



## Preliminary Ignition Investigation Report

Ignition Database Index:	20241335
Electric Incident Investigation (EII) Number:	N/A
Incident Name:	Holmes - 14 Sep 2024
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	Yes
Date & Time of Incident:	September 14, 2024 @ 0323 hours
Street Address:	In the vicinity of [REDACTED]
City:	Philo
County:	Mendocino
Latitude/Longitude:	[REDACTED]°
State Responsibility Area (SRA) / Local Responsibility Area (LRA) / Federal Responsibility Area (FRA)	State Responsibility Area (SRA)
PG&E Division:	Humboldt
High Fire Threat District (HFTD):	Tier 2
High Fire Risk Area (HFRA):	Yes
EPSS Buffer:	No
Fire Index Area (FIA):	154
Fire Potential Index (FPI) Rating: FIA	R3
Fire Potential Index (FPI) Rating: Circuit	R3
Was there a PSPS event at the time of ignition?	No
Suspected Initiating Event:	Vegetation
Failure Driver:	Contact from object
Failure Sub-driver:	Contact – Vegetation
Circuit:	Philo 1102
Circuit Protection Zone:	Philo 1102920
Nominal Voltage:	12kV
Pole SAP Equipment ID:	SAP Pole ID 102170053 (Load side) was replaced with a new pole SAP ID 104226773. SAP Pole ID 102170048 (Source side).
Subject to PRC 4292 Veg Pole Clearance:	No
PG&E Equipment associated with ignition:	4 ACSR Conductor
EPSS enabled at time of ignition?	Yes
Fault Type:	Line to ground
Wire Down (Primary)?	Yes
Lead Agency/Agency Having Jurisdiction:	CAL FIRE
Fire Size:	0.5 acres (based on HAWC summary)

<b>FAS Field Remarks:</b>	A tree fell into line, 1 of 2 4ACSR down, and a broken pole. notifications 129533214, 129533231
<b>HAWC Summary:</b>	Resources responded to a vegetation fire on Holmes Ranch Rd, [REDACTED]-Mendocino County, in a Tier 2 area. Fire is being reported as contained at .5 acres. Outage in OMT, OIS #2567939 impacting 735 customers on the PHILO 1102 EPSS enabled with a Tman on site at the time of ignition. Outage reported as unplanned, line-to-ground fault type in OMT. FNL - 0323, IRWIN - 0645. Even though this was an existing outage at the time of ignition, Holmes IC still requested a PGE representative at the scene. SIPT did not respond.
<b>Injuries / Fatalities / Property Damage / Media Attention:</b>	No/No/No/No
<b>Weather Conditions:</b>	It was a fair and dry day at 57.8°F @ 0320 hours on September 14, 2024, near the Incident Location.
<b>Red Flag Warning (RFW) / High Wind Warning (HWW):</b>	No/No
<b>911 Standby Relief Time:</b>	17 Minutes
<b>OIS #:</b>	2567939
<b>ILIS #:</b>	24-0110968
<b>FAS #:</b>	T006500316 T006500317 – Assist T006500321 – Assist
<b>TOTL #:</b>	N/A
<b>Assigned Attorney:</b>	N/A
<b>Ignition Investigator &amp; Phone:</b>	[REDACTED]

## Executive Summary

On September 14, 2024, at 0332 hours, PG&E dispatched a troubleshooter in response to multiple SmartMeter™ auto-generated complete outage reports that registered at 0331 hours in the vicinity of [REDACTED], Philo, CA. The ignition occurred on a two-phase primary overhead segment of the Philo 1102 12kV Distribution Circuit (see Figures 1 and 2), in a Tier 2 High Fire Threat District (HFTD), High Fire Risk Area (HFRA), State Responsibility Area (SRA), during Fire Potential Index (FPI) R3 conditions. PG&E's Enhanced Powerline Safety Settings (EPSS) were enabled for this circuit at the time of the incident.

The Field Automation System (FAS) record states that the PG&E troubleshooter arrived on scene at approximately 0419 hours and observed a fire. The troubleshooter indicated that a tree branch fell onto the primary line conductor causing arcing and burned vegetation below. The troubleshooter also observed that one of two four-strand aluminum conductor steel reinforced (4 ACSR) came down causing a nearby SAP pole ID 102170053 to break mid-to-top of the pole with the impact (see Figures 3, 4, 5, 6, and 7).

The fire is listed as the "Holmes" fire in the Hazard Awareness Wildfire Command (HAWC) fire activity report. The ensuing fire had spread to about 0.5 acres (based on the HAWC summary) in size and was suppressed by CAL FIRE on September 14, 2024, (see Figure 8).

