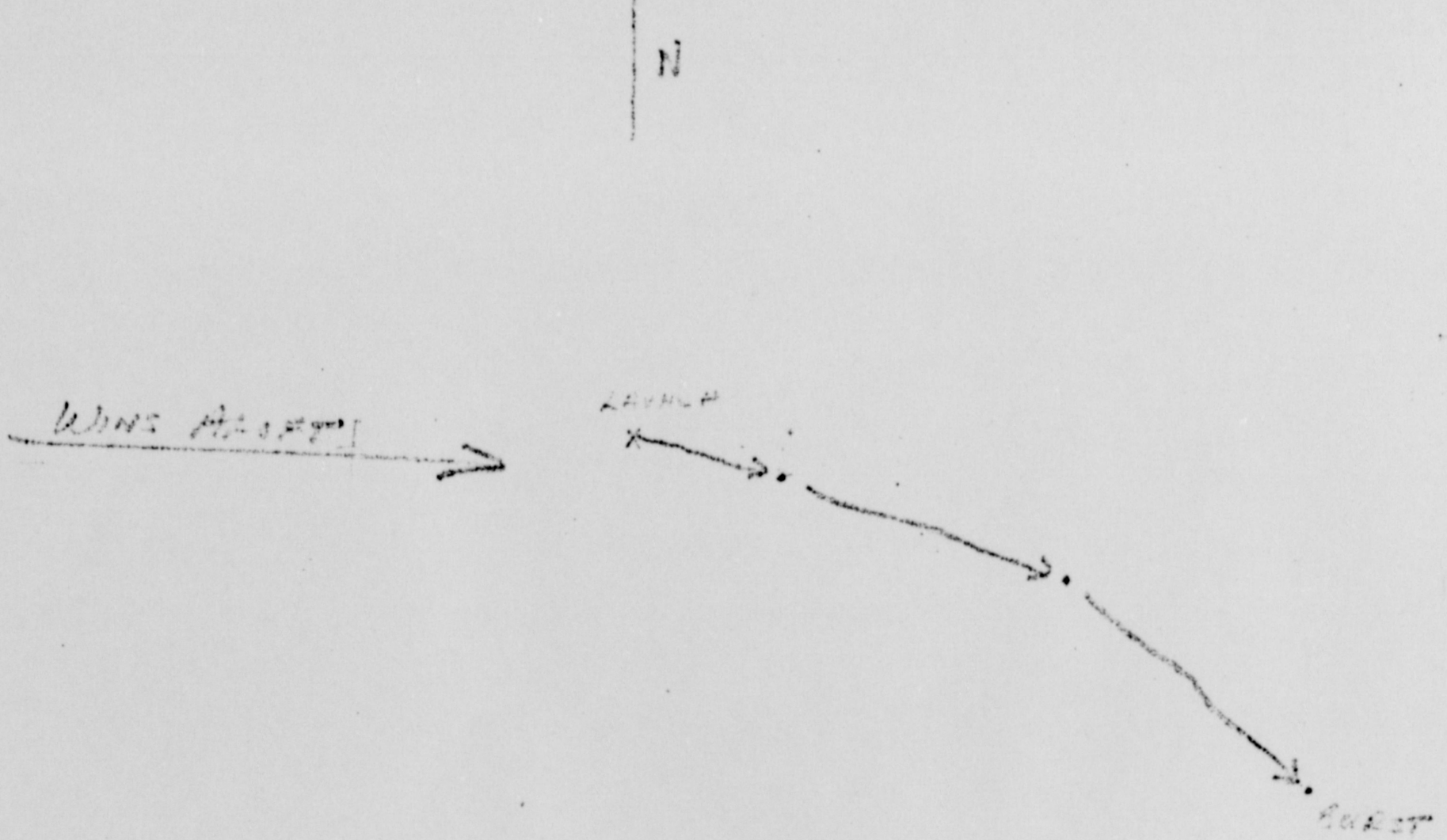
1. DATE - TIME GROUP	2. LOCATION
28 Jan 53 28/2100Z	Point Mugu, California
3. SOURCE	**10. CONCLUSION**
Civ Men	UNKNOWN (UNIDENTIFIED)
4. NUMBER OF OBJECTS	
One	Unidentified
5. LENGTH OF OBSERVATION	**11. BRIEF SUMMARY AND ANALYSIS**
6 Min.	White object was observed traveling in an Easterly course at high speed. Observers sighted object after a jet a/c they were observing disappeared. Sources concluded that object was not a conventional a/c.
6. TYPE OF OBSERVATION	
Ground-Visual	
7. COURSE	
East	
8. PHOTOS	
☐ Yes ☒ No	
9. PHYSICAL EVIDENCE	
☐ Yes ☒ No	

FORM
FTD SEP 63 0-329 (TDE) Previous editions of this form may be used.


N
WIND DIRECTION
LAUNCH
TARGET

Joins San Francisco

LOS ANGELES (R-2)

DJ F J

1146 CLG

To Coalinga

120° A

45'

(Joins Mt Whitney)

344 FNO

30' To Fresno

15'

Pumping sta

QG

Athletic field

Avenal

AVENAL 726 — — 32

SAN FRANCISCO — LOS ANGELES — 101

AG

Kettleman City

10

20

30

40

36° 16' 30" E

Tanks

Corcoran Race track

SALYER 205 — — 29

Woodville

Tipton

Angiola

VON GLAHN 191 — — 28

Bldgs

117°

316°

Pixley

PIXLEY 264 — H 20

Stoil

Alpaugh

Allensworth

Earlimart

319°

321°

AMBER

549 A

Stadium

Delano

DELANO-A 375 L

Pumping sta

2650

Barracks

Oil tanks

Devils Den

Bldg

45'

3134

Pumping sta

Ranch

Pond

Towers

298°

Pipe line along road

PIPE LINE

McFarland

Pumping sta

LOST HILLS-KERN CO 285 — H 45

WASCO-KERN CO 315 — — 35

School

Lost Hills

Oil field

SEMI-TROPIC 300 — H 45

Wasco

563

Famoso

BLACKWELLS 650 — — 30

Pumping sta

Refinery

Pumping sta

30'

Warehouse

Pumping sta

SHAFTER-KERN CO 423 L H 45

Shafter

Tanks

BUTTONWILLOW-KERN CO NO 15 268 — — 27

Buttonwillow

Power plant

BAKERSFIELD-KERN CO 515 L H 39 INSTR LDG SYSTEM 273 113.9 126.13

Simmler

3931

Buena Vista

Rc

Reward

Tanks

Freeborn Mt. 3311

WHEELING RANCH 2000 — — 25

4332

McKittrick

231°

051°

Tupman

Refinery

Refinery

15'

3936

Pumping station

Tanks

MODEL 1180 — — 21

3662

Fellows

Ford City

TAFT-KERN CO NO 2 873 L — 38

3566

Taft

Maricopa

SUNSET 520 — — 29

PARK 580 —

MARICOPA-KERN CO 937 — — 23

5104

Refinery

New Cuyama

NEW CUYAMA 2225 — — 40

Cuyama

344°

Peak Mt. 5315

3704

Cement plant

Ventucopa

164°

4250±

5165

16°E

4933

4530

SAN

RAFAEL MTS

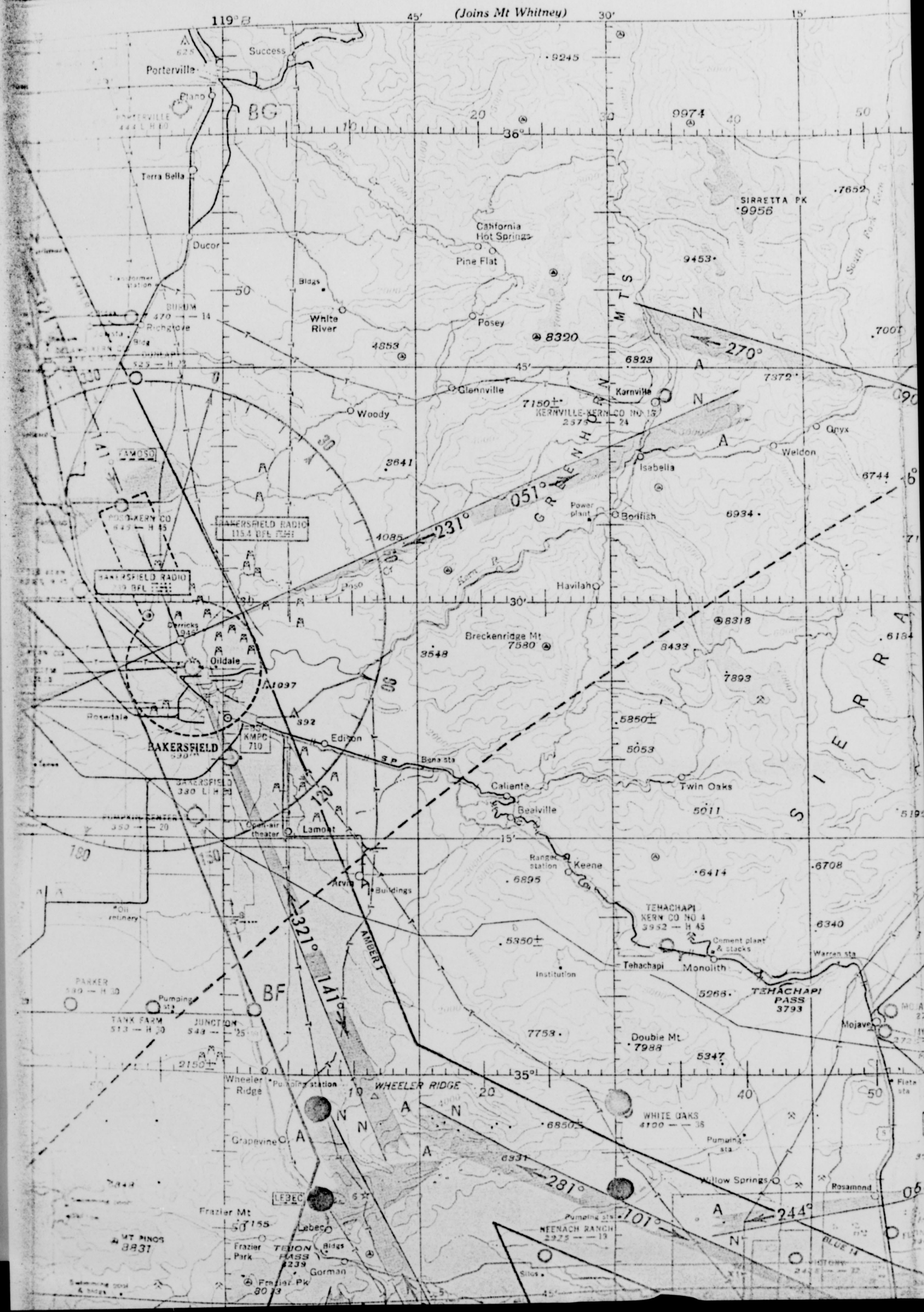
TEMBLOR RANGE

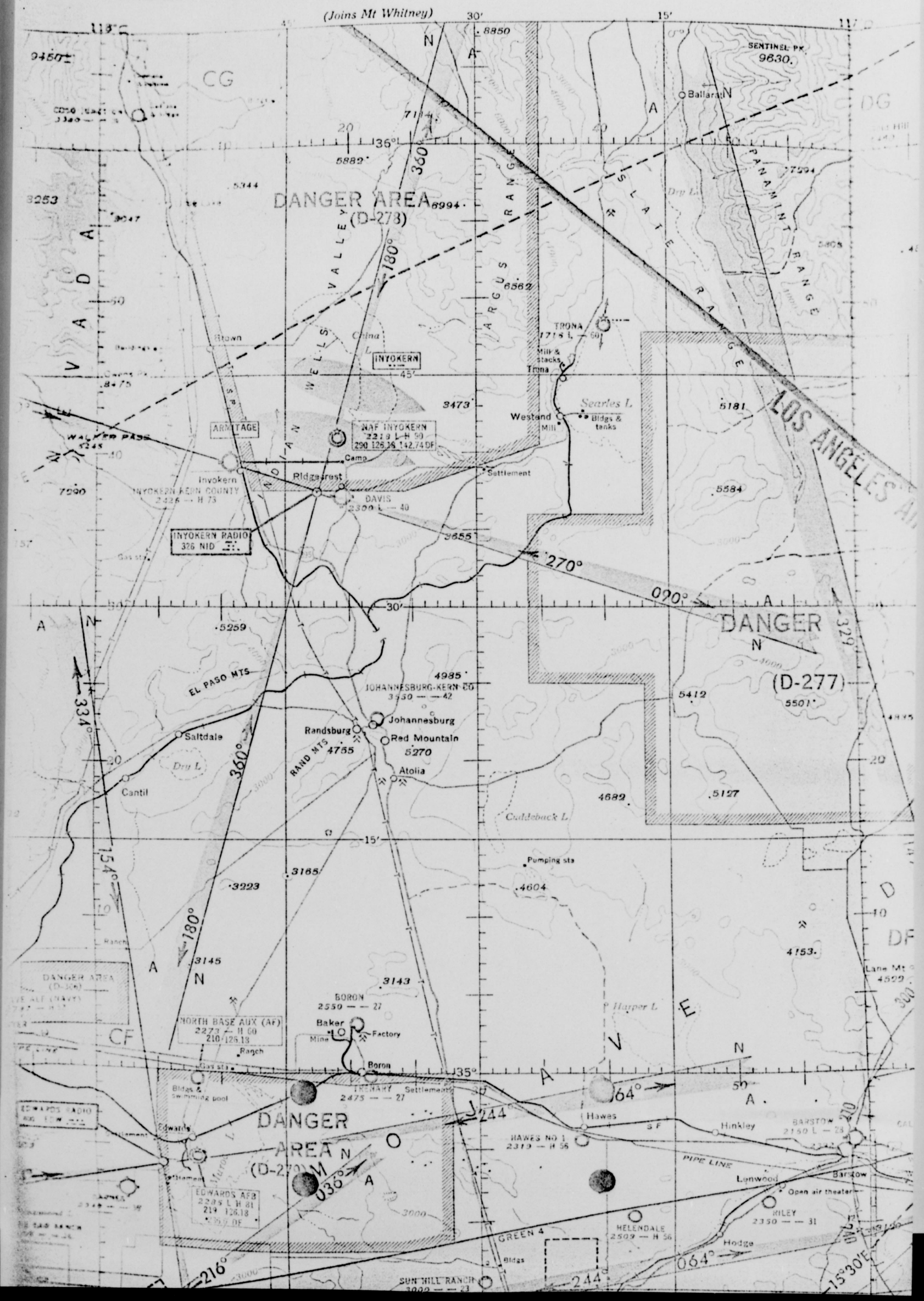
CALIENTE RANGE

SAN JOAQUIN VALLEY

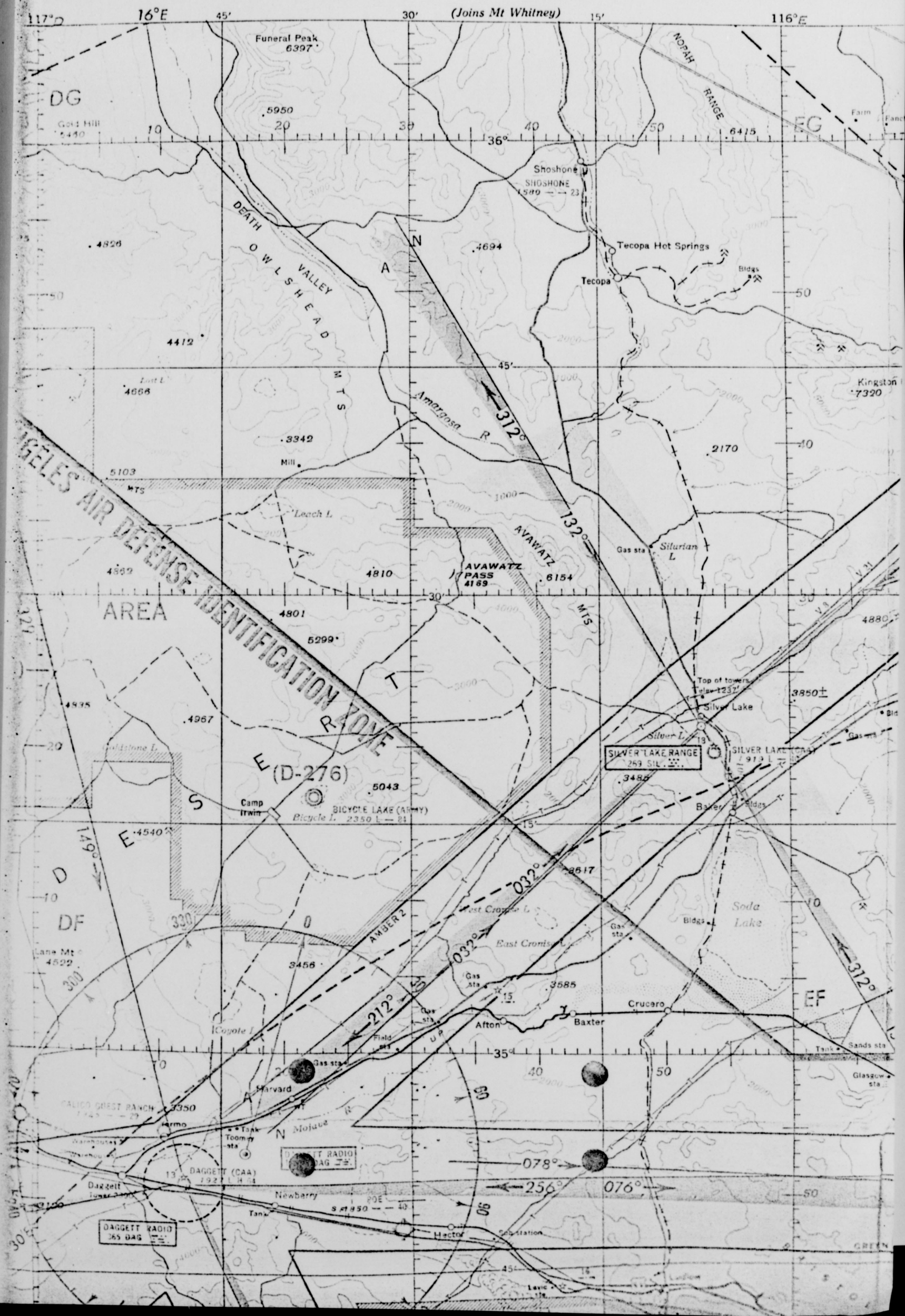
(Joins San Francisco)

