

# Border 32 Wildland Fire 09022022

## After-Action Report/Improvement Plan

## Publication Date: October 6, 2022

The After-Action Report/Improvement Plan (AAR/IP) outlines strengths and areas identified for improvement. Remedial steps related to each area of improvement are outlined below for consideration.

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After-Action Report/Improvement Plan (AAR/IP)

SDG&E Emergency Management

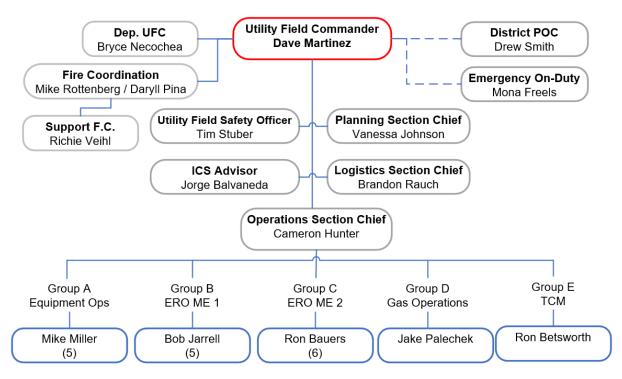


Event Start Date	8/31/2022
Emergency Operations Center	Restoration and response managed at the district level with Emergency On-Duty and Fire Coordination as supports.
Incident Location	Barret Lake Road, Dulzura, CA 91917
	On Wednesday August 31, 2022, a fire sparked at 14:15 near Barrett Junction, southeast of Dulzura, first mapped at 30 acres of burn. Due to weather conditions that fed the fire's rapid rate of spread, evacuations were ordered in the community. The fire grew to 1400 acres within 3 hours as westerly winds pushed flames towards Potrero. Near this time, 309 customers were confirmed to be without power.
Incident Summary	The assessment phase began with an Electric Troubleshooter on August 31, 2022. Utility infrastructure was within the fire perimeter, but by the morning of September 1, 2022, there were no outages reported. Staging yard mobilization, continued damage assessment, and repairs began around Barret Smith Rd. that day.
	Once mobilized on-scene and in coordination with Fire Incident Command, crews initiated restoration and repairs. Over the next ~10 hours, four Electric crews, two Equipment Operation crews, and two Electric Troubleshooters changed out 13 poles and re-tied wire.
	All repairs and restoration of power was completed by September 2, 2022, and repopulation of the evacuated areas began that afternoon.
Threats or Hazards	<ul> <li>Dry fuels, low relative humidity and alignment with topography contributed to an increased rate of spread.</li> <li>Consistent winds with gusts up to 20 MPH         <ul> <li>Hazards within crews' worksites: Active fire; smoldering poles; wires down; smoke inhalation; heat illness; and Emergency vehicle and public traffic</li> </ul> </li> </ul>
Incident Command Posts	20551 Campo Road, Dulzura, CA 91917

### **After-Action Review Process**

Following the emergency incident response, the OFER Division de-briefed with select incident command staff as a part of the After-Action Review process. Lessons learned and corresponding corrective actions received during this process were analyzed, peer and stakeholder reviewed, and assigned out in collaboration with the primary event responders and stakeholders. This AAR/IP Report is intended to share event findings with broader stakeholder groups.

