

**Air Attack Base Location Analysis
Riverside County
July 18, 2005**

Executive Summary

The California Department of Forestry and Fire Protection (CDF) determined in 1998 that the Hemet-Ryan Air Attack Base needed to be relocated. The decision to relocate the base was primarily a result of concerns expressed by Riverside County officials on the future capability of air tanker operations and civil aircraft, and the inadequate Hemet Airport runway length. CDF prepared a report analyzing alternative locations for the Air Attack Base and concluded that March Air Force Reserve Base was the best alternative in Riverside County. The 1998 report concluded that from an operational perspective, the Hemet Airport provides the best location in meeting CDF's initial attack fire suppression goals. However, remaining at Hemet was not identified as an option in 1998.

In May of 2005, the Riverside County Board of Supervisors, through an agendaized Board item, requested that CDF revisit the decision to relocate from Hemet Airport to March Airport. Supervisors Stone and Tavaglione met with the CDF Director to present the concerns of the Board of Supervisors. The CDF Director established a committee to take a "neutral" look at the decision to relocate the air attack base.

The committee held two meetings to identify and determine the significance of the current factors in the location of the air attack base. While a number of issues were reviewed, the following were the significant issues identified:

1. Hemet Airport geographic location provides the greatest success in meeting the CDF initial attack fire suppression goals.
2. March Airport has a greater percentage of time below Visual Flight Rule Standards than Hemet Airport.
3. Hemet Airport's current runway length is inadequate for future CDF air operations.
4. Sacramento Air Program staff has flight safety issues that need to be addressed prior to a final location decision.

The significant change since the 1998 report is the commitment by Riverside County to make the necessary improvements to the Hemet Airport to support a CDF Air Attack Base. The 1998 report cited Hemet Airport as the most effective operational location for achieving CDF fire suppression goals. During the current committee review, fire suppression simulation runs demonstrated that Hemet Airport provided a greater success rate than March Airport. However, during the committee meetings, CDF Sacramento Aviation personnel expressed reservations about potential safety concerns that will need to be taken into consideration during the CDF Executive review of this committee report.

Also, due to the diverse makeup of the committee, the committee Chairman encouraged committee members to transmit their individual views and concerns to the CDF Director.

Background

The California Department of Forestry and Fire Protection (CDF) is responsible for wildland fire protection on private and state-owned lands in California that hold timber, watershed and range values. The California State Board of Forestry and Fire Protection classify these lands as State Responsibility Area (SRA).

In Riverside County, the CDF fire protection system is comprised of state-funded engines, fire crews, dozers, and firefighting aircraft. These state-funded resources function within an integrated fire protection system that partners with local government in the unincorporated county areas and sixteen contract cities. Local government funds the structural fire and emergency medical services and operates in a seamless command and control system that relies on a "closest resources" dispatch strategy. The State benefits from this integrated fire protection system where, on the majority of SRA fires, the first arriving fire engine is a local government funded resource under CDF command and control.

Time is a critical factor in the success or failure of CDF's initial attack response. Successful containment of wildland fires is dependent on delivering to the fire scene control line production units (engines, handcrews, and aircraft) that exceed the rate of fire spread. The CDF Aviation resources provide one of the most effective tools in achieving the containment of wildfires (production units exceeding fire parameter growth). While CDF aircraft line production capabilities require the ground crews to follow up on aircraft retardant drops, CDF aircraft are normally not constrained by geographical features. Aircraft have the ability to retard the rate of fire spread with repeated retardant on the fire where there is the most activity. This allows the ground protection units to build fire line and stop the fire growth.

The strategic location of firefighting resources provides the foundation for CDF Initial Attack effectiveness, or success rate, of 95% of all fires contained at or under 10 acres in size. CDF's Hemet-Ryan Air Attack has a long history of being one of the most active and important air bases in the CDF system.

In December of 1997, the Riverside County Supervisor for the Third District sent a letter to CDF raising concerns that "Hemet-Ryan Airport may not be the best location" for future air attack base operations. The Supervisor cited the direction given to the Riverside County Economic Development Agency (EDA) to make Hemet-Ryan Airport a more productive general aviation airport. The letter cites the potential recreation impacts of "what will soon be Southern California's largest reservoir and recreation facilities" and anticipated a higher airport usage expressed concerns that "these activities will probably not be compatible with the heavy air traffic generated by CDF during fire season."

Based on the Riverside County Supervisor 1997 concerns, CDF prepared a study of replacement potential air base locations in Riverside and San Bernardino entitled the Hemet-Ryan Air Attack Base Relocation Study. The 1998 study developed a comparative matrix analysis for critical factors at French Valley Airport, March Air Reserve Base, San Bernardino International Airport and Hemet-Ryan Airport. The critical factors used in the study included:

- Location
- Runway length and width
- Runway load carrying capacity
- Large aircraft restrictions
- Access to runway (taxi length)
- Controlled airport
- Proximity to SRA
- Competing airport land uses
- Fuel availability
- Landing fees
- Down days for airport during severe fire weather
- Compatibility of use with the surrounding area and the general plan
- Continued use in the future
- Aircraft access problems (climb rate)
- Airspace limitations

The 1998 report listed the following "Con" factors for the March and Hemet-Ryan:

March Airport

- Instrument flight rules may apply during declared fire season due to the smog.
- 100 Low-lead fuel not currently available
- Cross winds under Santa Ana conditions

Hemet-Ryan Airport

- Competing airport land uses (student pilots, gliders, general aviation, Ultra-lights, etc.) incompatibilities with air tanker operations. (Note: Report references the Third District Supervisor's 1997 letter for these potential impacts.)
- Length and width of runway - 4,315' by 100' w/ 200' overrun at each end.
- Non-controlled Airport.
- All USFS Air Tankers with the exception of DC-4s are prohibited from utilizing Hemet Airport due to runway length.

Also, the 1998 report's Critical Factor Analysis acknowledged that no landing fees or lease cost information was available for March Airport. The report stated that Riverside County did not want to extend the Hemet Lease beyond 2008 and that Hemet was in conformance with the Riverside County Land Use Airport Use Plan.

The 1998 report provides a "Program Analysis" narrative considering climate, topography, fuels, weather, assets at risk and other geographic and demographic factors. The report confirms, "The area served by Hemet-Ryan includes some of the most seriously imperiled lands in the State." The report finds "it can be concluded that any relocation of this air attack base (Hemet) away from these areas must necessarily result in an increase to the number of fires exceeding the ten-acre failure threshold because retardant delivery is slowed in the critical initial attack phase." The report found that the relocation to March Airport reduced services to "only 190,478 acres."

The 1998 report assumed that Hemet-Ryan Air Base was not available for future use and the analysis was to find the next best alternative. The following comments, while focused at the differences between March and San Bernardino airports, would assume to hold true when considering the difference between March and Hemet airports:

- Since it can reasonably be assumed that any change in air base location will negatively impact the initial attack delivery system and result in an increase in the number of initial attack failures, there must be a corresponding increase to the cost of fire suppression borne by the State's General Fund and an increase in citizen losses as a result of these initial attack failures.
- Another factor that must also be considered is the reload component – the further the distance from base to fire incident, the longer the turn-around time the aircraft has before it returns with its next load of retardant.
- Ryan Air Attack base has been the most active air attack base in the State of California and probably the world for many years. The analysis of this research paper points out that March Air Base would have the least negative effect on the current state responsibility fire protection system.

Analysis of the current situation

In May of 2005, the Riverside County Board of Supervisors requested CDF revisit the decision to relocate Hemet-Ryan Air Attack Base to March Airport. The foundation of the BOS request was represented by current Third District Supervisor strong support for maintaining the shortest response time to the high hazard fire danger area of the southwest portion of Riverside County. Also, the Riverside County EDA notified CDF that they concluded that no airport incompatibility uses existed and that the issues anticipated in 1997 that impacted Hemet Airport use were no longer a concern to the county. Also, EDA presented plans to lengthen the runway and thereby remove one of the major CDF concerns with future air operations at Hemet. The Department of Forestry and Fire Protection Director appointed a committee to take a neutral look at its decision to relocate Hemet-Ryan Air Attack Base to March Airport. The Director requested that the committee analyze current factors and forward an analysis to CDF Sacramento for a final decision.

