

CAL FIRE



CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

Mendocino Unit
17501 North Highway 101
Willits, CA. 95490

INVESTIGATION REPORT

CASE NUMBER: 18CAMEU008646

CASE NAME: Ranch Incident

DATE: July 27, 2018

INCIDENT TYPE: Wildland Fire Investigation

INCIDENT INVESTIGATORS: Eric Bettger
Fire Captain Specialist
CAL FIRE Mendocino Unit

Craig Dudley
Fire Captain Specialist
CAL FIRE Mendocino Unit

1 **1 - VIOLATIONS:**

2 Not Applicable

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1 **2 - SUMMARY:**

2 On Friday July 27, 2018, at approximately 12:00 PM, the California Department of Forestry
3 and Fire Protection (CAL FIRE) Howard Forest Emergency Command Center received an
4 emergency 911 call reporting a vegetation fire near Potter Valley Road and Highway 20 in
5 Mendocino County. The vegetation fire was named the Ranch Fire and given CAL FIRE
6 Incident number 18CAMEU008646. The Ranch Fire consumed 410,203 acres. The Ranch
7 Fire was caused by a spark or a hot metal fragment landing in a receptive fuel bed. The
8 spark or hot metal fragment came from a hammer driving a 24-inch metal concrete stake
9 into the ground. The Ranch Fire was witnessed at 2 feet by 2 feet in size in annual grass 2
10 feet to 3 feet in height. The Ranch Fire became part of the Mendocino Complex when the
11 River Fire (CAL FIRE Incident number 18CAMEU008653) started 1 hour later. The Ranch
12 Fire started in the State Responsibility Area and burned in Mendocino, Lake, Colusa and
13 Glenn Counties.

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1 **3 – RESPONSIBLE PARTY:**

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RP-1 [REDACTED]

5400 Highway 20

Potter Valley, CA. 95469

Phone # [REDACTED]

Note: Hammering the concrete stake into the ground when the fire started.

1 **4 - VICTIMS & WITNESSES:**

2 Victims – There were multiple victims affected by the Ranch Fire. See the attached Damage
3 Assessment Report for individual property loss and the attached Green Sheet involving a
4 firefighter fatality.

5

6 W-1 George GONZALEZ

7 CAL FIRE Mendocino Unit Chief

8 17501 N. Highway 101

9 Willits, CA. 95490

10 Phone # (707) 459-7414

11 Note: Obtained the initial statement from [REDACTED].

12

13 W-2 Craig DUDLEY

14 CAL FIRE Mendocino Unit Prevention Officer

15 17501 N. Highway 101

16 Willits, CA. 95490

17 Phone # (707) 459-7425

18 Note: Photographs and the Origin & Cause Investigation.

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1 **5 - EVIDENCE:**

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3 Evidence #1

4 Item: 18CAMEU008646 Item Number 1

5 Description: 24-inch Concrete Stake

6 Collected By: Officer Eric BETTGER Badge # 4703 on July 27, 2018 at 4:37 PM

7 Stored: CAL FIRE Howard Forest Prevention Office Evidence Locker

8 Address: 17501 North Highway 101 Willits, CA. 95490

9 *Note:* Cracked top with hammer marks.

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11 Evidence #2

12 Item: 18CAMEU008646 Item Number 2

13 Description: Claw Hammer – Estwing Brand

14 Collected By: Officer Eric BETTGER Badge # 4703 on July 27, 2018 at 4:31 PM

15 Stored: CAL FIRE Howard Forest Prevention Office Evidence Locker

16 Address: 17501 North Highway 101 Willits, CA. 95490

17 *Note:* Hammer used to drive the concrete stake into ground.