## ICS Organizational Chart (201)



Graphic 1. ICS 201, Organizational Chart

# ICS 214 Activity Log – Utility Field Commander (UFC)

#### ACTIVITY LOG (ICS 214)

1. Incident Name:	2. Operational Period: Date From: Date To:				
	Time From: Time To:				
7. Activity Log (con					
Date/Time	Notable Activities				
1423	WITTAL NOTIFICATION FROM FIRE COORD				
1426	C. WELDY ETS OSPATCHED				
1426	C. HUNTER SUBERNASOR DISPATCHED				
1535	FUSE OPENS @ PI75952 8 CUST OUT				
1545	ETS ! SUPERVISOR CHECK IN ON SCENE				
1627	DAVE INITIATES ALL HANDS CALLOUT				
	CREW PERSONNEL BECIN TO APRILE IN YARD				
1700 011-5	EQUIPMENT OPS DIDOING CREW IN YAND				
1916	L. HUNTER RELAYS TO DAVE CALFIRE IS				
	STANDING SDGAE DOWN FOR THE NICHT.				
2000	157-273R TRIPS (1247480) 309 CUST OUT				
2017	FIRE CORD REPORTS ETS TEM W/ COORD. 1600 ACRE				
2100	RELEASED CREWS FOR THE NIGHT				
2115	CALLED TST & UPDATED ERT FROM 1200 TO 1800 1/				
0500	ARRIVE IN YARD & BELON CHECKING PERSONNEL IN				
0730	BRIEF W/ COMD. X2, TCM, CAL FIRE				
0745	CALFIRE GRANTED SDOE ALLESS TO ESTADLISH LAY DOWN				
0 195	YARD @ 20551 HICHWAY 94@ BARRETE LAKE RD. ALSO				
	CRANTED ALLESS TO BEGIN ASSESSMENTS WITHIN REASON				
0815	UPDATE DM DIRECTOR & UP.				
	CREWS PREPARE TO DEPART ME TO LAYDOWN VARD.				
0915	CAMEDON H. T. M. MILLER BEGIN ASSESSING B. SMITH RD.				
(000)	MOBILE COMMAND TRAILER ARRIVES @ YARD				
	ME ! EQ OPS PREMUE IN YARD				
1134	CAL FIRE CHANTED ACCESS TO BEOIN CONSTRUCT				
1545	CAL FIRE MUTHOPIZE RESTORATION OF W PART OF 157				
	UIA 67 UP TO 157-1039. 157-273R RE, MAINS ODEN				
1930	CHECKED CREWS IN THE CLEAR ! RECEIVED AUTHORIZA				
	FROM CALFIRE VIA COORD. PENA TO ENERCIZE MAINLIN				
1940	WOSED 157-273R TO OPEN SUMPERS @ P175956				
	ENERCUZING MAINCINE. FUZES REMAIN OPEN @ P175952.				
	157-1039 STILL OPEN,				
2230	CLOSED FUSES @ P175952 ENERCYZING BRANCH EAST				
0010	CLOSED JUMPERS @ PI75956 ENERGIZING TO OPEN				
	DISLONNEUTS # 157-1039				
0\$55	LLOSED DISCONNECTS 157-1039 MAKING PARDULEL				
8. Prepared by: Na	me: Position/Title: Signature:				
ICS 214, Page 2	Date/Time:				

Graphic 2: Dave Martinez ICS 214 for 8/31/22 - 9/1/22

## ICS 214 Activity Log – Fire Coordination & Field PSC

Date/Time	Event	Notes	
8/31/22, 14:23	Fire Coordination (FC) was informed of a fire through San Diego Dispatch with location of 1020 Barret Lake Road, Dulzura, CA 91917.		
8/31/22, 14:23	FC contacted Eastern and Mountain Empire district leadership for an initial status call. FD reports fire is 5-10 acres with moderate ROS, FC maps the fire as a threat to C157, Point added to SPARC and Incident Coordination Channel meeting initiated activated.		
8/31/22 14:38	ODS Cam Hunter arrived with ETS Weldy assigned.		
8/31/22 14:52	Fire Department reported fire at 30-35 acres with a rapid rate of spread. Multiple ground & air resources on-scene and enroute. Structures threatened on Barrett Smith Rd.	Via Send Word Now	
8/31/22 15:37	Potential open fuse on P175952 (from O&E).	Text group	
B/31/22 16:35 Boarder IC reports 150+ acres on N side of Hwy. 94 at Barrett Lake Rd. Moderate to rapid ROS. ETS on scene & Fire Coordinator enroute. Primary communication is utilizing Fire 1 on the 800mHZ radio. Updates to follow I n 4 hours or when there are significant changes.		Via Send Word Now	
8/31/22 16:56	Fire mapping records fire area at 1446 acres	Via MS Teams	
8/31/22 17:05	At 16:55 TL50001 East County to Miguel relayed again. TL 23040 500kV N-1 RAS was disabled and no generation was dropped. Smoke in the vicinity of TL 50001 and will NOT test until further assessment. TCM crews notified to investigate.	Real-time Interruption Report	
8/31/22 18:05	Staging yard site identified by ERO.		
8/31/22 18:06	Outage confirmed impacting 309 customers. Once FC was on site, they assumed their Liaison role and supported the objectives of the incident. TCM was also on site and coordinated with ERO and FC.		
9/1/22 05:19	Fire update relayed at 4243 acres	Via MS Teams	
9/1/22 08:15	Begin damage assessment and plan for restoration	Via Send Word Now	
9/1/22 10:23	PSC requested lunch and dinner via the ES On-Duty		
9/1/22 10:40	Approval received for helo patrol on the TL	Via MS Teams	

