

# INCIDENT COMMAND SYSTEM

## S339 Division/Group Supervisor - ALL RISK

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**STUDENT  
MANUAL**  
FIRST EDITION  
APRIL 2000





# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor – ALL RISK

## Student Manual



*published by*

California Department of Forestry and Fire Protection

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Yuba, CA 95640

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# CERTIFICATION STATEMENT

On behalf of

FIRESCOPE

The following training material meets the minimum standards prescribed for courses developed under FIRESCOPE to meet California needs for "ALL RISK" ICS position specific training. This course is accredited by the State Board of Fire Services and approved by the FIRESCOPE Board of Directors. The curriculum is based upon NWCG training material. Agencies participating in and desiring certification from NWCG should utilize the NWCG training materials. Instructors are encouraged to use and blend specific local policies and procedures in presenting this course. The instruction is certified for interagency use and is known as:

DIVISION/GROUP SUPERVISOR S-339

Certified at Level I

FIRESCOPE ALL RISK Version

# ACKNOWLEDGMENTS

The CDF/State Fire Training Curriculum Development Division coordinated the development of the material contained in this guide.

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The material contained in this document was compiled and organized through the cooperative effort of numerous professionals within, and associated with, the California fire service. We gratefully acknowledge the following individuals who served as the principal developers for this document.

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# COURSE STRUCTURE

Division/Group Supervisor, S-339 ALL RISK, is a 24-hour course designed to meet the training needs of a Division/Group Supervisor to manage ALL RISK incidents.

The course is designed to be presented in a lecture/discussion format with group exercises. This course meets all requirements of the FIRESCOPE ALL RISK Qualifications System for the position of Division/Group Supervisor.

For an individual to become fully qualified as a Division/Group Supervisor, the individual should also meet the standards set forth in the Wildland Fire Qualifications Subsystem, 310-1.

The Wildland Fire Qualifications Subsystem, 310-1, provides guidance and a national fire standard for establishing minimum training, skills, knowledge, experience, and physical fitness requirements for the participating agencies of the NWCG.

Along with the NWCG requirements, the FIRESCOPE Task Force Subgroup recommends for a Division/Group Supervisor to be qualified as "ALL RISK" within California, he or she meet the following minimum training pre-requisites:

- I-300, Intermediate I.C.S., is required before taking S-339 and
- Must be Strike Team Leader I-330 qualified and
- Multi-Resource Emergency Management experience consistent with S-339 and I-300 level.

This course has been developed by an interagency development group and is based upon NWCG curriculum from the National Interagency Fire Center, National Fire and Aviation Training Support Group, under authority of the National Wildfire Coordinating Group.

Material for an "ALL RISK" course approved by FIRESCOPE is available through CDF/OSFM State Fire Training.

This course identifies the basic S-339 Division/Group Supervisor fundamentals. Currently, some local government agencies in California are using a certification and qualification system. Position Task Books are supplied as reference material for this course, however, they are not required for CDF/OSFM State Fire Training certification.

Additional copies of this publication may be ordered from:

The California Department of Forestry and Fire Protection  
Office of the State Fire Marshal (Training)  
P.O. Box 944246, Sacramento, CA 94244-2460

Or

Office of Emergency Services  
Document Control  
2524 Mulberry Street  
Riverside, CA 92501

- CDF/State Fire Training (916) 445-8500
- OES (FIRESCOPE) (909) 782-4174
- OES (FAX) (909) 782-4239

This section contains instructions and information essential in making an effective presentation. This section should be read thoroughly prior to the course presentation. These instructions are specific for this course, Division/Group Supervisor, S-339 ALL RISK.

### Description of the Performance Based System

The FIRESCOPE ALL RISK Qualifications System is a "performance-based" qualifications system. In this system, the primary criteria for qualification is individual performance as observed by an evaluator using approved standards. This system differs from previous qualifications systems which have been "training based." Training-based systems use the completion of training courses or a passing score on an examination as a primary criteria for qualification.

A performance based system has two advantages over a training-based system:

1. Qualification is based upon real performance, as measured on the job, versus perceived performance, as measured by an examination or classroom activities.

The components of the FIRESCOPE ALL RISK qualifications system are as follows:

#### FIRESCOPE ALL RISK POSITION TASK BOOK

Position Task Books (PTB) contain all critical tasks which are required to perform the job. PTB's have been designed in a format which will allow documentation of a trainee's ability to perform each task. Successful completion of all tasks required of the position, as determined by an evaluator, will be the basis for recommending certification.

IMPORTANT NOTE: Training requirements include completion of all required training courses prior to certification of a PTB. Use of the suggested training courses or job aids is recommended to prepare the trainee to perform in the position.

Training Courses and Job Aids provide the specific skills and knowledge required to perform tasks as prescribed in the PTB.

Agency Certification is issued by departments and agencies that certify by FIRESCOPE standards that the individual is qualified to perform in a specified position.

A Job Aid is provided for reference and course study.

## 2. Responsibilities

The department or agency is responsible for selecting qualified trainees, initiation and proper use of task books, and certification of trainees.

# INTRODUCTION TO THE MANUAL

This publication is intended to serve as the course textbook. The Student Manual is divided into four sections.

## **STUDENT TEXT**

- ❖ Informational pages for one or more units and topics and corresponding to the instructor guide.

## **APPENDIX A**

- ❖ PowerPoint slide notes

## **APPENDIX B**

- ❖ Activity sheets for any individual or group activities required for successful course completion.

## **APPENDIX C**

- ❖ Student Reference documents

Additional appendices may be added as necessary to meet minimum course requirements.

State Fire Training gladly accepts your comments and suggestions for future enhancements or revisions to this document.

Please forward to:

**CDF/State Fire Training**

Curriculum Development Division  
4501 State Highway 104  
Lone, California 95640-9705

# COURSE OUTLINE

COURSE TITLE: INCIDENT COMMAND SYSTEM  
S-339 Division/Group Supervisor– ALL RISK

COURSE OBJECTIVES: To...

- a. Describe the concepts of a Division and Group as it relates to the position of Division/Group Supervisor.
- b. Evaluate students ability to apply Division/Group fundamentals to ALL RISK incidents.
- c. Enable the student to prepare for and participate in planning meetings to develop and implement Division/Group objectives.
- d. Enable the student to participate in information gathering practices.
- e. Enable the student to participate in an Operational Period Briefing and a Division/Group Briefing.
- f. Enable the student to manage and adjust to the operations organization.
- g. Provide the student with a an understanding of why and when tactics may need to be adjusted.
- h. Describe the role of the Division/Group Supervisor in risk assessment and safety management.
- i. Demonstrate how to successfully coordinate internal relations.
- j. Demonstrate how to successfully coordinate external relations.

COURSE CONTENT: .....24:00 HOURS

## UNIT 1: COURSE INTRODUCTION

- 1. Course Introduction ..... :30
- 2. Concept of Division/Group..... 1:30
- 3. Pre-Course – Work Assignment..... 5:00

## UNIT 2: PLANNING

- 1. Information Gathering..... 2:00
- 2. Briefing ..... 2:00

UNIT 3: SUPERVISION	
1. Personnel Management .....	1:00
2. Risk Management .....	4:00
UNIT 4: COORDINATION	
1. Internal/External Coordination .....	5:00
TESTING .....	1:00
SCENARIO TESTING .....	2:00

# CALENDAR OF EVENTS

## SCHEDULE

### Day One

Date: \_\_\_\_\_

Topics: **Introduction**  
Welcome and Introduction  
Concept of a Division and Group  
Pre-Course Work Assignment  
Scenario Exercises and Activities

### Day Two

Date: \_\_\_\_\_

Topics: **Planning and Supervision**  
Information Gathering  
Briefing  
Personnel Management  
Risk Management  
Scenario Exercise and Activities

### Day Three

Date: \_\_\_\_\_

Topics: **Coordination**  
Internal/External Coordination  
Scenario Exercises and Activities  
Final Examination





# INCIDENT COMMAND SYSTEM

S339 Division Group Supervisor - ALL RISK

PRE-COURSE WORK  
ASSIGNMENT

## DIVISION/GROUP SUPERVISION EXPECTATIONS

### California Incident Management Team 5

INTRODUCTION: This Incident is under the command of California Interagency Incident Team 5. The following are expectations for your position as a Division/Group Supervisor. These expectations are intended to assist you in the accomplishment of your assignment and should serve as a checklist. You are accountable to perform to these expectations. Should you have any questions concerning these expectations, you are encouraged to discuss them with your Branch Director or one of the Operations Section Chiefs (OSC).

#### ADMINISTRATIVE EXPECTATIONS

##### I. BRIEFINGS

- A. You must attend all meetings/briefings that require your participation. You will be informed as to which meetings/briefings you are to attend
- B. Be on time
- C. Be prepared to provide necessary information such as:
  1. Work accomplishment
  2. Remaining unfinished task
  3. Written recommendations for next Operational Period
  4. Projected completion time of your primary objectives
  5. Unusual logistical support needs
- D. Debrief at the end of each Operational Period with plans. Verify resources and information on the IAP. Update the map.



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PRE-COURSE WORK  
ASSIGNMENT

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## II. PERFORMANCE

- A. It is important that you communicate your performance expectations to all your subordinates
- B. Outstanding performance needs to be documented and recognized. Use the performance rating form to start documentation to recognize outstanding accomplishments. Performance which you feel deserves special recognition should be brought to the attention of your Branch Director or the OSC. Be prepared to make recommendations on what type of recognition might be appropriate.
- C. Unsatisfactory performance will not be tolerated. Unsatisfactory performance is to be identified and dealt with immediately. If you are unable to resolve the performance problem, it is to be brought to the attention of the Branch Director or the OSC. Poor performance will be documented on the performance rating form and provided to the Branch Director or the OSC.

## III. INTERNAL/EXTERNAL POLITICAL CONCERNS

- A. The needs of the local unit and community must be an important consideration in your overall suppression strategy. Make sure you understand local community/unit political issues.
- B. Cooperate with Incident Information Officers to assure safe and efficient access for the media

## IV. ACCOUNTABILITY

- A. Maintain financial accountability for the operations on your division
- B. Oversee and make sure equipment time, especially resources which are mobile and may move from division to division, is properly documented (Contract dozers, water tenders, etc.)
- C. Manage crew/equipment shift lengths within guidelines and latitude provided by the incident



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PRE-COURSE WORK  
ASSIGNMENT

- D. Monitor subordinates use of non-expendable, durable, and expendable supplies. Make recommendations to Supply Unit for replacement
- E. Accountable property on your division is to be located, documented and reported to supply for recovery at the appropriate time

## V. PRODUCTION

- A. You need to take the initiative to provide all management needs for your division. It is important that you meet the objectives of your assignment while establishing safety awareness among your subordinates
- B. Provide timely feedback on the completion of your assignment
- C. Coordinate with your subordinates making sure they fully understand assignments and expectations; assure they understand the "big picture" as well as the specific needs of the division. Provide clear instruction on their assignment, monitor their progress and conduct final follow-up upon completion of assignment.
- D. Make sure your activities are well coordinated with your adjoining divisions. Share resources when and where appropriate.
- E. Major changes in your tactical mission must be coordinated with your Branch Director/OSC.
- F. Prepare a written projection of resource needs for the next Operational Period prior to planning meetings; communicate those projections to the Branch Director/OSC. Provide basic intelligence to plans.
- G. As a Division Supervisor, you need to be aware of environmental concerns of the jurisdiction experiencing the incident. Tactical operations must be conducted not to conflict with these concerns.

## VI. SAFETY EXPECTATIONS

- A. Safety



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PRE-COURSE WORK  
ASSIGNMENT

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1. Safety is the primary objective of the incident. It is the Division Supervisor's responsibility to see that all operations associated with the division are carried out safely. Activities which must be carefully monitored include
  - a) Air operations must be managed prudently and safely. Do not make unnecessary flights or utilize aircraft if the mission does not require it.
  - b) Personal Protective Equipment is mandatory for everyone on the line. This is also true for contract personnel on dozers, water tenders, etc. Personnel on the line without Personal Protective Equipment will be sent back to camp, or PPE will be secured and delivered to line
  - c) Assure assignments given to subordinates have appropriate safety considerations. Downhill line construction, firing operations, heavy equipment operations, etc., require special safety considerations and briefings. Any operation in which a hazardous material is discovered or included should be halted until mitigating equipment or procedures can be implemented.
  - d) These guidelines are intended to assist you in meeting Team 5 expectations and operating procedures, providing operational information beyond the Field Operations Guide
  - e) It is our sincere hope to make a difficult situation as rewarding as possible for all involved in the suppression effort.





# INCIDENT COMMAND SYSTEM

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PLANNING

## DIVISION/GROUP SUPERVISOR CHECKLIST

- Order & Request Numbers \_\_\_\_\_
- Report Location & Contact Person \_\_\_\_\_
- ETA \_\_\_\_\_
- Travel Route & Radio Frequencies (Command) \_\_\_\_\_

### PRE-DEPARTURE CHECKLIST:

Division/Groups Supervisor Kit:

Brief / Attaché case, FOG-ICS-420, Fire line Handbook-NFES- 0065, Div/Grp Task Book, ICS forms-I201,204,213,214,225, Shift ticket example booklet-IO-297, paper pad, 3x5 cards, pens & pencils, flashlight (w/batteries), programmable hand held radio, cell phone, pager, clam shell battery pack w/spare batteries, Radio Frequency and repeater guide, belt weather kit, binoculars, sun glasses, spare reading glasses, metal clip board, flagging tape (2) rolls, masking tape, cassette recorder w/batteries, straight edge ruler, North American Emergency Response Guide (Haz-Mat) guide, Thomas Bros. road atlas of area, Cal. State travel guide (TB), Topographic maps of area, ice chest, water / drinks, food – MRE's, Smokey snack's for 24hrs.

### UPON ARRIVAL AT INCIDENT:

- Check-in with Restat.
- Secure Communication needs.
  - Incident programmed hand held radio, cell phone & pager
  - Give the Communication section your personnel cell phone and pager #.
- Obtain briefing from your supervisor / attend staff briefing.
- Obtain copies of IAP (Read and understand completely).
- What are the incident objectives, priorities, time frames?
- What are the SAFETY hazards? (Hazards known, LCES)
- How will my Division interact with adjacent divisions?
- Are there any Communications or Logistics concerns?
- How will your needs be channeled?
- Check with Sit-Stat., Re-Stat. & Finance for updates and needs that involve your division.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING

## LINE ASSIGNMENT CHECKLIST

- Check the PRIORITIES and HAZARD areas first.
- Receive input from your staff in their areas of responsibilities.
- Determine whether assigned division resources are adequate to meet operational objectives.
- Determine the need for technical specialist.
- Develop contingencies; make them known to your supervisor and personnel.
- Assure that safety zones are created and escape routes are communicated.
- Coordinate activities with adjacent Divisions/Groups.
- Review all areas of assignment at least twice- early on & later to determine progress and needs for the next shift.
- Prepare the resource needs for your division for the next ops period. 12hr. shifts by 0900 & 2100, 24hr. by 1900.
- Report any significant events to your supervisor (injury, accident, unusual).
- Check on logistical needs again by 1000 and 1500.
- Report resources changes to ReStat.
- Maintain your unit log (I-214), as they occur, at least once each hour.
- Assure that all personnel get off the line in a safe & timely fashion.

### END OF SHIFT – ON THE LINE:

- Debrief to your relief:
- All identified safety hazards on the division. (I-215A)
- Confirm the use of tactical specialist to provide expertise in division.
- Update their situational awareness of your shift:
- What was accomplished?
- What needs to be accomplished?
- Problem areas, events or situations
- Update their map to the real picture.
- Make them aware of rental equipment still on the division.
- Sign the shift tickets of the rental equipment and personnel from your shift.
- Update your unit log (I-214).

### AT THE INCIDENT BASE:

- Contact your supervisor to update the situation on your division.
- Debrief to Re-Stat.- status of assigned equipment.
- Debrief to Sit-Stat.- weather, update maps
- Debrief to Finance - shift tickets
- Debrief to Documentation – completed I-214, personnel evaluations, etc.
- Check with the time unit.
- Be ready for your next shift.

**INCIDENT BRIEFING**

1. INCIDENT NAME

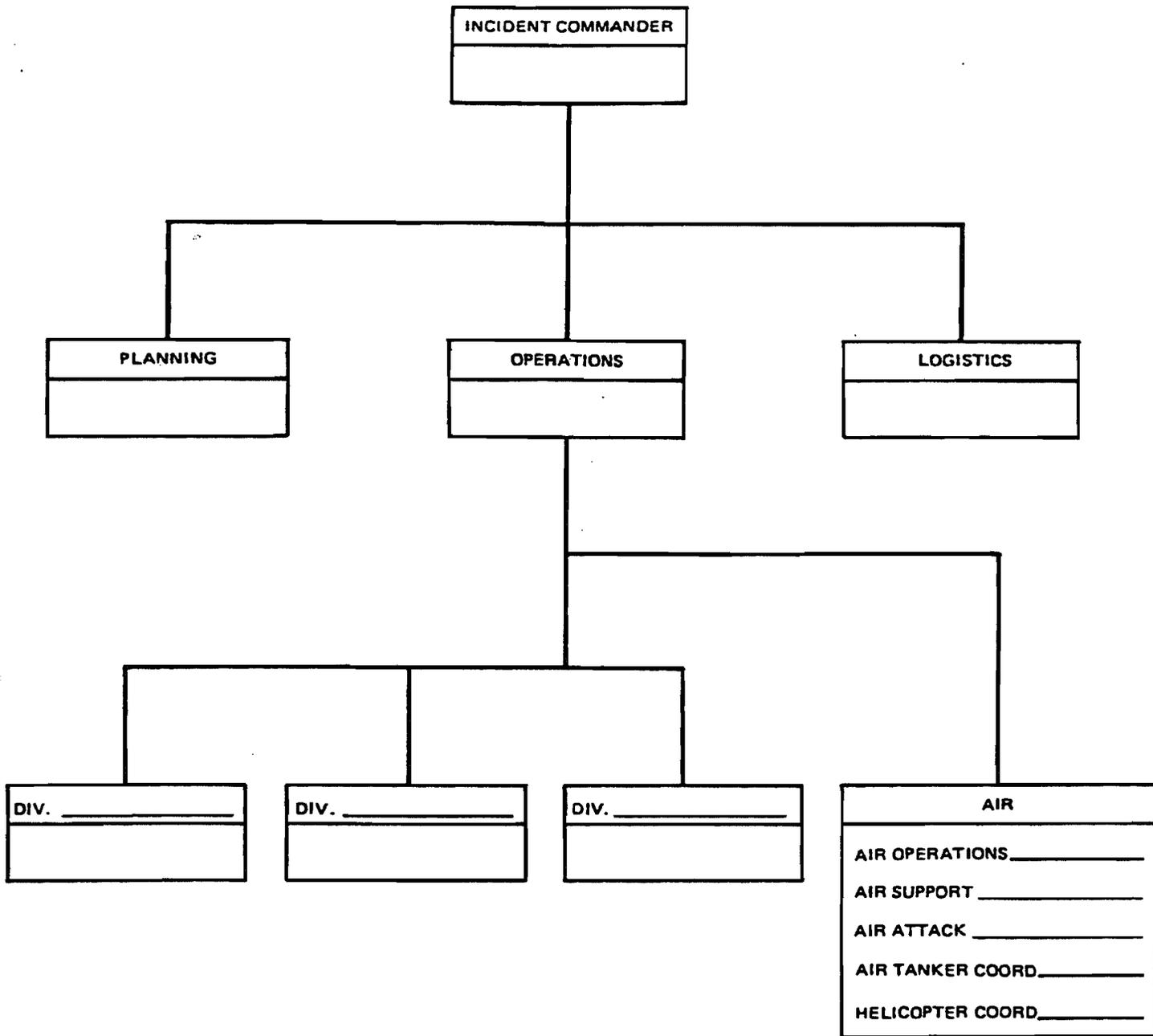
2. DATE  
PREPARED

3. TIME  
PREPARED

4. MAP SKETCH



6. CURRENT ORGANIZATION







# INCIDENT COMMAND SYSTEMS

S339 Division/Group Supervisor

BRIEFING

## DIVISION SUBORDINATE BRIEFING

- Roll Call/Introductions
- Division Objectives (review of I-204, from IAP)

### SAFETY

- Conditions of crews? Fatigue? Experience levels?
- ALL Personnel Protective Equipment while on division. No Exceptions!
- Key division safety concerns, review I-215A
- Lookouts will be posted as needed
- Communication for division: Tactical, Command and Air/Ground Frequencies
- \*Assigned Tactical Frequencies to be monitored at all times, review I-205
- Escape Routes will be identified and made known to all
- Safety Zones will be constructed and made known to all
- Review of expected weather and fire behavior forecast
- Assign unit to take and record weather observations during shift
- @ \_\_\_\_\_ min. intervals
- Make observations known on division tactical frequency
- Make observation of unusual weather behavior known to all
- Travel routes to Drop Points or meeting points. WHAT TIME \_\_\_\_\_

### OPERATIONS

- My expectations of division resources
- Periodic updates of progress/status. Time frames, ,mins., hrs. \_\_\_\_\_
- Notify DIVISION of "key" info. (Injuries/Potential claims/Damage/Problems)
- Use of air resources in division -  All requests will go through DIVS
- Division resources/experience/expertise/special equipment
- E.M.T./Paramedic personnel/equipment assigned to Division?
- Assign unit to handle division medical emergencies
- Firing operations in division/firing-out around threatened structures, Notify?
- Contingency plans – A, B, C

### LOGISTICS

- Place requests for support to DIVISION as early as possible
- Do all assigned personnel have enough:
  - \* FOOD/LUNCHES YES – NO – NEEDS # \_\_\_\_\_
  - \* WATER – DRINKS YES – NO – NEEDS gal/# \_\_\_\_\_
  - \* ICE YES – NO – NEEDS lbs. \_\_\_\_\_
- Supplies to complete assignment – hose, tools, fuel, etc.
- Transportation needs YES - NO – Road Limitations? # of personnel \_\_\_\_\_

### END OF SHIFT PROCEDURES

- Don't leave Division without advising DIVISION of departure!!!!
- DIVISION to be last to leave the division
- Evaluations needed? /Trainees assigned?/Signing of crew time/shift tickets
- 214's from all S/T leaders & single increment

NOTE: WORK ASSIGNMENTS/DIVISIONAL TACTICS/CONTINGENCY PLANS will be discussed/briefed after recon. of division to assess situation and needs



# INCIDENT COMMAND SYSTEMS

S339 Division/Group Supervisor

BRIEFING

ICS-202 INCIDENT OBJECTIVES	(1) INCIDENT NAME SHU 4099 BURNEY	(2) DATE PREPARED 7-28-92	(3) TIME PREPARED 2000
(4) OPERATIONAL PERIOD (DATE/TIME) WEDS., 7-29-92 0800 - THURS 7-30-92 0800			
(5) GENERAL CONTROL OBJECTIVES FOR THE INCIDENT (INCLUDE ALTERNATIVES)			
<p>O 1. PROTECT STRUCTURES, LIFE AND PROPERTY</p> <p>B</p> <p>J 2. KEEP THE FIRE SOUTH OF BURNEY, JOHNSON PARK, AND STATE RTE 299E</p> <p>C</p> <p>E 3. KEEP THE FIRE WEST OF STATE ROUTE 89</p> <p>C</p> <p>T 4. HOLD THE SOUTH SIDE OF FIRE NEAR PRESENT LINE LOCATION, NORTH OF</p> <p>I ROCKY LEDGE BUTTE</p> <p>V</p> <p>E 5. MINIMIZE LOSS AND DAMAGE TO NATURAL RESOURCES, INCLUDING FOREST</p> <p>S LAND.</p>			
(6) WEATHER FORECAST FOR OPERATION PERIOD			
SEE ATTACHED "FIRE WEATHER FORECAST"			
(7) GENERAL / SAFETY MESSAGE			
<p>FIRE HISTORY AND WEATHER PREDICTIONS INDICATE A POTENTIAL FOR SPOTTING WELL OUTSIDE THE BURN - KEEP ALERT - PLAN AHEAD AND KNOW YOUR ESCAPE ROUTES.</p> <p>DRINK PLENTY OF WATER!!!</p>			
(8) ATTACHMENTS: ( X IF ATTACHED)			
<input checked="" type="checkbox"/> ORGANIZATION LIST (ICS-203) <input checked="" type="checkbox"/> DIVISION ASSIGNMENT LIST (ICS-204) <input checked="" type="checkbox"/> COMMUNICATIONS PLAN (ICS-205) <input checked="" type="checkbox"/> MEDICAL PLAN (ICS-206) <input checked="" type="checkbox"/> INCIDENT MAP <input checked="" type="checkbox"/> TRAFFIC PLAN		<input checked="" type="checkbox"/> WEATHER FORECAST <input type="checkbox"/> FIRE BEHAVIOR <input type="checkbox"/> RELEASE STANDARDS <input checked="" type="checkbox"/> SAFETY MESSAGE <input checked="" type="checkbox"/> CAMP MAP <input checked="" type="checkbox"/> UNIT LOG	
ICS-202 (9) PREPARED BY: (PLANNING SECTION CHIEF) <i>Dave McNamee</i>		(8) APPROVED BY: (INCIDENT COMMANDER)	



# INCIDENT COMMAND SYSTEMS

S339 Division/Group Supervisor

BRIEFING

(1) BRANCH	(2) DIVISION/GROUP B	DIVISION ASSIGNMENT LIST 204					
(3) INCIDENT NAME Burney Incident SHU 4099		(4) OPERATIONAL PERIOD DATE July 29, 1992 TIME 0800 - 0800					
(5) OPERATIONS PERSONNEL							
OPERATIONS CHIEF Holmes/Terwilliger			DIVISION/GROUP SUPERVISOR Jeff Jones				
BRANCH DIRECTOR			AIR ATTACK SUPERVISOR D. Tiller				
(6) RESOURCES ASSIGNED THIS PERIOD							
STRIKE TEAM/TASK FORCE/ RESOURCE DESIGNATOR	LEADER	# OF PERS.	TRANS NEED	DROP OFF PT/TIME	PICK UP PT/TIME		
E-2486				Drop Point 2	0800		
E-1486	J. Smith	4					
E-2466							
Sugar Pine #4	Newman						
Intermountain #3							
WT E-88	Tin Man						
WT E-83	J & J Logging						
CDF Dozer 2441							
CDF Dozer 2442							
7. Control Operations:							
Mop up inside line 300 feet.							
(8) SPECIAL INSTRUCTIONS:							
All divisions take weather observations every hour, day and night, and give to communications.							
(9) DIVISION/GROUP COMMUNICATION SUMMARY							
FUNCTION	FREQ.	SYSTEM	TONE	FUNCTION	FREQ.	SYSTEM	CHAN
Commnd Local Repeat	151.355 159.300	CDF 1	5	Report Local Repeat	153.950	SCFD F-3	
Div/Gr.Tactical	151.445	Tac 11		Ground to Air	151.220	Red Net	
PREPARED BY (RESOURCE UNIT LEADER)					APPROVED BY (PLANS CHIEF)		DATE/TIME
<i>Bernard [Signature]</i>					<i>Case [Signature]</i>		



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor – ALL RISK

BRIEFING

## 12 HOUR OPERATIONAL SHIFT

Each Operations Section Chief will have his/her own daily schedule which will be based on personal preference, incident situation and team dynamics. Managing your time will be critical to successful performance. What follows is an example of how an Operations Section Chief might schedule his/her day. This should not be interpreted as the only way to do business. This reflects a fire with one OSC per operational period.

- 0500 Day Operations Section Chief (OSC) on duty. Night Ops. briefs oncoming Ops. Chief. Review Incident Action Plan. Distributes IAP and conducts Operations Briefing.
- 0600-0800 Division Supervisors to line to debrief off-going Division Supervisors. Manage operational period change.
- 0800-0900 Aerial recon of incident with IC/others as required. Prepare mini 215 for Planning Meeting. Base on input from Division Supervisors and other Operations personnel.
- 0900-1000 Planning meeting for night operational period. Air tankers over fire.
- 1000-1500 Supervision – Recon incident by ground/or air. Team coordination and review performance of operations personnel.
- 1500-1700 Make updates/adjustments to IAP for briefing
- 1700-0500 Cycle repeats for night operational period.



## 24 HOUR OPERATIONAL SHIFT

The information, ideas and concepts below have been developed since 1990. This shift has been used on at least a dozen different major wildland fires with great success. We all need to remember that this is but one choice of operational shifts depending on the type of incident, operational limitations or where you are in the incident progression.

1. The 24 hour shift does not require incident personnel to work constantly for 24 hours. Each worker is expected to average around 18 hours of work with 6 hours of rest.
2. There are less operational accidents and injuries because people are rested and not as inclined to do hazardous things. Line personnel can go for weeks on this type of shift because they are getting adequate rest and rehabilitation under the 24 On, 24 Off Cycle.
3. Production rates may be higher. This is a key point and should be given much consideration. Line personnel are on the line during peak burning periods and late afternoon when the time is right to do burnouts or use other control methods, not doing shift change. Crews that are well rested work harder and longer.
4. Op's Chief's have more time to be on the line since they have half as many meetings to attend. This is also true for other Command and General Staff personnel.
5. Engine companies and fire crews have more time to do preventative maintenance and fix problems without giving up their sleep time. This also makes for a safer and more productive operation.
6. Crews and engine companies are able to sleep in the dark which affords them better rest.
7. There is half the vehicle movement going to and coming from the line. This reduces the risk for a vehicle accident significantly.



# INCIDENT COMMAND SYSTEM

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BRIEFING

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8. Crews on a 24 hour shift are familiar with their section of line after dark. this is a good reason to do a shift change in the morning and not at night. In addition, the BI's are lower in the morning reducing the risk of escape outside of the perimeter.

**NOTE:** May need to explain Burning Index.

9. Crews and engine companies have greater pride in ownership with their piece of line that they worked all day to secure, consequently they'll work on it at night to be sure it stays secured.

10. Travel distances to the line from Incident Base and back are no longer an issue. This also allows you to put the Incident Base at a better location with all the utilities and services.

11. Dozers and water tenders can be shifted at 12 hour or 24 hour intervals depending on need.

12. No all Branches or Divisions need to be on the 24 hour shift. As the fire starts to wind down and some areas are in mop-up stages they can work 12 hour days with just a patrol at night.

13. Command and General Staff personnel, plus their subordinate positions, work 12 hour shifts. The Operations personnel from Branch Director down would be the only exception. They would still work the same shift as line personnel.

14. The Planning Section is under less pressure since there is only one Planning Meeting, one Briefing, and one IAP to produce.

15. The 24 hour shift may cause some pay concerns with some agencies. Administrative issues should not dictate what is needed operationally.

a. Shifts in excess of 10 hours for Federal Wildland Fire Agencies will require a letter of justification signed by the IC.

16. A simple one page explanation of the 24 hour shift and how it works should be added to the IAP to avoid problems.



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17. Once the fire is contained, Operations will work towards a single day shift with only a patrol at night. This would be a true 12 hour day with 12 hours of rest at night.



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## WORK, REST & FATIGUE<sup>1</sup>

### Evaluation of their Relationships 1982 Fire Season

#### INTRODUCTION AND SUMMARY

#### PROBLEM STATEMENT

The standard two-shift concept, involving 16 hours on the first day and 12 hours each day thereafter (Section 410 FIRE BUSINESS MANAGEMENT HANDBOOK), is realistically unattainable for fireline personnel on most large uncontrolled fires. Travel time to and from the fireline, manning the fireline until relieved, shift briefings, and logistical complexities all combine to produce long shifts, requiring documentation and approval of the Fire Boss (FSM 5131.5). Such long shifts fail to provide adequate rest/recovery time for line personnel, resulting in excessive fatigue. This fatigue can result in injury to health, unclear thinking, poor fire management, and loss of production.

#### EXECUTIVE SUMMARY

The standard concept of two shifts every 24 hours works well on simple fires of up to two days duration through control. Where spike camps are used, or travel times from camp to the fireline are short, shift lengths can be held to reasonable periods, and adequate rest assured.

On more complex fires, the amount of off-shift rest declines. To address this concern, Region 5 experimented with a 24-hour shift on the Marble Cone Fire in 1977.<sup>2</sup> The Region requested latitude from the Washington Office to conduct further evaluation in 1978. That request was referred to the Missoula Equipment Development Center for their consideration.

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<sup>1</sup> Pacific Southwest Region, U.S. Forest Service

<sup>2</sup> "Large Fire Management – Report on Proposed Policy change to Manage Long Shifts." Bates and Nelson, April 1978



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MEDC prepared a report in March 1980, titled "Work, Rest and Fatigue", which focused primarily on the length of work shifts.<sup>3</sup> This initial literature review recommended controlled field trials to evaluate performance, fatigue, and recovery.

In their subsequent efforts to set up field trials, MEDC focused their attention more on the length of typical rest periods associated with the various shift alternatives rather than on the length of the work shift. MEDC did not examine the specific causes of fatigue in these studies. Previous efforts at MEDC have examined some of the causes of fatigue. In addition to lack of adequate rest, such things as carbon monoxide (CO),<sup>4</sup> smoke inhalation, heat stress due to either climatic conditions, or radiated heat, fluid replacement,<sup>5</sup> mental attitude, and physical conditions<sup>6</sup> can contribute to fatigue.

Region 5's evaluation is not examining specific causes of fatigue, but is concentrating on the relationship between rest and fatigue.

The Washington Office approved Region 5's involvement in field trials off concept, with their 5130 letter of August 10, 1981, "Trial Use of the 24 Hour Work, Rest Cycle". The letter cited four conditions to be met:

Work shifts exceeding 16 hours will continue to be documented and approved by the Fire Boss.

Workers will get at least 12 hours sleep/rest.

Crew Bosses will keep a daily log.

The best time for shift changes will be evaluated.

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<sup>3</sup> "Work, Rest & Fatigue", MEDC No. 8051. 2802, March 1980

<sup>4</sup> "Fire Fighter Response to Carbon Monoxide on the 'Deadline' and 'Outlaw' Fires" MDC No. 7551. 2219, May 1975 and "Preliminary Analysis to Fire Fighter Exposure to Carbon monoxide on Wildfires and Prescribed Burns" MEDC No. 7961. 2208, April 1979.

<sup>5</sup> "Heat Stress" MDC Pamphlet No. 7951. 2505, October 1979.

<sup>6</sup> Development of Evaluation of Muscular Fitness Tests' MEDC February 1980, and "Validation of Muscular Fitness Tests' MEDC March 1980.



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This approval noted that MEDC had located some excellent references on human performance in continuous operations,<sup>7</sup> which address the amount of sleep/rest time necessary to recover from arduous work before performing such work again. The following table summarizes the relationship:

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<sup>7</sup> Human Performance in continuous operations – Volumes I, II and III, U.S. Army Institute for the Behavioral and Social Sciences, December 1979 and March 1980.



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Period of hours without sleep (work + travel + preparation + briefing + standby + etc.)	Recovery hours required of sleep and/or rest
12	6
16	8
18	9
24	12
28	14
30	15

From this table, it is obvious if a crew puts in a 14-hour daytime work shift, plus four hours of travel to and from the line, work assignment, briefings, debriefing, getting up and ready for work, and the various other things that consume time, the crew will spend at least 18-hours without sleep. That effort requires nine hours of sleep/rest recovery, which is unattainable if the crew is expected to return to the day shift the following day. The effect can be cumulative and compounded with successive shifts without adequate sleep/rest recovery. This situation occurs on virtually every large fire in California that remains uncontrolled for three or more days.

On the other hand, if a crew puts in a 26-hour shift, plus the same four hours of travel, etc., the required 15-hours of recovery is easily attainable, if they are not expected to return to the fireline for 24-hours. The key to the concept is the increased amount of time available for recovery under the 24-hour rest/work cycle, compared to the current method.

The concept does not require more line workers, where both day and night shifts are manned, as in Region 5. The concept may not be appropriate where no night shift is employed, as in fires in lodgepole fuel types in Montana. The concept is not a substitute for spike camps, as they offer an excellent means of reducing travel times and shift lengths, to provide recovery time between shifts.

The concept appears to offer relief in logistically complex situations. Fires that become "helicopter dependent" to transport crews to and from the fireline, or impose other barriers to reducing travel times, should be considered as suitable trials for the 24-hour rest/work cycle.

The concept produces a 50% reduction in travel costs, compared to the two-shift system, as the exchange is made once a day, rather than twice. This also reduces exposure of employees to risk, particularly in helicopter travel.



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The concept produces a potential 21 % savings in labor. We don't know if there are any differences in production or injury rates between the two concepts.



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## EVALUATION OBJECTIVES

The concept of securing adequate rest for personnel engaged in arduous fireline construction is emerging as the core issue. The 24-hour rest/work cycle is only one means of accomplishing that objective. The key appears to be the 2:1 work/rest ratio that MEDC has gathered from recent research. They strongly recommend that "all Forest Service Regions take measures to insure that people receive these minimum hours of sleep/rest."

With this recommendation in mind, we have broadened the objectives to test the following hypothesis:

**HYPOTHESIS:** The concept of one hour of rest for each two hours of work, such as that provided by the 24-hour rest/work cycle, will result in less fatigued firefighters. Further, that reduction in fatigue can increase production and reduce accidents.

Our three objectives are:

Determine if the 2:1 work/rest guidelines recommended by MEDC result in less fatigued workers, compared to higher work/rest ratios.

Utilize data to refine work/rest guidelines.

Evaluate the 24-hour rest/work cycle, in comparison with historical fireline manning alternatives, to determine its effect upon:

- Short and long term fatigue
- Production of line workers
- Safety and injury frequencies
- Cost effectiveness
- Logistical support
- Exposure of personnel to risk
- Work and rest environments
- Employee morale and acceptance



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## EVALUATION PROCEDURES

### PRE-SEASON TESTING AND DATA COLLECTION

MEDC will establish a baseline measurement of certain measurable factors to serve as early warning devices for fatigue. To do this, we propose utilizing all Region 5 hotshot crews in a simple pre-season testing procedure that will involve a daily log of crew activity and some simple observations of designated employees. A sample of the Crew Work/Rest Log with instructions for crews and designated employees is included in Appendix B.

### NARRATIVE EVALUATION BY SAFETY CHIEF

The Safety Chief monitors the fire program for compliance with safe practices on any fire managed by a Regional Fire Team, we are asking the Fire Boss/IC to secure a written evaluation from the Safety Chief as a part of this study. The report will be submitted to A&FM, Attention: Kenton Clark, as soon as practical following release of the team. We are interested in any relevant observations in the following areas:

Crew Work/Rest Logs - Hotshot crews will retain their logs for regular submission. others will be collected and submitted with the Safety Chiefs' report. Any observations on the attitude of crews completing the logs, or any conclusions reached at the incident should be included.

Medical Unit Records - Were there any apparent correlations between the records for treatment of injuries and minor irritations such as blisters and shift lengths? Do personnel utilize off-shift time for treatment?

Accident and Injury Rates - Anything noteworthy in terms of injury frequencies?

Understanding and Support of Involved Personnel - How well received was the involvement in the evaluation? Was the Fire Evaluation, Form R5 5100-207, or some other method used to secure employee input?

Adequacy of Rest - Did the rest provided appear adequate? Consider both forms of rest:



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Rest periods on-shift (compensable)  
Off-shift rest/sleep cycle (non-compensable)

Pay Problems - Were there any pay problems or disputes (secure input from Finance Chief)?

Logistical Problems - Was logistical support adequate? Consider providing meals and water to line personnel. Were personnel removed from the line and returned to sleep areas in reasonable timeframes (secure input from Logistics Section Chief)?

Planning Cycles - Did the Fire Boss/IC use one or two planning cycles per 24 hours? How well did it work? Any suggestions for future evaluations (secure input from Planning Section Chief)?

Off-Shift Problems - Any problems encountered with misuse or abuse of off-shift time? Did crews use it to full advantage for rest?

Security - Any problems with camp security attributable to implementation of a 24-hour rest/work cycle?

Tactical Application - What was the overall assessment of line production and securing suppression objectives? Was the operations chief satisfied).

Exposure - Was crew exposure reduced in any way, due to 24-hour rest/work cycle? Consider helicopter transportation, truck travel, etc.

Overall Impression - What was the general impression of implementation of No. 24-hour rest/work cycle?

Fire team impressions  
Fireline worker impressions



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## ACCOUNTABILITY AND DIRECTION

With the hotshot crews preparing daily logs, some evaluation of rest, fatigue, and shift lengths will take place on every fire. Some specific direction is needed in considering implementation of a 24-hour rest/work cycle.

Fire managers will make every reasonable effort to provide adequate rest for all fire personnel. The 2:1 work/rest ratio provides a good guideline, and adherence is encouraged. No specific Regional or National policy will be adopted until the results of this evaluation can be analyzed. Individual forests may elect to adopt a local version of the 2:1 work/rest ratio.

Application of the 24-hour rest/work cycle is limited to:

Wildfires managed by one of the Regional Fire Teams.

Other extra period fires, upon request of the Forest Supervisor and approval of the Director, Aviation & Fire Management.

We are not suggesting that you abandon the standard two-shift concept and adopt the 24-hour rest/work cycle in all situations. At the Fire Boss/IC meeting in March, we discussed the concept and encouraged the Regional Fire Bosses to consider adoption in the following typical situation:

A fire starts in the afternoon, and escapes initial attack. The local Forest Fire Team manages the fire through early evening and cannot contain it. The forest orders a Regional Fire Team and they arrive after midnight and agree to take the fire over at change of shift in the morning. Crews that made the initial attack and provided the reinforcements through the evening have worked all night. Whatever forces the Forest has ordered for the day shifts that have arrived are available for assignment.

In this situation, the crews on the night shift have worked the previous day on regular project work, and then through the night on the fire. They have been without sleep for roughly 24 hours. Rather than put out a day shift, and then expect this group of fatigued workers to report back that night with no more than 8 hours rest, we suggest you may want to run a 24-hour cycle instead.



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This will allow ample rest for the night crew when they report the next morning.

In addition to this situation, we offer the following conditions as reasonable indicators of situations appropriate for a 24-hour rest/work cycle.

Fires with long travel times to the fireline.

Poor spike camp opportunities.

Dependence on helicopters for movement of significant numbers of line personnel.

Complex logistical support, where one shift change rather than two per 24 hours would significantly reduce exposure to risk.

The decision whether to employ the 24-hour rest/work cycle rests with the Fire Boss/IC. He must continue to document and approve the work shifts in excess of 16-hours, and make that decision part of the daily plans records. He can order the shifts for those personnel that are obligated to participate.

Forest Service crews, including other Region's personnel and AD Hires, are obliged to participate when so directed. Pay particular attention to selection of overhead for supervision of 24-hour rest/work cycles to assure understanding of the concepts, objectives, and obligations of the evaluations. Certain personnel are excluded, as follows:

Pilots and other participants of the air operations organization.

Drivers of vehicles.

Human resources program employees with special administrative requirements.

Contract personnel.

Other categories of personnel have length of shift limitations or they may wish not to participate. and their involvement must be negotiated:

State of California CDC crews

Cooperating agency personnel



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## Job Corps and CCC crews

Normally the concept will be applied to line workers and their overhead. Support personnel should be accountable to get sufficient rest/recovery time on the standard two-shift concept. The 24-hour rest/work cycle would normally not be utilized for mop-up. Both shift concepts could be employed on different sectors of the fire.

Fire Teams are obligated to insure that workers receive at least the minimum required off-shift sleep/rest recovery for the time worked, according to the table. This includes travel time. This is the minimum. Optimum sleep/rest recovery times should be the majority of the 24-hour off-duty period.

Shift change times are at the discretion of the Fire Boss/IC. Experience has shown that a morning shift change established between 0700 and 0900 will provide fresh crews for the heat of the afternoon and good familiarity with the assignment before nightfall. Local situations could dictate other established times. This time also assures 8 hours of duty status each calendar day (FBMEB, Section 411.2)

Fire Boss/IC's must schedule suitable rest periods during the shift and see that they are utilized effectively. Overhead must assure at least three separate rest periods for each worker. Crews on shift must have at least one-hour rest for every four hours worked, or five hours of rest during a 25-hour shift. Crews can be staggered or split to provide rest and continuous attention to the line. Rest periods will be documented on the crew to the line. Rest periods will be documented on the Crew Log. Rest periods on the fireline are compensable.

Crews cannot effectively carry all the water and food they require for a 24-hour period. Provisions must be made to furnish meals, rations, fruit, water, juice, etc., at pre-planned locations during or prior to the shift.

Include in the briefing the obligation for overhead to check with plans at least every six hours for altered weather forecasts or fire behavior predictions. Plans should also make arrangements for providing timely information of changes to line personnel.

When crews are off-shift, or non-pay status, we cannot control their movement. This may not be any more of a concern than it is with historical shift patterns, but it is a factor to be evaluated. Base/Camp locations near Metropolitan areas may be a factor in electing to utilize the 24-hour rest/work cycle.



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Fire Bosses will want to establish some control to assure that tired crews who have already put in long hours are not assigned to long shifts without rest before assignment. Also, crews must not be released to drive home after a long shift without prior rest. This is not different than current concerns, but it could become more critical with 24-hour shifts.

The Safety Chief's Fire Job Description, FSE 5109.32 Fireline Handbook, states:

"Analyze the fire operation for existing and potential risks and hazards from both inside and outside influences;

Monitor the overall fire program for compliance with safe practices".

The Safety Chief is concerned with the adequacy of rest and its effects upon fatigue. Logically, the Safety Chief should monitor the progress of the evaluations in conjunction with the "Work, Rest and Fatigue" study. In complex situations the Fire Boss/IC may elect to provide some assistance for this task. The Safety Chief will assure completion and collection of Crew Work/Rest Logs.

Fire Boss/IC's will determine whether to continue the standard planning cycle for Day shift and Night shift, or convert to a single shift plan for a 24-hour period. Either concept is acceptable for utilization of a 24-hour rest/work cycle, and the Fire Boss will pick the planning cycle that best suits the situation. Either cycle must provide for periodic updates as discussed in item C-11.

## PAY CONSIDERATIONS

A number of questions and concerns will arise involving pay, payrolling procedure, and policy. This section attempts to anticipate these questions and address them.

No new policy on pay is anticipated. The procedures outlined in the Fire Business management Handbook FSH 5109.13, apply.

Will as little as one hour of hazard pay conditions, for example, qualify an individual for 24 hours of hazard pay?



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Answer: “Yes.” Hazard pay for GS employees is addressed in FBMEB, Section 418. It states in part, “All hazard pay differential for GS employees is based on a 24-hour day, from 0001 to 2400 hours. When an employee performs duty for which hazard pay differential is authorized, he shall be paid the hazard differential for all hours in pay status during the calendar day in which the hazardous duty is performed”.

Are employees in pay status during rest breaks?

Answer: “Yes”. No special facilities for rest and recuperation are provided, so time spent resting on the fireline is compensable. The employees have a work assignment and are not free to leave the area or pursue activities of a personal nature. They are directed to rest in place, similar to ordered standby, FBMEB, Section 413. They are fully outfitted, held in a specific location, and ready for immediate assignment.

Are employees in pay status during meal periods on the fireline?

Answer: “Yes”. Fireline construction workers and their overhead are not free from duty during their assignment. They must remain at their post and be prepared to drop their meal and respond to an emergency. Meal breaks will be considered compensable for fireline workers and their overhead on uncontrolled portions of fire. For camp personnel, helicopter support, and personnel on mop-up or controlled portions of the fire, meal breaks are normally not compensable.

Are Fire Time Report Forms, FS 6200-59, adequate to accommodate 24-hour rest/work cycles?

Answer: “Yes”. The forms are adequate. No special training of time recorders is required, as long as they are cognizant of the policies described herein.

Does this concept alter our ability to control off-duty activities of employees?

Answer: “No”. Control ramifications have been discussed in recent correspondence.

We cannot control movements of off-duty personnel unless we place them in ordered standby status (Section 413), Employees are personally accountable for their actions off-shift, and expected to report fit for duty for their next shift.



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Are injuries sustained in fire camp, during off shift chargeable?

Answer: "Yes". If the injury occurs on Government controlled property such as fire camp. If the injury occurred in a laundromat or country store during off-shift, it probably would not be chargeable (FBMEF 417.7).

Are employees working under a 24-hour rest/work cycle guaranteed 8 hours of pay for each calendar day?

Answer: "Yes". Section 411.2, Fire Business Management Handbook, covers multiple-day assignments on fires. Employees are converted to the nonstandard first 8-hour tour, at the start (0001) of the second continuous calendar day. The use of a 24-hour rest/work cycle does not alter this policy. Sound cost-effective principles would support a change in shift around 0700 or 0900, to assure completion of 8 hours of pay status for crews engaged in fireline activity for each calendar day.

## UNION INVOLVEMENT

The National Federation of Federal Employees (NFFE) in Region 5 has participated in the development of the evaluation since shortly after the WO approved it on August 10, 1981. NFFE circulated information on the evaluation in its national publication, "The Forest Service Monitor," and requested input to the evaluation from its Region 5 membership. Gentry Rowsey, the Regional NFFE Representative, was involved in drafting the 1981 "Trial Evaluation Procedures" and in the procedures described in this document.

If crews or individuals involved and represented by NFFE Locals have questions about the evaluations or concerns with a fire's management which they prefer not to address to the team managing the fire they should contact the Regional NFFE Representative. (Gentry Rowsey, Fiscal Management, R.O. (415) 556-5670). Strict confidentiality will be maintained in the conveyance of such concerns to AAFM.

If crews or individuals involved and represented by Local 3198 of the American Federation of Government Employees, on the Sierra National Forest, have concerns with a fire's management they prefer not to address to the team managing the fire, they should contact the President of Local 3198 (John Guyer, work phone number (209) 855-8321, home phone number (209) 855-8227).



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## UNDERSTANDING AND SUPPORT OF THE CONCEPT

The key to a successful evaluation of the relationships between rest and fatigue is the understanding and support of the people involved. Misconceptions about the 2:1 work/rest ratio, the 24-hour rest/work cycle, or the objectives of the evaluation can prejudice the outcome. Line workers, Fire Management personnel, cooperating agencies, the public, and to some extent the news media, all have an interest in this evaluation. To assure some common level of understanding, we offer some observations:

### EMPLOYEE NOTIFICATION

The Regional Forester advised all Region 5 employees of the evaluation with his 5100 letter of November 12, 1981, "24-hour Work/Rest Cycle Experiment for Fireline Personnel." The letter asked for comments, and those suggestions have been incorporated into this document.

### EMPLOYEE INPUT

Employee input will be solicited during the evaluation. The Crew Work/Rest Log provides some vital information and perceptions. Individual input is encouraged. The Fire Evaluation, Form R5 5100-207 is a convenient way to solicit input. Blank forms can be made available in camp, or issued with shift plans. A copy of the form is included in the Appendix. Direct input is encouraged at the incident, as it could alter the management of the evaluation at that incident.

