

E.5 Doppler Radar Scientist (On-Board)

The on-board Doppler radar scientist (DRS) is responsible for data collection from all radar systems on his/her assigned aircraft. Detailed operational procedures and check lists are contained in the operator's manual supplied to each operator. General supplementary procedures follow. (Check off and initial.)

E.5.1 Preflight

- MB 1. Determine the status of equipment and report results to the on-board lead project scientist (LPS).
- MB 2. Confirm mission and pattern selection from the on-board LPS.
- MB 3. Select the operational mode for radar system(s) after consultation with the on-board LPS.
- MB 4. Complete the appropriate preflight calibrations and check lists as specified in the radar operator's manual.

E.5.2 In-Flight

- _____ 1. Operate the system(s) as specified in the operator's manual and as directed by the on-board LPS or as required for aircraft safety as determined by the AOC flight director or aircraft commander.
- _____ 2. Maintain a written commentary in the radar logbook of tape and event times, such as the start and end times of F/AST legs. Also document any equipment problems or changes in R/T, INE, or signal status.

E.5.3 Postflight

- _____ 1. Complete the summary check lists and all other appropriate check lists and forms.
- _____ 2. Brief the on-board LPS on equipment status and turn in completed forms to the LPS.
- _____ 3. Hand-carry all radar tapes and arrange delivery as follows:
- a. Outside of Miami - to the HRD Field Ground Operations Center (FGOC).
 - b. In Miami - to MGOC or to AOML/HRD. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- _____ 4. Debrief at the appropriate operations center (FGOC or MGOC).
- _____ 5. Determine the status of future missions and notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted.

Doppler Radar Scientist Check List

Flight ID: _____

Aircraft Number: _____

Doppler Radar Operators: _____

Radar Technician: _____

Number of digital magnetic tapes on board: _____

Component Systems Status:

MARS _____

Computer _____

DAT1 _____

DAT2 _____

LF _____

R/T Serial # _____

TA _____

R/T Serial # _____

Time correction between radar time and digital time: _____

Radar Postflight Summary

Number of digital tapes used:

DAT1 _____

DAT2 _____

Significant down time:

DAT1 _____

Radar LF _____

DAT2 _____

Radar TA _____

Other Problems:

HRD Radar Tape Log

Flight 980928±1 Aircraft _____ Operator _____ Sheet _____ of _____
 LF RPM _____ TA RPM _____

(Include start and end times of DATs, as well as times of F/AST legs and any changes of radar equipment status)

Tape #	F/AST On?	Event Time (HHMMSS)	Event
		090742	Takeoff MCPD 11
D1T1	Yes	092230	Started recording ^{DUAL PRT} East 1600/1066
D1T2	Yes	101450	Radar down 100220-1014
D1T2	Yes	1017	Thru intense convective interband near eq in 30°W 86°W
D1T2	Yes	102102	Radar Frozen
D1T2	Yes	102331	Radar up
D1T2	Yes	1034	eye 100 nmi to west
D1T2		1058	30° 21' 88.53" W eye 963
D1T2	Yes	1101	wat eyewall
D1T2	Yes	111543	Turn down 1106-1115 drop in lat
D1T2			1116 EUTO leg 3 begin
D1T2			
D1T2	NO	113352	30.20 88.56
D1T2	NO	113750	east eyewall
D1T2	NO	1208	Turn to south 60 mile north
D1T2	NO	1222	33.23 88.59°
D1T2	NO	1240	South Point
D1T2			east of eye 60 nmi
D1T2		1310	eye

2 east eyewall drop
 5
 6
 Yes
 5
 begin VTD leg 1
 6
 6

2 east eyewall drop
 lat

982
 D1T2 - 1327 turn over like Pouch south to 00141

HRD Radar Down-Time Log

Operator _____ Flight ID _____ Sheet _____ of _____

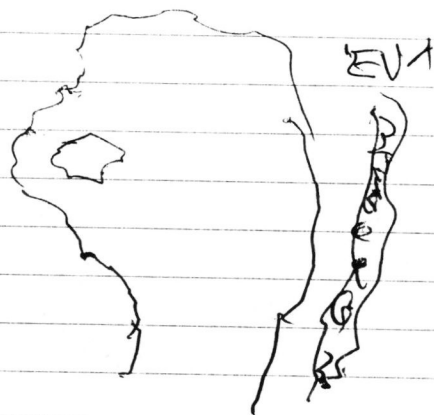
Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem
	1346 -		real time video req ADLN

Item List: DAT1, DAT2, COMP, MARS, LF, TA.