The PG&E repair crew arrived onsite at 1104 hours to replace a broken pole, transformer, and secondary riser on SAP Pole ID 102170053 (load side), which was part of the electric corrective (EC) priority "A"-tag # 129533214. The crew also replaced a single phase of 4-ACSR and the angle cross-arm on SAP Pole ID 102170048 (source side), which was part of the EC- priority "A"-tag # 129533214. All work was completed by the repair crew by 1453 hours, on September 14, 2024.

Meteorology data pulled from the MesoWest weather observation site which was approximately 4.8 miles southwest of the incident location indicates that it was a fair and dry day at 57.8°F with a relative humidity of 74%. Winds registered 2.4 Miles Per Hour (MPH) with gusts up to 4.4 MPH out of the south at the approximate time of the incident. Relative humidity was as high as 90% at 2200 hours and as low as 44% at 1440 hours.

A post-incident investigation was performed by a PG&E Vegetation Management Inspector (VMI) on September 16, 2024, near the incident location. The VMI observed a large coast live oak (*Quercus agrifolia*) multi-stem tree with a diameter breast height (DBH) of 44 inches and a height of 54 feet. The subject tree had a large 13-inch diameter limb fail and fall through a primary line conductor causing arcing and burned vegetation below. In effect, this also broke the pole SAP Pole ID: 102170053 due to the impact. The inspector also observed that the failed live oak tree limb had a wound near the point of failure with signs of internal rot that would not have been visible from the ground prior to the failure occurring.

Additionally, it was noted that the subject tree stem was prescribed for a target prune during the last mid-cycle inspection that occurred on July 11, 2024. This inspection resulted in work prescription RX-02393223, which identified a large western stem with a visible wound to be removed. The work was to be completed by July 10, 2025. Per Vegetation Management (VM) work management standards, this was an acceptable time frame for the subject tree to be worked. Although, had this prescribed work been completed by the due date, this ignition could have been prevented.

On September 16, 2024, RX-02393223 was delisted, and prescription RX-03314002 was created to remove the entire tree.

An extent of condition (XoC) investigation was performed by the same VMI on September 16, 2024, and noted the same details as the post-incident investigation above. The VMI patrolled five spans in each direction and identified two additional priority two (P2) for removal (see Figures 9, 10, and 11). The first tree identified was a 50-foot tall, 32-inch DBH interior live oak (*Quercus wislizeni*), and the second tree was a 51-foot tall, 10-inch DBH Douglas fir. Both trees were prescribed with a due date of October 10, 2024. All work related to the work request UCNC1006709 was completed on September 25, 2024, and the request was closed on September 30, 2024.

The Incident Location is located within an SRA, and there is no record of any trees in the Tree Mortality (formerly known as CEMA) database. A proximity search was performed in the Enhanced Vegetation Management (EVM) database and no trees were within a 1/8-mile radius of the coordinates provided for this incident.

## System Protection Analysis

PG&E's Distribution Asset Planning team confirmed that EPSS were enabled for the incident location segment of the Philo 1102 12kV distribution circuit on May 30, 2024. On September 14, 2024, line recloser (LR) 960 was EPSS-enabled, with Sensitive Ground Fault (SGF) set and Down Conductor Detection (DCD) enabled. LR 960 automatically operated on (DCD) clearing the high impedance fault. The recorded fault magnitude (RMS) on phase A was 54 Amps, phase B: 43 Amps, phase C: 43 Amps & Ground Amps of 7.1 Amps. No partial voltage (PV) alarms were registered for this ignition. This incident was recorded as a high-impedance fault and wire-down event.

## Ignition Impact

This ignition on September 14, 2024, resulted in a vegetation fire that was 0.5 acres (based on the HAWC summary) in size. The associated outage from this fire affected a total of 735 customers for a total of 217230 customer minutes. PG&E is not aware of any injuries, fatalities, property damage, or media attention, associated with this ignition.

## Sequence of Events

September 14, 2024

- 0323 hours: First event - First No Light (FNL) – multiple SmartMeter™ auto-generated complete outage reports registered –LR 920 open, 735 customers affected by the outage.
- 0331 hours: PG&E became aware of the incident from CAL-Fire.
- 0332 hours: Troubleshooter dispatched (per FAS record and Outage Dispatch Tool).
- 0419 hours: Troubleshooter arrived onsite (per FAS record).
- 0745 hours: Fuse 5421 open (per ODT).
- 0809 hours: LR 920 closed, 717 customers restored (per ILIS record).
- 0943 hours: PG&E repair crew dispatched (per ODT).
- 1104 hours: PG&E repair crew arrived onsite and completed all repairs (per ODT).
- 1439 hours: Fuse 5421 was closed by the repair crew restoring the remaining 18 customers (per ILIS Record).