The committee membership includes two Riverside County BOS members, and subject experts from Riverside County and Sacramento CDF, see Attachment "A" for committee membership. The committee's first meeting was in May. This meeting provided a number of concerns and opportunities as the members presented a number of unique issues

important to constitute group or program representatives. The committee identified the potential factors and developed information to determine each factor's potential significance in the final air attack base location decision. Based on the committee responsibility and perspectives, different priorities were attached to individual factors. It became apparent that, even with the agreement on the individual factors, committee members perspectives could lead to different location recommendations. The committee chairman encouraged committee members to transmit their view of individual factors importance directly to the CDF Director for consideration in the final air base relocation decision.

Current Considerations

Costs Comparison: Since 1998, when March lease and landing fee information was not available, the State and March JPA have agreed to a lease, which establishes the fee and lease structure. The following is a comparison of 2004 Hemet-Ryan Air Base costs and the "first year" lease effective when CDF occupies the March facilities:

	Hemet-Ryan	March
Annual Lease	\$ 9,527	\$ 15,000
Annual Landing Fees	\$39,305 ¹	\$143,000 ²
Total	\$48,832	\$158,000

Flight Activity: The March Airport activity will be a combination of military and civil operations. The best available information on flight activity is a 1998 USAF Air Installation Compatible Use Zone Study (AICUZ) that current and forecast for military aircraft was 40,396 operations per year, see Attachment "B". The AICUZ anticipated the number of civil aircraft was 21,000 operations per year, for a combined 61,396 military and civil operations. The anticipated civil flights did not include the addition of CDF aircraft operations. On the average CDF Hemet-Ryan activity is approximately 1,400 to 1,500 annual flights. Hemet Ryan had approximately 57,000 annual flights in 2004.

The potential impacts of flight activity are delays in CDF flight operations resulting in delayed responses or extended retardant turn around time. USAF flight operations state that priority will be given to CDF flight operations. However, large military or civil commercial aircraft can result in three minute delays in take off due to wake turbulence and/or a two-minute delay if aircraft are in the final approach. It is difficult to estimate the number of times this five minute "worst case" delay will occur. The Fire Behavior model, used to estimate containment success, used a "best case" (no delays) and a "worst case" (5 minute delay) to assess impacts of travel time from March and Hemet and flight delays because of traffic and/or wake turbulence. The Fire Behave model will include a "worst case" of two minutes for Hemet because wake turbulence is not a factor.

¹ Hemet landing fees based on the three year average 2002, 2003, and 2004.

² March landing fees are a flat annual rate.

Visual Flight Rules Restrictions: One of the concerns expressed by the air tanker pilots and unit operational chiefs was the impact of March being below Visual Flight Rules (VFR) more often than Hemet Airport. Hemet lacks the detailed VFR records that are available for March. Hemet contract air tanker pilots and assigned CDF employees assert that Hemet rarely, if ever, is below VFR rules. The USAF has reviewed March VFR data for a 32-year period. See Attachment "C". In reviewing the data the following information is available:

Percentage of Time Below VFR Minimums

Month	Time Periods		
	<u>6AM to 9AM</u>	<u>9AM to 12AM</u>	<u>12AM to 3PM</u>
May	37.1%	14.6%	10.7%
June	34.9	13.5	9.6
July	26.0	7.9	6.1
August	21.6	6.3	4.9
September	28.6	12.2	8.7
October	35.9	16.7	11.8
November	23.6	11.3	5.5

There was a lot of discussion by the committee on air operations impacts during periods below VFR minimums. The committee was informed that CDF S-2s are not eligible to receive VFR certificates from FAA. Sacramento Air Program staff suggested that S-2s could operate below VFR minimums under "special VFR rules." The air tanker pilot attending the committee meeting stated that pilots would not operate air tankers under "special VFR rules." While the capability of the aircraft and pilots will have to be considered by flight experts, it is apparent that the March has more visibility issues than Hemet Airport. The 1998 relocation report identified smog as a "con" for moving to March.

Runway Length: The 1998 relocation report cited runway length (4,315 feet) as one of the critical shortcomings of Hemet. The CDF Air Base Standards establishes 6,000 feet as the desired runway length. The Riverside County EDA has notified CDF that they are committed to extending the Hemet runway to 6,000 feet; see Attachment "D" for EDA letter. The extension of the runway is a critical factor and should be viewed as a necessity for Hemet Airport to function as a CDF Air Attack Base.

CDF Air Base Design Standards: The committee requested CDF Sacramento Air Program provide the standard design specifications. The "general minimum standards for CDF Air Attack Bases" is found in Attachment "E". As a military air base, March airport exceeds these standards. Embedded in the CDF standards, in red, compares Hemet Airport to the CDF standards.

Crosswind Component Impacts: A crosswind or crosswind component refers to that portion of the wind, which acts perpendicular to the runway. Most airplanes have a maximum demonstrated crosswind component listed in the Pilots Operating Handbook (POH). The S2-T air tanker has a 45-degree quartering crosswind of 25 mph and a 90-degree crosswind

of 17 mph. The SE to NW orientation of the March Airport runway provides the potential for S2-T flight operations being restricted during East wind conditions. March Airport crosswind data for the period of 1972 to 2004 shows an extremely low impact from crosswind impacts. If the air base is relocated to March anticipated high East wind periods might result in the need to relocate the air tankers to an alternative site.

Hemet is, rarely if ever, impacted by East wind conditions. While the weather data is not well documented, local experience at Hemet-Ryan provides the reasonable assumption that crosswind is not an operational impact.

Based on the best available information, crosswind factors are not assumed to be a significant factor at March or Hemet. See Attachment "F" for detail information on crosswind potential.

Flight Distance from March to Hemet-Ryan: March Airport is located 14.6 nautical miles NW of Hemet-Ryan which adds 4:51 minutes to the flight time in those case where the emergency response is SE of March airport, see Attachment "G".

Taxi Times: While there was an original concern with the potential for extended taxi requirements at March airport, discussion with the USAF indicates that the Arresting Gear at the South end of the runway will be removed by the end of 2005, and "short landings" will routinely be authorized avoiding long taxi times. Therefore, the March "worst case" model does not include any delays based on extended taxi requirements. Taxi time is not a significant issue at March or Hemet-Ryan.

Fire History: Attachment "H" provides a fire history map with 12-minute flight radius for the CDF Ramona Air Base in San Diego County, Hemet-Ryan CDF Air Base in Riverside, USFS Norton Air Base in San Bernardino, and March Air Port in Riverside County. The 12-minute radius circle is based on the 20 minute CDF response goal (8 minute get away time and 12 minute flight time). Attachment "I" displays the 12 minute flight for existing air attack bases and March Airport. In reviewing the map, the greatest impact will be the Anza area located southeast of Hemet. The Anza response times will be extended into one of the historical highest start incident and large fire areas in Riverside County. Based on estimated flight times, the southern portion of Riverside County will be served by the Ramona CDF Air Base in San Diego County.

The total SRA acres in Riverside County (RRU), San Bernardino County (BDU) and San Diego County (MVU) are 2,673,526 acres. Hemet-Ryan covers 784,548 (29%) of the total SRA acres in the tri-county area. The following is the SRA breakdown for Hemet-Ryan and March (in place of Hemet-Ryan):

	Hemet-Ryan	March
San Bernardino Co.	38,244 ac. (5% BDU SRA)	91,623 ac. (12% BDU SRA)
San Diego Co.	143,418 ac. (12% MVU SRA)	17,420 ac. (1% MVU SRA)
Riverside Co.	602,886 ac. (85% RRU SRA)	473,574 ac. (67% RRU SRA)

The fire history map, 20-minute response circles and revised SRA allocation for the tri-county area presents a clear picture of a significant impact on the initial attack success rate.

The two most significant impacts are:

- Longer response times for air tankers to the Anza area and entire SE county.
- The Ramona air tankers in San Diego will have larger SRA first in area. March will protect 582,617 SRA acres in the tri-county area (Hemet-Ryan currently protects 784,548 SRA acres). Since March airport is north of Hemet it is reasonable to assume that the San Diego air tankers will have the added responsibility of being first in for the "lost" Hemet acres. San Diego air tankers already service a larger SRA area than Hemet. The increase primarily responsibility for CDF San Diego County air tankers and greater second in response time for CDF March based air tankers will have a negative effect on San Diego initial attack success rate.

Pilot Safety: Sacramento Air Program expressed concern with pilot safety issues at Hemet Airport. The concerns express were of a technical nature and need to be examined during the Sacramento review final review of air base location.

Controlled Airspace: The committee again does not have the expertise to weigh the value of controlled airspace. Discussions occurred at the committee that support the value of operating with and without controlled airspace. Since CDF currently operates more than half of its air bases without controlled airspace it is difficult to form a judgment at the committee level on the value of controlled airspace. This issue remains to be discussed with air program experts, including input from air tanker pilots.

