break "A" separating them. Item 7 was the longer piece. From
12 pole "6", Item 7 ran under the tree top of the involved tree, and on the ground almost to
13 the road. Near the north edge of the road, the conductor was suspended in brush and
14 tree limbs. Beyond this suspended area, the conductor went back to laying on the
15 ground next to and on the road. Here it laid in a twisted mass. Photos 0379 and 0380
16 show the overall area of the "A" end of item 7. Photo 0381 is a close-up of the "A" end.

17

18 Photos of pole "6" show how the pole appeared to have shifted. In Photo 0387,
19 a gap is visible between the dirt and the uphill (southern) side of the pole. I believe
20 this gap was likely created due to the loss of tension from the power lines going to pole
21 "7" when they broke. The power lines continued downhill on the north side of pole "6".
22 This would act as a force pulling the top of the pole in that direction.

23

24 The eastern span would later be collected in three pieces. Item 6 would come
25 from pole "6". Item 4 would come from pole "7". Item 8 would be collected from the
26 ground, nearer to Item 6. Following the east span from north to south, the order would
27 be: pole "6" – Item 6 – break "B" – Item 8 – break "C" – Item 4 – pole "7". A simplified
28 drawing of the conductors, breaks, and poles is shown as Attachment 19. Photos 0392
29 through 0398 show the overall area and the ends of the conductors (Items 6 and 8) at
30 break "B". Photos 0399 through 0401 show break "C" on Item 8. Photos 0402 through

1 0406 show break "C" on Item 4.

2

3 I took measurements from the scene from several fixed points. Some of these
4 points were preexisting, including: pole "6", pole "7", the involved tree, and a power
5 pole providing service to a water well. Much more precise measurements could be
6 provided by the LIDAR scan. Reference Point 1 (RP1) was a control point placed by
7 the LIDAR survey team. It was made using a large nail placed in the ground. Photos
8 0409 through 0414 show RP1. Reference Point 2 (RP2) was also made using a large
9 nail. This one I placed near ground level on the east side of an oak tree along the road.
10 Photos 0415 through 0418 show RP2. The west side of the power pole servicing the
11 water well was used as Reference Point 3 (RP3). Photos 0419 through 0421 show
12 RP3. Photos 0422 and 0423 were taken from RP3 to show the orientation to RP2. I
13 used a method of triangulation to measure the locations of the approximate centers of
14 both SOAs and the approximate areas where the tree top portions and fulgurite were
15 collected. This method used a set of three measurements, each from a different fixed
16 point, to locate the area. I also used the handheld GPS to find the approximate
17 locations of these areas. The surveyors would also have collected some of this
18 information with much more accurate instruments. I also collected approximate
19 measurements of the involved tree, its top, and the approximate center of the power
20 line path. I estimated the center of the power line path by standing under what
21 appeared to be a communications line which was still suspended between poles "6" and
22 "7". Based on my experience on multiple emergency incidents involving above-ground
23 utility lines, I have been told multiple times by utility company employees that such lines
24 can include phone, cable, or fiber optic lines. In my experience, these lines are usually
25 attached directly to power poles below the level of electrical conductors. I found the
26 involved tree to be approximately 15 feet perpendicular from the center of the power
27 line path. The center of the power line path perpendicular to the saw cuts made on the
28 tree top to collect evidence was approximately 14 feet. From the involved tree to the
29 saw cuts was approximately 35 feet (line was not perpendicular to the power line path).
30 The measurements I took that day are documented in Attachment 20.

1

2 I left the scene at approximately 7:15 PM. SVT was still maintaining security
3 over the site, and I ensured a new guard was briefed before leaving.