## Corrective Notification Associated with Ignition

EC priority A Tag 129533214 was created to replace a broken pole, transformer, and secondary riser on SAP Pole ID 102170053 (load side). EC priority A Tag 129533214 was also created to replace a single phase of 4-ACSR and angle cross-arm on SAP Pole ID 102170048 (source side). All work was completed by the repair crew by 1453 hours, on September 14, 2024.

## Pending Work

This report is preliminary and based on available information as of **October 9, 2024**; event data is subject to change based upon subsequently discovered information.

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Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	N/A				
COE Notification	N/A				
LC Notification	N/A				
Veg Work Order	UCNC1006 709	Interior Live Oak, 50 ft, 32 in DBH (Major R3 Removal)  Douglas Fir, 51 ft, 10 in DBH (Major R1 Removal)	P2	September 16, 2024	October 10, 2024

Please note this may not include pending major program or project work at the incident location.

### Asset Info & Most Recent Inspections and Tests

<b>Load Side Structure</b>	<b>The incident pole (SAP Pole ID: 102170053) was replaced with a new pole (SAP pole ID: 1044226773)</b>	
<b>Info / Inspection</b>	<b>Most Recent Date</b>	<b>Findings</b>
Install Date:	September 14, 2024	Wood pole – Class 4 – Height 45’
Inspection:	N/A	New pole, no inspection records
	N/A	
Patrol:	N/A	
	N/A	
Corrective History:	N/A	New pole, no corrective history records
Aerial Inspection Records:	N/A	New pole, no Aerial Inspection records
VM Inspection:	July 11, 2024	Date for last completed mid-cycle inspection.
EVM Inspection:	N/A	A proximity search was performed in the Enhanced Vegetation Management (EVM) database and no trees were within a 1/8-mile radius of the coordinates provided for this incident.
Equipment Test:	N/A	
Pole Intrusive Test:	N/A	New pole was installed on September 14, 2024, (incident date).
WSIP Inspection:	N/A	New pole was installed on September 14, 2024, (incident date).

\*Incident Location: SAP Pole ID: 102170053 was replaced with a new pole (SAP Pole ID: 1044226773) on the incident date.

<b>Source Side Structure</b>	<b>SAP Pole ID: 102170048</b>	
<b>Info / Inspection</b>	<b>Most Recent Date</b>	<b>Findings</b>
Install Date:	January 1, 1983	Western (Ponderosa) Pine – Class 5 – Height 40’
Inspection:	July 20, 2021	GO165 Inspection – No declaration items reported

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Patrol:	N/A	
	N/A	
Corrective History:	September 14, 2024	EC- Priority A-Tag # 129533214 was created to replace a single phase of 4-ACSR and angle cross-arm.
Aerial Inspection Records:	July 30, 2019	There were no Compelling abnormal conditions for the Pole, equipment, and its associated spans.
VM Inspection:	N/A	
EVM Inspection:	N/A	
Equipment Test:	N/A	
Pole Intrusive Test:	September 04, 2013	Passed with 100% wood strength
WSIP Inspection:	March 27, 2019	There were no Compelling abnormal conditions for the Pole, equipment, and its associated spans.

\*Incident Location: SAP Pole ID: 102170048

#### Hazard Barrier Analysis:

Hazard	Vegetation Contact	Sub-Hazard	Branch (Decay, Defect, Cavity)
Target	A tree branch that fell into a primary line causing a fire		
Barrier	Expected vs. Observed Performance	Why did the barrier not prevent the ignition event?	Opportunity
Barriers that Positively Affected Ignition			
Enhanced Powerline Safety Settings - Downed Conductor Detection	<p>Expected Performance: Automatically turn off power when a downed conductor is detected.</p> <p>Observed Performance: Barrier performed as expected</p>	A1B2C2D3 – Device tripping time is limited	Cleared fault after 1.5s
Barriers that were Assessed as Opportunities			
Covered Conductor on Primary Conductors	<p>Expected Performance: Covered conductors should lower the risk of a wildfire.</p> <p>Observed Performance: Barrier did not exist</p>	A4B2C1D2 – Program limited to certain conductors	Covered conductors may have prevented ignition when tree branch contacted the conductors.