ELEVATIONS IN FEET

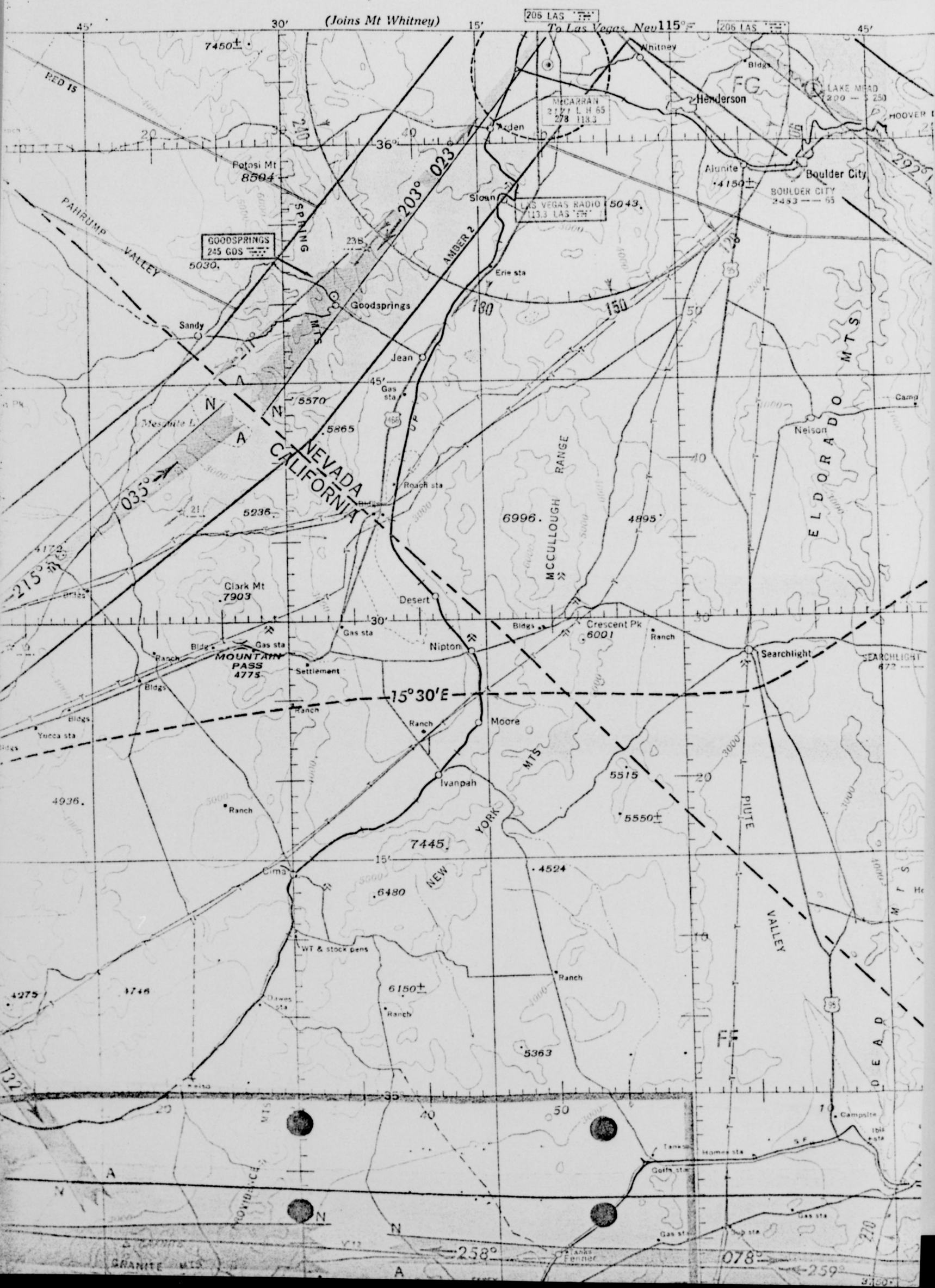




(Joins Mt Whitney)
DANGER AREA
(D-278)
DANGER
(D-277)
DANGER AREA
(D-279)
LOS ANGELES AI
SLATE RANGE
PANAMINT RANGE
ARGUS RANGE
INDIAN WELLS VALLEY
SENTINEL PK
9630
Ballarat
TRONA
1716 L — 60
Trona
Westend
Searles L
Bldgs & tanks
Mill
Brown
INYOKERN
ARMITAGE
NAF INYOKERN
2218 L H 90
290 126.16 142.74 DF
Camp
Ridgecrest
Invokern
INYOKERN-KERN COUNTY
2426 — H 73
DAVIS
2300 L — 40
Settlement
INYOKERN RADIO
326 NID
WALKER PASS
EL PASO MTS
JOHANNESBURG-KERN CO
3550 — — 42
Johannesburg
Randsburg
Red Mountain
Atolia
RAND MTS
Saltdale
Cantil
Dry L
Cuddeback L
Pumping sta
Harper L
BORON
2550 — — 27
Baker
Factory
Mine
Boron
NORTH BASE AUX (AF)
2273 — H 60
210 126.18
Ranch
Gas sta
Bldgs & swimming pool
TRENARY
2475 — — 27
Settlement
Edwards
EDWARDS AFB
2285 L H 81
219 126.18
Hawes
HAWES NO 1
2319 — H 56
Hinkley
BARSTOW
2150 L — 28
PIPE LINE
Lenwood
Barstow
Open air theater
RILEY
2350 — — 31
HELENDALE
2509 — H 56
Hodge
GREEN 4
Bldgs
SUN HILL RANCH
3000 — — 23
Lane Mt
4522
DANGER AREA
(D-306)
CG
DG
CF
DF
360°
180°
270°
090°
329°
334°
154°
064°
244°
036°
216°
15°30'E



(Joins Mt Whitney)
117°D
16°E
45'
30'
15'
116°E
Funeral Peak
6397
DG
Gold Hill
5460
5950
NOPAH
RANGE
EG
Farm
6415
36°
Shoshone
SHOSHONE
1580 — 23
DEATH
VALLEY
OWLSHEAD
MTS
4826
4694
Tecopa Hot Springs
Tecopa
Bldgs
4412
45'
Lost L
4666
Amargosa
R
312°
Kingston
7320
3342
2170
Mill
5103
MTS
Leach L
132°
AVAWATZ
Gas sta
Silurian
L
4862
4810
AVAWATZ
PASS
4169
6154
AREA
4801
MTS
4880
5299
Top of towers
Elev 1237
3850±
Silver Lake
4835
4967
Silver L
SILVER LAKE RANGE
269 SIL
SILVER LAKE (CAA)
Goldstone L
(D-276)
5043
3485
Camp
Irwin
BICYCLE LAKE (ARMY)
Bicycle L
2350 L — 84
Baker
Bldgs
4540
149°
D
E
S
E
R
T
3617
032°
Soda
Lake
DF
West Cronise L
AMBER 2
East Cronise L
Gas
sta
Bldgs
Lane Mt
4522
3456
032°
312°
Gas
sta
3585
212°
Crucero
EF
Afton
Baxter
Coyote L
Field
sta
35°
Tank
Sands sta
Glasgow
sta
Gas sta
Harvard
CALICO GUEST RANCH
3350
Mojave
R
Tank
Toomey
sta
DAGGETT RADIO
DAG
078°
DAGGETT (CAA)
1927 L H 64
Daggett
Tower
256°
076°
Newberry
Tank
S 1850 — 40
Hector
Sub station
DAGGETT RADIO
365 DAG
GREEN
Lavic
sta


(Joins Mt Whitney)
To Las Vegas, Nev
115°F
206 LAS
Whitney
Bldgs
Henderson
FG
LAKE MEAD
HOOVER
McCARRAN
Arden
Alunite
Boulder City
BOULDER CITY
Potosi Mt
8504
Sloan
LAS VEGAS RADIO
113.3 LAS
5043
GOODSPRINGS
245 GDS
5030
PAHRUMP VALLEY
SPRING MTS
AMBER 2
Erie sta
Goodsprings
Sandy
Jean
Gas sta
5570
5865
Mesquite L
NEVADA
CALIFORNIA
Roach sta
5236
6996
4895
MCCULLOUGH RANGE
ELDORADO MTS
Nelson
Camp
Clark Mt
7903
Desert
Crescent Pk
6001
Ranch
Searchlight
SEARCHLIGHT
MOUNTAIN PASS
4775
Settlement
Nipton
15°30'E
Moore
Yucca sta
Ivanpah
5515
5550±
PIUTE VALLEY
4936
7445
NEW YORK MTS
Cima
4524
6480
WT & stock pens
6150±
Dawes sta
5363
FF
DEAD MTS
Campsite
Homes sta
Golfs sta
Fenner
GRANITE MTS
258°
078°
259°
270
135°
215°
203°
023°
180
150
36°
45'
30'
15'
35'

LOS ANGELES (R-2)

Lambert Conformal Conic Projection Standard Parallels 33° and 45° Scale 1:500.000

(Joins Grand Canyon)

(Joins Mt Whitney)

(Joins Prescott)

Lake Mead
TEMPLE BAR
1330 — — 35
HOOVER DAM
5750' Mt Wilson
292°
112°
WILLOW BEACH
Willow Beach
3414
VALLEY
DETRITAL WASH
CIVIL AIRWAY
LAKE MEAD NAT'L RECREATION AREA
COLORADO R.
Camp
Gas sta
White Hills
5177
Ranch
RED 15
Red Lake
Buildings
5456
2047
348°
MT TIPTON
7150
Bldgs
SHEPS PLEASANT VALLEY
3600 — — 23
Chloride
6978
4352
Walapai
4636
Gas sta
CAUTION AREA (C-417)
KINGMAN
3446 L H-68
RR station
SEARCHLIGHT FERRY
472 — — 30
NEVADA
ARIZONA
168°
BLUE 67
MTS
Hotel
Davis dam
UNION PASS
3925
SACRAMENTO
Kingman
3760
BULLHEAD
550 — — 30
Bullhead City
Bldg
Hualpai Pk
8420
5216
Goldroad
Oatman
SITGREAVES PASS
3852
330
MOHAVE VALLEY
3787
YUCCA
2030 — H 60
Cactus, Mt
2584
GREEN 4
Needles
NEEDLES RADIO
375 EED
NEEDLES RADIO
117.3 EED
Havilland
258°
077°
078°
V 12
270
300
330
EJ
GG
GF
114°G
15'
30'
45'
50
40
30
20
10
15'
30'
45'
35°
36°

PRICE 25 CENTS

LOS ANGELES (R-2)

COMPILED AND PRINTED AT WASHINGTON, D. C
BY THE U. S. COAST AND GEODETIC SURVEY
UNDER AUTHORITY OF THE SECRETARY OF COMMERCE

Principal Sources: U. S. Geological Survey, U. S. Army Corps of Engineers, U. S. Air Force, U. S. Dept. of Agriculture, Civil Aeronautics Administration, and the U. S. Coast and Geodetic Survey.

BASE: Edition of Mar. 1951 Revised Aug. 1952

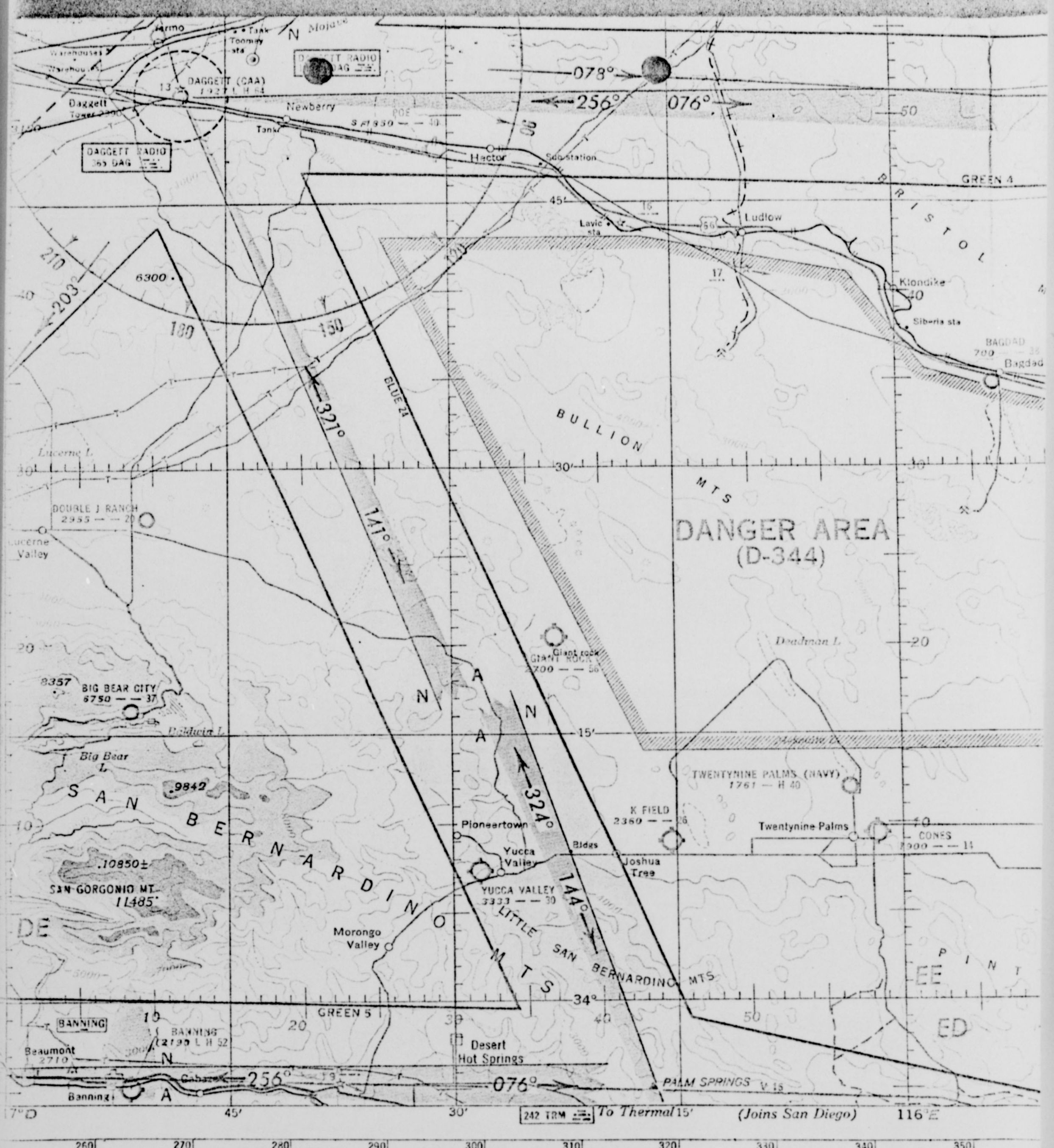
NOTE: It is requested that users of this chart indicate corrections and additions which come to their attention and notify "THE DIRECTOR, U. S. COAST AND GEODETIC SURVEY, WASHINGTON 25, D. C."

TO REFERENCE BY THE GEOREF (SHOWN IN BLUE) TO MINUTES
(Select nearest intersection south and west of point)

Sample Point: PIRU

1. EJ identifies basic 15° quadrangle
2. BE identifies 1° quadrangle
3. 12 identifies Georef minute of longitude
4. 25 identifies Georef minute of latitude
5. Sample reference: EJBE1225

See Los Angeles Local Aeronautical Chart, scale 1:250,000 for additional information.



260 270 280 290 300 310 320 330 340 350
140 150 160 170 180 190
160 170 180 190 200 210 220

BLUE TINT INDICATES AIR TRAFFIC CONTROLLED AREAS

For pilot information see reverse side

Victor airway designations are shown along the radials of the omni range stations. Limits of these airways which are not indicated on this chart are 5 miles on either side of the radials.

PROVIDENCE MTS
GRANITE MTS
GRANITE
6600
ESSEX
1050 — 49
Clipper Mt.
Essex
Tanks
Fenner
Gas sta
Sub sta
Gas sta
258°
078°
259°
3750
MTS
LOS ANGELES AQUEDUCT
PIPE LINE
PIUTE
Danby
Gas sta
Amboy
Ranch
Gas sta
Cadiz
Ranch
Bldgs
Tanks
Salt mining
Plant
Bristol L
Cadiz L
Archer sta
Chubbuck
OLD WOMAN MTS
.5300
.3804
.4313
.4316
TURTLE MTS
Milligan sta
Salt Marsh sta
Tank
Reservoir & pumping sta
Rice
RICE
832 — H 50
Tank
4600
SHEEP HOLE MTS
Bldgs
Dale L
IRON MT.
COXCOMB
900 — — 45
15° E
45'
30'
(Joins San Diego)
15'
115° F
FE
FD
ZONE
370 380 390 400 410 420 430 440 450
200 210 220 230 240
230 240 250 260 270 280

GREEN 4

NEEDLES RADIO 375 FED

NEEDLES RADIO 1173 FED

680 Needles

RIVERVIEW 550 L — 25

NEEDLES 390 L H 58

258

287

Yucca

.2584

Haviland

28

258°

077°

078°

29

A

N

45'

50

40

30'

Powell

1000

Sacramento

VALLEY

Topock

KINGMAN NO 5 810 — — 45

2839

.2768

.2347

.2414

MOHAVE

MTS

15°E

.5103

210

120

150

180

.3697

Havasu Lake

BOLAM 490 — — 15 Bldgs

LAKE HAVASU 490 — — 60

ARIZONA

CALIFORNIA

348°

168°

BLUE 67

2552

2681

Pumping Station

Bldgs Parker Dam

2776.