### SUPPORT OF COOPERATORS

Aviation & Fire Management has informed the CDF and other cooperating agencies of our intent to conduct the evaluation in 1982. Their participation is encouraged but it will be each agency's decision to make, regarding the extent of their participation. This could complicate evaluations if an incident relies heavily on CDC crews for line construction.

### MEDIA COVERAGE

Fire managers will advise the media of evaluations when they are in progress. The evaluation is unusual enough to be newsworthy in itself. The media may wish to highlight its use and objectives, conceivably with interviews of fireline personnel on their reactions, etc. it is possible that the concept may convey the impression of more idle workers in camp, as off-shift personnel will not all be sleeping during the day. Full explanations to the



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media will reduce the likelihood of adverse coverage of “off-shift personnel relaxing while the fire rages uncontrolled.”

## OVERTIME COMPARISONS

Concerns may surface over the amount of overtime individuals might earn compared to past practices. This is an issue that will require some subjective evaluation over the season. Conceivably a crew might earn less overtime over three or four shifts on a 24-hour rest/work cycle, than they might have on long day shifts for the same period. on the other hand, they might also be more rested and available for reassignment to another incident, or might not require a short shift of “R&R” to overcome their fatigue. This is an issue that will require some analysis throughout the season.

## OFF-SHIFT CONSIDERATIONS

No special provisions for off-shift recreation are envisioned for any 24-hour rest/work shift personnel. Employees can sleep, rest, eat, and to a limited degree pursue activities of a personal nature. How effectively employees utilize the off-shift time to overcome fatigue will be evaluated.

## APPENDIX

Regional Forester Zane Smith's letter to all Region 5 Employees, “24-Hour Work/Rest Cycle Experiment” November 12, 1981.

Crew Work/Rest Log  
Fire Evaluation Form R5 5100-207

Acting Deputy Chief Cargill's 5130 letter of August 10, 1981. "Trial Use of the 74--ffour Work/Rest Cycle."

MEDC Director Northcult's 7120 letter of July 2, 1981, ED&T 7021 Fire Hand Tool improvement (Continued Investigation of Twenty-four Hour Work/Rest Cycle)

Operations Research Analyst McConnells' 7120 letter of July 2, 1981, ED&T 7021 Cost Analysis of 24-Hour Work/Rest Cycle."

## Summary



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BRIEFING

## DIVISION-GROUP OPERATIONAL PERIOD DEBRIEFING FORM

<b>DIVISION-GROUP GENERAL INFORMATION:</b>			
INCIDENT NAME:	INCIDENT NUMBER:		
BRANCH:	DIVISION-GROUP:	DIV-GROUP SUPERVISOR NAME:	
REPORT FOR OPERATIONAL PERIOD:			
DATE:	TIME:	COMMAND NET:	TACTICAL NET:

<b>GENERAL REMARKS-ACCOMPLISHMENTS-PROBLEM AREAS:</b>

### AGENCY RESOURCES COMMITTED TO DIVISION-GROUP

OVERHEAD	ENGINES ENGINE ST/TF	CREWS CREW ST/TF	DOZER, DOZER ST/TF

### PRIVATE HIRED EQUIPMENT & PERSONNEL COMMITTED TO DIVISION-GROUP

TYPE KIND	OWNER	SIZE OR SERIAL NO.	OPERATOR	REQ #	DOWN TIME REMARKS







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## NEXT OPERATIONAL PERIOD SITUATION & RESOURCE STATUS INFORMATION

BRANCH:	DIVISION-GROUP:	OPERATIONAL PERIOD:
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<b>DIVISION-GROUP RESOURCES NEEDED FOR NEXT OPERATIONAL PERIOD</b>	
ENGINES:	
CREWS:	
DOZERS:	
WATER TENDERS:	
TANKERS:	COPTERS:
OTHER HIRED EQUIPMENT:	
SUPPORT EQUIPMENT:	

<b>DIVISION-GROUP ASSIGNMENTS, SPECIAL NEEDS FOR NEXT OPS PERIOD:</b>	
CONTROL ACTIVITIES-WORK ASSIGNMENTS:	
SPECIAL INSTRUCTIONS:	

<b>MAP OF CURRENT &amp; PROJECTED SITUATION:</b>





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SUPERVISION

## PERSONNEL MANAGEMENT

### I. INTERPERSONAL DYNAMICS

#### A. Team Building

##### 1. Seven practices of highly effective teams:

a)

b)

c)

d)

e)

f)

g)

#### B. Motivation

##### 1. Positive motivation –

##### 2. Negative motivation –

#### C. Leadership styles

##### 1. Autocratic –

##### 2. Laissez-faire –

##### 3. Democratic or participative management –

#### D. Coaching: 5 steps



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SUPERVISION

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- 1.
- 2.
- 3.
- 4.
- 5.

E. Learning blocks are:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

## II. PERFORMANCE ACCOUNTABILITY

### A. Performance evaluation

1. Establish standards of performance, generally based on accepted norms
2. Compare the actual results with the established standards
3. Make adjustments as necessary

### B. Performance problems

1. Corrective actions
  - a)
  - b)
  - c)



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d)

### III. SPAN OF CONTROL

A. Span of control pertains to the number of individuals one supervisor can effectively manage. Maintaining an effective span of control is particularly important on incidents where safety and accountability have top priority.

1. In ICS –

B. If the span of control is being exceeded, consider:

1.

2.

3.



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SUPERVISION

## RISK MANAGEMENT

### I. RISK MANAGEMENT

#### A. You have the responsibility and the authority to implement a Risk Management Process

1. As a Division/Group Supervisor, you coordinate the activities of a -

a) You translate the \_\_\_\_\_ outlined in the \_\_\_\_\_ into \_\_\_\_\_ assignments of each \_\_\_\_\_ assigned on your division or group.

2. Part of this translation of strategy into tactics means a risk management process must be applied to the decision to commit any resource to an assignment in the hazardous environment.

a.) Risks are addressed in a general sense, in the ICS Form \_\_\_\_\_ and the \_\_\_\_\_.

b.) But a risk management process cannot truly be planned and Implemented until you see the work site and associated emergency environment.

3. How can LCES be established for an indirect line construction assignment, in a planning meeting, the day before the assignment?

a) Fire edge location =

b) Resource mix/placement =

c) Fire rate of spread =



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d) Fire intensity =

## B. ELEMENTS OF RISK MANAGEMENT

1. Risk Management –
2. Situation Awareness -
3. Hazard Assessment -
4. Hazard -
5. Risk Controls -
6. Decision Point -

## C. THE RISK MANAGEMENT PROCESS

The risk management process presented here is adapted from the U. S. Army operational risk management standards. It is also used in the Interagency Helicopter Operations Guide (IHOG).

1. Situation awareness
  - a) When you enter any new situation, your previous \_\_\_\_\_ and \_\_\_\_\_ are combined with new the information you gather to build a \_\_\_\_\_ for that situation.
  - b) Remember that you are building a \_\_\_\_\_. Reality and perception can be different. The more \_\_\_\_\_ and \_\_\_\_\_ your new information is, the closer your perception will be to the reality.



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- c) The perception you \_\_\_\_\_ is your \_\_\_\_\_  
\_\_\_\_\_ and will be the foundation on which you  
base all of your \_\_\_\_\_.
  
- d) The first objective in this unit dealt with information sources.  
Good information is the key to good decision making:
  - 1.
  - 2.
  - 3.
  - 4.
  - 5. Barriers to situation awareness

## CLASS ACTIVITY

How do these barriers affect situation awareness?

## 2. HAZARD ASSESSMENT

- a) Hazard assessment is –
  
- b) You must identify –
  
- c) Exercise judgment on the –
  
- d) Remember to assess –



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There are several job aids that should be used in the hazard assessment step. The following are primarily use in the wildland setting but can be adapted for use in the "All Risk" environment. Specific ones can be developed for hazardous materials, floods, earthquakes and others.

Look up/Look Down/Look Around Indicator System

18 Watchout Situations

9 Urban/Wildland Watchout Situations

4 Common Denominators of Fatality Fires

## II. RISK ASSESSMENT

### A. Safety Awareness

1. Talk up the what ifs to maintain alertness
2. Briefings in times of situation transitions
  - a)
  - b)
  - c)
  - d)
  - e)

### B. Making decisions under stress

1. Know –



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2. Know –
3. Know –
4. Preplan –
5. Communicate –

## CLASS ACTIVITY - HAZARD EXAMPLES

### III. RISK CONTROL

A. When a hazard is identified, measures must be implemented to reduce or eliminate the hazard. These measures are risk controls. Risk controls can vary from a simple briefing that provides awareness to an elaborate aerial lookout and communications network that provides a warning system.

B. There are several job aids that can be used to help implement risk controls:

The Fire Orders

LCES System

Downhill / Indirect Checklist

The 2 in 2 out Rule

Others

C. Personal Protective Equipment (PPE) are basic risk controls

1.

D. The LCES system is the heart of the Fire Orders and can be adapted to the All Risk environment.



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1.

- D. Each emergency situation will dictate what other risk controls must be implemented.

1.

## CLASS EXERCISE: HAZARD ASSESSMENT – RISK CONTROLS

### IV. DECISION POINT

- A. Once you have gathered information

1.

2.

3.

4.

- B. You should answer YES to three key questions before you begin operations:

1. Can personnel work –

2. Do you understand –

3. Has a briefing –



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## C. Hazardous attitudes

1. The Federal Aviation Administration has identified five hazardous attitudes that adversely affect the decision making process.

### STUDENT ACTIVITY: HAZARDOUS ATTITUDES

What are some problems that these hazardous attitudes create?

ANTI-AUTHORITY

IMPULSIVE

INVULNERABLE

MACHO

RESIGNED

## V. EVALUATING THE PROCESS

- A. Leaders earn their pay in this step of the risk management process. You must coordinate the resources working for you so that they can accomplish the objectives of the plan.

1. This means you should –



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2. Do continuous reevaluation of the –
  - B. The process is continually applied while you operate in the Emergency environment and are exposed to hazardous conditions
    1. Whenever your ongoing reevaluation of the operation –
    2. This puts you back at step one of the risk management process;
      - a)
  - C. Up to this point in your career, you have probably been a direct Supervisor of a resource (strike team or crew leader). Despite the title, as a Division or Group Supervisor, you no longer supervise to accomplish the objective; you must coordinate and manage a number of resources to complete their objectives in order to accomplish the goal. This will put you in a new role.

## Class Activity: Division Management Strategies

1. Division / Group Supervisor management strategies
  - a)
  - b)
  - c)
  - d)
  - e)
  - f)



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## VI. RISK MANAGEMENT SUMMARY

- A. The \_\_\_\_\_ of your decisions will be based on how  
\_\_\_\_\_ your situation awareness is
  
- B. Some of the fire safety guidelines are \_\_\_\_\_  
Tools to be used within the risk management process
  
- C. Some of the fire safety guidelines are \_\_\_\_\_  
Tools to be used within a risk management process
  
- D. You must make an \_\_\_\_\_ Go/No Go \_\_\_\_\_  
To \_\_\_\_\_ resources to a given assignment
  
- E. The \_\_\_\_\_ risk management process should be a \_\_\_\_\_  
Response to your \_\_\_\_\_



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## NWCG RECOMMENDS USE OF NEW INCIDENT SAFETY ANALYSIS<sup>1</sup>



Paul Broyles and Don Aldrich

*Idaho's Lake wildfire in September 1994 wasn't a large one—only 2,000 acres (810 ha)—but the country was quite steep with boulder scree and cliff faces on its northern head. The fire had exhibited extreme behavior in mixed conifer throughout its 2-day life. It was in high country—almost 10,000 feet (3,050 m) elevation—and had run up into the "goat rocks" and spotted across the ridgelines. We had to establish camps with resupply from the incident base in Swan Valley, using a number of helicopters to move crews and supplies. We knew we'd have problems managing incident medical evacuations (medivacs) as well as hikers and big game hunters in the area. We'd also have to assure the safety of "tourists" around the helibase and incident command post. Other significant hazards to personnel abounded, including the requirement to construct indirect and downhill fireline.*

*When the Incident Commander arrived at the incident command post, he directed his Incident Management Team to complete an Incident Safety Analysis, knowing that a coordinated approach to safety management was required to adequately address the various hazards associated with the fire.*

*The safety officer, operations section chief, and the planning section chief "brainstormed" all the hazards present on the fire (by division, as identified on the ICS-215 Operational Planning Worksheet) and*

*what should be done to eliminate or mitigate those hazards. They found several items not pre-identified on the ICS-215A (see fig. 1), which they included in the blank columns, such as highway traffic running through the incident base and backpackers and hunters in the vicinity of the fire. After identifying numerous mitigation actions, the Incident Management Team reviewed the ICS-215A at the next planning meeting, identified several more hazards, and reached consensus about what mitigation actions should be taken.*

*The Lake Incident Management Team found that they collectively identified more hazards—and properly addressed them—than they would have individually. Downhill, indirect line was successfully and safely completed; hundreds of flight hours were flown without incident; two air medivacs were successfully implemented, including a life-threatening anaphylaxis case (allergy to a wasp sting); several hundred firefighters were safely camped in two locations far from the incident base for 9 days; hunters, hikers, and campers were removed from closed areas; and a road near the incident base was closed to nonofficial travel. Subsequently, the agency administrator gave the Incident Management Team "high marks" for emphasizing safety management; in large part, this was due to the successful use of the Incident Safety Analysis process.*

For some years, members of the National Wildfire Coordinating Group's (NWCG) Safety and Health Working Team have been concerned that wildland fire managers have not always addressed safety issues from an integrated, process-oriented approach. "Accidents" continued to happen that might not have occurred if hazard identification and subsequent mitigation efforts had been implemented systematically. The Working Team felt that a structured "job hazard analysis" process was needed, one that addressed the kinds and types of hazards normally associated with wildfire suppression and prescribed fire operations. This "job hazard analysis" had to expand upon the 18 "Watch Out Situations," address other common wildfire hazards, and also allow individual customizing. While intended primarily to identify hazards involving incident personnel, it could also be used to identify hazards and required mitigation actions for others affected by the incident (those for whom the Incident Management Team might be responsible, e.g., hunters, backpackers, homeowners).

<sup>1</sup>This article, in part, was first published as "Incident Safety Analysis" in Vol. 8, no.2 of "Wildfire News & Notes," published by the National Fire Protection Association.

Paul Broyles is the national suppression, training, and safety specialist for the USDI National Park Service, Branch of Fire and Aviation Management, National Inter-agency Fire Center, Boise, ID. Don Aldrich is senior resource manager, Idaho Department of Lands, Payette Lakes Area, McCall, ID.



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Figure 1—The Lake Fire Incident Safety Analysis, form ICS-215A, showing L.C.E.S. analysis of tactical applications and other risk analysis.

Disturbance	*LCES ANALYSIS OF TACTICAL APPLICATIONS										OTHER RISK ANALYSIS					
	Lookouts	Communications	Escape Routes	Safety Zones	Fire Orders	Weather	Resources	Structure	Other	LCES Mitigations	Other Risk Mitigations	Other Risk Mitigations	Other Risk Mitigations	Other Risk Mitigations	Other Risk Mitigations	
A	✓	✓	✓	✓	✓	✓	✓	✓	✓	Foot Lookouts, Reinforce verbal warnings, Communicate!	✓	✓	✓	✓	Use proper fuel containers. Provide containment areas.	
B	✓	✓	✓	✓	✓	✓	✓	✓	✓	Escape routes - downhill, sideslope, into blank, into meadow and	✓	✓	✓	✓	Helicopter/helibase manager, air attack, air support in place.	
C	✓	✓	✓	✓	✓	✓	✓	✓	✓	buried, use direct line, frontal attack initiated by LCES.	✓	✓	✓	✓	Close road in front of camp to public traffic.	
D	✓	✓	✓	✓	✓	✓	✓	✓	✓	Flag hazard trees	✓	✓	✓	✓	Restrict trail access and enforce closure.	
										Be aware of changes in weather, especially winds, along Lag Ave						
										Frequent and consistent spot weather forecasts						
ICS 215A 11-93	<b>INCIDENT SAFETY ANALYSIS (*LCES)</b> <small>*Lookouts, Communications, Escape Routes, Safety Zones (LCES)</small>									1. Incident Name Lake Fire Don Albrecht - Safety Officer	2. Date Prepared 7/4/94 Name Prepared 1830	3. Operational Period (Date/Time) 7/5/94				

Foremost was the requirement to use the 10 standard "Fire Orders" to mitigate common wildfire hazards, with emphasis upon "Lookouts," "Communications", "Escape Routes," and "Safety Zone(s)" (L.C.E.S.). For a full explanation of the "L.C.E.S." systems approach to fire safety, see Gleason (1991). Additionally, all other reasonable mitigation standards and procedures would be used: the "Fire Orders" and "L.C.E.S." may not be sufficient in themselves to assist in mitigating each hazard identified.

### The Incident Safety Analysis Arrives

Thus was born the ICS-215A "Incident Safety Analysis" form -

What is an Incident Safety Analysis? Where did it come from? How does it benefit firefighters or other users? How is it used?

and a formalized safety planning process. Briefly, an Incident Safety Analysis is a tool used to formally incorporate safety management into the incident planning process. The analysis process assists in identifying hazards, then requires appropriate measures be identified to mitigate those hazards adequately. While optional in the Incident Command System, all Incident Commanders and management teams are encouraged to use it - its significance and value are applicable to all incidents, from

the smallest Type IV to the largest Type I incident.

The process was successfully tested by National Type I Incident Management Teams during the 1991 and 1992 fire seasons, and the Working Team subsequently revised the form. In addition, its use has been taught at the National Advanced Resource Technology Center in Marana, AZ, as S-520 "Advanced Incident Management" and is being included in other NWCG courses such as S-440 "Planning Section Chief."

### Benefits of Analysis Process

When Incident Management Teams properly and consistently use the process (regardless of the



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incident's complexity), they can definitively identify potential problem areas, geographically or functionally. From this information, they can determine appropriate mitigation actions. If the problem areas cannot be reasonably mitigated, the teams must then select a different strategic or tactical approach to manage the incident.

The Incident Planning Process Checklist (fig. 2) is intended to be used with the Operational Planning Worksheet (ICS-215) and the Incident Safety Analysis (ICS-215A). The two forms are designed to be used simultaneously, identifying risks in each division or group and required mitigating measures to be taken.

The Operations Section Chief and the Safety Officer should complete a draft Incident Safety Analysis prior to the planning meeting, based upon the Operational Planning Worksheet previously completed by the Operations Section Chief. The Incident Management Team then reviews the analysis and revises as necessary, prior to beginning the next operational period.

Specific actions and outputs resulting from this Safety Analysis process might include:

- Special instructions on the Division Assignment List (ICS-204) for each

division or group to ensure that involved personnel understand the hazards and the mitigation actions they should implement.

- Specific assignments of personnel as lookouts, safety officers, or to meet other safety needs.
- Designation of safety zones and escape routes on the incident map.
- Key points for discussion at briefings and debriefings.
- Areas of focus for fire behavior analysts and safety officers.
- Identification of potential need to review and/or revise the Escaped Fire Situation Analysis with the host agency administrator(s).
- Documentation of incident risk assessment and decision process.

**“An Incident Safety Analysis is a tool used to formally incorporate safety management into the incident planning process”**

### **Create Your Own Analysis Form**

This Incident Safety Analysis process is applicable to other types of incidents, not just wildland fire. Simple

modifications to the ICS-215A, based upon the type of incident, would facilitate an improved risk assessment and mitigation decision process. With a database manager on your computer, one can create a blank form ICS-215A and choose from a menu of hazards as daily local conditions warrant. See figure 3 for an example of a menu of general fire hazards that can be used in a blank ICS-215A.

A similar menu could be created for hazards in other incidents. As examples, consider the possibilities in mitigating the effects of hazardous materials, earthquakes, or floods.

To obtain the Incident Safety Analysis, ICS-215A, as well as other ICS forms, contact the National Interagency Fire Center, 3833 S. Development Ave., Boise, ID 83705, tel. 208-387-5542. As with the Operational Planning Worksheet, ICS-215, the Incident Safety Analysis form is available in both 8 ½" x 14" (21.5 cm x 35 cm) and laminated wall chart sizes.

### **Literature Cited**

Cleason, Paul 1991. L.C.E.S. – the key to safe procedures. Wildfire News and Notes. 5 (2): 1, 4.



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**Figure 2—Incident Planning Process Checklist, with inclusion of Incident Safety Analysis process.**

## Planning Process Checklist

Planning Step	Primary Responsibility
1. Give briefing on situation and resource status.	Planning Section Chief
2. Review incident objectives.	Incident Commander
3. Plot control lines.	Operations Section Chief
4. Specify tactics for each "planning unit."	Operations Section Chief
* (Complete safety analysis for each "planning unit.")	Operations Section Chief and Safety Officer
5. Determine control force requirements and specify resources needed for each "planning unit."	Operations Section Chief
*(Safety Analysis still valid? Needed resources still available?)	Operations Section Chief and Safety Officer
6. Combine planning units into divisions and/or segments.	Operations Section Chief
7. Specify operations facilities and reporting locations. Plot these on map.	Operations Section Chief
*(Verify Incident Safety Analysis mitigation measures.)	Incident Management Team
8. Consider communications, medical, and traffic plan requirements.	Logistics Section Chief
9. Finalize Incident Action Plan.	Planning Section Chief
10. Approve Incident Action Plan.	Incident Commander

\*Additions to existing Planning Process Checklist, which refer specifically to the ICS-215A process.

**Figure 3—Menu of tactical applications and other risk analysis to be used in a blank ICS-215A\*\*.**

L.C.E.S. Analysis Of Tactical Applications	Other Risk Analysis
A. Initial action	AA. Small fire or isolated section of large fire
B. Lack of management personnel	BB. Snags
C. Ineffective communications	CC. High winds predicted
D. Downhill fireline construction	DD. Fire below crews
E. Underslung fireline	EE. Rolling rocks
F. Indirect fireline	FF. Unburned fuels
G. Midslope fireline	GG. Thermal belt effects
H. Frontal assault	HH. Light fuels
I. Lack of anchor points	II. Narrow or box canyons
J. Long shifts	JJ. Fatigue and/or heat stress
K. Inadequate or insufficient lookouts	KK. Steep slopes
L. No escape routes or safe zones	LL. Rugged terrain
M. Burnout operations	MM. Poor visibility
N. Use of chain saws	NN. Emergency hires
O. Use of dozers	OO. Inversion
P. Use of engines	PP. Hazardous materials
Q. Use of fireline explosives	QQ. Mine shafts
R. Night shift	RR. Power lines
S. Structure protection	SS. Altitude effects
T. Transportation	TT. Extreme burning conditions:
• Over 1 hour or one-way	• Spotting
• High speed highway	• Wind-driven
• National Guard	• Dead or dying standing fuels
• Contractors	• Freeze-dried fuels
• Bridge limits	• Thunderstorms
• Narrow or 4 x 4 only	• Frontal passage
U. Multi-aircraft use	UU. Wet, slippery ground
V. Air shuttles	VV. Poison oak/ivy
W. Sling loads	WW. Lack of drinking water
X. Retardant drops	XX. Snakes
Y. Bucket drops	YY. Bees
Z. Other:	ZZ. Other:

\*\*The author of this menu is Tony Dietz, safety officer on a Rocky Basin interagency Type I Incident Management Team.





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COORDINATION

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## I. UNIT OBJECTIVES

- A. Demonstrate how to successfully coordinate relations within the fire management organization.
- B. Demonstrate how to successfully coordinate relations within the division or group.
- C. Demonstrate how to successfully coordinate the concerns and needs of multiple agency personnel assigned to a division or group.
- D. Demonstrate how to obtain support for division / group resources from the planning, logistics, and finance / administration sections.

## II. External Coordination

- Interaction with Command and General Staff

### *EXERCISE #4-1-1*

## III. Internal Coordination

- A. Interaction with resources assigned to the Division / Group

Division resources could include:

- 
-



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- 

Adjoining resources could include:

- 
- 
- 
- 
- 
- 

***B. "All Risk" Applications***



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COORDINATION

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## *EXERCISE #4-1-2*

Division relationships that may affect operations may include:

- 
- 
- 

What tactical operations require coordination with adjacent resources?

- 
- 
- 
- 
- 

Where can additional resources be obtained?

- 
-



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COORDINATION

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Span of Control:

\_\_\_\_\_ : \_\_\_\_\_

What options does a division / group supervisor have when span of control is exceeded?

- 
- 
- 

#### *IV. General Staff support for the Division / Group Supervisor*

The Division / Group Supervisor is responsible for making sure that assigned resources have the tools, equipment, and supplies they need to accomplish their mission.

#### ***EXERCISE #4-1-3***

#### *V. Division Documentation*

Documentation responsibilities include:

-



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COORDINATION

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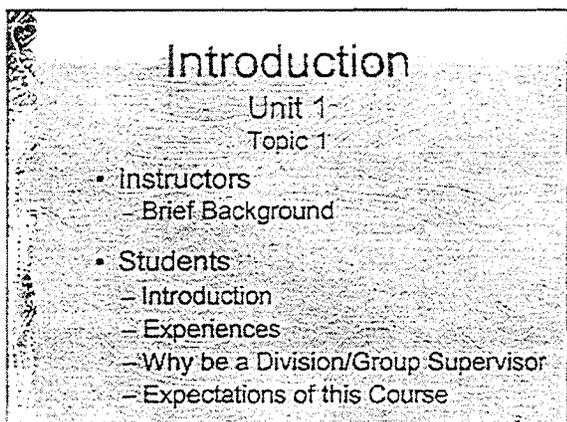
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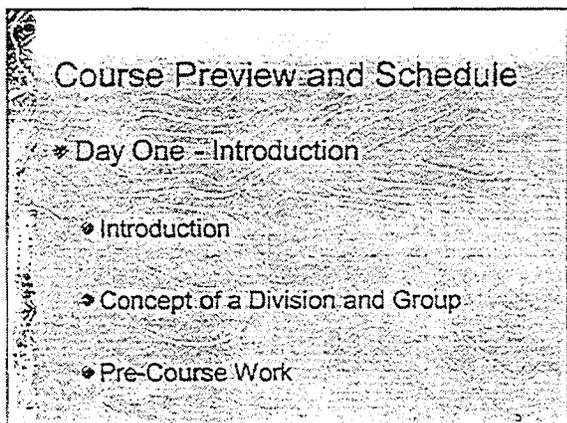
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INTRODUCTION

## Course Preview and Schedule

(cont.)

- Day Two- Planning and Supervision
  - Information Gathering
  - Briefing
  - Personnel Management
  - Risk Management

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## Course Preview and Schedule

(cont.)

- Day Three - Coordination
  - Internal/External Coordination
  - Testing
    - Scenario Exercise
    - Written

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## Course Objectives

1. Describe the Concepts of a Division and Group as it relates to the position of a Division / Group Supervisor
2. Evaluate students ability to apply Division / Group Fundamentals to All-Risk Incidents

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## Course Objectives (cont.)

- 3. Enable the Student to Prepare for and Participate in Planning Meetings to Develop and Implement Division / Group Objectives
- 4. Enable the Student to Participate in Information Gathering Practices.

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## Course Objectives (cont.)

- 5. Enable the Student to Participate in an Operational Period Briefing and a Division / Group Briefing
- 6. Enable the Student to Manage and Adjust to the Operations Organization

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## Course Objectives (cont.)

- 7. Provide the Student with an Understanding of Why and When Tactics may need to be Adjusted
- 8. Describe the role of the Division / Group Supervisor in Risk Assessment and Safety Management

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**Course Objectives (cont.)**

- 9. Demonstrate how to Successfully Coordinate Internal Relations
- 10. Demonstrate how to Successfully Coordinate External Relations

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**Position Task Book (PTB)**

Student Manual  
Appendix C

- Individual Departments should adopt PTB as Standard
- Document Completion of Critical Tasks
  - As part of the "Performance Based" system adopted by the Federal Agencies
  - Issued when Training Course Completed

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**JOB AID REFERENCE DOCUMENT**

Student Manual  
Appendix C

- Designed to compliment the PTB
- On-The-Job reference document
- All-Risk document
- Supplemental reference text include
  - Map text
  - ICS Form 201 text

Exercise 1-1-1

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INTRODUCTION



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**Topic 2, Objectives**

A. Define the Basic Duties of:

1. Division Supervisor
2. Group Supervisor

B. Contrast the Duties of a Division/Group Supervisor with other ICS Command Positions

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**Topic 2, Objectives (cont.)**

C. Understand the concept of delegation of command and authority as it relates to DGS duties



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**Topic 2, Objectives (cont.)**

- D. Understand the management skill concepts of a Division/Group Supervisor
- E. Understand the supervision concepts of a Division/Group Supervisor

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**Division Supervisor**

- Supervises, Coordinates and Manages a GEOGRAPHIC portion of an Incident
- Under the Operations Section Chief / Operations Branch Director
- Implementation of Assigned Portion of IAP

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**Division Supervisor (cont.)**

- Responsible for activities within that Division:
  - Fire Control
  - Flood Control
  - Safety
  - Evacuation
  - Rescue



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**Group Supervisor**

- Supervises, Coordinates, Manages a FUNCTIONAL area
  - Structure Protection
  - Evacuation
  - Swift Water Rescue
  - Ventilation

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**Group Supervisor (cont.)**

Functional Areas (cont.):

- Confined Space
- Rehabilitation
- Water Supply
- Health Monitoring
- Damage Assessment

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**Group Supervisor (cont.)**

- Works for OSC / Operations Branch Director (OPBD)
- Responsible for Implementation of Assigned Portion of IAP



Student Exercise 1-2-1

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**Delegation**

- Span of Control  
– Built into ICS
- Reduce Span of Control



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**Segments**

Geographical area in which a Task Force/Strike Team Leader or a Single Resource Company Officer is Assigned the Authority and Responsibility for the Coordination of Resources and Implementation of Planned Tactics

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**Segments**

- May be a Portion of a Division
- May be Inside or Outside the Perimeter of an Incident
- May be a Fire or a Group of Fires within a Complex
- Identified with Arabic Numbers
  - Division B (1)
  - Not in common usage in California

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**Segments (cont.)**

- No change in Radio Identifier
- Must Communicate with;
  - Assigned Individuals
  - All Personnel on Division
  - OSC/Operations Branch Director

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**Management Skills**

- Proactive
  - Take Control
  - Demonstrate Leadership
  - Know Your Duties



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INTRODUCTION

**Organization (cont.)**

- Tools need to be Organized
  - Briefing/Debriefing Check Sheet(s)
  - FOG
  - Fireline Handbook
  - Position-Task Book
  - Forms

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**Supervision**

- See and Be Seen
  - 2 Times
  - A Measure of Protection Against Time
- Identify
- Verify
- Notify

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**Supervision (cont.)**

- Communicate
- Down
- Sideways

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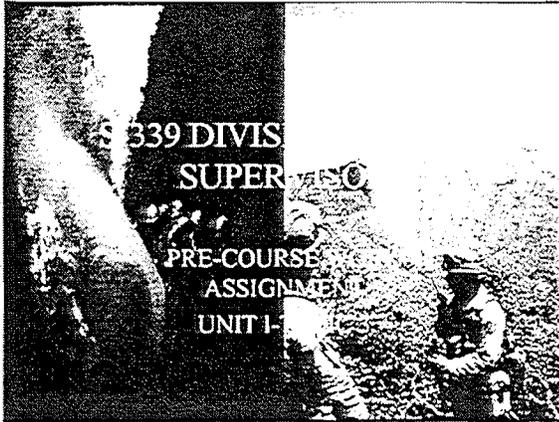
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# INCIDENT COMMAND SYSTEM

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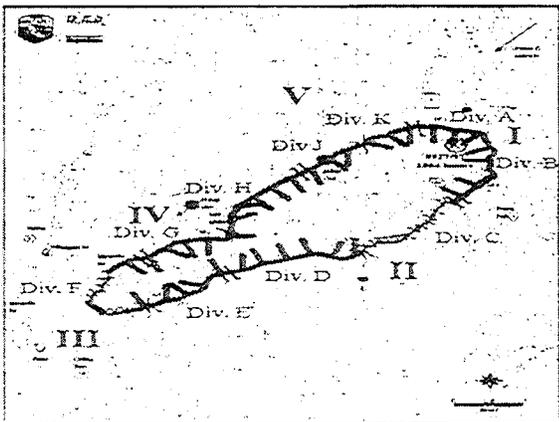
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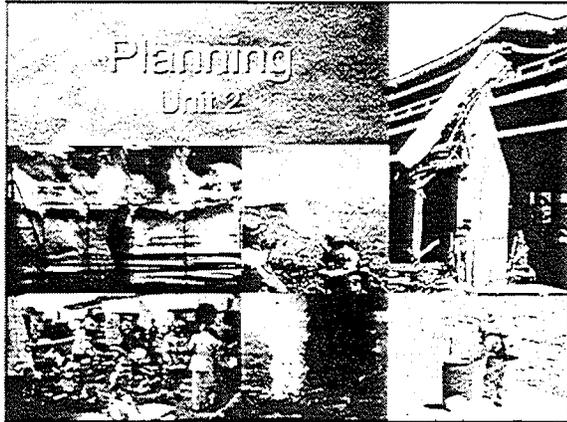
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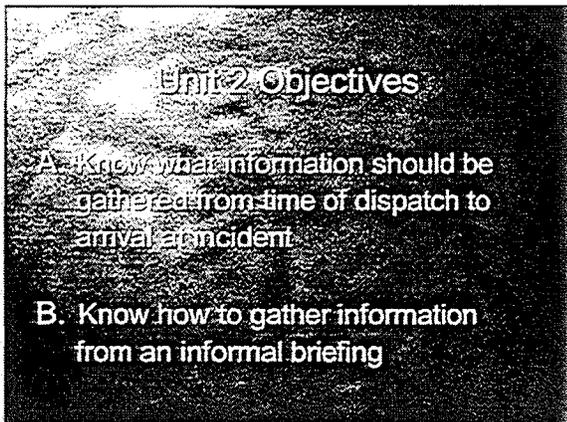
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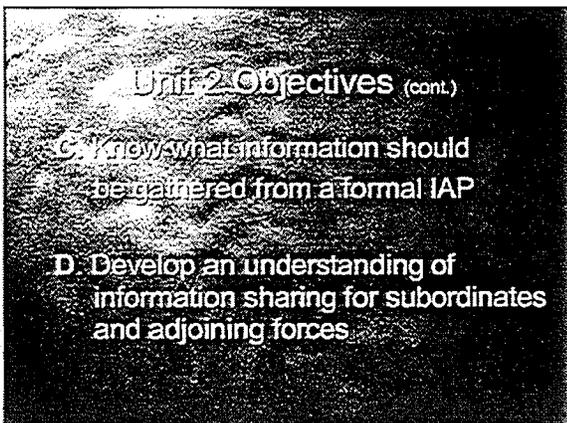
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING

**Unit 2 Objectives (cont.)**

- E. Understand what information is needed for debriefing at the end of an Operational Period
- F. Develop an understanding of what information the OSC may want for preparation of next period IAP

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**Information Gathering Topic 1**

- Incident District Number
- ICS Unit Types and Location
- Radio Frequencies
- Special Travel Routes

- START YOUR UNIT LOG (ICS 214)

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**Briefings with OSC / OPBD**

- Not all information may be readily available because:
  - Incident in Transition
    - Initial Attack to Extended Attack
    - Extended Attack to Major Incident

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING

## Briefings with OSC / OPBD (cont.)

- Incident Escalating Faster than Information can be Gathered
- Previous Supervisor Did Not Do Their Job
- Some or all of General Staff Functions may not be Operational

Unit 2 @ The Fire Service - 1st Edition - 1-31-00

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## Gathering Information

### Take Initiative with Gathering Information

- Survey Your Assignment
- Develop Your Own Inventory of Assigned Resources vs. Needed Resources
- Observe Safety Considerations and Mitigating Options

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## ICS Form 201

- ☑ Incident Organizational Tool
- ☑ Developed by Initial Attack Incident Commander
- ☑ Captures Information in an Organized Manner
- ☑ Usable for Briefing, Debriefing, and Tracking Assigned Resources

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING

Name 5 safety hazards that could be encountered with:

- Wildland Incident
- Earthquake Incident
- Flood Incident
- Haz. Mat. Incident

Unit 2 Topic 1 10

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Map Sketch & Current Org.

Resource & Current Action Summary

Unit 2 Topic 1 10

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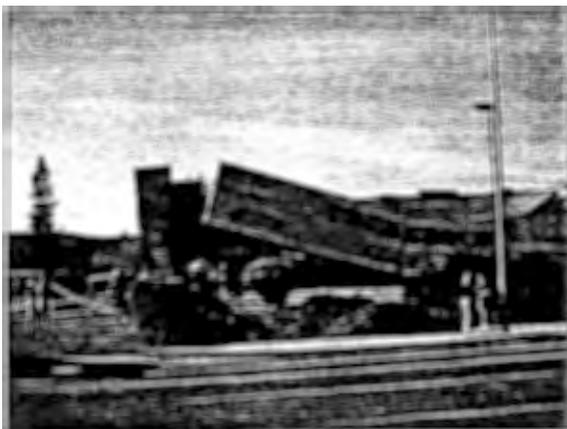
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING



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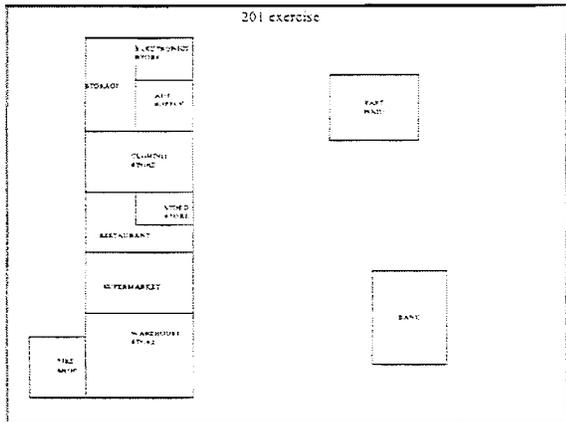
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**Information Communication**

- Sharing Information
  - From You to Your Resources
  - From Your Resources to You
  - Between You and Adjoining
    - Divisions
    - Groups
    - Resources

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**Information Communication (cont.)**

- Informing Branch/ Ops
- Plans
  - a) Restat
  - b) Sitstat

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**Information Communication (cont.)**

- Logistics
- Finance
- Equipment
- Time

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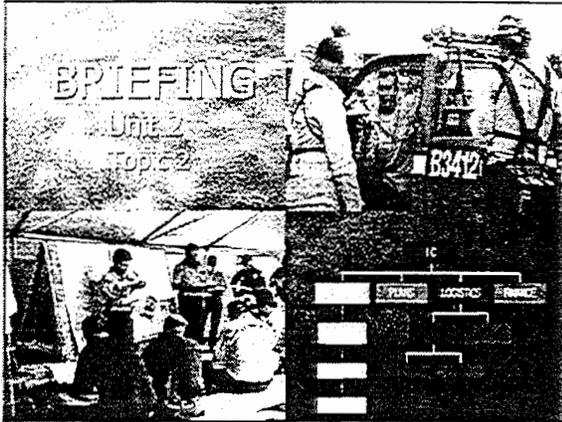
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING



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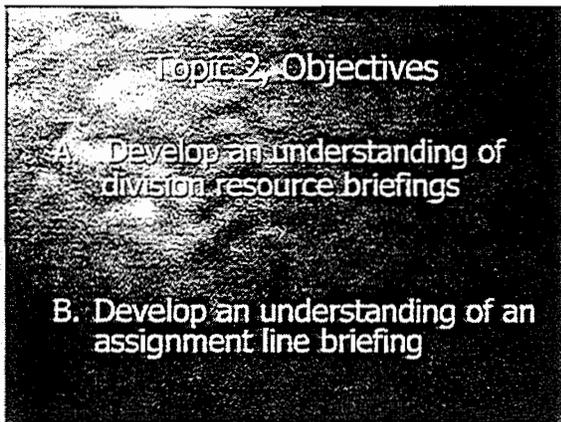
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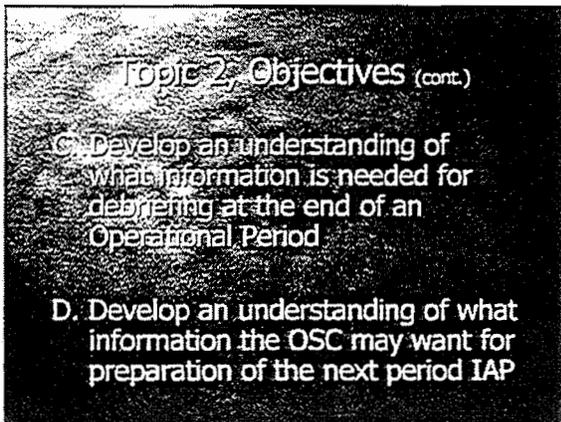
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**Divisional Briefing**

- It is Your Responsibility to Brief Your Assigned Resources.
- Meeting with Your Division Assigned Resources.
- Held after the Operational Briefing
- Location that You Designate
- Away from the Main Group

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**Divisional Briefing (cont.)**

- What are the Incident Objectives?
  - ICS Form 202 (IAP)
- What are the Division / Group Assignments?
  - ICS Form 204 (IAP)

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**Divisional Briefing (cont.)**

- Insures that Operational Objectives are Understood;
  - Establishes 2-way Communication between DGS and Assigned Resources.
  - Information Gathered from Resources Provides for more Timely, Accurate Reports back to Your Supervisors

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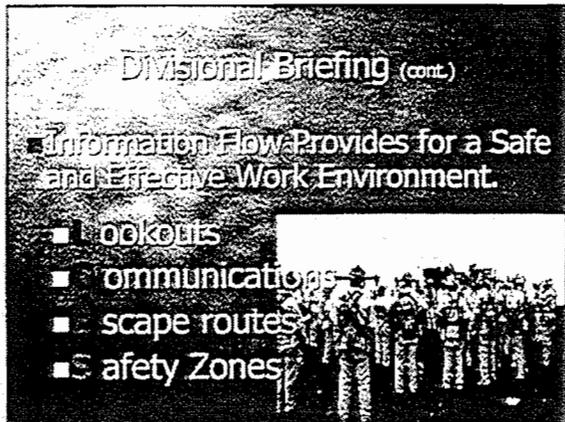
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - .ALL RISK

PLANNING



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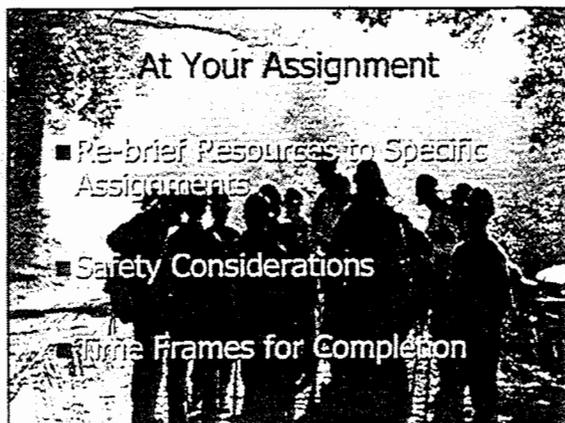
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING

**Survey Your Assignment**

- Check out **HAZARDS** First
- Check **PRIORITIES** and Receive Feedback from your Resources
- Note any changes from the IAP and report them to your Supervisor
- Resource Unit

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**Providing Input to Your Supervisor**

- Work Accomplished
- Remaining, Unfinished Tasks
- Written Projection of Resource needs for Next Operational Period
  - ICS Form 215

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**Providing Input to Your Supervisor**  
(cont.)

- Projected Completion Time of your Objectives
- Any Unusual Logistical Needs

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**Assignment Financial Accountability**

- **Accountable Property**
  - Porta Pumps
  - Power Units
  - Water Tanks
- **Financial Responsibility**
  - Shift Tickets
  - Crew Time Reports

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**Debriefing DCS**

At the End of the Operational Period:

- Brief the On-Coming DCS
- DCS should be Last Person Off Assignment
- You are Responsible for Insuring All Personnel and Equipment are Accounted for and Safely off the Assignment.

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**Debriefing with the OSC or OPBD**

- Progress of Division Objectives
- Reconfirm Resource needs for Next Operational Period
- Address Any Problems

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING

**Debriefing with the Resource Unit**

- Confirm Assigned Resources
- Confirm Status of Resources
- Find out about Next Operational Period Assignment
- Complete your ICS 214 and turn in to Documentation

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**Debriefing with the Situation Unit**

- Update Incident Progress/Status
- Provide Weather Observations

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**Debriefing with Finance / Administration**

- Follow up on Hired Equipment
- Report on Contract Problems or Issues

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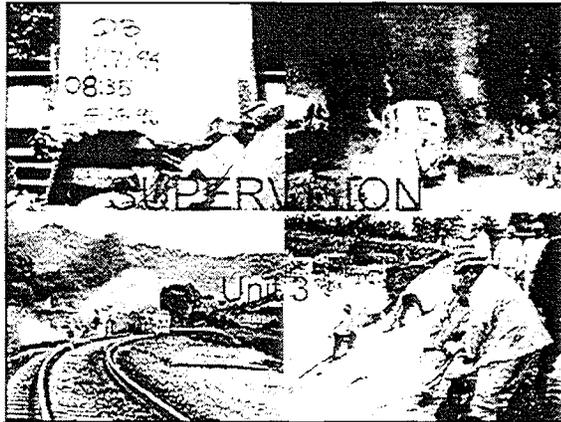
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION



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## Unit 3 Objectives

- A. Develop an understanding of supervision and personnel management concepts as the related to the DGS
- B. Develop a concept for the need of interpersonal dynamics in DGS duties

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## Unit 3 Objectives (cont.)

- C. Develop an understanding of performance and accountability required to and from a DGS
- D. Understand span of control concepts

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

**Personnel Management**  
Topic 1

- Interpersonal Dynamics
  - Team building
  - Motivation
  - Leadership styles
  - Coaching steps
  - Learning blocks

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**Team Building**  
7 Practices  
of  
Highly Effective Teams

A Commitment to a Clear Mission

Mutual Support, Encouragement, Accountability

Clearly Defined Roles

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7 Practices  
of  
Highly Effective Teams (cont.)

A Win-Win Cooperation

Individual Competency

Empowering Communication

A Winning Attitude

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

### Motivation

- Positive Motivation
  - Reward at the end of a Task
- Negative Motivation
  - Promises some sort of Punishment



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### Leadership Styles

- Autocratic
  - Information flows only one-way
- Laissez-Faire
  - All members of the organization working towards a common goal and moving in the proper direction



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### Leadership Styles (cont.)

- Democratic or Participate
  - Information flowing in both Directions
- As a DGS you may have to play all three of these roles



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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

**5 Steps of Coaching**  
**1. Prepare the Learner**  
– The Divisional Briefing

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**5 Steps of Coaching**

**2. Demonstrate the Operation**  
– Go over the I.A.P.

**3. Create a Positive Atmosphere**  
– Motivation Your Team in Briefing

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**5 Steps of Coaching (cont.)**

**4. Have the Learner Perform the Operation**  
– Give Clear Assignment/Task Instructions

**5. Follow-up**  
– Go Out and Check  
– Require Timed Check Backs  
– Be a Dynamic Supervisor

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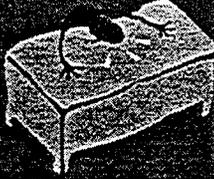
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**Learning Blocks**

- Fear of Failure
- Fear of the Unknown
- Fear of Change
- New and Specific Skills Required



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**Learning Blocks (cont.)**

- Large Amounts of Technical Information
- Fear of Appearing Incompetent
- Defensiveness
- Self Doubt



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**Performance Accountability**

- Performance Evaluations
  - Establish Standards
    - Briefing
  - Compare the Results
    - I.A.P. Objectives
  - Make Adjustments
    - Evaluate, Re-evaluate, Follow-up



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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

**Performance Problems**

- Document the Corrective Action to be Taken
- Provide Additional Training
- Reassignment
- Counseling
- Termination



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**Span of Control**

- Span of Control Pertains to the Number of Individuals One Supervisor can Effectively Manage
- Maintaining an Effective Span of Control will Aid with Safety and Accountability on Your Assignment



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**Span of Control (cont.)**

- In ICS, the Span of Control for Any Supervisor Falls Within the Range of 3 to 7
- With 1: 5 being the Standard Ratio

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

**When Span of Control is Exceeded, Consider;**

- Segmenting
- Delegation
- Appointing an Aide



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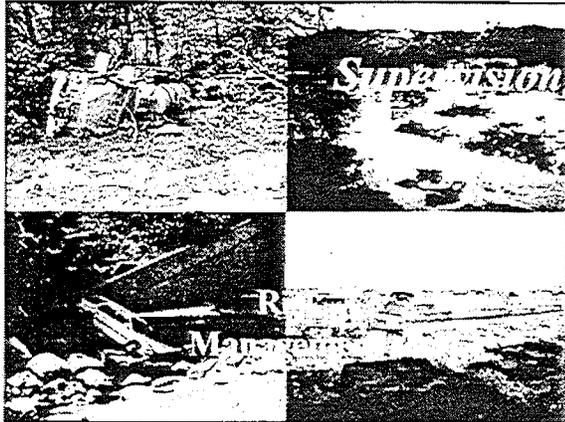
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION



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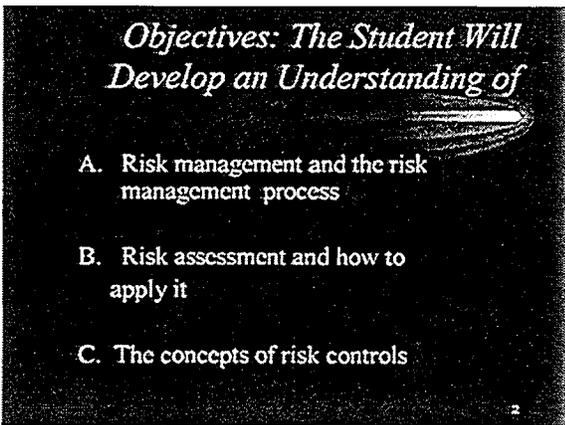
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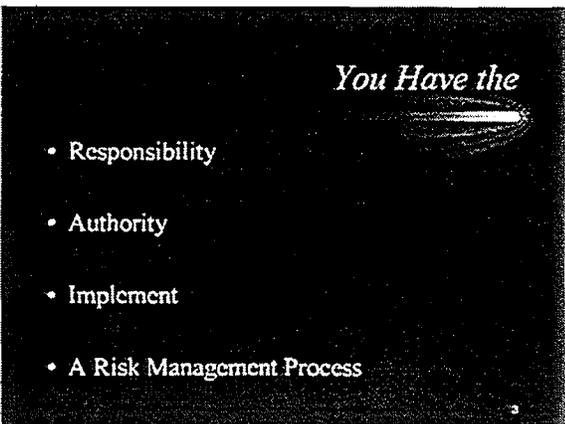
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

*What Is Risk Management?*

- Risk Management
- Situation Awareness
- Hazard Assessment
- Hazard
- Risk Controls
- Decision Point

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*Risk Management Process*

**Risk Management:**  
A process of evaluating and mitigating hazards in the work environment

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*Situation Awareness*

A combination of long held attitudes and knowledge with information gathered from current situation

**Hazard Assessment**  
Identification and evaluation of hazards

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

**HAZARD:**  
Dangerous situation caused by fire behavior, environment conditions, and human actions



**RISK CONTROLS:**  
Specific measures established to reduce or eliminate hazards



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*Decision Point*

Go/No Go decision based on whether risk controls established can adequately reduce or eliminate the hazard identified



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*Situation Awareness*

- Building a perception
- Accurate and Timely New Information

Perception  $\Rightarrow$  Reality = Situation Awareness



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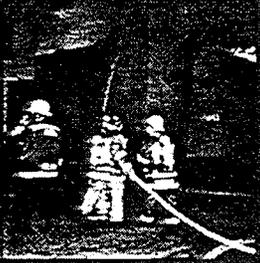
# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

*Gather Accurate Information*

- From where?
- From whom?
- Verify?