Date/Time	Event	Notes
9/1/22 11:03	PSC requested a Utility Field Safety Officer and the Incident Support Vehicle through ES On-Duty	
9/1/22 11:47	Crews receive approval to begin repairs along Barret Smith and Barret School	Via MS Teams
9/1/22 12:30	Back-up generator to support EMCT delivered to stagging yard	
9/1/22 13:15	Servers in EMCT functioning	
9/1/22 14:15	Ranch catering arrived with lunch delivery	
9/1/22 17:36	Ranch catering delivered dinner. Catering alerted that all dairy items must be accompanied by refrigeration or ice.	
9/1/22 18:30	Ice machine arrived to stagging yard	
9/1/22 1900	OFER resources (PSC, UFSO, ICS Advisor) released	
Fri 9/2/2022 11:32	Fire IC reports 4438 acres. All SDGE activities related to assessments, repairs, and restoration of power are complete. Crews have placed all damaged equipment in a lay- down yard near Barrett Junction. Fire cause has not yet been officially determined. Not suspected to be related to SDGE in any way.	Via Send Word Now
9/2/22 19:40	Final update: Crews complete clean up, SDGE resources demobilized	Via E-Mail

Table 1: Combined ICS 214 for 8/31/22 - 9/2/22 from Vanessa Johnson, Tim Stuber, and Daryll Pina

## **Executive Summary of Continuous Quality Improvement**

#### Strengths

The following areas are strengths demonstrated during the incident:

- 1: Zero injuries to SDG&E personnel while working in proximity to an active fire area in high-heat conditions.
- 2: Field crews completed all operational objectives in direct partnership and alignment with CAL FIRE incident command.
- **3**: Strong coordination and localized operations from Eastern C&O and Mountain Empire prevented the need for a DOC-E and/or EOC activation.
- 4: Event responders utilized radios for effective one-to-many communications.
- **5:** Including additional stakeholders in the Fire Coordination channel, such as Emergency Management on-duty and the Officer in Charge, made coordination and updates efficient and smooth.

#### Areas for Improvement

The following areas require improvement to achieve full capability level:

#### Core Capability: Safety, Health, & Environmental Response

1: Ranch Catering service delivered dairy products for lunch and dinner without ice or refrigeration in high-heat conditions.

#### **Recommendations**:

- a. Partner with contracted catering services to communicate health and safety expectations. Additionally, recommend high-calorie, grab-and-go meals compatible with fieldwork.
- b. Identify opportunities to automate food and resource requests through the DOC-E Live Site.

#### **Core Capability: Operational Coordination**

1: Holds and authorizations requested by the Working Foreman on an open line to Station A were not granted.

#### **Recommendations:**

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- a. Electric Regional Operations (ERO) and Electric Distribution Operations (EDO) to complete joint action planning to determine the process for requesting/authorizing holds during fire restoration efforts.
- b. Recommended for the Utility Field Commander / Working Foreman/ Operations Section Chief (OSC) to call EDO and take the master holds at the start of the event and/or formalize a circuit coordinator role.
- 2: Without reliable field communications, Station A and Eastern district engineering began preparations to back-feed a circuit without awareness of CAL FIRE's requirement for authorization before re-energization.

#### **Recommendation:**

- a. Apprise EDO and district Engineering on the need for the UFC/Fire Coordination to communicate with CAL FIRE on re-energization plans and SDG&E activity in proximity to burn areas.
- **3:** Check-ins via an ICS-211 were completed on day one, but check-ins and check-outs were not consistently completed on the second day.

#### Recommendation:

- a. Stand up the DOC-E live site or activate the DOC-E at monitoring mode for similarly scaled events to incorporate the check-in and check-out process more consistently. This recommendation would allow for additional live site tools, prioritization, or resource coordination support should an incident escalate in complexity or scale.
- 4: The Emergency Mobile Command Trailer (EMCT) arrived without an IT technician to initiate the start-up sequence because the resource was ordered outside of the current process.

#### **Recommendations:**

- a. Share the current resource ordering process with Equipment Operations, ERO Emergency Response & Recovery Practices (ERRP), and ERO district leadership to ensure that an IT technician is dispatched out at the same time or before the trailer's arrival.
- b. Ensure field IT technicians are trained on the start-up sequence for the EMCT and best practices on selecting the optimal location without obstructions and signal barriers.