20

15'

(Joins Prescott)

.4131

2000

3000

Vidal Jct

VIDAL 590 — — 29

SF

Earp

Parker

PARKER 430 — — 32

1970

COLORADO R

10

3137

Gromme sta

Vidal

2667

165°

GE

E

34°

Camp

Bouse

GD

45'

To Blythe 251 BLH

30'

(Joins San Diego)

15'

114°G

460 470 480 490 500 510 Kilometers

250 260 270 280 Nautical Miles

290 300 310 320 Statute Miles

ELEVATIONS IN FEET

11455 ft

6000

5000

3000

1000

Sea Level

225

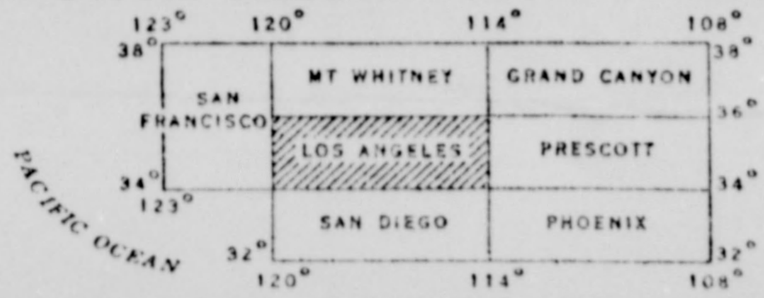
CONTOUR INTERVAL 1000'

(Joins Phoenix)

GEOREF 8-52

LOS ANGELES (R-2)

SECTIONAL AERONAUTICAL CHART



34th EDITION

Consult Coast and Geodetic Survey Radio Facility Charts and Civil Aeronautics Administration Airman's Guide for changes in aeronautical information on this chart after

SEPT. 12, 1952

Next scheduled edition, March 1953

U. S. AIR FORCE EDITION

NAUTICAL MILES

For convenience in converting distances expressed in statute miles to their equivalents in nautical miles, and vice versa, the table below has been prepared. The United States nautical mile has been used for the table.

The United States nautical mile is defined as equal to one-sixtieth of a degree (one minute) of a great circle on a sphere whose surface is equal to the surface of the earth. The value of a nautical mile is calculated on this basis as 1853.25 meters or 6080.20 feet. Since the common or statute mile is equal to 5280 feet, one nautical mile equals approximately 1.152 statute miles, and one statute mile equals approximately 0.868 nautical mile. For quick calculation the nautical mile may be considered approximately one-seventh longer than the statute mile, and the statute mile approximately one-eighth shorter than the nautical mile.

In the lower margins of the sectional charts is provided a convenient conversion scale by which values in statute miles may be readily converted to nautical miles and vice versa. Distances expressed in either unit may thus be scaled directly on the charts.

The length of one minute of latitude measured along a meridian on the surface of the earth at latitude 48°15′ is equal to a United States nautical mile. North or south of 48°15′ the length of a minute is slightly longer or shorter, since the earth is not a perfect sphere. However, for practical purposes, the nautical mile is considered equivalent to a minute of latitude at any point on the earth's surface. Therefore, the one-minute subdivisions of the meridian lines on the face of charts may also be used for scaling distances.

The knot is a unit of speed only. One knot is equal to one nautical mile per hour; as, when an aircraft is travelling 200 nautical miles per hour, its speed is 200 knots.

CONVERSION TABLES

STATUTE MILES TO NAUTICAL MILES

STATUTE MILES	NAUTICAL MILES	FEET	STATUTE MILES	NAUTICAL MILES
0.1	0.087	528	100	86.8
0.2	0.174	1056	110	95.5
0.3	0.261	1584	120	104.2
0.4	0.347	2112	130	112.9
0.5	0.434	2640	140	121.6
0.6	0.521	3168	150	130.3
0.7	0.608	3696	160	138.9
0.8	0.695	4224	170	147.6
0.9	0.782	4752	180	156.3
1.0	0.868	5280	190	165.0
			200	173.7
2	1.74		210	182.4
3	2.61		220	191.0
4	3.47		230	199.7
5	4.34		240	208.4
6	5.21		250	217.1
7	6.08		260	225.8
8	6.95		270	234.5
9	7.82		280	243.1
10	8.68		290	251.8
11	9.55		300	260.5
12	10.42		310	269.2
13	11.29		320	277.9
14	12.16		330	286.6
15	13.03		340	295.3
16	13.89		350	303.9
17	14.76		360	312.6
18	15.63		370	321.3
19	16.50		380	330.0
20	17.37		390	338.7
			400	347.4
30	26.05			
40	34.74		500	434.2
50	43.42		600	521.0
60	52.10		700	607.9
70	60.79		800	694.7
80	69.47		900	781.6
90	78.16		1000	868.4

NAUTICAL MILES TO STATUTE MILES

NAUTICAL MILES	STATUTE MILES	FEET	NAUTICAL MILES	STATUTE MILES
0.1	0.115	608.0	100	115.2
0.2	0.230	1216.0	110	126.7
0.3	0.345	1824.1	120	138.2
0.4	0.461	2432.1	130	149.7
0.5	0.576	3040.1	140	161.2
0.6	0.691	3648.1	150	172.7
0.7	0.806	4256.1	160	184.2
0.8	0.921	4864.2	170	195.8
0.9	1.036	5472.2	180	207.3
1.0	1.152	6080.2	190	218.8
			200	230.3
2	2.30		210	241.8
3	3.45		220	253.3
4	4.61		230	264.9
5	5.76		240	276.4
6	6.91		250	287.9
7	8.06		260	299.4
8	9.21		270	310.9
9	10.36		280	322.4
10	11.52		290	334.0
11	12.67		300	345.5
12	13.82		310	357.0
13	14.97		320	368.5
14	16.12		330	380.0
15	17.27		340	391.5
16	18.42		350	403.0
17	19.58		360	414.6
18	20.73		370	426.1
19	21.88		380	437.6
20	23.03		390	449.1
			400	460.6
30	34.55			
40	46.06		500	575.8
50	57.58		600	690.9
60	69.09		700	806.1
70	80.61		800	921.2
80	92.12		900	1036.4
90	103.64		1000	1151.6

SEARCH AND RESCUE

Search and Rescue Service is a life saving service provided through the combined efforts of the CAA, Air Force, and Coast Guard who are assisted by other organizations such as the Civil Air Patrol, Sheriffs Air Patrol, State Police, and such other agencies as may be available. It provides search, survival aid, and rescue of personnel of missing or crashed aircraft.

All you need to remember to obtain this valuable protection is:

1. File a Flight Plan with a CAA Airway Communications Station in person or by telephone or radio.
2. File an Arrival Report.
3. If you land at a location other than intended destination, report the landing to the nearest CAA Communications Station.
4. If you land enroute and are delayed more than an hour, report this information to the nearest communications station.
5. Remember that if you fail to report within one hour after your E.T.A., a search will be started to locate you. If you fail to report within three hours after your E.T.A., the full facilities of the Search and Rescue Service will be activated.

Searches are expensive, they inconvenience other people, and on numerous occasions the lives of other pilots are sacrificed when searching for lost or overdue pilots. SO, FILE AN ARRIVAL REPORT!

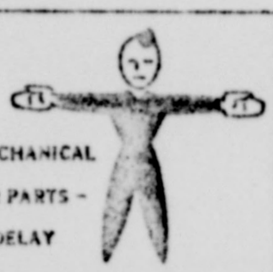
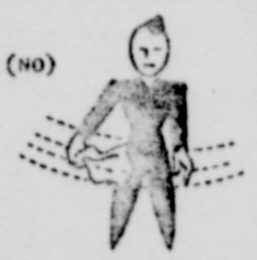
GROUND TO AIR EMERGENCY CODE DISTRESS SIGNALS

REQUIRE DOCTOR, SERIOUS INJURIES — I	REQUIRE SIGNAL LAMP WITH BATTERY, AND RADIO — I	REQUIRE FUEL AND OIL — L
REQUIRE MEDICAL SUPPLIES — II	INDICATE DIRECTION TO PROCEED — K	ALL WELL — LL
UNABLE TO PROCEED — X	AM PROCEEDING IN THIS DIRECTION — ↑	NO — N
REQUIRE FOOD AND WATER — F	WILL ATTEMPT TAKE-OFF — |>	YES — Y
REQUIRE FIREARMS AND AMMUNITION — V	AIRCRAFT SERIOUSLY DAMAGED — LT	NOT UNDERSTOOD — JL
REQUIRE MAP AND COMPASS — □	PROBABLY SAFE TO LAND HERE — △	REQUIRE MECHANIC — W
	IF IN DOUBT, USE INTERNATIONAL SYMBOL — SOS	

INSTRUCTIONS:

1. Lay out symbols by using strips of fabric or parachutes, pieces of wood, stones, or any available material.
2. Provide as much color contrast as possible between material used for symbols and background against which symbols are exposed.
3. Symbols should be at least 10 feet high or larger, if possible. Care should be taken to lay out symbols exactly as shown to avoid confusion with other symbols.
4. In addition to using symbols, every effort is to be made to attract attention by means of radio, flares, smoke, or other available means.
5. When ground is covered with snow, signals can be made by dragging, shoveling or tramping the snow. The depressed areas forming the symbols will appear to be black from the air.
6. Pilot should acknowledge message by rocking wings from side to side.

VISUAL EMERGENCY SIGNALS

NEED MEDICAL ASSISTANCE – URGENT USED ONLY WHEN LIFE IS AT STAKE 	ALL OK – DO NOT WAIT 	CAN PROCEED SHORTLY – WAIT IF PRACTICAL 	NEED MECHANICAL HELP OR PARTS – LONG DELAY 	DO NOT ATTEMPT TO LAND HERE 
LIE PRONE	WAVE ONE ARM OVERHEAD	ONE ARM HORIZONTAL	BOTH ARMS HORIZONTAL	BOTH ARMS WAVED ACROSS FACE
LAND HERE 	USE DROP MESSAGE 	OUR RECEIVER IS OPERATING 	NEGATIVE (NO) 	AFFIRMATIVE (YES) 
BOTH ARMS FORWARD HORIZONTALLY, SQUATTING AND POINTING IN DIRECTION OF LANDING – REPEAT	MAKE THROWING MOTION	CUP HANDS OVER EARS	WHITE CLOTH WAVED HORIZONTALLY	WHITE CLOTH WAVED VERTICALLY
PICK US UP – PLANE ABANDONED 	AFFIRMATIVE (YES) 	NEGATIVE (NO) 	**HOW TO USE THEM** IF YOU ARE FORCED DOWN AND ARE ABLE TO ATTRACT THE ATTENTION OF THE PILOT OF A RESCUE AIRPLANE, THE BODY SIGNALS ILLUSTRATED ON THIS PAGE CAN BE USED TO TRANSMIT MESSAGES TO HIM AS HE CIRCLES OVER YOUR LOCATION. STAND IN THE OPEN WHEN YOU MAKE THE SIGNALS. BE SURE THAT THE BACKGROUND, AS SEEN FROM THE AIR, IS NOT CONFUSING. GO THROUGH THE MOTIONS SLOWLY AND REPEAT EACH SIGNAL UNTIL YOU ARE POSITIVE THAT THE PILOT UNDERSTANDS YOU.	
BOTH ARMS VERTICAL	DIP NOSE OF PLANE SEVERAL TIMES	FISHTAIL PLANE		

6/6/50

CRUISING ALTITUDES

CRUISING ALTITUDES WITHIN CONTROL AREAS AND ZONES -- During VFR conditions aircraft at altitudes of 3000 feet or more above the surface within control zones and control areas, including controlled airways, must be flown at odd or even 1000-foot levels appropriate to the direction of flight. "Odd" and "Even" indicators are shown on Coast and Geodetic Survey Radio Facility Charts. Under IFR conditions within control zones and control areas, including controlled airways, altitudes will be flown in accordance with ATC clearances.

The following rules will govern the altitude at which aircraft shall fly when making VFR flights along controlled civil airways:

Green and Red Airways and Even-numbered VOR Airways

Eastbound flights. Aircraft shall fly at an ODD thousand-foot altitude above sea level (such as 3000, 5000, or 7000 feet).
Westbound flights. Aircraft shall fly at an EVEN thousand-foot altitude above sea level (such as 4000, 6000, or 8000 feet).

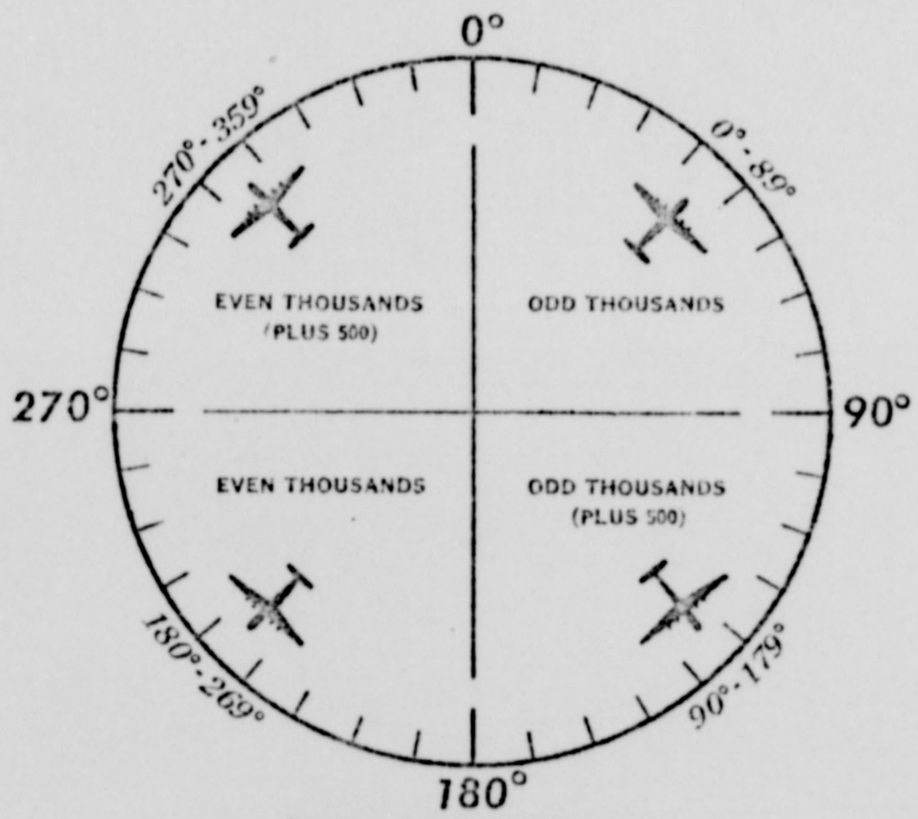
Amber and Blue Airways and Odd-numbered VOR Airways

Northbound flights. Aircraft shall fly at an ODD thousand-foot altitude above sea level (such as 3000, 5000, or 7000 feet).
Southbound flights. Aircraft shall fly at an EVEN thousand-foot altitude above sea level (such as 4000, 6000, or 8000 feet).

The following rules will apply on segments where color airways and VOR airways overlap:

Where a color airway coincides with a VOR airway, the ODD or EVEN rule for the appropriate color airway will apply.
Where no color airway is involved and an Even-numbered and an Odd-numbered VOR airway coincide, the ODD or EVEN altitude rule for the Even-numbered VOR airway will apply.

CRUISING ALTITUDES OUTSIDE CONTROL AREAS AND ZONES--When the flight visibility is less than three miles, aircraft must be flown at an altitude appropriate to the magnetic course as illustrated below.



MAGNETIC COURSES

(Illustration applies only to flight outside of control areas and control zones, including uncontrolled airways)

VISUAL FLIGHT PLAN

The Civil Air Regulations do not require that a VFR flight plan be filed for a VFR flight. However, the filing of such a flight plan is desirable, and the CAA urges that VFR flights be covered by flight plan whenever practicable as such filing materially assists in search and rescue operations if such action becomes necessary. Flight plans may be submitted to the nearest CAA airway communications station either in person or by telephone. Flight plans may be filed by radio if no other means are available but this practice should be avoided whenever possible to reduce congestion of radio channels.

If filing the flight plan, the pilot should state the name of the CAA communications station with which he will close his flight plan. If the destination is not served by a CAA communications station, or is in Canada or Mexico, the method by which the arrival report will be filed must be clearly understood by all concerned. VFR flight plans are transmitted via CAA communications facilities only to the CAA communications station with which the pilot has stated his arrival report or closing of flight plan will be filed. One hour after the estimated time of arrival, if no notice of arrival is received, queries are sent out over CAA communications systems to determine the location of the aircraft. If no information concerning the aircraft is obtained after an exhaustive communications inquiry, search and rescue operations are inaugurated. In as much as the government may be put to considerable expense in determining the location of aircraft when an arrival report is not filed, it is vitally necessary that all pilots make certain that notice of arrival is filed. If flight is terminated prior to reaching the point of intended destination specified in the flight plan, pilots should contact the nearest CAA communications station and the request that an arrival report be transmitted over CAA facilities to the CAA communications station with which the pilot stated the arrival report would be filed.

Pilots of aircraft operating on VFR flight plan who desire to make flight progress reports, should include in the report the phrase: "VFR FLIGHT PLAN FROM (blank) TO (blank)."

The flight plan shall contain the items listed under INSTRUMENT FLIGHT RULES - Flight Plan, except "Alternate Airport" and except that a visual flight rule flight plan should always specify "VFR" as a cruising altitude. The use of this term in lieu of an actual altitude indicates that the pilot intends to fly in accordance with Visual Flight Rules. Aircraft may be operated in accordance with VFR above a well defined cloud or other formation provided, climb to and descent from such "on top" flight can also be made in accordance with VFR.

PILOTS GUIDE FOR COMMUNICATING WITH AIRWAY STATIONS

PILOTS - never hesitate to use your radio. Remember that talking by radio is almost the same as talking on your home telephone.

The following are typical examples of two-way communication with airway stations.

IDENTIFICATION OF AIRWAY STATIONS: CAA Airway Communications Stations are identified by the name of the station followed by the word "RADIO".

Example: "CLEVELAND RADIO".

IDENTIFICATION OF AIRCRAFT: Your aircraft is identified by the make of aircraft followed by the certificate number and letter suffix, if any.

Example: "STINSON ONE THREE SIX FIVE".
"STINSON ONE THREE SIX FIVE-Y".

Example of pilot calling an airway station:
"CLEVELAND RADIO - THIS IS - STINSON ONE THREE SIX FIVE - OVER".

After communication has been established, an abbreviated form of identification may be used, if desired, using the last three units of the certificate number only.

The airway station will normally answer on the radio range or radiobeacon frequency. If reply is desired on other than the radio range or radiobeacon frequency, pilots should indicate the frequency on which the station reply is expected.

Example: "CLEVELAND RADIO - THIS IS - STINSON ONE THREE SIX FIVE - REPLY ON ONE ELEVEN POINT ONE MEGACYCLES - OVER".

After the airway station has answered your call, proceed with your message without further call up other than preceding the message with the aircraft identification. Your message may consist of your position report, a request for weather data or other information that may be required to assist you to your destination.