Behave Model Containment Simulations: The Behave 3.0 CONTAIN and SIZE Modules were used to evaluate containment success based on "best" and "worst" aircraft responses from Hemet Air Base and March Airport. The simulation factors were held constant with the exception of aircraft response and turn-around times. The fire environmental conditions assumed a moderate rate of spread with temperatures in the range of 85 to 95 degrees, relative humidity of 25 to 35 percent, and light winds. Attachment "J" provides the module assumptions.

Five fire simulations were evaluated for containment success. See Attachment "K" for map of fire locations. These fires were located within the "first in" air tanker response areas located to the east, south, and west of March and Hemet. The taxi times for Hemet were based on actual experience, while March was based on future air base location and taxi distance to and from runway.

The following is the summary of factors used:

Best Case

<u>Activity</u>	<u>Hemet</u>	<u>March</u>
Taxi to take off position	2.65 minutes	1.00 minutes
Await Takeoff-Wake Turb.	0.00	0.00
Await Aircraft in Pattern	0.00	0.00
Land & taxi to reload pit	0.50	3.04
Reload with retardant	4.00	4.00
Total	7.15	8.04

Worst Case

<u>Activity</u>	<u>Hemet</u>	<u>March</u>
Taxi to take off position	2.65 minutes	1.00 minutes
Await Takeoff-Wake Turb.	0.00	3.00
Await Aircraft in Pattern	2.00	2.00
Land & taxi to reload pit	0.50	3.04
Reload with retardant	4.00	4.00
Total	9.15	13.04

All simulations assumed a 4-minute orbit time over the fire with the individual flight time to the fires based on travel distance from Hemet or March. The results for the Behave module run were as follows (See Attachment "L"):

Initial Attack Success Results using Fire Behave Simulation

<u>Fire Name</u>	<u>Hemet</u>		<u>March</u>	
	<u>Best Case</u>	<u>Worst Case</u>	<u>Best Case</u>	<u>Worst Case</u>
Tripp	Contain	Contain	Escape	Escape
Cirrus	Contain	Contain	Escape	Escape
Steele Peak	Contain	Contain	Contain	Contain
Orange Co. North	Escape	Escape	Escape	Escape
Orange Co. South	Escape	Escape	Escape	Escape

The primary factor for initial attack success appears to be flight time. The nautical miles for each of the fires is provided below:

Nautical Miles for Fire Behave Simulations

<u>Fire Name</u>	<u>Hemet</u>	<u>March</u>
Tripp	15.9 Nau. Miles	30.4 Nau. Miles
Citrus	6.6	20.4
Steele Peak	14.5	8.1
Orange Co. North	34.448	23.509
Orange Co. South	29.798	25.589

Construction Funding Option: Riverside County Economic Development Agency has indicated that the County is considering offering to construct a "build to suit" Air Attack Base at Hemet Airport and leasing the facility to CDF. EDA has requested a meeting to discuss a potential lease arrangement and construction timelines.

Discussion

In reviewing the factors identified by the committee, the following appear to be significant:

- Decreased success levels for initial attack fires from March Airport.
- Hemet Airport runway length
- Occurrences of VFR minimums at March Airport.
- Fire History

The above represent the major issues that need to be considered in determining the best location for the Air Attack Base. The current review supports the findings of the 1998 report that concluded that moving away from Hemet would increase the numbers of fires that exceed the ten-acre failure threshold. This increase in large fires will have a direct impact on Riverside County property improvements and increase the State Emergency Fund expenditures. The 1998 report concluded that if Hemet had to be moved "the less negative effect" would be the relocation to March airport. CDF needs to recognize the potential impact on air resources for San Diego County as the initial attack area for Ramona's air tankers is increased. In addition the response time for Riverside based air tankers will increase with the relocation to March Airport.

Several significant factors have changed since the 1998 report. The increase recreation use of Hemet did not occur. Riverside County EDA is now a strong supporter of the air attack base remaining at Hemet. The factors that have not changed are the concern with visibility at March and the need to extend the Hemet runway length. While flight operations are

normally not scheduled until 10 AM, it is not usual for Incident Commanders to request air support as early as 7 AM to support ongoing fire control efforts. Over 32 years of VFR information demonstrates that March Airport has significant more VFR requirements than past experience indicates for Hemet Airport. The USAF provided VFR information shows that September and October VFR minimums are that meet between 6 AM and 12 Noon 38.8% and 52.6% time, respectively. CDF has an initial attack mentality and to relocate this critical air resources where availability will decrease should only occur if no other alternative exists.

The Riverside County Board of Supervisors and Riverside County EDA are committed to making the runway length and other improvements necessary to meet CDF standards. This represents a major change from the position previously presented to CDF by county officials. Any decision to construct a new air base at Hemet Airport must include a strong lease arrangement for an extended period of time to protect the State's investment. This lease arrangement already exists with March Joint Powers Authority and represents the surety necessary for relocating the Air Base. The same surety is necessary for remaining at Hemet Airport.

Recommendations

The following recommendations are reflective of operational prospective combined with the commitment of Riverside County to make the necessary improvements at Hemet Airport to meet CDF standards. These recommendations acknowledge that technical air program concerns of air safety and controlled airspace will be further reviewed in Sacramento.

Recommendations

1. CDF negotiate with Riverside County EDA an agreement establishing timelines, including the identifying funds, to make the necessary airport improvements; such as, runway length and surface streets relocation.
2. CDF meet with Riverside County to review the details of the "build to suit" lease construction for the air base.
3. CDF prepare fire emergency escape cost estimate to demonstrate the economic value of remaining at Hemet Airport
4. CDF find that Hemet Airport is the best location for meeting the initial attack goals for Riverside County and Northern San Diego County.