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*Barriers To Situation Awareness*

- Fatigue
- Time pressure
- Inexperience
- Overconfidence
- Distraction
- Supervisory pressure
- Peer pressure
- Selective perception

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*These Barriers*

- Interfere
  - With accurate information gathering
- Distort
  - The perception of the current situation

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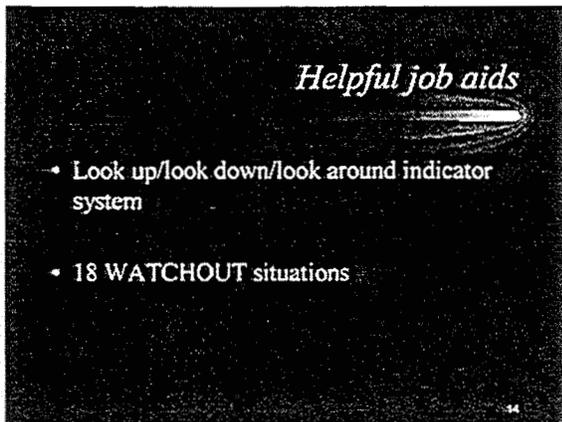
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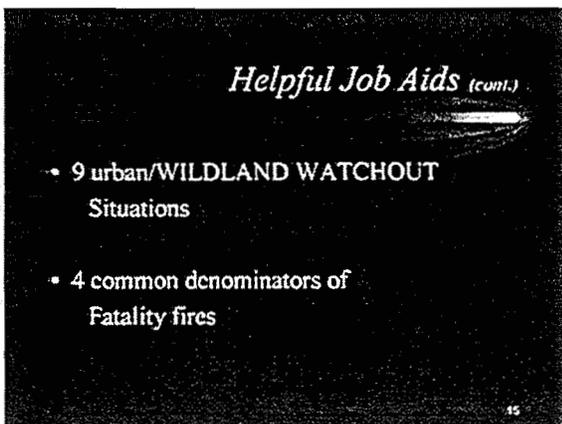
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

*Risk Assessment*

- Safety Awareness
- Briefings
- Discuss the what ifs

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*Risk Assessment (cont.)*

Making decisions under stress:

1. Know the mission
2. Know your authority
3. Know which information is essential
4. Preplan contingencies
5. Communicate clearly

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*Risk Control*

- When a hazard is identified, measures must be implemented to reduce or eliminate the hazard

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

*Helpful Job Aids*

- The fire orders
- LCES system
- Downhill/indirect checklist
- 2-in-2 out rule



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**LCES**

- L – lookout
- C – communication
- E – escape routes
- S – safety zones

The minimum mandatory risk controls on every assignment should be establishing the LCES system



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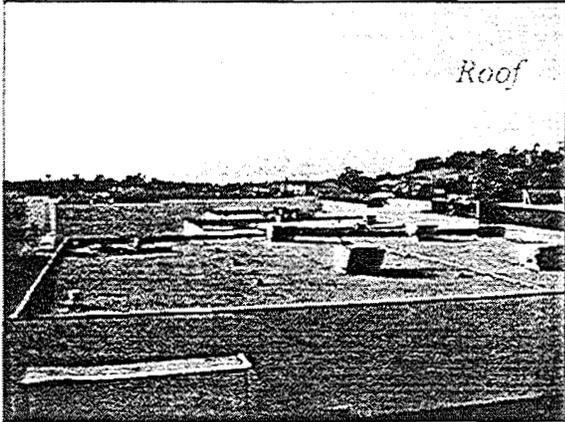
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION



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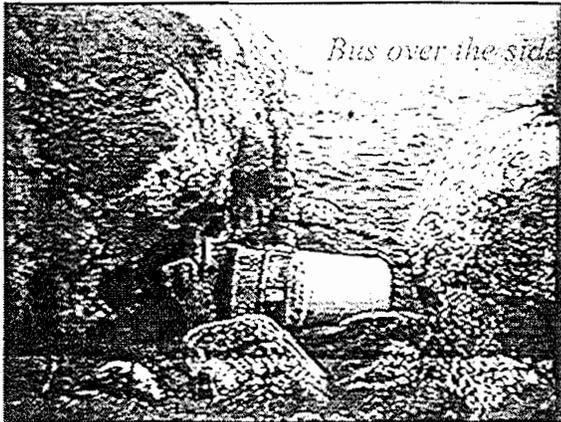
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION



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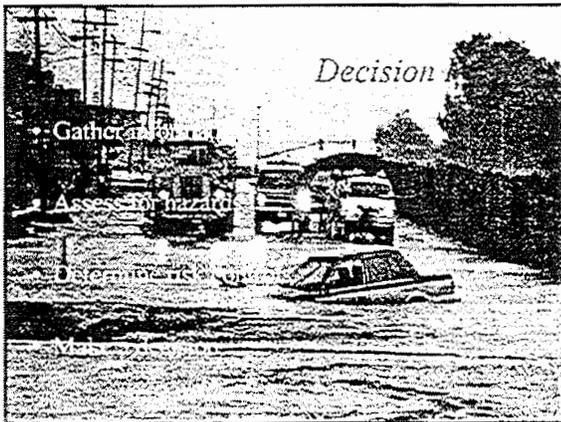
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*Key Questions – Yes / No*

1. CAN PERSONNEL WORK SAFELY?
2. DO YOU UNDERSTAND THE STRATEGY AND TACTICS?
3. HAS A BRIEFING BEEN HELD WITH FEEDBACK?



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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

*Hazardous Attitudes*

- Anti-authority
- Impulsive
- Invulnerable
- Macho
- Resignation

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*Hazardous Attitudes*

**Anti-Authority** – disregards procedures and directions

**Impulsive** – acts without adequate situation awareness

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*Hazardous Attitudes*

- **Invulnerable**– does not think about worst case scenario
- **Macho**– overconfident, takes on difficult tasks for admiration
- **Resigned**– lets events occur without taking actions

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*Evaluating The Process*

- Coordinate
- Evaluate
- Follow up
- Reevaluate
- Accomplish



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*Div / Grp Supervisor = Manager*

- Despite the title, as a division/group supervisor, you no longer supervise to accomplish the objective; you must coordinate and manage a number of resources to complete their objectives in order to accomplish the goal.

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*Management Strategies*

- Build - understanding with supervisors of assigned resources regarding safety & objectives.
- Assign - task force/strike team leaders to direct operations within the division.
- Use - field observers to gather information.

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

SUPERVISION

*Management Strategies*

- **Solicit** - feedback from assigned resources.
- **Learn** - who the highly experienced individuals are on your division or in your group. Use their skills.
- **Identify** - lookout responsibility and learn who these individuals are.

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*Risk Management summary*

A. The quality of your decision will be based on how accurate your situation awareness is.

B. Some of the fire safety guidelines are risk assessment tools to be used in the risk management process.

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*Risk Management Summary*

C. Some of the fire safety guidelines are risk control tools to be used in the risk management process.

D. You must make an informed Go/No/Go decision to commit resources to a given assignment.

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*Risk Management Summary*

E. The 5 step risk management process should be a continuous response to your current situation.

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

COORDINATION



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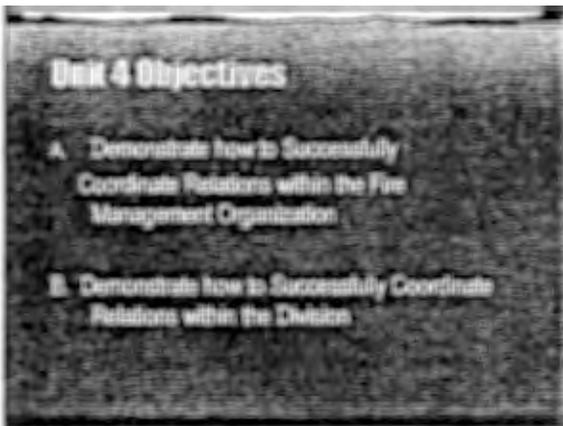
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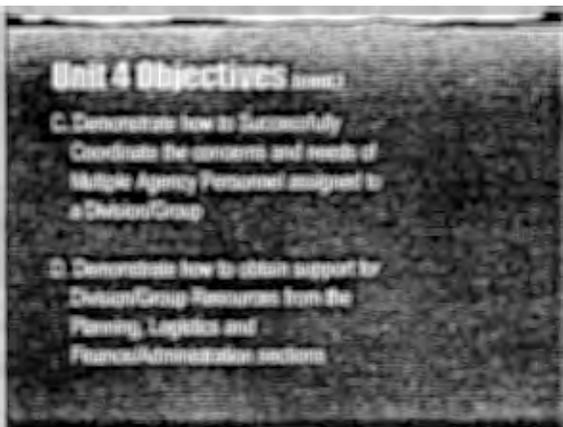
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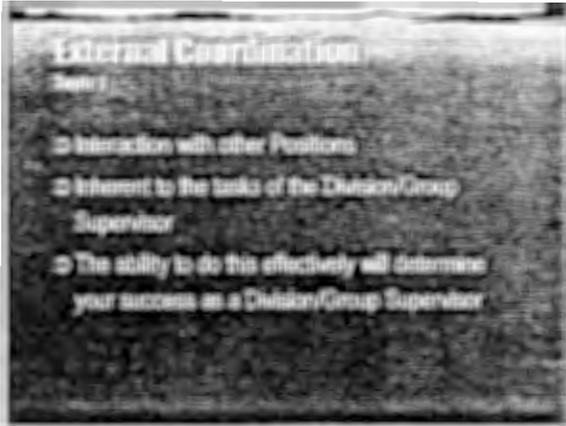
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

COORDINATION



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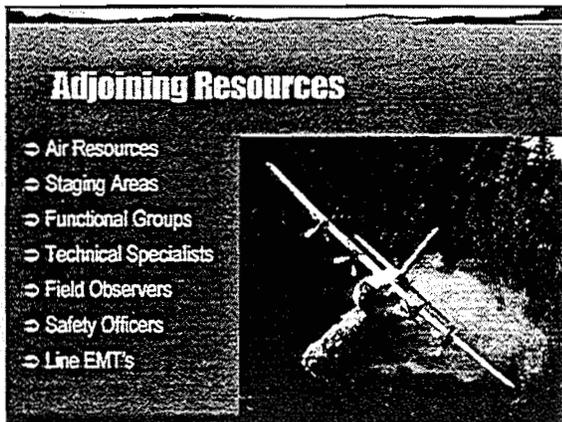
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

COORDINATION



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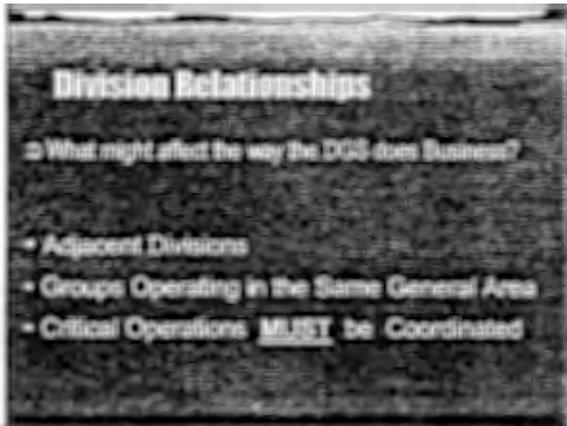
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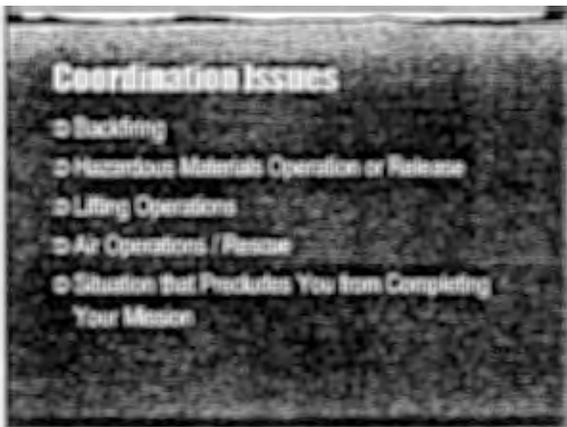
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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

COORDINATION

### Resources Requests

- You can request Additional Resources
  - From Staging through the OIC
  - Share Resources with Adjacent Divisions
- Division Boundaries are not Walls, Cooperation goes a long way toward Completing the Mission

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### Span of Control

- Most effective at 5:1
- When Span of Control is Exceeded
  - Create Task Forces within the Division
  - Identify Geographical Segments
  - Advise OIC of need for Additional Divisions

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### General Staff Support for DGS

- Assigned Resources must have Tools and Equipment Necessary to do Their Job
- DGS Must Coordinate with Incident Management Sections:
  - Plan
  - Logistics
  - Finance / Administrative

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

COORDINATION

**DGS Documentation Requirements**

- ⇒ Shift Tickets
- ⇒ ICS Form 214
- ⇒ Vehicle Inspections
- ⇒ Debriefing Forms
- ⇒ Evaluations
- ⇒ Damage Assessment / Rehab

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**DGS Documentation Requirements (cont.)**

F-42  
FC-33  
Crew Time Report

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**DGS Technical Support**

- ⇒ Crew Representative
- ⇒ Agency Representative
- ⇒ Strike Team / Task Force Leader
- ⇒ Crew Technical Specialists

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# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-1-1  
INTRODUCTION

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## DIVISION/GROUP SUPERVISOR INTRODUCTION



TIME: 15 Minutes

### MATERIALS NEEDED:

- Pen or pencil
- Student Activity 1-1-1

### INTRODUCTION:

This exercise is designed to “warm-up” your Division/Group Supervisor skills. Its use will also be used as an evaluation tool for you to compare your present knowledge base, with that knowledge and skills acquired during the course.

### DIRECTIONS:

1. Read the scenario briefing to exercise 1-1-1
2. Complete questions based on briefing information.
3. Follow instructors instructions when completed.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-1-1  
INTRODUCTION

## INCIDENT SCENARIOS

### SCENARIO No. 1

As part of an Auto Aid dispatch, you have checked in as overhead responding with the third alarm. You have been assigned by the Operations Section Chief, Division 4 on the Dominican Fire. You are briefed with the following information:

#### THE STRUCTURE:

This four story wood frame Catholic Convent is 124 years old, consisting of 25,000 square feet, including a full size walk-in attic and basement. The building features classrooms, offices, double occupancy dormitory housing for 136 students, a complete kitchen, dining facility and a Chapel with seating for 225.

#### CURRENT CONDITIONS:

Time: 1415 Temp: 105 Wind: 12 mph/N.W.

The fire is established in the attic (approx: 180 ft. x 68 ft. x 10 ft.) involving 30% of the interior. Fuel loading consists of books, furniture and clothing. Heavy smoke is visible on the exterior issuing from the eaves, around the entire building and fire is showing from the full length of a strip ventilation cut. Four to six inches of water has collected on the 4th floor.

#### CURRENT CONDITIONS:

Initial interior attack assignments are approximately one hour old. A truck company has abandoned a strip ventilation operation due to low air and heat stress, and is currently in Rehab.

Two ladder pipes have been deployed at the rear of the structure. One is not yet in operation. One is discharging 600 GPM through a dormer window into the attic.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-1-1  
INTRODUCTION

---

Three relief Engine Companies are operating on the 4th floor, under a portion of the attic area they believe is not yet involved. They are experiencing difficulty accessing the fire due to the 14 foot ceiling height and the lathe and plaster construction.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-1-1  
INTRODUCTION

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## RESOURCES COMMITTED:

3 Truck Companies  
7 Engine Companies  
2 ALS Units | Breathing Support Unit  
1 Command Van

## RESOURCES STAGED:

2 Engine Companies  
1 Truck Company  
1 Battalion Chief

## ASSIGNMENT:

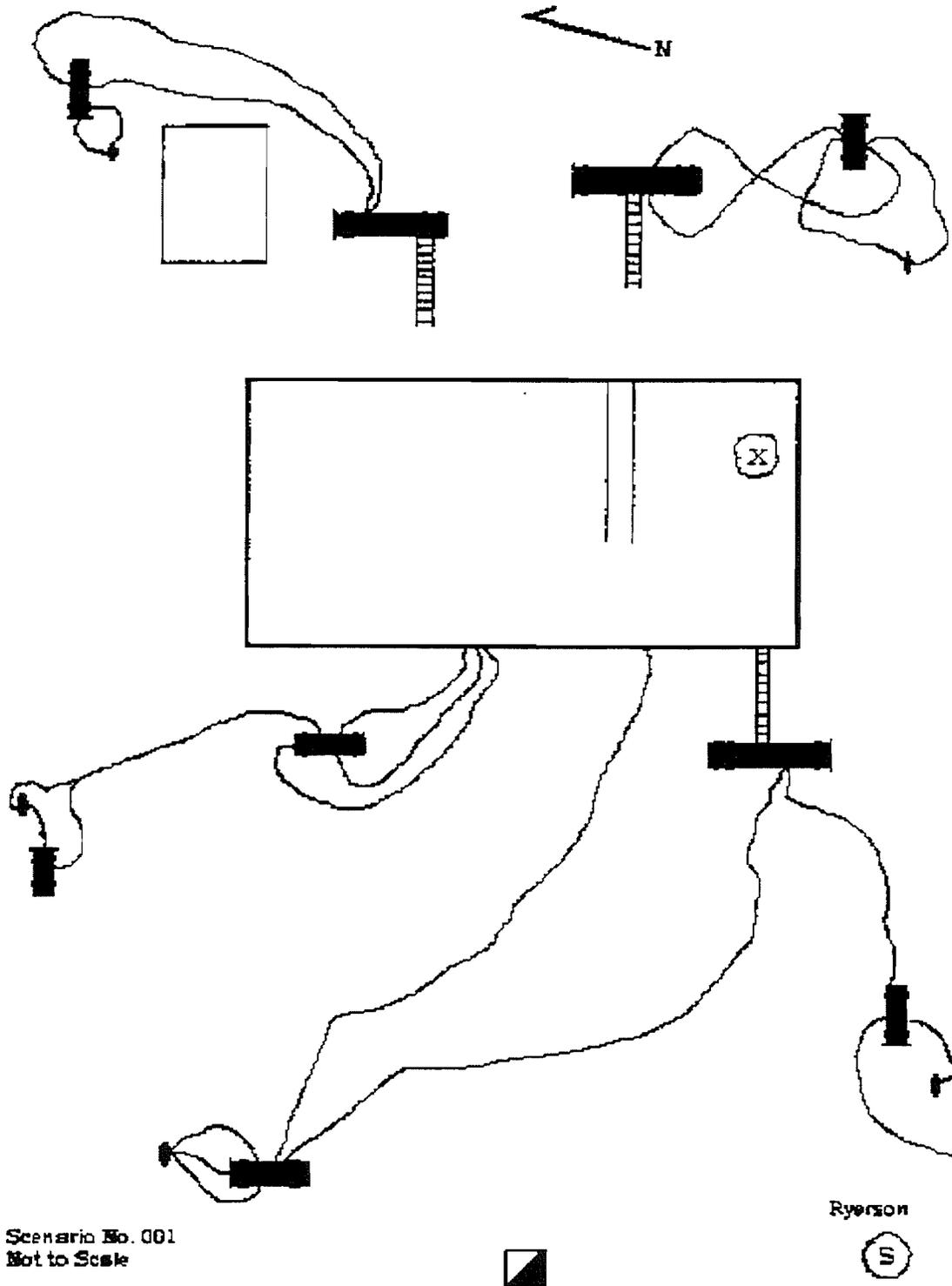
1. List the questions/ concerns you would have based upon the briefing.
2. Based upon your perception, identify and prioritize your objectives.
3. Are your assigned resources adequate to meet your objectives. (Please comment)
4. List additional resources you may require.
5. Outline your resource assignments and organizational structure commensurate with your communication and management needs.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-1-1  
INTRODUCTION





# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-1-1  
INTRODUCTION

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## RESPONSE SHEET

1. Questions generated at Briefing

2. Prioritized Objectives

3. Adequacy of Resources



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-1-1  
INTRODUCTION

---

## RESPONSE SHEET

4. Additional Resources Required

5. Resource Assignments/ Organizational Structure



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-2-1  
CONCEPTS OF DIVISION/GROUP

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## DIVISION SUPERVISOR CONTRAST

TIME: 1 Hour

### MATERIALS NEEDED:

- Writing Board/Charts
- Pens

### INTRODUCTION:

The objective of this exercise is to illustrate that the Division Supervisor must become a manager of multiple resources. They must make a transition from a doer to a manager

### DIRECTIONS:

Your instructor will divide the class into four groups. Each group will be asked to identify specific differences between certain positions, list them on a flip chart, and present them to the entire class. You may wish to take notes in the space provided below:

Group 1 – is to identify the differences between Division Supervisor and Strike Team/Task Force Leader.

Group 2 – is to identify the differences between Division Supervisor and Ops/Branch Director.

Group 3 – is to identify the differences between Division Supervisor and ITC4 (Initial Attack I.C.).

Group 4 – is to identify the differences between Division Supervisor and Group Supervisor.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-3-1  
PRE-COURSE WORK ASSIGNMENT

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## ICS MAP SYMBOLOGY

TIME: 30 Minutes

### MATERIALS NEEDED:

- Williams Fire Incident Map Slide
- Pencils
- Map Symbology Guide
- F.O.G.
- Pointer

### INTRODUCTION:

The ability to use a map and recognize ICS map symbology is a critical skill to the Division/Group Supervisor. This exercise will help reinforce those skills.

### DIRECTIONS:

On a projected map of the Williams Fire Incident locate the appropriate ICS symbol per the instructor's request.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 1-3-1  
PRE-COURSE WORK ASSIGNMENT

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## SYMBOLGY EXERCISE

Point to:

1. The Division Break for Golf and Hotel.
2. Where is the point of origin?
3. What side of Lake Mildred is the spot fire on?
4. How much dozer line has been completed on Division Foxtrot?
5. Where is Willow Staging?
6. Where can the Water Tenders re-load that are assigned to Division Golf.
7. Where is the O.E.S. mobile repeater set up?
8. What is the closest drop point to the CDF station?
9. Where is the Branch 5 - Branch I Break?
10. How much open line is there on Divisions Delta and Echo?
11. Where is the secondary line - Why is it there?
12. What is the Wind Speed and Direction?
13. Where is the hot spot on Division J?
14. Where is Finley Helibase?
15. Where is Drop Point 3?





# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 2-1-1  
INFORMATION GATHERING

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## ICS 201 EXERCISE

TIME: 1 Hour

MATERIALS NEEDED:

- Attached Mall Scenario and ICS Form 201

INTRODUCTION:

The ICS 201 Form is an important incident organizational tool. It's original use was intended for initial attack organization, but it is efficiently utilized on extended attack and major campaign incidents as a way to capture information in a standard format that is usable in briefing, debriefing and tracking assigned resources.

DIRECTIONS:

This exercise is based on a mall collapse and fire caused from a major earthquake. The exercise is based on a limited verbal briefing (face to face or radio) and the incident is in an early transitional state; the first operational period



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 2-1-1  
INFORMATION GATHERING

---

## ICS 201 EXERCISE

### Mall Scenario

#### Section A

On September 6, you are dispatched as a Division/Group Supervisor to a nearby jurisdiction. The order number is CA-0-RUU-068281, request #0-75. Your dispatcher advises you that preliminary news reports on the earthquake that shook the region a short while ago registered at 6.6 and that reports of injuries and fires are starting to filter in.

You are told to report to the ICP at Hemet High School, an EOC (Emergency Operations Center) is being set up but is not yet staffed or functioning.

At your arrival at the ICP the Operations Section Chief, B3115, a local battalion chief, assigns you to an outlying mall that has not been treated as a priority and scant information has been received on the status in that division. Some resources including fire, law enforcement, medical, and utility crews are presently believed to be taking action in your division and the OSC gives you a list of the known resources. The OSC advises you that he has a staging area with resources responding but nothing currently available.

Command Net White Fire 3 (FIREMARS) – RX 154.295, TX 153.830  
Tactical Net White Fire 2 -154.265

Resource listings from OSC:

HEM TRK-611

HEM ENG-613

RVC ENG-26

RVC SQ-26

You are directed to determine: The situation in the division; Immediate resource needs; Recommendations for future operational periods.

Prior to your arrival at the mall an aftershock rattles the area.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 2-1-1  
INFORMATION GATHERING

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## MALL

Occupancy: Discount Warehouse including tire shop  
Supermarket  
4 retail shops  
3 offices  
Bank (set away from other structures)

Date: September 6,                      Time: 1435 hours

Weather: Temp. 102 degrees, Wind West/ 13 MPH

Upon your arrival you find smoke showing from the tire shop at the Discount Warehouse, E-613, E-26, and TRK-611 are working the fire.

Captain 613 advises you that they have 1 fatality, an elderly woman that was trampled at the exit to the warehouse when the crowd ran out of the building when the quake-hit. 8 additional casualties are present in front of the store. Other victims have been transported from the scene. The interior shelving in the warehouse has collapsed and the truck company has not been able to make access for an interior search. Store employees report that some employees and customers are still in the building. The initial attack was made on the fire to limit the spread prior to initiating search and rescue. The water supply is marginal and the sprinkler system in the building is damaged but operable. Captain 613 is cautiously optimistic about the initial attack progress.

The fire resources have been at scene for approximately 90 minutes and additional resources requested have not arrived. Several reports from citizens indicate additional injuries and damage throughout the mall but with the lack of resources a survey has not been complete. Squad 26 with two firefighters was present earlier but may be committed elsewhere.

A citizen reports a brushfire on the hillside behind the mall.

## CAPTURE CURRENT INFORMATION ON ICS201



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 2-1-1  
INFORMATION GATHERING

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## Section B

After you contact the OSC on command net and give a situation briefing the OSC advises that resources are arriving at staging and to place your request through him.

### **MAKE THE RESOURCE ORDER AND CAPTURE ON THE ICS201**

## Section C

The OSC advises he will give you limited resources and will order the additional resources. You are told that available in or responding to staging are:

1 Type 3 USAR Company; 2 Type 1 Engine Strike Teams; 1 Type 3 Engine Strike Team; 3 Type 2 Engines (single increment); 2 Paramedic Units; 1 Type 2 Breathing Apparatus Support; 1 Medical Team (Hospital Formed); 1 Type 1 HazMat Company; 1 35-ton crane; 1 Front loader on a transport; 2 Type 1 Water Tenders.

Some overhead have arrived and Branches are being established to provide span-of-control. Your division is identified as Div M under Branch II.

### **UPDATE THE RESOURCE ORDER AND ADJUST THE ASSIGNMENTS OF DIVISION RESOURCES**

**INCIDENT BRIEFING**

1. INCIDENT NAME

2. DATE  
PREPARED3. TIME  
PREPARED

4. MAP SKETCH

201

ICS  
3-82

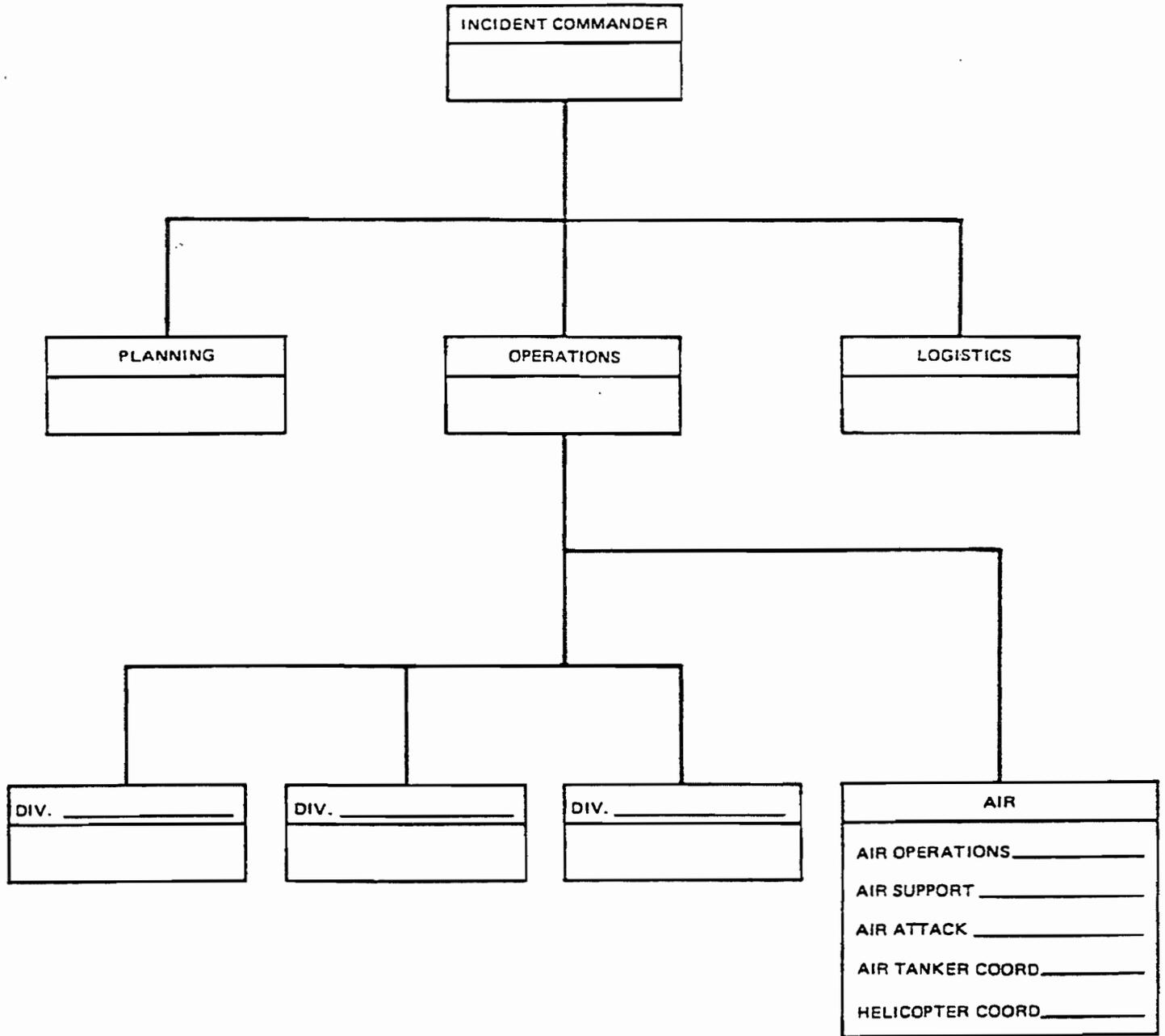
PAGE 1

8. PREPARED BY (NAME AND POSITION)

7540-130-0282



6. CURRENT ORGANIZATION







# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 2-2-1  
BRIEFING

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## ICS 204 EXERCISE

TIME: 1 Hour

### MATERIALS NEEDED:

- As class size requires, 1 complete IAP per trainee group and 1 for the instructor
- Division Subordinate Briefing Form (handout #2)

### INTRODUCTION:

As a Division/Group Supervisor, you are responsible for the briefing of all division/group assigned personnel. Briefings must be viewed as a continual process of providing your personnel with information as it develops. Throughout the operational period, you may conduct several briefings. Your initial division/group briefing must immediately follow the operational briefing, away from other distractions at a site specified by you. Your second briefing should be conducted (at a location specified by you) after reaching the assignment location, debriefing the off-going Division/Group Supervisor and reviewing the actual situation as you find it.

### DIRECTIONS:

- A. Divide the class up into groups of 4 or 5 students
- B. Provide each group with an Incident Action Plan (IAP) and assign each group a different location
- C. Have each group review the IAP with the intent of conducting a briefing for their assigned personnel
- D. Reference the provided Division Subordinate Briefing Form and the information out of the IAP to ensure a complete briefing.
- E. Have each group appoint a spokesperson to conduct the briefing. Briefing may be given to the entire class.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 3-2-1  
RISK MANAGEMENT

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## HAZARD ASSESSMENT/RISK CONTROLS/MITIGATION

TIME: 1 Hour

### MATERIALS NEEDED:

- Slides
- Projector, screen, white board
- Pens or flip chart

### INTRODUCTION:

As a Division or Group Supervisor, you have the responsibility for the safety of all personnel within your division or functional assignment. You must be able to assess hazards quickly and apply risk control measures to mitigate those hazards.

### DIRECTIONS:

You will be shown slides with corresponding scenario description (Appendix D). Working within your group, you are to do a hazard assessment that identifies the potential hazards and then to determine risk controls that would mitigate the hazards identified. One person from each group will then present your list to the rest of the class for discussion.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 3-2-1  
RISK MANAGEMENT

## ALL RISK Division/Group Supervisor Slide Narratives

### **SLIDE # 1: FLOOD RESCUE -**

You have been assigned to a flood incident as a Division Supervisor. Your division includes a mobile home park that has flooded, with people unable to get out on their own. Your objective is to safely evacuate those people still trapped by the rising waters. Upon your arrival at your assignment you see that the local fire department has already begun the evacuation. You identify yourself as the Division Supervisor and advise personnel that they are now under your command on this particular division.

HAZARD ASSESSMENT?

RISK CONTROL / MITIGATION?

### **SLIDE # 2: ROOF PICTURE OF A COMMERCIAL BUILDING**

You have been dispatched to a working structure fire in a commercial building. Upon your arrival, you see smoke showing from the front of the building and fire equipment arriving on scene. You report to the Incident Commander and you have been assigned the Ventilation Group Supervisor. One engine, and one truck company have been assigned to you. You make your way up to the roof and here is what you see.

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?

### **SLIDE # 3: WILDLAND FIRE WITH TWO OR THREE HOUSES IN FOREGROUND**

You have been assigned the Structure Protection Group Supervisor on a wildland fire. Two strike teams of type 3 engines, one local government task force, one strike team of dozers are assigned to you. There are 12 to 15 houses in the path of the fire, with 2 or 3 houses in immediate danger.



## INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 3-2-1  
RISK MANAGEMENT

---

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?

### **SLIDE # 4: WILDLAND FIRE – FIRING OPERATIONS**

You have arrived at a wild land fire incident one hour after the start of the operational period. You are assigned as Div. D and are told that your assigned equipment are already on the division, and that one of the strike team leaders is the acting Div.Sup until your arrival. The tactical objective of your division is to fire out approximately two miles of line and hold it at the road. You have two strike teams of type 3 engines, one strike team of hand crews assigned to Div. D. As you arrive, you see that firing operations have already begun.

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?

### **SLIDE # 5: BUS OVER CLIFF**

A bus carrying 15 to 20 passengers failed to negotiate a curve and plunged down a 75 ft. cliff. You have been assigned the Rescue Group Supervisor. You are looking down on the bus. There is no vehicle access from the bottom.

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?



## **INTERACTION OF DIVISION/GROUP SUPERVISOR WITH COMMAND AND GENERAL STAFF**

TIME: 30 Minutes

### **MATERIALS NEEDED:**

- Command/General Staff position Description Reference

### **INTRODUCTION:**

The purpose of this exercise is to discuss the interaction between the Command/General Staff and the Division/Group Supervisor. This should be an interactive discussion that identifies topics and coordination needed by the Division/Group supervisor to accomplish the assignment.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 4-1-1  
INTERNAL/EXTERNAL  
COORDINATION

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## COMMAND / GENERAL STAFF POSITION DESCRIPTION REFERENCE

### COMMAND STAFF

Incident Commander:

Safety Officer and Assistants:

Other Command Staff:

Information Officer:

Human Resource Specialist:

### OPERATIONS SECTION

Operations Section Chief/Branch Director

Other Operational Personnel (except Air):

Dependent upon resources assigned and other situations, you will manage and/or coordinate with other operations personnel.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 4-1-1  
INTERNAL/EXTERNAL  
COORDINATION

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## Air Operations

Tactical air operations:

Logistical air support:

## PLANNING

Most of the interactions will take place with the Planning Section Chief's subordinate staff rather than the Planning Section Chief.

Resource Unit Leader

Situation Unit Leader

Documentation Unit Leader

Demobilization Unit Leader

Technical Specialists



## LOGISTICS

Your interaction and coordination with the logistics section is critical for accomplishment of the job. Most of the interactions will take place with the logistics section chief's subordinate staff rather than the Logistic Section Chief.

Supply Unit Leader

Ground Support Unit Leader

Communication Unit Leader

Facilities Unit Leader

Food Unit Leader

Medical Unit Leader



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

STUDENT EXERCISE SHEET 4-1-1  
INTERNAL/EXTERNAL  
COORDINATION

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## FINANCE / ADMINISTRATION

Most of the interactions will take place with the finance section chief's subordinate staff rather than the finance section chief.

Time Unit Leader

Procurement Unit Leader

Compensation / Claims Unit Leader



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

INSTRUCTOR EXERCISE SHEET 4-1-2  
INTERNAL/EXTERNAL  
COORDINATION

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## "All Risk" Incident Resources Utilized by the Division / Group Supervisor

TIME: 30 Minutes

### MATERIALS NEEDED:

- Flip Charts
- Pens

### INTRODUCTION:

The division / group supervisor may be utilized in any number of different types of emergency incidents. The resources assigned to a division / the type and size of the incident will certainly dictate group. Often times, the type of resources used are only limited by the imagination of the division / group supervisor.

### DIRECTIONS:

- Assign each group one incident type:
  - Flood
  - Earthquake
  - Fire
  - Hazardous Materials Release
  - Mass Casualty Accident
- Each group will identify different types of resources that could be assigned to a division / group for their type of incident
- Have each group appoint a spokesperson to present their findings
- Utilize reference: Resource needs for "All Risk" applications for possible incident resources.



**RESOURCE NEEDS FOR "ALL RISK" APPLICATIONS**

Potential solutions to resources that might be assigned to a division / group on various incident types.

Flood:

Earthquake:

Fire:



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

INSTRUCTOR EXERCISE SHEET 4-1-2  
INTERNAL/EXTERNAL  
COORDINATION

---

Haz Mat:

Mass Casualty:



## Problem Identification & Resolution

TIME: 30 Minutes

### MATERIALS NEEDED:

- Flip Charts
- Pens

### INTRODUCTION:

Problems come in all shapes and sizes. (Murphy's Law) A division / group supervisor is faced with numerous problems on all incidents. This exercise will help the student identify where in the incident management organization they can resolve a variety of problems.

### DIRECTIONS:

- A. Give each group a problem which may be encountered by a division / group supervisor that would be mitigated by interaction with another incident management section.

Some potential problems could include:

- Contract equipment arrives on the division without having checked in
  - An injury occurs on the division
  - Fuel shortage or equipment breakdown
  - Property damage by equipment that renders the equipment out of service
  - Hand crew request air lift of drip torches and drip mix
- B. Have each group identify what section(s) they would have to deal with to remedy their problem.
  - C. Have each group appoint a spokesperson to present their findings.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

INSTRUCTOR EXERCISE SHEET 4-1-3  
INTERNAL/EXTERNAL  
COORDINATION

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- D. Utilize PROBLEM IDENTIFICATION AND RESOLUTION REFERENCE for potential answers.





# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

INSTRUCTOR EXERCISE SHEET 4-1-3  
INTERNAL/EXTERNAL  
COORDINATION

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5. Crew requests air lift of drip torches and drip mix:





**S339 Division/Group  
Supervisor  
"ALL RISK"  
Position Task Book**

A Publication of the  
National Wildfire  
Coordinating Group

**NATIONAL INTERAGENCY  
INCIDENT MANAGEMENT SYSTEM**

Sponsored by  
United States  
Department of Agriculture

**TASK BOOK FOR THE POSITION OF**

United States  
Department of the Interior

**DIVISION/GROUP SUPERVISOR (DIVS)**

National Association of  
State Foresters

**(WILDFIRE ASSIGNMENT REQUIRED)**



**PMS 311-09  
NFES 2310**

**August 1993**

<b>TASK BOOK ASSIGNED TO:</b>
INDIVIDUAL'S NAME, DUTY STATION, AND PHONE NUMBER
<b>TASK BOOK INITIATED BY:</b>
OFFICIAL'S NAME, TITLE, DUTY STATION, AND PHONE NUMBER
LOCATION AND DATE THAT TASK BOOK WAS INITIATED

*The material contained in this book accurately defines the performance expected of the position for which it was developed. This task book is approved for use as a position qualification document in accordance with the instructions contained herein.*

**VERIFICATION / CERTIFICATION OF COMPLETED TASK BOOK  
FOR THE POSITION OF**

---

**FINAL EVALUATOR'S VERIFICATION**

I verify that all tasks have been performed and are complete with signatures. I also verify that

---

has performed as a trainee and should therefore be considered for certification in this position.

---

**EVALUATOR'S SIGNATURE AND DATE**

---

**EVALUATOR'S PRINTED NAME, TITLE, DUTY STATION, AND PHONE NUMBER**

**AGENCY CERTIFICATION :**

I certify that \_\_\_\_\_

has met all requirements for qualification in this position and that such qualification has been issued.

---

**CERTIFYING OFFICIAL'S SIGNATURE AND DATE**

---

**CERTIFYING OFFICIAL'S NAME, TITLE, DUTY STATION, AND PHONE NUMBER**

Additional copies of this publication may be ordered from:

National Interagency Fire Center

ATTN: Supply

3905 Vista Avenue  
Boise, Idaho 87305

Order NFES # 2310

## NATIONAL WILDFIRE COORDINATING GROUP POSITION TASK BOOK

Position Task Books (PTB) have been developed for designated positions within the National Interagency Incident Management System. Each PTB lists the performance requirements (tasks) for the specific position in a format that allows a trainee to be evaluated against written guidelines. Successful performance of all tasks, as observed and recorded by an evaluator, will result in a recommendation to the agency that the trainee be certified in that position.

Evaluation and confirmation of the individual's performance of all the tasks may involve more than one evaluator and can occur on incidents, in classroom simulation, and in other work situations. Designated PTBs require position performance during which the majority of required tasks are demonstrated on a single incident. Some positions also required that specific tasks be performed on a wildland fire—performance of these tasks on other types of incidents are NOT qualifying. It is important that performance be critically evaluated and accurately recorded by each evaluator. All tasks must be evaluated. All bullet statements within a task which require an action (contain an action verb) must be demonstrated before that task can be signed off.

A more detailed description of this process, definitions of terms, and responsibilities are included in the Wildland Fire Qualification Subsystem Guide 310-1. A brief list of responsibilities also appears below.

### RESPONSIBILITIES:

1. The **Local Office** is responsible for:

- Selecting trainees based on the needs of the local office and the geographic area.
- Ensuring that the trainee meets the training and experience requirements included in the Wildland Fire Qualification Subsystem Guide 310-1.
- Issuing PTBs to document task performance.
- Explaining to the trainee the purpose and processes of the PTB as well as the trainee's responsibilities.
- Providing opportunities for evaluation and/or making the trainee available for evaluation.
- Providing an evaluator for local assignments.
- Tracking progress of the trainee.
- Confirming PTB completion.
- Determining certification per local policy.
- Issuing proof of certification.

2. The **individual** is responsible for:

- Reviewing and understanding instructions in the PTB.
- Identifying desired objectives/goals.

- Providing background information to an evaluator.
  - Satisfactorily demonstrating completion of all tasks for an assigned position within three years.
  - Assuring the Evaluation Record is complete.
  - Notifying local office personnel when the PTB is completed and providing a copy.
  - Keeping the original PTB in personal records.
3. The **Evaluator** is responsible for:
- Being qualified and proficient in the position being evaluated.
  - Meeting with the trainee and determining past experience, current qualifications, and desired objectives/goals.
  - Reviewing tasks with the trainee.
  - Explaining to the trainee the evaluation procedures that will be utilized and which objectives may be attained.
  - Identifying tasks to be performed during the evaluation period.
  - Accurately evaluating and recording demonstrated performance of tasks. Satisfactory performance shall be documented by dating and initialing completion of the task. Unsatisfactory performance shall be documented in the Evaluation Record.
  - Completing the Evaluation Record found at the end of each PTB.
  - Signing the verification statement inside the front cover of the PTB when all tasks have been initialed.
4. The **Training Specialist** is responsible for:
- Identifying incident evaluation opportunities.
  - Identifying and assigning an evaluator that can provide a positive experience for the trainee, and make an accurate and honest appraisal of the trainee's performance.
  - Providing PTBs to approved trainees on the incident when local agency was unable to provide them.
  - Documenting the assignment.
  - Conducting progress reviews.
  - Conducting a close-out interview with the trainee and evaluator and assuring that documentation is proper and complete.