Example: "STINSON ONE THREE SIX FIVE - OVER CLEVELAND AT ELEVEN TWENTY - FOUR THOUSAND FEET ON VFR FLIGHT PLAN FROM YOUNGSTOWN TO TOLEDO - WHAT IS THE WEATHER AT TOLEDO - OVER".

If you are flying VFR, a position report is not required, however, it is to your advantage that the stations along your route of flight know your position at all times in order that assistance can be rendered should you encounter difficulty.
Flight plans may be filed while in flight, with a CAA Airway Communications Station, if your departure was from an airport not served by such a station.

The word "ROGER" is used to acknowledge receipt of a message.

The word "OUT" is used when a conversation is ended and no response is expected.

Example: "STINSON ONE THREE SIX FIVE - ROGER, OUT".

The words "SAY AGAIN" are used if a message was not understood and a repetition is desired.

The words "STAND BY" are used to indicate that a return call will be made as soon as practicable.

Examples: "STINSON ONE THREE SIX FIVE - SAY AGAIN, OVER".
"STINSON ONE THREE SIX FIVE - STAND BY".

ENROUTE FLIGHT SERVICE

All airway communications stations are ready to provide pilots with enroute flight information or assistance at any time. You may call any CAA RADIO for latest weather along your route of flight, upper wind velocities, airport conditions, and other flight information. If you become lost or uncertain of your position, call any CAA RADIO. Personnel at CAA airway communications stations are trained to assist pilots in establishing position by any of the following methods: (a) Visual reference to terrain features; (b) Low frequency radio range orientation; (c) VHF omni-range indications (triangulations).

RADIOTELEGRAPH CODE AND PHONETIC ALPHABETS

U.S. *	INT'L (ICAO)		U.S. *	INT'L (ICAO)		U.S.	INT'L (ICAO) **	
A—ABLE	ALFA	•—	N—NAN	NECTAR	—•	0—ZEE-ROH	ZE-RO	—————
B—BAKER	BRAVO	—•••	O—OBOE	OSCAR	———	1—WUN	WUN	•————
C—CHARLIE	COCA	—•—•	P—PETER	PAPA	•——•	2—TOO	TOO	••———
D—DOG	DELTA	—••	Q—QUEEN	QUEBEC	——•—	3—THU-REE	TREE	•••——
E—EASY	ECHO	•	R—ROGER	ROMEO	•—•	4—FO-WER	FOW-er	••••—
F—FOX	FOXTROT	••—•	S—SUGAR	SIERRA	•••	5—FI-YIV	FIFE	•••••
G—GEORGE	GOLF	——•	T—TARE	TANGO	—	6—SIKS	SIX	—••••
H—HOW	HOTEL	••••	U—UNCLE	UNION	••—	7—SEV-VEN	SEV-en	——•••
I—ITEM	INDIA	••	V—VICTOR	VICTOR	•••—	8—ATE	AIT	———••
J—JIG	JULIETT	•———	W—WILLIAM	WHISKEY	•——	9—NI-YEN	NIN-er	————•
K—KING	KILO	—•—	X—XRAY	EXTRA	—••—			
L—LOVE	LIMA	•—••	Y—YOKE	YANKEE	—•——			
M—MIKE	METRO	——	Z—ZEBRA	ZULU	——••			

* The US phonetic alphabet (Able, Baker, Charlie etc.) has been supplanted by the International.(ICAO) phoneti alphabet at all CAA communication stations as of April 1, 1952. However, the US phonetic alphabet will continue to b used upon request at the stations.

** CAA facilities will continue to use normal English pronunciation instead of the International pronunciation of th numbers.

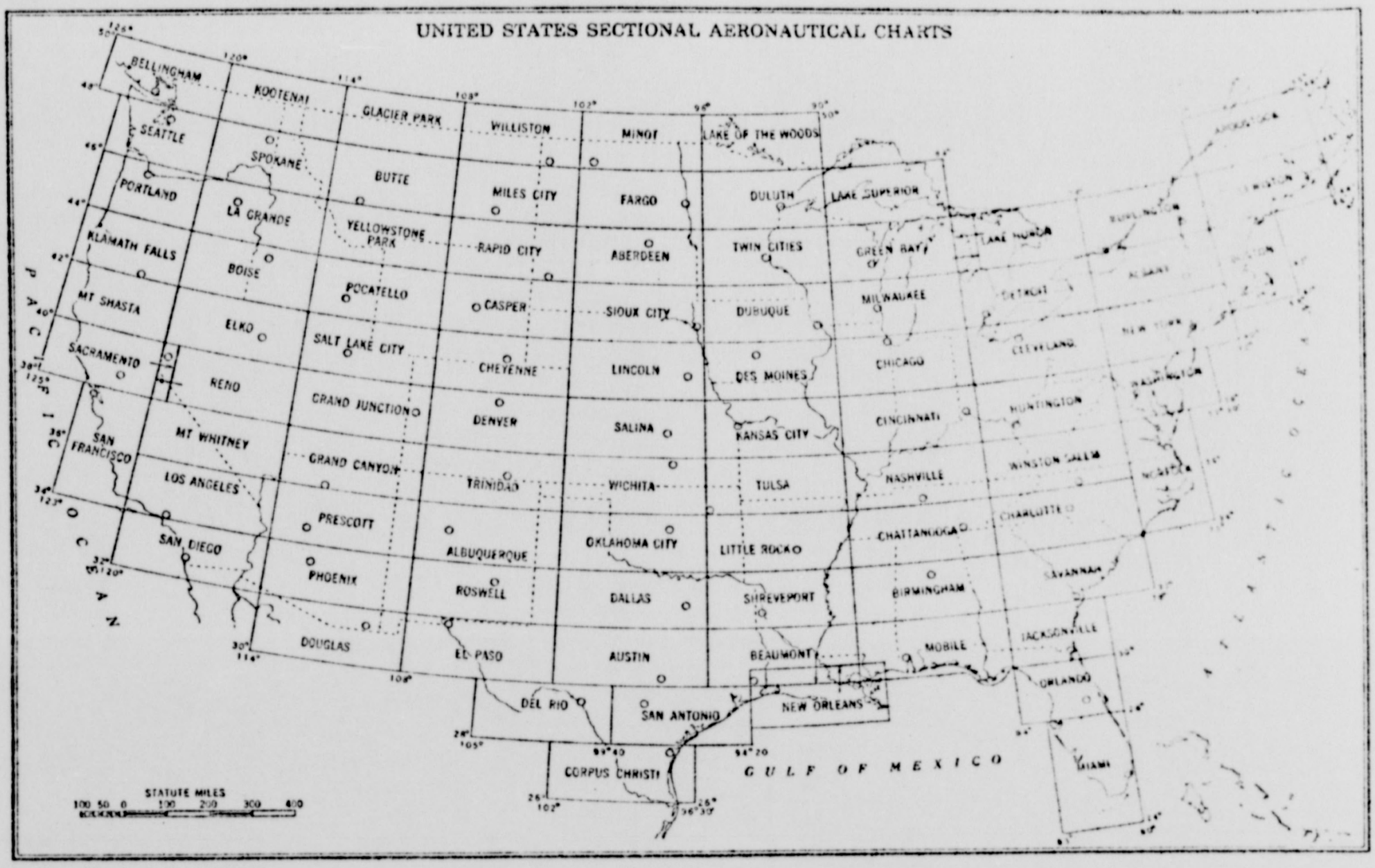
3-12-5

SECTIONAL CHARTS

The sectional aeronautical chart series provides complete coverage of the United States. An additional chart covers the Hawaiian Islands. These charts are designed primarily for piloting, which is also known as contact flying. They contain a maximum amount of cultural topographic features including important landmarks.

Sectional charts are revised at six-month periods to insure that the airman has the latest information available, and are sold through authorized agents located at airports and principal cities throughout the United States. They may also be obtained by writing to the Director, U. S. Coast and Geodetic Survey, Department of Commerce Building, Washington 25, D. C.

In the lower right-hand corner is printed the date of the chart. Below this the next scheduled printing is indicated. If the date of the chart is more than six months old, users are advised to check with the notices (Dates of Latest Prints) on file with authorized agents. Charts that carry older dates than those shown in large type on this list of dates are obsolete.



ADDITIONAL AERONAUTICAL CHARTS PUBLISHED AND PRINTED BY THE U. S. COAST AND GEODETIC SURVEY

Planning Charts	AP-9 and 3069a 3060d	1:5,000,000 1:3,000,000
Aircraft Position Charts	3071 North Atlantic 3073 Caribbean Sea	1:5,000,000 1:5,000,000
Route Charts	Show limited topographic information, selected aerodromes, and major radio data.	1:2,000,000
Direction Finding Charts	Six charts cover the United States	1:2,000,000
World Aeronautical Charts	Forty-three charts cover the United States	1:1,000,000
Flight Charts	Thirty-seven charts cover the principal air routes of the United States	1:1,000,000
Local Charts	Designed to provide additional landmark information and topographic detail for important air terminals.	1:250,000
Instrument Approach and Landing Charts	More than 475 charts designed for use in manuals with Radio Facility Charts	Approach 1:250,000 Landing 1:31,680
Instrument Landing System Charts	Similar to Instrument Approach and Landing charts but printed in black and halftone instead of color. Show very little detail.	Approach 1:250,000 Landing 1:75,000 1:90,000
Airport Obstruction Plans	Show runways and selected aerodrome information and objects in the vicinity that may be hazards to air traffic.	1:12,000
Radio Facility Charts	Sixty-five charts of the U. S. show all radio facilities, airways and other information necessary for instrument flying.	1:2,000,000

A catalog giving a complete list and description of the various series is available upon request

AERONAUTICAL SYMBOLS

AERODROMES

AERODROMES WITH FACILITIES

LAND	WATER	
○	⚓	Civil
◎	⚓	Joint civil and military
◎	⚓	Military
		Principal civil aerodromes in large populated areas; or air terminals of major importance

AERODROMES WITH EMERGENCY OR NO FACILITIES

LAND	WATER	
○		Landing area
	⚓	Sheltered anchorage

AERODROME DATA

LAND		WATER	
18	Elevation in feet	oo	Elevation in feet
L	Minimum lighting	L	Minimum lighting
H	Hard surfaced runway	S	Normally sheltered take-off area
46	Length of longest runway in hundreds of feet	62	Length of longest runway in hundreds of feet

HARMON
18 L H 46
Airport of entry
GCA SYSTEM
278 126.18

NAS ANACOSTIA
oo L S 62
2870

278 126.18 2870 Control tower transmitting frequencies

When information is lacking, the respective character will be replaced by a dash — { VALLEY / 750 L — 32

AIR NAVIGATION LIGHTS

Rotating light
Rotating light (With flashing code)
Rotating light (With course lights) — 17.
Flashing light — FL
Flashing light (With code) — FL
Marine light
Lightship

F-fixed FL-flashing Occ-occulting Alt-alternating Gp-group R-red W-white G-green B-blue (U)-unwatched SEC-sector sec-second
Marine alternating lights are red and white unless otherwise indicated. Marine lights are white unless colors are stated.

RADIO FACILITIES

Use of the word "Radio" within the box indicates voice facilities

All radio facility data are printed in blue with the exception of certain LF/MF facilities such as tower frequencies, radio ranges and associated airways, which are printed in magenta.

Radio range (Without voice) — WOODY RANGE 251 FWA

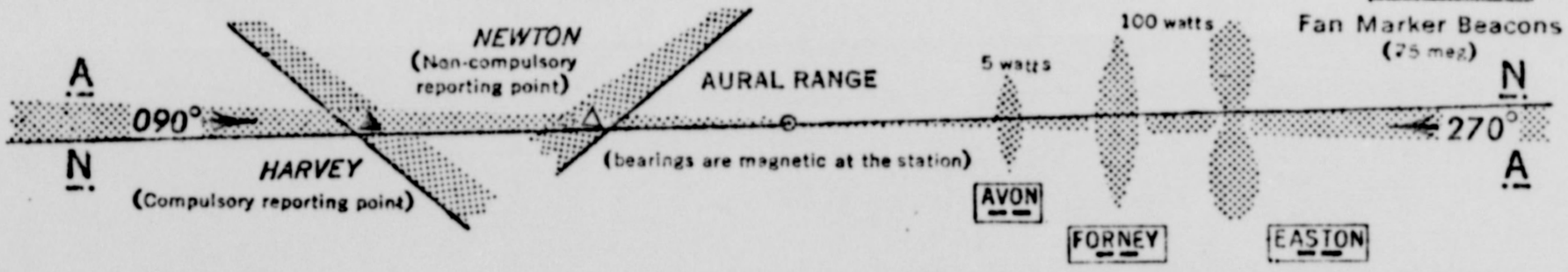
Marine radiobeacon (Without voice) — RBn EVERETT 224 10m-20m & 30m-40m

Radar beacon — RACON 9310 mc 2-2-1

Radio broadcasting station — BS WOL 1260

Radiobeacon, nondirectional (homing) (With voice) — BEDFORD RADIO 522 DBH

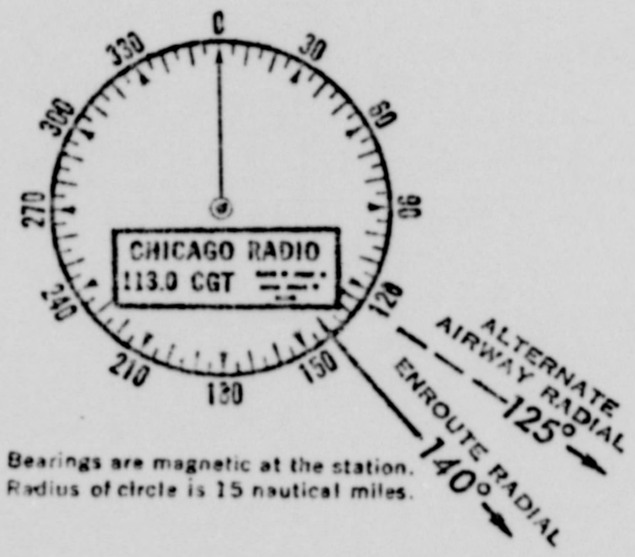
Radio communication station (with voice) — CS GOWEN RADIO 278



VAR
MATAWAN RADIO
W 109.1 MWA

VHF FOUR-COURSE VISUAL-AURAL RADIO RANGE (VAR)

The Blue and Yellow Visual Sectors are indicated by a B and Y; the Aural Sectors by A and N
Letter preceding frequency in box indicates channel



Bearings are magnetic at the station.
Radius of circle is 15 nautical miles.

VHF OMNI-DIRECTIONAL RADIO RANGE (VOR)

The VHF omni-directional range provides visual track guidance along any selected radial from the station out to a distance of approximately 50 miles when flying at the minimum instrument altitude. These ranges operate in the frequencies between 112 and 118 megacycles and require a special omni range type receiver to make use of the navigational features. Also provided are simultaneous voice communication and 3-letter (coded) identification. In operation, the pilot selects a course by setting the pointer on a course or radial selector to the desired magnetic bearing and then flies that course by reference to a cross pointer instrument.

MISCELLANEOUS

Isogonic line — 8°E (Values for 1950)

Mooring mast

Prominent transmission line

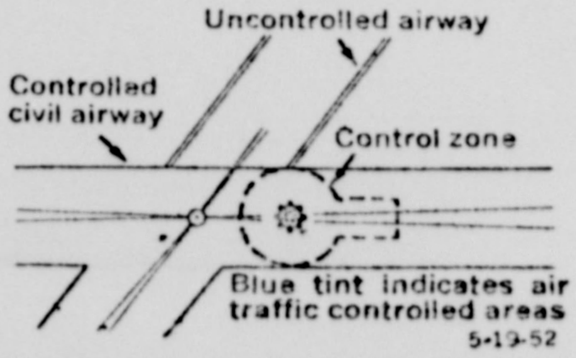
Obstruction — 1154 (Numerals indicate elevation above sea level of top) — Tank 930'

Restricted areas are numbered, and are indicated on the charts as follows:

Prohibited area (AR-78)

Danger or warning area (D-32) (W-46)

Caution area (C-54)



5-10-52

V.H.F. OMNI-RANGE (VOR)

The V.H.F. omni-range operates within the 112-118 megacycle band. In this band it is relatively free from atmospheric and precipitation static and interference from otner radio stations. Furthermore, it is not limited to four courses as is the A-N range, but provides definite guidance on any course, to or from the station, the pilot may select. That is why it is called the Omni (Directional) Range. At minimum instrument altitudes the VOR gives reliable indications up to about 50 statute miles (43 nautical miles), depending on enroute terrain.

In flying the V.H.F. omni-range, the pilot uses three basic instruments. The first is the Flight Path Deviation Indicator (cross-pointer instrument), the same type used for the visual-aural range (VAR) and the ILS localizer. The vertical needle of this instrument tells the pilot whether he is right or left of the desired course. The second is an Omni-bearing Selector, manually operated by the rotation of a small knob, by which the pilot selects the course he desires to fly. When the cross-pointer needle is centered, the omni-bearing selector indicates the magnetic bearing of the aircraft either to or from the station. The third is a "TO-FROM" indicator which shows whether the bearing indicated by the Omni-bearing Selector is from or to the station. Furthermore, the "TO-FROM" needle can tell a flier when his aircraft is too far from the VOR or is otherwise receiving a weak signal. In this case the needle points to a red sector instead of TO or FROM.

In operation, the pilot selects a course by adjusting the omni-bearing selector to the desired magnetic bearing, and then maintains it by keeping the cross-pointer needle centered. If the aircraft is correctly aligned with the TO-FROM indications, when the needle swings to the right, for example, it indicates that the course selected lies to the right.

For example, an aircraft is due south of a VOR station. If its pilot desires to fly to the station, he sets the omni-bearing selector to indicate 0°. The "TO-FROM" indicator will then point to the word "TO". As the aircraft passes over the station the "TO-FROM" indicator will point to the word "FROM". If a turn of 180° is made north of the station, although the vertical cross-pointer needle will again become centered, the "TO-FROM" indicator will still point to "FROM". The pilot, however, will now find that he must fly "Away from the needle" to stay on course. This shows him that the "TO-FROM" indicator is incorrect. So, the pilot now rotates his omni-bearing selector to 180°. After he has done this, the "TO-FROM" indicator shifts to the "TO" position, and flying "Toward the needle" will keep him on course.