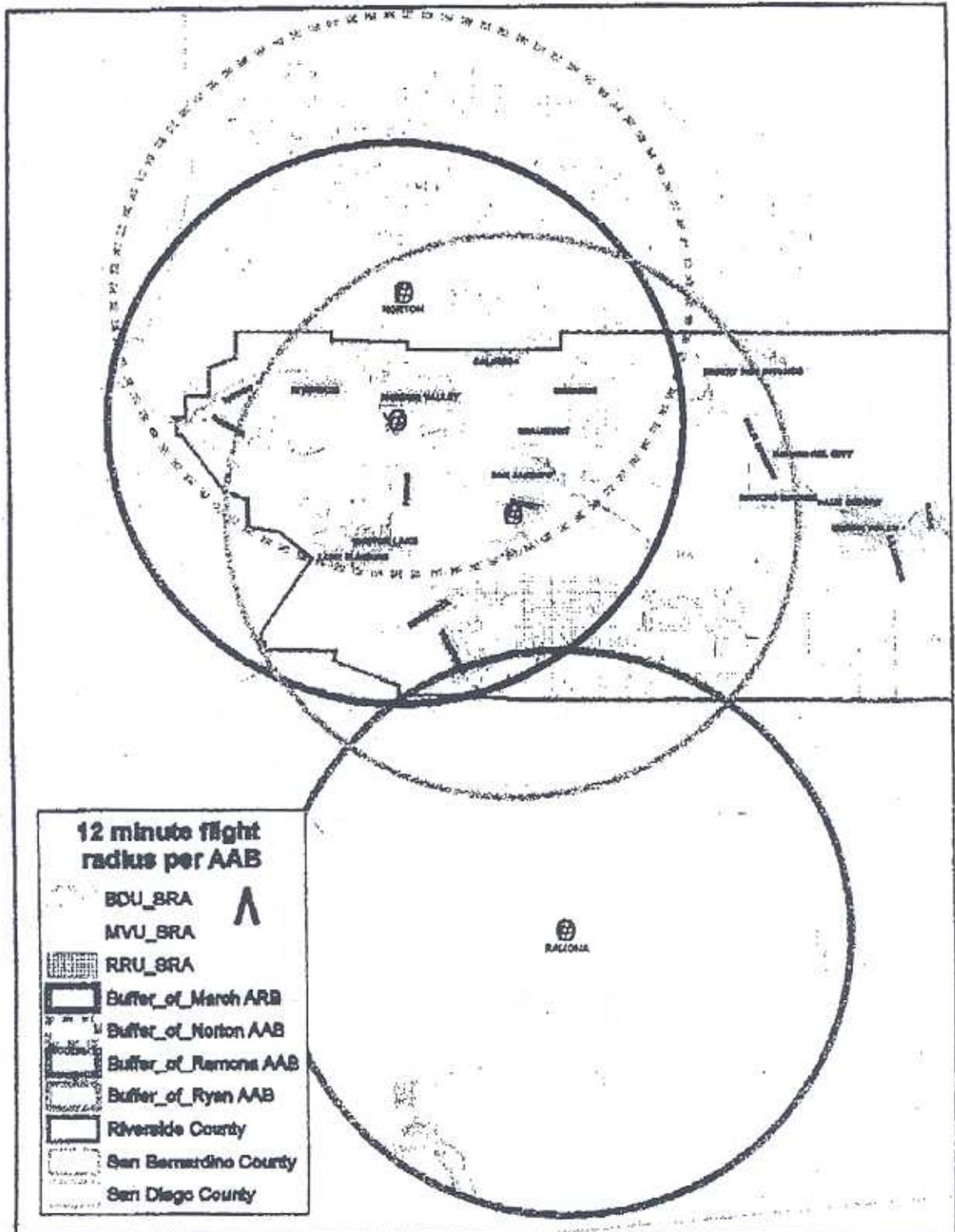
AIR BASE MOVE WORKING TASK GROUP

Craig E. Anthony, Riverside Unit Chief, Chairman
John Tavaglione, Riverside County Supervisor, District II
Jeff Stone, Riverside County Supervisor, District III
Mike Padilla, CDF Aviation Management
Lee Delap, CDF Tech Services
Bob Green, CDF San Bernardino Unit Chief
Bob Martinez, CDF Retired Assistant Region Chief

Interested Parties:

Phil Rizzo, March Joint Powers Authority
Deen Oehl, Calif. Fire Pilots Assoc.
Rob Field, Riverside County Economic Development-Aviation
Michael Jarvis, CDF Communications

Fixed Wing 12 Minute Flight Radii



MARCH AIR RESERVE BASE, CALIFORNIA

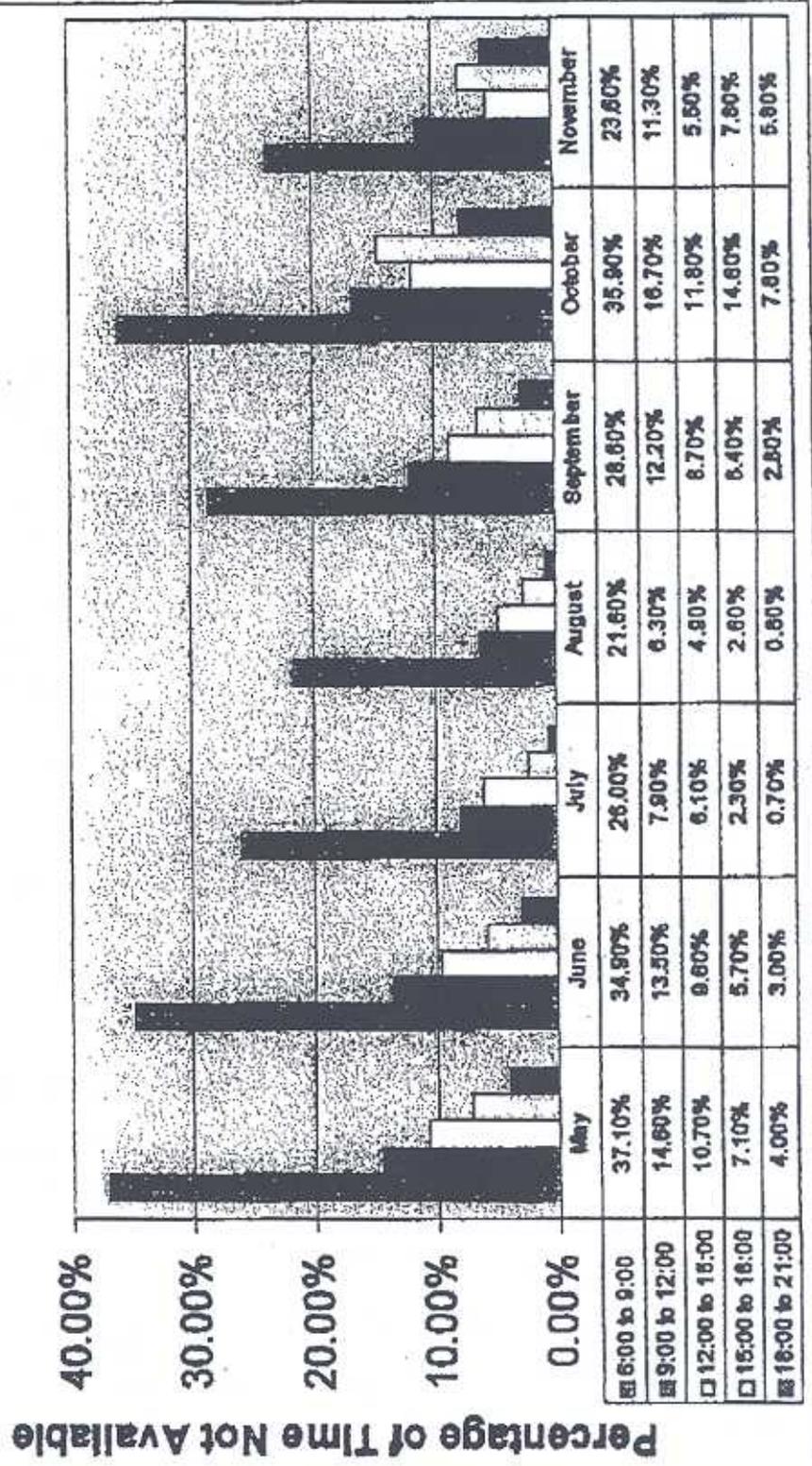
TABLE 2-1 CURRENT AND FORECAST AIRCRAFT OPERATIONS AT MARCH ARB

	Arrivals	Daily Average Operations ^a		Total	Annual Operations
		Departures	Closed ^b		
Military (Current and Forecast)					
Based^c					
C-141	3.42	3.42	18.60	44.04	11,450
KC-135	7.44	7.44	40.62	96.12	24,990
P-16	2.30	2.30	1.08	6.76	1758
					38,198
Subtotal:					
Transient					
Attack/Fighter	0.75	0.75	0	1.5	390
Large Jet Cargo/Tanker	1.25	1.25	0	2.5	650
Medium Jet	0.10	0.10	0	0.20	52
Large Turboprop	0.55	0.55	0	1.10	286
Small Jet Passenger	0.05	0.05	0	0.10	144
Small Turboprop	0.25	0.25	0	0.50	130
Trainers	0.15	0.15	0	0.30	78
Helicopters	0.50	0.50	0	1.00	260
					1,990
Subtotal:					
Military Related Civil					
Large Jets	0.25	0.25	0	0.50	130
Medium Jets	0.10	0.10	0	0.20	52
Business Jets	0.05	0.05	0	0.10	26
					208
Subtotal:					
Total (Current & Forecast)					40,396
Civil (Forecast)					
Cessna Caravan	0.575	0.575	0	1.151	420
E210	0.575	0.575	0	1.151	420
ATR 42	0.863	0.863	0	1.726	630
737-200	1.438	1.438	0	2.877	1,050
DC-8	4.027	4.027	0	8.055	2,940
DC-10	1.151	1.151	0	2.301	840
B-757	3.740	3.740	0	7.479	2,730
A310	5.753	5.753	0	11.507	4,200
747-200/300/400	0.575	0.575	0	1.151	420
DC-10-30/40	0.863	0.863	0	1.726	630
767-200	9.205	9.205	0	18.411	6,720
					21,000
Total Civil (Forecast)					21,000

- a. Averages based on 260 flying days/year for military operations and 365 days/year for forecast civil operations.
b. Closed patterns counted as two operations (arrival and departure)
c. Does not include Customs and Aeroclub operations which do not contribute significantly to aircraft noise levels.

Visual Flight Rules March 1000' Ceiling 3-miles Visibility

Below Minimum VFR at March Averages 1972 to 2004



RIVERSIDE
COUNTYEconomic &
Community
Development

Housing

Redevelopment
AgencyWorkforce
DevelopmentEdward-Dean
Museum
& Gardens

Aviation

County Fair &
National Date
Festival

May 26, 2005

Office of 3rd District Supervisor Jeff Stone
 County of Riverside
 4080 Lemon Street
 Riverside, CA 92501
 Attn: Stevie Field, Legislative Assistant

Subject: Hemet-Ryan Airport Runway Extension

Ladies and Gentlemen,

As discussed, the Hemet-Ryan Master Plan presently calls for the runway to be extended from 4,315' to 5,300'; this length is included in both the Master Plan currently in effect (which was adopted in the late 1980's) and the draft Master Plan we just completed. Because the draft Master Plan hasn't been adopted yet, it is our intention to modify the draft plan to reflect a planned length of 6,000', as this is simpler than attempting to amend an existing Master Plan.