QUALIFICATION RECORD

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p><b><u>GENERAL</u></b></p> <p>1. <u>Obtain and assemble information and materials needed for kit.</u> Kit will be assembled and prepared prior to receiving an assignment. Kit will contain critical items needed for the assignment and items needed for functioning during the first 48 hours. Kit will be easily transportable and within agency weight limitation (per National Mobilization Guide). The basic information and materials needed are:</p> <ul style="list-style-type: none"> <li>• Resource listings.</li> <li>• ICS Form 215, Operational Planning Worksheet.</li> <li>• Telephone directory (local, assignment specific).</li> <li>• Notification requirements.</li> <li>• Incident specific reference materials.</li> <li>• ICS-410-1, Fireline Handbook.</li> <li>• ICS 420-1, Field Operations Guide.</li> <li>• Maps.</li> <li>• Documentation materials.</li> </ul>	O		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>2. <u>Establish and maintain positive interpersonal and interagency working relationships.</u></p> <p>a. Through briefings, discuss EEO, civil rights, sexual discrimination, interagency policy and other sensitive issues with assigned personnel.</p> <p>b. Recognize cultural language difficulties as it impacts work output and expectations.</p> <p>c. Provide equal assignment opportunities based on individual skill level.</p> <p>d. Monitor and evaluate progress based on expected work standards not race, color or creed.</p> <p>e. Individual agency values and policies are addressed throughout the tenure of the incident.</p> <p>f. Differences in agency values and policies that affect the operation are arbitrated in manner that fosters continuous positive working relationships.</p> <p>g. Integrate cultural resource considerations into all management activities.</p>	O		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>3. <u>Provide for the safety and welfare of assigned personnel during the entire period of supervision.</u></p> <ul style="list-style-type: none"> <li>• Recognizes potentially hazardous situations.</li> <li>• Informs subordinates of hazards.</li> <li>• Controls positions and function of resources.</li> <li>• Ensures that special precautions are taken when extraordinary hazards exist.</li> <li>• Ensures adequate rest and hydration is provided to all operations personnel.</li> </ul>	I		
<p>4. <u>Follow the Standard Fire Orders, Watch Out Situations, and agency policy.</u></p> <ul style="list-style-type: none"> <li>• Develop plans based on safety guidelines.</li> <li>• Spot check tactical operations to ensure compliance with safety guidelines.</li> <li>• Ensures all tactical operations comply with the principles of LCES.</li> </ul>	W		
<b><u>MOBILIZATION</u></b>			
<p>5. <u>Obtain complete information from dispatch upon initial activation.</u></p> <ul style="list-style-type: none"> <li>• Incident name.</li> <li>• Incident order number.</li> <li>• Request number.</li> <li>• Reporting location.</li> <li>• Reporting time.</li> <li>• Transportation arrangements/travel routes.</li> <li>• Contact procedures during travel (telephone/radio).</li> </ul>	I		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>6. <u>Gather information necessary to assess incident assignment and determine immediate needs and actions.</u></p> <ul style="list-style-type: none"> <li>• Incident Commander's name and address.</li> <li>• Type of incident.</li> <li>• Current resource commitments.</li> <li>• Current situation.</li> <li>• Expected duration of assignment.</li> <li>• Terrain.</li> <li>• Weather.</li> <li>• Agency Administrator's briefing requirements (as appropriate).</li> </ul>	I		
<p><b><u>INCIDENT ACTIVITIES</u></b></p>			
<p>7. <u>Report to the designated official at the check-in point and provide required information (ICS Form 211).</u></p>	I		
<p>8. <u>Obtain a briefing from the Branch Director or Operations Section Chief.</u></p> <p>a. Request and receive briefing from Branch Director or Operations Section Chief. Includes incident briefing (ICS Form 201), initial instructions concerning work activities, current and expected weather and fire behavior.</p>	W		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>9. <u>Identify resources assigned to division/group.</u></p> <p>a. Review division/group assignment to identify resources specifically assigned to the division/group. Review from initial briefing notes, Incident Action Plan for types and quantity of resources assigned.</p> <p>b. Request clarifying information or resolution. Makes requests to immediate supervisor as required.</p> <p>c. Prepares list of assigned resources. Determines their location, status, whether checked in.</p>	I		
<p>10. <u>Review division/group assignments and consider span-of-control.</u></p> <p>a. Review general incident activities with subordinates. Review incident summary and operations section organizational summary.</p> <p>b. Determine specific tasks for resources. Based on Incident Action Plan and on effective use of combination of resources.</p>	W		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>11. <u>Assign tasks to subordinates with time requirements and specific geographic references.</u></p> <p>a. Assure subordinates acceptance of assignment. Determine their ability to complete assignment within timeframe.</p> <p>b. Discuss alternate plan. Based on Incident Action Plan strategies, control objectives and type of resources available.</p> <p>c. Review assignment safety considerations. Include aircraft, ground equipment, hazards, terrain, medical procedures and facilities, adjacent forces.</p> <p>d. Review special weather conditions. Review weather forecasts, current and predicted fire behavior.</p> <p>e. Review Incident Communications Plan. Verify assigned frequencies for medical, air and logistical support operations.</p> <p>f. Review incident map. Verify symbology, division/branch boundary road systems, reference points.</p> <p>g. Discuss traffic plan. Incident Action Plan and alternate routes.</p>	W		
<p>12. <u>Implement IAP for division/group</u></p> <p>a. Establish time frame for implementing your portion of IAP. Determine when and where operational period begins and how long it takes to get there.</p> <p>b. Assure resources have met immediate logistical need. Assure resources have started unit log (ICS Form 214) and have it turned in at end of operational period.</p>	W		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
13. <u>Obtain briefing from person you are relieving.</u> Determine time, place and transportation for relief. Based on LAP or directions from supervisor.	W		
14. <u>Supervise division/group resources to include off-shift responsibilities if necessary.</u>  a. Monitor work progress and evaluate fire situation. Make personal observation by walking, driving or air. Calculate fire behavior and make behavior predictions that would affect tactics in assigned area. Evaluate different uses of single and combined resources based on personal observation of assigned area.  b. Obtain periodic reports from subordinates and adjacent resources. Production progress, recommendations for next operational period, unexpected occurrence. Compared to assigned objectives and LAP.  c. Ensure general welfare and safety of personnel. Use constant communication, monitor progress, listen carefully to their recommendations and give positive reinforcement.  d. Take corrective action as required. Rate of production, unexpected occurrences, accidents, logistical problems, compared to assigned objectives.	W		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>15. <u>Determine need for assistance on assigned work task.</u></p> <p>a. Identify need for additional assistance due to slow progress or unexpected events. Based on reports from subordinates, monitoring work progress, IAP.</p> <p>b. Determine with subordinates appropriate corrective action, e.g., split assignments with another division, request additional resources. Verify assistance required by careful evaluation based on IAP and briefing.</p> <p>c. Determine assistance required to implement corrective action, e.g., split assignments with another division, request additional resources. Compare progress and/or events with IAP and work assignments.</p> <p>d. Coordinate with Operations Section Chief or Branch Director and request assistance. According to procedures discussed in briefing.</p> <p>e. Notify Operations Section Chief of resources not being utilized.</p> <p>f. Ensure resources unit is advised of all changes of resources assigned to division/group. Based on changes approved by Operations Section Chief.</p>	W		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>16. <u>Coordinate activities with adjacent division/groups and air operations.</u></p> <p>a. Identify divisions working adjacent segments of line, this may include air operations. Based on briefing and IAP.</p> <p>b. Determine communication channels assigned to division/group from current IAP.</p> <p>c. Review division/group assignment to determine specific areas or tasks involving coordination from briefing and IAP.</p> <p>d. Maintain communications with other divisions/groups. Through channels division/group supervisor to operations chief or direct division/group supervisor to counterpart.</p>	W		

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POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>17. <u>Submit situation and resources status information to branch director or operations section chief.</u></p> <p>a. Gather information to include in the report by monitoring work progress, personal observations, and reports from subordinates. The report will contain:</p> <ul style="list-style-type: none"> <li>• Summary of resource utilization.</li> <li>• Work progress.</li> <li>• Changes from assignment.</li> </ul> <p>b. Inform Branch Director of the following information as appropriate:</p> <ul style="list-style-type: none"> <li>• Conditions affecting division/group operations.</li> <li>• Hazardous conditions.</li> <li>• Situation status in assigned work area.</li> <li>• Unresolved conflicts with adjacent divisions/groups.</li> <li>• Effectiveness of air operations within division/group area.</li> </ul> <p>c. Make appropriate status changes to strike team/task force and single resources as required by the operational situation.</p> <p>d. Ensure that status changes are understood and acknowledged by assigned resources. Verify acknowledgment of changes by assigned resources.</p> <p>e. Transmit status change information on assigned resources to communications center for input to resources unit.</p> <p>f. Report status changes to Branch Director, Operations Section Chief, as appropriate. Based on IAP and briefing.</p>	W		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>18. <u>Report special occurrences or events, e.g., accidents, sickness to immediate supervisor.</u></p> <p>a. Receive reports of events from subordinates or personal observation of events. Items to include:</p> <ul style="list-style-type: none"> <li>• Nature of event.</li> <li>• Location.</li> <li>• Magnitude.</li> <li>• Personnel involved.</li> <li>• Initial action taken.</li> <li>• Appropriate subsequent action.</li> </ul> <p>b. Request assistance required from the incident communications center or other source as appropriate, e.g., first aid from medical unit. Based on IAP, briefing and directions from communications center, agency policy.</p> <p>c. Report to Branch Director and/or other incident personnel (to include situation information, as appropriate). Based on IAP, briefing, agency policy.</p>	O/R		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>19. <u>Resolve logistics problems within the division/group.</u></p> <p>a. Identify logistics problems. Review logistics elements of IAP to determine if it meets operational needs; based on reports from subordinates and personal observation.</p> <p>b. Obtain the following information concerning problems. Determine nature and magnitude and description of any involved equipment.</p> <p>c. Submit recommendation for problem resolution through normal channels. Based on IAP and briefing.</p> <p>d. If the problem is not resolved directly with logistics units, request resolution from branch director or operations section chief. Based on IAP and briefing and reasonable time period.</p>	I		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>20. <u>Participate in the development of branch plans for next operational period.</u></p> <p>a. Review current situation within the division/group. Review with subordinates and through personal observation. Obtain current and predicted fire behavior.</p> <p>b. Evaluate information gathered and give recommendations to Branch Director/Operations Section Chief. Recommendations should include:</p> <ul style="list-style-type: none"> <li>• Progress and production rate adjustments.</li> <li>• Recommendations for needed personnel and equipment for next operational period.</li> <li>• Anticipated air support needs for next operational period.</li> <li>• Estimated time needed to complete operations within division/group.</li> </ul> <p>c. As requested, attend meeting with branch directors and other division/group supervisors with the branch. Allow them time to review the information before the planned meeting.</p>	W		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>21. <u>Respond to information requests from other organization elements.</u></p> <p>a. Receive requests for specific information from situation and resource units and other personnel, e.g., resource assignments and work assignments. Based on IAP and briefing and intelligence gathered for your report.</p> <p>b. Determine the source of requested information. Through channels based on IAP and briefing.</p> <p>c. Provide information or direct the requesting party to the source of desired information. By direct communication or through communication center.</p>	W		
<p>22. <u>Brief person that relieves you.</u></p> <p>a. Determine time, place and transportation for relief. Based on IAP or directions from supervisor.</p> <p>b. Advise resources of relief plans. Base on information received.</p>	W		
<p>23. <u>Maintain Unit Log (ICS Form 214)</u></p> <p>a. Record actions on Unit Log (ICS Form 214) according to directions in ICS Forms Manual.</p> <p>b. Collect and transmit required records and logs to documentation unit through Operations Chief at the end of each operational period.</p>	W		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<p>24. <u>Evaluate performance of those you supervise.</u></p> <p>a. Complete incident personnel performance rating (ICS Form 225). Follow directions in ICS Forms Manual.</p>	I		
<p>25. <u>Ensure all personnel and equipment time records are complete and have been submitted to the time unit leader at the end of each operational period.</u></p>	I		
<p>CONTINGENCY:</p> <p>26. <u>Contingency in the event Incident Action Plan is no longer valid.</u></p> <p>a. Ensure safety and welfare of assigned resources and adjacent resources. Based on briefing and agency policy or best judgment from experience and training.</p> <p>b. In an emergency, take appropriate action then notify your supervisor. Based on briefing and agency policy or best judgment from experience and training.</p> <p>c. If not an emergency, notify your supervisor and recommend alternatives. Based on briefing and agency policy or best judgment from experience and training.</p>	W/R		

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QUALIFICATION RECORD  
Continuation Sheet

POSITION: DIVISION/GROUP SUPERVISOR (DIVS)

TASK	C O D E*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
<b><u>DEMOBILIZATION</u></b>			
27. <u>Consider demobilization early enough during the incident so that an adequate demobilization plan is in place prior to the actual need to release resources.</u>	I		
28. <u>Confirm demobilization instructions with supervisor and brief subordinates as necessary.</u>	W		
29. <u>Attend agency debriefings, submit documentation as requested.</u>	I		

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## INSTRUCTIONS for EVALUATION RECORD

There are four separate blocks allowing evaluations to be made. These evaluations may be made on incidents, by simulation in classroom, or in daily duties, depending on what the position task book indicates. This should be sufficient for qualification in the position if the individual is adequately prepared. If additional blocks are needed, a page can be copied from a blank task book and attached.

**Evaluator's name, incident/office title & agency:** List the name of the evaluator, his/her incident position (on incidents) or office title, and agency.

**Evaluator's home unit address & phone:** self explanatory

**#:** The number in the upper left corner of the experience block identifies a particular experience or group of experiences. This number should be placed in the column labeled "Evaluation Record #" on the Qualification Record in order to indicate the circumstances under which a particular task was performed.

**Location of Incident/Simulation:** Identify the location where the tasks were performed by agency and office.

**Incident Type:** Enter type of incident, e.g., wildfire, search and rescue, flood, etc.

**Number and Type of Resources:** Enter the number of resources and types assigned to the incident pertinent to the trainee's task book position.

**Duration:** Enter inclusive dates during which the individual was evaluated. This block may indicate a span of time covering several small and similar incidents if the individual has been evaluated on that basis, i.e., several initial attack fires in similar fuel types.

**Mgt. Level:** Indicate ICS organization level, i.e., Type 4, Type 3, Type 2, Type 1 or Area Command.

**NFFL Fuel Model:** For wildfire experience, enter number (1-13) of the fuel model in which the incident occurred and under which the individual was evaluated.

- |                                 |                                |
|---------------------------------|--------------------------------|
| 1. Short Grass (1 foot)         | 8. Closed Timber Litter        |
| 2. Timber (grass & understory)  | 9. Hardwood Litter             |
| 3. Tall grass (2 1/2 feet)      | 10. Timber (litter understory) |
| 4. Chaparral (6 feet)           | 11. Light Logging Slash        |
| 5. Brush (2 feet)               | 12. Medium Logging Slash       |
| 6. Dormant brush-Hardwood Slash | 13. Heavy Logging Slash        |
| 7. Southern Rough               |                                |

**Recommendation:** Check as appropriate and/or make comments regarding the future needs for development of this trainee.

**Date:** List the date the record is being completed.

**Evaluator's initials:** Initial here to authenticate your recommendations and to allow for comparison with initials in the Qualifications Record.

**Evaluator's relevant red card rating:** List your certification relevant to the trainee position you supervised.

## Evaluation Record

**TRAINEE NAME**

**TRAINEE POSITION**

<b>#1</b>	Evaluator's name, incident/office title & agency:				
Evaluator's home unit address & phone:					
Location of Incident or Simulation (agency & area)	Incident Type (wildfire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Mgt. Level (Area Command, Type 1, 2, 3, or 4)	NFFL Fuel Model
			to		
<p>The tasks initialed &amp; dated by me have been performed under my supervision and in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee:</p> <p>_____ The individual has successfully performed all tasks for the position and should be considered for certification.</p> <p>_____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.</p> <p>_____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.</p> <p>_____ The individual is severely deficient in the performance of tasks for the position and must complete all training (both mandatory &amp; suggested) prior to further assignment as a trainee.</p> <p>Recommendations: _____</p>					
<p>Date: _____ Evaluator's initials: _____ Evaluator's relevant red card (or agency certification) rating: _____</p>					

<b>#2</b>	Evaluator's name, incident/office title & agency:				
Evaluator's home unit address & phone:					
Location of Incident or Simulation (agency & area)	Incident Type (wildfire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Mgt. Level (Area Command, Type 1, 2, 3, or 4)	NFFL Fuel Model
			to		
<p>The tasks initialed &amp; dated by me have been performed under my supervision and in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee:</p> <p>_____ The individual has successfully performed all tasks for the position and should be considered for certification.</p> <p>_____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.</p> <p>_____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.</p> <p>_____ The individual is severely deficient in the performance of tasks for the position and must complete all training (both mandatory &amp; suggested) prior to further assignment as a trainee.</p> <p>Recommendations: _____</p>					
<p>Date: _____ Evaluator's initials: _____ Evaluator's relevant red card (or agency certification) rating: _____</p>					

**Evaluation Record  
(Continuation Sheet)**

**TRAINEE NAME**

**TRAINEE POSITION**

#3	Evaluator's name, incident/office title & agency:				
Evaluator's home unit address & phone:					
Location of Incident or Simulation (agency & area)	Incident Type (wildfire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Mgt. Level (Area Command, Type 1, 2, 3, or 4)	NFFL Fuel Model
			to		
<p>The tasks initialed &amp; dated by me have been performed under my supervision and in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee:</p> <p>_____ The individual has successfully performed all tasks for the position and should be considered for certification.</p> <p>_____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.</p> <p>_____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.</p> <p>_____ The individual is severely deficient in the performance of tasks for the position and must complete all training (both mandatory &amp; suggested) prior to further assignment as a trainee.</p> <p>Recommendations: _____</p>					
<p>Date: _____ Evaluator's initials: _____ Evaluator's relevant red card (or agency certification) rating: _____</p>					

#4	Evaluator's name, incident/office title & agency:				
Evaluator's home unit address & phone:					
Location of Incident or Simulation (agency & area)	Incident Type (wildfire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Mgt. Level (Area Command, Type 1, 2, 3, or 4)	NFFL Fuel Model
			to		
<p>The tasks initialed &amp; dated by me have been performed under my supervision and in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee:</p> <p>_____ The individual has successfully performed all tasks for the position and should be considered for certification.</p> <p>_____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.</p> <p>_____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.</p> <p>_____ The individual is severely deficient in the performance of tasks for the position and must complete all training (both mandatory &amp; suggested) prior to further assignment as a trainee.</p> <p>Recommendations: _____</p>					
<p>Date: _____ Evaluator's initials: _____ Evaluator's relevant red card (or agency certification) rating: _____</p>					

**S-339**

**DIVISION/GROUP**

**SUPERVISOR**

**JOB-AID**

**REFERENCE**

**DOCUMENT**



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING

## DIVISION/GROUP SUPERVISOR CHECKLIST

- Order & Request Numbers \_\_\_\_\_
- Report Location & Contact Person \_\_\_\_\_
- ETA \_\_\_\_\_
- Travel Route & Radio Frequencies (Command) \_\_\_\_\_

### PRE-DEPARTURE CHECKLIST:

Division/Groups Supervisor Kit:

Brief / Attaché case, FOG-ICS-420, Fire line Handbook-NFES- 0065, Div/Grp Task Book, ICS forms-I201,204,213,214,225, Shift ticket example booklet-IO-297, paper pad, 3x5 cards, pens & pencils, flashlight (w/batteries), programmable hand held radio, cell phone, pager, clam shell battery pack w/spare batteries, Radio Frequency and repeater guide, belt weather kit, binoculars, sun glasses, spare reading glasses, metal clip board, flagging tape (2) rolls, masking tape, cassette recorder w/batteries, straight edge ruler, North American Emergency Response Guide (Haz-Mat) guide, Thomas Bros. road atlas of area, Cal. State travel guide (TB), Topographic maps of area, ice chest, water / drinks, food – MRE's, Smokey snack's for 24hrs.

### UPON ARRIVAL AT INCIDENT:

- Check-in with Restat.
- Secure Communication needs.
  - Incident programmed hand held radio, cell phone & pager
  - Give the Communication section your personnel cell phone and pager #.
- Obtain briefing from your supervisor / attend staff briefing.
- Obtain copies of IAP (Read and understand completely).
- What are the incident objectives, priorities, time frames?
- What are the SAFETY hazards? (Hazards known, LCES)
- How will my Division interact with adjacent divisions?
- Are there any Communications or Logistics concerns?
- How will your needs be channeled?
- Check with Sit-Stat., Re-Stat. & Finance for updates and needs that involve your division.



# INCIDENT COMMAND SYSTEM

S339 Division/Group Supervisor - ALL RISK

PLANNING

## LINE ASSIGNMENT CHECKLIST

- Check the PRIORITIES and HAZARD areas first.
- Receive input from your staff in their areas of responsibilities.
- Determine whether assigned division resources are adequate to meet operational objectives.
- Determine the need for technical specialist.
- Develop contingencies; make them known to your supervisor and personnel.
- Assure that safety zones are created and escape routes are communicated.
- Coordinate activities with adjacent Divisions/Groups.
- Review all areas of assignment at least twice- early on & later to determine progress and needs for the next shift.
- Prepare the resource needs for your division for the next ops period. 12hr. shifts by 0900 & 2100, 24hr. by 1900.
- Report any significant events to your supervisor (injury, accident, unusual).
- Check on logistical needs again by 1000 and 1500.
- Report resources changes to ReStat.
- Maintain your unit log (I-214), as they occur, at least once each hour.
- Assure that all personnel get off the line in a safe & timely fashion.

### END OF SHIFT – ON THE LINE:

- Debrief to your relief:
- All identified safety hazards on the division. (I-215A)
- Confirm the use of tactical specialist to provide expertise in division.
- Update their situational awareness of your shift:
  - What was accomplished?
  - What needs to be accomplished?
  - Problem areas, events or situations
  - Update their map to the real picture.
- Make them aware of rental equipment still on the division.
- Sign the shift tickets of the rental equipment and personnel from your shift.
- Update your unit log (I-214).

### AT THE INCIDENT BASE:

- Contact your supervisor to update the situation on your division.
- Debrief to Re-Stat.- status of assigned equipment.
- Debrief to Sit-Stat.- weather, update maps
- Debrief to Finance - shift tickets
- Debrief to Documentation – completed I-214, personnel evaluations, etc.
- Check with the time unit.
- Be ready for your next shift.



## DIVISION/GROUP SUPERVISOR ALL RISK

PLANNING

### DIVISION SUBORDINATE BRIEFING

- Roll Call/Introductions
- Division Objectives (review of I-204, from IAP)

#### SAFETY

- Conditions of crews? Fatigue? Experience levels?
- ALL Personnel Protective Equipment while on division. No Exceptions!
- Key division safety concerns, review I-215A
- Lookouts will be posted as needed
- Communication for division: Tactical, Command and Air/Ground Frequencies
- \*Assigned Tactical Frequencies to be monitored at all times, review I-205
- Escape Routes will be identified and made known to all
- Safety Zones will be constructed and made known to all
- Review of expected weather and fire behavior forecast
- Assign unit to take and record weather observations during shift
- @ \_\_\_\_\_ min. intervals
- Make observations known on division tactical frequency
- Make observation of unusual weather behavior known to all
- Travel routes to Drop Points or meeting points. WHAT TIME \_\_\_\_\_

#### OPERATIONS

- My expectations of division resources
- Periodic updates of progress/status. Time frames, mins., hrs. \_\_\_\_\_
- Notify DIVISION of "key" info. (Injuries/Potential claims/Damage/Problems)
- Use of air resources in division -  All requests will go through DIVS
- Division resources/experience/expertise/special equipment
- E.M.T./Paramedic personnel/equipment assigned to Division?
- Assign unit to handle division medical emergencies
- Firing operations in division/firing-out around threatened structures. Notify?
- Contingency plans – A, B, C

#### LOGISTICS

- Place requests for support to DIVISION as early as possible
- Do all assigned personnel have enough:
- \* FOOD/LUNCHES YES – NO – NEEDS # \_\_\_\_\_
- \* WATER – DRINKS YES – NO – NEEDS gal/# \_\_\_\_\_
- \* ICE YES – NO – NEEDS lbs. \_\_\_\_\_
- Supplies to complete assignment – hose, tools, fuel, etc.
- Transportation needs YES - NO – Road Limitations? # of personnel \_\_\_\_\_

#### END OF SHIFT PROCEDURES

- Don't leave Division without advising DIVISION of departure!!!!
- DIVISION to be last to leave the division
- Evaluations needed? /Trainees assigned?/Signing of crew time/shift tickets
- 214's from all S/T leaders & single increment

NOTE: WORK ASSIGNMENTS/DIVISIONAL TACTICS/CONTINGENCY PLANS will be discussed/briefed after recon. of division to assess situation and needs





# OPERATIONAL PLANNING WORK SHEET

1. INCIDENT NAME

NANCE  
(BTU-10500)

2. DATE PREPARED  
OCT. 25, 1997

TIME PREPARED  
1700 HRS.

3. OPERATIONAL PERIOD  
(DATE/TIME)

OCT. 26-27, 1997  
08-0800 HRS.

DIVISION GROUP OR OTHER LOCATION	WORK LOCATION	RESOURCES BY TYPE (SHOW STAFF TEAM AS 9)												OTHER	REPORTING LOCATION	REQUESTED ARRIVAL TIME					
		ENGINES				WATER TENDERS		HAND CREWS		DOZERS			HELICOPTERS				AIR TANKERS				
		1	2	3	4	1	2	1	2	1	2	3	1				2	3	1	2	3
BR I DIV. A	RR 1, DM A RUNS FROM ORIGIN (DM A/Z) (K/RN) ALONG E/S NEAL RD TO WAYLAND RD (DM A/B). FIRE HAS PROBABLY CROSSED NEAL ROAD IN SEVERAL PLACES. SPOT FIRES MARKED, LINES & CONTAINED OPERATIONS: USING ENGS, CRWS & DOZERS, KEEP FIRE E/S NEAL RD. PROTECT SIR. SPC 1851: IMPLEMENT ICES SAFEGUARDS WATCH FOR SPOTS OVER LINE AND BELOW FPS.	REQ	151	151	2			251			151								1-BR DIR 1-DW SUP	DP #1: NEAL RD, 2 MI SOUTH OF WAYLAND RD. SAME PICKUP PT.	0830 HRS
X		REQ																			
BR I DIV. Z	RR 1, DM Z RUNS EAST FROM NEAL RD AT ORIGIN (DM A/Z) ACROSS BERRY CREEK DRAINAGE TO WETLOWY FIRE IS MOSTLY LINED (3 BI) TO DM ZV SPOT FIRES MARKED OPERATIONS: USING ENGS, CREWS & DOZERS, KEEP FIRE NORTH OF ESTABLISHED FIRE LINE. SPC 1851: IMPLEMENT ICES SAFEGUARDS WATCH FOR SPOTS OVER LINE AND BELOW FPS.	REQ		251	2			251			351								1-DW SUP	DP #1: NEAL RD, 2 MI SOUTH OF WAYLAND RD. SAME PICKUP PT.	0830 HRS
X		REQ																			
BR II DIV. B	RR II, DM B RUNS FROM NEAL RD (DM A/B) EAST ALONG WAYLAND RD TO FOSTER RD (DM B/Y) FIRE WAS SOUTH OF WAYLAND RD AT 1700 HRS SPOT FIRES ARE MARKED OPERATIONS: USING ENGS, CREWS & DOZERS, KEEP FIRE SOUTH OF WAYLAND RD PROTECT SIR WHERE NEEDED SPC 1851: IMPLEMENT ICES SAFEGUARDS WATCH FOR SPOTS OVER LINE AND BELOW FPS.	REQ	351	151	2			251			151								1-BR DIR 1-DW SUP	DP #2: NEAL RD, @ WAYLAND RD. SAME PICKUP PT.	0830 HRS
X		REQ																			
BR II DIV. Y	RR II, DM Y RUNS FROM FOSTER RD (DM B/Y) EAST TO SCOTTYWOOD RD AND THEN TO SOUTH (DM Y/Z) FIRE WAS SW OF DM Y AT 1700 HRS OPERATIONS: NEED TO LOCATE FIRE LINE LOCATION USING ENGS, CREWS & DOZERS, KEEP FIRE SOUTH OF TONI OF PARADISE. PROTECT SIR WHERE NEEDED SPC 1851: IMPLEMENT ICES SAFEGUARDS. WATCH FOR SPOTS OVER LINE AND BELOW FPS.	REQ		251	2			351			351								1-DW SUP	DP #3: FOSTER RD, @ WAYLAND RD. SAME PICKUP PT.	0830 HRS
X		REQ																			
NEAL STAG	"NEAL STAGING" IS LOCATED IN A PARKING LOT NE OF THE INTERSECTION OF NEAL AND WAYLAND ROADS. NEAL STAGING DRAWDOWN RESOURCES: 1 DM SUP, 1 TING STANN TYP, 1 CREW ST G, 1 DOZ ST. IF LEVELS DROP BELOW THESE LEVELS SPC 1851: CONTACT COMM & ORDER ADDITIONAL SPC 1851: ENSURE CHECK-IN AND IF IN DRAINAGE	REQ	151	151	1			251			251								1-STAG AREA WGR	NEAL STAGING: NE CORNER OF NEAL RD @ WAYLAND RD.	0830 HRS
X		REQ																			
9. TOTAL RESOURCES REQUIRED		OPER REQ	56	751	9			1151			105								2-BR DIR 4-DW SUP 1-CLAR WGR	PREPARED BY NAME & POSITION OSC JOH IN HAWKING OCTOBER 25, 1997, 1700 HRS.	
TOTAL RESOURCES ON HAND		OPER RES																			
TOTAL RESOURCES NEEDED		OPER REQ																			
215	ICS 3-82																				





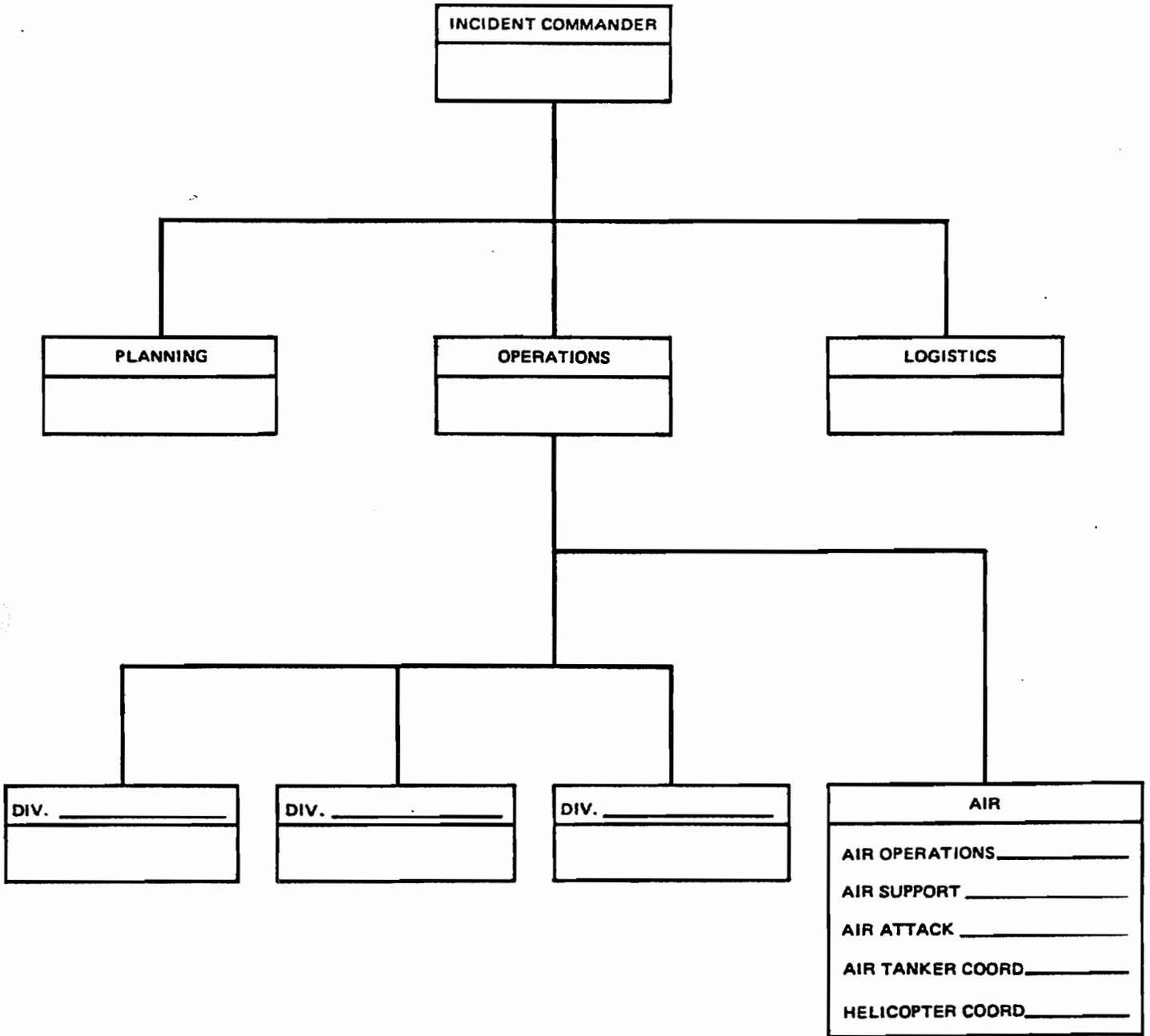
<b>INCIDENT BRIEFING</b>	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
--------------------------	------------------	------------------	------------------

4. MAP SKETCH

201	ICS 3-82	PAGE 1	8. PREPARED BY (NAME AND POSITION)  7540-130-0282
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6. CURRENT ORGANIZATION







# EMERGENCY ACTIVITY RECORD



1. Agency Designator			
State	3 Letter ID		

2. Strike Team Number			
3 Letter ID	Number	Ltr	

3. Incident Order Number			
State	3 Letter ID	Number	

4. Incident Request Number		
3 Letter ID	ID	Number

**5. Dispatch Information:**

Incident Name: \_\_\_\_\_

Incident Location: \_\_\_\_\_

To:  Incident  Complex  Mobilization Center (Not Staging Area)

Departure to Incident: Time (24 hr): \_\_\_\_\_ Date: \_\_\_\_\_

Return to Quarters: Time (24 hr): \_\_\_\_\_ Date: \_\_\_\_\_

Redispached: Time (24 hr): \_\_\_\_\_ Date: \_\_\_\_\_

**11. Type of Request (Check One):**

Cooperative Agreement  Mutual Aid

**6. Redispached Information: (Start new F-42 if redispached)**

Incident Order Number			Request Number		
State	3 Letter ID	Number	3 Letter ID	ID	Number

**12. Request Type Changed To: (Check One) ONLY COMPLETE IF STATUS CHANGES**

Cooperative Agreement  Mutual Aid

Change Effective: Time (24 hr): \_\_\_\_\_ Date: \_\_\_\_\_

**7. Overhead Information:** ST(TF) Leader / ST(TF) Leader (Trainee) / Overhead

ST(TF) Leader/Trainee / Overhead requires a separate F-42 and Request Number

Strike Team Leader or Task Force Leader  Strike Team Leader or Task Force Leader (Trainee)

Overhead Position (ICS Title): \_\_\_\_\_

**13. Personnel Information: Rank(s) and Quantity of Personnel**

Rank	Quantity	Rank	Quantity	Other (Rank/Title/Crew Designation)	Quantity
FF		Capt			
PCF/Vol		BC			
FAE		DC/AC			

**14. Comments:** (Division Assignments, Reassignments, Equipment Breakdowns, Crew Size Change, Etc.)

Date: \_\_\_\_\_

**8. Support Vehicle Information: ST(TF) Leader / Overhead / Support Vehicle and Equipment**

License or VIN: \_\_\_\_\_

Vehicle Ownership:  Agency  Privately Owned Vehicle

(Check One Only)  Sedan  Van  Pick-up (  2x4  4x4 )

Other: \_\_\_\_\_

**15. FOR CDF PERSONNEL ONLY:**

Name (Last Name First)	Classification	Last 4 Digits of SSN

**9. Privately Owned Vehicles Only:**

Miles to: \_\_\_\_\_ Miles on: \_\_\_\_\_ Miles Return: \_\_\_\_\_ Total Miles: \_\_\_\_\_

**16. Responding Agency Information:**

Name of Agency: \_\_\_\_\_

Name of Company Officer (Print): \_\_\_\_\_

Signature: \_\_\_\_\_ Title: \_\_\_\_\_

**10. Fire Apparatus/Rescue Equipment Information:**

Apparatus/Unit No.: \_\_\_\_\_ Radio Call Sign: \_\_\_\_\_ OES Vehicle:  Yes  No

(ICS Kind/Type) Fire Engine or: \_\_\_\_\_ Type:  1  2  3  4

Make: \_\_\_\_\_ Engine Horsepower: \_\_\_\_\_

License or VIN/Serial #: \_\_\_\_\_

**17. Approving Agency Information:**

CDF  USFS  BLM  NPS  OES

Other: \_\_\_\_\_

Name of Agency Official (Print): \_\_\_\_\_

Signature: \_\_\_\_\_ ICS Position/Title: \_\_\_\_\_

Distribution: WHITE: OES Fire and Rescue, 2800 Meadowview Road, Sacramento, CA 95832-1409      PINK: Incident Finance Section      GOLDENROD: Responding Agency

ATTACH COPY OF ICS 214 (LOG) TO GOLDEN ROD COPY



# EMERGENCY EQUIPMENT SHIFT TICKET OPTIONAL FORM (OF)-297 GUIDE (3833.4.6)

EMERGENCY EQUIPMENT SHIFT TICKET					
NOTE: The responsible Government Officer will update this form each day of shift and make initial and final equipment inspections.					
1. AGREEMENT NUMBER			2. CONTRACTOR (name)		
			ACME CONSTRUCTION		
3. INCIDENT OR PROJECT NAME		4. INCIDENT NUMBER		5. OPERATOR (name)	
DRY GULCH		MVU 346 E-4		JOE ROADRUNNER	
6. EQUIPMENT MAKE		7. EQUIPMENT MODEL		8. OPERATOR FURNISHED BY	
DOZER		D-6C		<input checked="" type="checkbox"/> CONTRACTOR <input type="checkbox"/> GOVERNMENT	
9. SERIAL NUMBER		10. LICENSE NUMBER		11. OPERATING SUPPLIES FURNISHED BY	
76A 4321				<input checked="" type="checkbox"/> CONTRACTOR (MHS) <input type="checkbox"/> GOVERNMENT (MHS)	
12. DATE		13. EQUIPMENT USE			14. REMARKS (predecessor, down time and cause, problems, etc.)
MO/DAY/YR	START	STOP	HOURS/DAYS/EST. COSTS/TYPE		
			WORK	SPECIAL	
6-15	1300	1400		MOVE IN	
	1400	2400	10	DIV A	
6-16	0001	0700	7	DIV A	15. EQUIPMENT STATUS <input checked="" type="checkbox"/> A. Inspected and under agreement <input checked="" type="checkbox"/> B. Released by Government <input type="checkbox"/> C. Withdrawn by Contractor
	0700	0800		MOVE OUT	
16. INVOICE POSTED BY (Recorder's initials)					
17. CONTRACTOR'S OR AUTHORIZED AGENT'S SIGNATURE			18. GOVERNMENT OFFICER'S SIGNATURE		19. DATE SIGNED
Joe Roadrunner			W. Coyote W. COYOTE RRU		6-16-94

ORDERING OFFICE FILE COPY (RETAIN IN BOOK)

Numbers below correspond to the numbered blocks on the OF-297.

1. Agreement Number      Leave Blank.
2. Contractor (name)      Enter the full name of the individual, contractor, or business firm owning the piece of equipment.
3. Incident or Project Name      Incident Name
4. Incident Number      Enter ORDER and REQUEST Number.
5. Operator (name)      Enter the first and last name of operator assigned during the shift. If the operators changed during the shift (not at normal shift change) so note in the remarks block.
6. Equipment Make      Enter TYPE of equipment (e.g., Dozer, Water Tender, Transport).
7. Equipment Model      Enter equipment model (e.g., D-6c, 4000 Gallon, 3S2-18).
8. Operator Furnished By      Check appropriate box.
9. Serial Number      Enter the equipment manufacturer's serial number if appropriate.
10. License Number      Enter vehicle license number.

11. Operating Supplies Furnished By Check appropriate box.
2. Date Self explanatory - Start a new line if there is a change in calendar date during shift.
13. Equipment Use The record of equipment times and hours, and/or miles will be completed by the employee having line supervision of the equipment.
- Start Indicate the starting time of the equipment. Use military time and round to the nearest quarter hour. Utilize additional lines each time there is a change in status (i.e., travel in - breakdowns - no operator).
- Guarantee/Mileage (e.g., Transports, Pick-ups) - Show starting mileage under Start Time.
- Stop Indicate the Stopping Time when there is a change in status.
- Guarantee/Mileage - Show ending Equipment mileage under Stop Time.
- Work Daily (e.g., Water Tenders, Generators, Fuel Trucks) - Leave blank.
- Guarantee/Hourly (e.g., Dozers, Graders, Chainsaws) - Total Work Hours or Ordered Stand-by during this work period
- Guarantee/Mileage - Total mileage during this period of time
- Special Show assignment or status during this period of time (e.g., Div B, Move In, Broke Down).
14. Remarks Use for any other data that may be of importance or to clarify other entries (e.g., changes in operators, down time, etc.).
15. Equipment Status Check appropriate box.
16. Invoice Posted By Equipment Time Recorder will date and initial when the shift ticket is posted to the CDF-61.
17. Contractor's or Authorized Agent's Signature Self explanatory
18. Government Officer's Signature Sign and PRINT your name and Ranger Unit designator.
19. Date Signed Self explanatory

### EMERGENCY EQUIPMENT SHIFT TICKET

NOTE: The responsible Government Officer will update this form each day or shift and make initial and final equipment inspections.

1. AGREEMENT NUMBER				2. CONTRACTOR (name) <i>Acme Construction</i>				
3. INCIDENT OR PROJECT NAME <i>Dry Gulch</i>			4. INCIDENT NUMBER <i>MVU-346 E-4</i>			5. OPERATOR (name) <i>JOE Roadrunner</i>		
6. EQUIPMENT MAKE <i>DOZER</i>			7. EQUIPMENT MODEL <i>D-6C</i>			8. OPERATOR FURNISHED BY <input checked="" type="checkbox"/> CONTRACTOR <input type="checkbox"/> GOVERNMENT		
9. SERIAL NUMBER <i>76 A 4321</i>			10. LICENSE NUMBER			11. OPERATING SUPPLIES FURNISHED BY <input checked="" type="checkbox"/> CONTRACTOR (name) <input type="checkbox"/> GOVERNMENT (any)		
12. DATE MO/DAY/YR		13. EQUIPMENT USE HOURS/DAYS/MILES (circle only)				14. REMARKS (released, down time and cause, problems, etc.)  <i>ASSIGNED TO DIV A</i>		
		START	STOP	WORK	SPECIAL			
<i>6-15-94</i>		<i>1300</i>	<i>1400</i>		<i>Move In</i>			
		<i>1400</i>	<i>2400</i>	<i>10</i>	<i>DIV A</i>			
<i>6-16-94</i>		<i>0001</i>	<i>0700</i>	<i>7</i>	<i>DIV A</i>	15. EQUIPMENT STATUS <input checked="" type="checkbox"/> a. Inspected and under agreement <input checked="" type="checkbox"/> b. Released by Government <input type="checkbox"/> c. Withdrawn by Contractor		
		<i>0700</i>	<i>0800</i>		<i>MOVE OUT</i>			

### EMERGENCY EQUIPMENT SHIFT TICKET

NOTE: The responsible Government Officer will update this form each day or shift and make initial and final equipment inspections.

1. AGREEMENT NUMBER				2. CONTRACTOR (name) <i>Acme Construction</i>				
3. INCIDENT OR PROJECT NAME <i>Dry Gulch</i>			4. INCIDENT NUMBER <i>MVU-346 E-3</i>			5. OPERATOR (name) <i>Bill Roadrunner</i>		
6. EQUIPMENT MAKE <i>Water Tender</i>			7. EQUIPMENT MODEL <i>4000901</i>			8. OPERATOR FURNISHED BY <input checked="" type="checkbox"/> CONTRACTOR <input type="checkbox"/> GOVERNMENT		
9. SERIAL NUMBER			10. LICENSE NUMBER <i>1V1234</i>			11. OPERATING SUPPLIES FURNISHED BY <input checked="" type="checkbox"/> CONTRACTOR (name) <input type="checkbox"/> GOVERNMENT (any)		
12. DATE MO/DAY/YR		13. EQUIPMENT USE HOURS/DAYS/MILES (circle only)				14. REMARKS (released, down time and cause, problems, etc.)  <i>Assigned To Div B</i>		
		START	STOP	WORK	SPECIAL			
<i>6-15-94</i>		<i>1300</i>	<i>1330</i>		<i>Move In</i>			
		<i>1330</i>	<i>2400</i>	<i>10.5</i>	<i>Div B</i>			
<i>6-16-94</i>		<i>0001</i>	<i>0700</i>		<i>Div B</i>	15. EQUIPMENT STATUS <input checked="" type="checkbox"/> a. Inspected and under agreement <input checked="" type="checkbox"/> b. Released by Government <input type="checkbox"/> c. Withdrawn by Contractor		
		<i>0700</i>	<i>0730</i>		<i>Move Out</i>			

DAYS

### EMERGENCY EQUIPMENT SHIFT TICKET

NOTE: The responsible Government Officer will update this form each day or shift and make initial and final equipment inspections.

1. AGREEMENT NUMBER				2. CONTRACTOR (name) <i>Acme Construction</i>				
3. INCIDENT OR PROJECT NAME <i>Dry Gulch</i>			4. INCIDENT NUMBER <i>MVU-346 E-4</i>			5. OPERATOR (name) <i>Harry Roadrunner</i>		
6. EQUIPMENT MAKE <i>Transport</i>			7. EQUIPMENT MODEL <i>35218 wheel</i>			8. OPERATOR FURNISHED BY <input checked="" type="checkbox"/> CONTRACTOR <input type="checkbox"/> GOVERNMENT		
9. SERIAL NUMBER			10. LICENSE NUMBER <i>1H4321</i>			11. OPERATING SUPPLIES FURNISHED BY <input checked="" type="checkbox"/> CONTRACTOR (name) <input type="checkbox"/> GOVERNMENT (any)		
12. DATE MO/DAY/YR		13. EQUIPMENT USE HOURS/DAYS/MILES (circle only)				14. REMARKS (released, down time and cause, problems, etc.)		
		START	STOP	WORK	SPECIAL			
<i>6-15-94</i>		<i>1300</i>	<i>1400</i>	<i>40mi</i>	<i>Move In</i>			
		<i>1400</i>	<i>2400</i>		<i>Held by order of The IC</i>			
<i>6-16-94</i>		<i>0001</i>	<i>0700</i>			15. EQUIPMENT STATUS <input checked="" type="checkbox"/> a. Inspected and under agreement <input checked="" type="checkbox"/> b. Released by Government <input type="checkbox"/> c. Withdrawn by Contractor		
		<i>0700</i>	<i>0800</i>					
		<i>0800</i>	<i>0800</i>	<i>40mi</i>		16. INVOICE POSTED BY (Recorder's name)		
17. CONTRACTOR'S OR AUTHORIZED AGENT'S SIGNATURE <i>Harry Roadrunner</i>					18. GOVERNMENT OFFICER'S SIGNATURE <i>W. Coyote</i>			19. DATE SIGNED <i>6-16-94</i>

MILES

# INCIDENT PERSONNEL PERFORMANCE RATING

**INSTRUCTIONS:** The immediate job supervisor will prepare this form for each subordinate. It will be delivered to the planning section before the rater leaves the fire. Rating will be reviewed with employee who will sign at the bottom.

**THIS RATING IS TO BE USED ONLY FOR DETERMINING AN INDIVIDUAL'S PERFORMANCE**

1. Name		2. Fire Name and Number	
3. Home Unit (address)		4. Location of Fire (address)	
5. Fire Position	6. Date of Assignment From:                      To:	7. Acres Burned	8. Fuel Type(s)

### 9. Evaluation

Enter X under appropriate rating number and under proper heading for each category listed. Definition for each rating number follows:

- 0— Deficient. Does not meet minimum requirements of the individual element.  
DEFICIENCIES MUST BE IDENTIFIED IN REMARKS.
- 1— Needs to improve. Meets some or most of the requirements of the individual element.  
IDENTIFY IMPROVEMENT NEEDED IN REMARKS.
- 2— Satisfactory. Employee meets all requirements of the individual element.
- 3— Superior. Employee consistently exceeds the performance requirements.

Rating Factors	Hot Line				Mop-Up				Camp				Other (specify)			
	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3
Knowledge of the job																
Ability to obtain performance																
Attitude																
Decisions under stress																
Initiative																
Consideration for personnel welfare																
Obtain necessary equipment and supplies																
Physical ability for the job																
Safety																
Other (specify)																

**10. Remarks**

11. Employee (signature) This rating has been discussed with me			12. Date
13. Rated By (signature)	14. Home Unit	15. Position on Fire	16. Date

<b>CREW PERFORMANCE RATING</b>		<i>INSTRUCTIONS:</i> This rating is to be used only for determining a fire crew's performance. All blocks must be complete. Crew will be rated by line supervisor, not crew representative. If deficiencies are indicated for items 9 and 10, explain in item 11.				
1. Crew Name and Number		2. Fire Name and Number		3. Crew Boss (name)		
4. Crew Home Unit and Address			5. Location of Fire (complete address)			
6. Crew Representative		7. Dates on Fire		8. Number of Shifts Worked		
9. Crew Evaluation				11. Areas Needing Improvement		
Rating Factors	Excellent	Satisfactory	Deficient			Needs To Improve
Physical Condition						
Hot Line Construction						
Mop-Up						
Off Line Conduct						
Use of Safe Practices						
Crew Organization and Equipment						
Other (specify)						
10. Supervisory Performances						
Crew Boss						
Squad Bosses						
Liaison Officer						
12. Names of Outstanding Workers (comment)			13. Names of Individuals Needing Improvement (indicate area(s))			
14. Remarks						
15. Crew Boss (signature) This rating has been discussed with me.				16. Date		
Rated By (signature)		18. Home Unit (address)		19. Position on Fire	20. Date	

# VEHICLE/HEAVY EQUIPMENT INSPECTION CHECKLIST

1. INSPECTION TYPE (Circle)

- a. Sign-up
- b. Pre-use
- c. Release

2. AGREEMENT, P.O. OR CONTRACT NO. 3. CONTRACT DATE

4. FIRE NAME 5. FIRE NO.

7. EQUIPMENT TYPE

6. UNIT

OWNER (Name)

9. MILEAGE (Start)

10. DATE

11. MODEL

12. MAKE

13. VENDOR (If other than owner)

14. MILEAGE (End)

15. DATE

16. SERIAL NO.

## Section I-Tractor and/or Motor Patrol

SATISFACTORY

YES NO

1. Canopy, roll-over protection system. Frame 3x3x3-R" or 3" XX pipe, 3 16" top, secured to main frame of tractor \*
2. Belly plate and radiator guard. Securely mounted
3. Lights mounted and working. Operating.
4. Cables and hydraulic system. Not frayed, have extra, no drips in hydraulic system
5. Blade hold brake holding. Operate smoothly, hold at any point.
6. Master clutch. Operator under load, (check for skidage).
7. Steering clutches. Must have 3-4" free play \*
8. Brakes. Must hold at half travel. \*
9. Gauges working. All gauges must be working.
10. Fuel system. Must be free of drips and full tank
11. Cooling system. Free of leaks \*
12. Fan and fan belts. Check for frayed condition.
13. Battery. Check for corrosion on terminals.
14. Engine supports, equalizer bar, springs, main springs. Check shackle bolts, shifted spring lever. \*
15. Muffler and spark arrester. Must be approved type, check with stick. \*
16. Engine. Run, check oil pressure, and knock.
17. Final drive, transmission and differential. Check for dripping.
18. Tracks and rollers. Grousers height under 1-1/4", loose rollers, flanges. \*
19. Trunnion bolts missing, cracks.
20. Proper lubrication. Check for dry fittings.
21. Tires. Check depth of tread, cuts, list under remarks.
22. Sprocket and idlers. Cracks in spokes, sprocket teeth sharp.
23. Drawbar. Servicable, safe.
24. Test run. Cover 5, 6, 7, 8, and 9.

## Section II-Trucks, Sedan, Jeep, Pick-up, etc.

SATISFACTORY

YES NO

1. Steering. Over 3" free play, check tie rod ends. \*
2. Clutch. Proper adjustment, 3/4" free travel.
3. Brakes, foot and hand. Must hold firm. \*
4. Gauges. All gauges must be working.
5. Horn. In working order. \*
6. Rearview mirror and wipers. In working order. \*
7. Seats and cushions, seat belts. If not satisfactory, report conditions under Section VI Remarks.
8. Cooling system. Check radiator and hoses.
9. Engine. Check for knocks and leaks.
10. Oil level and condition. Full and clean.
11. Electrical system. Generator and starter working.
12. Battery. Check for corrosion on terminals.
13. Transmission. Check for leaks.
14. Drive line-U-joints. Check for looseness.
15. Differential. Check for leaks.
16. 4-wheel drive. Check gear boxes, drips. \*
17. Springs and shocks. Check hangers. \*
18. Tie Rod. Looseness and bent. \*
19. Frame. Cracks and bent. \*
20. Lubrication. Dry fittings.
21. Tires, wheels, lug bolts. Depth of tread and cuts. \*
22. Lights. Must be all working. \*
23. Glass. Report all cracks, shattered. \*
24. Body condition. Report all dents and scratches.
25. Exhaust System. Check for leaks. \*
26. Fuel System. Check for leaks.
27. Accessories. Must have jack, wheel wrench, spare tire and wheel.

## Section III-Power Saw and/or Pumps

1. Clean.
2. Visible parts broken. \*
3. Oil in gear case.
4. Oil in chain oiler.
5. Mtc. tools, funnel & gas can.
6. Visible bolts and nuts tight.
7. Gas and oil properly mixed.
8. Cutting bar straight. \*
9. Exhaust system & spark arrester.
10. Motor idle evenly & run smoothly.
11. Satisfactory power.
12. Chain condition. \*

## Section IV-Accessories (Mark "x" if in/on vehicle)

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> 1. Accident Forms                      | <input type="checkbox"/> 2. Steps         | <input type="checkbox"/> 3. Mud Flap       |
| <input type="checkbox"/> 4. Log Book                            | <input type="checkbox"/> 5. Tow Chain     | <input type="checkbox"/> 6. Pulaski        |
| <input type="checkbox"/> 7. First Aid Kit                       | <input type="checkbox"/> 8. Jack          | <input type="checkbox"/> 9. Shovel         |
| <input type="checkbox"/> 10. Fire Extinguisher                  | <input type="checkbox"/> 11. Wheel Wrench | <input type="checkbox"/> 12. Flare Signals |
| <input type="checkbox"/> 13. License Plates (if Govt. operator) | <input type="checkbox"/> 14. Tire Chains  | <input type="checkbox"/> 15. Chock Blocks  |
| <input type="checkbox"/> 16. Reflectors                         | <input type="checkbox"/> 17. Other _____  |  |

17. VENDOR (Signature)

18. TITLE

19. DATE

INSPECTOR (Signature)

21. TITLE

22. DATE

Safety Items-Do not accept until repaired.