TABLE OF V.H.F. RECEPTION DISTANCES

With the increasing use of VHF and UHF frequencies for communication and navigation it appears desirable to publicize the reception distances for these frequencies. They, therefore, are tabulated below:

Feet Above Ground Station*	Reception Distance**	
	Statute Miles	Nautical Miles
500	30	25
1,000	45	40
3,000	80	70
5,000	100	85
10,000	140	120
15,000	175	150
20,000	200	175

*No physical obstruction intervening.
**Based on zero elevation of the facility. (Distances to nearest even 5 miles).

If you are using a VHF transmitter, remember that its effective range increases with your altitude. Don't attempt to contact a station unless you are within "line of sight".

U.S. WEATHER BROADCASTS AND TRANSMISSIONS

All continuously operated CAA radio range and radio beacon stations having voice facilities on the range or radio beacon frequencies broadcast weather reports and airway information at 15 and 45 minutes past each hour. The 15-minutes past-the-hour broadcast is an "airway" broadcast consisting of weather reports from important terminals located on airway (s) within approximately 400 statute miles (350 nautical miles) of the station. The 45-minutes-past-the-hour broadcast is an "area" broadcast consisting of weather reports from locations within the flight information area of the station.

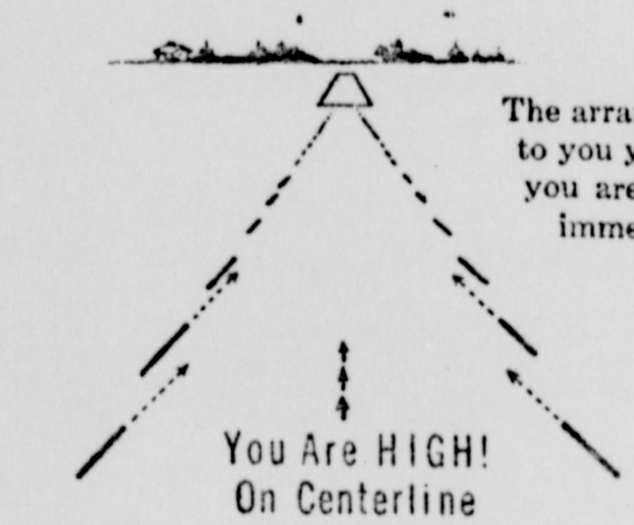
The broadcast consists of the local weather report and the latest available surface reports from other locations. Reports more than one hour old are not broadcast. Local winds aloft are broadcast 4 times after the broadcasts at 6:15 and 12:15 A.M., and P.M., E.S.T. The velocities of winds aloft are broadcast in knots.

At selected stations the Weather Bureau provides a local terminal forecast covering the next two hours. This forecast is broadcast, when available, immediately following the local weather report.

Pilots enroute are requested to avoid, if possible, calling airway communications stations at or about 15 and 45 minutes past the hour (which are the scheduled broadcast times) to request weather information, as such calls may delay starting of scheduled broadcasts and cause inconvenience to other persons who are dependent on the broadcasts for weather reports.

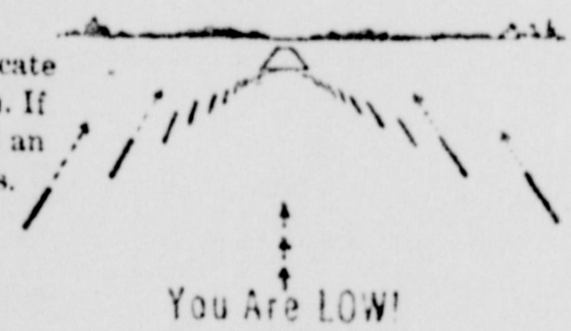
5-6-52

HIGH INTENSITY SLOPELINE APPROACH LIGHT SYSTEM

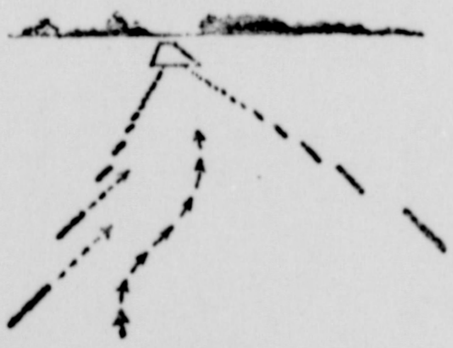


You Are HIGH!
On Centerline
ghts Break Straight Line To Point Down
So: FLY DOWN

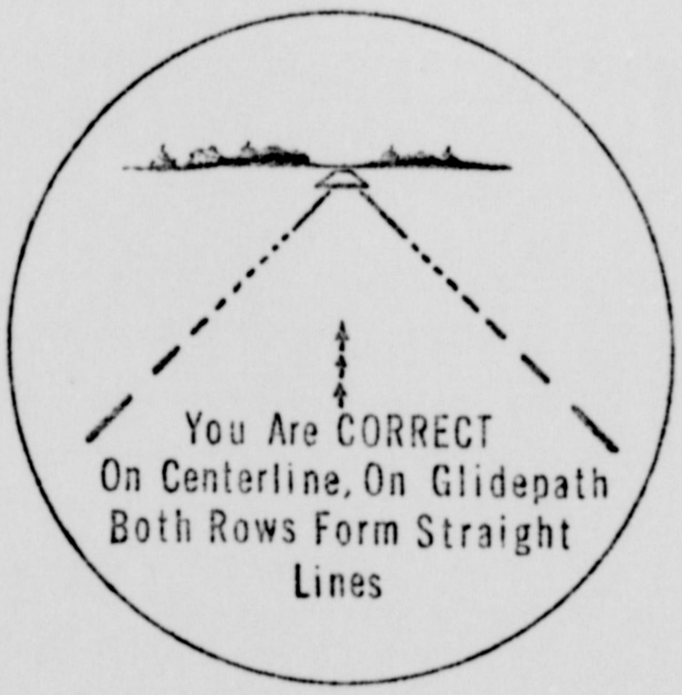
The arrangement of the slopeline lights are designed to indicate to you your position relative to the correct approach path. If you are off on either altitude or track, the lights give you an immediate indication of the proper corrective maneuvers.



You Are LOW!
On Centerline
Lights Are Pointing Up
So: FLY UP



You Are LEFT!
On Glidepath
Lights Point Right
So: FLY TO RIGHT



You Are CORRECT
On Centerline, On Glidepath
Both Rows Form Straight
Lines



You Are RIGHT!
On Glidepath
Lights Point Left
So: FLY TO LEFT

U. S. DANGER AREAS ON LOS ANGELES SECTIONAL CHART

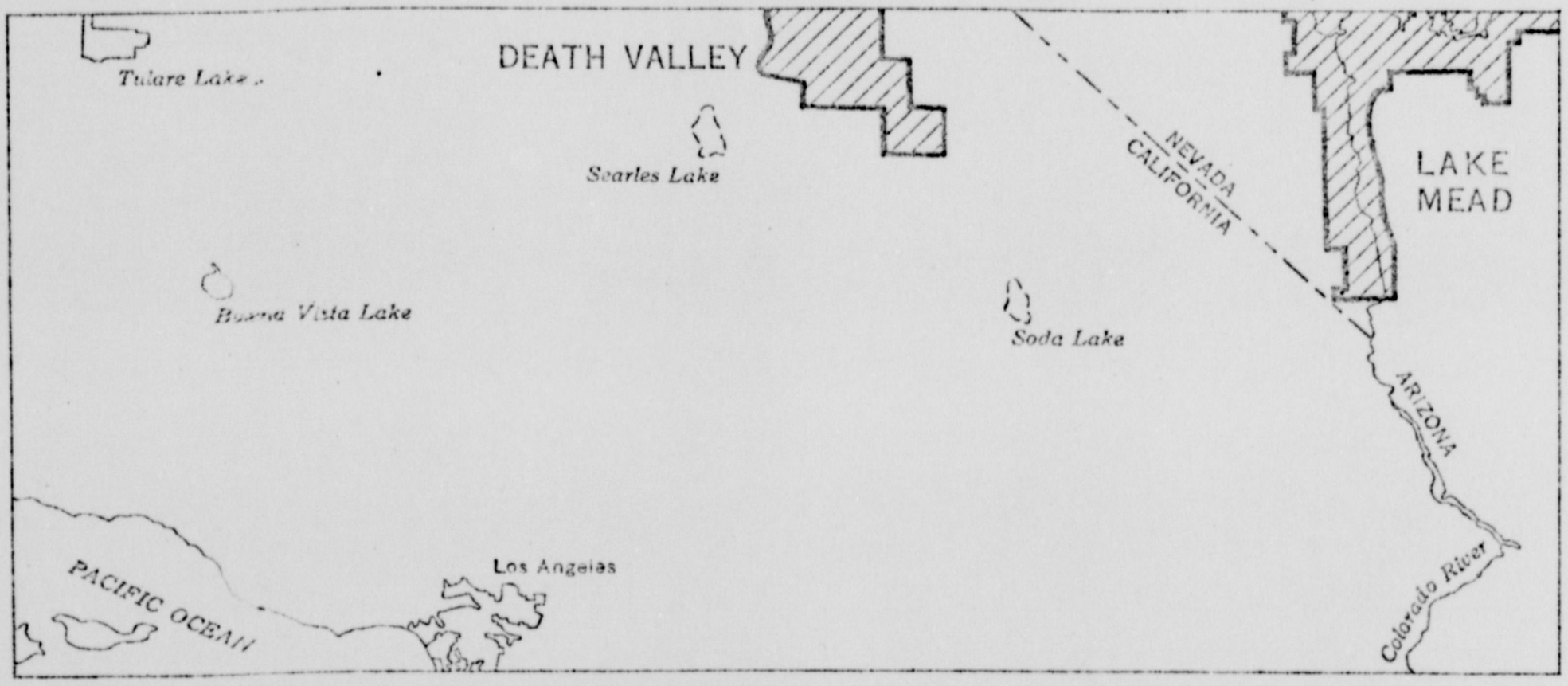
NO.	NAME	ACTIVITY	USING AGENCY	ALTITUDE	TIME
D-100	Point Mugu	Pilotless Aircraft and Guided Missiles Firing	Naval Air Missiles Test Center, Point Mugu, Calif.	Unltd.	Unltd.
D-276	Camp Irwin	Bombing and Gunnery	George AFB, Calif.	To 30,000	0800-1800
D-277	Trona	Pilotless Aircraft, Bombing and Aerial Gunnery	12th Naval District	Unltd.	Unltd.
D-278	China Lake	Aerial Gunnery	12th Naval District	Unltd.	Days
D-279	Muroc Lake	Bombing, Strafing, Gunnery and Accelerated Speed Range	Edwards AFB, Calif.	To 45,000	Days
W-289	Point Mugu	Pilotless Aircraft and Guided Missiles Firing	Naval Air Missiles Test Center, Point Mugu, Calif.	Unltd.	Unltd.
D-292	San Pedro	Artillery Firing	ORC Training Center, Ft. MacArthur, Calif.	To 3,000	0800-1700
D-306	Mojave	Air-to-Ground Rocketry and Gunnery	Mojave ALF, Calif.	Unltd.	Unltd.
D-344	Bullion Mts.	Artillery Firing	11th Naval District	Unltd.	Unltd.
W-412	Santa Cruz Island	Aerial Mine Training	11th Naval District	To 3,000	Unltd.
C-417	Kingman	Radio Controlled Airplane Flights	Globe Corp., Aircraft Division	To 3,000	Unltd.

Altitude given in feet. AR - Airspace Reservation (Prohibited) C - Caution D - Danger W - Warning 8-30-52

No person shall operate an aircraft within an Airspace Reservation or Danger Area unless permission for such operation has been issued by appropriate authority.

Aircraft are not restricted from flying through Caution Areas; however, extreme caution should be exercised by pilots flying through such areas.

NATIONAL PARKS
WITHIN LOS ANGELES SECTIONAL CHART

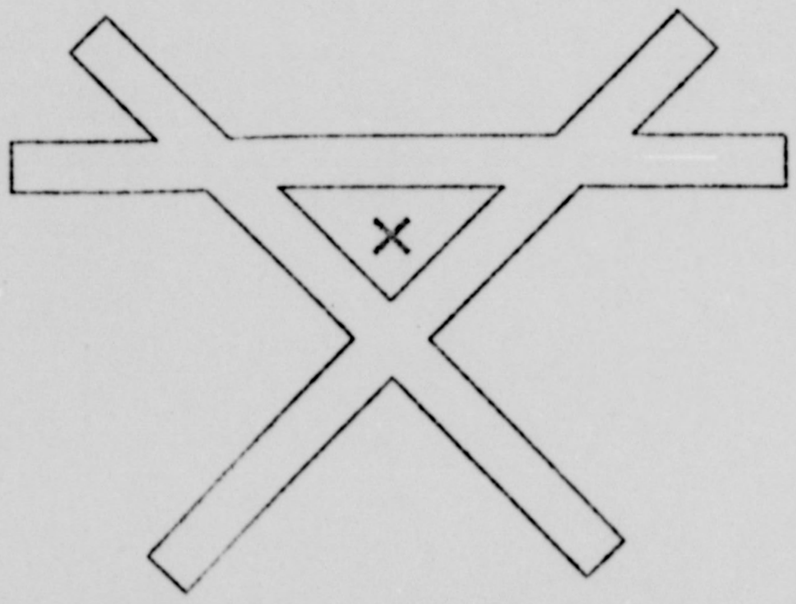


NATIONAL PARKS REGULATION. No person shall land aircraft on land or water, on any federally owned area within any national park or monument, except for emergency rescue in accordance with the directions of the officer in charge of the park or monument or where such landing is caused by unforeseeable circumstances beyond the control of such person, other than at one of the following designated landing areas: (a) Death Valley National Monument, California, Furnace Creek Airport; (b) Jackson Hole National Monument, Wyoming, Jackson Airport; and (c) Lake Mead Recreational Area Arizona and Nevada, Boulder City Municipal Field.

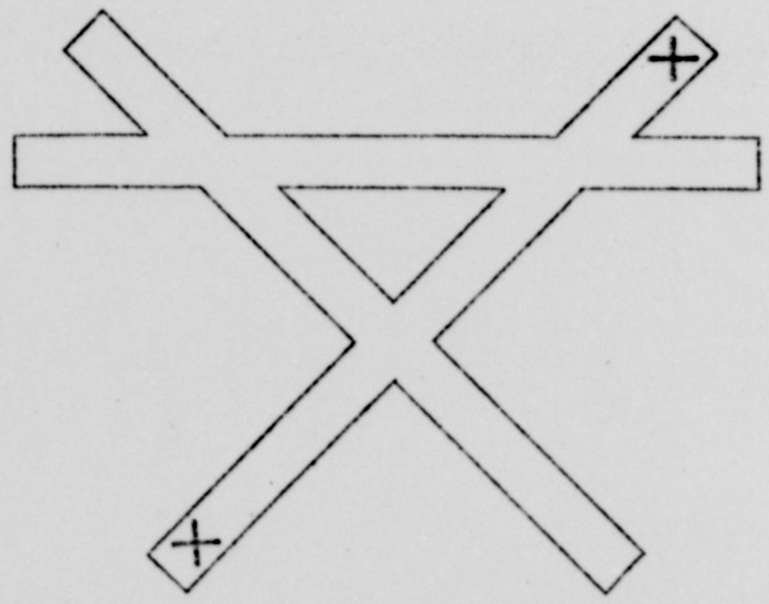
CLOSED AIRPORT AND RUNWAY MARKER

When you see a large "×" in the center of an airport, that airport is closed. Do not attempt a landing!
When you see an "×" on a runway, that runway is closed and hazardous for use. Do not use it!

TYPICAL INSTALLATIONS

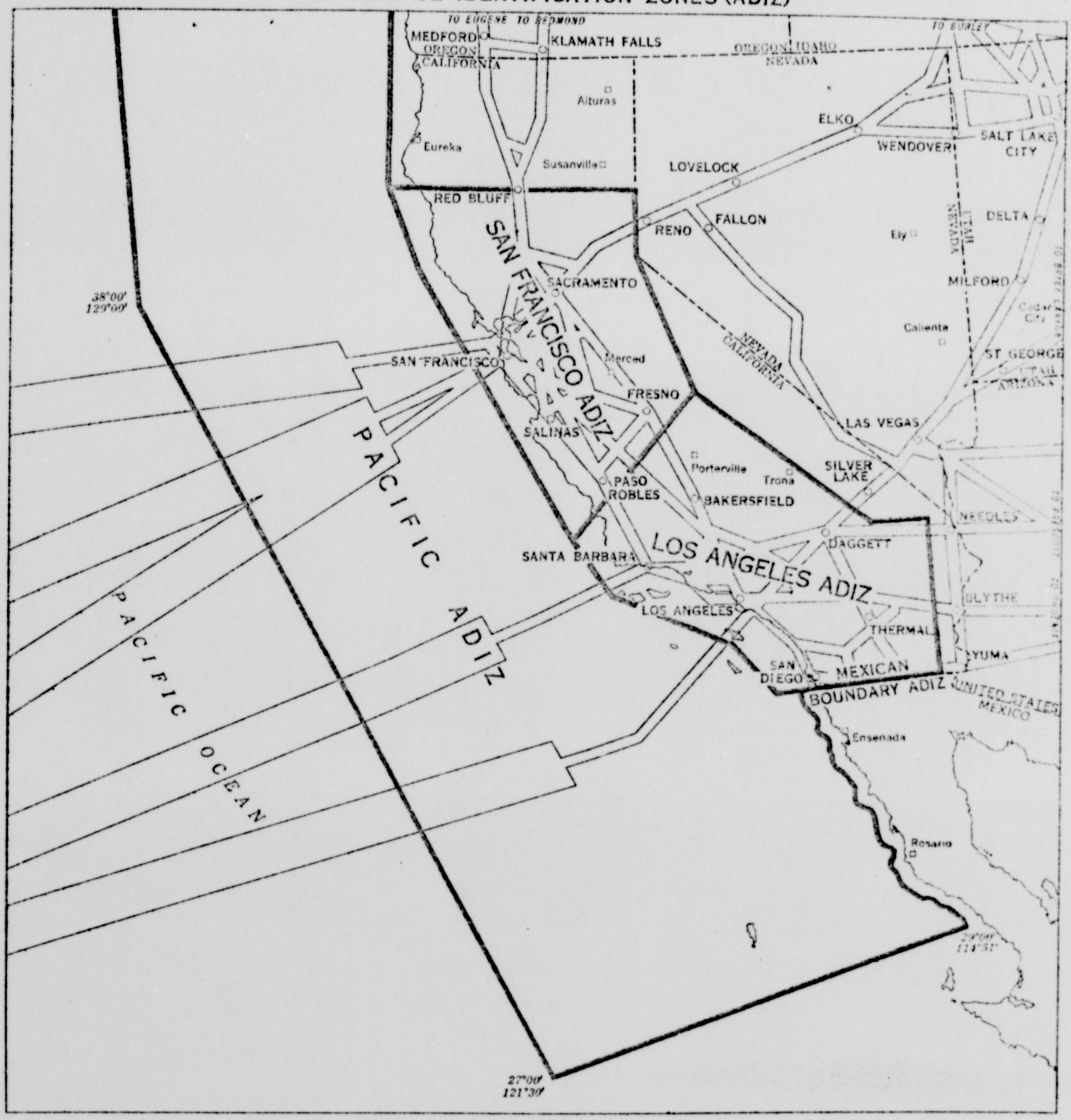


ENTIRE AIRPORT CLOSED



ONE RUNWAY CLOSED

AIR DEFENSE IDENTIFICATION ZONES (ADIZ)



In the United States several areas have been designated as Air Defense Identification Zones (ADIZ) by the Administrator of Civil Aeronautics in the interest of national security. All aircraft entering the Air Defense Identification Zones are required to file flight plans, except aircraft entering from within the Continental Limits of the United States or operating within the Seattle, San Francisco, Los Angeles, Albuquerque, Knoxville, Great Falls, Minneapolis, Traverse City, and Bangor Zones, at altitudes of less than 4000 feet above the immediate terrain. Any person who knowingly or willfully fails to do so is subject to penalties of one year in prison or $10,000 fine. The Air Defense Identification Zones are identified as follows: Seattle ADIZ, San Francisco ADIZ, Los Angeles ADIZ, Atlantic ADIZ, Pacific ADIZ, Albuquerque ADIZ, Knoxville ADIZ,Great Falls ADIZ, Minneapolis ADIZ, Traverse City ADIZ, Bangor ADIZ, Mexican Boundary ADIZ, and Canadian Boundary ADIZ. These areas are indicated on the face of Aeronautical Charts and are so labeled. For additional information see Civil Air Regulations Part 620.