18

19 Evidence #3

20 Item: 18CAMEU008646 Item Number 3

21 Description: 5 Metal Fragments

22 Collected By: Officer Eric BETTGER Badge # 4703 on July 27, 2018 at 4:16 PM

23 Stored: CAL FIRE Howard Forest Prevention Office Evidence Locker

24 Address: 17501 North Highway 101 Willits, CA. 95490

25 *Note:* Metal Fragments recovered with a magnet within the Specific Origin Area.

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1 **6 – CONDITIONS:**

2 The Ranch Fire started on a west facing slope at an elevation of 1055 feet above sea level.
3 The fire occurred in annual grass and oak woodland on a slope of approximately 25 percent.
4 The Lyons Valley RAWS station is located on Cow Mountain approximately 8.3 miles south
5 of where the Ranch Fire started. The Lyons Valley RAWS station is at an elevation of 3200
6 feet. The data from the Lyons Valley RAWS station is used as a reference at the time the
7 Ranch Fire started.

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9 Kestrel Digital Weather Reading
10 Temperature: 100 Degrees Fahrenheit
11 Relative Humidity: 20 Percent
12 Wind Direction: Northwest
13 Wind Speed: 3 MPH
14 Location: 5400 Hwy 20 Potter Valley, CA.
15 Time: July 27, 2018 at 1:00 PM
16 Elevation: 1055
17 Taken By: Craig DUDLEY

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19 Lyons Valley RAWS
20 Temperature: 88 Degrees Fahrenheit
21 Relative Humidity: 22 Percent
22 Wind Direction: West
23 Wind Speed: 15 MPH
24 Location: Cow Mountain Ukiah, CA.
25 Time: July 27, 2018 at 12:00 PM
26 Elevation: 3200 Feet

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1 **7 – VEHICLES/EQUIPMENT:**

2 No Vehicles or Equipment were associated with the Ranch Fire.

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1 **8 - PROPERTY:**

2 The Ranch Fire burned 410,203 acres. 280 Structures, including residences and out
3 buildings, were either damaged or destroyed as a result of the fire. See the attached
4 Damage Assessment Report for individual property loss. The fire started in the State
5 Responsibility Area located in Potter Valley, California. The Ranch Fire Burned in
6 Mendocino, Lake, Colusa and Glenn Counties. The fire burned in the State Responsibility
7 Area, the Local Responsibility Area and the Federal Responsibility Area.

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1 **9 - NARRATIVE:**

2 On Friday July 27, 2018, at approximately 12:05 PM, the CAL FIRE Howard Forest
3 Emergency Command Center (ECC) dispatched a wildland response to a vegetation fire
4 located at the address of 5400 East Highway 20 in Potter Valley, California. The fire was
5 named the Ranch Incident by the Howard Forest ECC. At 12:11 PM, the Mendocino County
6 Cooperative Aerial Fire Patrol arrived at scene and reported an approximate 1 acre fire, with
7 a moderate rate of spread, above the structures on the property. CAL FIRE Prevention
8 Officer Craig DUDLEY and I responded in my vehicle from the CAL FIRE Howard Forest
9 Headquarters in Willits and arrived at scene at approximately 12:30 PM. At scene, I saw a
10 terrain driven fire burning up slope in annual grasses and oak woodland. The fire was
11 approximately 20 acres in size.

12

13 I spoke with CAL FIRE Mendocino Unit Chief George GONZALEZ who was already at
14 scene. GONZALEZ obtained a verbal statement from the property owner saying he was
15 responsible for starting the fire by hammering a metal stake into the ground. Officer DUDLEY
16 went up slope to secure the fire's origin and I went to speak with the property owner, who I
17 identified as [REDACTED] through his California Driver's License. [REDACTED] was located in his
18 residence and told me the following in summary;