Include serial numbers of any new R/Ts.

980928I Georges
Winds at landfall

LPS P. Dalge/M. Black
Kuala



LF COMP 1 1052. sent
LF COMP 2 123153 sent

LF Composites 11219
1221
12225
1227

LF 1306.5

1310

1312

1313

1314

1310 131528

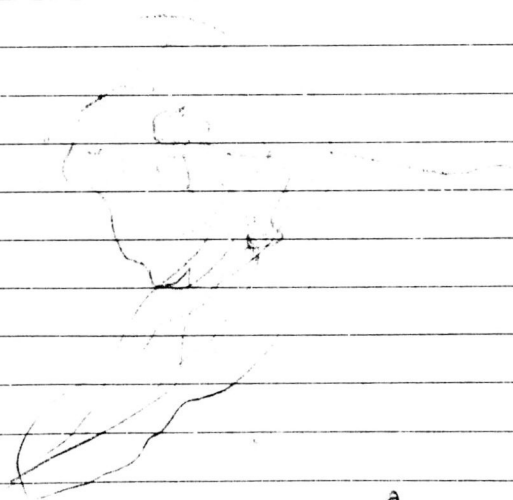
1428

AT Beach near Eglon

11.11.1994

1607 eye 967 mb

30.28 88° S



1626

30° 29' 88° 57'

966 mb

G Georges 980928~~1~~ (1)

90727 Take off

929 radars, workstation up, first drop coming up.

936 First Sonde NO GOOD

938 sonde #2 28°30' 84°42' GOOD

95624 sonde #3 28°49' 86°00.3' GOOD
turned

958 start descent to 7000' 29° 85°53'

100220 Radars stopped

100515 leveled off out of 2135m

100938 sonde #4 29°45' 85°24'

1013 - We're turning to head thru strong band in
a weak spot - 29°57' 85°42' - then we'll head
back to coast

1019 Wards looks good as we enter the heaviest rainband
~~1021~~

1021 In the band 54 KTS

102102 Radars down
102247 " UP

1024 headed back to the beach

102530 turning 30°15' 86°32' to track 260°

1028 EW: waves 10-15'

can see G on Δ 275° 110 nmi from 30°13' 86°50'

KOZAK has G right over Keesler

103205 DROP #5 30°12' 87° and turn GOOD

1035 - 42 is leaving the storm to us

1012 30°19' 88°54' FROM 42

6 Georges 980928I (2)

1044 along coast near mouth of Mobile

104647 DROP 30°17' 88°06' DP1A1

eye is 40 nmi away from there

105314 ~~West~~ EAST EWall DROP 30°18' 88°36' JF sonde had good updrafts

1055 center hunting

1057 30°20' 88°55' 963 mb JACKS FLX
SONDE ~~W~~ EYE DROP Winds no good JF DROP
SFC P ~~961.2~~ 962 mb

1101 SONDE ~~West~~ 30°17' 89°12' 60 KTS fly level

1112 - We are over Lake Ponchartrain
winds 68 KTS

TAIL FROZE 110603

111540 30°11' 90°12' Lake Ponch SONDE GOOD PTH
70 KTS 008° GOOD sonde

1122 heading back to eye starting to get light
30°15' 89°41' 12°
2152 m 62 KT

113350 30°20.5' 88°56' JP says were one mile South
EYE DROP #2 That's what Kagak took into account

1137 east eyewall drop 30°20' 88°39' 82 KTS
1138 " " " GOOD FLT Level

30°20' 88°31'

1152: 1/2 switched out of FFAST in eye - too late for
VTD - so we are adding another leg:

3

980928 I 1

1155 JF sez East Eyewall sonde hit the mud.

1157: headed NW to start VTD. We passed over Mobile Bay on the way - so good for EW & WW

1205: MB reported eyedrop had T of 26°C

120801 turn 31°17' 89° 01.8'

120915 VTD LEG START JEFF S SWITCHED VCR to R-mode)

122253 CPA 30°20' ~~89°00.3'~~ 88°59' ← KOZAK FIX

1224 in stratiform rain S eyewall

122548 DROP S. Eyew 30°07' 89° NO LAUNCH DETECT

122650 Backup DROP 30°03' 89°

1230 on LF can see New Orleans, Bridges across Lake P. MB, JP remark

123837 TURN for SW-NE 29°18' 88°59'

124126 drop 29°25' 88°49'

VTD LEG 1

125634 start turn 30°16' 87°53' 120915-1238

1258 30°21' 87°57' DROP DP1A1 | 928 leg 1. VTD

1258.30 level START VTD leg 2 evtd

1311 sent one LF composite

1311 center 30°21' 88°57' (By Jack) @ Georges nose muete

132629 30°21' 90°06' DROP NE shore of Lake P.