4

5 October 16th, 2017

6 I arrived back at scene the following day at approximately 10:40 AM. I was
7 notified by the security guard his company was running short on personnel. He said the
8 scene had not gone uncovered, but if he were able to leave now, he could return for the
9 night shift. I agreed and told him I would maintain control of the scene that day. I
10 removed the indicator flags, then cleaned and organized equipment. There were
11 noticeably more vehicles in the area that day. I saw more fire department vehicles and
12 utility company vehicles than on any other day, but none had to travel over the
13 conductors in the road. Another PG&E employee, working with a Southern California
14 Edison employee, arrived and were inspecting for areas of damage to poles or power
15 lines. I escorted the two employees to pole "6" where they would be able to observe
16 the gap between the dirt and the pole's base and poles and power lines to the north.
17 The SVT security guard returned at approximately 8:45 PM, and I departed.

18

19 October 17th, 2017

20 On this day, FRANKLIN returned to the POCKET Fire to assist me with evidence
21 collection. FRANKLIN and I met at the staging area for the Pocket Fire at Highway 128
22 and River Road near Geyserville at approximately 12:30 PM. I had received instruction
23 to meet representatives from PG&E at the intersection at 1:00 PM who would assist
24 with collection of the conductors from the poles. While we waited, I saw a white Ford
25 Explorer marked with PG&E's logo along with an unmarked white Ford Explorer turn
26 onto River Road from eastbound Highway 128. The vehicles did not stop, and I did not
27 believe they were the ones we were waiting for because no bucket truck was with them
28 that could perform the work. While FRANKLIN and I waited, I spoke on the phone with
29 CAL FIRE Division Chief Shawn ZIMMERMAKER, who was coordinating the multiple
30 fire investigations. ZIMMERMAKER instructed me to only allow the PG&E personnel

1 into the scene who were needed to remove the lines and to not release the scene until
2 FRANKLIN and I were done. After 1:15 PM, a United States Forest Service employee
3 who I had recognized as a line supervisor on the Pocket Fire from the day before, drove
4 to where FRANKLIN and I were parked. He told us a group of PG&E trucks was on
5 Pocket Ranch Road headed toward the origin. No PG&E representatives ever met us
6 at the designated location.

7
8 FRANKLIN and I immediately drove from the staging area toward the origin. At
9 Pocket Ranch Road, just south of Alden Vineyards, we came to a group of several
10 passenger vehicles stopped in the road. I stopped and noticed yellow barrier tape had
11 been placed across Pocket Ranch Road ahead of the vehicles. I did not know who
12 placed the barrier tape. I was approached by multiple individuals; a female identified
13 herself as a PG&E representative, another I recognized as Michael GINN, who I knew
14 to be a private fire investigator and instructor of California State Fire Marshal fire
15 investigation classes. GINN told me he was the investigator representing PG&E. I
16 informed the group we would only be allowing the line removal crew into the scene and
17 when FRANKLIN and I finished the evidence collection, we would release the scene
18 completely. GINN and PG&E personnel objected. I removed the barrier tape and
19 asked the group to move their vehicles to the area of the vineyard entrance where we
20 could speak without blocking the road. GINN and PG&E employees continued to
21 protest not being allowed into the scene. I explained I was given clear instruction on
22 the matter and that this was being investigated as a crime scene.

23
24 I was informed the PG&E crew who would assist with the removal of conductors
25 was delayed while they drove a different route to our location. While we waited, I met
26 with the SVT security guard and ensured he understood not to allow anyone into the
27 scene until FRANKLIN or I directed. FRANKLIN then met me on the road to the origin
28 and informed me the PG&E crew arrived and he was taking some of them to assess
29 what trucks or equipment they needed to do the work. The crew retrieved the
30 necessary equipment and we began collection of the conductors at pole "7".

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A crewmember asked what components we wanted. I explained we wanted both conductors from the span between the two poles and did not need any other hardware from the poles. We agreed they would cut the lines 24 inches from the centers of the insulators. This avoided removal of line taps that went to the transformer on pole "7", which showed no indication of involvement in the fire cause. It also provided a consistent method of removal. When asked to mark the power lines to indicate which direction was positioned up, a crewmember offered to mark them as they had already done at other fires. They wrapped white tape around each conductor and marked a line with a felt pen on the top before removal. I similarly used orange tape to mark the top sides of other areas of conductors where they were on the ground. Orange tape was also used to identify the evidence item numbers and broken ends of the conductors. Evidence tags were later added for further description of the items. The ends cut by PG&E were not marked with tape and were left exposed.