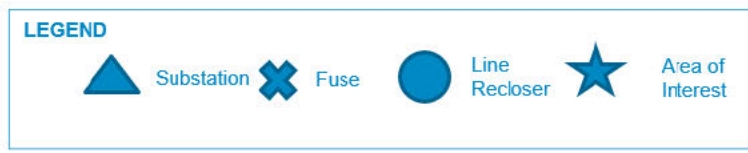


Lower Default Sensitive Ground Fault Thresholds	Expected Performance: Lower SGF settings for faster trips on faults that are not detected by DCD; Observed Performance: Barrier did not exist	N/A	Lower settings would have enabled faster de-energization.
Other relevant barriers			
Distribution Annual Vegetation Patrol	Expected Performance: Annual visual inspection to identify tree conditions including those that pose hazards, negatively impact service, adversely impact safe operations or inspection, or create compliance conditions. Identify vegetation that will encroach minimum distance requirements before next annual work cycle; vegetation within minimum distance requirements; and for trees that may fall into or contact the line dead, decayed, or diseased trees, or dead, rotten, or diseased portions of otherwise healthy trees that overhang or lean toward the line; Observed Performance: Barrier performed as expected	[ A1B1C1D2 - Limitation: Visibility Limitation; Vegetation Condition Visibility; Vegetation defect too high to observe from ground ]	The defect was not visible from the ground.

#### Potential Next Steps / Associated CAP Items:

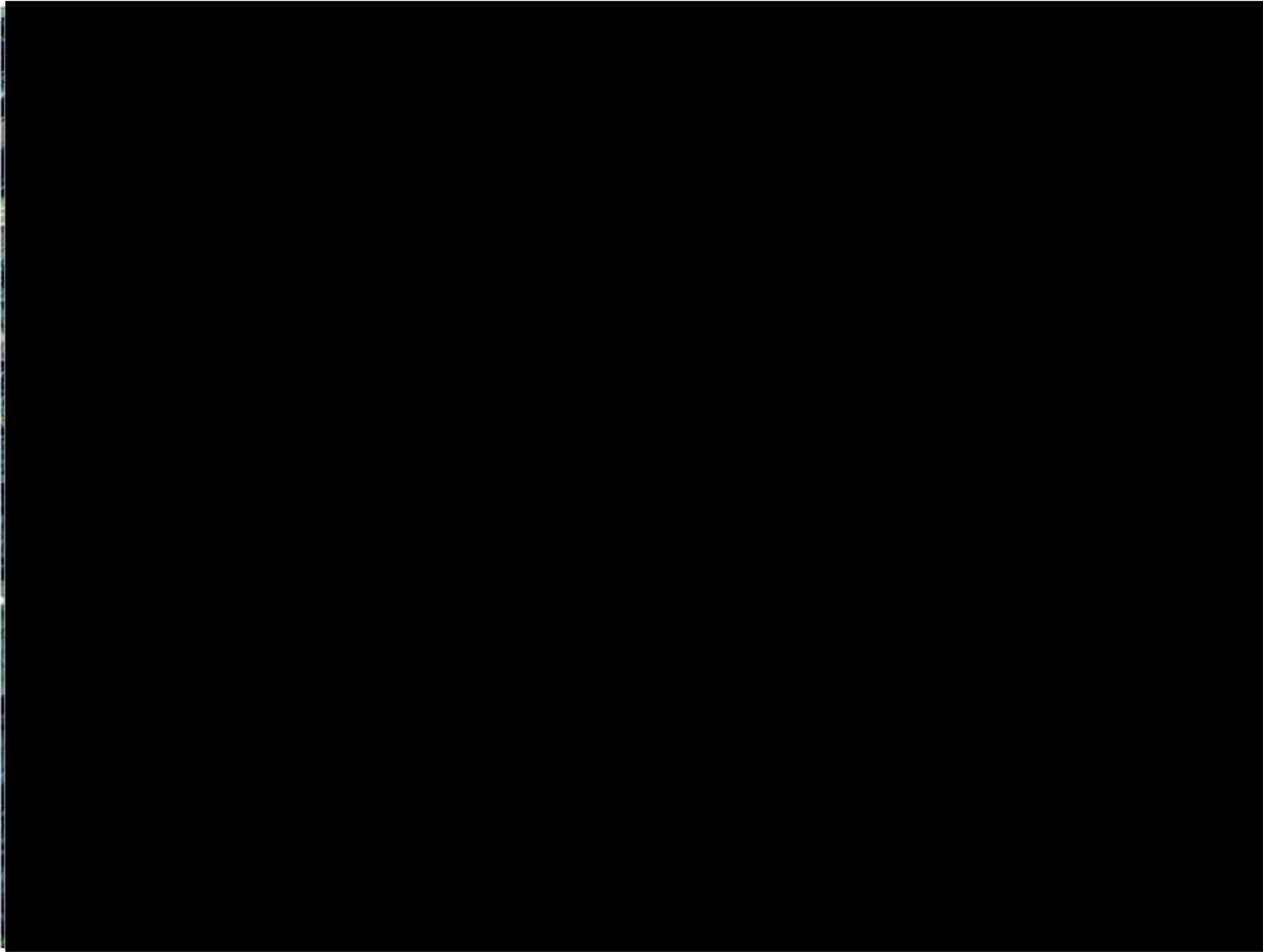
None at this time.