8-20-52

AERODROMES - LOS ANGELES SECTIONAL CHART

LOCATION	NAME	GEOGR. POSITION	TYPE	ELEV.	FACILITIES					REMARKS
					FUEL (OCTANE)	REPAIRS	RUNWAYS NO.	RUNWAYS LONGEST	LIGHTS	
Needles, Calif.	Bolam	34°29'-114°25'	Com.	490	80		1	1500		Use Caution
Needles, Calif.	Needles	34°46'-114°37'	Mun.	990	91, 100		2	5802H	Rnwy.	Attend. on call 24 hrs. from Riverview Airport
Needles, Calif.	Riverview	34°49'-114°37'	Com.	550	80/87	Major	2	2550	B-2, circle fld.	
New Cuyama (Taft), Calif.	New Cuyama	34°56'-119°41'	Priv.	2225			1	4000		
Oak View, Calif.	Casitas	34°24'-119°19'	Priv.	500			1	1100		Emergency only
Ojai, Calif.	Henderson	34°25'-119°17'	Com.	600			1	1800		Unattended
Ontario, Calif.	Ontario Int'n'l.	34°03'-117°37'	Mun.	952	80/87, 91/98, 100/130	Major	2	6200H	Rnwy., appr.	Attend. 24 hrs.
Oxnard (Camarillo), Calif.	Broome	34°08'-119°03'	Priv.	40			1	2000		Emergency only
Oxnard, Calif.	Oxnard-Ventura Co.	34°12'-119°11'	Mun.	43	80/87,91	Major	2	4515H	Runway	Attend. 24 hrs.
Palmdale, Calif.	Los Angeles Co.-Palmdale	34°37'-118-05'	Mun.	2549	80/87, 91, 100	Major	3	7019H	Runway	Attend. 24 hrs.
Parker, Ariz.	Parker	34°09'-114°16'	Mun.	430	80		3	3200		
Pixley, Calif.	Pixley	35°57'-119°18'	Mun.	264			1	2056H		
Poe (Hector), Calif.	Poe	34°48'-116°30'	Priv.	1850	80/87		1	4000		Attend. 24 hrs.
Pomona, Calif.	Brackett	34°05'-117°47'	Com.	985	80/87, 91/98	Major	1	2400	Port., prior req.	
Port Huenene, Calif.	NAS Point Mugu	34°07'-119°06'	Navy	13	A+BJ	Minor	1	5500H	Port., flood	Official business only
Redlands, Calif.	Redlands	34°05'-117°09'	Com.	1574			1	2500		Closed
Rialto, Calif.	Miro-Fontana	34°07'-117°24'	Priv.	1435			1	2500		Closed, extremely hazardous
Rialto, Calif.	Morrow	34°04'-117°22'	Com.	1100	80/87,91	Major	1	3200H		
Rice (Thermal), Calif.	Rice	34°04'-114°49'	Priv.	832			2	5000H		Unattended
Richgrove, Calif.	Burum	35°48'-119°07'	Priv.	470			1	1450		Emergency only
Ridgecrest (Inyokern), Calif.	Davis	35°37'-117°40'	Com.	2300	80, 91, 87	Major	2	4000	Strip, circle field	Attend. 24 hrs.
Rosamond, Calif.	White Oaks	34°57'-118°29'	Priv.	4100			1	3600		Attend. irreg.
Rosamond, Calif.	Flying Bar Ranch	34°49'-118°09'	Priv.	2305			1	2100		Emergency only
Rosemead (Los Angeles),Calif.	Pasadena-Rosemead	34°04'-118°03'	Com.	255	80/87		1	3000		
San Bernardino, Calif.	San Bernardino	34°11'-117°19'	Com.	1455	80/87		3	2800H	Rnwy., prior req.	
San Bernardino, Calif.	Tri-City	34°04'-117°16'	Com.	1015	80/87, 91, 98	Major	3	3200	Strip	Attend. 24 hrs.
San Fernando, Calif.	San Fernando	34°17'-118°25'	Com.	1170	80/87	Major	1	2450	Bndy., prior req.	
San Fernando, Calif.	Whiteman Airpark	34°16'-118°25'	Com.	1000	80/87	Major	1	3000		
Santa Barbara (Goleta), Calif.	Santa Barbara	34°25'-119°50'	Mun.	14	80, 91, 100	Major	5	5046H	Runway	
Santa Monica, Calif.	Santa Monica Mun.	34°01'-118°27'	Mun.	175	80, 91	Major	2	5000H	Runway	2 way radio rqrd. Closed after 11 PM
Santa Paula, Calif.	Harvey	34°22'-119°02'	Priv.	290			1	1900		Closed, Emergency only
Santa Paula, Calif.	Santa Paula	34°21'-119°03'	Com.	240	80/87	Major	1	2150	B-2, prior req.	91 octane avail. on request.
Santa Susana, Calif.	Santa Susana	34°16'-118°43'	Com.	955	80		1	1800		Attend. 24 hrs.
Shafter, Calif.	Shafter-Kern County	35°30'-119°11'	Mun.	425	80/87	Major	3	4550H	Bndy., circle field	
Shoshone, Calif.	Shoshone	35°58'-116°16'	Mun.	1580			1	2300		Unattended
Silver Lake (Baker), Calif.	CAA Site 18	35°20'-116°05'	Inter.	919			All way	4000	Boundary	Attend. 24 hrs.
Simi, Calif.	Montgomery Corp.	34°15'-118°47'	Priv.	925	80/87		1	2150		Use caution
Simmler, Calif.	Wherling Ranch	35°15'-119°55'	Priv.	2000			3	2650		Use at own risk
Solemint, Calif.	6 S Ranch	34°25'-118°28'	Com.	1350	80/87		1	2600		Closed Sundays
Taft, Calif.	Parker	35°04'-119°13'	Priv.	580			All way	3000H		Emergency only
Taft, Calif.	Taft-Kern County No. 2	35°08'-119°27'	Mun.	873	80/87	Major	4	3800	Boundary	
Taft, Calif.	Taft-Kern County No. 11	35°07'-119°20'	Mun.	415			2	2600H		Fence across fld.
Taft, Calif.	Tank Farm	35°04'-119°06'	Priv.	513			4	3000H		Emergency only
Tehachapin, Calif.	Kern Co. No. 4	35°08'-118°26'	Mun.	3952	80		1	4500H		Attended irreg.
Topock, Ariz.	Kingman No. 5	34°43'-114°26'	Misc. Govt.	810			1	4500H		Closed
Topock, Ariz.	Lake Havasu	34°27'-114°21'	Com.	490	80/87		2	6000		Attend. 24 hrs.
Trona, Calif.	Trona	35°48'-117°20'	Mun.	1716			1	6000	Boundary	Unattended
Twentynine Palms, Calif.	Cones Field	34°09'-116°01'	Priv.	1900	80/87		3	1400		
Twentynine Palms, Calif.	"K" Field	34°09'-116°15'	Priv.	2360	80		3	2640		Attend. 24 hrs.
Twentynine Palms, Calif.	Twentynine Palms (Navy)	34°12'-116°03'	Navy	1761			2	4000H		Official business only.
Ventura, Calif.	Ventura Airpark	34°16'-119°17'	Com.	13	80/87,91	Major	1	2450H	B-2, prior req.	
Victorville, Calif.	Circle M Ranch	34°27'-117°12'	Priv.	3000			2	3430		Unattended
Victorville, Calif.	Victorville "66"	34°28'-117°20'	Com.	3225	80/87		2	2640		Attend. 24 hrs.
Vidal, Calif.	Vidal	34°06'-114°30'	Priv.	590			1	2900		Unattended
Wasco, Calif.	Semi-Tropic	35°36'-119°29'	Priv.	300			1	4570H		Emergency only
Wasco, Calif.	Wasco-Kern County No. 5	35°37'-119°21'	Mun.	315	80, 91		2	3500		Attended irreg.
Wheeler Ridge, Calif.	Junction	35°04'-118°58'	Priv.	548			1	2500		
Yermo, Calif.	Calico Guest Ranch	34°55'-116°49'	Com.	1925			1	2900		Use caution
Yucaipa, Calif.	Crafton Hills	34°02'-117°04'	Priv.	2350			2	2250		Emergency only
Yucca, Ariz.	Yucca	34°53'-114°08'	Mun.	2030			2	6000H		
Yucca Valley (Desert Hot Springs), Calif.	Yucca Valley Sky Corral	34°07'-116°28'	Com.	3333	80/87	Minor	1	3000		Attend. 24 hrs.

Fuel octane ratings listed by number are those available to civil aircraft, unless otherwise noted.
Military fuel is listed by letter code indicating octane ratings as follows: A+: 115/145, A: 100/130, B: 91/98, C: 73 or 80, J: JP-1, 3.
The above listing does not include Air Force aerodromes.
*Joint civil & military operation; Air Force facilities at these fields are not listed.

Consult the latest Airman's Guide for changes in data subsequent to date of chart.

8-29-52

AERODROMES - LOS ANGELES SECTIONAL CHART

LOCATION	NAME	GEOGR. POSITION	TYPE	ELEV.	FACILITIES					REMARKS
					FUEL (OCTANE)	REPAIRS	RUNWAYS NO.	RUNWAYS LONGEST	LIGHTS	
Adelanto, Calif.	El Mirage	34°37'-117°36'	Com.	2865	80, 87	Minor	4	3740H		
Adelanto (Helendale), Calif.	Sun Hill Ranch	34°45'-117°30'	Com.	3000	80		1	2300		Service on call
Adelanto (Victorville), Calif.	Grey Butte	34°34'-117°41'	Mun.	3015			4	3740H		
Alpaugh (Corcoran), Calif.	Von Glahn Ranch	35°57'-119°35'	Priv.	191	80/87		3	2850	Circle field	
Amargo, Calif.	Trenary	35°00'-117°38'	Priv.	2475			1	2700		
Amboy, Calif.	Conn	34°34'-115°45'	Priv.	670			2	2750		Attend. irreg.
Apple Valley (Victorville), Calif.	Apple Valley	34°32'-117°13'	Com.	2930	80/87		2	4200	Strip	Attend. 24 hrs.
Bagdad, Calif.	Bagdad	34°35'-115°53'	Misc. Govt.	700			3	3820		Unattended
Bakersfield, Calif.	Bakersfield Airpark	35°20'-119°00'	Com.	380	80, 87	Minor	1	3000H	Rnwy., port.	
Bakersfield, Calif.	Bakersfield-Kern Co. No. 1	35°25'-119°03'	Mun.	515	80/87, 91/98, 100/130	Major	3	5946H	Rnwy., hi-intens. rnwy.	
Bakersfield, Calif.	Pumpkin Center Airpark	35°16'-119°02'	Com.	350	80/87		1	2000		
Barstow, Calif.	Barstow	34°55'-117°01'	Com.	2150	80/87		3	2800H	B-2, circle fld.	Attend. 24 hrs.
Big Bear City (San Bernardino), Calif.	Big Bear City	34°16'-116°52'	Com.	6750			1	3700H		
Boron, Calif.	Boron	35°03'-117°40'	Priv.	2550			2	2700		
Boulder City, Nev.	Boulder City	35°58'-114°51'	Mun.	2463	80, 91	Major	3	6495	Strip, on call	
Bullhead City, Ariz.	Bullhead	35°10'-114°33'	Mun.	550			1	3000		
Burbank (Los Angeles), Calif.	Lockheed Air Terminal	34°12'-118°21'	Com.	763	80, 91, 100, 115		2	6000H	Rnwy., hi-inten. rnwy.	Only 2 useable rnwys.
Buttonwillow, Calif.	Buttonwillow-Kern Co. No. 15	35°25'-119°28'	Mun.	268	80		1	2700		
Camarillo, Calif.	Conejo Valley	34°10'-118°52'	Com.	750	80/87	Major	1	2600		Attend. weekends only
Camarillo, Calif.	McMahan	34°09'-118°54'	Priv.	1000			1	2250H		Emergency only
Camp Irwin, Calif.	Bicycle Lake	35°17'-116°37'	Army	2350	C		2	8450	Rnwy. on req.	
Canoga Park, Calif.	Canoga Park	34°11'-118°36'	Priv.	810			1	800		Attend. irreg.
Carpinteria, Calif.	Parson's Ranch Airpark	34°23'-119°29'	Com.	210	80, 91		1	2000		
Chloride, Ariz.	Shep's Pleasant Valley	35°34'-114°16'	Priv.	3600			2	2300		
Claremont, Calif.	Cable-Claremont	34°06'-117°41'	Com.	1400	80/87, 91/98	Major	2	2150H	Rnwy., circle fld.	3350 ft. avail. Attend. 24 hrs.
Daggett, Calif.	CAA Site 13	34°51'-116°47'	Inter.	1927			2	6400H	Boundary	Attend. 24 hrs.
Delano, Calif.	Delano-KernCo.No.3	35°45'-119°14'	Mun.	316	80/87	Major	2	6000H	B-2	
Delano, Calif.	Dunlap	35°44'-119°07'	Mun.	525			All way	2340H		
El Monte, Calif.	El Monte	34°05'-118°02'	Com.	300	80/87	Major	1	2000H	Rnwy., electric ear Circle field	Attend. 24 hrs.
Essex, Calif.	Essex	34°46'-115°13'	Priv.	1850			1	4900		
Famoso, Calif.	Poso-Kern County No. 16	35°36'-119°08'	Mun.	645			1	4500H		3000 all way mat available
Fellows, Calif.	Model	35°12'-119°32'	Priv.	1180			1	2100		
Fontana, Calif.	Fontana	34°08'-117°28'	Mun.	1485			3	2300H		Unattended
Glendale (Los Angeles), Calif.	Grand Central Air Terminal	34°09'-118°17'	Com.	476	80, 91, 100	Major	2	3841H	Rnwy., prior req.	Attend. 24 hrs.
Hawes (Victorville), Calif.	Hawes Aux. No. 1	34°55'-117°22'	Misc. Govt.	2319			4	5591H		
Helendale (Victorville), Calif.	Helendale	34°50'-117°18'	Priv.	2509			4	5600H		Unattended
Inyokern, Calif.	Inyokern-Kern Co. No. 8	35°39'-117°50'	Mun.	2426	80/87	Major	3	7300H		Rnwy., prior req. Use caution
Inyokern, Calif.	NAF Inyokern	35°41'-117°41'	Navy	2218	A+B	Minor	3	9000H	Ben., rnwy., on req.	Offical business only
Johannesburg (Randsburg), Calif.	Johannesburg-Kern County	35°23'-117°38'	Mun.	3550			3	4200		
Joshua Tree, Calif.	Giant Rock	34°20'-116°23'	Com.	2700	80/87	Minor	1	5600		
Kernville, Calif.	Kernville-Kern County No. 13	35°43'-118°25'	Mun.	2575			1	2400		
Kingman, Ariz.	Searchlight Ferry	35°27'-114°38'	Com.	672			1	3000		
Lake Hughes, Calif.	Neenach Ranch	34°47'-118°35'	Priv.	2975			1	1900		
Lake Hughes, Calif.	Sky Castle Field	34°42'-118°23'	Priv.	2870			3	3650		
Lancaster, Calif.	Antelope Valley	34°39'-118°08'	Priv.	2530			2	2500		
Lancaster, Calif.	Quartz Hill	34°39'-118°13'	Com.	2475	80/87	Major	3	2650	B-2, prior req.	
Lancaster, Calif.	Sterks Ranch	34°43'-118°08'	Priv.	2368			2	2150		
Lancaster, Calif.	Victory	34°47'-118°16'	Mun.	2425			4	3200		Unattended
Lancaster, Calif.	Waldrip Field	34°43'-118°07'	Priv.	2335			1	1950		Emergency only
Lancaster, Calif.	War Eagle	34°42'-118°13'	Mun.	2348			4	3350		Dangerous
Lenwood (Barstow), Calif.	Riley Field	34°51'-117°08'	Priv.	2350	80/87		3	3100	B-2, prior req.	Attend. irreg.
Los Angeles (Van Nuys), Calif.	San Fernando Valley	34°13'-118°29'	Mun.	799	80/87, 91, 100	Major	2	6000H	Runway	2 way radio required
Lost Hills, Calif.	Blackwells Corner	35°37'-119°52'	Priv.	650			1	3000		Emergency only
Lost Hills, Calif.	Lost Hills-Kern County No. 9	35°37'-119°41'	Mun.	285			2	4500H		6350 ft. rnwy. available
Lucerne Valley, Calif.	Double J Ranch	34°27'-116°50'	Priv.	2955			1	2050		Use at own risk
Lucerne Valley, Calif.	Rabbit Dry Lake	34°27'-117°01'	Priv.	2950			All way	5500		Unattended
Maricopa, Calif.	Maricopa-Kern County No. 6	35°03'-119°24'	Mun.	937			1	2800		
Maricopa, Calif.	Sunset	35°05'-119°21'	Priv.	520			3	2900		Use at own risk
Mojave, Calif.	Mojave ALF (Navy)	35°04'-118°09'	Navy	2787			3	5200H		ALF to MCAS El Toro
Mojave, Calif.	Myer	35°02'-118°10'	Com.	2725	80/87		1	4000		Attended irreg.
Moorpark, Calif.	Everett Ranch	34°15'-118°50'	Priv.	700			1	1250H		Emergency only
Muroc, Calif.	Barnes Guest Ranch	34°52'-117°57'	Com.	2340	80/87	Major	3	3600		Attend. 24 hrs.