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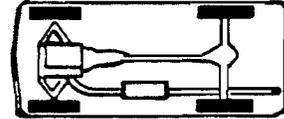
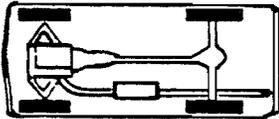
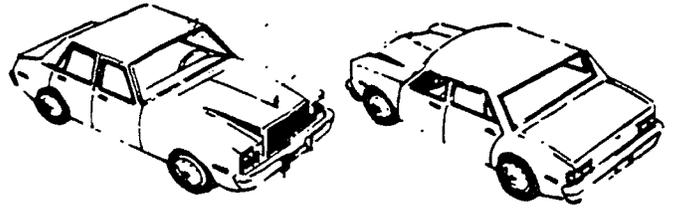
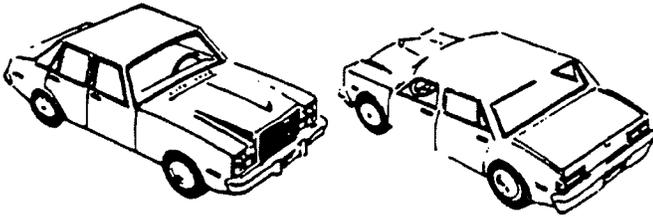
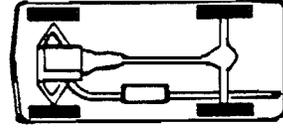
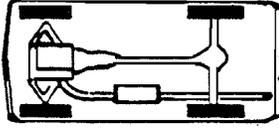
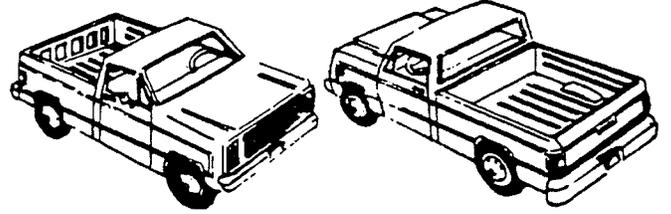
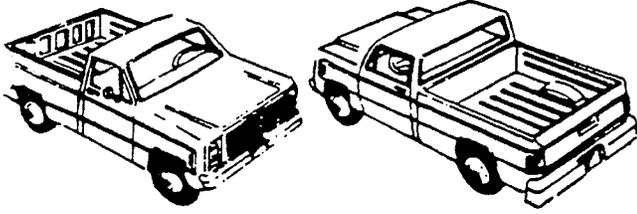
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Section V-Pickup and Sedan Body Condition

Initial Receipt Inspection (Before)

Return Receipt inspection (After)



Section VI-Remarks by Item No. (Optional)

VEHICLE/HEAVY EQUIPMENT INSPECTION CHECKLIST		1 INSPECTION TYPE ("x" one) <input type="checkbox"/> a. Sign-up <input checked="" type="checkbox"/> b. Pre-use <input type="checkbox"/> c. Release		2 AGREEMENT, P.O. OR CONTRACT NO. 3-87-123		3 CONTRACT DATE 5/10/87	
6 UNIT Idaho Panhandle Nat. For.		9 MILEAGE (Start)		10. DATE 5/10/87		4 FIRE NAME Huddle Cr.	
8 OWNER (Name) Lund Timber Co.		14. MILEAGE (End)		15. DATE		5 FIRE NO. 9416	
13 VENDOR (if other than owner) Bill Lund		11 MODEL D-40		16. SERIAL NO. B3U1765		7 EQUIPMENT TYPE Crawler Tractor	
12 MAKE Caterpillar		SATISFACTORY		Section II-Trucks, Sedan, Jeep, Pick-up, etc.		SATISFACTORY	
Section I-Tractor and/or Motor Patrol		YES NO		YES NO		YES NO	
1 Canopy roll-over protection system. Frame, 3/8x3/8" or 3" XX pipe.		<input checked="" type="checkbox"/>		1 Steering. Over 2" free play. Check tie rod ends.		<input type="checkbox"/>	
2 Body plate and radiator guard. Securely mounted.		<input checked="" type="checkbox"/>		2 Clutch. Proper adjustment, 3/4" free travel.		<input type="checkbox"/>	
3 Lights mounted and working. Operating.		<input checked="" type="checkbox"/>		3 Brakes, foot and hand. Must hold firm.		<input type="checkbox"/>	
4 Cables and hydraulic system. Not frayed, have leaks, no drag in hydraulic system.		<input checked="" type="checkbox"/>		4 Gauges. All gauges must be working.		<input type="checkbox"/>	
5 Blade hose brake holding. Operate smoothly, hold at any point.		<input checked="" type="checkbox"/>		5 Horn. In working order.		<input type="checkbox"/>	
6 Master clutch. Operator under load (check for slippage).		<input checked="" type="checkbox"/>		6 Reserve water and wipers. In working order.		<input type="checkbox"/>	
7 Steering clutches. Must have 2-4" free play.		<input checked="" type="checkbox"/>		7 Seats and cushions, seat belts. If not satisfactory, report conditions under Section VI Remarks.		<input type="checkbox"/>	
8 Brakes. Must hold at half travel.		<input checked="" type="checkbox"/>		8 Cooling system. Check radiator and hoses.		<input type="checkbox"/>	
9 Gauges working. All gauges must be working.		<input checked="" type="checkbox"/>		9 Engine. Check for leaks and tests.		<input type="checkbox"/>	
10 Fuel system. Must be free of dirt and full tank.		<input checked="" type="checkbox"/>		10 Oil level and condition. Full and clean.		<input type="checkbox"/>	
11 Cooling system. Free of leaks.		<input checked="" type="checkbox"/>		11 Electrical system. Generator and starter working.		<input type="checkbox"/>	
12 Fan and fan belts. Check for frayed condition.		<input checked="" type="checkbox"/>		12 Battery. Check for corrosion on terminals.		<input type="checkbox"/>	
13 Battery. Check for corrosion on terminals.		<input checked="" type="checkbox"/>		13 Transmission. Check for leaks.		<input type="checkbox"/>	
14 Engine supports, equalizer bar, springs, rear springs. Check shock bolts, shined spring liner.		<input checked="" type="checkbox"/>		14 Drive line-U-joints. Check for looseness.		<input type="checkbox"/>	
15 Muffler and spark arrester. Must be approved type, check with local.		<input checked="" type="checkbox"/>		15 Differential. Check for leaks.		<input type="checkbox"/>	
16 Engine. Run check oil pressure and track.		<input checked="" type="checkbox"/>		16 4-Wheel drive. Check gear boxes, drive.		<input type="checkbox"/>	
17 Final drive transmission and differential. Check for dragging.		<input checked="" type="checkbox"/>		17 Springs and shocks. Check hangers.		<input type="checkbox"/>	
18 Tracks and rollers. Grouser height under 1-1/4", loose rollers, broken hangers.		<input checked="" type="checkbox"/>		18 Tie Rod. Looseness and bent.		<input type="checkbox"/>	
19 Dozer and assembly. Turnover bolts missing, cracks.		<input checked="" type="checkbox"/>		19 Frame. Cracks and bent.		<input type="checkbox"/>	
20 Proper lubrication. Check for dry fittings.		<input checked="" type="checkbox"/>		20 Lubrication. Dry fittings.		<input type="checkbox"/>	
21 Tires. Check depth of tread cuts, wet under remains.		N.A.		21 Tires, wheels, lug bolts. Depth of tread and cut.		<input type="checkbox"/>	
22 Sprocket and idlers. Cracks in sprockets, sprocket teeth sharp.		<input checked="" type="checkbox"/>		22 Lights. Must be all working.		<input type="checkbox"/>	
23 Drawbar. Serviceable safe.		<input checked="" type="checkbox"/>		23 Glass. Report all cracks, shattered.		<input type="checkbox"/>	
24 Test run. Cover 5, 6, 7, 8, and 9.		<input checked="" type="checkbox"/>		24 Body condition. Report all dents and scratches.		<input type="checkbox"/>	
Section III-Power Saw and/or Pumps				Section IV-Accessories (Mark "x" if in/on vehicle)			
1 Clean				<input type="checkbox"/> 1. Accident Forms		<input type="checkbox"/> 2. Steps	
2 Visible parts broken				<input checked="" type="checkbox"/> 4. Log Book		<input type="checkbox"/> 3. Mud Flap	
3 Oil in gear case				<input checked="" type="checkbox"/> 5. Tow Chain		<input type="checkbox"/> 6. Pile-up	
4 Oil in chain case				<input checked="" type="checkbox"/> 7. First Aid Kit		<input checked="" type="checkbox"/> 9. Shovel	
5 Mtc. tools, funnel & gas can				<input checked="" type="checkbox"/> 10. Fire Extinguisher		<input type="checkbox"/> 11. Wheel Wrench	
6 Visible bolts and nuts tight				<input type="checkbox"/> 13. License Plates (if Govt. operator)		<input type="checkbox"/> 12. Flare Signage	
7 Gas and oil properly mixed.				<input checked="" type="checkbox"/> 18. Reflectors		<input checked="" type="checkbox"/> 17. Other Tractor Blanket & Oxygen	
8 Cutting bar straight							
9 Exhaust system & spark arrester							
10 Motor able to start & run smoothly							
11 Satisfactory power							
12 Chain condition							
17. VENDOR (Signature) Bill Lund				18. TITLE owner		18. DATE 5/10/83	
20. INSPECTOR (Signature) Ralph Bratcher				21. TITLE Forest Equipment Inspector		22. DATE 5/10/83	

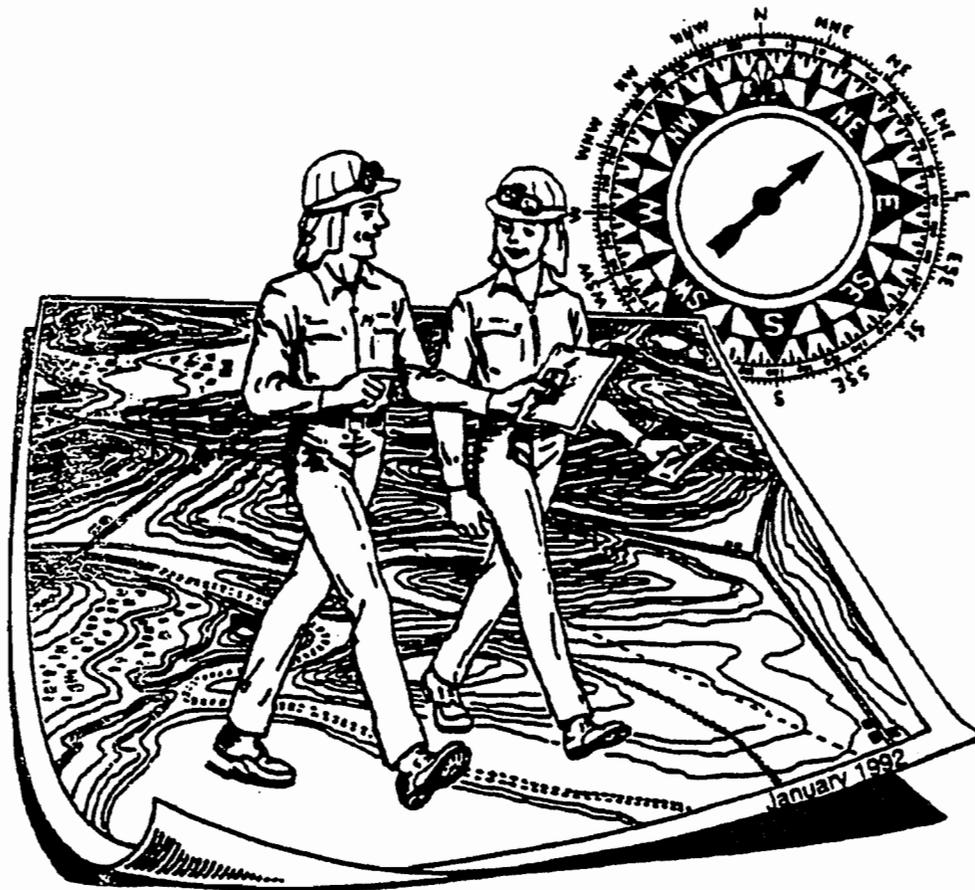
\* Safety items-Do not accept until repaired.

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# Map Interpreting Program Text



**C  
D  
F**



# Academy

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## INTRODUCTION

Maps have long been an integral element in the California Department of Forestry and Fire Protection functions. From urban incidents to wildland operations, maps have provided the fire service professional and forester with information necessary to perform their required task. The importance of maps takes on even greater significance when considering the growing population and the rapid changes to our environment. In order to plan for and respond to various incidents, a familiar understanding of maps becomes essential for making intelligent decisions.

This self-study course was prepared specifically to introduce you to the basics of map interpretation, compass use, and familiarize you with the United States Geological Survey Topographic Maps, the California Department of Forestry and Fire Protection (CDF) Administrative Maps, and the "Thomas Brothers Maps" Road Atlas. Plan ahead and take the time to diligently pursue this program at your own pace. It takes individuals between three and eight hours to complete the text, depending on their previous experience and knowledge.

The program gives you an opportunity to check your comprehension as you progress through the text. Questions and answers are provided at the end of each unit. Completely understand each unit before you proceed to the next.

Upon completion of this course, you will have the knowledge to apply map interpreting principles and compass use effectively. Learning experiences from the program text are limited. It is recommended you pursue independent, actual field practice to enhance the fundamentals you have learned.

### MATERIALS FOR THE COURSE:

1. Map Interpreting Program Text
  - b. Six inch measuring ruler
  - c. Practising protractor
  - d. Compass
  
3. Thomas Bros. Maps Road Atlas (optional)

## UNIT I PURPOSE OF MAPS

I. A map is designed for the purpose of permitting you to visualize a portion of the earth's surface with pertinent features properly positioned to facilitate planning and organizing operations. Different types of maps are used for different purposes. One map with all the details of several types of maps would be so cluttered that it would make reading and interpretation difficult.

### 1.1 Map Definition

A map is a line drawing, to some scale, of an area of the earth's surface. It shows objects and features by conventional signs.

### 1.2 Map accuracy

Dependability on map accuracy is vital for many map users. A point or symbol marked on a map must be in proper relation to known landmarks or positions located on the ground in order for the map to be considered reliable. As a result, the "United States National Map Accuracy Standards" was established as the standards of accuracy for published maps. This was issued in 1947 to all Federal agencies producing maps and is currently in affect. The standards require a stringent percent of accuracy within centimeters of both location and elevation points tested.

Map cartographers and editors check all maps thoroughly and attempt to keep factual errors to the required standard. However, map accuracy is plagued. There are historically two main reasons for which a map can be considered not absolutely perfect today:

#### 1. Representation inaccuracy

Maps, although drawn to a scale, are not absolutely accurate because they represent a curved and uneven surface on a flat piece of paper. If you drew a picture on the surface of a sphere, such as an orange, and then peeled the orange and flattened the peel, the picture now would be distorted. Compensating for the roundness of the world on a flat surface is a difficulty encountered by early mapmakers.

Factual matters are also subject to errors, such as, names, symbols of features, and the classifications of roads or woodlands. Mapmakers have to rely on local sources for their information. Sometimes the information is wrong. Sometimes names change or new names and features are added in an area.

#### 2. Measurement error

Most of the original surveys performed during the first U.S. Public Land Survey were executed under very difficult conditions. The majority of these surveys were well done, but there was a margin of inaccuracy because of basic human error and inadequate survey procedures implemented by the initial surveyors.

**UNIT I**  
**NOTES**

**UNIT I**  
**QUESTIONS**

1. What is the purpose for which a map is designed?

---

---

---

---

2. If a point or symbol marked on a map is not in proper relation to known landmarks or positions located on the ground, is it considered reliable?

---

3. List two reasons why maps may be inaccurate in their representation?

A. \_\_\_\_\_

---

B. \_\_\_\_\_

---

---

4. Why was there some measurement error by the initial surveyors?

---

---

**UNIT I**  
**ANSWERS**

1. A map is designed for the purpose of permitting you to visualize a portion of the earth's surface with pertinent features properly positioned to facilitate planning and organizing operations.
2. No
3. A. Maps are not absolutely accurate because they represent a curved and uneven surface on a flat piece of paper.  
B. Inaccurate local information sources, name changes, or new names and features are added in an area.
4. Because of basic human error and inadequate survey procedures implemented by the initial surveyors.

**UNIT II**  
**CLASSIFICATION OF MAPS**

II. The maps discussed in this text are maps used to study the earth and delineate the natural and the human-made features of an area. These maps fall under two categories:

2.1 Categories

1. Planimetric Maps;

Shows the positions of features without showing the hills and valleys of the land. They can include rivers, lakes, roads, boundaries, or other human-made symbolic features. Types;

a. Common road maps

I.e., road atlas, street maps, and district response maps.

b. Specific area maps

I.e., preplan maps, floor plan maps, and ICS maps.

c. C.D.F. Administrative maps

I.e., state, regions, and ranger units.

2. Topographic Maps;

Shows the positions of features and also represent their vertical position in a measurable form. Types;

a. Contour maps - are the most common method of representing the shape and elevation of the land. A contour is a line of equal elevation on the ground that delineates the same elevation above or below a specific reference elevation, usually sea level.

b. Shaded-relief maps - are pictorial. They are shaded to simulate sunlight on the terrain. This shadow effect accentuates the shape of the physical features.

c. Slope map - show terrain by using a progression of colors or shades to indicate steepness of zones or similar slope zones. I.e., aeronautical charts.

2.2 The United States Geological Survey

The United States Geological Survey of the Department of the Interior, is an organization established by Congress which is engaged in topographic and geologic mapping and in collection of information about the public lands.

The Contour maps we use have been produced by the U.S.G.S.

**UNIT II**  
**NOTES**

**UNIT II**  
**QUESTIONS**

1. List the two Categories of maps used to study the earth:

---

---

2. What are the three Types of Planimetric maps ?

---

---

---

3. What are the three Types of Topographic maps ?

---

---

---

4. What does U.S.G.S. stand for ?

---

**UNIT II**  
**ANSWERS**

1. Planimetric Maps  
Topographic Maps
3. Common road maps  
Specific area maps  
C.D.F. Administrative maps
4. Contour maps  
Shaded-relief maps  
Slope maps
5. United States Geological Survey

**UNIT III**  
**MAP LEGEND**

III. A legend is a key accompanying a map which shows information needed to interpret that map. Each type of map has information represented in a different way relating to its' subject matter. The legend can explain map scales, symbols and color.

3.1 Map Scale

The map scale indicates the ratio or proportion of the horizontal distance on the map to the corresponding horizontal distance on the ground.

A representative fraction (R.F.) scale expresses the ratio of the map distance to the ground distance in 'SAME' units of measurements. It is usually written as a fraction or ratio.

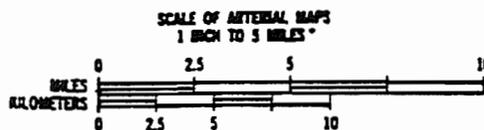
A *representative fraction* is always written with the map distance as 1 (one). A representative fraction of 1/24,000 (1:24000) means that one UNIT of measurement (inches, millimeters, feet, etc.) on the map is equal to 24000, of the SAME UNITS on the ground. You CANNOT, however, mix units in a representative fraction. If it is one INCH on the map, it is 24,000 INCHES on the ground.

EXAMPLE: R.F. is  $\frac{\text{map distance}}{\text{ground distance}} = \frac{1''}{24,000''}$  OR 1:24000

The larger the representative fraction (the fraction 1 divided by 24,000 is obviously larger than 1 divided by 250,000), the larger and clearer the details shown on it. But on the other hand, the larger the fraction, the smaller the territory covered by the same size map sheet.

A *graphic scale* (G.S.) is entirely different. It usually COMPARES map distances to the ground distance in 'DIFFERENT' units of measurements. Usually a graphic scale is a line marked off on a map indicating so many inches or millimeters equal so many feet, kilometers, chains, or miles on the ground. A comparison scale of 1" to 5 miles means that 1 (one) inch on the map is proportioned to 5 miles on the ground. We are comparing inches and miles which are DIFFERENT UNITS of measurement.

EXAMPLE: G.S. is map distance to ground distance  
1" to 5 miles



### 3.2 Cardinal Points

It is common practice for maps to be oriented with North at the top. Most maps have a symbol of an arrow pointing to North. It is then understood; East is right, West is left and South is bottom, of the map.



### 3.3 Map Series and Quadrangles

The U.S. Geological Survey conforms each map produced to a selected Series which has established specification for size and scale. Each series covers a Quadrangle areas bounded by parallels of latitude and meridians of longitude. (The longitude and latitude division system is discussed in in Unit 5.5). There are five different topographic map series. The three series most commonly used are the ones with the scales of 1 unit to 24,000 units, 1 unit to 62,000 units, and 1 unit to 250,000 units.

1:24,000 Maps - The scale of 1 inch to 24,000 inches also translates into 2,000 feet - a measurement easily used in surveying.

1:62,500 Maps - The scale of 1 inch to 62,500 inches may seem cumbersome, until it is realized that 62,500 inches in the field is almost exactly 1 mile. 63,360 inches is exactly a mile, but 1:62,500 is close enough for most purposes. Also, this series map is a multiple of the 1:250,000 scale series map.

1:250,000 Maps - The scale of 1 inch to 25,000 inches is almost exactly the scale of 1 inch to 4 miles. The correct figure would be 253,440 - a number which would require a lot of unnecessary work in surveying.

Series	Scale	One Inch Represents	Standard Quadrangle Size	Quadrangle Area sq. miles
7.5 minute	1:24,000	2,000 ft.	7.5 x 7.5	49 to 71
15 minute	1:62,000	about 1 mi.	15 x 15	197 to 282
U.S. 1:250,000	1:250,000	about 4 mi.	1° x 2° lat.&longi.	4,580 to 8,669

### 3.3

#### Minutes and Degrees:

A minute is a unit of angular measurement equal to one-sixtieth of a degree. The entire globe contains 360 degrees, each degree contains 60 minutes, and each minute contains 60 seconds.

A line of latitude across the United States from Richmond, Virginia, to San Francisco, California, spans 46 degrees of longitude—a distance covered by 368 quadrangle maps, each 7.5 minutes wide. At that latitude, a standard 7.5-minute quadrangle map represents an area approximately 7 miles from east to west and 8 miles north to south.

### 3.4 Represented Colors

In order to make the identification of features on a map easier to interpret and to provide more natural appearance and contrast, map symbols are usually printed in colors with each color representing a class of features. The colors are as follows:

1. BLACK - Most cultural or human-made features, boundaries.
2. BLUE - Water features such as lakes, rivers, or swamps.
3. GREEN - Vegetation such as woods, orchards, or vineyards.
4. BROWN - All relief features, contours, cuts and fills (Topographic maps).
5. RED - Main roads, built-up areas, boundaries, special features.
6. Other colors may be used for special purposes. Their key will be found in the margin/legend of the map.

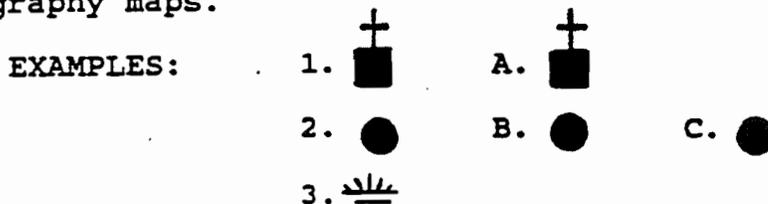
### 3.5 Symbols

Symbols are used on maps to indicate objects on the ground. An ideal map would have all ground features represented in true proportion to their ground size, position, and shape. In all practicality this cannot be done. If a map contained every thing that was in the area it represented, it would be cluttered and difficult to read. Some features would be printed so small (if in true proportion) that you could not see them without a microscope. Therefore, maps are specialized and have only those features necessary for a particular use.

### 3.5

During the map-making process, objects are reduced to the size which appears on the map. Ideally everything is uniformly reduced in size to the smallest figure still recognizable unless true scale causes it to be unclear. This, of course, requires some small objects to become exaggerated for the purpose of clarity. This exaggeration is done, when possible, in such a manner that the center of the symbol remains in true position. An exception to this would be detail adjacent to a major road. If the road has been exaggerated then the detail may have to be moved from its true position.

Map symbols are not the same for every map. They change from map type to map type. However you can find some symbols the same on the various maps. There are enough similarities to make reading maps easier and enough differences to make them more difficult. Easier, because symbols can be found on the different types of maps; more difficult because similar symbols can represent entirely different things. Also the Administrative maps are printed at three different periods, (1962, 1975, & 1985) and their symbols differ somewhat. The Administrative maps made in 1985 and later all have the same symbols and most are very similar to the Topography maps.



Symbol '1' is a parochial high school on a Thomas Brothers road map, while 'A' is a church on a Topography map.

Symbol '2' is a tanks on a Topography map, while 'B' is a conservation camp on an CDF Administrative map and 'C' is a city on a Thomas Brothers road map.

Symbols '3' is a swamp/marsh and can be found on the Thomas Bros. map, Topography map and CDF Administrative map.

These are but a few of the variations you can find from map to map. To avoid mistakes while using maps it is necessary to KNOW THE SYMBOLS COMMONLY USED and to look up uncommon symbols when necessary. Not all maps come with a legend and an explanation of the symbols. Some maps are copied and given to you in the field, and others have been 'trimmed for looks' and placed on an office wall.

**UNIT III**  
**QUESTIONS**

1. What does a 'legend' show ?

---

---

2. Referring to a map scale, describe a 'representative fraction' and give an example:

---

---

3. What is a 'graphic' scale on a map ? Give an example:

---

---

4. What three series of topographic maps are most commonly used?

A. \_\_\_\_\_ B. \_\_\_\_\_ C. \_\_\_\_\_

5. What are the five most common colors found on a map and what features do those colors represent ?

A. \_\_\_\_\_  
B. \_\_\_\_\_  
C. \_\_\_\_\_  
D. \_\_\_\_\_  
E. \_\_\_\_\_

6. Why are symbols used on a map ?

---

---

7. Why are some symbols exaggerated in size, and what area of a symbol is the 'true' position (center or outer edge) ?

---

---

8. If you had three different types of maps, could you use the same symbol key for all of them ? Why or why not ?

---

---

9. What cardinal point is usually indicated at the top of Map? Bottom of a map? Right of map? Left of map?

---

---

**UNIT III**  
**ANSWERS**

1. A legend shows information needed to interpret that map.
2. A represented fraction is a scale that expresses the ratio of the map distance to the ground distance in SAME units of measurements.  
  
If map distance is 1" representing 24,000" ground distance the ratio would be 1:24000.
3. A graphic scale is a line marked off on the map that expresses the ratio of map distance to the ground distance in DIFFERENT units of measurements.  
  
A graphic scale of 1" to 5 miles means that one inch on the map is proportioned to five miles on the ground.
4. A. 7.5 minute      B. 15 minute      C. US 1:250,000
5. Black    Most cultural or human-made features  
Blue      Water features such as lakes and swamps  
Green     Vegetation such as woods, orchards or parks  
Brown    All relief features, contours and fills  
Red      Main roads, built-up areas, boundaries
6. Symbols are used on a map to indicate objects on the ground.
7. Symbols are exaggerated in size for the purpose of clarity other wise the original small size would not be recognizable.  
  
A symbols' true position on the map is measured from the center of it.
8. No, because symbols change from map type to map type.
9. Top is North  
Bottom is South  
Right is East  
Left is West

**UNIT III**  
**EXERCISE**

Answer the following questions utilizing the Legends and the Maps located in the Appendix at the back of the text.

Topographic Maps Appendix 1 - 3

APPENDIX 1:

1. What does the round black dot in CIRCLE A indicate?  
\_\_\_\_\_
2. What does the stripped line (red and white) in CIRCLE B represent?  
\_\_\_\_\_
3. In CIRCLE C what does the two parallel black lines denote?  
\_\_\_\_\_
4. In CIRCLE #1 what does the (red +) plus symbol stand for?  
\_\_\_\_\_
5. What do the black numbers "439" mean in CIRCLE #2 ?  
\_\_\_\_\_

APPENDIX 2:

6. What do the (green) dots in CIRCLE #3 represent ?  
\_\_\_\_\_
7. What do the (blue) lines and dots (on green color) between the brown lines in CIRCLE #4 describe ?  
\_\_\_\_\_
8. How many-habitation places are there in CIRCLE #5?  
\_\_\_\_\_
9. What does " x 214 " indicate in CIRCLE #6 ?  
\_\_\_\_\_
10. In CIRCLE E what does the numbers 426 signify ?  
\_\_\_\_\_

**UNIT III**  
**EXERCISE ANSWERS**  
**Questions 1 - 9**

1. A water tank
2. Secondary highway, hard surface
3. Light duty road, hard or improved surface
4. Found section corner
5. Elevation
6. Orchard
7. A intermediate stream, running through woods, in a shallow ravine
8. Three
9. Other recoverable mark, spirit level elevation
10. An elevation of 474' on the hilltop

APPENDIX 3:

11. What do the symbols by arrows G, H, I, J, mean?  
\_\_\_\_\_
12. In CIRCLE K what is the odd shaped figure with diagonal black lines in it ?  
\_\_\_\_\_
13. In CIRCLE L what is the (red) circle with 104 in it suppose to mean ?  
\_\_\_\_\_
14. What does the small nugget shaped (blue) object in CIRCLE 8 denote ?  
\_\_\_\_\_
15. What does the " X " in CIRCLE 10 symbolize ?  
\_\_\_\_\_

CDF Administrative Maps Appendix 5 - 7

APPENDIX 5:

16. In CIRCLE #1 what does the (red) circle with the number 146 inside denote ?  
\_\_\_\_\_
17. In CIRCLE #2 what does the (red) circle represent ?  
\_\_\_\_\_
18. The (red) circle with a triangle inside in CIRCLE #3 stands for what ?  
\_\_\_\_\_
19. What is the (blue) circle with a tail on it represent in CIRCLE #4 ?  
\_\_\_\_\_
20. In CIRCLE #6 what does the thick (red) line and numbers "101" denote ?  
\_\_\_\_\_

**UNIT III**  
**EXERCISE ANSWERS**  
**Questions 11 - 20**

11. G - Church    H - Tank    I - Church    J - School
12. Large building (barn, warehouse, etc.)
13. Not in key! (state highway number)
14. Intermittent lake or pond
15. Prospect
16. State route 146
17. Gablin CDF Conservation Camp
18. Chalone Peak CDF Lookout
19. A spring
20. Primary highway hard surface, Interstate highway 101

APPENDIX 6:

21. What does the (red) house portray in CIRCLE #7 ?  
\_\_\_\_\_
22. In CIRCLE #8 what are the " Y " shaped symbols ?  
\_\_\_\_\_
23. In CIRCLE #9 what is the black house-shaped object?  
\_\_\_\_\_
24. What does the (blue) lines and broken black lines in CIRCLE #10 delineate?  
\_\_\_\_\_
25. In CIRCLE #8 describe the black and white square:  
\_\_\_\_\_

APPENDIX 7:

26. In CIRCLE #11 what does the house-shaped red object identify ?  
\_\_\_\_\_
27. The black circle symbol inside CIRCLE #12 is representing what ?  
\_\_\_\_\_
28. The (red) circle symbol inside CIRCLE #13 is representing what ?  
\_\_\_\_\_
29. What does the triangle symbol in CIRCLE #14 betoken?  
\_\_\_\_\_
30. At the bottom of CIRCLE #13 identify the broken black line with the dots :  
\_\_\_\_\_

UNIT III  
EXERCISE ANSWERS  
Questions 21-30

21. Witch Creek CDF Forest Fire Station
22. Adits or caves
23. Pine Hills Federal Fire Station
24. Intermittent streams and 4 wheel drive trails
25. Mine shaft
26. Cottonwood Fire Station #52
27. High Point Federal Lookout
28. Boucher Hill CDF Lookout
29. Windmill
30. Park, Reservation, or Monument

Thomas Brothers Road Atlas Map Appendix 12

APPENDIX 8:

31. What does the round symbol in CIRCLE #1 describing?

---

32. Identify the square object in CIRCLE #2 :

---

33. What do the three symbols in CIRCLE #3 signify ?

---

34. List the three major department stores in the shopping center inside CIRCLE #4 ?

---

---

---

35. Inside CIRCLE #5 located at the bottom of the map describe the two square symbols:

---

**UNIT III**  
**EXERCISE ANSWERS**  
**Questions 31 - 35**

- 31. Community Shopping Center
  
- 32. Public elementary school
  
- 33. Post office  
Fire Station (center of circle)  
Parochial elementary school (lower right)
  
- 34. Bullocks Department Store  
May Company Department Store  
Montgomery Department Store
  
- 35. Parochial elementary school (right)  
Parochial high school (left)

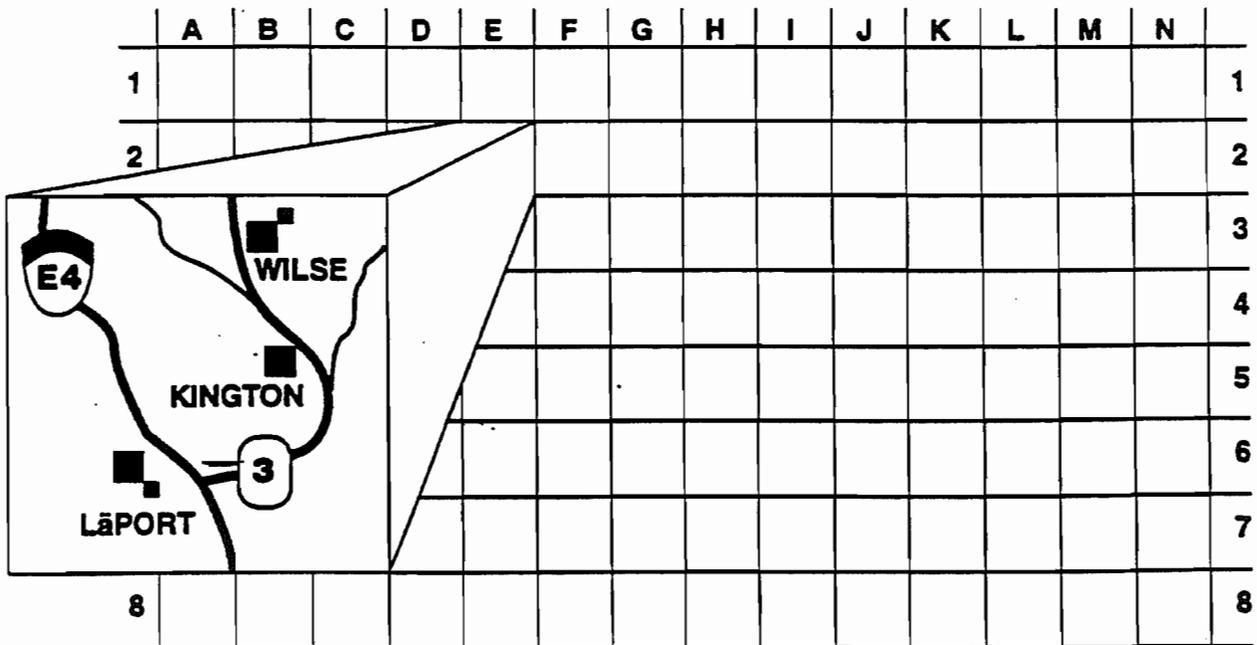
**UNIT IV**  
**GRID LOCATING SYSTEM**

III. A grid is a network of evenly spaced horizontal and vertical bars or lines intended for defining areas. When placed over a map a system is created which helps you find a specific location. Some planimetric maps use this system to locate streets or other features.

Grids are usually identified alpha-numerically. However some maps may use only letters or only numbers. These identifiers are placed horizontally and vertically along the edge of the grid, when matched together they identify all the blocks created in the grid.

An index listing names, subjects etc., together with page numbers and/or alpha-numerical identifiers is usually available with the map grid. It is either at the bottom of the map or at the back of the map book. Given the name of what you want to locate, the index will direct you to the location on the map.

**TYPICAL GRID**



#### 4.1 "Thomas Brothers Maps" Road Atlas

A street atlas is one of the most commonly used general purpose maps. "The Thomas Brothers Maps" Road Atlas is a popular street atlas, one which C.D.F. uses. The book contains much information such as; key map & general charts, cities & communities index, highway and detail street maps, driving tours and index listings of streets, highway, interstates & points of interest. In order to use your road atlas to its potential you must be completely familiar with its contents and how to use it. Read through your atlas and learn all of its' components.

The "Key Map" located at the front of the road atlas is the primary guide. It is an artery map of the entire area, designating the most direct route from one community to another. The Key Map also combines all the individual map pages together, with their designated page number. this gives you an overall picture of the area. The individual map pages are then defined with the grid locating system, providing an easy-to-use order.

Let us say, you have to get to the intersection of Utah Street and Pennsylvania located in the town of Fairfield:

1. To start you might turn to the "Cities and Communities" index and find Fairfield. At the top of the page you will see community name and county (denoting county where Fairfield is located), zip code (shows zip code of area you are searching for), page number, and grid locator (alpha-numerical for block in grid). Reading down the directory, Fairfield is found on page M, grid A-1.

A	B	C	D	E
A1 135				

2. Proceeding to block A-1 on page M, you find Fairfield in a white block designated with a Purple #135. This signifies on page #135 you will find a Detailed Map of Fairfield's' streets.

3. Turning to page #135 you see to many streets to randomly search with your eyes. The next step is to look up either Pennsylvania Avenue or Utah Street In the "Street" index. If you looked up Pennsylvania Ave., There are seven listings. After one of the listings there is a "FRFD" under the "Co." column (which is abbreviated for Fairfield. Abbreviations of Communities, Counties are found in the "Index Of Cities"). Under page and grid column you see, #135 B3. This information is familiar.

4. Turning back to page #135 and going to block B3 you should find the intersection Pennsylvania Ave. and Utah St..

Was that the best way to find the intersection? There are various ways to look up a location depending on your experience with the road atlas and the area.

**UNIT IV**  
**QUESTIONS**

1. What is a Grid Locating System?

---

---

---

2. How are blocks within a grid identified?

---

---

---

3. What is the purpose of a map index?

---

---

4. What is the name of the road atlas C.D.F. uses?

---

5. How can you use the road atlas to its potential?

---

---

6. Explain the "Key Map" located at the front of a road atlas?

---

---

---

---

**UNIT IV**  
**ANSWERS**

1. A grid placed over a map creating a system which helps you find a specific location.
2. With the matching of horizontal and vertical identifiers placed along the edge of a grid.
3. To direct you to a location on a map.
4. "Thomas Brothers Maps" Road Atlas
5. Be completely familiar with its contents and how to use it. Read through the atlas and learn its' components
6. It is an artery map of the entire map pages. It designates the most direct route from one community to another and it shows all the individual map pages together.

**UNIT IV**  
**EXERCISE**

Answer the following questions utilizing the Indexes provided in this unit and the Map located in the appendix of the text.

MAP #8:

1. What does the abbreviation "CTO" stand for ?  
\_\_\_\_\_
2. What county does the abbreviation "SDCO" stand for?  
\_\_\_\_\_
3. What is the page number and alpha-numerical for 9550 Aero Drive in San Diego City?  
\_\_\_\_\_
4. Locate Alder Dr. page 214, E4. Is this street listed in the street index? Are you sure?  
\_\_\_\_\_
5. How many Arlington Avenues are there ?  
\_\_\_\_\_
6. What is the page number and alpha-numerical for the intersection of Van Dyke Avenue and Aldine Drive ?  
\_\_\_\_\_
7. If you wanted to continue East on Aldine Drive until the street turned south what map page would you find this ?  
\_\_\_\_\_
8. What is the page number and alpha-numerical for 2199 Adams Avenue ?  
\_\_\_\_\_
9. Looking on map page 214 Interstate highway "805" stops at the south of the page. What page does the interstate continue ?  
\_\_\_\_\_
10. On the North East corner of the street index what does the word "AR GRNDE HUASDA" indicate?  
\_\_\_\_\_

**UNIT IV**  
**EXERCISE ANSWERS**

1. Cut off
2. San Diego
3. page 214 C1
4. No, Yes
5. 7
6. page 214 E4
7. V, the round circle with the "V" inside indicates - the map continues on page V.
8. page 214 B4
9. page 216
10. It is the last name listed on the page

# THOMAS BROTHERS MAP ABBREVIATIONS AND INDEXES

## LIST OF ABBREVIATIONS

AL	ALLEY	CR	CRESCENT	KPN	KEY PENINSULA NORTH	RDG	RIDGE
AR	ARROYO	CRES	CRESCENT	KPS	KEY PENINSULA SOUTH	RES	RESERVOIR
ARR	ARROYO	CSWY	CAUSEWAY	L	LA	RIV	RIVER
AV	AVENUE	CT	COURT	LN	LANE	RV	RIVER
AVD	AVENIDA	CTE	CORET	LP	LOOP	RO	RANCHO
AVO D LS	AVENIDA DE LOS	CTO	CUT OFF	LS	LAS, LOS	S	SOUTH
BCH	BEACH	CTR	CENTER	MDW	MEADOW	SN	SAN
BL	BOULEVARD	CV	COVE	MHP	MOBILE HOME PARK	SPG	SPRING
BLVD	BOULEVARD	CY	CANYON	MNR	MANOR	SPGS	SPRINGS
CEM	CEMETERY	CYN	CANYON	MT	MOUNT	SQ	SQUARE
CIR	CIRCLE	D	DE	MTN	MOUNTAIN	SRA	SIERRA
CK	CREEK	DL	DEL	MTWY	MOTORWAY	ST	SAINT
CL	CALLE	DR	DRIVE	MTY	MOTORWAY	ST	STREET
CL DL	CALLE DEL	OS	DOS	N	NORTH	STA	SANTA
CL D LS	CALLE DE LAS	E	EAST	PAS	PASEO	STA	STATION
	CALLE DE LOS	EST	ESTATE	PAS DE	PASEO DE	TER	TERRACE
CL EL	CALLE EL	EXPWY	EXPRESSWAY	PAS DL	PASEO DEL	THTR	THEATER
CLJ	CALLEJON	EXT	EXTENSION	PAS D LS	PASEO DE LAS	TK TR	TRUCK TRAIL
CL LA	CALLE LA	FRWY	FREEWAY		PASEO DE LOS	TR	TRAIL
CL LS	CALLE LAS	FRW	FREEWAY	PGD	PLAYGROUND	VIA D	VIA DE
	CALLE LOS	FY	FREEWAY	PK	PARK	VIA D LS	VIA DE LAS
CM	CAMINO	GN	GLEN	PK	PEAK		VIA DE LOS
CM D	CAMINO DE	GRDS	GROUND	PKWY	PARKWAY	VIA DEL	VIA DEL
CM D LA	CAMINO DE LA	GRN	GREEN	PL	PLACE	VIS	VISTA
CM D LS	CAMINO DE LAS	GRV	GROVE	PT	POINT	VLG	VILLAGE
	CAMINO DE LOS	HTS	HEIGHTS	PY	PARKWAY	VLY	VALLEY
CMTO	CAMINITO	HWY	HIGHWAY	PZ	PLAZA	VW	VIEW
CN	CANAL	HY	HIGHWAY	RCH	RANCH	W	WEST
COM	COMMON	JCT	JUNCTION	RCHO	RANCHO	WK	WALK
				RD	ROAD	WY	WAY

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CARMEL	CAR	168
CHICO	C	124
CLAREMONT	CLA	203
CORONADO	COR	215
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CUPERTINO	CPTO	149
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SAN BERNARDINO	SBDO	207
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KER	KERN	78
KIN	KINGS	67
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MPA	MARAPOSA	48
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SOCO	SAN DIEGO	106
SFCO	SAN FRANCISCO	45
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SLO	SAN LUIS OBISPO	75
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DSL	DOUGLAS	36
ESM	ESMERALDA	52
LYON	LYON	43
MIN	MINERAL	44
NYE	NYE	62
STOR	STOREY	28
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------	-----------------	-----

### OREGON

CUR	CURRY	1
JKSN	JACKSON	3
JOS	JOSEPHINE	2
KLAM	KLAMATH	5
LAKE	LAKE	7



**UNIT V**  
**RECTANGULAR LAND DIVISION SYSTEM**

V. The United States System of Surveying the Public Lands, frequently referred to as the rectangular system, was planned in 1784 by the Continental Congress and has survived until today with only minor modifications.

The law requires: Public lands shall be divided by North and South lines and by other lines running East and West so as to form "Townships" 6 miles square (not 6 square miles, but a square of 6 miles on each side, with an area of 36 square miles. Also the "Townships" will be divided into 36 sections, and each will contain 640 acres (AS NEARLY AS POSSIBLE).

Similar systems are in use in much of Canada, parts of Australia, and a few other areas of the world.

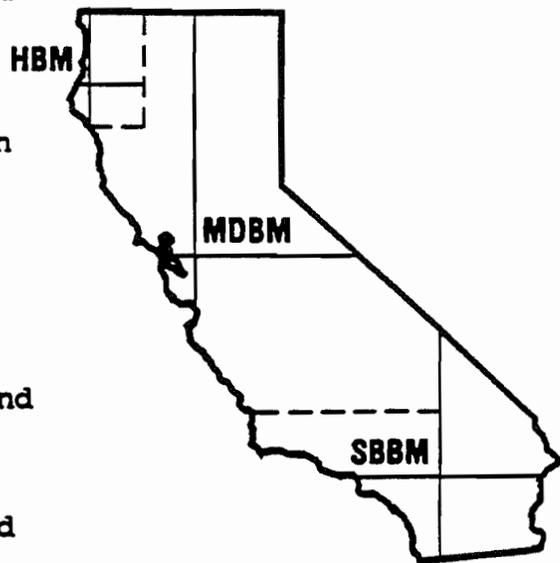
**5.1 Initial Or Reference Point**

Rectangular land division is based on an Initial Point (also called Reference Point). There are 31 of these Initial Points in the conterminous U.S.. Surveying in California is based on one of three points:

1. Humbolt Base and Meridian (HBM) located on Mount Pierce
2. Mount Diablo Base and Meridian (MDBM) located on Mount Diablo
3. San Bernardino Base and Meridian (SBBM) located on Mount San Bernardino

All standard lines representing land divisions are based on two Reference Lines:

1. The imaginary line on the ground running East-West through the initial point is called the "Base Line".
2. The imaginary line on the ground running "North-South" through the initial point is called the "Principle Meridian".



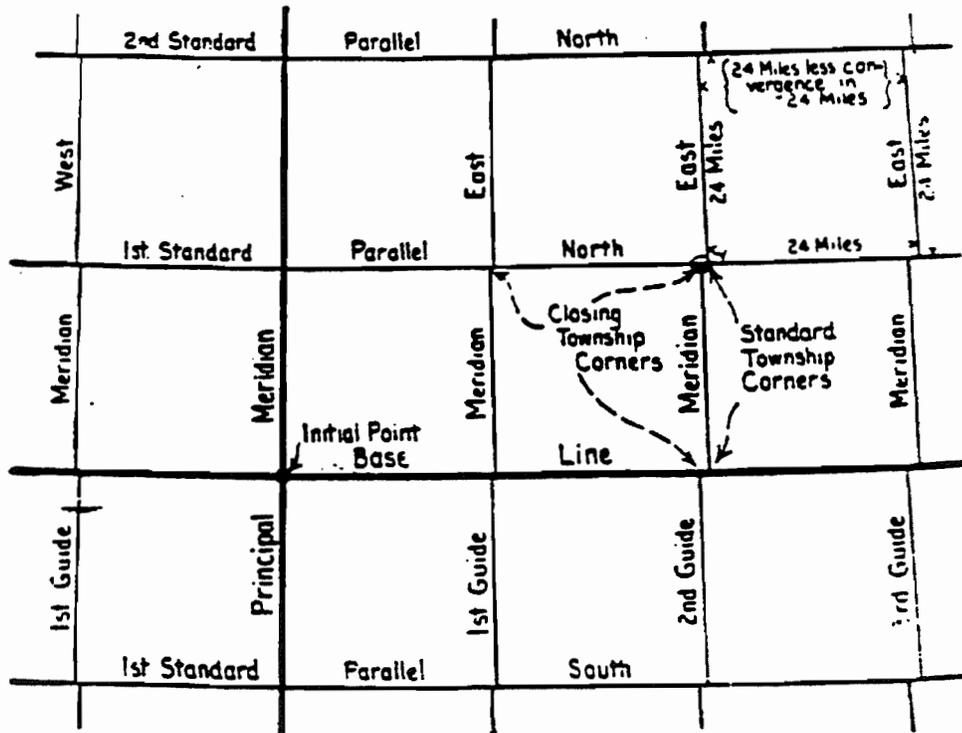
**5.2 Correction Lines**

Because of the curvature of the earth, additional lines called "Guide Meridians" and Standard "Parallels" are subdivided from each Initial Point:

1. Standard Parallels are established in the same manner as the base line and are located at intervals of 24 miles north and south of the base line. The Parallels north of the Base Line are designated First Standard Parallel North, Second Standard Parallel North, etc., and those South as First Standard Parallel South, etc.

2. Guide Meridians are established in a similar manner as the Principle Meridian. The Meridians east of the Principle Meridian are designated First Guide Meridian East, Second Guide Meridian East, etc., and those West as First Guide Meridian West, etc. Guide Meridians converge because of the curvature of the earth, so the distance between these lines will be 24 miles only at the starting point.

**STANDARD PARALLELS AND GUIDE MERIDIANS**



5.3 Townships And Ranges

Township Lines are the series of lines, 6 miles apart, which run East and West parallel to the Base Line.

1. The area Between the first and second Township lines is Township 2 North. The area between the Base Line and the First Township Line on the South side is called Township 1 South.

Range Lines are the series of lines, 6 miles apart, which run North and South parallel to the Principle Meridian.

1. The areas between these lines are numbered much the same as the Township areas. The area Between the Principle Meridian and the First line on the East side is Range 1 East. The Area Between the First and Second lines on the West side is Range 2 West.

Proper descriptions of locations have the Township written first followed by the Range and Reference Point (T1N, R3E, SBBM).

Township and Range descriptions are located in the margins and within the map.

## TOWNSHIP - RANGE GRID

	R3W	R2W	R1W	R1E	R2E	R3E	R4E	R5E	
T5N				P r i n c i p a l  M e r i d i a n				G u i d e  M e r i d i a n	
	Standard Parallel								
T4N									
T3N							T3N R3E		
T2N									
T1N									
	Base Line								
T2S									
T3S									
	T2S R3W								
T4S									

5.4 Sections

Townships are subdivided into 36 parts—each one mile square (as near as may be), called Sections. The typical numbering system of the Township is started in the upper right-hand corner, moving across to the left, down and to the right, etc. If you remember that the upper right hand corner is always Number 1 and that the numbers move back and fourth to the bottom you will be able to locate section numbers as necessary.

Each number identifies a section (square area) which is Usually one square mile and contains 640 acres. (Sections do not always contain 640 acres, nor are they always one square mile.)