#### **Core Capability: Operational Communication**

1: Communication assets on the EMCT and Incident Support Vehicle (ISV) were not operable or ideally situated to establish typical pathways for viable communications.

#### **Recommendations:**

- a. Coordinate with OFER, IT, ERO, EDO, and Equipment Operations to complete a high-priority assessment of staging locations used by Eastern, Northeast, Ramona, and Mountain Empire C&O districts to determine radio (800/900mhz), cellular, and satellite opportunities. Share findings with ERO Emergency Readiness partners.
  - i. Long-range planning to include acquiring a comprehensive list of all staging yards for a communications capability assessment.
  - ii. Recommended project scope to include a map depiction of prime locations to set-up communication equipment.
- b. Vet FirstNet as a potential vendor to provide back-up communication services, such as the Cell on Wheels (COW) for internet access and additional handheld assets with similar capabilities.
- c. Confirm all functions within the EMCT are operable independent of an external generator, as designed.
- d. Run a complete assessment of all assets and systems within the EMCT to ensure all outstanding issues have been addressed.
- e. Draft a list of questions for the EM On-Duty to determine the appropriate resources or assets and the correct set-up sequences are clear for the deployed IT Technician.
- f. Procure a reliable and quality printing asset complete with scanning, printing, and copying capabilities via Bluetooth, wireless, and USB ports.
- g. Begin discussions with operations stakeholders on the next generation of mobile command trailers.

2: Contact points with cellular companies are outdated; discovering that hotspots have a 3G bandwidth and need consistent updating revealed the need to improve that corporate relationship.

#### **Recommendations:**

- a. Renew relationships and update contact points with cellular companies for the ability to reach out during emergency responses.
- b. Replace existing "hot spot" and Wi-Fi equipment in the Mobile Command and Communications assets to ensure up-to-date bandwidth capabilities.
- c. Assess the number and current state of satellite phones in ERO and Equipment Operations to determine if additional devices are required, then establish a Satellite Communications Plan for these areas.

## Appendix A: IMPROVEMENT PLAN

This Improvement Plan was co-developed by incident stakeholders and SDG&E Emergency Management following the event.

Continuous Improvement Opportunity	Core Capability	<b>Recommended Mitigation Activities</b>	Responsible Employee/Parties	Primary POC	Target Completion Date
Ranch Catering service delivered dairy products for lunch and dinner	Safety, Health, & Environ. Response	Partner with contracted catering services to communicate health and safety expectations. Additionally, recommend high-calorie, grab-and-go meals compatible with fieldwork.	OFER Div./ Facilities	Jorge Balvaneda, John Ritter, Michelle Borunda	Q2 2023
without ice or refrigeration in high-heat conditions.		Identify opportunities to automate food and resource requests through the DOC-E Live Site.	Facilities / ERO	John Ritter, Ann Steeves	Q2 2023
Holds and authorizations requested by the Working Foreman on an open line to Station A were not granted.	n an <u>c</u>	Electric Regional Operations (ERO) and Electric Distribution Operations (EDO) to complete joint action planning to determine the process for requesting/authorizing holds during fire restoration efforts.	ERO / EDO (DOC- E)	Dave Martinez, Cory Mitsui	Q2 2023
		Recommended for the Utility Field Commander / Working Foreman/ Operations Section Chief (OSC) to call EDO and take the master holds at the start of the event and/or formalize a circuit coordinator role.	Fire Coordination, ERO, EDO	Richie Veihl, Dave Martinez, Cory Mitsui	Q2 2023
Without reliable field communications, Station A and EA engineering began preparations to back-feed a circuit without awareness of CAL FIRE's requirement for authorization before re-energization.	Operational	Apprise EDO and district Engineering on the need for the UFC/Fire Coordination to communicate with CAL FIRE on re-energization plans and SDG&E activity in proximity to burn areas.	ERO, EDO	Dave Martinez, Cory Mitsui	Q2 2023