## Single Line Diagram

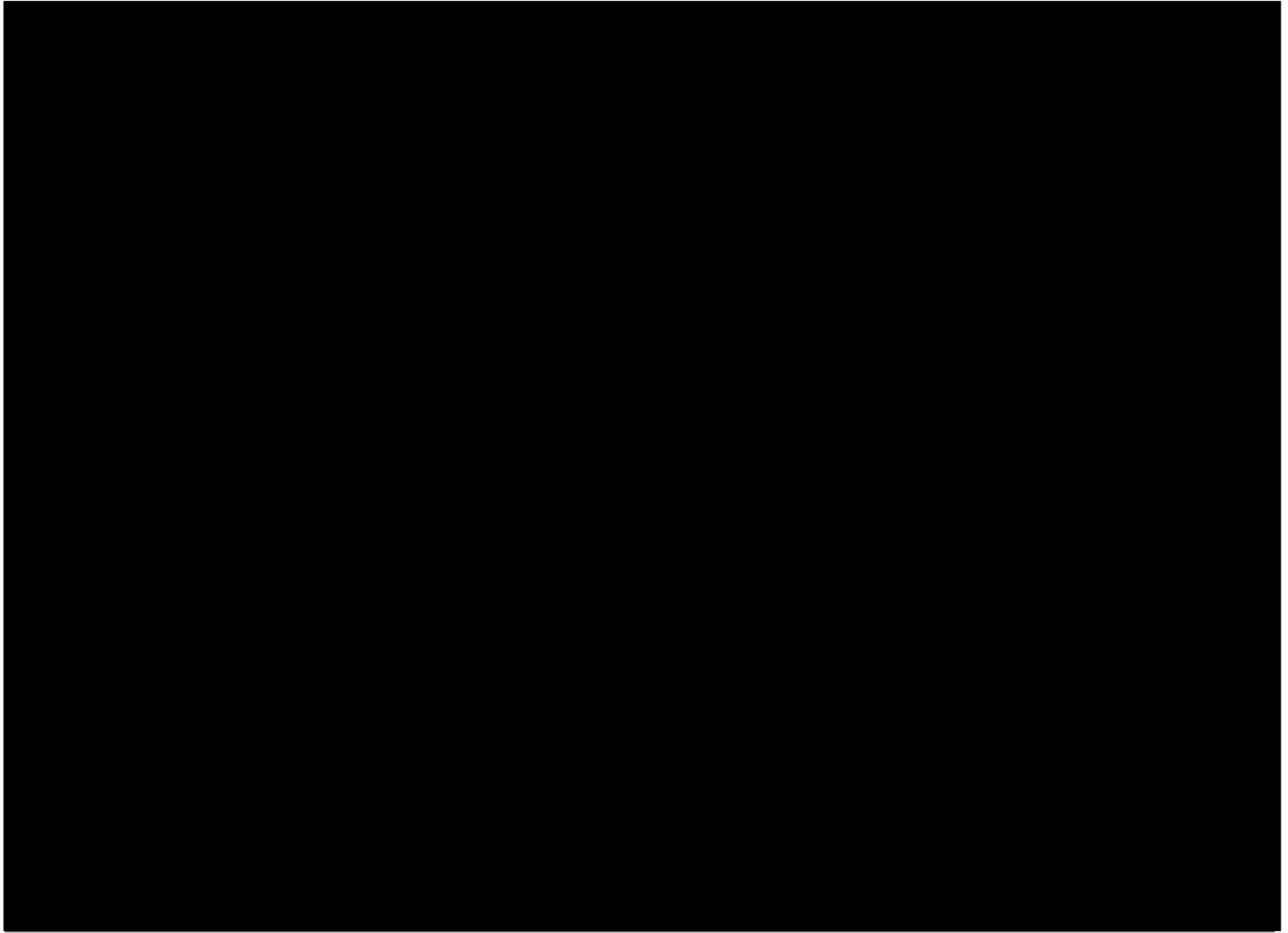




## Photos and Diagrams of Events



*Figure 1 - Google Earth diagram of the Philo 1102 Circuit. The location of the fire is approximate and based on reports and pictures provided.*