8-29-52

[redacted]

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON

UNCLASSIFIED

THE INSPECTOR GENERAL, USAF
5TH DISTRICT OFFICE OF SPECIAL INVESTIGATIONS
WRIGHT-PATTERSON AIR FORCE BASE, [redacted] OHIO

IN REPLY REFER TO: 5D-24-21

4 March 1953

SUBJECT: Sighting of Unidentified Flying Object Along Point Mugu, California, on 28 January 1953, by R. W. LOVE
SPECIAL INQUIRY

TO: Commanding General
Air Technical Intelligence Center
Wright-Patterson Air Force Base
Ohio
ATTN: ATIAA-2C

1. Transmitted herewith for your information and retention is one (1) copy of Spot Intelligence Report of the 18th OSI District (IG), Maywood, California, dated 20 February 1953.

2. Attention is invited to Paragraph 7, AFR 205-1, dated 14 March 1949, which prohibits the disclosure of classified information to unauthorized personnel.

D. C. NORTH
Lt Colonel, USAF
District Commander

1 Incl
Spot Intelligence Rpt, DO #18, dtd
20 Feb 53

Copy to:
Hq OSI, w/o incl

DOWNGRADED AT [redacted]
DECLASSIFIED [redacted]
DOD DIR. [redacted]

UNCLASSIFIED

[redacted]

AIR FORCE-WPAFB-L-29 FEB 52 15M

5 SWC 1949

COPY

[redacted]
Oxnard, California
[redacted]

28 January 1953

To: Commander, NAMTC, Point Mugu
From: [redacted]
Subject: Report of flight of unidentified object along coast line of NAMTC, 28 January 1953

At 1300 28 January 1953, the [redacted] boat, Moana Lua, was tied to it's mooring boay approximately 1,100 yards directly offshore from Fox 4 base for the purpose of observing K.D. launchings after having recovered a KD6G-2 from the surf at 1115, and delivered same to Drexel base at Huenema.

At 1300 a K.D2R-3 was airbourne, and my two tenders and myself were following its flight. However, we lost sight of the K.D. in the distance and were waiting for its return to the Fox 4 area. Since I had last seen the K.D. in the direction of Huenema, which is on a compass bearing of approximately 290 degrees magnetic from our tie-up boay, I observed the approach of a jet airplane of the type which had been used as control plane on the preceeding flight of a KD6G-1. It seemed likely that this plane might have the K.D. under control so I concentrated my attention on it as it approached Fox 4 from Huenema.

When this plane was approximately at the western boundary of NAMTC, bounded by Arnold road, I sighted a white object which I mistook for the white of the K.D.'s wing. However, its approach was so rapid that it was instantly apparent it was not the K.D., but some unknown object.

I called to the two men in the boat with me and tried to point it out. One of the men, Mr. [redacted], saw it as a white streak, but since I had a chance to pick it up before it was overhead, I had sufficient time to make out its shape, color, flight and the fact that it seemed to have rather fuzzy or shimmering perimeter.

Since it appeared above and from the stern of the jet plane, which I estimated was traveling at approximately 150 to 200 knots, there was an opportunity to judge its speed. Between the time the jet plane had traveled from Arnold Road to the beach theodolite station east of Arnold Road, a matter of about three seconds, this object overhauled the jet traveling on the same course and directly over the plane. The object did not alter speed or course, but continued on a straight line to the east toward Mugu Rock and disappeared in the haze headed in the general direction of Santa Monica.

COPY

The general appearance of this object was a white flat disk approximately eighteen to twenty inches in diameter. However, its size might be larger as I had no way of checking its altitude other than it seemed well above the mountains adjacent to Mugu Rock. The shimmering outline could be compared to observing the moon on a bright sunny day, except there were no dark marks anywhere on this object.

It is our custom to report any craft not authorized in the launching area and to note the time they appear. I called Erskine F.T.C. at 1306 and inquired if he could confirm what I had seen after I described it to him. It is quite probable that whoever received my transmission did not understand what I was talking about or at least thought I was pressure happy. He informed me our services were no longer needed on the sea test range and that we were to return to port.

When I arrived in port, I called Lt. Commander Maurer by land line and made the same report. He subsequently instructed me to make this written description.

It is quite probable that there will be some doubt as to the accuracy of this report, but I can only say I have been observing the flight of planes and missiles at NMTC since 1949 and have some knowledge of their characteristics and speeds. I have never seen any plane or missile which resembled this object nor came within one half its speed.

[redacted]

CERTIFIED TO BE A CORRECT COPY

/s/ [redacted]

W.G. MAURER, LCDR, USN

CONFIDENTIAL SECURITY INFORMATION

UNCLASSIFIED

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON

THE INSPECTOR GENERAL USAF
18th DISTRICT OFFICE OF SPECIAL INVESTIGATIONS
AF DEPOT, BOX 310, MAYWOOD, CALIF.

20 February 1953

AIRMAIL SPOT INTELLIGENCE REPORT

SUBJECT: Sighting of Unidentified Flying Object Along Point Mugu, California, on 28 January 1953, by [redacted]

TO: Director of Special Investigations
Headquarters USAF
Washington 25, D. C.

1. SUMMARY: Between 1300 and 1306 hours, 28 January 1953, three men sighted a flying object from a ship near Point Mugu, California, which they concluded was definitely not a conventional flying aircraft.

2. DETAILS: This District Office is in receipt of a letter of transmittal from the Zone Intelligence Office, Eleventh Naval District, Los Angeles, California, which has as an inclosure the statement of Mr. [redacted], concerning his sighting with two of his employees of an unconventional flying object between 1300 and 1306 hours, 28 January 1953.

3. The sighting was made by Mr. [redacted] of the [redacted] and his two tenders, one of whom was a Mr. [redacted]

4. The above named gentlemen were on the Noana Ann which was moored off shore from the Naval Air Missile Training Center, Point Mugu, California. Their position was to observe K.D. launchings and to recover same after they have run their course. During the observation of one of these launchings, [redacted] and his assistants lost sight of the K.D. but observed the approach of a jet aircraft. While observing this aircraft, the three men noticed an object which at first they mistook for the white of a K.D.'s wing. Further observation disclosed that it was not any part of the aircraft or from their experience was it a K.D.

5. The speed of the object greatly exceeded that of the jet aircraft which was traveling between 150 to 250 knots per hour.

6. The object was going in an easterly direction toward Mugu Rock and disappeared in the general direction of Santa Monica, California.

Air Tech. Intelligence Center
Wright-Patterson AFB, Ohio
ATTN: AT IIA-20

UNCLASSIFIED

CONFIDENTIAL SECURITY INFORMATION

SMAMA—Oct 52—75M

SPOT INTELLIGENCE REPORT, dtd 20 Feb 53, Subject: Sighting of Unidentified Flying Object along Point Mugu, Calif., on 28 Jan 53, by [redacted]

7. The size of the object was estimated to be approximately eighteen to twenty inches in diameter, but might be larger.

8. Altitude could not be determined, but it was estimated to be higher than the nearby mountains.

9. The outline could be compared to observing the moon on a bright, sunny day without any dark marks on the object however.

10. The fighters concluded that this was not a conventional aircraft due to their experience in observing the flight of aircraft and other missiles at the Naval Testing Center since 1949.

11. ACTION: No action by this District Office taken or contemplated.

Arthur T. Cameron
ARTHUR T. CAMERON
Colonel, USAF
District Commander

1 Incl:
Statement of [redacted], dtd 28 Jan 53

cc: Air Tech. Int. Center
Wright-Patterson AFB, Ohio
(w/incl)

cc: DO #5 (w/incl) (AIR MAIL)

ALTITUDE DATA

ORIGINAL

| | | |

RTMENT OF THE NAVY
REAU OF AERONAUTICS

OFT COMPUTATION SHEET

(LAND STATION FORM)

WBAN-20

	Year	Month	Day	Time
Release	1950	Sept.	22	1219
Cut-off	1950	Sept.	22	1619

Elevation of observation point above MSL [illegible] Grid [illegible] (meters)

Minutes	Minutes	Azimuth: 100 gram balloon (meters)	Azimuth: 50 gram balloon (meters)	Azimuth: Cut-off (meters)	Elevation angle	Azimuth angle	Distance from observation point (meters)	Slant range RAWIN (yards)	Wind direction (degrees)	Wind speed (knots)	Minutes
46	46	16,075	8,870								46
47	47	16,375	8,560								47
48	48	16,075	8,780								48
49	49	15,975	8,910								49
50	50	14,970	9,080								50
51	51	14,670	9,270								51
52	52	14,860	9,450								52
53	53	15,145	9,680								53
54	54	15,495	9,810								54
55	55	15,705	9,990								55
56	56	15,985	10,170								56
57	57	16,245	10,350								57
58	58	16,545	10,530								58
59	59	16,825	10,710								59
60	60	17,105	10,890								60
61	61	17,385	11,070								61
62	62	17,670	11,250								62
63	63	17,950	11,430								63
64	64	18,235	11,610								64
65	65	18,515	11,790								65
66	66	18,795	11,970								66
67	67	19,080	12,150								67
68	68	19,360	12,330								68
69	69	19,625	12,510								69
70	70	19,925	12,690								70
71	71	20,210	12,870								71
72	72	20,490	13,050								72
73	73	20,775	13,230								73
74	74	21,055	13,410								74
75	75	21,340	13,590								75
76	76	21,620	13,770								76
77	77	21,905	13,950								77
78	78	22,185	14,130								78
79	79	22,470	14,310								79
80	80	22,750	14,490								80
81	81	23,030	14,670								81
82	82	23,320	14,850								82
83	83	23,600	15,030								83
84	84	23,880	15,210								84
85	85	24,160	15,390								85
86	86	24,440	15,570								86
87	87	24,730	15,760								87
88	88	25,010	15,930								88
89	89	25,300	16,110								89
90	90	25,580	16,290								90

NOTES:

63	63	61	62	56	56	51	56	57	57	56	56
18	18	30	22	29	53	30	29	40	27	40	40

ON TIME ALTITUDE DATA

RTMENT OF THE NAVY
EAU OF AERONAUTICS
OFT COMPUTATION SHEET
(LAND STATION FORM)
WBAN-20

Release Data and Time

	Year	Month	Day	Time
Local Mean	1959	Sept.	28	1219
G.C.T.	1959	Sept.	28	2019

Station 7 1 6 0 1

Elevation of observation point above MSL 54 (feet) (meters)

Time			Altitude			Elevation angle	Azimuth angle	Distance from observation point (meters)	Slant range RAWIN (yards)	Wind direction (from true N)	Wind velocity (knots)	Time
	Month	Minutes	100 gram balloon (meters)	50 gram balloon (meters)	Ounce (yards) (meters)							
9	1	46	13,075	8,370								46
		47	13,375	8,560								47
		48	13,675	8,750								48
		49	13,975	8,940								49
		50	14,275	9,130								50
		51	14,570	9,320								51
		52	14,860	9,510								52
		53	15,145	9,690								53
		54	15,425	9,870								54
		55	15,705	10,050								55
		56	15,985	10,230								56
		57	16,265	10,410								57
		58	16,545	10,590								58
		59	16,825	10,770								59
		60	17,105	10,950								60
		61	17,385	11,070								61
		62	17,670	11,250								62
		63	17,950	11,430								63
		64	18,225	11,610								64
		65	18,515	11,790								65
		66	18,795	11,970								66
		67	19,080	12,150								67
		68	19,360	12,330								68
		69	19,645	12,510								69
		70	19,925	12,690								70
		71	20,210	12,870								71
		72	20,490	13,050								72
		73	20,775	13,230								73
		74	21,055	13,410								74
		75	21,340	13,590								75
		76	21,620	13,770								76
		77	21,905	13,950								77
		78	22,185	14,130								78
		79	22,470	14,310								79
		80	22,750	14,490								80
		81	23,040	14,670								81
		82	23,320	14,850								82
		83	23,600	15,030								83
		84	23,880	15,210								84
		85	24,160	15,390								85
		86	24,440	15,570								86
		87	24,720	15,750								87
		88	25,010	15,930								88
		89	25,300	16,110								89
		90	25,580	16,290								90

NOTES

H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff
05	63		4	01	02		36	06		01	06		01	07		36	07						
32	16		8	30	22		29	32		24	30		22	48		25	40						

dd—Wind direction in tens of degrees.

ff—Wind speed in knots

ON TIME-ALTITUDE DATA

STATION: USNAMTC-ST.MUSUA PORT HUENEME CALIF.

LAT. 34° 07' N LONG 119° 07' W

DEPARTMENT OF THE NAVY
BUREAU OF AERONAUTICS

WINDS ALOFT COMPUTATION SH

(LAND STATION FORM)
WBAN-30

Ascension No. 45 Method of Observation RAWIN

Minute	Altitude: 100 gram Balloon (meters)	Altitude: 50 gram Balloon (meters)	Pilot Chart (meters)	Elevation Angle °	Azimuth Angle °	Distance from observer (Ground Run) (meters)	Slant Range RAWIN (yards)	Wind Dir. (Deg. true)	Wind Speed (knots)	Minute	Minute	Altitude: 100 gram Balloon (meters)	Altitude: 50 gram Balloon (meters)
SFC								320	11	SFC			
1	350	210	200	74.5	240	070		060	20	1	60	12,070	8,870
2	670	410	540	64.0	240	310		090	27	2	61	12,870	8,930
3	980	610	850	58.0	240	540		090	30	3	62	12,670	8,980
4	1,285	801	1,150	52.5	238	740		090	34	4	63	12,820	9,010
5	1,585	990	1,450	48.5	238	980		090	37	5	64	12,770	9,030
6	1,880	1,170	1,750	45.8	238	1,190		090	41	6	65	12,870	9,070
7	2,170	1,350	2,050	43.0	238	1,425		090	44	7	66	12,860	9,090
8	2,455	1,530	2,350	41.0	238	1,660		090	47	8	67	12,825	9,080
9	2,740	1,710	2,650	39.0	238	1,900		090	50	9	67	12,790	9,060
10	3,020	1,890	2,950	37.0	238	2,145		090	53	10	68	12,760	9,040
11	3,300	2,070	3,250	35.5	238	2,390		090	56	11	68	12,730	9,020
12	3,580	2,250	3,550	34.0	238	2,640		090	59	12	69	12,700	9,000
13	3,855	2,430	3,850	32.5	238	2,890		090	62	13	69	12,670	8,980
14	4,130	2,610	4,150	31.0	238	3,140		090	65	14	70	12,640	8,960
15	4,405	2,790	4,450	29.5	238	3,390		090	68	15	70	12,610	8,940
16	4,675	2,970	4,750	28.0	238	3,640		090	71	16	71	12,580	8,920
17	4,945	3,150	5,050	26.5	238	3,890		090	74	17	72	12,550	8,900
18	5,215	3,330	5,350	25.0	238	4,140		090	77	18	73	12,520	8,880
19	5,485	3,510	5,650	24.0	238	4,390		090	80	19	73	12,490	8,860
20	5,755	3,690	5,950	23.0	238	4,640		090	83	20	74	12,460	8,840
21	6,025	3,870	6,250	22.0	238	4,890		090	86	21	75	12,430	8,820
22	6,295	4,050	6,550	21.0	238	5,140		090	89	22	76	12,400	8,800
23	6,565	4,230	6,850	20.0	238	5,390		090	92	23	76	12,370	8,780
24	6,835	4,410	7,150	19.0	238	5,640		090	95	24	77	12,340	8,760
25	7,105	4,590	7,450	18.0	238	5,890		090	98	25	78	12,310	8,740
26	7,375	4,770	7,750	17.5	238	6,140		090	101	26	78	12,280	8,720
27	7,645	4,950	8,050	17.0	238	6,390		090	104	27	79	12,250	8,700
28	7,915	5,130	8,350	16.5	238	6,640		090	107	28	80	12,220	8,680
29	8,185	5,310	8,650	16.0	238	6,890		090	110	29	81	12,190	8,660
30	8,455	5,490	8,950	15.5	238	7,140		090	113	30	81	12,160	8,640
31	8,730	5,670	9,250	15.0	238	7,390		090	116	31	82	12,130	8,620
32	9,005	5,850	9,550	14.5	238	7,640		090	119	32	83	12,100	8,600
33	9,285	6,030	9,850	14.0	238	7,890		090	122	33	84	12,070	8,580
34	9,565	6,210	10,150	13.5	238	8,140		090	125	34	84	12,040	8,560
35	9,850	6,390	10,450	13.0	238	8,390		090	128	35	85	12,010	8,540
36	10,135	6,570	10,750	12.5	238	8,640		090	131	36	86	11,980	8,520
37	10,420	6,750	11,050	12.0	238	8,890		090	134	37	87	11,950	8,500
38	10,710	6,930	11,350	11.5	238	9,140		090	137	38	88	11,920	8,480
39	11,005	7,110	11,650	11.0	238	9,390		090	140	39	88	11,890	8,460
40	11,300	7,290	11,950	10.5	238	9,640		090	143	40	89	11,860	8,440
41	11,595	7,470								41	90		
42	11,890	7,650								42	91		
43	12,185	7,830								43	92		
44	12,480	8,010								44	93		
45	12,775	8,190								45	93		

Termination owing to

Weight of balloon 560 grams Color of balloon Light Red

Weight of lighting device grams

Weight of target or transmitter grams Type of target or transmitter Rawin

Free lift grams

Total weight grams

NOTES:

CODED DATA																							
	III	GG	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff						
	MIE		15	05	08	25	05	07	35	05	03	01	01	02									
H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff						
45	27	07	05	27	02	25	36	12	45	15	09	53	18	20	11								
H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff						
55	29	19																					
H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff	H	dd	ff						

NAVAER 9M

Station

LOMALITA (TAILGUNNER) AUXILIARY AIRFIELD, CALIF.