Continuous Improvement Opportunity	Core Capability	Recommended Mitigation Activities	Responsible Employee/Parties	Primary POC	Target Completion Date
Check-ins were completed on day one, but check-ins and check-outs were not consistently completed on the second day.	ordination	Share the current resource ordering process with Equipment Operations, ERO Emergency Response & Recovery Practices (ERRP), and ERO district leadership to ensure that an IT technician is dispatched out at the same time or before the trailer's arrival.	EDO (DOC-E), ERO ERRP	Cory Mitsui, Ann Steeves	Q2 2023
The EMCT arrived without an IT tech to initiate the start-up sequence because the	Operational Coordination	Share the current resource ordering process with Equipment Operations and field operations leadership to ensure that an IT technician is dispatched out at the same time or before the trailer's arrival.	Emergency Services / Facilities / ERO ERRP	Mona Freels, John Ritter, Ann Steeves	Q2 2023
resource was ordered outside of the current process.		Ensure field IT technicians are trained on the start-up sequence for the EMCT and best practices on selecting the optimal location without obstructions and signal barriers.	IT	Chris Cugno	Q2 2023
Communication assets on the EMCT and Incident Support Vehicle (ISV) were not operable or ideally situated to establish typical pathways for viable communications.	Vehicle E erable O to O E	Coordinate with OFER, IT, ERO, EDO, and Equipment Operations to complete a high-priority assessment of staging locations used by Eastern, Northeast, Ramona, and Mountain Empire C&O districts to determine radio (800/900mhz), cellular, and satellite opportunities. Share findings with ERO Emergency Readiness partners.	OFER Div., ERO, EDO (DOC-E), Equipment Operations	Denny Neville	Q2 2023
		Vet FirstNet as a potential vendor to provide back-up communication services, such as the Cell on Wheels (COW) for internet access and additional handheld assets with similar capabilities.	OFER Div.	Denny Neville	Q2 2023
		Confirm all functions within the EMCT are operable independent of an external generator, as designed.	OFER Div.	Denny Neville	Q2 2023
		Run a complete assessment of all assets and systems within the EMCT to ensure all outstanding issues have been addressed.	OFER Div.	Denny Neville	Q2 2023
Communication assets on the EMCT and Incident Support Vehicle	$\mathbf{U} = \mathbf{U}$ the appropriate resources or assets and the correct set-up		OFER Div.	Denny Neville	Q2 2023

Continuous Improvement Opportunity	Core Capability	Recommended Mitigation Activities	Responsible Employee/Parties	Primary POC	Target Completion Date
(ISV) were not operable or ideally situated to establish typical pathways for viable		Procure a reliable and quality printing asset complete with scanning, printing, and copying capabilities via Bluetooth, wireless, and USB ports.	OFER Div.	Denny Neville	Q2 2023
communications.		Begin discussions with operations stakeholders on the next generation of mobile command trailers.	OFER Div.	Denny Neville	Q2 2023
Contact points with cellular companies are outdated; discovering that hotspots have a 3G bandwidth and need consistent updating revealed the need to improve that corporate relationship.	u I Communica	Renew relationships and update contact points with cellular companies for the ability to reach out during emergency responses.	OFER Div., Business Services	Denny Neville, TBA	Q2 2023
		Replace existing "hot spot" and Wi-Fi equipment in the Mobile Command and Communications assets to ensure up-to-date bandwidth capabilities.	OFER Div.	Denny Neville	Q2 2023
	Operations	Assess the number and current state of satellite phones in ERO and Equipment Operations to determine if additional devices are required, then establish a Satellite Communications Plan for these areas.	ERO ERRP	Ann Steeves, Art Romero	Q2 2023

## Appendix B: ICS 211 PERSONNEL ACCOUNTABILITY

Name	District / Department	Incident Role
Brian Dimmock	Equipment Operations	Construction Crew
Frank Martinez	Equipment Operations	Construction Crew
Josh Nixon	Equipment Operations	Construction Crew
Aaron Perez	Equipment Operations	Construction Crew
Rich Christopher	Equipment Operations	Construction Crew
Kyle Albright	Equipment Operations	Construction Crew
Vanessa Johnson	Emergency Management	Incident Command
Brandon Rauch	Eastern C&O	Incident Command
Tim Stuber	Emergency Management	Incident Command
Jorge Balvaneda	Emergency Management	Incident Command
Dave Weber	Century Park 1	Incident Support
Dave Martinez	Mountain Empire C&O	Incident Command
Bryce Necochea	Eastern C&O	Incident Command
Mauricio Salazar	Mountain Empire C&O	Construction Crew
Bobby Jarrell	Mountain Empire C&O	Construction Crew
Troy Webster	Mountain Empire C&O	Construction Crew
Kraig Rovere	Mountain Empire C&O	Construction Crew
William Stanley	Mountain Empire C&O	Construction Crew
Hunter Coe	Mountain Empire C&O	Construction Crew
John Vicario	Mountain Empire C&O	Construction Crew
Steven Cosmano	Mountain Empire C&O	Construction Crew
Dylan Inman	Mountain Empire C&O	Construction Crew
Jesse Spencer	Mountain Empire C&O	Construction Crew
Jackson Earley	Mountain Empire C&O	Construction Crew
Mike Rottenberg	Wildfire & Climate Science	Fire Coordination
Daryll Pina	Wildfire & Climate Science	Fire Coordination
Thomas Rand	Mountain Empire C&O	Construction Crew
Jacob Palechek	Eastern Gas Operations	Incident Command
Mike Miller	Equipment Operations	Construction Crew
Drew Smith	Eastern C&O	Incident Command
Dave Martinez	Mountain Empire C&O	Incident Command
Andrew Westergren	Eastern C&O	Construction Crew
Sinclair Smith	Eastern C&O	Construction Crew
Daniel Bauers	Metro C&O	Construction Crew