A properly written section location description would read:

**Section (Sec.) 22, T.5N., R.7W., M.D.B.&M.**

## SECTIONS

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

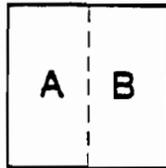
T5N

R7W

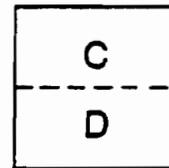
5.4 Sections

Division of sections - A typical section of 640 acres may be broken down into smaller areas, each successive smaller piece having a unique location description of its own.

Example 1:



Example 2:



Sec.22, T.5N., R.7W., M.D.B.&M.

The areas broken down to 1/2 sections of 320 acres would be described as:

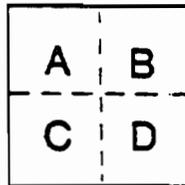
Example 1;

- Area "A" - W1/2, Sec.22, T.5N., R.7W., M.D.B.&M.
- Area "B" - E1/2, Sec.22, T.5N., R.7W., M.D.B.&M.

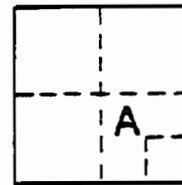
Example 2;

- Area "C" - N1/2, Sec.22, T.5N., R.7W., M.D.B.&M.
- Area "D" - S1/2, Sec.22, T.5N., R.7W., M.D.B.&M.

Example 3:



Example 4:



Sec.22, T.5N., R.7W., M.D.B.&M.

The areas broken down into 1/4 sections of 160 acres would be described as:

Example 3;

- Area "A" - NW1/4, Sec.22, T.5N., R.7W., M.D.B.&M.
- Area "B" - NE1/4, Sec.22, T.5N., R.7W., M.D.B.&M.
- Area "C" - SW1/4, Sec.22, T.5N., R.7W., M.D.B.&M.
- Area "D" - SE1/4, Sec.22, T.5N., R.7W., M.D.B.&M.

If you have two separate portions of a section to describe, use "and" as a connector in the discription:

Example 4;

- Area "A" - N1/2 and SW1/4 SE1/4, Sec.22, T.5N., R.7W., M.D.B&M.



### 5.5 Other Land Division Systems

Although the Rectangular System of Survey is the official method of land description in the U.S., other systems are also legal land divisions:

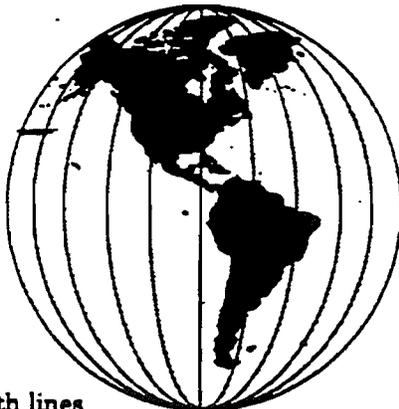
1. Spanish Land Grants - In the Western United States, a Township frequently will be occupied partially by a Spanish Grant or Indian land, United States Government Surveys do not cover such Grants, going only to and including their boundaries. For field references you can just continue known township and range lines into the grant and use the rectangular legal description.

2. Metes and bounds - In the Eastern United States this is a common method of land division. Metes and bounds is a system of establishing boundaries of tracts of land by reference to natural or artificial monuments along it, as distinguished from those established by beginning at a fixed starting point.

3. Longitude and latitude - The earth's globe has division system which identifies geographical positions precisely by reference to imaginary lines running pole to pole, and around the globe starting at the equator.

a. Longitude lines run true north to true south - North Pole to South Pole. The lines are based from the Prime Meridian which is 0 degree longitude. It runs through Greenwich England, extending 180 degrees westward and eastward. Principle Meridian lines run directly with a longitude line.

b. Latitude lines circle the world parallel with the equator, running in an east and westerly direction. These lines are identified by their position either north or south of the equator. The equator is 0 degree latitude. The degrees of latitude increase as one proceeds from the equator toward either north or south poles where the latitude is 90 degrees.



Longitude—  
North & south lines

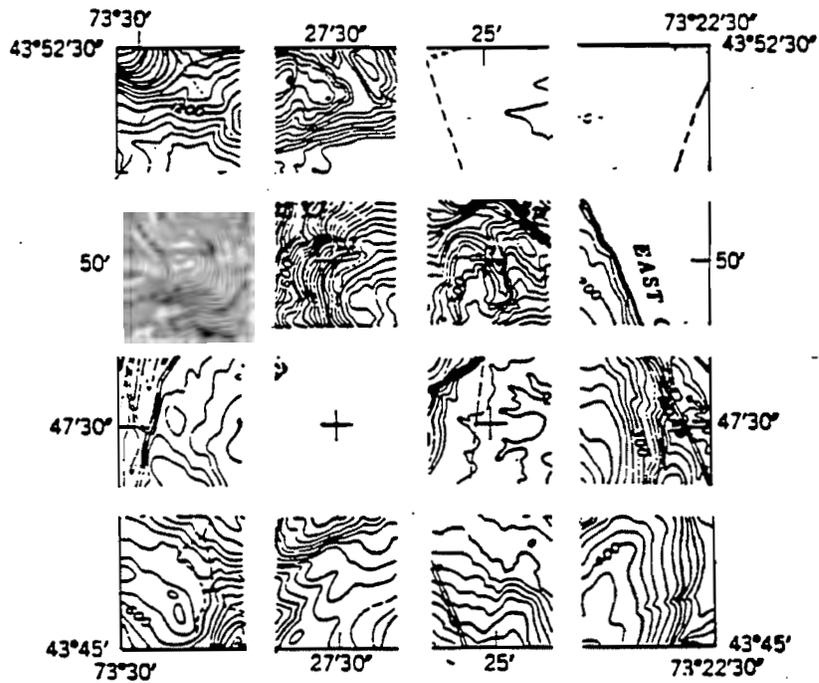


Latitude—  
Parallels the equator

5.5

Some maps such as the C.D.F Administrative Map and the U.S.G.S. Topography Map indicate longitude and latitude locations.

Numbers with degrees ( $^{\circ}$ ), minutes ( $'$ ) and second ( $''$ ) marks, within the margin, at the top or bottom of a map are longitude degrees. Numbers at the sides are latitude degrees. Cross-marks are noted where connecting lines intersect.



**UNIT V**  
**QUESTIONS**

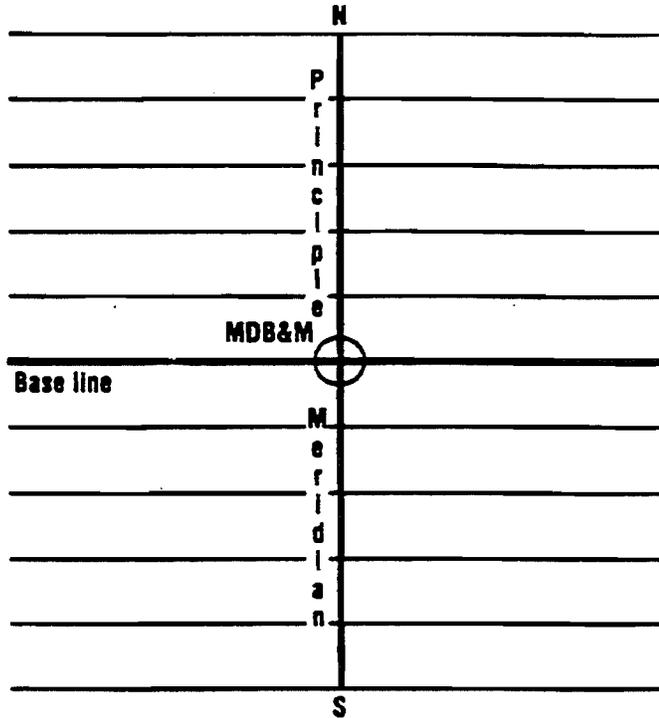
1. What is the name of the point from which a rectangular land division is based?  
\_\_\_\_\_
2. How many of those points are located in California, and what are their names?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What is the East-West line through the "point" called?  
\_\_\_\_\_
4. What is the North-South line through the "point" called?  
\_\_\_\_\_
5. What are the names of the two correction lines that run in intervals of 24 miles subdivided from the initial point?  
\_\_\_\_\_
6. The lines that parallel the Baseline at 6 mile intervals are called \_\_\_\_\_ lines.
7. The lines that extend the same direction as the Principal Meridian at 6 mile intervals are called \_\_\_\_\_ lines.
8. How many square miles are within a Township?  
\_\_\_\_\_
9. What does each numbered subdivision within a township identify?  
\_\_\_\_\_
10. How many acres in a section? \_\_\_\_\_
11. In which direction do Longitude lines run? \_\_\_\_\_
12. In which direction do Latitude lines run? \_\_\_\_\_

**UNIT V**  
**ANSWERS**

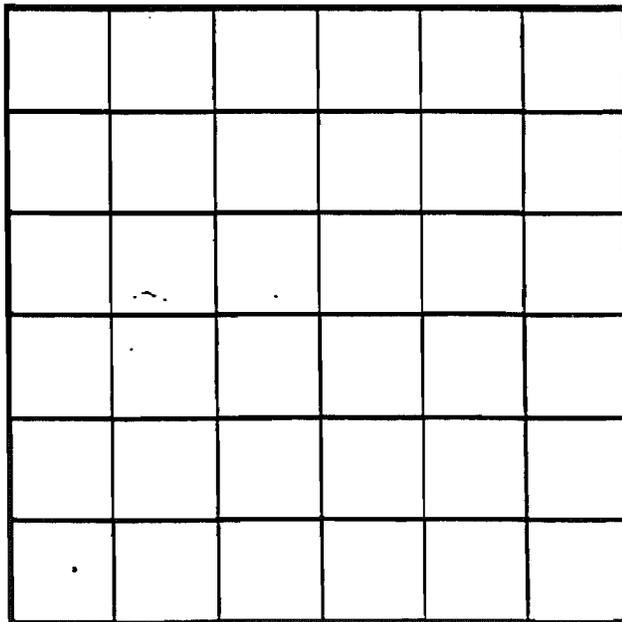
1. Initial or Reference Point
2. Humbolt Base and Meridian (HBM)  
Mount Diablo Base and Meridian (MDBM)  
San Bernardino Base and Meridian (SBBM)
3. Base Line
4. Principle Meridian
5. Guide Meridians and Standard Parallels
6. Townships
7. Ranges
8. 36
9. a Section
10. 640
11. North and South
12. Parallel to the Equator, East and West

**UNIT V**  
**EXERCISE**

1. Identify the Township areas and write their correct discription :

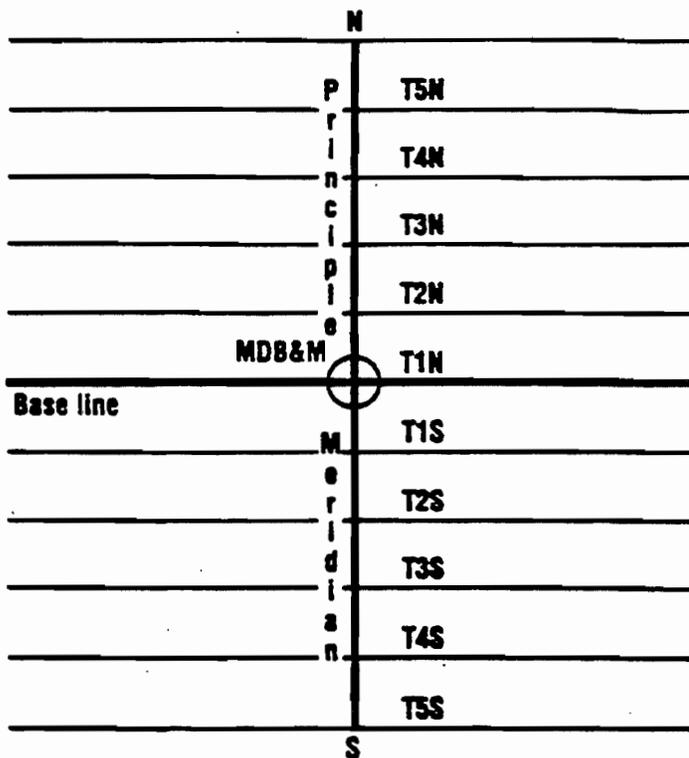


2. Number the Sections in this typical Township :



**UNIT V**  
**EXERCISE ANSWERS**

1.



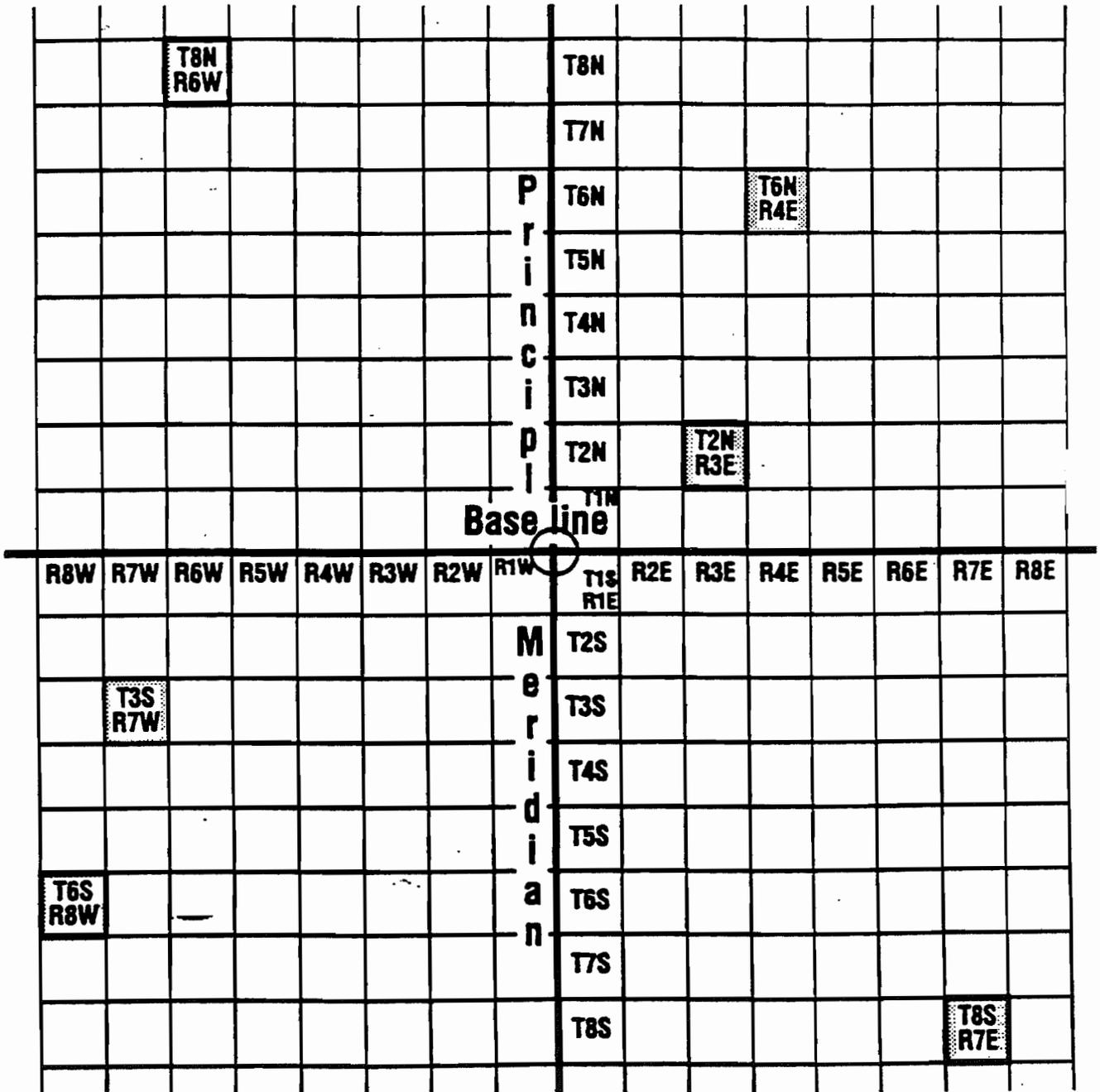
2.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	57	56	25
31	32	33	34	35	36



**UNIT V**  
**EXERCISE ANSWERS**

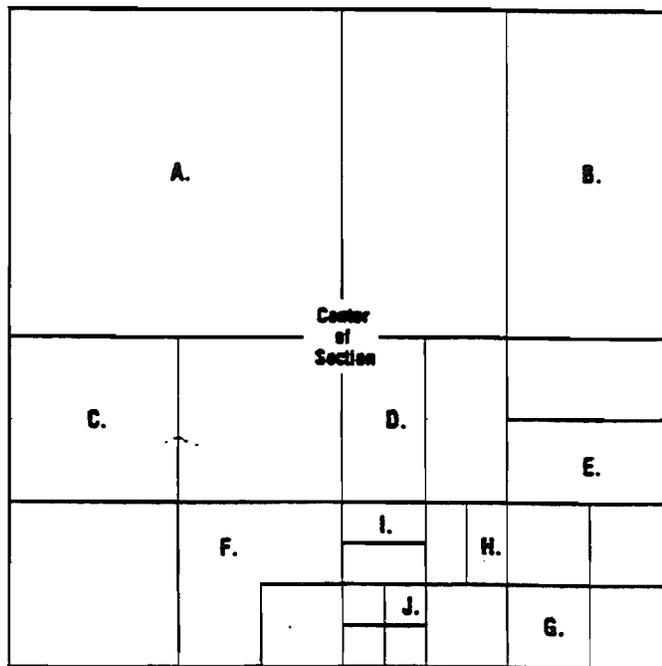
3.



**UNIT V**  
**EXERCISE**

4. Using the exercise sketch representing a section comprising 640 acres, solve the following problems of indicating the acreage and giving the legal description to each of the lettered areas:

- A. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- B. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- C. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- D. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- E. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- F. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- G. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- H. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- I. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_
- J. Acres: \_\_\_\_\_ Describe: \_\_\_\_\_



**Sec. 3, T. 28., R. 4E., H.B. & M.**

**UNIT V**  
**EXERCISE ANSWERS**

- 4.A. 160 NW1/4, Sec.3, T.2S., R.4E., H.B.&M.
- 4.B. 80 E1/2 NE1/4, Sec.3, T.2S., R.4E., H.B.&M.
- 4.C. 40 NW1/4 SW1/4, Sec.3, T.2S., R.4E., H.B.&M.
- 4.D. 20 W1/2 NW1/4 SE1/4, Sec.3, T.2S., R.4E., H.B.&M.
- 4.E. 20 S1/2 NE1/4 SE1/4, Sec.3, T.2S., R.4E., H.B.&M.
- 4.F. 30 N1/2 and SW1/4 SE1/4 SW1/4, Sec.3, T.2S., R.4E., H.B.&M  
or W1/2 and NE1/4 SE1/4 SW1/4, Sec.3, T.2S., R.4E., H.B.&M
- 4.G. 10 SW1/4 SE1/4 SE1/4, Sec.3, T.2S., R.4E., H.B.&M.
- 4.H. 5 E1/2 NE1/4 SW1/4 SE1/4, Sec.3, T.2S., R.4E., H.B.&M.
- 4.I. 5 N1/2 NW1/4 SW1/4 SE1/4, Sec.3, T.2S., R.4E., H.B.&M.
- 4.J. 2 1/2 NE1/4 SW1/4 SW1/4 SE1/4, Sec.3, T.2S., R.4E., H.B.&M.

**UNIT VI**  
**DETERMINING SIZE OF AREA**

VI. There is a number of methods to determine the size of an area. Area can be expressed in square miles, acres, blocks, feet, or any other unit of linear measurement. Also an area can be estimated by comparing it to known sizes of areas.

6.1. Basic mathematical calculations

Mathematical calculations are determined by figuring the size of the area. The most common calculation will be measuring length and width and then multiplying the two. (LENGTH X WIDTH = AREA)

Some units of measure you can use are:

**LINEAR**

12" = 1 foot  
3' = 1 yard  
5280' = 1 mile  
66' = 1 chain  
80 ch. = 1 mile

**AREA**

1 acre = 208' x 208'  
1 acre = 43,560 square feet  
1 acre = 10 square chains

640 acres = 1 square mile  
1 section = 1 square mile  
1/2 section = 320 acres  
1/4 section = 160 acres

When you first arrive at an incident and are asked for an estimated acreage, you do not have the time to follow the exact steps for perfection. You can, however, use this information as the basis for making a good guess. The more you know about the figuring of acreage, the easier it is to become an accurate estimator.

The important thing to remember when figuring the acreage of an area is that it must be figured as a square. The term "square" does not mean to imply having equal sides, but merely straight lines with right angles. Both the length and the width must be figured.

**Computing Acreage by Chain:**

10 square chains equals one acre. 10 is the conversion factor.

A RECTANGULAR AREA = (CHAINS x CHAINS) DIVIDED BY 10

5 ACRES = (5 CHAINS x 10 CHAINS) DIVIDED BY 10

5 ACRES = 50 DIVIDED BY 10

## 6.1

To compute an odd shaped area, it is often necessary to take two or more measurements across the area and obtain an average length and width. So if you had an area that is 32 chains wide at one end and 16 chains wide at the other end, you add 32 and 16 which equal 48. Divide 48 by 2 which equal 24. 24 chains is the average width.

Computing Acreage by Feet:

43,560 square ft. equals one acre. 43,560 is the conversion factor.

LENGTH x WIDTH DIVIDED BY 43,560 = ACREAGE

(2,640' x 1,320') DIVIDED BY 43,560 = ACREAGE

3,484,800' DIVIDED BY 43,560 = 80 ACRES

## 6.2 Estimation By Comparison

When estimating the size of an area, it is best to compare areas of known size such as:

- a. A football field - 1 acre
- b. The lot that your house is on - 1/3 acre
- c. Sections and their subdivisions

Use common sense when estimating an area on a map:

- a. If the area is entirely within a single section, it usually isn't more than 640 acres.
- b. Compare acreage estimates to Section divisions; half-sections, quarter-sections, etc.

**UNIT VI**  
**QUESTIONS**

1. What is the most common calculation to figure the size of an area?
- 

Determine the equivalent unit of measurement for the following:

2. 2.5 mile = \_\_\_\_\_ chains
3. 1.5 chains = \_\_\_\_\_ yards
4. 29,040 feet = \_\_\_\_\_ miles
5. 3 chains x 20 chains = \_\_\_\_\_ acres
6. 250' x 262' = \_\_\_\_\_ acres
7. 1 Section = \_\_\_\_\_ square mile/miles

Determine the estimated area in acreage:

8. 4.5 football field \_\_\_\_\_ acres
9. Property on land approximately 40 chains x 20 chains  
\_\_\_\_\_ acres
10. A Ranch that covers approximately 1/8 area of a Section on a map \_\_\_\_\_ acres
-

**UNIT VI**  
**ANSWERS**

1. Length x With = Area
2. 200 chains
3. 33 yards
4. 5.5 miles
5. 6 acres
6. 1.5 acres
7. 1
8. 4 1/2 acres
9. 80 acres
10. 80 acres

**UNIT VI**  
**EXERCISE**

Estimate the area (in acres) within 10% accuracy (+ or -)  
of the fires on maps found in Appendix 5 through 8:

**APPENDIX:**

- 5. \_\_\_\_\_
- 6. \_\_\_\_\_
- 7. \_\_\_\_\_
- 8. \_\_\_\_\_

**UNIT VI**  
**EXERCISE ANSWERS**

5. 160 acres

6. 80 acres

7. 320 acres

8. 10 acres

## UNIT VII TOPOGRAPHIC RELIEF

VII. A Topographic map is printed on a flat piece of paper. It is, therefore, necessary to use symbols to represent the variation in elevation of geographic features, such as ridges and valleys, hills, and hollows. These ground forms are measured vertically as well as horizontally.

Contour lines, colors, raised areas etc. are symbols that delineate changes in elevation. Maps with relief show the general shape of the land and will often guide you to the fastest route between two points

### 7.1 Contour Lines

A Contour line is an imaginary line on a map or chart connecting all points of the same height above sea level.

Any point on a contour line is the same elevation above sea level as all the other points on the same line. In other words, contour lines connect points of equal elevation. On U.S.G.S. maps they could be drawn at any elevation, but in practice they are drawn at intervals of 1, 5, 10, 20, 40, and 80 feet. Occasionally you will find a map with 25 foot contour intervals but not often.

Contour Interval is the difference in elevation between two adjacent contour lines.

To make the contours easier to read, every fifth one is printed darker and has the elevation marked every so often in the line. (Every fourth contour on 25' interval maps). This is called Index Contour.

To find the contour interval on a map, find two index contours adjacent to each other. Read their elevations and find the difference. If the number of spaces between them is 5, divide the difference by 5 to find interval. If the number of spaces between them is 4, divide the difference by 4 to find interval.

For Example:

1. Two adjacent Index contour lines indicate 250' and 300'.
2. Find the difference by subtracting 250' from 300' = 50'.
3. Count the spaces between the Dark Index contour lines..., there are 5.
4. There are 5 so divide 50' by 5.
5. 50 divided by 5 = 10 feet Interval

## 7.1

Contours have certain general characteristics. Listed are characteristics which are Not Rules but Guidelines that are helpful in many cases.

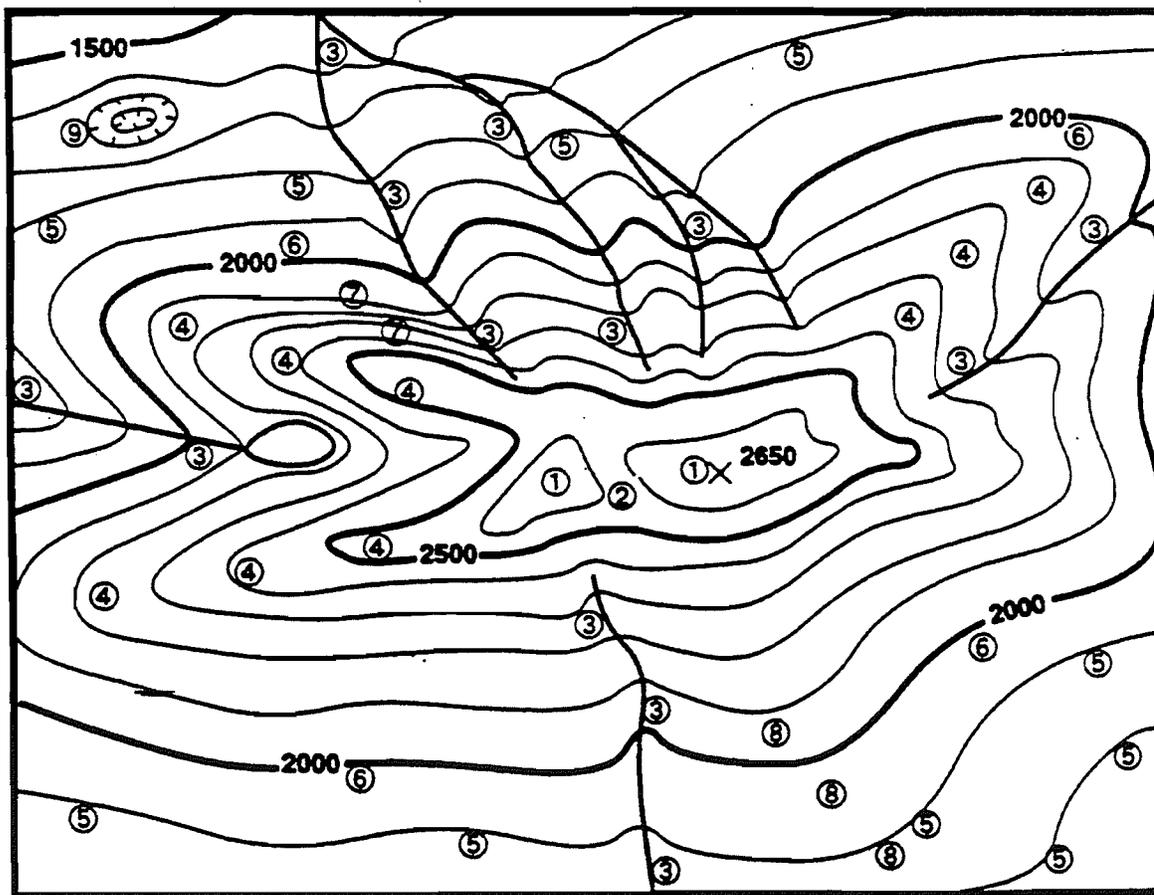
### Contours:

1. Usually have smooth curves. Exceptions are large outcrops of rocks, cliffs, and fractured areas of the earth's surface.
2. Are "V" shaped in stream beds and narrow valleys. The point of the "V" always points uphill or upstream.
3. Are usually "U" shaped on ridges with the "U" bottom pointing down the ridge.
4. Are usually "M" or "W" shaped just upstream from stream junctions.
5. Tend to parallel streams.
6. Tend to parallel each other, each approximately the shape of the one above it and the one below it.
7. Do not cross or touch. Exception is over hanging cliffs.
8. Do not fork.
9. Never end on the map, only at the map edges and sometimes at overhanging cliffs.
10. Indicate steep terrain by being closely spaced.
11. Indicate a uniform slope by being equally spaced.
12. Indicate depressions or pit by a contour line joined forming a circle having hachures (short lines extending from the contour line at right angles).
13. Indicate elevation in feet above mean sea level when they are a dark brown, index contours.

## 7.1

### Contour characteristic terminology:

1. Depression - a low place in the ground having no outlet for surface drainage.
2. Hill - a naturally occurring mass of earth material whose crest or summit is at a lower elevation than a mountain.
3. Mesa - a flat-topped mountain bounded on all sides by steep terrain.
4. Ridge - a long narrow elevation of land, a steep slope.
5. Saddle - a ridge between two hills or summits.
6. Valley - a stretch of low land lying between hills or mountains and usually occupied by a stream.



①Top of hill ②Saddle ③Streams and bottom of canyon ④Ridges ⑤Contour line ⑥2000 on contour line indicates elevation in feet above sea level ⑦Steep slope ⑧Gentle slope ⑨Depression

**UNIT VII**  
**NOTES**

**UNIT VII**  
**QUESTIONS**

1. What is the definition of a contour line?

---

2. What is the definition of a contour interval?

---

3. What intervals are contour lines drawn?

---

4. Two adjacent Index contour lines on a map are 500' and 600', there are 4 spaces between them, what is the Contour Interval?

---

5. Do contour lines tend to parallel streams?

---

6. Do contour lines ever cross or touch?

---

7. What do contour lines that are closely spaced indicate?

---

8. What do hachures on contour lines indicate?

---

**UNIT VII**  
**ANSWERS**

1. A contour line is a line on a map or chart connecting all points of the same elevation.
2. Contour interval is the difference in elevation between two adjacent contour lines.
3. 1', 5', 10', 20', 40', 80', and sometimes 25'
4.  $600 - 500 = 100$   
100 divided by 4 = 25'  
25' interval
5. Yes
6. Yes only when indicating overhanging cliffs
7. Steep terrain
8. Depressions or pits

**UNIT VII**  
**EXERCISE**

On the map in appendix #1 there are numbered 4 squares with arrows. Locate and write the elevation closest to where the arrow is pointing.

**ARROWS:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Using the maps in Appendix #2 - #3, identify the contour and topographic characteristic inside the triangles numbered 5 - 12. Match the appropriate triangle with the characteristics listed below:

**TRIANGLES:**

- |           |                  |
|-----------|------------------|
| 5. _____  | a. Hill          |
| 6. _____  | b. Valley        |
| 7. _____  | c. Up stream     |
| 8. _____  | d. Steep terrain |
| 9. _____  | e. Ridges        |
| 10. _____ | f. Mesa          |
| 11. _____ | g. Saddle        |
| 12. _____ | h. Depression    |

**UNIT VII**  
**EXERCISE ANSWERS**

1. 260'
2. 260'
3. 370'
4. 290'
5. g. Saddle
6. b. Valley
7. a. Hill
8. h. Depression
9. f. Mesa
10. c. Stream bed
11. d. Steep terrain
12. e. Ridges

**UNIT VIII**  
**SLOPE**

VIII. A slope is an inclined ground surface that forms an angle with the horizontal plane (flat ground). The degree of inclination (steepness) is also called slope.

8.1 Percent Slope

Slope is usually expressed in percent. It is useful in estimating the amount of time it takes to construct a piece of fireline. The estimation of percent slope can help you determine whether or not a dozer, engine, or hand crews can work the topographic area.

A one percent slope indicates a rise or drop of one unit over a distance of 100 horizontal units. Usually the mapper will be working with feet; therefore, a one percent slope rise would indicate a one foot rise over a 100 foot horizontal distance.

Elevation/Vertical Difference

In order to obtain a slope percent you must determine the difference of elevation between the two different points. First determine the elevation of each location. (To find the elevation of a point, locate the index contour nearest the point, then count contour lines up or down to the point.)

Next, subtract one elevation from the other, and the difference is the vertical difference.

Estimating slope is a simple mathematical process. The Formula is:

$$\text{PERCENT SLOPE} = \frac{\text{VD}}{\text{HD}} \times 100$$

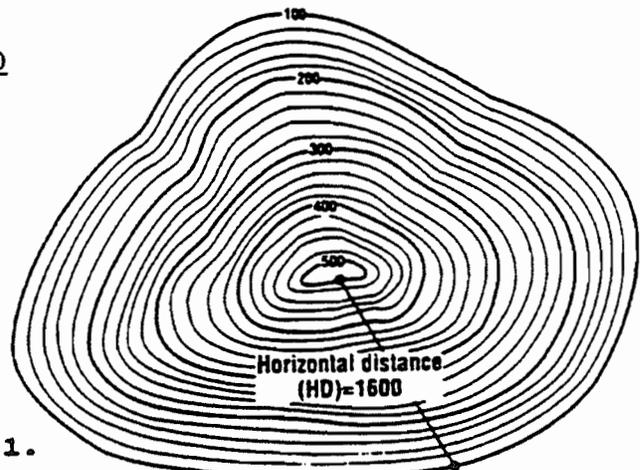
VD = Vertical Distance (difference in elevation, Subtract one point in elevation from the other point)

HD = Horizontal Distance ( Measured with ruler on a map, from one point to the other)

Given :  $\frac{\text{VD is } (500' - 100') = 400}{\text{HD is } 1600'}$

$$400 \div 1600 = .25$$

$$.25 \times 100 = 25\%$$



UNIT VIII  
NOTES

**UNIT VIII**  
**QUESTIONS**

1. What can the Estimated Percent Slope help you determine ?

---

2. How is Slope expressed ?

---

3. A One Foot Rise over 100 Foot Horizontal Distance indicates what?

---

4. What is the Percent Slope Formula ?

---

5. What is the definition of slope ?

---

**UNIT VIII**  
**ANSWERS**

1. Whether or not a dozer, engine, or hand crew can work the topographic area
2. Slope is usually expressed in percent
3. One percent slope rise
4. PERCENT SLOPE = (VD divided by HD) x 100
5. Slope is an inclined ground surface that forms an angle with the horizontal plane (flat ground).

**UNIT VIII**  
**EXERCISE**

Solve the following slope problems using maps in Appendix 1, 3, & 4. The Graphic Scale is 1' = 2,000':

1. What is the counter interval on maps 1 - 4 ? \_\_\_\_\_
  
2. Appendix 3: The average slope % between the point at the bottom corner of triangle #9 and building S/E of the triangle, N of the highway.  
  
\_\_\_\_\_
  
3. Appendix 4: The % slope from starting from the lower right shaft in Circle S to the spot elevation 657 in section 29.  
  
\_\_\_\_\_

**UNIT VIII**  
**EXERCISE ANSWERS**

1. 10'
  
2. Right corner of triangle 800', Building 610'  
VD = 190'  
 $190 \times 100 = 19,000$   
HD = 900,  
 $19,000 \div 900 = 21\%$
  
3. Shaft 390', Spot elevation 657'  
VD = 267  
 $267 \times 100 = 26,700$   
HD = 1,400  
 $26,700 \div 1,400 = 19\%$

**UNIT IX**  
**DETERMINING DISTANCE**

IX. There are various methods of determining distance from the ground. Commonly used is pacing (using a pre-determined measurement of your double-step), and using the odometer on your vehicle. What method you use depends on the situation and tools available.

**8.1 Pacing**

A mile contains the figure of 5280 feet because 1000 double-steps of the average Roman soldier of Caesar's time was that many times the length of the foot of that same soldier. The Latin for 1000 double-steps or paces, mille passus, was later abbreviated into our English "mile".

The pace we measure which is actually a Roman pace. It is measured from the heel of one foot to the heel of the same foot in the next stride. The two steps (double-step) are walked at normal stride which will give the pace a general length of 5 feet.

To determine the distance of pace:

1. Lay out a pre-measured course of 200 feet on level ground.
2. Step off the course counting paces (each double-step).
3. Divide number of paces into measured distance to arrive at average pace.
4. Repeat the process a number of times to get a more accurate pace distance.



## 9.1 Pacing

Pacing on slopes:

1. On slopes, moderate and steep, both uphill and downhill, the paces will be shorter; consequently there will be more paces than on level ground. When you set up a course to determine the length of your pace, include a course on moderate and steep slopes, and measure uphill as well as downhill. This will insure a more accurate measurement.

The pacer cannot pace through brush, water or other obstacles, the number of paces should be estimated. Also, pacing must be checked frequently for accuracy.

To determine distance multiply number of paces by length of pace.

Example: The width of a fire is 20 paces, the length of your pace is 5 feet -  $20 \times 5 = 100'$  is the width of fire

## 9.2 Other Measurement Tools

Odometer on vehicles - It is usually divided into tenths of miles and is quite accurate. It can save many paces over a large area.

**UNIT IX**  
**QUESTIONS**

1. How many steps does a pace actually have at normal stride?

---

2. What is the general length of a pace?

---

3. Are paces on slopes shorter or longer than on even ground?

---

4. How do you determine A distance using the pace?

---

5. Why is a vehicle odometer a good tool to use for determining distance?

---

**UNIT IX**  
**ANSWERS**

1. two steps
2. 5 feet
3. shorter
4. multiply the number of paces by length of your pace
5. it can save many paces over a large area

**UNIT X**  
**COMPASS FAMILIARITY**

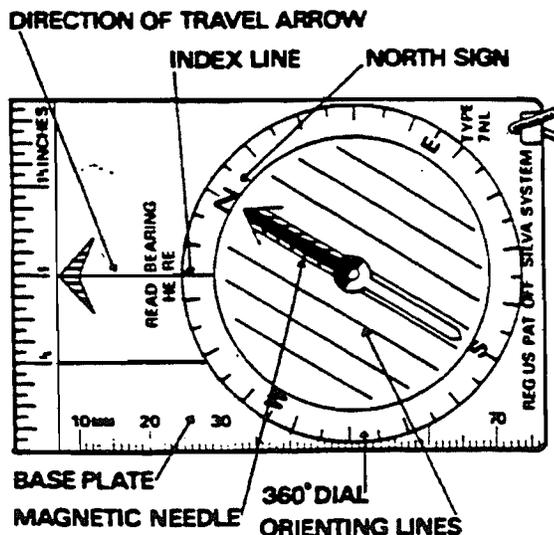
X. The compass is an instrument which enables you to determine a general direction and to travel that direction with accuracy whether day or night. The compass needle consists of a strip of magnetized steel balanced on a pin point that is free to swing in any direction. The force that attracts this magnetized needle is like a tremendous magnet with one end in the north and the other in the south. The north end is the magnetic North Pole toward which the north end of the compass needle points when at rest. Unfortunately, the Magnetic North and the geographic True North Pole do not coincide. The Magnetic North is located about 1,400 miles south of True North. The significance of this will be explained later.

**10.1 Parts of a compass**

The compass consists of three basic parts:

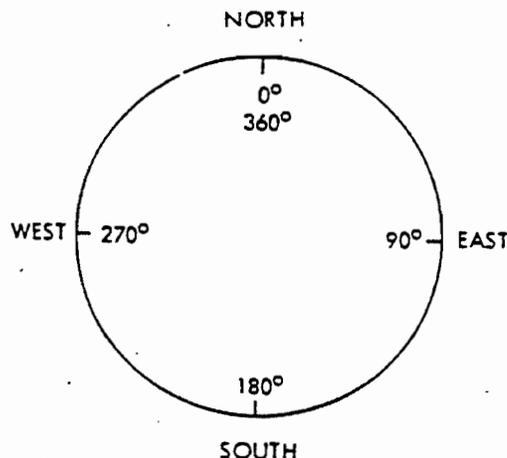
1. The magnetic needle - always points to Magnetic North - if is not disturbed by a nearby metal object. The north end of the needle is usually marked by an arrow or painted red. It floats within the 360° dial.
2. A revolving "360° dial" (azimuth circle) - is a dial that has cardinal points, degrees on the upper rim, and within the dial, on the bottom it has a transparent plate with orienting lines and arrow.
3. A transparent "base plate" - has direction of travel arrows, ruled edges and a circular colored rim with an index line.

**PARTS OF A COMPASS**



## 10.2 Using Your Compass

Imagine yourself in the center of a circle that has been divided into 360 equal parts or degrees. This enables you to measure any direction. In map reading we refer to a direction as an Azimuth. This azimuth circle is divided into 360 degrees. The degrees are numbered in a clockwise direction, the zero point being north with east 90 degree, south 180 degree, west 270 degree, and north 360 or 0 degree.



For correct readings, always hold the compass level so that the needle swings freely. Bend your elbows close to your side so the compass is steady. The compass should be at a height that allows you to take a line of sight reading on the 360 degree dial and also allows you to turn the 360 degree dial without unnecessary movement of the needle. Do not move your head, raise and lower your eyes.

To determine the direction of North:

- a. Set 360 degrees on the 360° dial in line with the direction of travel arrow and index line.
- b. Hold the compass and turn your body until the magnetic needle lines up with the direction of travel arrow. The direction you are facing is Magnetic North.

To determine the direction of an object:

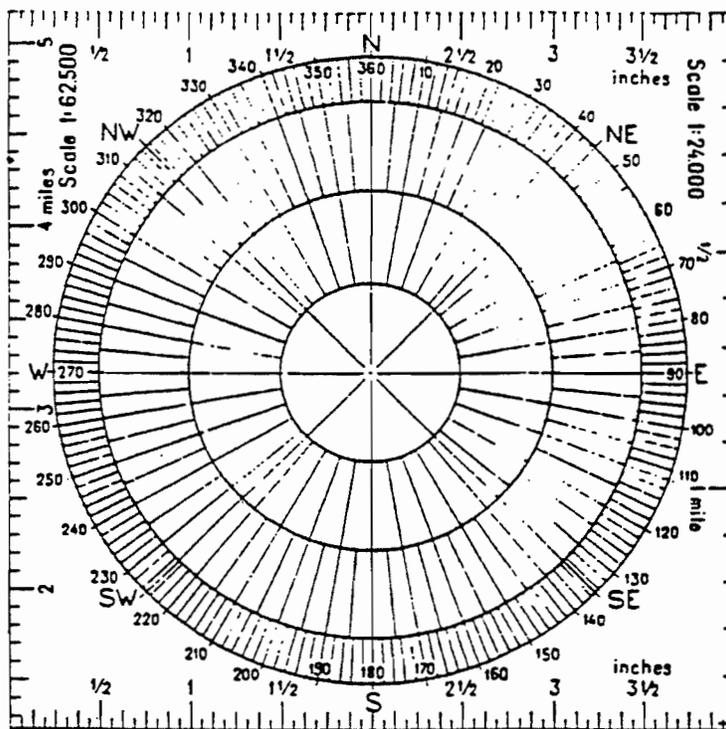
- a. Hold the compass and line the object up with the direction of travel arrow.
- b. Turn the 360° dial until the needle is aligned with the north sign. Hold the base plate steady.
- c. Read the azimuth where the index line meets the 360° dial.

To follow or walk a direction or azimuth:

- a. Determine the direction to be walked by checking your compass. Write the direction on a piece of paper.
- b. Select an object along the line of sight. Walk to the object without looking at the compass.
- c. When you arrive at the object check the accuracy of your walk
- d. Repeat steps "a" through "c".

### 10.3 Protractor

On a map, azimuths are measured with a protractor:



This protractor represents the azimuth circle. The outer edge is graduated from 0 to 360 degree, each line represents one degree. The center of the protractor is the point of intersection of the 0-180 degree line and the 90-270 degree line.

When using the protractor, the line extended from the 360° to the 180° mark of the protractor is always oriented parallel to a north-south meridian line. This makes the 0 or 360 degree end toward the top or north end of the map, and the 90 degree mark or east is to the right.

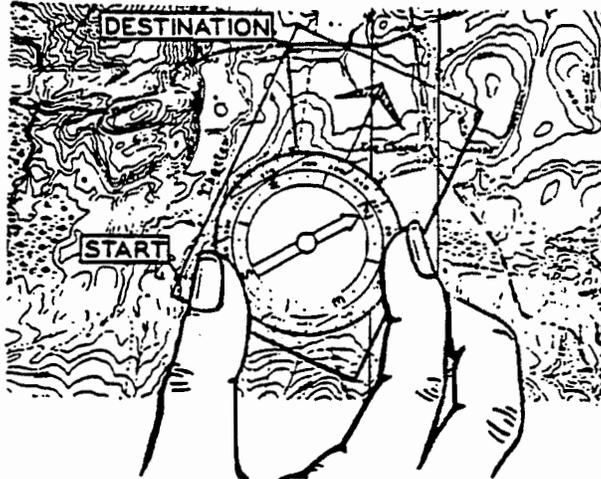
Using the protractor:

- Draw a line from an initial point on a map to a object.
- Orient the protractor north-south.
- Place the center mark of the protractor on the initial point with the 0° on the outer ring at North.
- The azimuth is read where the direction line to the object meets the outer ring.
- This is a true compass reading from the initial point to the object.

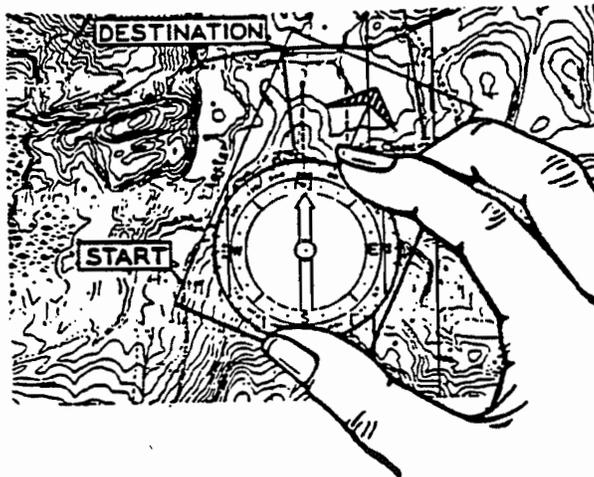
10.3

A compass can also be used as a protractor for determining map directions. The compass dial with its 360 degree markings becomes the protractor, the base plate with its straight sides your ruler, and the compass needle plays no part.

First place the compass on the map where one edge of the base plate touches your initial point and your object of destination both, with the direction of travel arrow on the base plate pointing in the direction of the destination.



Second turn the 360° dial until the North sign and orienting lines on the 360° dial points to north on the map. (parallel the orienting lines with the closest north-south meridian on map)



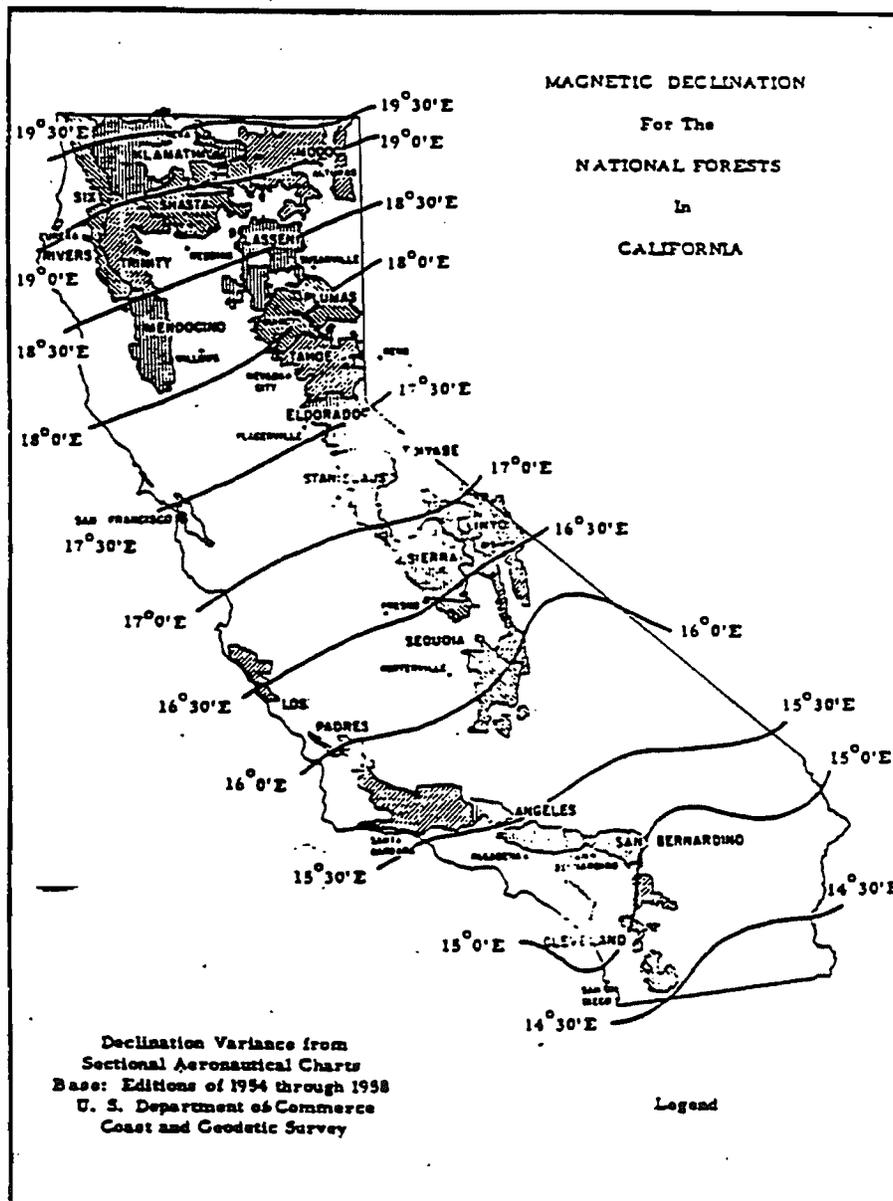
Now look at the azimuth on the 360 degree dial where the index line touches it. This is the direction in degrees.

With a true compass reading and a distance from a given point, a line can be drawn on a map and a location on this line found. This is the principle used by Fire Lookouts.