We have talked this issue over with the Federal Aviation Administration (FAA) and they have no objections to our proposed modification. It's critical that they buy off on this, as the Airport Layout Plan (ALP), which is developed along with the Master Plan and is the only document the FAA approves, must reflect the proposed length in order to get funding for the project (the Board of Supervisors is the approval authority for the overall Master Plan).

Also, because two streets must be realigned in order to construct the extension, the City of Hemet must agree to participate, and they have done so; in fact, we will be preparing a joint environmental document to ensure that all issues are addressed simultaneously.

So, the sequence is as follows:

- Revise the draft Master Plan
- Prepare the environmental documents (both NEPA and CEQA requirements must be met)
- Have the Board of Supervisors adopt the Master Plan
- Hire an engineering firm and design the extension, as well as the road realignments
- Proceed to construction

The FAA seems to think we could get construction funding in the 2006-2007 Federal fiscal year, which is fine since it will take about that amount of time to complete all the planning and environmental efforts we have to finish before we

Workforce Development Center @ Monroe Park 44-199 Monroe Street, Suite B., Indio, CA 92201

Telephone 760/863-2552 Facsimile 760/863-2551

Websites www.rivcoeda.org

can construct. The extension itself should only take about six months to construct, weather permitting, and I would expect that the City could complete the road work while we're awaiting FAA funds. So conceivably we could be finished by the end of 2007, barring any lawsuits by folks opposed to our plans.

If you have any questions please do not hesitate to call me at (760) 863-2530.

Sincerely,

//S//

Robert D. Field
Deputy Director/Director of Airports

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Attachment E

CDF Airbase Design Standards

The following are general minimum standards for CDF Air Attack Bases and are based on requirements or guidance as specified in various federal and state guidelines, policies, or procedures. Not all current CDF Air Attack Bases meet these standards due to various circumstances. Some standards however are not negotiable such as security and safety related and where possible CDF is making every effort to bring these facilities into compliance.

Comparison with Hemet Airport are provide in red.

1. Security

Must meet U.S Forest Service Guide Lines for federal excess aircraft and aviation support facilities as identified in USFS Handbook FSH5709.16 - Flight Operations Handbook, Chapter 50- Aviation Security; the USDA Physical Security Standards and Procedures Handbook; the CDF Procedure No. 17: Security Operations; where relevant, pertinent Federal Aviation Administration regulations governing airport security.

Security measures include but are not limited to:

- Buildings and other support structures.
- Flight line operations and flight line access.
- Retardant storage and mixing facilities
- Personnel and visitor access and movement.
- Reporting

Hemet currently has a security plan that meets CDF guidelines. In reviewing the Forest Service guidelines, Hemet appears to already meet most of these requirements. In addition, Riverside County Airports is in the process of upgrading security at Hemet Airport to include a six-foot fence with two feet of barbwire around the entire airport.

2. Infrastructure

Where applicable must meet the provisions of the California Infrastructure Act and the department's Facilities Planning Program Guidelines for Air Attack Bases. Taxiway and runway specifications are based on minimum requirements for the operation of Large Air Tankers as specified by the USFS or recent design criteria used CDF at newly constructed bases.

- Runway:
 - Length - 6,000 feet
 - Width - 100 feet
 - Gradient - less than 1.0%
 - Crown - 2%
 - Load - S60, 000 D 130,000

Riverside County Airports is planning on extending the runway length to 6,000 feet in the near future. The runway width is already 100 feet. Although the County's web site incorrectly states that the landing weight at Hemet is only 80,000 lbs dual wheel, the actual landing weight is 160,000 lbs dual wheel and 80,000 lbs single wheel as confirmed by the County. A copy of the engineer's report used for the design of runways and taxiway at Hemet, as well as a letter from County Airports confirming the correct landing weight are available.

- **Taxi ways:**
Capable of supporting 60,000 Lbs. single tire landing gear and 130,000 Lbs. dual tire landing gear.
Surface must be in good condition no FOD

Hemet's taxi way exceeds the above requirements.

- **Retardant Pits**
Four (4) pull-through concrete pits 50'00" wide x 100'0" long
Spaced at 153'0" on center.
90 or 45 degree orientation to taxi way

Hemet currently has 8 pits.

- **Parking**
Six tankers, two Air Attack Aircraft and one administrative airplane on paved areas. (No in the dirt parking)

Hemet has parking for up to 12 tankers and four Air Attack aircraft with no dirt parking.

- **Facilities**
Located near departure end of favored runway.
Appropriate accommodations for dispatch, retardant crews, air attack personnel and pilots. Refer to design of Fresno, Sonoma, Paso Robles, and Porterville buildings/floor plans.
Jet fuel available, Avgas optional.
County use plan must protect flight traffic area for at least next twenty years (20).

Hemet currently has sufficient property to accommodate the new air base design mentioned above. Riverside Country Airports' master plan addresses the flight traffic area. Jet fuel is available at Hemet 24 hours a day.

3. Safety of Flight

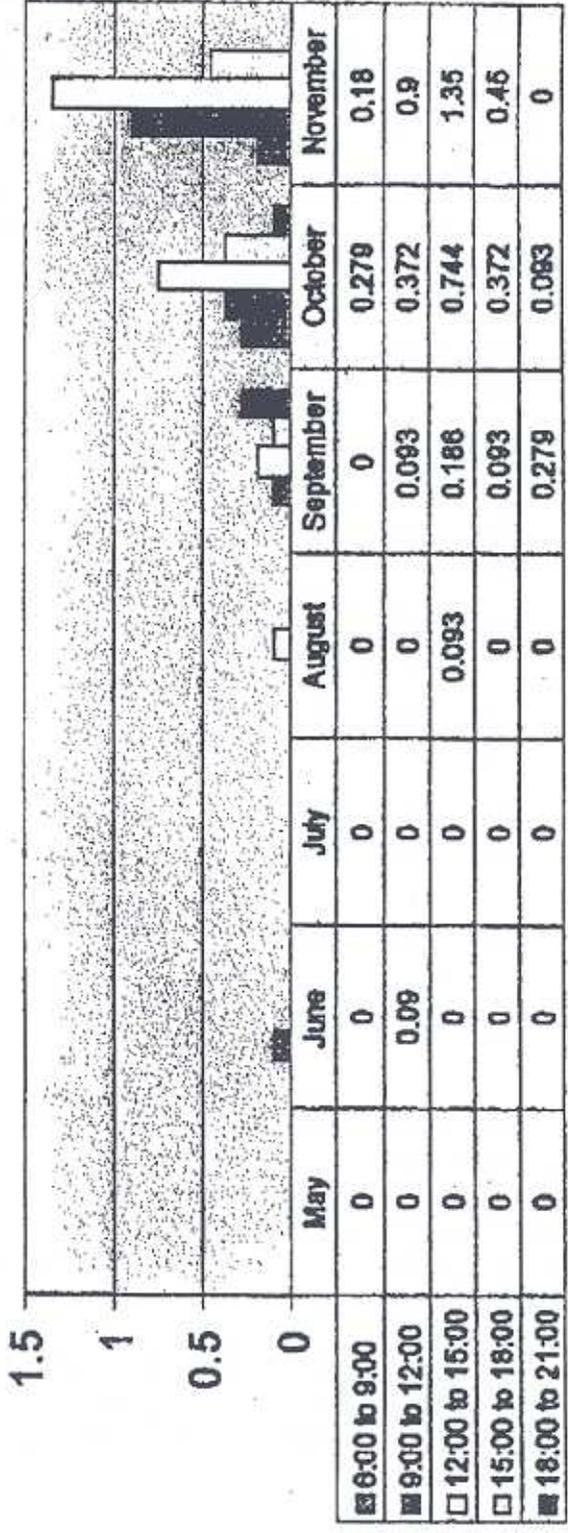
Where possible it is the intent of CDF to provide the optimum safety margin possible to the operation of aircraft in and around its Air Attack bases without significantly

March Crosswind Data

ATTACHMENT F

Hours Over Maximum Crosswind at March 1972 to 2004

Time in Hours Unable to
Takeoff or Land



diminishing the ability to perform the mission. It must be remembered however that safety of the flight crews and the general public always takes precedent over mission. The following minimum standards are guidelines but should be considered deciding factors when comparing the location of air attack base operations.