END VTD LEG 1326

1336 can see the bayous,

and daylight at last near Grand Isle

OVER

VTD LEG 2 125830 - 132600

(4)

134124 GDIL1 Drop 29.19 89.98

134826 BURL1 Drop 28.90 89.43

140315 42040 Drop

1413 in fairly decent band ~ 87°32' with p

1421: Bigger looking seas 30° 86°55

142757 Turn 30°19 86°30

to track along coast
and were right along the beach

TEAL'S
1421
30°22'
88°50'

~~1441~~ Bouncy in band ~~W~~ side of Mobile Bay

LUNCH BREAK

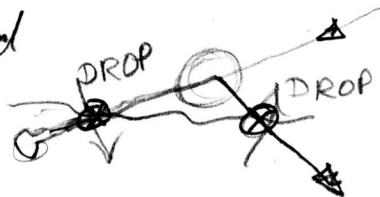
1535 Turn at 42040 to head for Mobile Bay
flt level winds all ~55 → 60 kts

1551 Just passed over DPIA1

155327 30°34' 88° and turn in Mobile Bay GOOD SONDE

1606 Jack ~~6~~ hunting 967 mB
30°27' 88°57' CPA → 30°28' 88°57'

1616 Mike suggested this for end
to get offshore-onshore couplet
So returned at ~30°12' 89°19'
and headed 050° track



5

980928I

162249 30°22.6 89°08.1' 317 44 kts
offshore DROP Good Winds

1624 Last Center hunt

162557 CPA 30°29' 88°56' = 1628 30°29' 88°57'

1632 30°17' 88°38.5'
onshore DROP

1633 - Data System flaky? 39 m/s vert wind.

1642 Finishing up with little bit of heavy rainband work

29°45 88°09' 211° 80kt

1652 30°02' 87°51' DROP inside edge of

1654 30°12 87°48' crossing Beach

165750 30°26' 87°41' turn

1704 great shot of disturbed ocean as we come off coast, paralleling line winds 198° 74

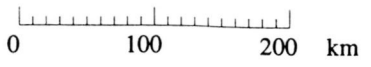
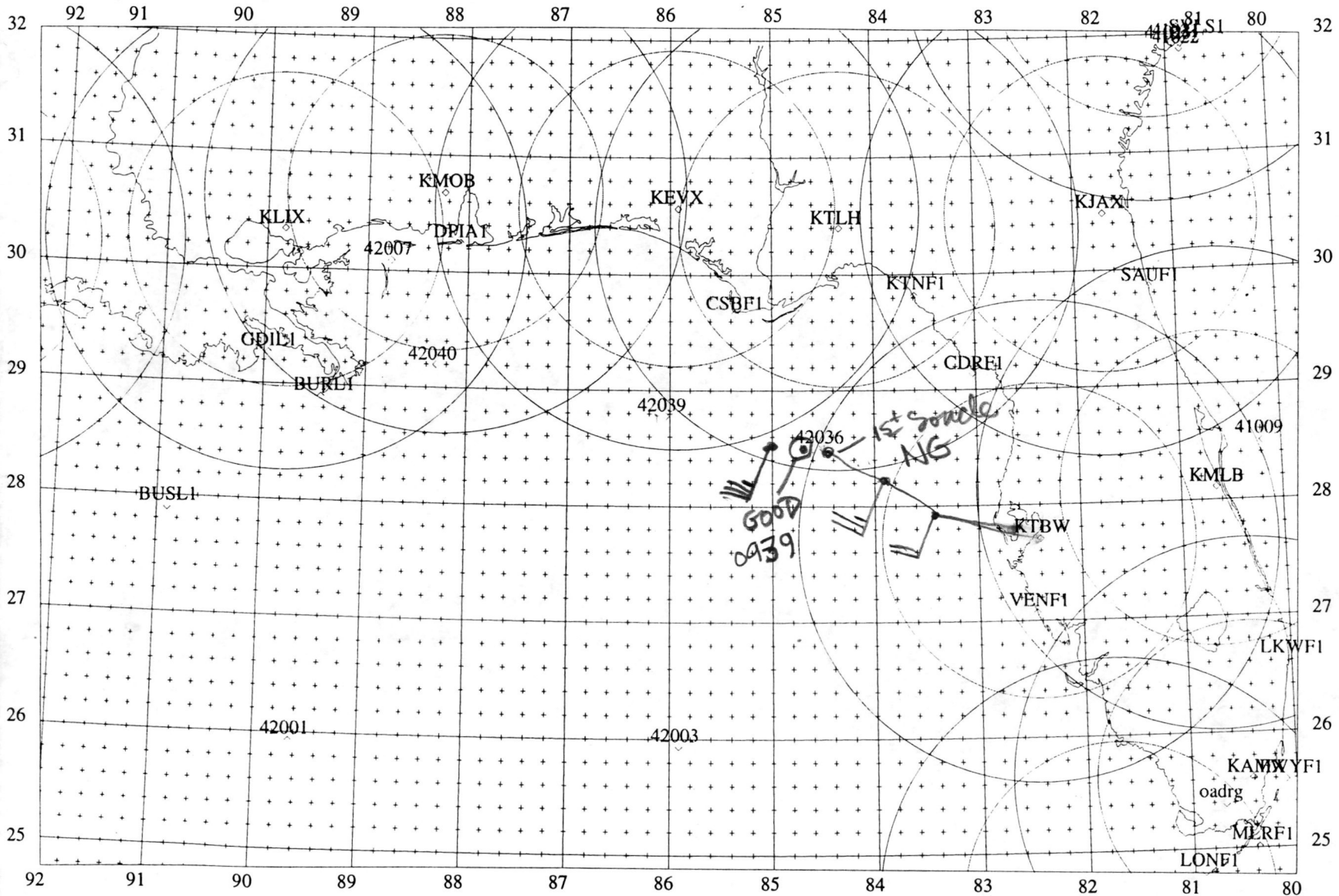
170540 DROP 30°11' 87°52' ← didn't hit water? LAND