The conductor pieces were assigned evidence item numbers in the order they were removed by PG&E. FRANKLIN took photos 0424 through 0427 during the collection process. Item 8 was not cut from a pole by PG&E since it was already a separate portion of the eastern span, broken at both ends. A sketch of the items collected and markings used to identify the breaks is included in Attachment 21.

Items 4 and 5 were collected from pole "7". Item 4 was taken from the eastern side of the pole. Item 5 was removed from the western side of pole "7". Items 6 and 7 were collected from pole "6". Item 6 was cut from the eastern side of the pole. Item 7 was removed from the western side and had to be cut 22 inches from the insulator because of the location of a connector, commonly called a line splice. Item 8 was not cut from a pole by PG&E since it was found on the ground broken from the other two portions of the eastern span. Refer to Attachment 19 for the simplified drawing.

Once PG&E had finished removing the conductors from the poles, they were

1 released. FRANKLIN and I continued work we had started to protect portions of the
2 conductors including, the broken ends of the conductors and areas that showed heavy
3 discoloration beyond sooting from smoke. These discolored areas appeared to have
4 resulted from high heat, and were a brighter copper color. We used bubble wrap, tape,
5 and plastic sheeting to protect the areas. Not including Item 5, which was short in
6 length, the conductors were coiled and secured with duct tape. After FRANKLIN and I
7 completed packaging the evidence, we released the scene to PG&E and other
8 investigators at approximately 6:15 PM.

9
10 October 24th, 2017

11 After a flight in a helicopter to take aerial photographs (0428 through 0441), I met
12 with two witnesses this day to collect follow-up information. First I met with C.
13 WILLIAMS, who had provided me with photos CW1 through CW7. C. WILLIAMS
14 provided me the dates and times she said were recorded by the phone for the photos.
15 She described the approximate directions she had taken the photos from by her home.
16 She also further described events as she recalled them the night and morning of the
17 start of the fire (Attachment 22).

18
19 Next I met with James TOVANI, a Fire Captain with Geyserville Fire Protection
20 District (FPD). I had contacted Geyserville FPD directly because the LNU ECC did not
21 have an accurate record of what resources were first at scene. When I had phoned
22 Geyserville FPD, TOVANI explained he was one of the first at scene and agreed to
23 meet with me. A summary of my meeting with TOVANI is included in Attachment 23.
24 TOVANI explained he learned of the fire when a man drove to their station as they were
25 about to respond to a different reported fire. He said the man asked if they were going
26 to the fire and pointed east. TOVANI said he looked that way and could see a glow at
27 the ridge near Pocket Ranch Road. TOVANI provided me a dispatch report for the
28 other reported call (Attachment 24). This gave a time close to when he responded to
29 the Pocket Fire. TOVANI showed me approximate locations they found active fire when
30 they responded using satellite imagery. The advancing areas he described were

1 consistent with conditions and observations described by NAVE, WILLIAMS, and C.
2 WILLIAMS. TOVANI said they could not initially estimate the fire's size due to darkness
3 and terrain. Later, based on where they had encountered active fire, he said they
4 estimated the fire was 200 acres. He said the fire seemed to be pushed from the north,
5 but they also experienced swirling winds. TOVANI described wind shifts later in the
6 morning, as C. WILLIAMS had also noted. Data from the Hawkeye RAWs shows a
7 period in the morning of October 9th when winds decreased considerably as well as
8 some varying wind directions (Attachment 4).

9
10 Based on the investigation of the Pocket Fire, the following cause class was
11 included:

12
13 **Electrical Power**

14 Two GOAs were identified at the Pocket Fire. Downed electrical conductors ran
15 through both GOAs. In the lower origin, one conductor ran through the SOA. The two
16 GOAs were on opposite sides of Pocket Ranch Road.