- Airport

Class D airspace (Generally, controlled airspace to 2500 MSL above airport, with control tower), if facility has more than 50,000 annual operations and/or intersecting runways.

Minimum level A crash rescue equipment or equivalent available.

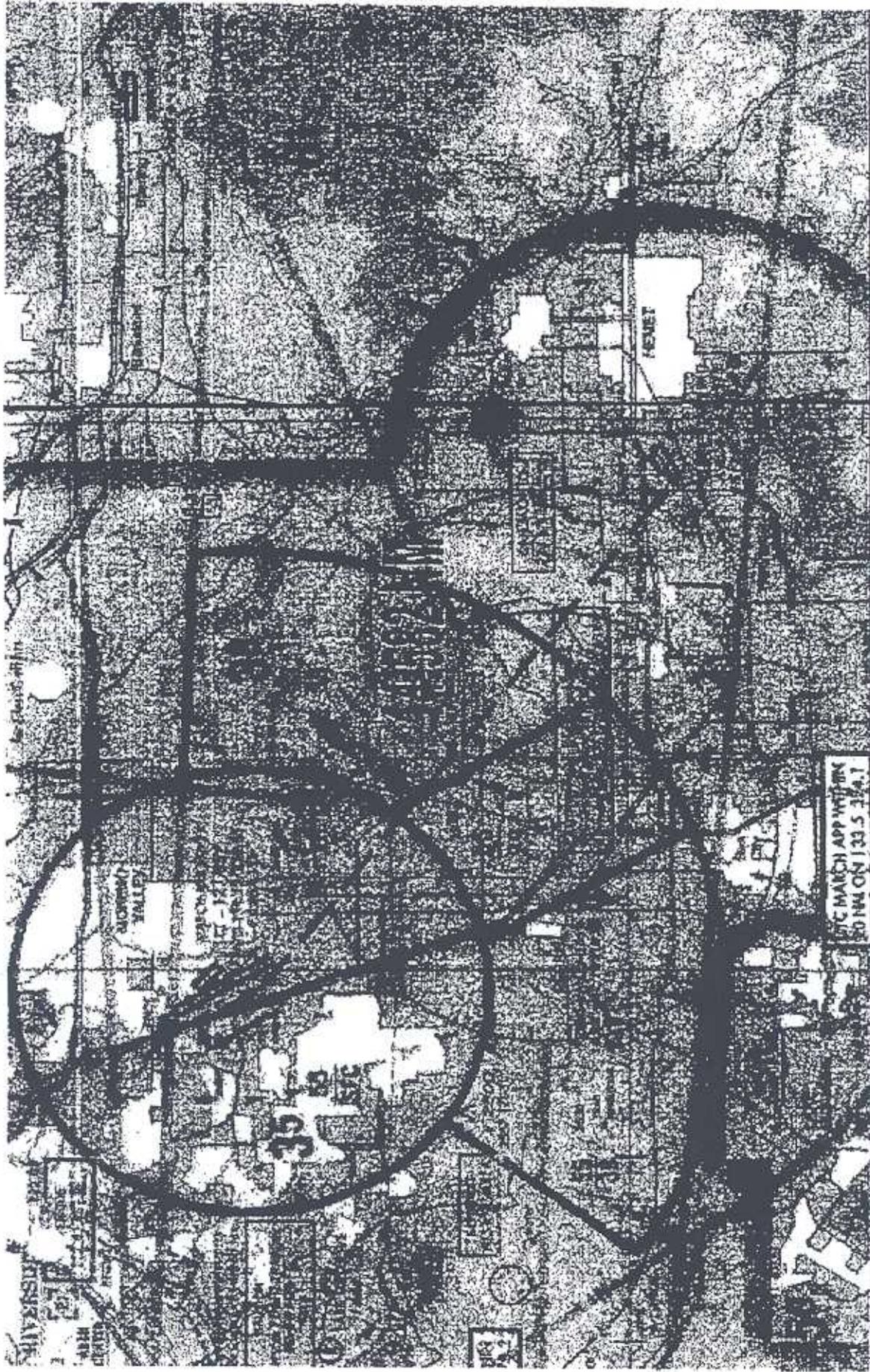
No major airline activity. (Commuter service only)

Class D airspace: Of the thirteen CDF Air Bases, only five have control towers. Of the last three bases that were constructed, none of them had a control tower upon completion. Well after its completion, Ramona received a tower due to increased air traffic.

Crash rescue at Hemet is provided by the City of Hemet, which has a station at the airport, that is covered 24-7. The City Hemet indicated they were acquiring an airport crash rescue unit.

No major airline activity: Although March does not have major airline activity, it does have a significant amount of military activity with aircraft that are as large as or larger than most airlines fly. Also, during the build-up of the war, the military had several airliners (both civilian and military) coming and going from March for several months.

The environment and health impacts appear less at Hemet for CDF personnel and pilots. The proposed March air attack base is near the end of the runway, every aircraft that takes off from March will be going to full power across from the proposed air base. The nose will make it extremely difficult for pilots to get quality down time. Per our contract with DynCorp (sec 3.3.1), the State is to provide pilots "ready room" free of personnel traffic, loitering, noise, and other distractions. A reasonable assumption is the decibel level at March will be greater than Hemet. If the base is relocated to March the proximity of the air attack base to the runway may require additional sound proofing strategies for employees.



Direct Flight Time from March Air Base to Ryan Airport:

0:04:51 at 204 MPH (180 KTS)

Distance: 14.582 Nautical Miles

March and Hemet Initial Attack

Behave version 3.0 Containment Simulations

Environmental Conditions

- Weather and fuels conditions are kept moderate to keep fires smaller during the one hour simulation period
- Temperature 85°-95° F
- Relative humidity 25-35%
- Winds 0 - 3 mph
- Fuels moderate dry climate brush or light grass

Assumptions

- Tankers build line at Retardant Delivery Coverage Level 6 (6 gal/100ft²)
- Tankers are on ground at base when dispatched
- No divert during the 1 hour simulation
- Drops are followed by successful ground action immediately
- Drops are continuous with no gaps
- Spot fires are not a factor
- Drops anchor at origin working toward head

Methods

- Point source fires with 1 hour attack and fire spread duration
- Behave 3.0 CONTAIN and SIZE Modules utilized to simulate fire spread and suppression progress
- Airtanker fireline production for 4 airtankers building fireline