*Figure 2 - EDGIS diagram of the Philo 1102 Circuit and upstream dynamic protective devices between the Substation and Incident Location (SAP Pole ID: 102170053).*



Figure 3 – Broken pole by the impact of the failed tree branch, SAP Pole ID: 102170053 (Load Side). Picture taken by the troubleshooter on September 14, 2024





Figure 4 - - Close-up of the broken SAP Pole ID: 102170053 (Load Side). Picture taken by the troubleshooter on September 14, 2024





Figure 5 - Fire burn scar area and SAP Pole ID: 102170048 (Source Side). Picture taken by the troubleshooter on September 14, 2024.





*Figure 6 – Incident Live Oak tree, where the branch/limb failed and fell onto the conductor which caused arcing and burned vegetation below. Picture taken by the troubleshooter on September 14, 2024.*





*Figure 7 – Close-up of the large Live Oak branch/limb that failed and fell onto the conductor. Picture taken by the troubleshooter on September 14, 2024.*

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*Figure 8 – CAL FIRE onsite to assist in controlling and suppressing the fire spread, picture taken by the troubleshooter on September 14, 2024.*



**Map/Illustration  
of Incident &  
Patrol Area**

**Description:  
Map of 2024  
Philo 1102  
920 Q4 VMOM  
Reactive  
patrol, 5  
spans in each  
direction of  
failed tree  
RX-03314002  
where outage  
occurred was  
inspected  
(blue spans)**

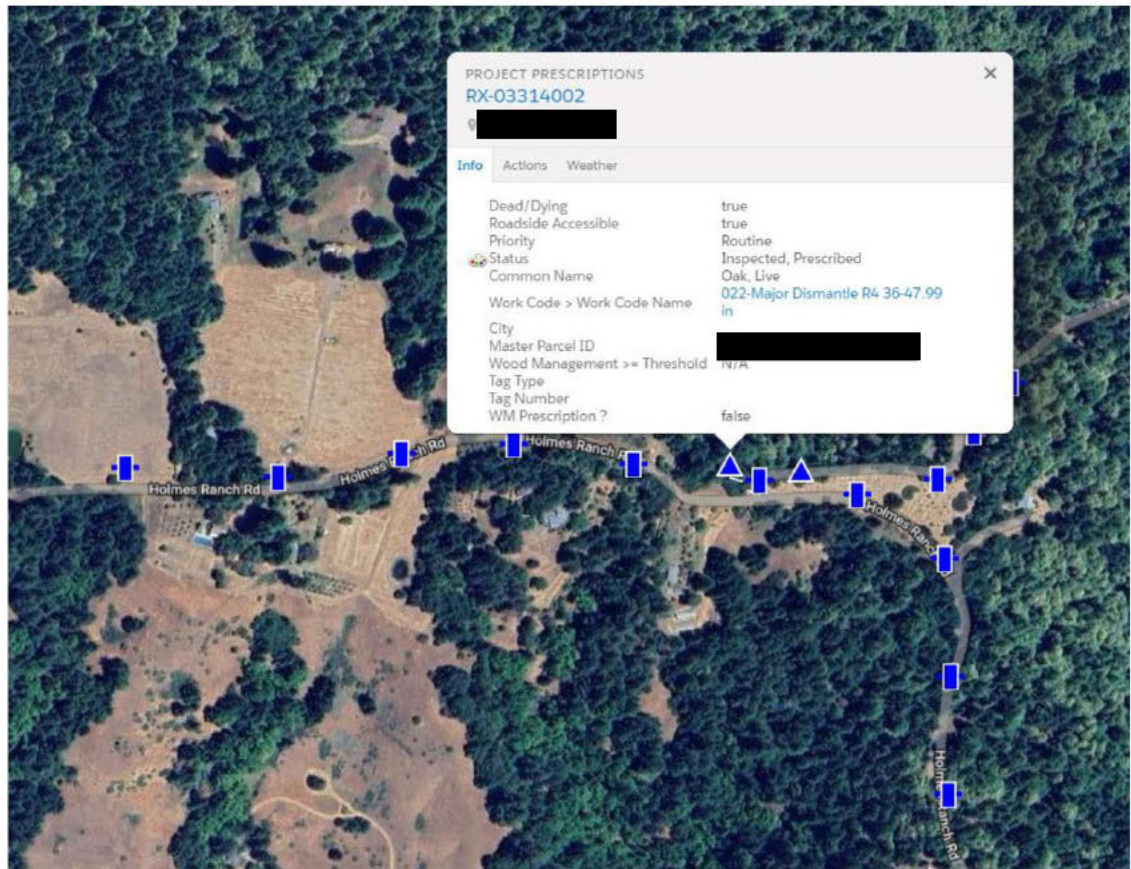


Figure 9 - Five-span patrol completed by the VM inspector on September 16, 2024.