17
18 The lower SOA was found approximately 100 feet below (north) of Pocket Ranch
19 Road. This SOA contained a portion of the broken tree top lying on top of a conductor
20 still connected to the western side of pole "6". This portion of conductor (Item 7)
21 showed evidence it had been energized when it contacted the ground. This was
22 demonstrated by the fulgurites found in the road. The fulgurites were mostly found near
23 areas of damage to the conductor. This damage included discoloration where the
24 conductor was a brighter copper color, and in some cases, sharper bends in the
25 conductor. PG&E employees confirmed the electricity flowed in the direction from pole
26 "6" to pole "7". A grid search of the lower SOA yielded no other sources of ignition. The
27 only competent ignition source found within this SOA was the conductor that was under
28 the portion of tree top. The electricity from this energized conductor would have been
29 sufficient to ignite dry vegetation under or around the broken tree top.

30

1 The upper SOA was located closer to, and above Pocket Ranch Road in
2 comparison to the lower SOA. The conductor connected to the eastern side of pole "7"
3 (Item 4) was found in contact with the ground near the upper SOA, but not running
4 through it. Because the electricity flowed from pole "6" toward pole "7", this conductor
5 was likely not energized when it contacted the ground. No fulgurites were found along
6 this conductor. Item 4 did not appear to be a competent ignition source. No physical
7 sign of ignition was found within the upper SOA following a grid search.

8
9 Based on the totality of circumstances, FRANKLIN and I considered two
10 probable causes for ignition of the upper origin. One cause would have been from an
11 ember blown across Pocket Ranch Road, landing in the dry fuels, and igniting the
12 vegetation as a spot fire. This, or direct flame contact from wind-driven flames caused
13 the Pocket Fire to cross multiple roads, trails, and other barriers. The advancing vector
14 from the lower origin extended across Pocket Ranch Road in a more southwest
15 direction, where macroscale indicators showed the fire burned up through the lesser
16 drainage. This was not in-line with the upper origin, where a spot fire would have been
17 most likely. The other probable cause of ignition for the upper origin was from the
18 same conductor that caused the fulgurites in the road (Item 7). When this conductor
19 broke from close to pole "7", gravity caused it to be pulled downhill toward pole "6". A
20 large section of this conductor fell into the road in a haphazard arrangement. This is
21 where the fulgurites were located. The upper SOA was in-line between the haphazard
22 arrangement of conductor and pole "7". Based on the slope, alignment, and similar
23 location of ground contact of the downed eastern conductor (Item 4), it is likely the
24 energized conductor (Item 7) contacted the vegetation above the road before coming to
25 rest on the road. The upper SOA was in an area where this contact could have
26 occurred.

27
28 The only ignition source found in the general area of both origins was the
29 downed power lines. These power lines were brought down by the tree top which broke
30 from a nearby oak tree, fell across the power lines, and ultimately came to rest on top of

1 a portion of the western conductor. The broken tree top was burnt. Other nearby tree
2 tops of fallen trees were not burnt. This indicates the fire burned in the lower origin
3 area while the broken tree top was on the ground. It did not fall after the fire passed
4 through the area. Backing fire pattern indicators to the north (downhill) show the fire did
5 not burn upslope to the broken tree top from somewhere downhill.