Airtanker Production Rate

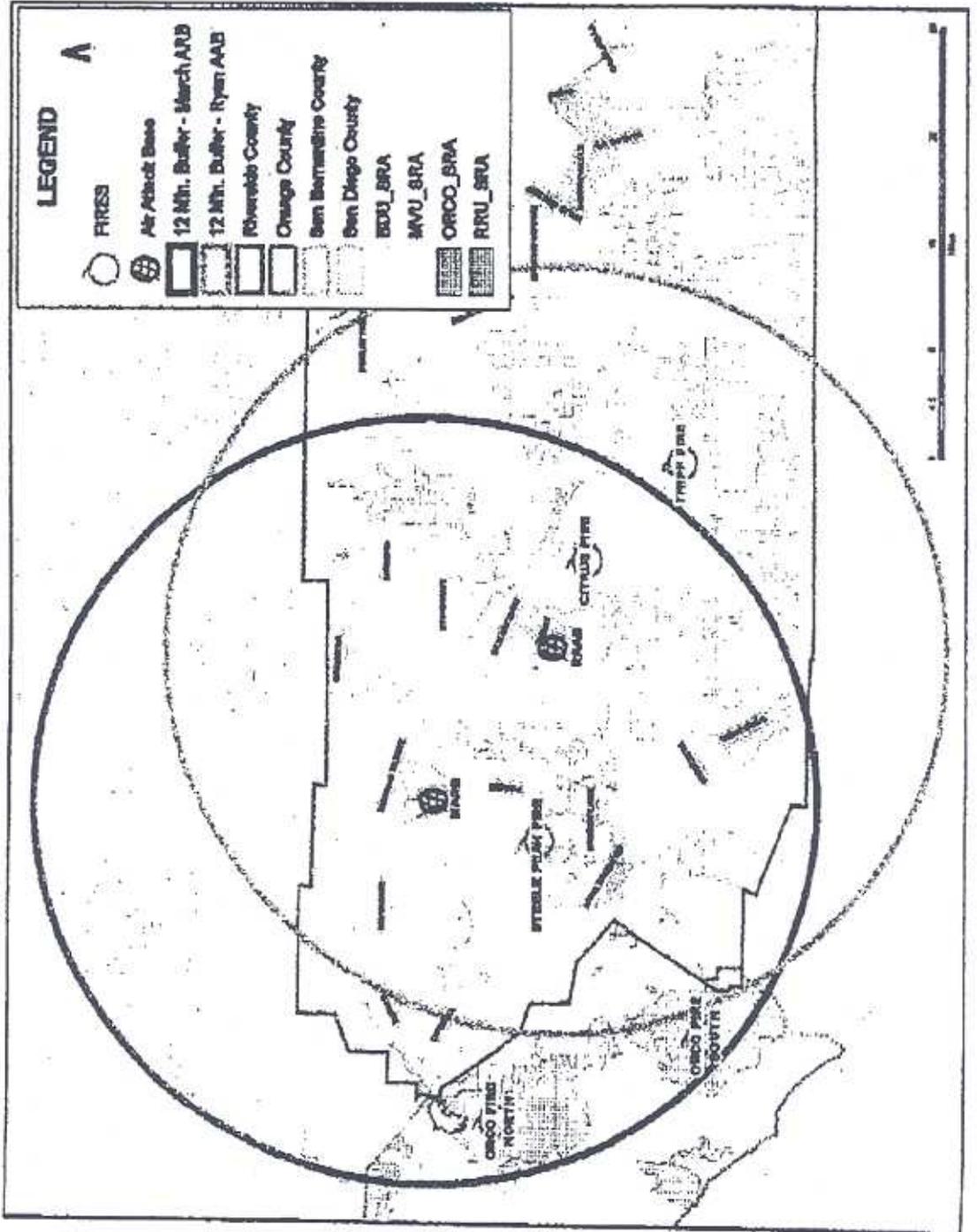
Line Built / Hour =

Retardant Line Length/drop (CL6)

(Ground Time+Enroute Time+Orbit Time+return time+ reload time)