*Figure 10 – Point of partial tree failure (circled) picture taken by the VM inspector on September 16, 2024.*





*Figure 11 – Failed limb on the ground, picture taken by the VM inspector on September 16, 2024.*



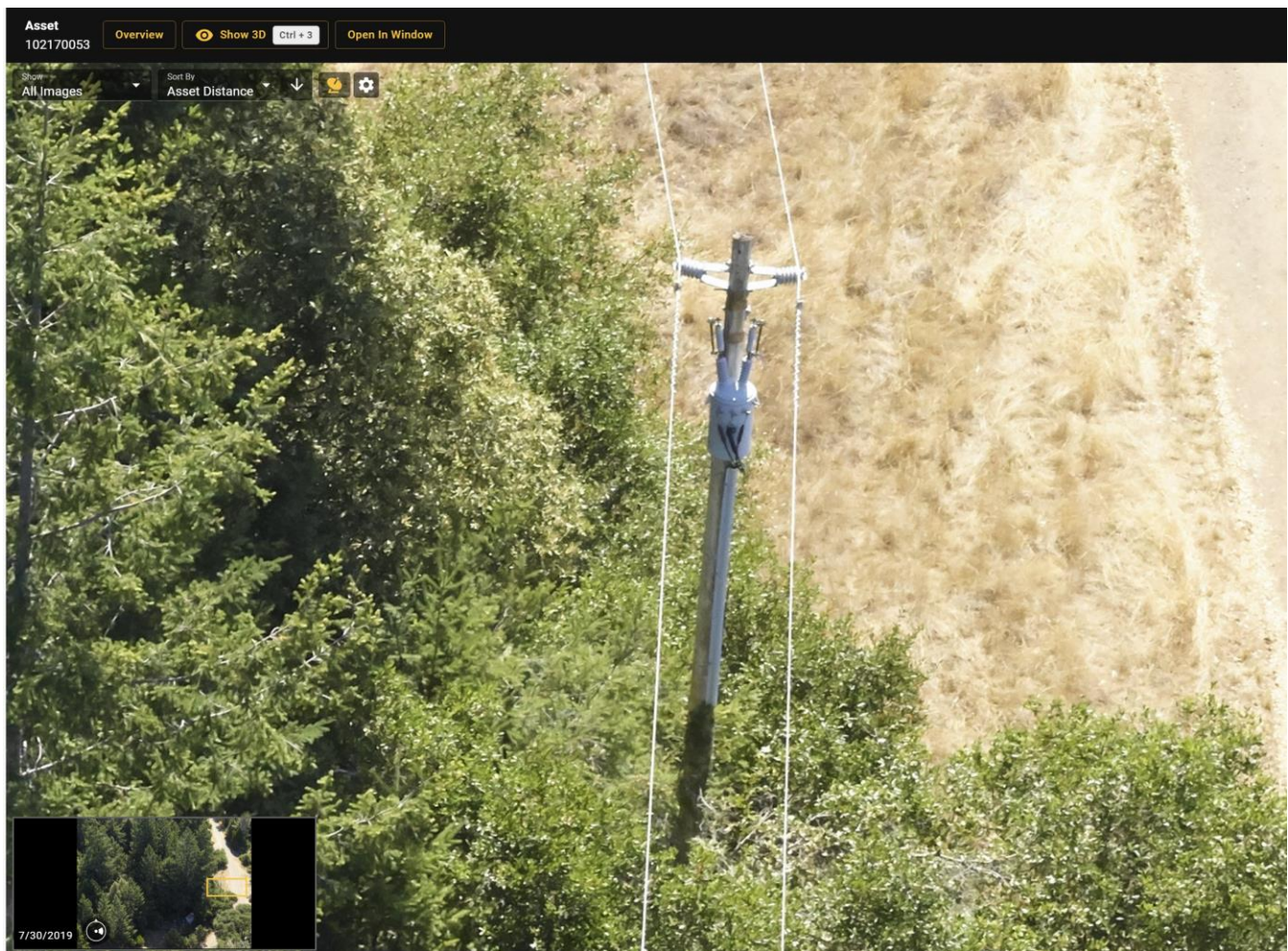


Figure 12 - SAP Pole ID: 102170053 (Load Side), picture taken from Shaper Shape dated July 30, 2019