170738 " 30°07' 87°47'

171240 END PATTERN

980928 ~~FLIGHT~~ FLIGHT # 0
TRACK

Center Lat: 28.50 Lon: -86.00

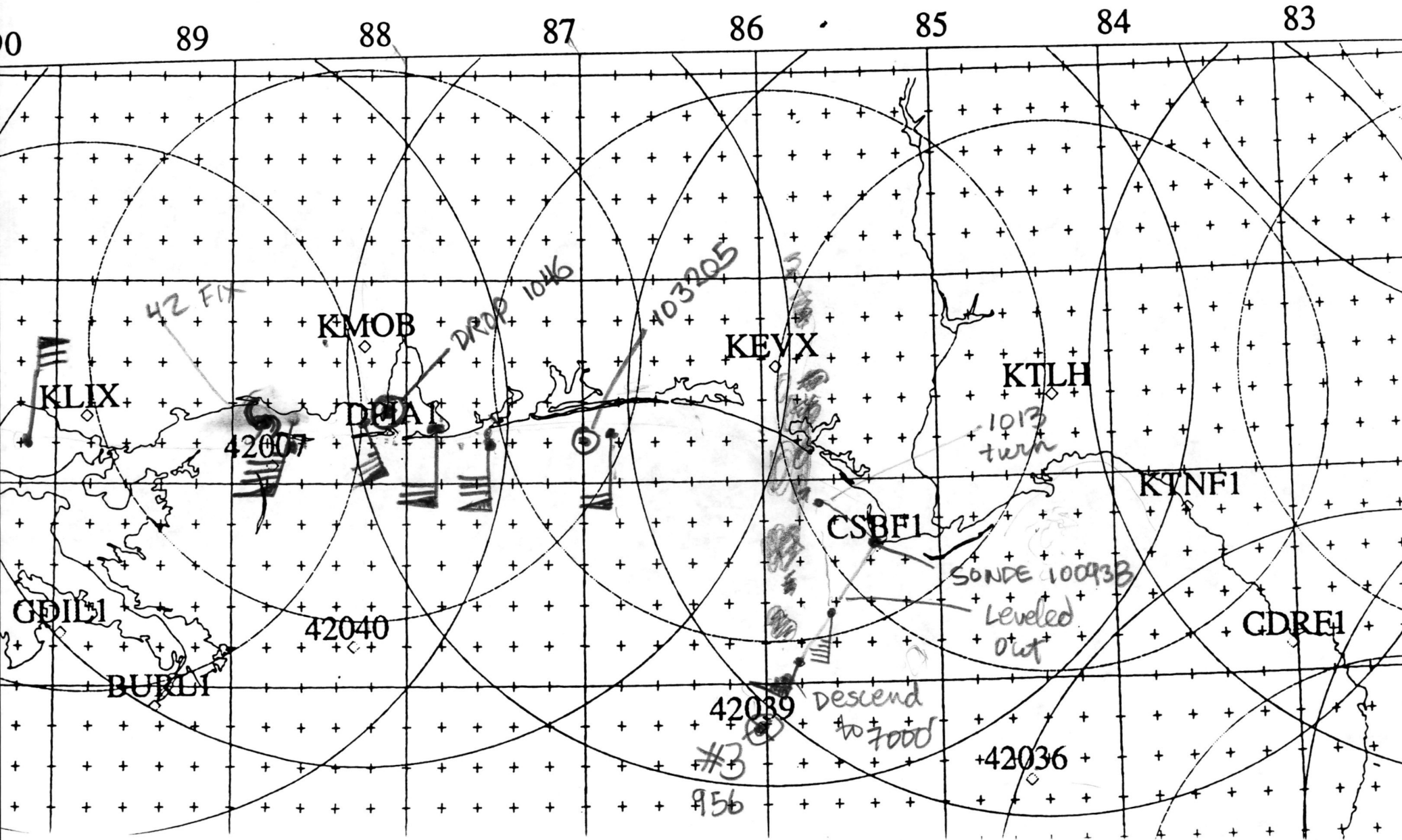