19

20 [REDACTED] said he was putting up a shade cloth for the above ground water tanks located up the
21 hill from his residence. He said the shade cloth blew down sometime last year and he wanted
22 to put it back up as a barrier from the sun. He said he was in the process of putting it up
23 when he agitated an underground yellow jacket's nest. [REDACTED] said he is allergic to bees and
24 waited for the yellow jackets to stop swarming. Once they did, [REDACTED] quickly hammered a 24-
25 inch concrete stake into the ground to plug the hole. He said he used a claw hammer and
26 drove the concrete stake 10 to 12 inches into the ground. [REDACTED] said he smelled smoke and
27 saw a vegetation fire next to where he was working. [REDACTED] said the fire was 2 feet by 2 feet
28 in size when he first saw it. He said the fire started in grass he estimated to be 2 to 3 feet in
29 height. He said the vegetation fire moved quickly to the shade cloth located on the ground a
30 few feet away. [REDACTED] grabbed a shovel and tried to extinguish the fire, but said the ground

1 was so hard it was difficult to get enough dirt to be effective. [REDACTED] said he tried to use a black
2 polyurethane waterline next to the water tanks to extinguish the fire, but the line kinked from
3 the heat of the fire and restricted the water flow. [REDACTED] then tried to use a 1½ inch PVC water
4 line connected to the water tanks, but was unable to get enough water pressure to reach the
5 fire. [REDACTED] said he unhooked the trailer from his four-wheeler and tried to get in front of the
6 fire traveling uphill from the water tanks. He said in the process, he lost control of his four-
7 wheeler and had to jump off. The four-wheeler rolled downhill lodging itself between the
8 water tanks and a cut bank. [REDACTED] said he ran downhill to his residence and called 911 to
9 report the fire. He then turned on the water pump near his residence to supply the water
10 tanks to help support the incoming fire suppression resources. At the time of the interview,
11 [REDACTED] was suffering from what appeared to be smoke inhalation and heat exhaustion. [REDACTED]
12 refused an ambulance and medical treatment.

13
14 After speaking with [REDACTED], I walked uphill approximately 200 yards from his residence to
15 where the heel of the fire was located. I saw the fire had burned up hill and had a U-shaped
16 burn pattern around the water tanks described by [REDACTED] (See Attachment 1, Air Attack
17 Photographs). There were four 2500-gallon water tanks located on a landing approximately
18 50 feet long by 20 feet wide. Officer DUDLEY was in this area and was taking weather with
19 a Kestrel Digital Device. The weather DUDLEY received at approximately 1:00 PM, was a
20 temperature of 100 degrees Fahrenheit, a relative humidity of 20 percent, a northwest wind
21 at 3 miles per hour, with gusts of 5 mph and clear skies. DUDLEY and I started an origin
22 and cause investigation.

23
24 I walked uphill along a barbwire fence in a counter-clockwise direction around the water
25 tanks. I looked for macro scale and micro scale fire pattern indicators showing the direction
26 the fire traveled. I then retraced my path and walked in a clockwise direction. I observed
27 advancing fire pattern indicators which traveled upslope to the east. I observed lateral fire
28 pattern indicators which traveled side hill to the north and south. I observed backing fire
29 pattern indicators that traveled downhill to the west. Fire traveled in an outward direction
30 from the landing where the water tanks were located. I established the General Origin Area

1 (GOA) as a 200-foot by 200-foot area extending uphill, downhill and laterally from the water
2 tanks. I walked counter-clockwise around the GOA identifying fire pattern indicators. I then
3 retraced my path walking in a clockwise direction.

4
5 On the downhill side of the landing, I identified fire pattern indicators, such as rock staining,
6 stem fall and protection. The stem fall I observed, was arranged in a half circle pointed uphill
7 towards the landing. I saw degree of damage on the uphill side and protection on the downhill
8 side on fallen debris, such as twigs and oak galls from the nearby oak trees. I also observed
9 degree of damage on the uphill edge of a small board ten feet away from the landing. I also
10 saw protection on the standing grass stems. The fire pattern indicators I observed, were all
11 approximately twenty feet from the landing. The fires direction of travel in this area was from
12 the landing, downhill in a west direction.