6
7 PG&E outage data (Attachment 25) shows an outage at approximately 11:28 PM
8 on October 8th, 2017 on the Cloverdale 1102 Circuit, within the Sonoma Division. The
9 data provided by PG&E shows an operating device, Fuse 1381, was involved at that
10 time. The address described for this device is shown as, "22000 POCKET RANCH RD
11 1/2 MILE BEYOND GATE". This description is close to the fire's origin. The GPS
12 coordinates included show this location at the switchbacks. Additional documentation
13 provided by PG&E shows event data for related equipment on this circuit. These
14 documents include data identified by PG&E as Supervisory Control and Data
15 Acquisition (SCADA) data. SCADA data shows other equipment on the circuit recorded
16 information apparently related to the outage beginning at 11:23 PM on October 8th,
17 2017, and over the next several minutes. Some of the PG&E data included as
18 attachments was formatted and converted to .pdf files to make the information more
19 readable. None of the contents of spreadsheet cells were changed in this process.
20 Other outage records (Attachment 26) were also provided by PG&E which are individual
21 equipment records. These records included those for Line Reclosers 262 and 570, and
22 Fuse 1381. Each of these records describe the equipment as open on October 8th,
23 2017 at 11:24 PM. They each describe the equipment condition as: Conductor,
24 Overhead, Broken, wire on ground. The line recloser records describe the cause as:
25 Equipment Failure/Involved, Overhead, and the fault type as: Line to Ground. The
26 record for Fuse 1381 describe the cause as: Environmental/External, Fire,
27 Forest/Grass, and the fault type as: Open Circuit.

28
29 PG&E reported an electric incident in the area to the California Public Utilities
30 Commission (CPUC) (Attachment 27). In an email to the CPUC dated October 21st,

1 2017, PG&E reports an electrical incident (PG&E incident number 171021-8592)
2 occurred near the intersection of Ridge Ranch Road and Ridge Oaks Road. The
3 location described is correct per Google Maps, however, as described earlier, residents
4 and their addresses show that naming of roads in the area is not accurate on multiple
5 maps. The email further describes a broken tree limb and wire down on Cloverdale
6 1102. This email says PG&E identified the broken tree limb and wire down on October
7 18th, 2017, however it was October 17th, 2017 that a PG&E crew and PG&E
8 representatives were at the area to assist with collection of the conductors. The
9 incident is further documented in a 20 Day Report PG&E also submitted to the CPUC.
10 Both the email and the 20 Day Report show the incident date as October 9th, 2017.
11 The email shows the incident time as 3:30 AM, while the 20 Day Report lists the time of
12 incident as unknown. This is likely based on the date and time CAL FIRE reported on
13 its website as the start time. PG&E provided no other incident reports for electrical
14 incidents in the area.

15
16 On March 8th, 2018, I met with consulting electrical engineer, Jim NOLT, to
17 review some of the evidence collected from the Pocket Fire. I showed NOLT
18 photographs of the overall scene, the conductors, and the fulgurites. I described to
19 NOLT how the conductors and breaks were identified, and there being two origins.
20 NOLT and I also discussed some of the SCADA data provided by PG&E. Based on the
21 description of the scene I related to NOLT, he said there would likely be SCADA data
22 identifying a phase-to-ground fault. The individual equipment outage records I received
23 after this meeting described line to ground faults on the line recloser records. We then
24 reviewed some of the SCADA data, however, full explanations or definitions were not
25 provided for the abbreviated data. A request was later placed through ZIMMERMAKER
26 for clarification of some of the data. ZIMMERMAKER said he would request the
27 information from PG&E. NOLT told me the "rule-of-thumb" when multiple origins are
28 involved is the one farthest from the electrical source is first chronologically, but this
29 was not always the case. I explained I could not determine whether the lower or upper
30 origin ignited first, but suspect they started at nearly the same time. NOLT and I then

1 examined items of evidence (Attachment 28). We looked at each of the conductor
2 ends at breaks, "A", "B", and "C". NOLT reviewed the ends of Items 5 and 7, at break
3 "A". He described the ends as showing strong signs of a tension-caused break. He
4 described the break having a tapering portion of the end of the conductor with a jagged
5 or crystalline tip from the conductor being stretched until it snapped. According to
6 NOLT, break "B" (between Items 6 and 8) showed signs of tension as well as beading
7 from heat. NOLT said the cause of break "C" was unclear (between Items 8 and 4).