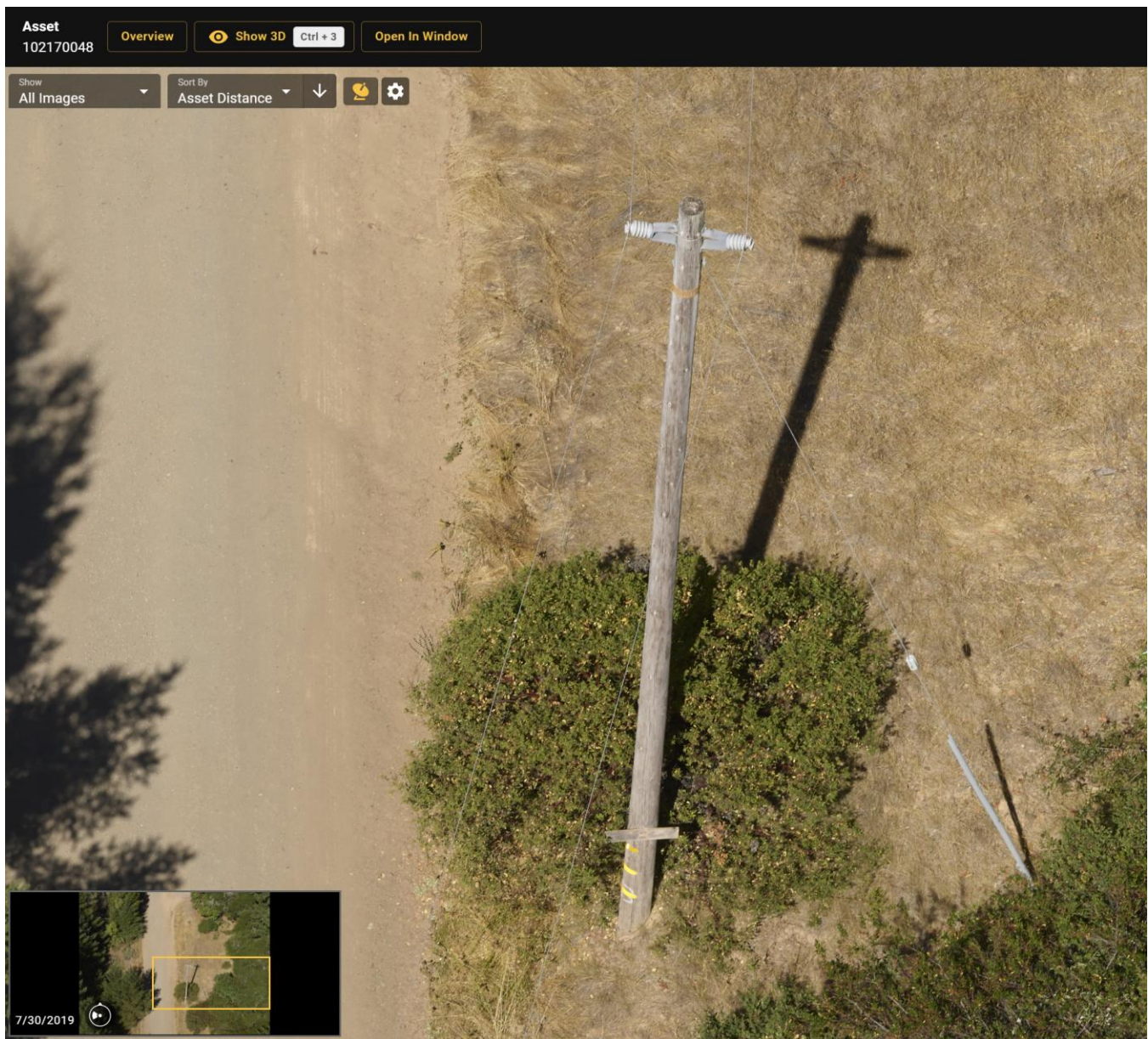


Figure 13 - SAP Pole ID: 102170048 (Source Side), picture taken from Shaper Shape dated July 30, 2019

## Attachments

Attachments and references can be located in the ESA folder, located below:

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[REDACTED]

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