13
14 Side hill, on the south side of the water tanks, I identified fire pattern indicators, such as rock
15 staining, degree of damage and protection. I saw degree of damage on an arched oak
16 branch lying on the ground approximately two feet in length. The middle section of the oak
17 branch was arched off the ground and showed fire damage on the backside where the fire
18 had eddied. I also saw fire damage on a 6-inch piece of dimensional lumber and protection
19 on the back side showing fire traveled from the landing, outward in a south direction. I saw
20 staining on three sides of a rock and protection on the south side showing fire traveling from
21 the north to the south. I saw protection on standing grass stems showing fire traveled
22 upslope around the tanks. The indicators I observed in this area showed fire traveled in a
23 south direction and then uphill around the water tanks.

24
25 Uphill from the water tanks, I identified fire pattern indicators such as angle of char on grass
26 clumps, cupping and protection on standing vegetation and rock staining. I saw stem fall and
27 curling on small green blades of grass pointing towards the landing. The annual grasses in
28 this area was almost fully consumed and had angle of char showing fire traveled uphill. The
29 fire pattern indicators I observed in this area showed fire traveled uphill in an east direction.
30 I identified this area as the fire's initial run.

1 I continued in a counter-clockwise path until I observed the fire had traveled laterally in a
2 northerly direction. I established the transitional zones by identifying lateral fire. I entered
3 the GOA from the advancing side. I walked back and forth between the transitional zones in
4 a systematic approach. I marked the advancing fire pattern indicators with red flags and the
5 lateral fire pattern indicators with yellow flags. I continued identifying advancing and lateral
6 fire pattern indicators working downhill towards the landing. I continued until I identified
7 backing fire pattern indicators on the downhill side of the landing. I marked the backing fire
8 pattern indicators with blue flags.

9
10 I established the Specific Origin Area (SOA) as an area approximately 3 feet by 3 feet in
11 size (See Attachment 2 - Photographs IMG_0038.JPG). The SOA was located northwest of
12 the water tanks near the edge of the landing. Within the SOA was a concrete stake. DUDLEY
13 and I visually searched the SOA and were unable to locate any competent ignition sources.
14 I used a Multi-Lift Model 72 Magnet over the SOA in a systematic pattern to search for
15 ferrous metals. I recovered 5 small metal fragments within the SOA approximately 18 inches
16 north and northwest from the concrete stake. One of the metal fragments was red in color,
17 which appeared to match the oxidized top of the concrete stake. The other four fragments
18 were dark in color and appeared to be covered in soot from the fire. I visually examined the
19 concrete stake and saw the top was damaged. The top appeared to curl outward and had a
20 crack on the outer lip. The top of the concrete stake had freshly exposed metal in a cross-
21 hatched pattern (See Photograph IMG_0040.JPG). The concrete stake had staining, sooting
22 and ash deposits located on it indicating it was there at the time of the fire and not placed
23 there afterwards. (See Photograph IMG_0038.JPG). During this time frame, yellow jackets
24 were trying to access the area under the concrete stake but were unable to do so because
25 of its location in the ground.

26
27 During the investigation, DUDLEY and I observed a hammer located in the trailer [REDACTED] had
28 described as the one he unhooked from his four-wheeler when the fire started. The hammer
29 had a non-slip head with a cross-hatched pattern. The pattern appeared to match the marks
30 on top of the concrete stake within the SOA (See Photograph IMG_0045.JPG). DUDLEY

1 and I observed a cell phone located on the ground under the trailer. In a second interview
2 with [REDACTED], [REDACTED] told us he had dropped the cell phone at the start of the fire, requiring him
3 to run downhill to his residence approximately 200 yards to call 911.