230 km range rings
150 km haze rings

980928#I FLIGHT #①
TRACK

03 ↗

36.00



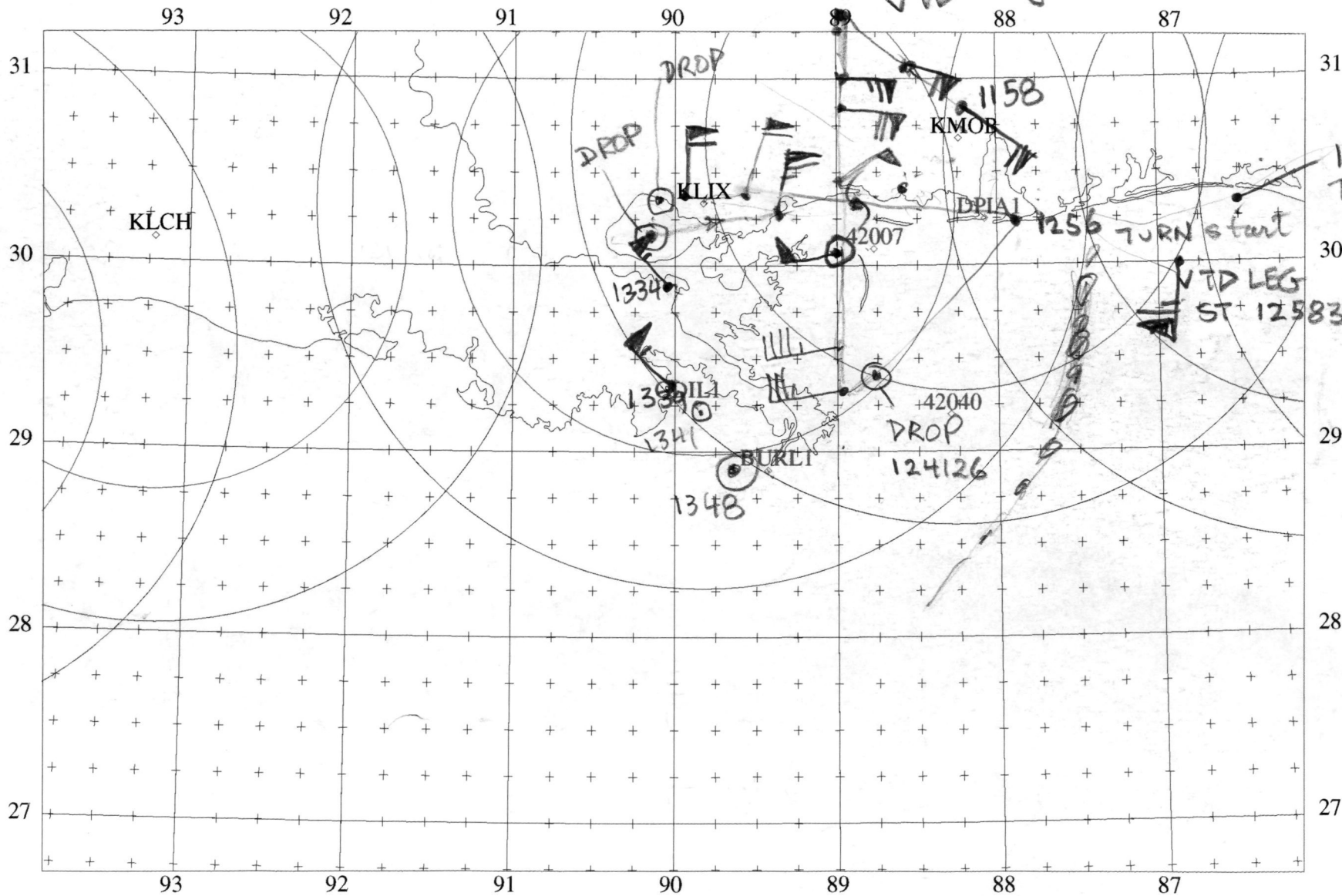
Georges

980928I 1