### 10.4 Magnetic Declination

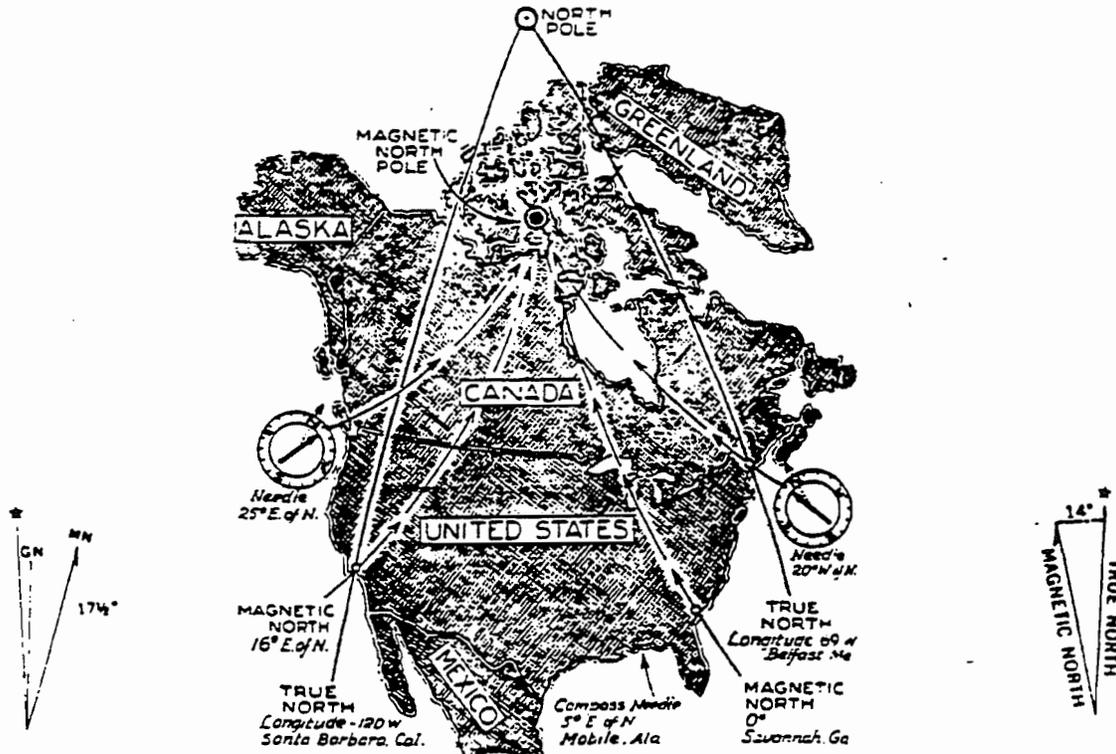
True north is based on the earth's rotational axis. It is the direction in which the USGS maps are oriented. The public land survey is also oriented to true north. All true north lines converge on the north pole and true south lines on the south pole. True north is a constant.

Magnetic north, on the other hand, is not constant. It varies from one location to another and changes over a period of time. The compass needle always points toward magnetic north. The difference between true north and magnetic north is called the magnetic declination, or simply the declination, and it varies from 14 to 20 degrees east of north in California.



10.4

At any area in the U.S. where your compass needle points East of True North it is "Easterly Declination" (as in Calif.), and if it points West it is "Westerly Declination".



Declination requires adjustments in readings when mixing true readings from maps and magnetic readings from a compass. Topographic maps have a declination diagram in the bottom margin showing the direction and degrees of declination for the area.

When adjusting a compass for magnetic declination (using a compass with no declination adjustment), use the following steps:

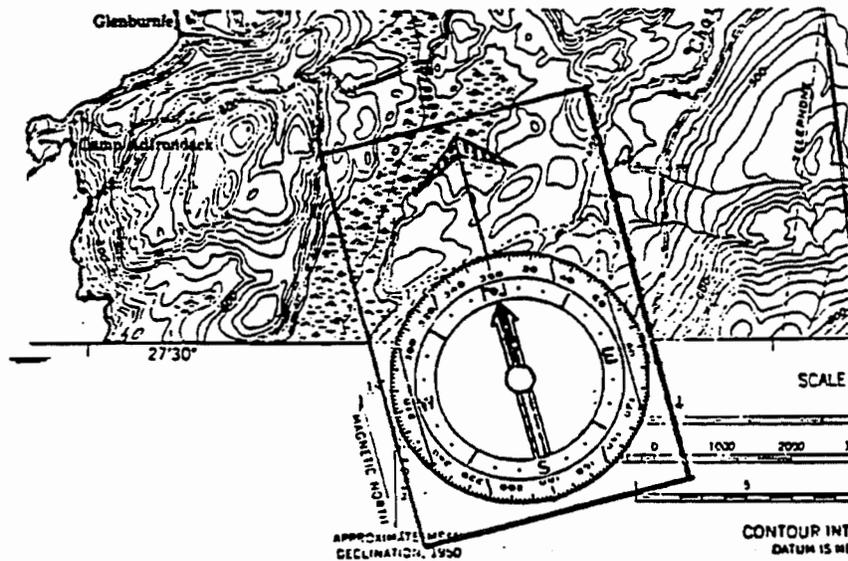
1. Easterly Declination:
  - a. From Magnetic North to True North, subtract the declination. (turn dial west)
  - b. From True North to Magnetic North, add the declination. (turn compass dial East)
2. Westerly Declination reverse steps in #1.

In California if you took a magnetic azimuth in the field of a spot fire location, and gave the information to dispatch, he/she must adjust by subtracting the variable for declination in order to plot it correctly on the map. If you were given a true azimuth of a location by dispatch, you would adjust and add the variable for declination in order to locate that point in the field.

## 10.4

Listed are two ways to cope with the problem of orienting the map and declination:

1. Orienting the map - Topographic orientation
  - a. Find your approximate location on the map.
  - b. Select two prominent landmarks visible to you and shown on the map.
  - c. Turn the map until the map landmarks are in proper relation to the actual land marks.
  - d. The map is now oriented generally to True North. This is referred to as terrain association - associating the map to fit the terrain.
  
2. Orienting with the compass and the magnetic north arrow on the map.
  - a. Lay the map out flat.
  - b. Set the 360° dial with north at the index line.
  - c. Lay the compass down with the edge of the base plate parallel with magnetic north arrow line pictured at the bottom of a topography map.
  - d. Carefully rotate the map and compass together until the needle reads exactly north.
  - e. The map and compass are now oriented with the terrain.

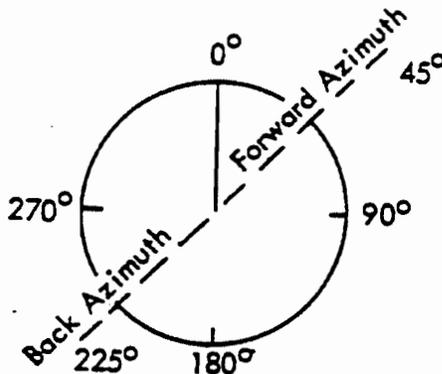


### 10.5 Back Azimuth and Backsight

A back azimuth is the projection of the azimuth from its origin to the opposite side of the azimuth circle. The back azimuth of a line differs from its forward azimuth by exactly 180°.

A back azimuth is calculated by adding 180 degrees to the azimuth when it is less than 180 degrees, or by subtracting 180 degrees if the azimuth is more than 180 degrees. For example:

If the azimuth is 45 degrees, add 180 degrees to find the back azimuth. Our back azimuth would be 225 degrees. If the azimuth is 270 degrees, subtract 180 degrees. The back azimuth would be 90 degrees. This is easy to see and read on an azimuth circle.



Backsight is a sight using a compass taken backwards, in an opposite direction from the original heading. (The practical application of back azimuth.)

Backsighting utilizes the azimuth sight of your first destination, turns it around so you can find the way back to your original starting position. To keep on track of a destination use the backsight to check the line of sight back to the starting point. When making a journey employing the compass, a mistake of a few feet will result in a significant distance over a long stretch.

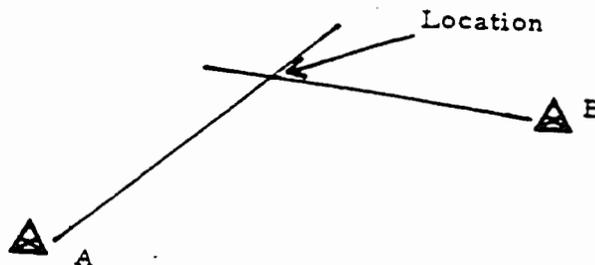
Keeping on track requires you to periodically check the backsight of your position. While your starting point is still in view, calculate your back azimuth. Look along the line of sight to determine if it bisects your starting point. If your line of sight aims to the left of your starting point, this means you will have to move to your right in order to get back on your original line of sight.

## 10.6 Intersection

The method of locating a point on a map by intersecting lines from two known landmarks is called Intersection.

Distant or inaccessible objects can be located on a map by intersecting lines from two known landmarks. For example, magnetic azimuths from two different mountain tops to a distant point is converted to true azimuths and drawn on a map. Where the two lines intersect on the map is the location of the distant point.

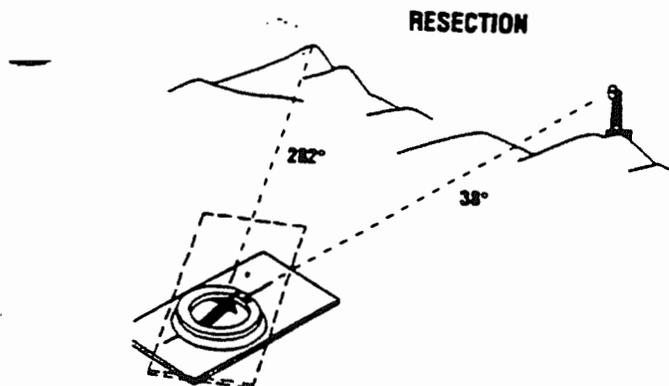
1. The first step to intersection is to take magnetic azimuth from two known landmarks (point A and B) on the object.
2. Convert these magnetic azimuths to true azimuths by adjusting for declination (East declination - subtract declination).
3. Draw the lines of azimuth on the map well past the object.
4. Where the two azimuth lines intersect on the map is the location of the distant or inaccessible point.



## 10.7 Resection

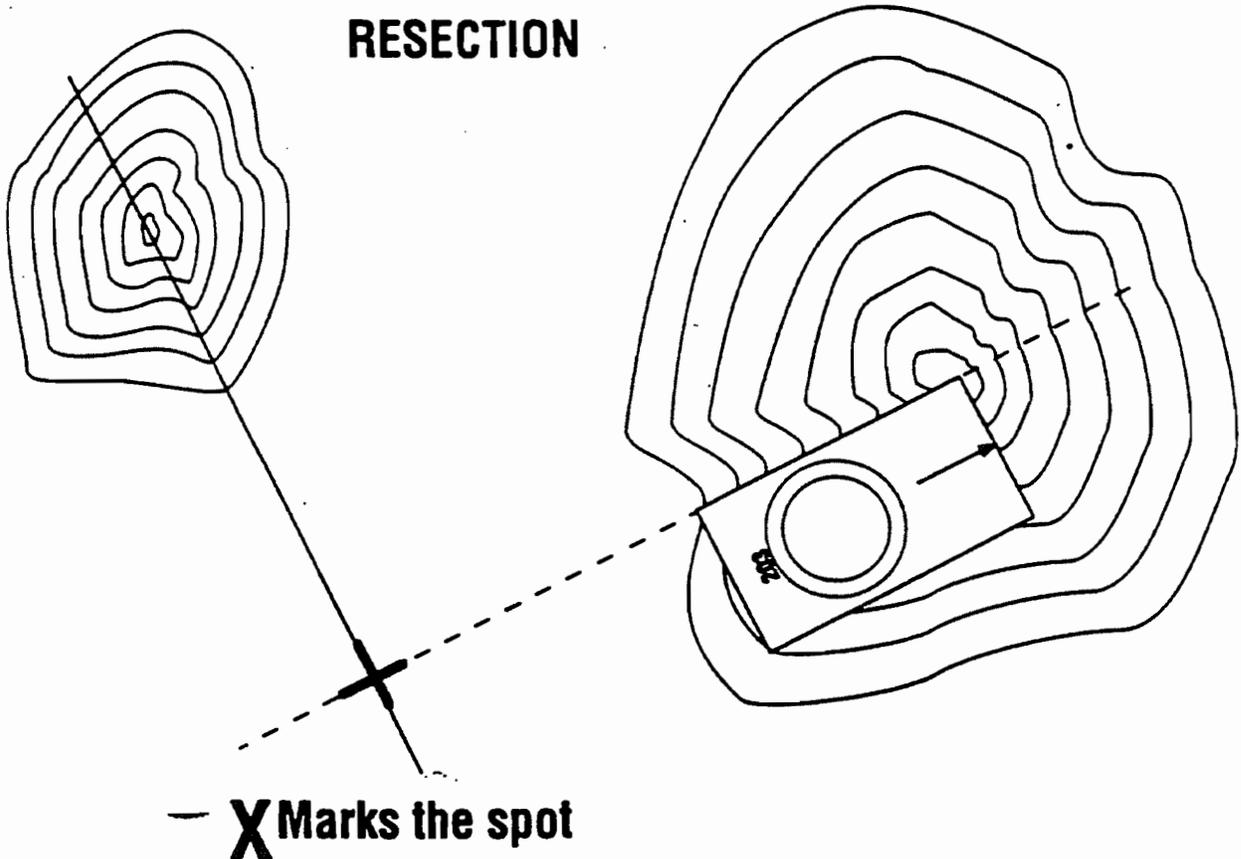
The method of finding one's own (unknown) position by sighting on two known landmarks is called Resection.

1. The first step in resection is to locate two or more objects in the ground that can be identified on the map.
2. With the compass, measure an azimuth to each of the landmarks on the ground. (Example -  $282^\circ$ ,  $38^\circ$ )



10.7

3. Convert these magnetic azimuths to true azimuths by adjusting for declination. (If east declination subtract; example  $282^{\circ}-15^{\circ}=267$  and  $38^{\circ}-15^{\circ}=23^{\circ}$ )
4. Convert to back azimuths. ( $267^{\circ}-180^{\circ}=87^{\circ}$  and  $23^{\circ}+180^{\circ}=203^{\circ}$ )
5. From the two known landmarks, draw the lines of the back azimuths until the lines intersect.
6. The point where these two lines cross is your position.



**UNIT X**  
**QUESTIONS**

1. List the three basic parts of the compass:

---

---

---

2. How should you hold the compass to get correct readings?

---

---

---

3. Is the magnetic declination based on the earth's rotational axis?

---

4. In California how would an azimuth reading adjust if taken from a location in the field to be plotted on a map?

---

5. A back azimuth is calculated by adding 180 degrees to the azimuth when it is \_\_\_\_\_ than 180 degrees, or by subtracting 180 degrees if the azimuth is \_\_\_\_\_ than 180 degrees.

6. What is Intersection? \_\_\_\_\_

---

7. When using the resection method to find your position on a map, can you sight on two landmarks such as a tree and a large rock? Why or why not?

---

---

---

**UNIT X**  
**ANSWERS**

1. The magnetic needle  
A revolving 360° dial  
A transparent base plate
2. Always hold the compass level  
Bend your elbows close to your side keeping it steady  
Hold it at a height where you have a line of sight and can turn the dial, do not move your head, raise and lower your eyes.
3. No
4. From magnetic azimuth to true azimuth, subtract the declination
5. less  
more
6. The method of locating a point on a map by intersecting lines from two known landmarks is called Intersection.
7. No You have to locate landmarks that can be identified on the map.

**UNIT X**  
**EXERCISE**

Using map page 4 and your parctising protractor, determine the degree reading between the fallowing points:

1. From the clay pit in the NW 1/4 of section 16 to the clay pit in the NE 1/4 section of section 17.
- 

2. From the clay pit in the NW 1/4 of section 28 to the mine shaft NW 1/4 of section 28.
- 

Using map page 4 and your compass, determine the true azimuth taken from one land mark to another:

3. In section 21, from the building west of "numbers reading section 21" to the building located about SE 3/4".
- 

4. In section 28, from the mine shaft to the building located SE, almost 2 inches away.
- 

5. On map page 1, the easterly declination for that map is 14°. In circle A, the true azimuth from the highway and road intersection, to the water tank is 54°. What is the magnetic azimuth of this sight?
- 

Determine the back azimuth of the given forward azimuth:

6. 35° \_\_\_\_\_
7. 340° \_\_\_\_\_
8. 210° \_\_\_\_\_
9. 125° \_\_\_\_\_

**UNIT X**  
**EXERCISE ANSWERS**

1. 212°
2. 235°
3. 107°
4. 124°
5. 68°
6. 215°
7. 160°
8. 30°
9. 305°

**APPENDIX**

## GLOSSARY

### AXIS

A straight line about which an object turns or seems to turn. The axis of the earth is an imaginary line through the North Pole and South Pole.

### AZIMUTH

An angular measurement used to locate an object. On a map it measures like a protractor with the outer edge of the circle divided into 360 degrees in a clockwise direction. The zero point being north with east 90 degree, south 180 degree, west 270 degree, and north 360 or 0 degree.

### BACK AZIMUTH

The projection of the azimuth circle from its origin to the opposite side of the circle, which is a difference of exactly 180°.

### BACKSIGHT

A sight using a compass taken backwards, in an opposite direction from the original heading; the practical application of back azimuth.

### BASE LINE

An imaginary line on the ground running East-West (horizontal) measured with special accuracy to provide a base for surveying.

### CARDINAL POINTS

The four principal points of the compass; north, south, east, and west.

### CONTOUR LINE

An imaginary line on a map or chart indicating elevation in feet, and connects all points of the same height above sea level.

### COMPASS

An instrument used for showing direction consisting of a magnetic needle swinging freely on a pivot and pointing to magnetic north.

### DECLINATION

The angle formed by a magnetic needle with the line pointing to true north. It is also the difference in degrees between true north and magnetic north.

**INITIAL POINT**

A point indicating the base where the Rectangular Land Division initiates its surveying. There are 31 of these 'Initial Points' in the conterminous U.S.

**LANDMARK**

A feature in the landscape which can be readily recognized - anything from a prominent tree or rock, to a church or a lake.

**LATITUDE**

Angular distance, measured in degrees, creating imaginary lines circling the earth's globe. The lines extend in an east and westerly direction, parallel with the equator of 0 degree latitude. The degrees of latitude increase as one proceeds from the equator toward either north or south poles where the latitude is 90 degrees.

**LEGEND**

A key accompanying a map which shows information needed to interpret that map. Each type of map has information represented in a different way relating to its' subject matter. The legend can explain map scales, symbols and color.

**LONGITUDE**

Angular distance, measured in degrees, creating imaginary lines extending from north pole to the south pole which identifies geographical positions on the earth's globe. The lines are based from the Prime Meridian of 0 degree longitude which runs through Greenwich England, extending 180 degrees westward and eastward.

**MAGNETIC NORTH**

The direction toward which a magnetic needle of a compass points. In a declination diagram of a map, magnetic north is symbolized by a half arrowhead and the letters "MN" at the apex of a line.

**MAP**

A line drawing, to some scale, of an area of the earth's surface. It shows objects and features by conventional signs.

**MAP SCALE**

Indicates the ratio or proportion of the horizontal distance on the map to the corresponding horizontal distance on the ground.

**REPRESENTATIVE FRACTION (R.F.)**

A scale expresses the ratio of the map distance to the ground distance in 'SAME' units of measurements. It is usually written as a fraction or ratio.

**RIDGE**

A long narrow elevation of land; a steep slope or a similar range of hills or mountains.

**SADDLE**

A low gap or pass in a ridge line that extends between two hills or summits.

**SECTION**

An area of land one mile square and containing 640 acres (as near as may be), which is one of 36 parts of a Township.

**STANDARD PARALLELS**

Imaginary horizontal lines established in the same manner as the base line and are located at intervals of 24 miles north and south of the base line.

**SLOPE**

An inclined ground surface that forms an angle with the horizontal plane (flat ground). The degree of inclination (steepness) is also called slope.

**TOPOGRAPHIC MAPS**

A map that shows the positions of features and also represent their vertical position in a measurable form.

**TOWNSHIP**

An area of land divided by township lines and range lines which is near 36 miles square (and can greatly vary). Each Township is divided into 36 parts-each one mile square and follows a numbering system.

**TOWNSHIP LINES**

The series of lines, 6 miles apart, which run East and West parallel to the Base Line and latitude lines.

**TRUE NORTH**

A line from any position on the earth's surface to the geographic north pole. In a declination diagram of a map true north is symbolized by a line with a star at the apex.

**LEGENDS AND MAPS**

# LEGEND

## USGS TOPOGRAPHIC MAP

Primary highway, hard surface .....	
Secondary highway, hard surface .....	
Light-duty road, hard or improved surface .....	
Unimproved road .....	
Trail .....	
Railroad: single track .....	
Railroad: multiple track .....	
Bridge .....	
Drawbridge .....	
Tunnel .....	
Footbridge .....	
Overpass—Underpass .....	
Power transmission line with located tower .....	
Landmark line (labeled as to type) .....	TELEPHONE

Dam with lock .....	
Canal with lock .....	
Large dam .....	
Small dam: masonry — earth .....	
Buildings (dwelling, place of employment, etc.) .....	
School—Church—Cemeteries .....	
Buildings (barn, warehouse, etc.) .....	
Tanks; oil, water, etc. (labeled only if water) .....	Water Tank
Wells other than water (labeled as to type) .....	Oil Gas
U.S. mineral or location monument — Prospect .....	
Quarry — Gravel pit .....	
Mine shaft—Tunnel or cave entrance .....	
Campsite — Picnic area .....	
Located or landmark object—Windmill .....	
Exposed wreck .....	
Rock or coral reef .....	
Foreshore flat .....	
Rock: bare or awash .....	

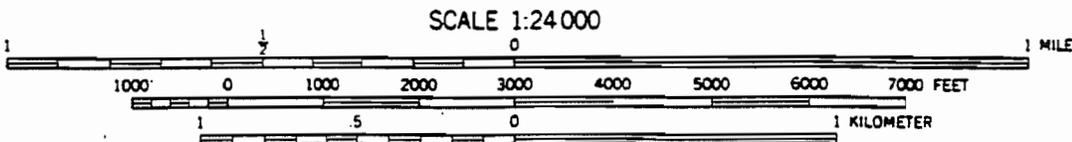
Horizontal control station .....	
Vertical control station .....	BM X 671 X 672
Road fork — Section corner with elevation .....	429 + 58
Checked spot elevation .....	x 5970
Unchecked spot elevation .....	x 5970

Boundary: national .....	
State .....	
county, parish, municipio .....	
civil township, precinct, town, barrio .....	
incorporated city, village, town, hamlet .....	
reservation, national or state .....	
small park, cemetery, airport, etc. .....	
land grant .....	
Township or range line, U.S. land survey .....	
Section line, U.S. land survey .....	
Township line, not U.S. land survey .....	
Section line, not U.S. land survey .....	
Fence line or field line .....	
Section corner: found—indicated .....	+
Boundary monument: land grant—other .....	o

Index contour .....		Intermediate contour .....	
Supplementary cont. .....		Depression contours .....	
Cut — Fill .....		Levee .....	
Mine dump .....		Large wash .....	
Dune area .....		Tailings pond .....	
Sand area .....		Distorted surface .....	
Tailings .....		Gravel beach .....	

Glacier .....		Intermittent streams .....	
Perennial streams .....		Aqueduct tunnel .....	
Water well—Spring .....		Falls .....	
Rapids .....		Intermittent lake .....	
Channel .....		Small wash .....	
Sounding—Depth curve .....	10	Marsh (swamp) .....	
Dry lake bed .....		Land subject to controlled inundation .....	

Woodland .....		Mangrove .....	
Submerged marsh .....		Scrub .....	
Orchard .....		Wooded marsh .....	
Vineyard .....		Bldg. omission area .....	



CONTOUR INTERVAL 20 FEET  
DATUM IS MEAN SEA LEVEL



# LEGEND

## CDF ADMINISTRATIVE MAP

### FORESTRY FACILITIES

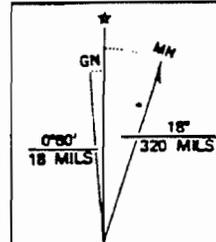
Regional Headquarters 	Helitack 
Ranger Unit Headquarters 	Water Tank (10,000) 
Forest Fire Station 	CDF Regional Boundary 
Fire Station / local gov't 	Ranger Unit Boundary 
Lookout 	USFS Forest Supr Hdqtr 
Conservation Camp 	USFS District Ranger Station 
Air Attack Base 	Federal Fire Station 
Helipart 	Federal Lookout 

#### CONVERSION TABLE

Meters	Feet
1	3.2808
2	6.5617
3	9.8425
4	13.1234
5	16.4042
6	19.6850
7	22.9658
8	26.2467
9	29.5276
10	32.8084

To convert meters to feet multiply by 3.2808  
 To convert feet to meters multiply by 0.3048

#### DECLINATION DIAGRAM

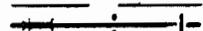
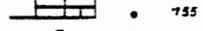
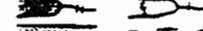
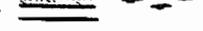


UTM grid convergence (GN) and 1983 magnetic declination (MN) at center of map. Diagram is approximate.

#### ADJOINING MAPS

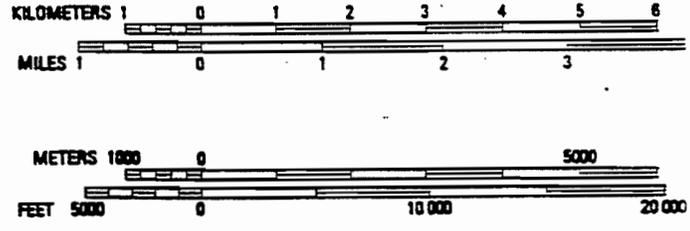
31	32	33
36		38
41	42	43
31 Sacramento 32 Placerville 33 Smith Valley 36 Lodi 38 Bridgeport Valley 41 Stockton 42 Oakdale 43 Yosemite		

### PLANIMETRIC MAP SYMBOLS

Primary highway, hard surface 
Secondary highway, hard surface 
Light duty road, principal street, hard or improved surface 
Other road or street; trail 
Route marker: Interstate; U. S.; State 
Railroad: standard gage; narrow gage 
Bridge; overpass; underpass 
Tunnel: road; railroad 
Built up area; locality; elevation 
Airport; landing field; landing strip 
National boundary 
State boundary 
County boundary 
National or State reservation boundary 
Land grant boundary 
U. S. public lands survey: range, township; section 
Range, township; section line: protracted 
Power transmission line; pipeline 
Dam; dam with lock 
Cemetery; building 
Windmill; water well; spring 
Mine shaft; edit or cave; mine, quarry; gravel pit 
Campground; picnic area; U. S. location monument 
Ruins; cliff dwelling 
Distorted surface: strip mine, lava; sand 
Contours: index; intermediate; supplementary 
Bathymetric contours: index; intermediate 
Stream, lake; perennial; intermittent 
Rapids, large and small; falls, large and small 
Area to be submerged; marsh, swamp
Land subject to controlled inundation

### SCALE 1:100 000

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND  
 ELEVATIONS SHOWN IN METERS



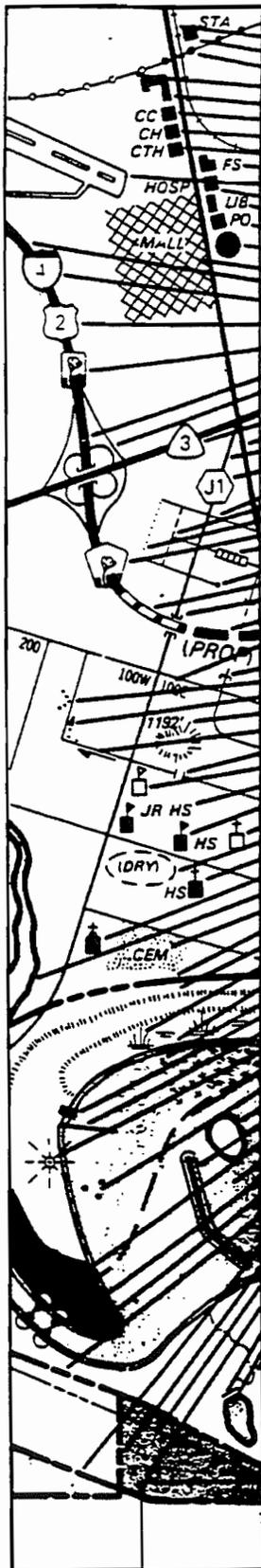
# LEGEND

## THOMAS BROTHERS MAP

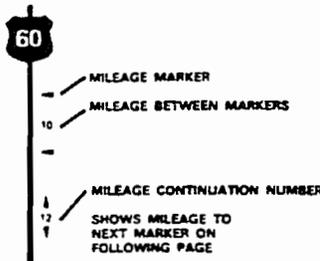
DETAIL PAGES

### EXPLANATION OF MAP SYMBOLS

ARTERIAL PAGES

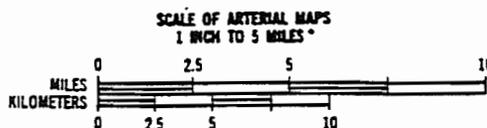
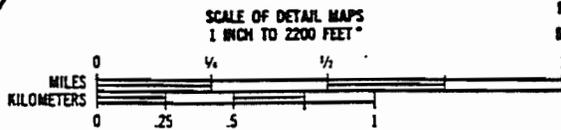


- RAILROAD
- STATION (TRAIN, BUS, RANGER)
- RAPID TRANSIT SYSTEM
- UNDERGROUND RAPID TRANSIT SYSTEM
- BUILDINGS
- CHAMBER OF COMMERCE
- CITY HALL
- COURT HOUSE
- FIRE STATION
- MAJOR AIRPORT
- HOSPITAL
- LIBRARY
- POST OFFICE
- COMMUNITY SHOPPING CENTER
- REGIONAL SHOPPING CENTER
- FREEWAY
- INTERSTATE HIGHWAY NUMBER
- U S HIGHWAY NUMBER
- STATE SCENIC ROUTE
- FREEWAY RAMP NUMBER
- FREEWAY INTERCHANGE
- HIGHWAY
- STATE HIGHWAY NUMBER
- PRIMARY ROAD
- SECONDARY ROAD
- COUNTY ROUTE NUMBER
- MIRROR ROAD
- PRIVATE, DIRT OR PROPOSED ROAD
- UNDEVELOPED-CONST. NOT PROP.
- COUNTY SCENIC ROUTE
- STAIRWAY
- STREET TERMINATION
- FREEWAY UNDER CONSTRUCTION
- BRIDGE
- FREEWAY PROPOSED
- BLOCK NUMBERS IN HUNDREDS
- 100 E (ONE HUNDRED EAST)
- TUNNEL
- TERMINATION OF STREET NAME
- EXTENSION OF STREET NAME
- MOUNTAIN PEAK & ELEVATION
- ONE WAY STREET
- GATE
- PUBLIC ELEMENTARY SCHOOL
- PUBLIC JUNIOR HIGH SCHOOL
- PUBLIC HIGH SCHOOL
- PAROCHIAL ELEMENTARY SCHOOL
- DRY LAKE
- PAROCHIAL HIGH SCHOOL
- MISSION
- RIVER
- CEMETERY
- INTERNATIONAL BOUNDARY
- LEVEE
- SWAMP, MARSH
- SHORE
- UNDERWATER PARK
- BOAT LAUNCH
- PIER
- LIGHTHOUSE
- FERRY
- BOCK, BARE OR AWASH
- ISLAND
- BREAKWATER
- LOCKS
- WATER
- CAMPGROUND
- PARK, GOLF COURSE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CITY BOUNDARY
- RANCHO BOUNDARY
- POINT OF INTEREST BOUNDARY
- DAM
- LAKE
- CREEK, CANAL



MAJOR DEPARTMENT STORES

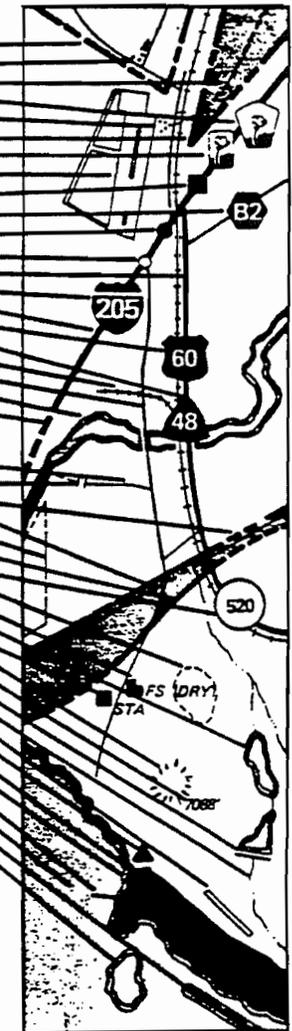
- B BROADWAY
- BF BUFFUMS
- BK BULLOCKS
- D DIAMONDS
- E EMPORIUM
- G GOLDWATERS
- GT GOTTSCHALKS
- H HARRIS
- MA MACY'S
- M MAY CO
- MW MONTGOMERY WARD
- NM NEIMAN-MARCUS
- N NORDSTROM
- O OHRBACHS
- P J C PENNEY
- R ROBINSONS
- S SEARS
- SF SAKS FIFTH AV



\*UNLESS OTHERWISE NOTED

- COUNTY BOUNDARY
- EXTENSION OF STREET NAME
- PRIVATE DIRT OR PROPOSED ROAD
- COUNTY SCENIC ROUTE
- TERMINATION OF STREET NAME
- CITY BOUNDARY
- STATE SCENIC ROUTE
- MAJOR AIRPORT
- COUNTY SEAT
- COUNTY ROUTE NUMBER
- CITY
- COMMUNITY HIGHWAY
- INTERSTATE HIGHWAY NUMBER
- FREEWAY
- U S HIGHWAY NUMBER
- STATE HIGHWAY NUMBER
- RAILROAD
- PRIMARY ROAD
- RIVER
- FREEWAY UNDER CONSTRUCTION

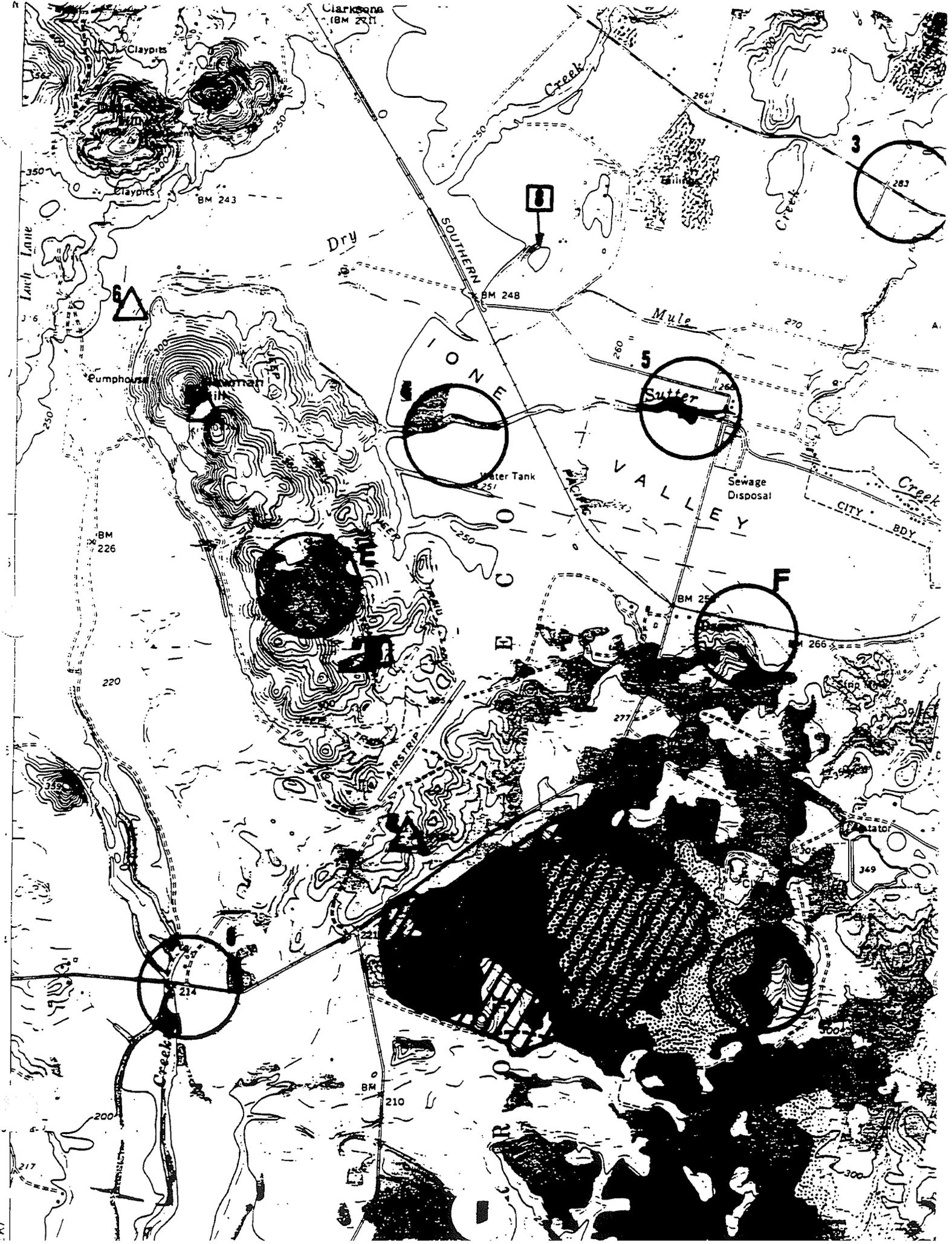
- SECONDARY ROAD, MIRROR ROAD
- GATE
- STATE BOUNDARY
- RANCHO BOUNDARY
- POINT OF INTEREST BOUNDARY
- INTERNATIONAL BOUNDARY
- FOREIGN HIGHWAY NUMBER
- DRY LAKE
- FIRE STATION
- LAKE
- RANGER STATION
- MOUNTAIN
- PEAK ELEVATION
- DAM
- CREEK
- AIRPORT, AIRSTRIP
- CAMPGROUND
- PIER
- SHORE
- WATER
- BREAKWATER
- ISLAND

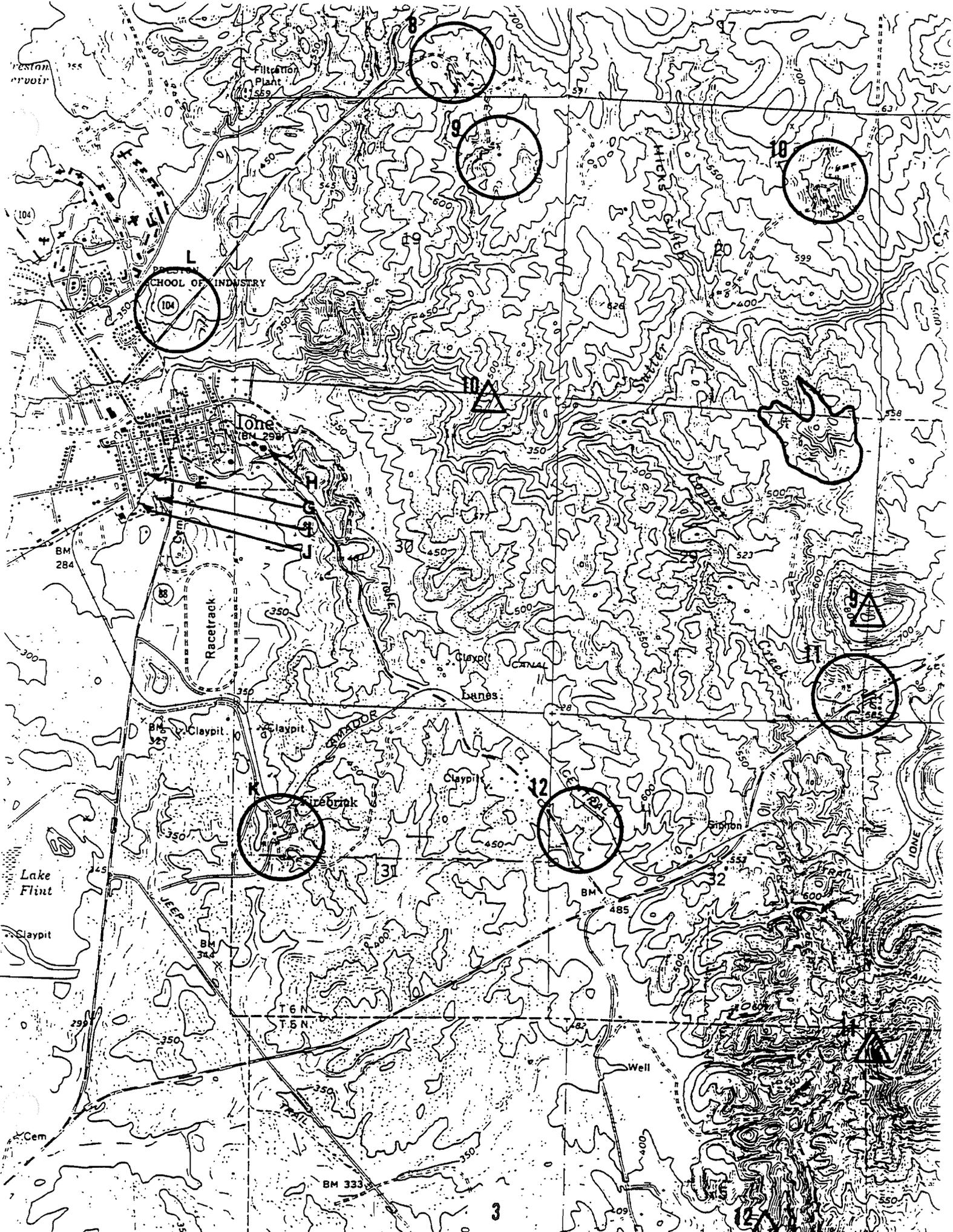


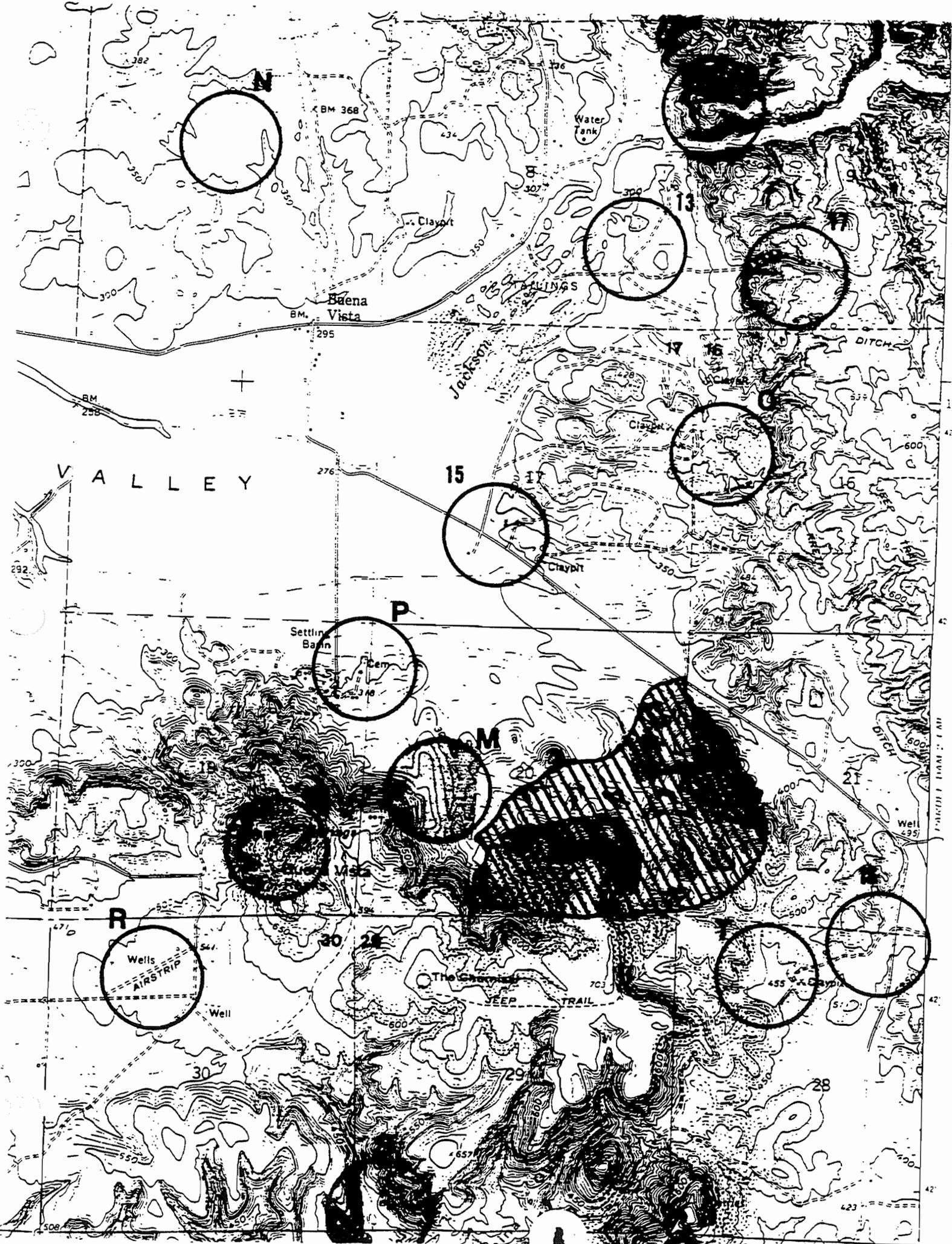
GENERAL

- POINTS OF INTEREST
- TOUR
  - AIRPORTS (MAJOR)
  - AIRPORTS (MINOR)
  - AMUSEMENT PARKS
  - BEACHES
  - CAMPGROUNDS
  - COLLEGES AND UNIVERSITIES (MAJOR)
  - GOLF COURSES
  - HARBORS
  - HISTORICAL SITES
  - HOTELS
  - MISSIONS
  - STATE & FEDERAL PARKS & NATIONAL FORESTS
  - POINTS OF INTEREST (MISCELLANEOUS)
  - RECREATION LAKES, RIVERS & MARINAS
  - REST STOPS
  - REST STOPS (CLOSED IN WINTER)
  - SKI AREAS
  - THEATERS
  - TRUCK SCALES
  - WINERIES
  - PAGE NUMBER OF ADJOINING MAP



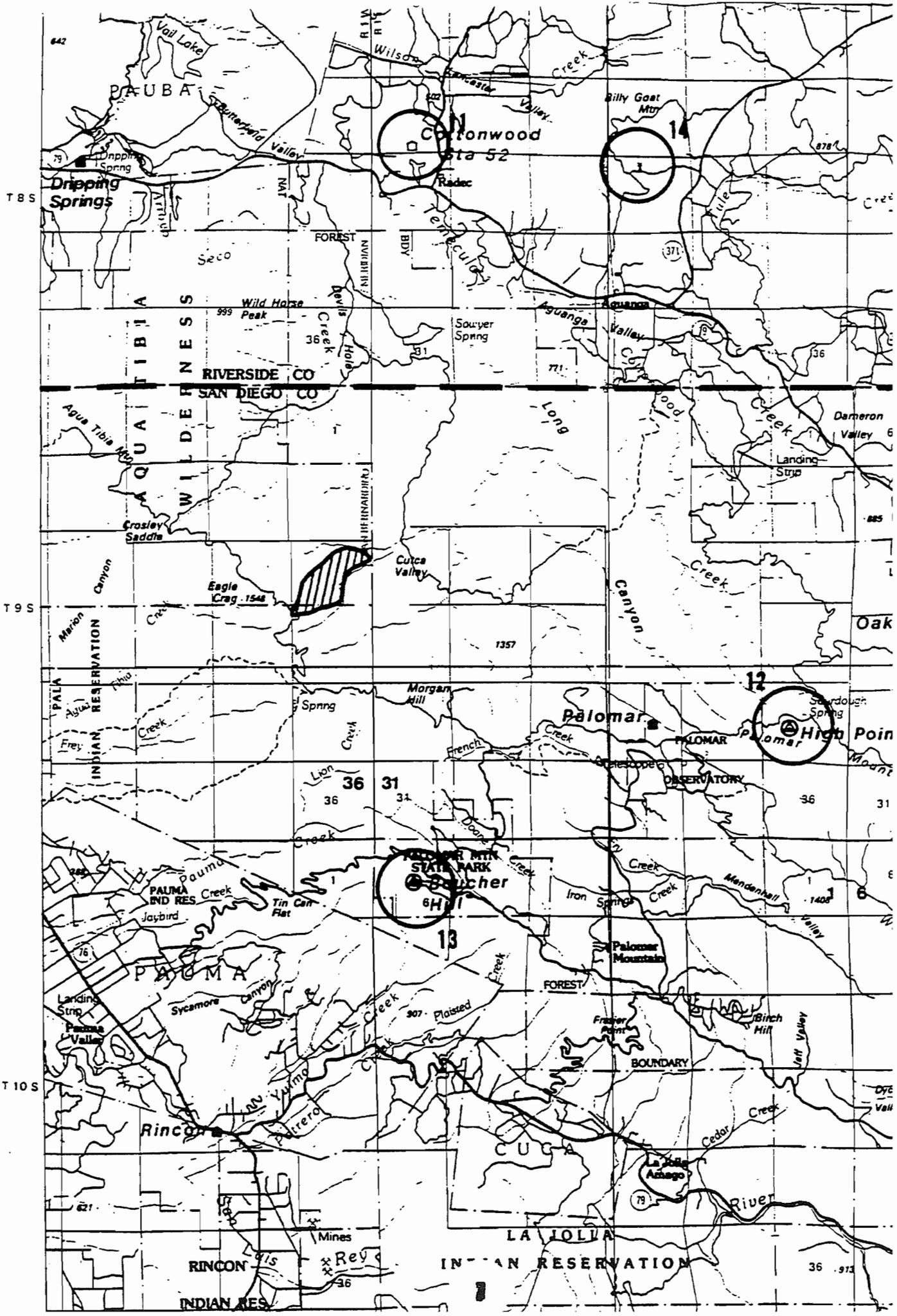














SAN DIEGO

SEE MAP

DETAIL

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# "Making a Difference"

## How to Practically Use ICS Form 201, INCIDENT BRIEFING

**John R. Hawkins**  
Division Chief  
California Dept. of Forestry & Fire Protection  
Butte County Fire Department

California Fire Chief's Association  
Fire Instructors' Workshop '92  
San Jose, California  
Originally Presented April 2, 1992  
Third Revision June 18, 1994

**Training Officer Syllabus**

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ICS Form 201,  
INCIDENT BRIEFING**

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**Presentation Objectives**

1. Introduce training officers to the practical use of ICS Form 201, INCIDENT BRIEFING.
2. Familiarize training officers with the instructions for completing ICS Form 201.
3. Allow the training officers practical experience completing ICS Form 201 under simulated circumstances.
4. Provide the training officer with the basic tools to train fire officers in the practical use of ICS Form 201.