4
5 DUDLEY and I took a triangular measurement from the water tanks to the concrete stake
6 where the SOA was located. The measurements are from the 400-gallon water mark on both
7 the 1st and 2nd water tank located on the north end of the landing. The 1st water tank to the
8 concrete stake measured 8 feet and 3 1/8 inches. The 2nd water tank to the concrete stake
9 measured 9 feet and 10 1/2 inches. The SOA and where the concrete stake was located,
10 were at the following GPS coordinates using Datum WGS 84; North 39°14.370 by West -
11 123°06.506.

12
13 DUDLEY and I marked the concrete stake located in the SOA as Evidence Number 1, the
14 claw hammer located in the trailer as Evidence Number 2, and the metal fragments located
15 in the SOA as Evidence Number 3. I collected the metal fragments with tweezers from the
16 face of the magnet and placed them into a small evidence box at 4:16 PM. I collected the
17 claw hammer and placed it into an evidence bag at 4:31 PM. I removed the concrete stake
18 from the ground, measured its length as 24 inches, and then placed it into an evidence bag
19 at 4:37 PM.

20
21 After marking the fire pattern indicators with flags and looking at the overall scene, I
22 determined the fire started on the downhill side of the landing next to the water tanks. The
23 fire burned along the shade cloth which was on the ground at the time of the fire. The fire
24 traveled north to south along the shade cloth and into the vegetation. The fire backed
25 downhill and burned laterally to the south. The fire burned laterally on the downhill side of
26 the tanks and then advanced uphill around the south side. The fire advanced east, on the
27 road leading up to the tanks, and then up the cut bank around the tanks on the north side.
28 The two advancing fires burned laterally on the uphill side of the tanks and burned together.
29 At 4:54 PM, DUDLEY and I finished the origin and cause investigation of the Ranch Fire.

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1 We then responded to the River Fire located east of Ukiah, CA in Mendocino County. The
2 River Fire started approximately 1 hour after the Ranch Fire at 1:00 PM. The two fires
3 became the Mendocino Complex.

4
5 On Sunday, July 29, 2018, DUDLEY and I returned to the Ranch Incident at approximately
6 1:15 PM and conducted a second interview with [REDACTED]. I asked [REDACTED] to show me where the
7 fire started and walk me through the events leading up to it. [REDACTED] led DUDLEY and I from
8 his residence uphill to the water tanks. He said he drove up on his four-wheeler towing a
9 trailer with supplies to strengthen the frame of the shade cloth and to put it back up. [REDACTED]
10 said his daughter asked him to put it up because the temperature of the water was too hot
11 for the livestock it was supplying. [REDACTED] said he drove past the water tanks and parked his
12 four-wheeler on the south side of the landing. He started constructing a new frame for the
13 shade cloth by attaching a wooden 4x4 post to a metal fence post with bailing wire (See
14 Photograph IMG_0016.JPG). [REDACTED] said he picked up the shade cloth that was laying on the
15 downhill side of the landing. In doing so, he agitated a yellow jacket's nest located at the
16 other end. He said the yellow jackets began to swarm around the hole leading to their
17 underground nest. [REDACTED] said he was allergic to bees and waited until the yellow jackets
18 stopped swarming. [REDACTED] estimated the time he waited as approximately 1 hour.

19
20 [REDACTED] said he then went over with a concrete stake and as quickly as he could, hammered it
21 10 to 12 inches into the ground blocking the hole. [REDACTED] said while hammering the stake he
22 smelled smoke. He said he looked down, directly behind him, and saw the vegetation fire
23 he described as 2 feet by 2 feet in size. [REDACTED] said he tried to put the fire out with a shovel
24 he had brought up in his trailer. He said the ground was so hard it took him 4 to 5 times to
25 get one shovel full of dirt. He said he then tried to smother the fire with a nearby trampoline
26 and rug (See Photograph IMG_0047.JPG). [REDACTED] said the fire quickly burned the trampoline
27 and the shade cloth. He estimated the shade cloth as 50 to 60 feet long and 12 feet wide.
28 [REDACTED] said the fire burned along the shade cloth on the downhill side of the landing and
29 then downhill approximately 25 feet. He said the fire then wrapped around the water tanks
30 on both sides and then took off fast uphill in the tall grass. He said he attempted to suppress