Lat. 34° 01' N Long. 119° 06' W

DEPARTMENT OF THE NAVY, USNWS

WINDS ALOFT

WBAN 904

Ascension No. 47

STANDARD LEVEL DATA FOR TRANSCRIPTION TO PUNCH CARDS

	Sfc	05	10	15	20	25	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Altitude (Kms.)																														
Direction (Deg.-T)	1	0	2	1	0	1	1	1	1	1	1	1	2	2	1	1														
Speed (M.P.H.)	0	4	0	0	0	0	0	0	1	1	1	2	1	2	2	2														

Wind Direction — True Degrees Points / Compass Points

Plotted Grid

0° N, 90° E, 180° S, 270° W

SCALE (KM) 0 5 10 15 20 25

NAVY BUREAU OF AERONAUTICS

LOFT GRAPH

BAN-20A

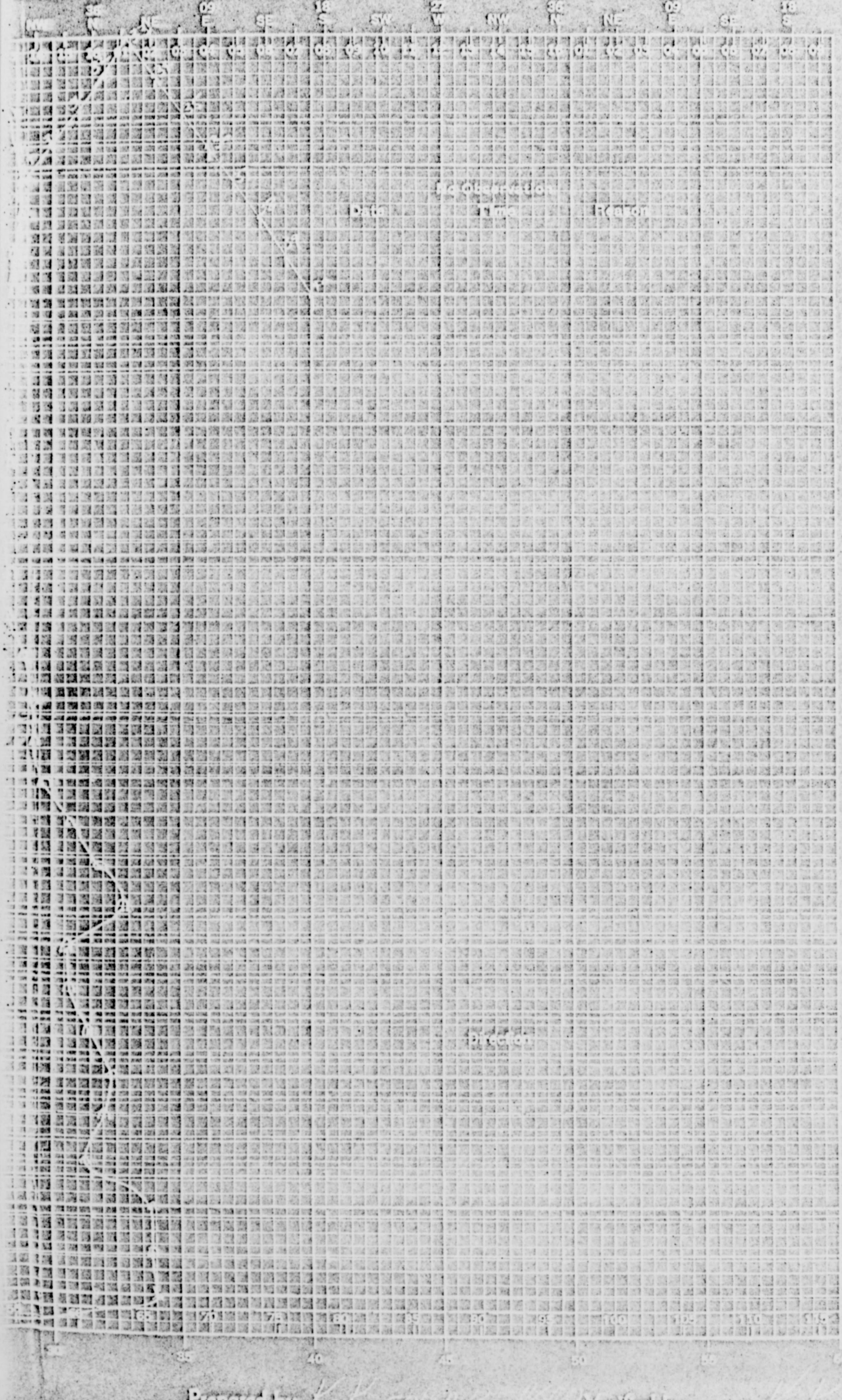
No. 40

	Release Date and Time			
	Year	Month	Day	Time
24th Mar	1952	March	28	12 11
GCT	1952	March	28	10 11

TION TO PUNCHED CARDS

22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

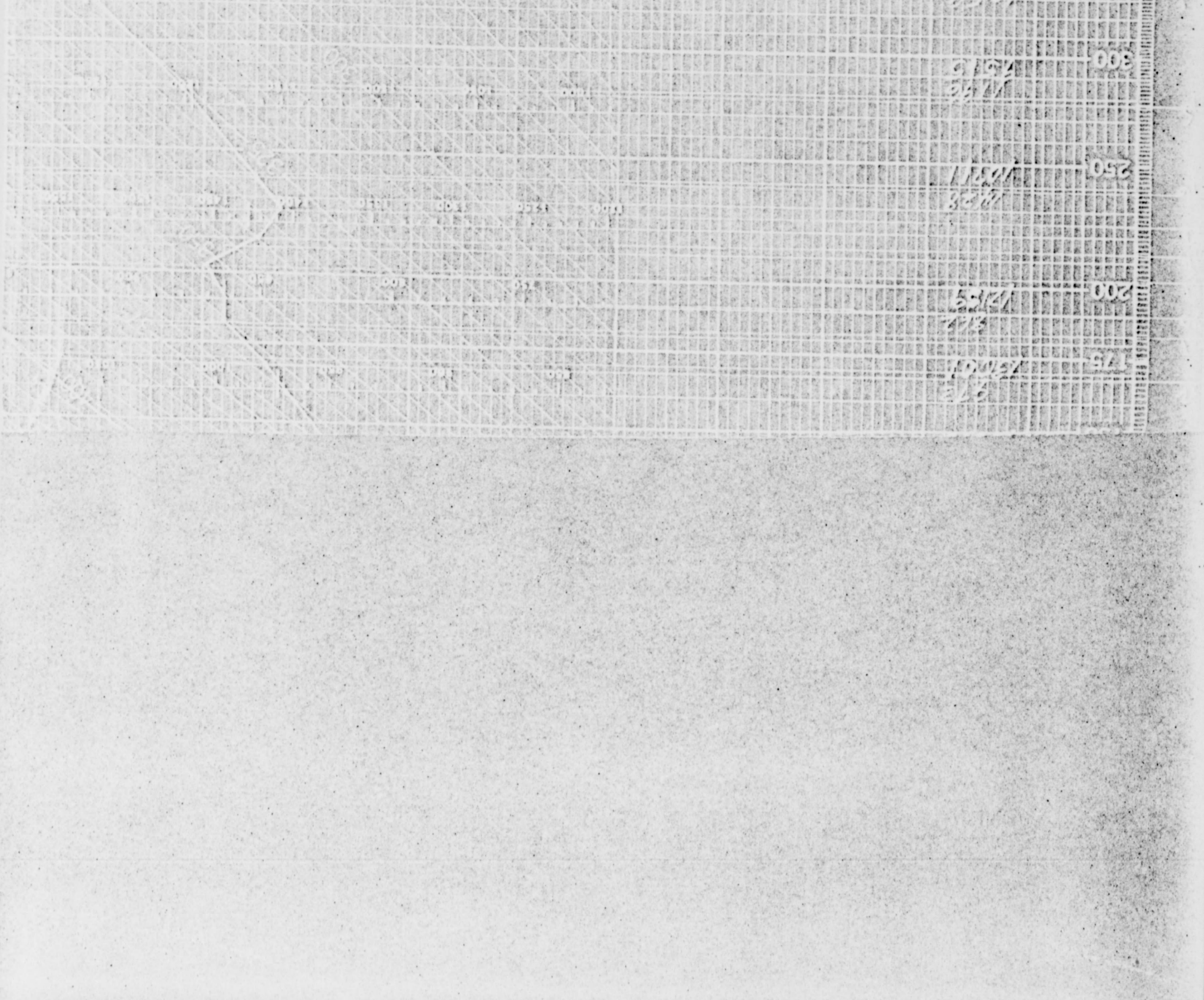
N 36 NE 09 E SE 18 S SW 27 W NW 36 N NE 09 E SE 18 S

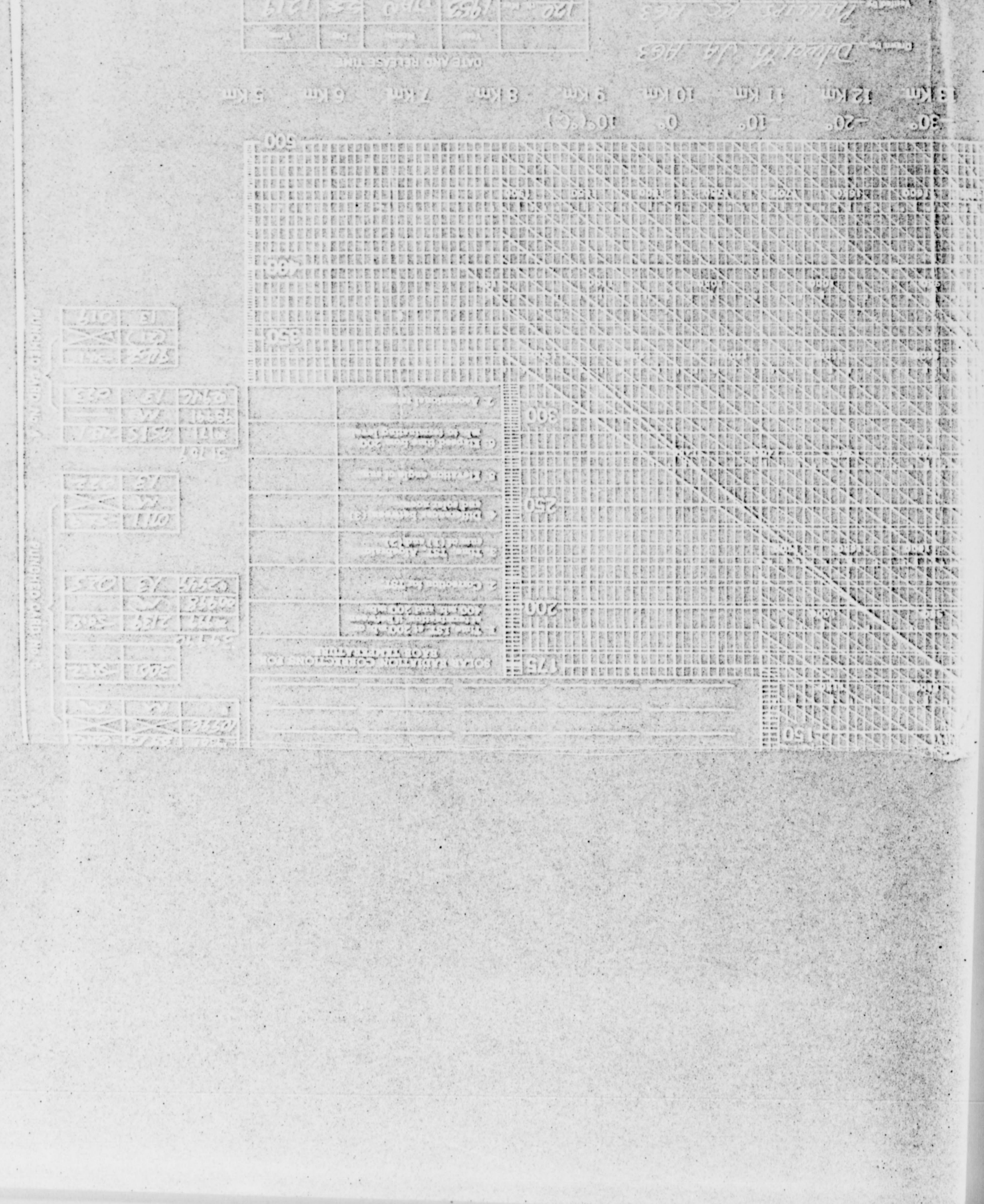




Prepared by

Verified by





NAVAER – 2506-5 (REV. 2-62)

DEPARTMENT OF THE NAVY
ADIABATIC CHART
WEAN 9115

Mb

-90° -80° -70° -60° -50° -40°

10
15
20
30
40
50
60
80
100
125
150
175
200
250
300
350
400

CODED MESSAGE FOR TRANSMISSION

SIGNIFICANT LEVELS

DAY BLOCKS

PRESSURE

TEMPERATURE

RELATIVE HUMIDITY

DEW POINT

PRESENT

PAST

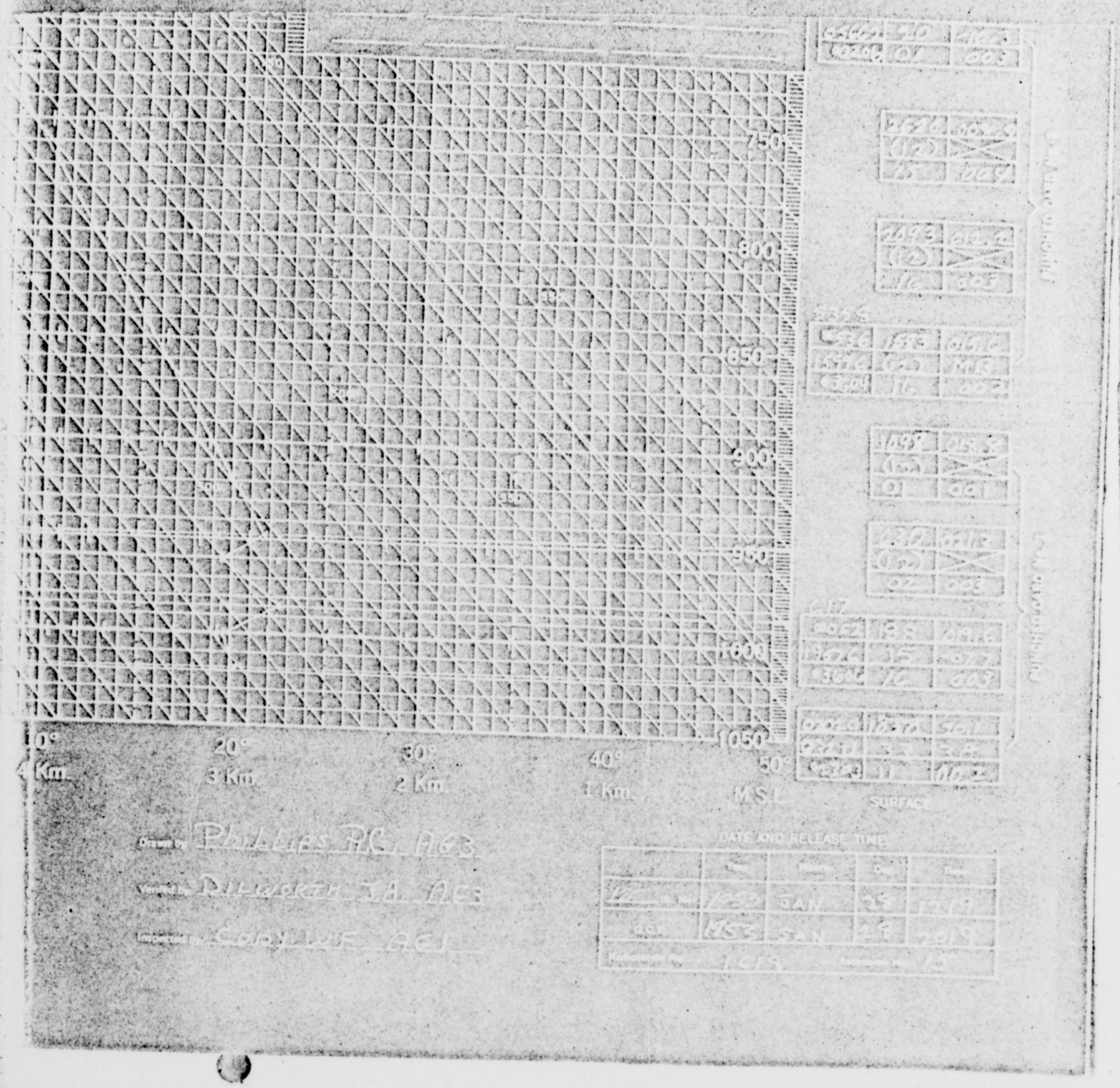
AMOUNT

CHARACTERISTIC

DIRECTION

SPEED

CONTINUATION OF CODED MESSAGE


750
800
850
900
950
1000
1050
0°
20°
30°
40°
50°
4 Km
3 Km
2 Km
1 Km
M.S.L.
SURFACE
Drawn by Phillips R.C. A63
Verified by Dilworth J.A. A63
Inspected by Cody W.F. A61
DATE AND RELEASE TIME

NAVAER 448E (REV 8-51)

DEPARTMENT OF THE NAVY

ADIABATIC CHART

WEAN-51A

BASELINE CHECK READINGS

Time (G.C.T.)	TEMPERATURE Ordinate	°C	°K / °F	RELATIVE HUMIDITY Ordinate	Rad.	Cor.	Psychrometric °C / °F
1752	22.0	27.3	297.3 / 80.1°	21.5	5.6	-1	Wick 5.5

9 Km −40°

8 Km −30°

7 Km −20°

6 Km −10°

5 Km 0° (C.)

Mb

400 (25,197 ft)

450

500

550

600

650

700

750

800

850

900

950

1000

°C

°F