**Purpose of this Syllabus**

This syllabus provides the training officer a reference guide to use in preparing, presenting, and evaluating training concerning the use of ICS Form 201, INCIDENT BRIEFING.

Training officers are encouraged to use the information presented herein to develop presentations for fire officers using local scenarios that will reinforce the basic instructional concepts. Actual use of Form 201, through simulated exercises, will help develop fire officer's command and management abilities. Results will include better managed incidents, more respect for the command abilities of fire officers, and, very importantly, improved self esteem by command officers.

Success in using Form 201 will depend on individual practice by Incident Commanders. Most Incident Commanders do not get enough incidents to learn to use ICS Form 201 while commanding actual emergencies. Therefore, Commanders should practice using the form through simulations and tracking actual emergencies. By listening to the radio traffic of other incidents or actually going to other incidents, the student can practice using Form 201 and refine his/her abilities. As a result, the fire officer will feel much more confident in the value and use of ICS Form 201.

**The In's and Out's of ICS Form 201, INCIDENT BRIEFING**

**I. What is ICS Form 201**

Form 201 is a basic tracking document that facilitates incident management and personnel briefings.

**II. Who uses ICS Form 201**

All initial attack Incident Commanders should use ICS Form 201. This is particularly true for chief officers, but is more difficult for company officers due to their encompassing responsibilities.

**III. When is ICS Form 201 used?**

Fire departments should require the regular use of ICS Form 201 on all working incidents having more than two companies. Form 201 is primarily a document for tracking first alarm or initial attack activities.

**IV. Why use ICS Form 201?**

- A. Provides Command and the Department with a record of incident activity.
- B. Assists the Incident Commander complete the necessary incident management functions (Management Cycle):
  - 1. Planning
  - 2. Organizing
  - 3. Staffing
  - 4. Directing
  - 5. Controlling
  - 6. Evaluating
- C. Facilitates situation and resource status tracking.
- D. Regular use of ICS Form 201 facilitates consistent command and control activities.
- E. Provides a medium for briefing a command transition, should the incident so require.

**V. How is ICS Form 201 used?**

- A. Start completing Form 201 as soon as you are alerted to respond
- B. First Alarm or Initial Attack
  - 1. Start with Page 4, Block 5. RESOURCES SUMMARY
    - a) Record your dispatch information
      - (1) On the top margin of page 4, above the top black line, enter the time of dispatch, type of incident, address,

- cross street, command identifier, and tactical frequency
- (2) This will provide you an incident history baseline

*(1400 HRS), Structure, 14445 Skyway; X-St: Decatur Way/Skyway IC/White 1*

5. RESOURCES SUMMARY				
RESOURCES ORDERED	RESOURCE IDENTIFICATION	ETA	ON SCENE	LOCATION/ASSIGNMENT

- b) Tracking initially dispatched resources (RESOURCES ORDERED)
  - (1) In the RESOURCES ORDERED column enter "First Alarm" or "Initial Attack", etc.
  - (2) Only enter "First Alarm" or "Initial Attack" one time for the first alarm dispatch

*(1400 HRS), Structure, 14445 Skyway; X-St: Decatur Way/Skyway IC/White 1*

5. RESOURCES SUMMARY				
RESOURCES ORDERED	RESOURCE IDENTIFICATION	ETA	ON SCENE	LOCATION/ASSIGNMENT
<i>First Alarm</i>				

- c) RESOURCE IDENTIFICATION
  - (1) For each resource dispatched, enter the three letter agency identifier and the radio number or the Strike Team Designator
  - (2) Examples:
    - (a) "PRA Chief 2"
    - (b) "BTU E-42"
    - (c) "BTU ST 9210-C"

*(1400 HRS), Structure, 14445 Skyway; X-St: Decatur Way/Skyway IC/White 1*

5. RESOURCES SUMMARY				
RESOURCES ORDERED	RESOURCE IDENTIFICATION	ETA	ON SCENE	LOCATION/ASSIGNMENT
First Alarm	<i>BTU B-1</i>			
	<i>BTU E-33</i>			
	<i>BTU SQD. 33</i>			
	<i>BTU E-31</i>			
	<i>BTU E-32</i>			
	<i>BTU WT-33</i>			

d) ETA

(1) Do not enter ETA's on initial attack dispatches; it is not important

e) ON SCENE

(1) When units arrive, check off their arrival in the ON SCENE column

(2) When you assign the same units, cross the check mark to denote that you have assigned the resources

f) LOCATION/ASSIGNMENT

(1) In this column, enter the assignment for each resource as it is committed.

(2) Do not erase any changes; line out the original entry and write in the new entry followed by the time in parenthesis, i.e.: (1450)

*(1400 HRS), Structure, 14445 Skyway; X-St: Decatur Way/Skyway IC/White 1*

5. RESOURCES SUMMARY				
RESOURCES ORDERED	RESOURCE IDENTIFICATION	ETA	ON SCENE	LOCATION/ASSIGNMENT
First Alarm	<i>BTU B-1</i>		<i>X</i>	<i>Command</i>
	<i>BTU E-33</i>		<i>X</i>	<i>Attack (1435) Overhaul</i>
	<i>BTU SQD. 33</i>		<i>X</i>	<i>Rescue</i>
	<i>BTU E-31</i>		<i>X</i>	<i>Water Supply (1430) Released</i>
	<i>BTU E-32</i>		<i>X</i>	<i>Staging (1430) Released</i>
	<i>BTU WT-33</i>		<i>X</i>	<i>Staging (1430) Released</i>

2. Go to Page 1 of Form 201
  - a) Complete Block 1 with the Incident Name; add the incident number, if available
  - b) Complete Blocks 2 and 3
  - c) Use Block 4 to sketch the incident; this will do two things for you:
    - (1) Enable you to document the incident location and extent of involvement upon your arrival
    - (2) Help you bring the incident complexity into focus enabling you to do a complete size-up, report on conditions, and develop appropriate incident objectives
  - d) Complete Block 8
3. Go to Page 2, Block 7. SUMMARY OF CURRENT CONDITIONS
  - a) This is the Block to record size-up, report on conditions, and special event information in addition to incident objectives (Plan)
  - b) Always list the time near the left margin of the page
  - c) First, list your size-up information using 'one liner' type entries:
    - (1) "(1410) Occupied single family, two story wood frame, smoke 2nd. story, fire 1st floor living room; no exposures."
    - (2) "(1500) 5 Acre brush fire, moderate to rapid spread, 30% slope, 10 mph south wind, structures threatened on Rim St."
  - d) Secondly, enter your incident objectives in priority order:
    - (1) "(1412) 1. Rescue, 2. Confine to 1st. floor, 3. Vent"
    - (2) "(1503) 1. Structure prot. Rim St., 2. Contain right flank, 3. Contain left flank"
  - e) Make additional situation and resource status and incident objectives changes, as necessary:
    - (1) "(1415) 2nd. Alarm requested"
    - (2) "(1520) 10 structures. burning on Rim St."

**7. SUMMARY OF CURRENT ACTIONS**

***(1405) Size-Up: Occupied single family, two story wood frame, smoke 2nd. story, fire first floor living room***

***(1406) Plan: 1. Rescue, 2. Confine to 1st. floor, 3. vent***

***(1412) All clear***

***(1420) Fire Contained***

***(1430) Releasing E-32 and WT-33***

4. Go to Page 3, Block 6, CURRENT ORGANIZATION
  - a) Enter initial incident organization
  - b) Do not fill any position boxes not staffed
- C. Beyond the Initial Attack Phase
  1. Page 4, Block 5. RESOURCES SUMMARY
    - a) If you order additional resources:
      - (1) Go to RESOURCES ORDERED column
        - (a) Enter time first followed by resource needed
        - (b) When dispatch returns confirming information in response to your order, enter the responding unit three letter ID and radio number
        - (c) Enter the ETA
        - (d) Use a line entry for each resource, strike team, etc.

*(1400 HRS), Structure, 14445 Skyway; X-St: Decatur Way/Skyway IC/White 1*

5. RESOURCES SUMMARY				
RESOURCES ORDERED	RESOURCE IDENTIFICATION	ETA	ON SCENE	LOCATION/ASSIGNMENT
First Alarm	BTU B-1		X	Command
	BTU E-33		X	<del>Attack</del> (1435) Overhaul
	BTU SQD. 33		X	Rescue
	BTU E-31		X	<del>Water Supply</del> (1430) Released
	BTU E-32		X	<del>Staging</del> (1430) Released
	BTU WT-33		X	<del>Staging</del> (1430) Released
<i>(1428) Air Utility</i>	<i>BTU AU-63</i>	<i>1500</i>		
<i>(1428) Add'l Eng.</i>	<i>BTU E-45</i>	<i>1440</i>		

2. Update Page 3, CURRENT ORGANIZATION, as appropriate

VI. See Appendix A, ICS Form 201 Instructions, for further information

**The Olive Plant Scenario**

**Occupancy:** Three story industrial olive processing facility.

**Location:** 1416 12th. Street, Cross street: Corona Street, Oroville, California.

**Jurisdiction:** CDF FIRE/Butte County Fire Department (BUT) with Mutual-Aid from Oroville (ORO) and El Medio (EMD) Fire Departments.

**Date:** April 2, 1992

**Time:** 1400 hours

**Weather:** Temperature: 75° F, Wind: North 3 MPH

**Type of Incident and First Report Information:** Fire and Explosion (Incident Number BTU-2008) in the warehouse basement of the olive plant, as reported by the plant manager. The manager further states that the fire is rapidly spreading toward the olive oil heating tanks and hazardous material storage tanks. Twelve employees were present at the time of the explosion, but only 8 are accounted for and two of those are badly injured.

**Water System:** Water is supplied from an 8" public water system main to the automatic fire sprinklers. The automatic fire sprinklers only partially cover the plant and machinery areas. The nearest wet barrel steamer hydrant is approximately 100 feet away at the intersection of 12th. Street and Feather Avenue. The next hydrant is 600 feet east near the intersection of 11th. Street and Sierra Avenue.

**Available Resources:**

**First Alarm:**

BUT Battalion 6, ETA 5 minutes  
BUT Engine 63, Officer & 5 FFs, ETA 3 minutes  
BUT Air Utility 63, 1 FF, ETA 7 minutes  
ORO Engine 111, Officer & 3 FFs, ETA 7 minutes  
ORO Truck 120, Officer & 3 FFs, ETA 7 minutes  
BUT Engine 64, Officer & 3 FFs, ETA 12 minutes  
BUT Squad 64, Officer & 5 FFs, ETA 12 minutes  
BUT Division 1, ETA 10 minutes

**Second Alarm:**

BUT Battalion 3, ETA 8 minutes  
BUT Engine 72, Officer & 5 FFs, ETA 8 minutes  
BUT Engine 272, Officer & 4 FFs, ETA 8 minutes  
EMD Engine 312, Officer & 3 FFs, ETA 8 minutes  
BUT Engine 71, Officer & 3 FFs, ETA 9 minutes  
BUT Squad 71, Officer & 2 FFs, ETA 9 minutes  
BUT HazMat 64, HazMat Officer and 8 HazMat Techs, ETA 20 minutes

**Initial Actions:**

Engine 63 arrived at 1403 hours, announced his presence as "Olive Command," reported that, "There are at least 5 to 9 fire victims. The fire is well involved on at least two of three floors in the western portion of the Olive Plant at the corner of 12th. St. and Corona Ave.," requested a second alarm, and stated his initial plan as, "Engine 63 is determining victim status and stretching LDH from the 12th. and Feather hydrant into the fire area and attempting to cut the fire from spreading to the east."

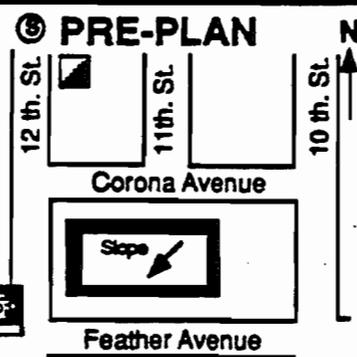
Battalion 6 arrived at 1405 hours, quickly surveyed the fire, met with Olive Command, and transitioned command from Engine 63 to himself. In addition to the second alarm ordered by Engine 63, Olive Command ordered HazMat 64, 5 medic units, and a medic copter. Olive Command declared the incident objectives to be:

1. Rescue, Triage, Treat, and Transport victims
2. Prevent extension to adjacent exposures
3. Confine the fire to the western portion of the Olive Plant
4. Identify HazMat products involved, contain, and provide HazMat services as needed

Olive Command established the Incident Command Post (ICP) on 12th. Street, 200 feet north of the fire, and "Olive Staging" on 12th. Street north of the ICP. Olive Command directed Air Utility 63 to set up at Olive Staging. He directed ORO Engine 111 and Truck 120 to Corona Avenue where they were to bring in a water supply from the hydrant north of the fire and work to cut off extension of fire to the east. Engine 64 was assigned to assist Engine 63 on the west side of the fire (12th. St.). Olive Command divided the fire into three groups (Fire/Rescue Group, EMS Group, and HazMat Group). Engine 63 was assigned as the Fire/Rescue Group Supervisor and Squad 64 as the EMS Group Supervisor. The EMS Group Supervisor conducted triage, established a treatment area west of the fire on Feather Avenue, and a helispot for the medic copter on Feather Avenue west of the treatment area.

After the first and second alarms and additional resources arrived at 1430 hours, the fire was

contained to the west 2/3 of the facility. Seven victims were triaged, treated, and transported to four nearby hospitals.

<b>R O U T E  I N</b>	<b>PRE-PLAN</b>	N	Name Villa del Oro Olive Plant	PRE-PLAN	
	12 th. St.  11th. St.	10 th. St.	N	St. Address 1416 12th. Street	<b>01</b>
	Corona Avenue			Cross St. Corona Avenue	
	Feather Avenue			Area Thermalito	
				Phone No. Plant 533-1822 Marvin Surratt, Mgr., 533-7283	
<b>W A T E R</b>	<u>Type</u>	<u>Location</u>			
1.	Hydrant	NW Corner, 12th. & Feather 12" Main			
2.	Hydrant	NE Corner, 11th. & Sierra 6" Main			
3.	Hydrant	SW Comer, 11th. & Sierra 6" Main			
<b>S A F E T Y</b>	<ol style="list-style-type: none"> <li>Sulfuric acid, behind office, DOT 1831, STCC 49-30040, 1500 gallons</li> <li>Hexane solvent, in solvent extraction plant, DOT 1208, STCC 49-08183, 7 each/55 gallon drums</li> <li>Corrosive sodium hydroxide, in olive oil refinery, DOT 1823, STCC 49-35235, 2000 gallons</li> <li>Use full protective clothing and SCBA on approach</li> </ol>				
<b>DOT #</b> <b>1831</b>					
<b>O P E R A T I O N S</b>	<ol style="list-style-type: none"> <li>For sprinkler supply, use Sierra Avenue hydrant</li> <li>Consider the need for evacuation and exposure protection before committing fire apparatus to fireground operations</li> <li>All fire extinguishers are locked in storage building</li> </ol>				
<b>G E N E R A L</b>	<p><b>Additional chemicals:</b></p> <p>1 each, 55 gallon drum of Astronal (caustic soda 25%)</p> <p>1 each, 55 gallon drum of caustic soda 50%</p>				
<b>Date</b> 3-7-92 Hawkins					



<b>SUPPLEMENT</b>	<b>NAME</b> Vista del Oro Olive Plant	<b>PRE-PLAN #</b> <b>01</b>
	<b>ST. ADDRESS</b> 1416 12 th. St. Thermalito	

## Olive Oil Refinery

Caustic Soda Storage  
2000 Gallons

4 th. Level

3 rd. Level

2 nd. Level

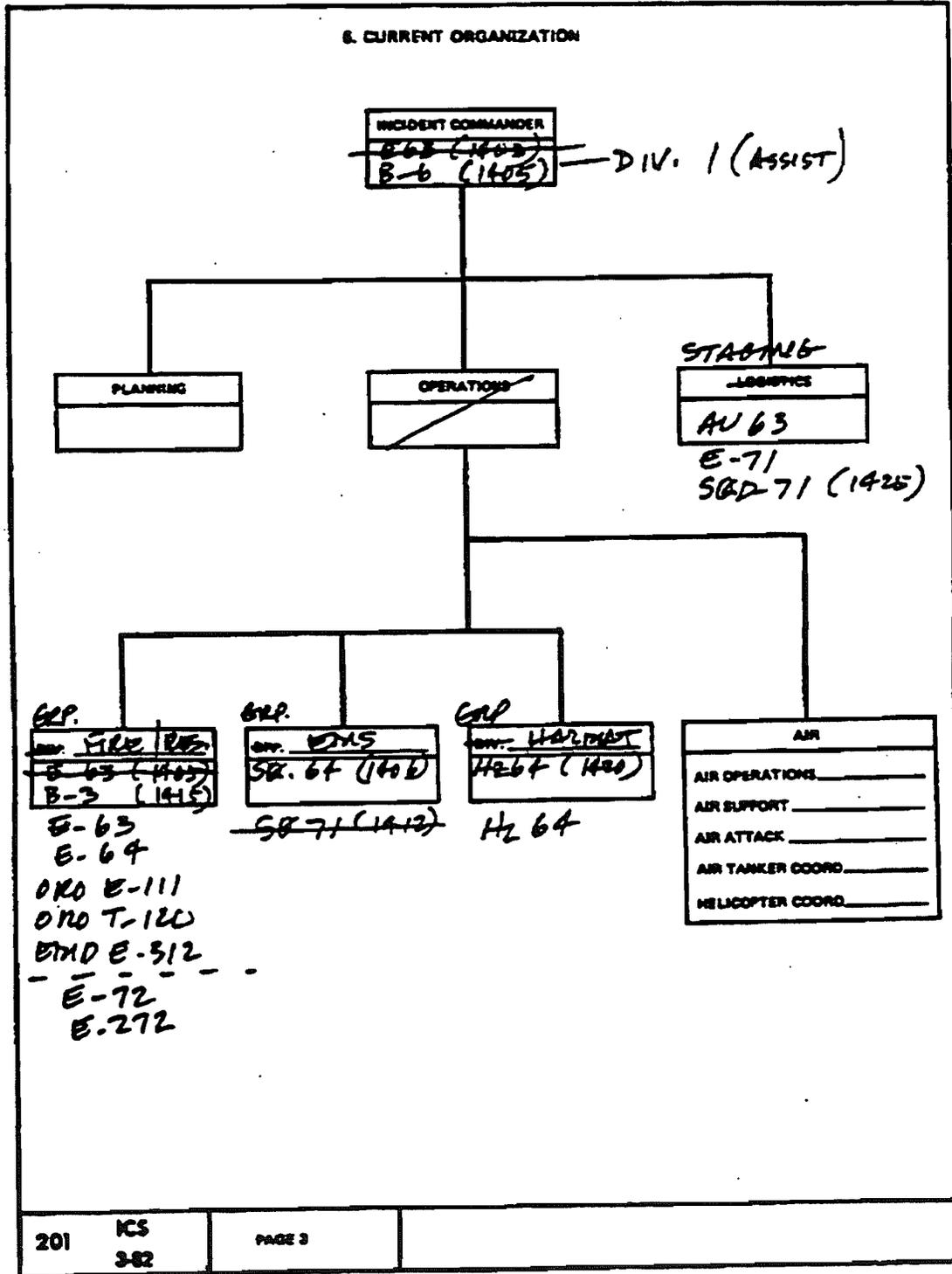
Ground Level

Open Stairwell

Olive Oil Heating Tanks

INCIDENT BRIEFING	1. INCIDENT NAME OLIVE BTU-2008	2. DATE PREPARED 4-2-92	3. TIME PREPARED 1400
4. MAP SKETCH <p>The map sketch shows a street layout with 12th St on the left, 11th St in the middle, and 10th St on the right. Corona Ave runs horizontally across the middle, and Feather Ave runs horizontally at the bottom. A building is drawn in the center, with a semi-circular area inside labeled '1590'. Equipment locations are marked with 'E63', 'E72', 'E120', 'E126', and 'E312'. A wind direction indicator shows 'WIND N/S' with an arrow pointing North. A circled 'S' with 'E-71' is located near 12th St. A circled 'H' is near the bottom left corner.</p>			
201 ICS 3-82	PAGE 1	5. PREPARED BY (NAME AND POSITION) DAN DYER, FC PAT B-6 7540-130-0282	

7. SUMMARY OF CURRENT ACTIONS		
1403: <u>R.O.C.</u> — 5 TO 9 VICTIMS. FIRE WELL INVOLVED ON 2 TO 3 FLOORS W/S OLIVE PLANT, 12 <sup>th</sup> & CORONA		
1403: REQUESTED 2ND ALARM		
1403: <u>PLAN</u> : E. 63 SIZE-UP VICTIMS. STRETCHING LDH FROM 12 <sup>th</sup> & FEATHER HYDRANT TO W/S FIRE, CUT OFF SPREAD TO E/S.		
1405: B-6 OLIVE IC.		
1406: <u>REQUEST</u> : H264, 5 MEDIC ATMS, 1 MEDIC COPTER		
1406: <u>PLAN (REVISED)</u> : INC. OBJS —		
1. RESCUE, TRIAGE, TREAT, & TRANSPORT		
2. EXPOSURE PROT.		
3. CONFINE FIRE TO W/S OLIVE PLANT		
4. HYDRANT ID, CONFINE., SERVICES		
<u>ICP</u> : 12 <sup>th</sup> ST. N. OF FIRE		
⑤: "OLIVE STAGING 200' N. OF ICP		
<u>ORGANIZATION</u> : ① FIRE/RESCUE GROUP, ② EMS GROUP, ③ HYDRANT GROUP		
1409: TREATMENT AREA FEATHER AVE W. OF 12 <sup>th</sup> ④ W. OF TREATMENT		
1430: 7 VICTIMS TRANSPORTED		
1430: FIRE CONTAINED		
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**Honey Run Incident Scenario**

**Type of Property Usage:** Unoccupied watershed area (Honey Run Canyon).

**Incident Location:** On east side (uphill) side of Honey Run Road, 1.5 miles south of Paradise.

**Jurisdiction:** Paradise Fire Department (PRA) with Mutual-Aid from CDF FIRE/Butte County Fire Departments (BTU), and other mutual-aid providers.

**Date:** July 9, 1992

**Time:** 1600 hours

**Weather:** Temp: 100° F, Relative Humidity: 15%, and Wind: North/ 10 MPH

**Type of Incident and First Report Information:** Watershed fire starting in an unoccupied brush area approximately 1.5 miles south of Paradise. The Paradise Fire Department (City Fire Department) receives numerous 911 reports of the fire spreading rapidly up the east slope toward about 40 residences near the Skyway, a four lane thoroughfare connecting Paradise and Chico. Additionally, the CDF FIRE/Butte County Fire Department receives three fire lookout reports of the emergency which CDF FIRE relays to Paradise. Paradise Fire has automatic aid with CDF FIRE/Butte County Fire for two engines and a battalion chief which Paradise requests.

**Water System:** There is no water available on Honey Run Road. There are fire hydrants on the Skyway.

**Available Resources:**

**First Alarm:**

PRA Chief 2, ETA 5 minutes  
PRA Engine 1, Officer & 5 FFs, ETA 5 minutes  
PRA Engine 2, Officer & 5 FFs, ETA 8 minutes  
PRA Engine 3, Officer & 5 FFs, ETA 9 minutes  
BTU Engine 2176, Officer & 3 FFs, ETA 10 minutes  
BTU Engine 2186, Officer & 3 FFs, ETA 10 minutes  
BTU Battalion 1, ETA 10 minutes

**Additional Resources Available:**

Available as requested

**Initial Actions:**

Paradise Engine 1 proceeds down Honey Run Road 1.5 miles and finds a rapidly spreading 3 acre fire on the east side of the road. Engine 1 names the incident "Honey Run" and becomes "Honey Run Command." Command directs Paradise Engines 2 and 3 to proceed down the Skyway and evaluate the structural loss potential. Command tells CDF FIRE Engines 2176 and 2186 to commit with Engine 1 on Honey Run Road and start a progressive hoselay on the up canyon (North side or left flank) side of the fire. Additionally, Command (Engine 1) suggests that Paradise Chief 2 takes Command and establishes an ICP on Skyway near Neal Road. Paradise Chief 2 does so (1606 hrs.) and becomes the "Honey Run Command." The incident objectives are established as:

1. Protect structures
2. Attempt to stop the fire at Skyway
3. Secure the left or up canyon flank of the fire to prevent the fire from spreading further into the developed part of Paradise
4. Secure the right or down canyon flank of the fire

"Honey Run Command" communicates the incident objectives to all responding resources and places the following resource order (1608 hrs.) with the Paradise Fire dispatch center:

"Request the nearest 20 engines, any type, with four leaders, the nearest three fire crews, four fire dozers, four water tenders, and a Staging Area Manager to respond to a staging area at Lookout Point ("Lookout Staging") three miles south of Paradise; Request three Division/Group Supervisors to respond to the ICP; Request two copters, one air attack, and four air tankers; and alert the mutual-aid system that 50 more engines may be immediately needed."

At 1610 hours, Command divides the incident into two divisions with Division A being the left flank from Honey Run Road to the Skyway and Division B being the right flank from Honey Run Road to the Skyway. Structure Group C is established at the ridge line along Skyway. Paradise Fire Engine 1 is assigned as Division A and Paradise Engine 2 as Structure Group C. Until more resources are committed to the lower end of the fire, Command elects to not staff Division B. Checking his ICS Form 201, Command notes that Paradise Engine 1 and CDF FIRE Engines 2176 and 2186 are assigned to Division A. Assigned to Structure Group C are Paradise Engines 2 and 3. Upon his arrival, CDF FIRE Battalion 1 is assigned as "Operations."

At 1613 hours, the Paradise dispatch center advises that the following additional resources are assigned to the incident:

PRA Engine 1R, Officer & 2 FFs, ETA 1625  
BTU Engine 33, Officer & 2 FFs, ETA 1625  
BTU Engine 44, Officer & 2 FFs, ETA 1625  
BTU Engine 26, Officer & 3 FFs, ETA 1625  
BTU Engine 34, Officer & 3 FFs, ETA 1625  
BTU Engine 31, Officer & 3 FFs, ETA 1625  
BTU Engine 2162, Officer & 3 FFs, ETA 1635  
BTU Engine 2178, Officer & 3 FFs, ETA 1635  
BTU Engine 25, Officer & 3 FFs, ETA 1635  
BTU Engine 45, Officer & 3 FFs, ETA 1635  
BTU Engine 42, Officer & 4 FFs, ETA 1635  
BTU Engine 2161, Officer & 3 FFs, ETA 1640  
BTU Engine 2177, Officer & 3 FFs, ETA 1640  
BTU Engine 2180, Officer & 3 FFs, ETA 1640  
BTU Engine 2181, Officer & 3 FFs, ETA 1640  
BTU Engine 63, Officer & 2 FFs, ETA 1640  
CHI Engine 4, Officer & 2 FFs, ETA 1635  
CHI Engine 1, Officer & 2 FFs, ETA 1635  
CHI Engine 1R, Officer & 2 FFs, ETA 1645  
ORO Engine 113, Officer & 2 FFs, ETA 1645  
Staging Area Manager, CHI Battalion 1, ETA 1630  
Leader, BTU Battalion 2, ETA 1630  
Leader, PRA Captain Moritz, ETA 1645  
Leader, PRA Captain Tygart, ETA 1645  
Leader, CHI Battalion 2, ETA 1645  
BTU Crew 1, Officer & 17 FFs, ETA 1635  
BTU Crew 2, Officer & 17 FFs, ETA 1640  
BTU Crew 3, Officer & 17 FFs, 1645  
BTU Transport/Dozer 2141, ETA 1640  
BTU Transport/Dozer 2140, ETA 1655  
TGU Transport/Dozer 2541, ETA 1715  
TGU Transport/Dozer 2540, ETA 1730  
BTU Water Tender 33, ETA 1630  
BTU Water Tender 42, ETA 1635  
BTU Water Tender 26, ETA 1640  
BTU Water Tender 25, ETA 1645  
Group Supervisor, PRA Chief 3, ETA 1620

Division Supervisor, PRA Chief 4, ETA 1630  
Division Supervisor, BTU Division 3, ETA 1630  
TGU Copter 205, ETA 1625  
TGU Helitender 205, ETA 1655  
PNF Copter 512, ETA 1640  
PNF Helitender 512, ETA 1600  
BTU Air Attack 210, ETA 1625  
BTU Tanker 78, ETA 1625  
MNF Tanker 17, ETA 1630  
SHF Tanker 25, ETA 1635  
SHF Tanker 16, ETA 1635

At 1625 hours, Air Attack 210 arrives and requests instructions from Command for Copter 205, Tankers 78, and 17. Command directs "Honey Run Air Attack" to contact Operations for instructions. Operations advises Air Attack of the situation, incident objectives, and directs the tankers to work structural protection along Skyway. Copter 205 is assigned to make water drops between tanker drops.

At 1630 hours, Command assigns PRA Chief 3 as Structure Group C. The IC also directs PRA Engine 1R, and BTU Engines 33, 44, 26, 34 to form as Task Force 1 under BTU Battalion 2 as the Task Force Leader. They are assigned to Group C. At 1635 hours, BTU Division 3 is assigned as Division B and given PRA Captain Moritz as Task Force 2 Leader along with BTU Engines 31, 2162, 2178, 25, and 45 which comprise Task Force 2. CHI Battalion 1 advises the IC that "Lookout Staging" is operational at 1630 hours.

At approximately 1635 hours, Group C reports that the fire is spotting heavily and will reach Skyway within 10 minutes. The Paradise dispatch center advises that numerous residents along the Skyway are panicky and feel that their houses are imminently threatened. PRA Chief 4 is assigned as Division A at 1635 hours. At 1640 hours, Operations directs Water Tenders 33 and 42 to Divisions A and B, respectively, and BTU Crew 1 to Division A. Division A reports that the progressive hoselay is 1/2 the way up the left flank to the Skyway, but progress is slow due to the steep and rocky topography, heavy fuels, and a hot burning fire. Division B reports that Task Force 2 has initiated a progressive hoselay on the right flank as of 1645 hours.

At 1650 hours, Operations directs Staging to form Task Force 3 including PRA Captain Tygart as the Task Force Leader with BTU Engines 42, 2161, 2177, 2180, and 2181. Operations assigns them to work for Group C. At about the same time, Operations directs the formation of Task Force 4 including CHI Battalion 2 as the TFL with BTU Engine 63, CHI Engines 4, 1, and 1R, and ORO Engine 113. They are directed to Group C. PNF Copter 512

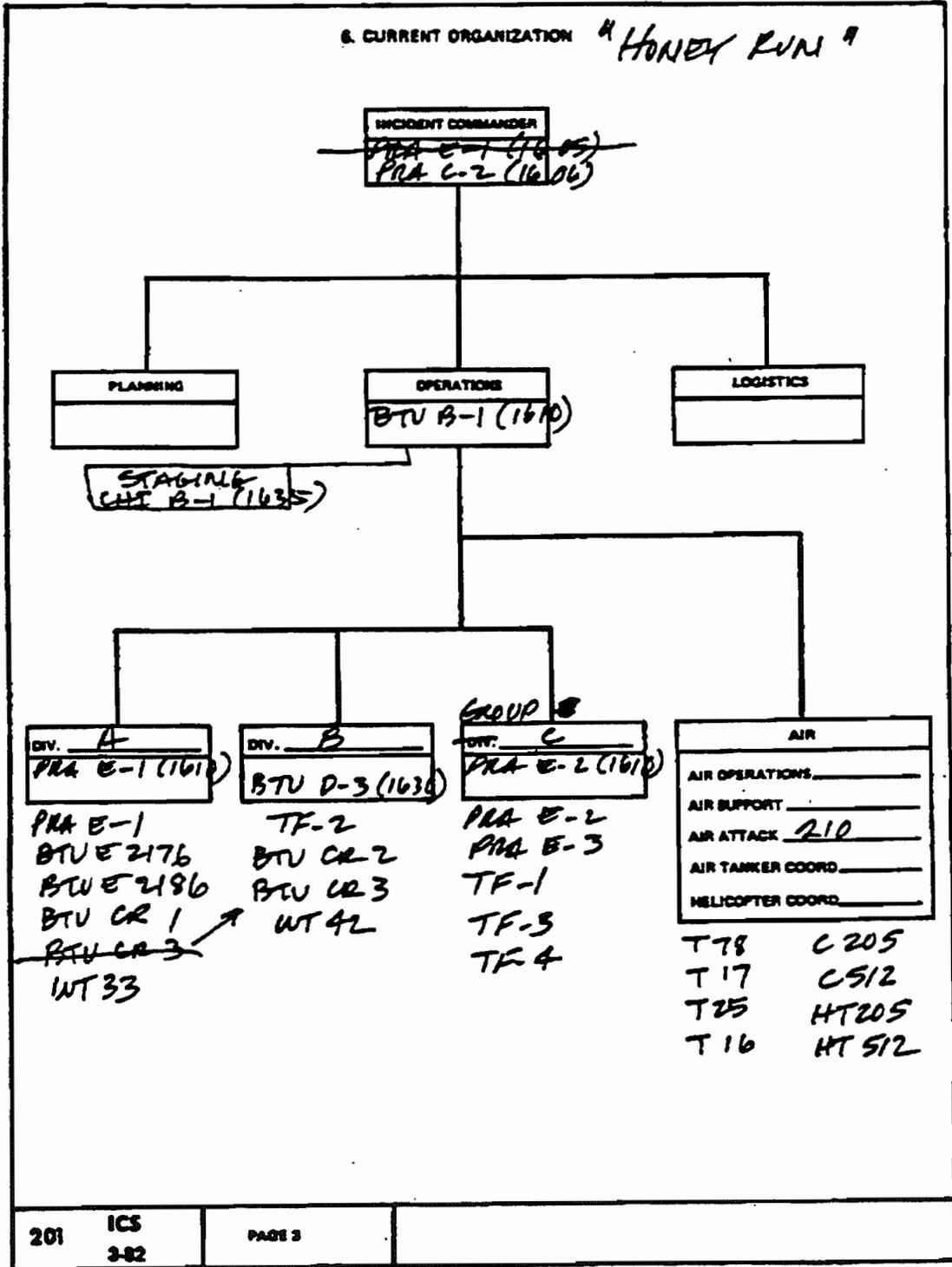
arrives and is assigned to work for Honey Run Air Attack making water drops.

The fire hits the Skyway at 1500 hours, burns the exterior of five houses, and is held west of the Skyway. All resources are held in staging and subsequently released.

<p><b>SPECIAL MAP</b></p>	<p>Name Honey Run Canyon</p>	<p>Spec Map ***</p>
	<p>St. Address Honey Run Road &amp; Vicinity</p>	
	<p>Cross Street Skyway</p>	
	<p>Area Southwest Side of Paradise</p>	
	<p>Phone No. N/A</p>	
<p><b>DIAGRAM</b></p>		
<p>J. Hawkins, 3-9-92</p>		

<p><b>INCIDENT BRIEFING</b></p>	<p>1. INCIDENT NAME <b>HONEY RUN 365</b></p>	<p>2. DATE PREPARED <b>7-9-92</b></p>	<p>3. TIME PREPARED <b>1600</b></p>
<p>4. MAP SKETCH</p> <p>← PARADISE</p> <p>SKYWAY W/B</p> <p>GROUP C</p> <p>RUSSELL DRIVE</p> <p>1700 HRS.</p> <p>1645 HRS.</p> <p>1615 HRS.</p> <p>DIVISION A</p> <p>DIVISION B</p> <p>HONEY RUN ROAD</p> <p>HONEY RUN CREEK</p> <p>WIND N/10 MPH</p> <p>↓ N</p> <p>CROSS ROAD</p>		<p>CROSS ROAD</p>	
<p>201 ICS 3-82</p>	<p>PAGE 1</p>	<p>5. PREPARED BY (NAME AND POSITION) <b>JIM BROSHAR, IC, PRA C-2</b></p> <p>7540-130-0282</p>	

7. SUMMARY OF CURRENT ACTIONS		
1605: PRA E-1 @ SCENE / "HONEY RUN IC" / SAC. UPHILL - RAPID ROS / E-2 & E-3 SKYWAY STRUTS / E-2176 & E2196 TO E-1 / E-1 PROG. HL, LEFT FLK.		
1606: PRA C-2 IC / ICP: SKYWAY @ NEAL RD / OPS: (1) STRUTS (2) STOP @ SKYWAY (3) LEFT FLANK (TOWN) (4) RIGHT FLANK / WX: DB 100°F, RH 15%, WIND N/10		
1608: ADDL REQUEST		
1610: DIV. A: LT. FLK, DIV B: RT. FLK, GRP. C - SKYWAY <sup>STRUTS</sup>		
1610: BTU B-1 OPS.		
1625: AIR ATTACK WORKING AGS + COPTERS (H2O DRIPS)		
1630: PRA C-3 GRP. C / TF-1 TO GRP. C		
1635: BTU D-3 DIV. B + TF-2 / CHE B-1 (5)		
1635: GRP C - FIRE SPOTTING HEAVILY / WILL REACH SKYWAY IN 10 MINS (1645) / PRA C-4 DIV. A		
1640: DIV. A: PROG. HOSELAY 1/2 UP LEFT FLANK / SLOW / STEEP & ROCKY / HVT. FUELS / HOT FIRE		
1645: DIV. B: HOSELAY STARTED RIGHT FLK.		
1650: TF-3 & TF-4 TO GRP. C		
1700: FIRE HITTING SKYWAY, 5 HOUSES SCORCHED, NO LOSSES, FIRE DOES NOT JUMP SKYWAY		
2000: CONTAINED		
201	ICS 3-82	PAGE 2



1600/BRUSH: 1/2 HONEY RUN / "HONEY RUN" / WHITE / PAGE 4

B. RESOURCES SUMMARY				
RESOURCES ORDERED,	RESOURCE IDENTIFICATION	ETA	ON SCENE	LOCATION/ASSIGNMENT
1 <sup>ST</sup> ALARM	PRA C-2		X	IC (1608)
	PRA E-1		X	IC (1605), DIV. A SUP (1610) 1635
	PRA E-2		X	SKYWAY, BRAC SUP (1610) (1635)
	PRA E-3		X	SKYWAY, BRP. C
	BTU E2176		X	LDR. FLANK, DIV. A
	BTU E2186		X	" " "
	BTU B-1		X	OPS. (1610)
2 <sup>ND</sup> ALARM (1608)	E PRA E1R	1625	X	TF 1
	E BTU E33	1625	X	TF 1
	E BTU E44	1625	X	TF 1
	E BTU E26	1625	X	TF 1
	E BTU E34	1635	X	TF 1
	E BTU E31	1625	X	TF 2
	E BTU E2162	1635	X	TF 2
	E BTU E2178	1635	X	TF 2
	E BTU E25	1635	X	TF 2
	E BTU E45	1635	X	TF 2
	E BTU E42	1635	X	TF-3
	E BTU E2161	1640	X	TF-3
	E BTU E2171	1640	X	TF-3
	E BTU E2180	1640	X	TF-3
	E BTU E2181	1640	X	TF-3
	E BTU E63	1640	X	TF-4
	E CHE E4	1635	X	TF-4
	E CHE E1	1635	X	TF-4
	E CHE E1R	1645	X	TF-4
	E ORD E113	1645	X	TF-4
TFL BTU B-2	1630	X	TF 1 LDR. / DIV. BRP C	
TFL PRA E1R	1645	X	TF 2 LDR. / DIV. B	
TFL PRA E1R	1645	X	TF 3 LDR. / BRP C	
TFL CHE B-2	1645	X	TF 4 LDR. / BRP C	
CR BTU CR1	1635	X	DIV. A	
CR BTU CR2	1640	X	DIV. B	
CR BTU CR3	1645	X	DIV. A (1650) / DIV. B	
DDZ BTU T/D241	1640	✓	(5)	
DDZ BTU T/D240	1655	✓	(5)	
201	ICS 3-82	PAGE 4		



**REFERENCES**

Field Operations Guide, ICS 420-1, National Wildfire Coordinating Group, August, 1989.

ICS Forms Manual, ICS 230-2, National Wildfire Coordinating Group Publication NFES 1322, April, 1987.

Butte County Pre-Fire Plan Handbook, Butte County Fire Department, 1992.

**About Your Instructor**

John Hawkins is a Division Chief with the California Department of Forestry and Fire Protection(CDF FIRE) in the Butte Unit, Oroville, California. Chief Hawkins supervises the joint CDF FIRE-California Conservation Corps Butte Fire Center with three fire crews, the Unit Training Bureau, and the Chico Air Attack Base. His duties also include local government fire protection provided Butte County by CDF under cooperative agreement and performing as the County Fire Department Technical Rescue Coordinator.

Chief Hawkins has an A. A. degree in Fire Science and a B. S. degree in Forestry. Additionally, he is certified by the California State Fire Marshal as a Chief Fire Officer. Hawkins is a graduate of the National Fire Academy Executive Fire Officer Program in Emmitsburg, Maryland, and has completed the Advanced Incident Management course at the National Advanced Resource Technology Center, Marana, Arizona.

Chief Hawkins has over 25 years of fire protection experience in administration, firefighting and rescue, hazardous materials response, fire prevention and investigation, and training. He routinely performs as an Incident Commander and Operations Section Chief on large scale incidents. During the 1987 through 1990 fire seasons, he performed as an Operations Section Chief on a National Interagency Incident Management Team. In that role, he directed firefighting activities at major incidents in several states and was involved in the 1987 Stanislaus and 1988 Yellowstone Fire Complexes. Currently, Chief Hawkins is assigned as an Incident Commander on a CDF FIRE Regional Incident Management Team.

Chief Hawkins authored the Incident Command System Operations Section Chief training course and is an instructor in California for the same interagency course. Chief Hawkins also instructs the Incident Commander course, and other classes as an adjunct instructor at the CDF FIRE Academy and at regional training centers. In addition to his department duties, Chief Hawkins is an adjunct instructor at the California Fire Academy at Asilomar, California, at community colleges throughout California, and has instructed for the oil industry in Alaska.

Chief Hawkins can be reached as follows:

Division Chief John R. Hawkins  
Calif. Dept. of Forestry & Fire Protection  
Butte County Fire Department  
6640 Steiffer Road  
Magalia, California 95954-9778  
(916) 873-0330  
FAX (916) 873-1473

**Appendix A, ICS Form 201 Completion Instructions  
Excerpts from ICS 230-2  
National Wildfire Coordinating Group Publication NFES 1322  
CHAPTER 2 INCIDENT COMMAND SYSTEM FORMS**

**2.2 INCIDENT BRIEFING (ICS FORM 201)**

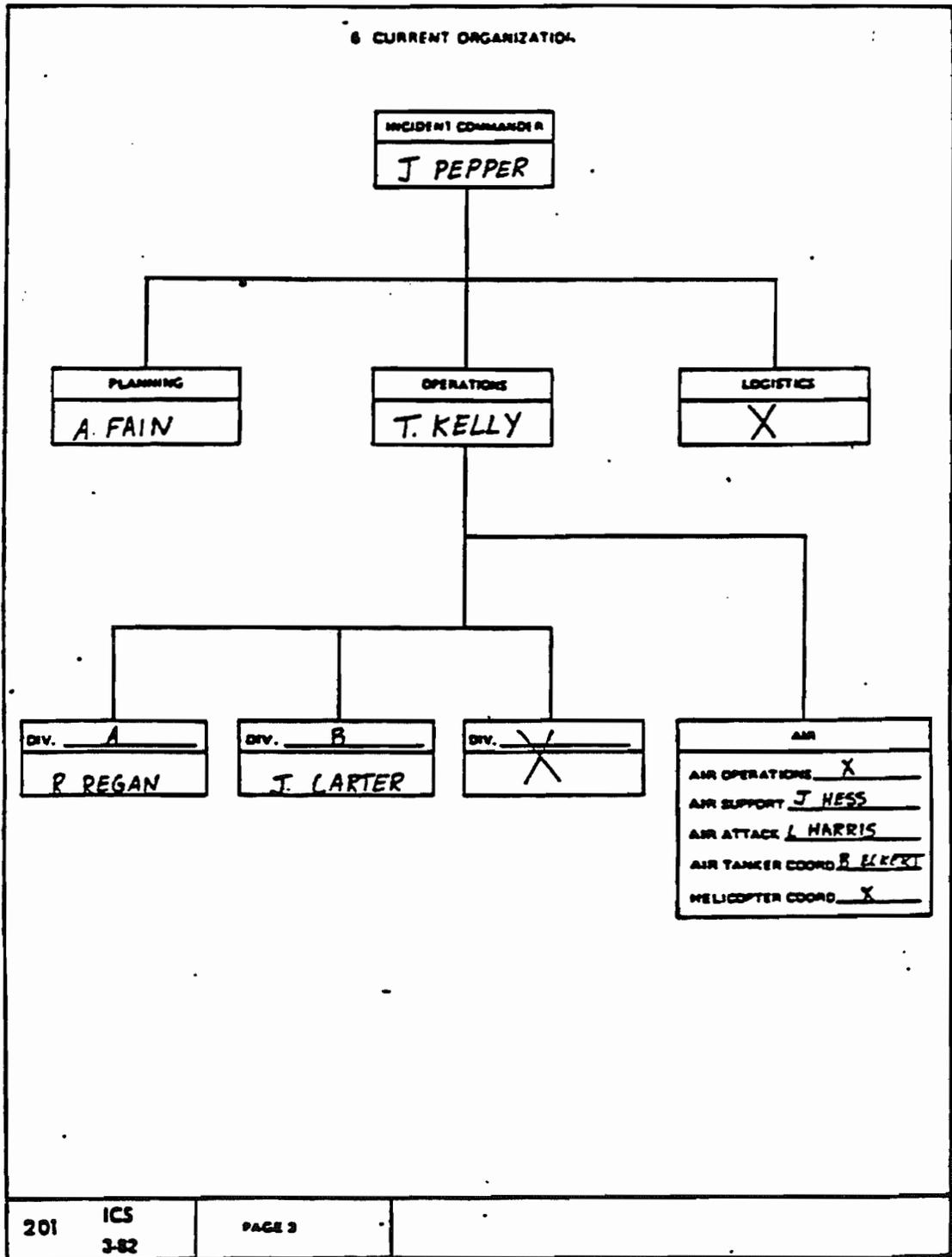
- a. **Purpose.** The Incident Briefing form provides the Incident Commander (and the Command and General Staff assuming command of the incident) with basic information regarding the incident situation and the resources allocated to the incident. It also serves as a permanent record of the initial response to the incident.
- b. **Preparation.** The briefing form is prepared by the initial attack Incident Commander for presentation to the Incident Commander along with a more detailed oral briefing. Proper symbology, as shown in Figure 1-1, should be used when preparing a map of the incident.
- c. **Distribution.** After the initial briefing of the Incident Commander and General Staff members, the Incident Briefing is duplicated and distributed to the Command Staff, Section Chiefs, Branch Directors, Division/Group Supervisors, and appropriate Planning and Logistics Section Unit Leaders. The sketch map and summary of current action portions of the briefing form are given to the Situation Unit while the Current Organization and Resources Summary portion are given to the Resources Unit.

**INSTRUCTIONS FOR COMPLETING THE INCIDENT BRIEFING (ICS FORM 201)**

<b>ITEM NUMBER</b>	<b>ITEM TITLE</b>	<b>INSTRUCTIONS</b>
1.	Incident Name	Print the name assigned the incident.
2.	Date Prepared	Enter the date prepared (month, day, year)
3.	Time Prepared	Enter time prepared (24-hour clock)
4.	Map Sketch	Show perimeter and control lines, resource assignments, incident facilities, and other special information on a sketch map or attached to the topographic map.
5.	Resources Summary	Enter the following information about the resources allocated to the incident.
	Resources Ordered	Enter the number and type of resources ordered.
	Resource Identification	Enter the agency three letter designator, S/T, Kind/Type, and resource designator.
	ETA/On Scene	Enter the estimated arrival time and place the arrival time or check mark in the "On Scene" column upon arrival.
	Location/Assignment	Enter the assigned location of the resource and/or the actual assignment.
6.	Current Organization	Enter on the organization chart the names of the individuals assigned to each position. Modify the chart as necessary.
7.	Summary of Current Actions	Enter the strategy and tactics used on the incident and note any specific problem areas.
8.	Prepared By	Enter the name and position of the person completing the form.

INCIDENT BRIEFING		1 INCIDENT NAME <b>CREST</b>	2 DATE PREPARED <b>8-20-28</b>	3 TIME PREPARED <b>1700</b>
4 MAP SKETCH				
201	ICS 8-78	PAGE 1	5 PREPARED BY NAME AND POSITION: <b>Joe Pepper, Incident Commander</b>	

7. SUMMARY OF CURRENT ACTIONS		
ACTIONS TO PRESENT (1700)		
DIV A		
DOZER, HANDCREWS AND ENGINES ARE HOLDING LEFT FLANK FROM POINT OF ORIGIN TO PIPELINE WITH SUPPORT FROM FIXED-WING AIRCRAFT. PROGRESS IS SLOW. DOZER WILL REACH SLOPE LIMITATION AT APPROXIMATELY 1930. TOPOGRAPHY ABOVE THE PIPELINE STEEPENS AND DIRECT ATTACK WILL BE LIMITED TO HANDCREWS AND AIR TANKERS.		
DIV B		
DOZER HANDCREWS AND ENGINES ARE HOLDING RIGHT FLANK FROM POINT OF ORIGIN TO JUST ABOVE PIPELINE. DOZER HAS REACHED ITS LIMITATION AND HAS TURNED BACK WIDENING AND IMPROVING LINE AS IT GOES. HELICOPTERS ARE SUPPORTING HANDCREWS WITH WATER DROPS. HELIBASE IS CURRENTLY LOCATED AT LOST LAKE. BDF ENGINE 373 IS ASSIGNED TO HELIBASE FOR DUST ABATEMENT AND TO FILL DROP TANKS.		
CDF STRIKE TEAM 6411 IS ENROUTE UP CLEGHORN TRUCK TRAIL TO 1) HOLD TRUCK TRAIL WITH DIRECT ATTACK IF POSSIBLE, OR 2) FIRE OUT ROAD.		
A STAGING AREA, INCIDENT BASE AND ICP HAVE ALL BEEN ESTABLISHED FOR THE TIME BEING AT CAJON CAMPGROUND.		
WEATHER TAKEN AT 1330 FROM HORMON ROCKS STATION. (APPROXIMATELY 4 MILES FROM FIRE) INDICATED:		
TEMP: 90° WIND: SW AT 20 FUEL MOISTURE: 3.0		
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# **INCIDENT COMMAND SYSTEM**

## **S3339 Division/Group Supervisor –ALL RISK**

**Student  
Manual**