1 the fire with water from a black polyurethane waterline coming from the tanks, but the line
2 kinked from the heat of the fire and he lost water pressure. [REDACTED] said he broke off a white
3 PVC water line connected to the water tanks and attempted to put the fire out. He said he
4 couldn't get enough pressure to reach the fire because of the size of his thumb and the
5 diameter of the pipe. He said he unhooked his trailer and tried to put the fire out by "kicking
6 up dirt" ahead of it with his four-wheeler. [REDACTED] said he lost control of his four-wheeler which
7 rolled downhill and lodged between the water tanks and the cut bank. [REDACTED] then ran down
8 hill to his residence and called 911 to report the fire (Listen to Attachment 7 - 911 Recording).
9 In the 911 recording [REDACTED] said the fire was about an acre in size and said he would open
10 the gate to his property for the responding fire resources. [REDACTED] said he then went back up
11 the hill and attempted to suppress the fire with his truck. He said he was unable to "kick up"
12 enough dirt to stop it.

13
14 [REDACTED] showed me where the fire was when he first saw it. [REDACTED] went to the area where
15 DUDLEY and I established the SOA during our origin and cause investigation. [REDACTED] showed
16 us where the yellow jacket's nest was located. [REDACTED] tried to find the concrete stake he had
17 hammered into the ground, but was unable to because it was removed as evidence during
18 the investigation. [REDACTED] showed us where he was standing when he was hammering the
19 stake. [REDACTED] was standing side hill, on the north side of the stake, on the edge of the landing
20 directly over the identified SOA.

21
22 During the origin and cause investigation, I eliminated the following fire causes. For an
23 overview of the Specific Origin Area see photograph IMG_0038.JPG;

24
25 *Lightning* - I did not observe any cloud build up, such as cumulus clouds in the area of Potter
26 Valley. I did not observe any lightning activity nor did I find any evidence of a lightning strike
27 in or near the SOA, such as scaring or blow holes on trees, splintered wood or vegetation,
28 or fulgurites. I eliminated lightning as an ignition source and the cause of the fire.

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1 *Campfire* - I did not observe any sign of a campfire used for warmth, cooking, light, religious
2 or ceremonial purposes. I did not observe any accumulated ash, coals or wood in or near
3 the SOA. I eliminated a campfire as an ignition source and the cause of the fire.

4
5 *Smoking* - I did not observe any sign of smoking, such as matches, cigarettes or cigars in or
6 near the SOA. [REDACTED] said he was the only one present at the time of the fire and does not
7 smoke. I eliminated smoking as an ignition source and the cause of the fire.

8
9 *Debris Burning* - I did not observe any sign of debris burning, such as any accumulated
10 brush piles or burn barrels in or near the SOA. A burn suspension was in place in Mendocino
11 County at the time of the fire. I eliminated debris burning as an ignition source and the cause
12 of the fire.

13
14 *Incendiary* - I did not observe any incendiary devices or signs of arson, such as cigarette or
15 matchbook devices or any pour patterns associated with combustible liquids in or near the
16 SOA. Access to the property is restricted by a gate located at Highway 20, approximately a
17 quarter mile away from the SOA. I eliminated incendiary as an ignition source and the cause
18 of the fire.

19
20 *Equipment Use* - I did not observe any sign of equipment use in the area. I did not observe
21 any equipment in the area such as an excavator, lawn mower or portable engine. I saw no
22 signs of cut grass or rock strikes in or near the SOA. I eliminated the use of equipment as
23 an ignition source and the cause of the fire.