8
9 On Wednesday, May 2nd and Thursday May 3rd, 2018, I met with California
10 Public Utilities Commission (CPUC) employees, including Raymond CHO and Wilson
11 TSAI, who had been to the Pocket Fire. I asked CHO for assistance with
12 understanding some of the data provided by PG&E. I could not determine the exact
13 time of the outage because the data provided by PG&E showed outage information
14 from approximately 11:23 PM to 11:28 PM on October 8th, 2017. The outage records
15 included in Attachment 26, all appear to show an outage at 11:24 PM. I showed CHO
16 information related to the operation of equipment. CHO looked at some of the PG&E
17 data and records attached to this report. He said the way the information was
18 formatted made it hard to understand, and it appeared it did not contain enough
19 information to completely identify all equipment operations. The request I had placed
20 for clarification of the data after speaking with NOLT had not yet been fulfilled. The
21 CPUC will be completing their own report for the incident.

22
23 On Thursday, May 17th, 2018, I received additional PG&E data from
24 ZIMMERMAKER. This data included definitions of terms from my request for
25 clarification of other PG&E data (Attachment 29). Based on my understanding of the
26 definitions, the information appeared to be related to the Cloverdale 1102 circuit
27 breaker. None of the information provided by PG&E indicated to me the circuit breaker
28 operated around the time of the outage on October 8th, 2017. This data also included
29 PG&E's Pocket Incident Description and Factual Summary (Attachment 30). The
30 Incident Description provided an overview of the incident. It describes a line-to ground

1 fault on the Cloverdale 1102 Circuit at 11:24 PM on October 8th, 2017.
2 ZIMMERMAKER later provided a supplemental report providing a timeline for his
3 requests to PG&E for information and PG&E's responses (Attachment 31). His report
4 also describes where the response information for multiple fires is stored on an external
5 hard drive. Due to the large volume of data provided by PG&E, only select documents,
6 or portions thereof, were included in this report. All data provided to ZIMMERMAKER
7 by PG&E regarding the Pocket Fire is stored on the external hard drive.

8

9 Conclusion

10 Based on my training and experience, examination and analysis of the origin
11 scene, evaluation by subject matter experts, and other supporting documentation, the
12 Pocket Fire was determined to be caused by an energized conductor contacting
13 vegetation after a portion of an oak tree top fell onto power lines. Based on PG&E
14 documentation, this occurred at approximately 11:24 PM on October 8th, 2017. The rot-
15 effected oak tree, caused the portion of the tree top to break and fall into the power
16 lines.

17

18 When the portion of oak tree top broke and fell into the power lines between
19 poles "6" and "7", both conductors broke and contacted vegetation on the ground. The
20 conductor from the western side of pole "6" (Item 7), was found with the tree top laying
21 on top of it. Arcing from this energized conductor ignited the dry vegetation, including
22 grass and leaf litter, at the lower origin. I believe the upper origin could have resulted
23 from a spot fire, but was most likely ignited by a portion of the same conductor (Item 7).
24 While no conductor was found directly in the upper SOA, the conductor likely arced
25 while in contact with the ground as it fell and was pulled downhill toward the road.
26 During this movement, the conductor likely contacted vegetation above that portion of
27 the road. I believe this was the cause of the upper origin for several reasons: the SOA
28 was in-line with pole "7" and the concentration of conductor from item 7 found in the
29 road, the amount of conductor found in the road compared to the distance from the
30 actual break, and because the two advancing vectors were not in alignment. All other

1 cause classes were excluded from involvement in the Pocket Fire.

2
3 PG&E also provided documents related to their vegetation management
4 program, including work requests (Attachment 32) and compliance audits. A work
5 request dated April 4th, 2017 shows an inspection occurred on March 13th, 2017
6 involving the span between poles "6" and "7". Further descriptions of the location
7 include 22000 Pocket Ranch Road and indicate end of the span crosses the road twice.
8 The involved span crossed Pocket Ranch Road twice near a switchback close to pole
9 "7". This request indicates vegetation in the area was inspected for trimming or other
10 work. A Madrone tree is listed on the work request. The involved oak tree did not
11 appear to be identified in this inspection. GPS coordinates for the listed tree
12 demonstrate the location was near the involved oak tree. The location of the
13 coordinates is shown by a screen capture image with the attached April 4th, 2017 work
14 request. Other provided work requests show the exact same span was included in
15 inspections in 2012 and 2015.