Five Fire Simulations

ATTACHMENT K



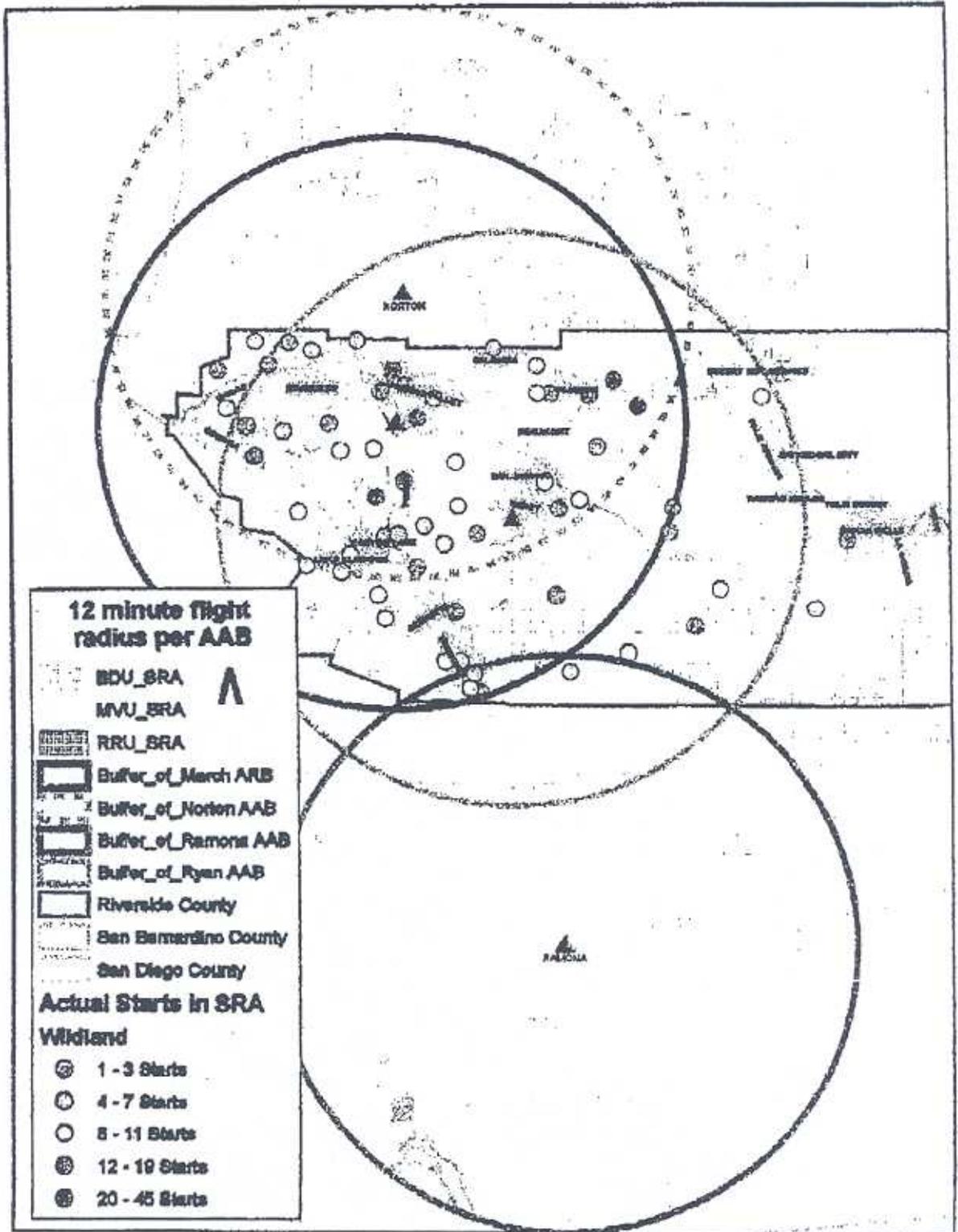
Orange County North Fire

ATTACHMENT L

All Scenarios - Fire Escapes

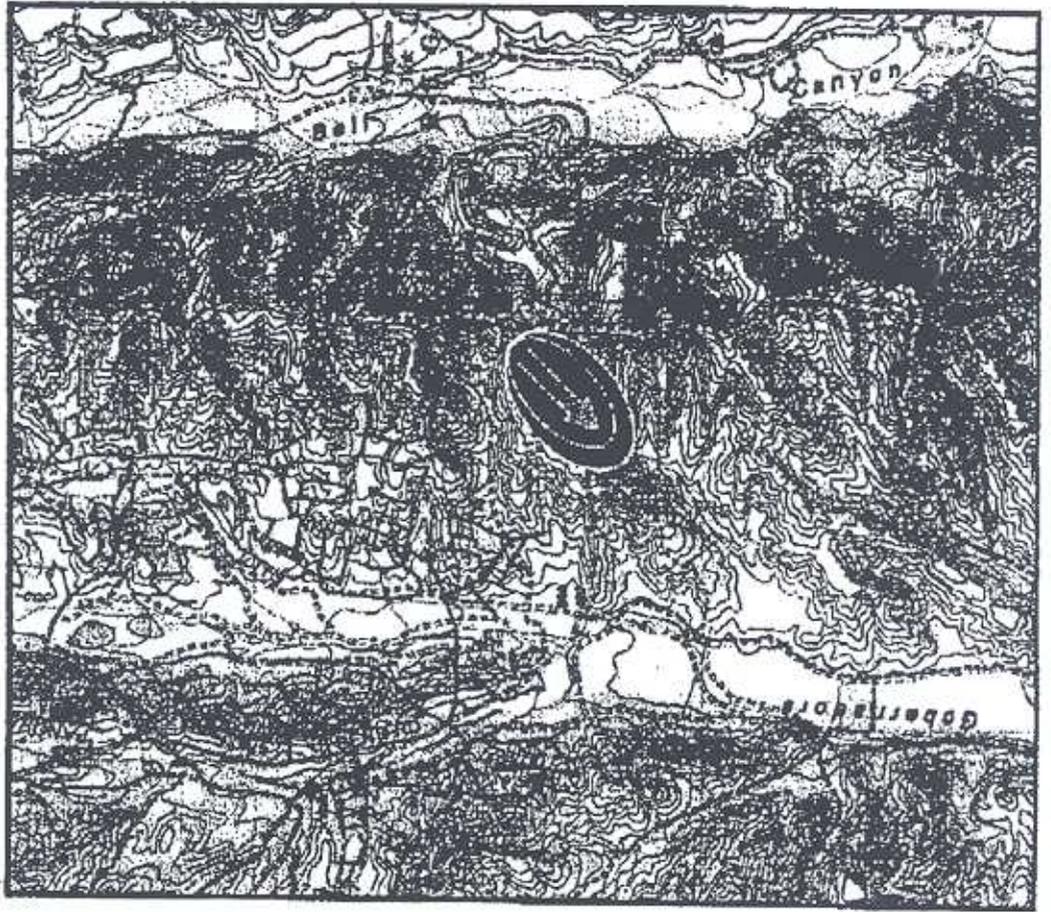


Fire History Map



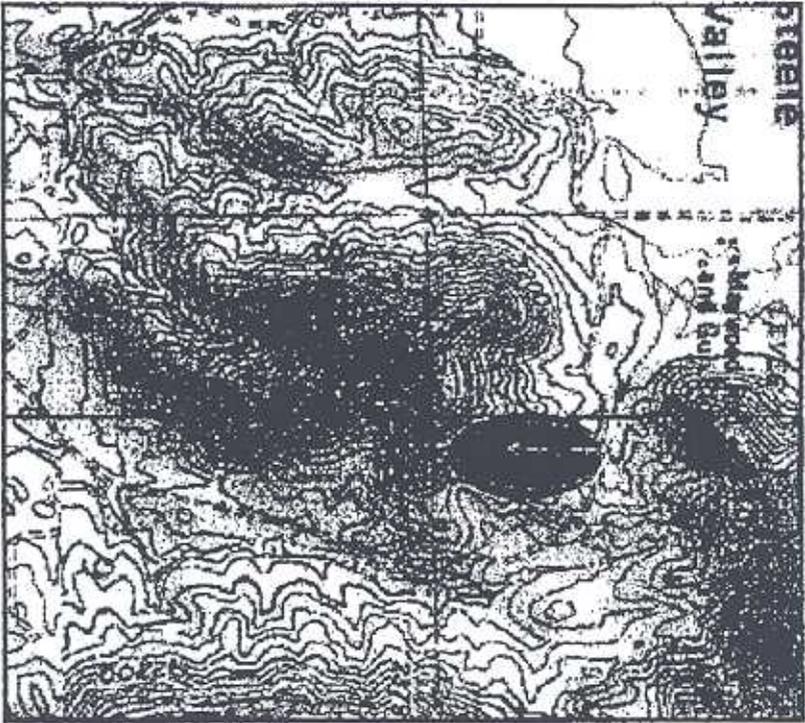
Orange County South Fire

All Scenarios – Fire Escapes

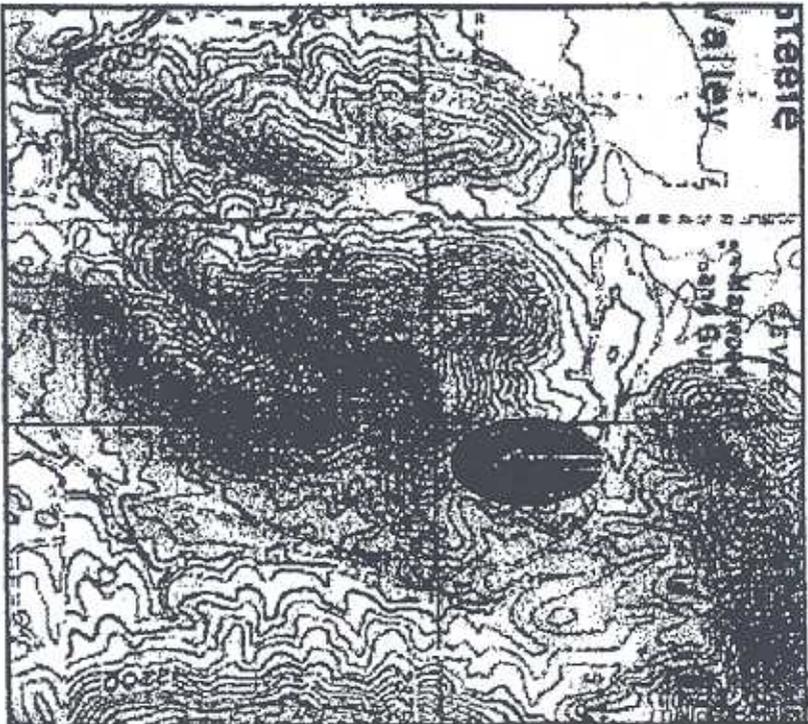


Steele Fire

March Worst Case Map - Fire Contained

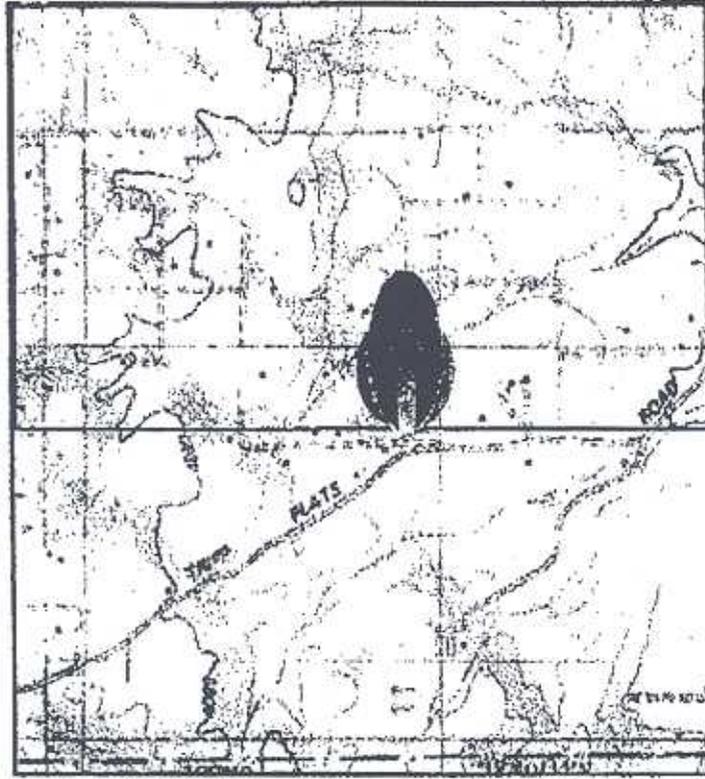


Hemat Worst Case Map - Fire Contained

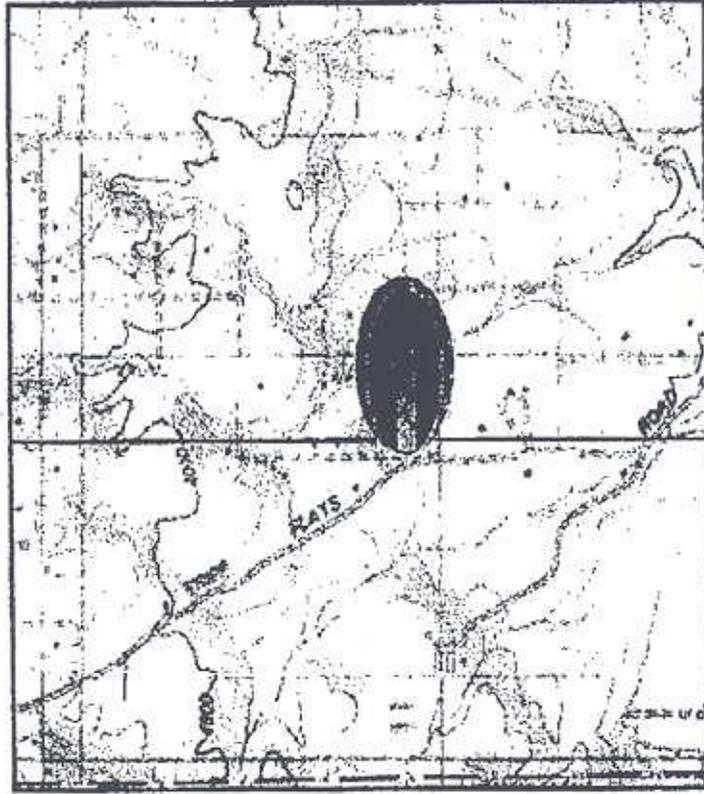


Tripp Fire

March Worst Case Map -- Fire Escapes



Hemet Worst Case Map -- Fire Contained



Citrus Fire

March Worst Case Map - Fire Escapes



Hemet Worst Case Map - Fire Contained