24
25 *Vehicle* - I did not observe any sign of a vehicle caused fire. [REDACTED] said that his four-wheeler
26 sat for approximately 1 hour before the fire started and was located on the other side of the
27 landing. [REDACTED] put a 4-inch by 4-inch wooden post up blocking the access of the four-wheeler
28 to the SOA. I eliminated vehicle as an ignition source and the cause of the fire.

1 *Railroad* - I did not observe any sign of a railroad caused fire. There are no train tracks or
2 railroads in or near the SOA. The only operating railroad in Mendocino County travels
3 between Fort Bragg and Willits, CA. approximately 17 miles away. I eliminated railroad as
4 an ignition source and the cause of the fire.

5

6 *Children* - I saw no signs of children being in the area. I did not observe any indication that
7 children were present such as toys left behind, forts, or nearby playgrounds or schools. I
8 eliminated children as an ignition source and the cause of the fire.

9

10 *Powerlines* - I did not observe any signs of a powerline caused fire. The nearest powerlines
11 were located approximately 200 yards downhill from the SOA. I eliminated powerlines as an
12 ignition source and the cause of the fire.

13

14 *Fireworks* - I did not observe any signs of fireworks use in the area. I did not observe any
15 spent or malfunctioned devices, residue or packaging material in or near the SOA. I
16 eliminated fireworks as an ignition source and the cause of the fire.

17

18 *Cutting, Welding and Grinding* - I did not observe any sign of cutting, welding or grinding in
19 or near the SOA. I did not observe any power sources, such as a generator. There were no
20 electric or portable power tools located in the area. I did not observe a portable welder, nor
21 did the magnet recover any byproducts from welding, such as slag within the SOA. I
22 eliminated cutting, welding and grinding as an ignition source and the cause of the fire.

23

24 *Firearms Use* - I did not observe any sign of firearms use in the area. I did not observe any
25 spent rounds, cartridge cases, bullet strikes or targets in or around the SOA. I eliminated
26 firearms use as an ignition source and the cause of the fire.

27

28 *Blasting* - I did not observe any signs of blasting activities in the area. I did not observe any
29 blasting or burned material remains in or near the SOA. I eliminated blasting as an ignition
30 source and the cause of the fire.

1 Structures – The closest structure to the SOA was a two-story residential home located
2 approximately 200 yards to the west of the fire and not located within the fire perimeter. I
3 eliminated a structure as an ignition source and the cause of the fire.

4
5 Glass Refraction - I did not observe any signs of glass refraction. I did not observe any glass
6 bottles, broken glass or shiny objects in or near the SOA. I eliminated glass refraction as an
7 ignition source and the cause of the fire.

8
9 Spontaneous Combustion - I did not observe any signs of spontaneous combustion. I did
10 not observe any decomposing piles, such as compost, wood or sawdust piles in or near the
11 SOA. I eliminated spontaneous combustion as an ignition source and the cause of the fire.

12
13 Flares - I did not observe any signs of flare slag or flare use. I did not observe any cardboard
14 tubes, caps, strikers or cast-off material, such as slag in or near the SOA. I saw no signs of
15 an aerial signal flare device. I eliminated flares as an ignition source and the cause of the
16 fire.

17
18 After an origin and cause investigation, receiving witness statements, examining evidence
19 and ruling out all other fire causes, I've concluded the cause of the Ranch Fire was from a
20 spark or a hot metal fragment landing in a receptive fuel bed. The spark or hot metal
21 fragment came from a hammer driving a metal concrete stake into the ground.

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ERB.  3/28/2019

Signature Date
Eric Bettger, #4703
Fire Captain Specialist

10 - ATTACHMENTS:

1. Air Attack Overhead Photographs
2. At Scene Photographs
3. Fire Report LE-66
4. Evidence Log
5. Chain of Custody
6. Incident and Fire Progression Map
7. [REDACTED] Witness Statement
8. Remote Automated Weather Station Data
9. Green Sheet
10. Damage Assessment Report
11. FC-34
12. Metal Fragments - Photographs