FLIGHT (2)

1208 turn start
VTD Leg #1 st 120915

Center Lat: 29.00 Lon: -90.00



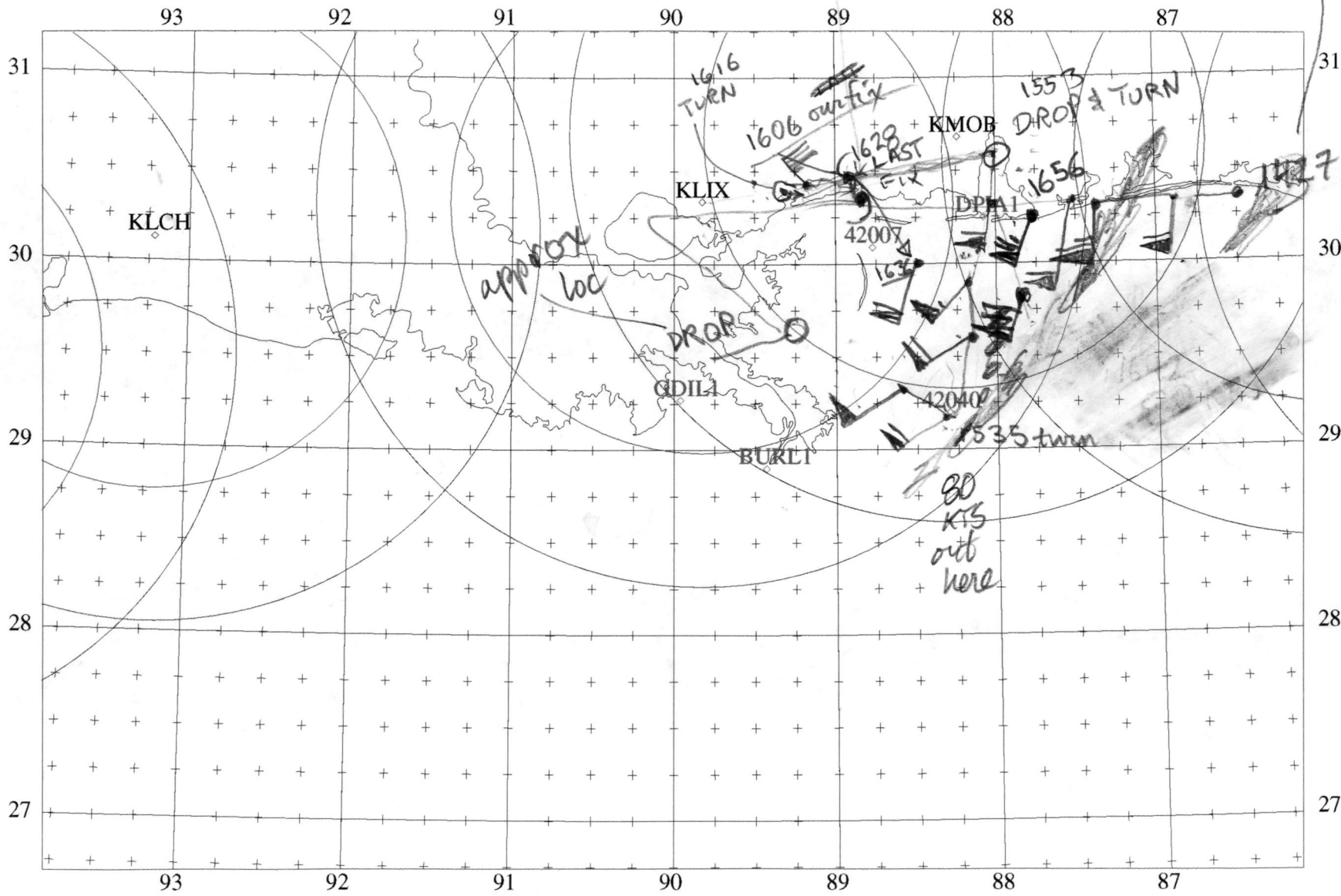
6 ranges

980928I

TRACK (3)