16
17 Compliance audit documents (Attachment 33) provided display a recurring trend
18 in the Sonoma District (Sonoma is referred to also as a division in some documents
19 provided by PG&E) in audit reports dated from 2013 through 2017. Multiple reports
20 document issues with the pre-inspection process where trees requiring work were not
21 identified, even though internal compliance levels were met. Several reports identify
22 lack of experience of those performing the pre-inspections as a contributing factor. In
23 multiple reports over the course of multiple years, PG&E's vegetation management
24 audits document awareness of the continuing issues of the pre-inspection process.
25 The recurring theme of pre-inspections missing vegetation in need of treatment shows
26 how the involved tree might have not been identified as a risk. However, the consulting
27 arborist, PORTER, identified signs the tree was susceptible to disease he said should
28 have been apparent to inspectors.

29
30 Attachment 34 is a screenshot from October 25th, 2017, of a satellite image of

1 the area prior to the Pocket Fire. Leaves on the suspect tree are visible as browner in
2 color compared to the green leaves in many surrounding trees.

3

4 Indications were present prior to the fire the involved tree was weakened and
5 susceptible to damage. Failure to remove all or portions of the weakened oak tree
6 resulted in a portion of the tree falling into and breaking the energized power lines. An
7 energized conductor contacted vegetation and ignited the Pocket Fire, ultimately
8 burning over 17,000 acres of vegetation and destroying multiple structures.

9

10 I reserve the right to reexamine this investigation if additional information is
11 discovered or provided to me that could amend or reinforce my opinions or conclusion.

12

13

14

15

 

16

Signature

Date

17

Jeremy Ward, #4005

18

Fire Captain Specialist

19

20

21

22

23

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10 - ATTACHMENTS:

1. FC-34 Interagency Report of Incident and Dispatch Action – 6 pages
2. Fire Weather Summary and Definitions – 6 pages
3. Electric Circuit Map – 1 page
4. RAWS Weather Data – 2 pages
5. Damage Inspection Report – 25 pages
6. Supplementary Investigation Report (ADDISON) – 1 page
7. Witness NAVE's Map – 1 page
8. Supplementary Investigation Report (multiple witnesses) – 5 pages
9. Area Overview Map – 1 page
10. Renumbering of Photographs – 3 pages
11. Photographic Log – 22 pages
12. Photos – 3 DVD/CD Discs and Binders 2, 3, and 4 – 457 pages
13. Sketch of Conductors in Road – 1 page
14. Satellite Image of Overall Fire Area – 1 page
15. Forester Observations – 4 pages
16. Arborist Report – 22 pages
17. Evidence Log – 1 page
18. LIDAR Survey – 4 pages and 1 DVD Disc
19. Simplified Drawing of Power Lines – 1 page
20. Measurements – 1 page
21. Sketch of Location of Evidence Items – 1 page
22. Supplementary Investigation Report (C. WILLIAMS) – 2 pages
23. Supplementary Investigation Report (TOVANI) – 2 pages
24. Geyserville Fire Department Report – 1 page
25. PG&E Outage and Equipment Data – 6 pages
26. PG&E Outage Records – 3 pages
27. PG&E Electric Incident Reports to CPUC – 4 pages
28. Supplementary Investigation Report (Evidence Viewing) – 2 pages

- 29. PG&E Definitions of Terms – 2 pages
- 30. PG&E Pocket Incident Description & Factual Summary – 9 pages
- 31. Supplementary Investigation Report (ZIMMERMAKER) – 2 pages
- 32. PG&E Vegetation Work Requests and Screen Capture – 5 pages
- 33. PG&E Vegetation Compliance Audits – 12 pages
- 34. Satellite Image of Brown Leaves on Tree – 1 page
- 35. Origin and Cause Report and Origin Sketches – 6 pages