# Appendix C: ICS 221 - DEMOBILIZATION CHECKLIST

Incident	Name: Border Fire 32 09012022	Incident Number: n/a		
	Release Date/Time:	Resource or Personnel Released:		
Date: 9/2	2/2022 Time: 1530	All support personnel, crews, and resources		
Estim Desti Trave Conta	nformation: nated Time of Departure: 9/2/2022 1530 ination: Home District el Method: Driving act Information While Traveling: Dave Martinez (619) 378-3070 or Brandon Rauch	(619) 916-1812		
Cost W/O:	t Information: Center: 2100-0108 : 53290891 vel Checklist:			
		Natas		
X	Action	Notes -Ranch Catering tents, tables, chairs		
	Contact Emergency Management On-Duty to coordinate equipment pick-ups	-Ranch Catering tents, tables, chairs -Ice Machine -Portable Restroom -Wash Stations - Light Towers		
	EMCT Trailer Pick-up w/ backup generator	Equipment Operator required		
	Contact FirstNet to drop off hotspot asset	Manny Hernandez 619-646-7152		
	Crew accounted for and signed-out			
	Complete Wellness Check on assigned crew			
	Release Contract Fire Resources (CFRs)			
	Check-out with Fire Incident Command			
	OPTIONAL: Complete ICS paperwork			
<b>Special</b> 1. Check	Notes: for heat illness or dehydration symptoms before	departure		
	-	ning Section Chief Approval Date: 0/2/2022		
	/anessa Johnson Position/Title: Field Plan			
US 221_	_Addendum	Date/Time: 9/2/2022 0855		

# Appendix D: ICS 215A – INCIDENT ACTION PLAN SAFETY ANALYSIS

1. Incident Name SDG&E Border F			2. Incid	ent Number:		
3. Date/Time Pre Date: 9/1/22	•	4. Operationa	l Period:	Date From: 9/1/22	Date To: 9/1/22	
	Time: 13:30			Time From: 13:30	Time To: 21:00	
5. Incident Area	6. Hazards/Risks			7. Mitigations		
Barrat Smith Rd	Active Fire within the b	ourn area (islands)	)	Maintain situatio	onal awareness/ Post lookouts	
Barrat Smith Rd.	Smoldering trees and p	poles		Check integrity of its integrity	dont assume it's maintained	
Barrat Smith Rd.	Ash Pits				ash; be observant while you're in situational awareness	
Barrat Smith Rd.	Wires down / Damage	d Wires up		Assume hot, be maintain situatio	observant; Could fall; nal awareness	
Barrat Smith Rd.	Barbed wire fences			Be observant		
Barrat Smith Rd.	Loose animals			Avoid - could be report to IC	irritated. Notify Pina for	
Barrat Smith Rd.	Heat Injury		and gatorade int	Heat exhaustion, Heat stroke; maintain water and gatorade intake; take breaks, cool environment (cab of truck)		
Barrat Smith Rd.	Smoke inhalation		Avoid smoke			
Barrat Smith Rd.	Angry customers			Don't engage; N	lotify LOGS Rauch	
Barrat Smith Rd.	Backfeed from general	tors		Verify; secure		
Fire Area	Roadway Safety			Share the road; follow speed lim	look for temporaray signage; it	
8. Prepared by /	Safety Officer): Name:	Tim Stuber		Signature:		
	Operations Section Chie				re:	
ICS 215A		Date/Time	014100	*	<u> </u>	

# Appendix E: INCIDENT PHOTOS