HEAVIEST BAND

Center Lat: 29.00 Lon: -90.00



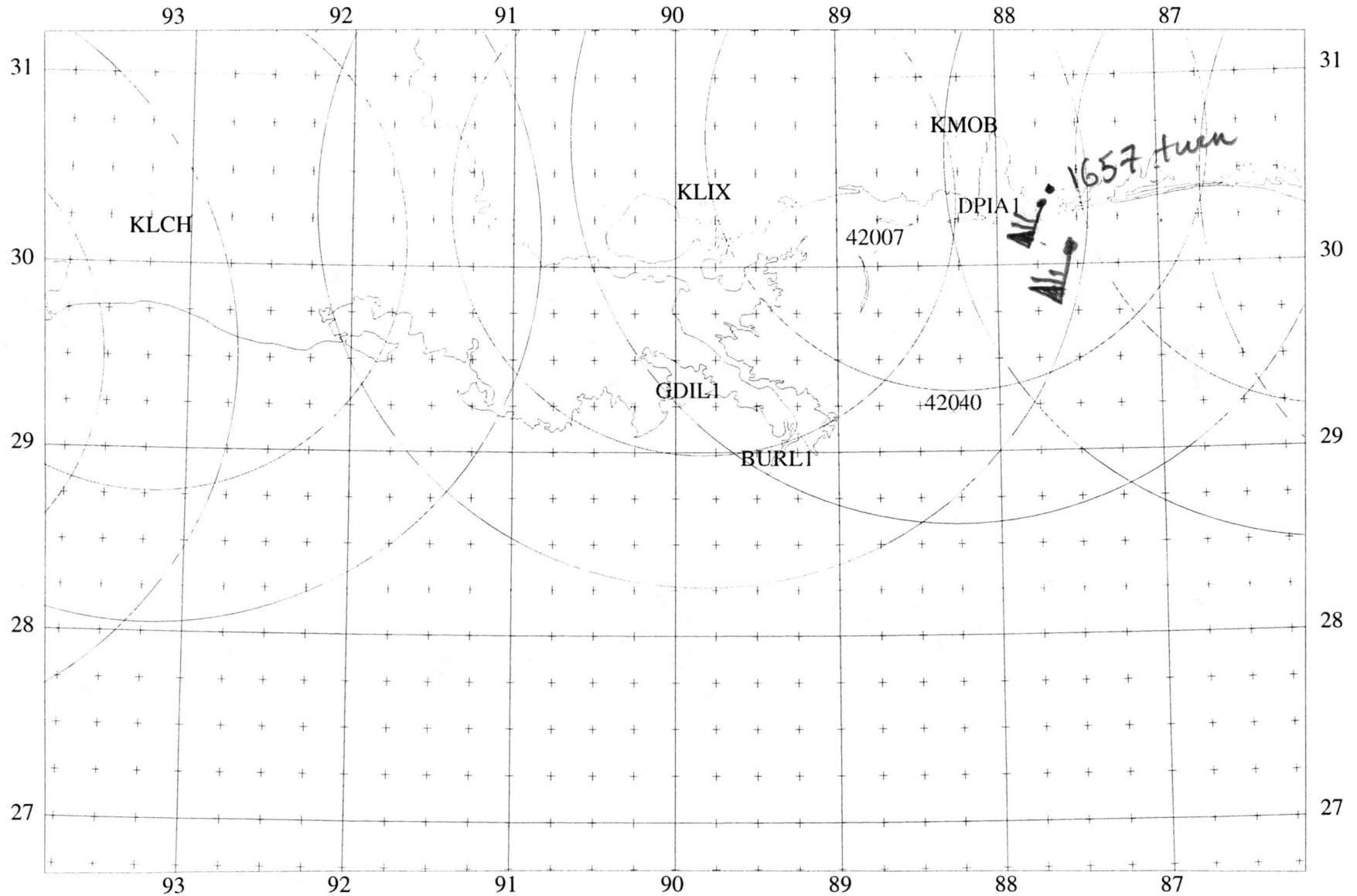
0 50 100 km

230 km range rings
150 km haze rings

980928I

4

Center Lat: 29.00 Lon: -90.00

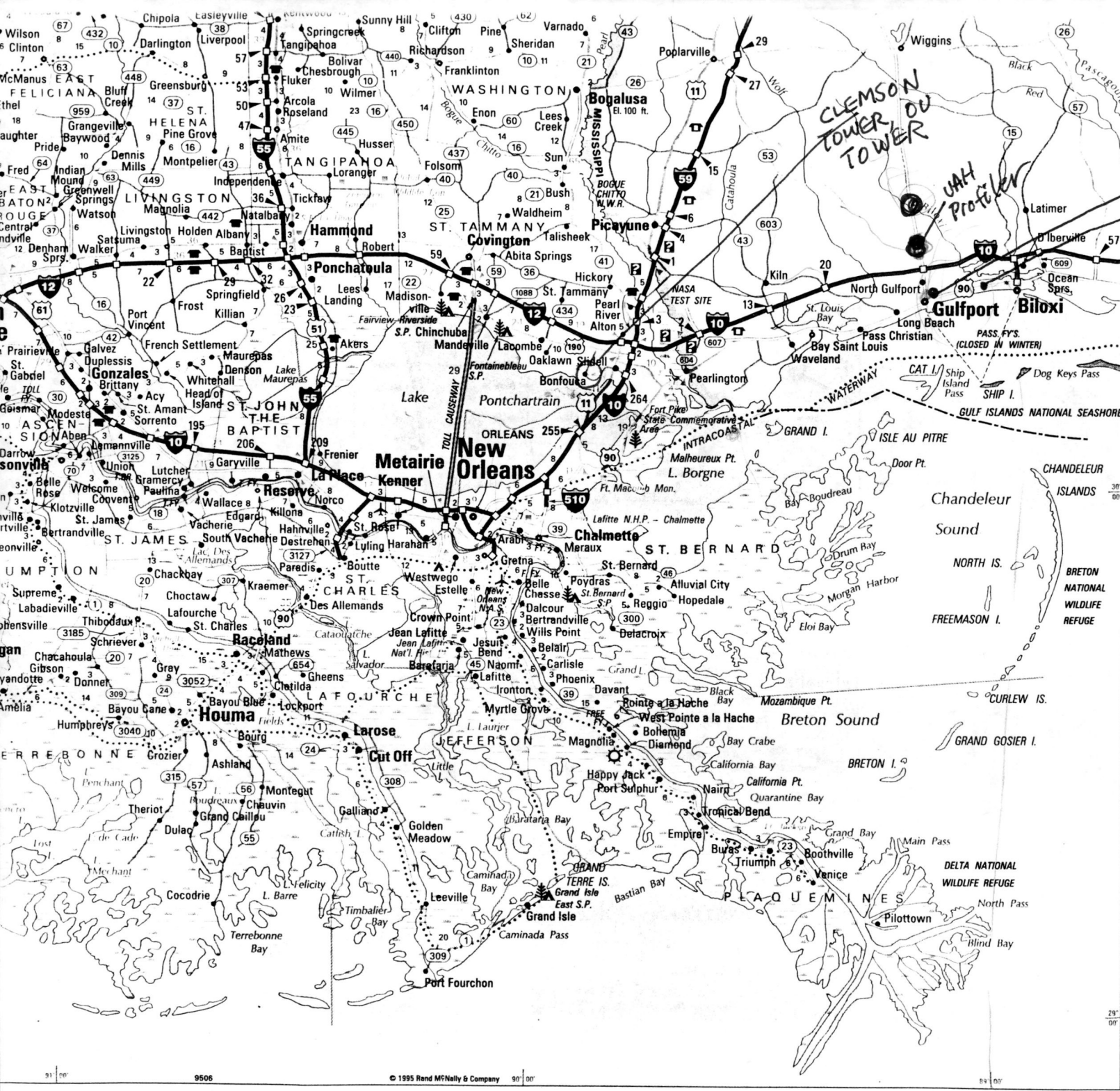


0 50 100 km

230 km range rings
150 km haze rings

Location	Latitude (°)	Longitude (°)
UAH Profiler	30.49037	-89.10155
Lynn 12 mi N of Gulfport airport	<i>Rt 49 15 miles</i>	<i>North</i>
DOW1	30.41500	-89.07667
Kessler AFB		
DOW2	30.40733	-88.92933
Gulfport regional airport		
TTU Tower	30.41330	-89.06944
Kessler AFB		
Clemson Tower	30.28567	-89.74400
Slidell airport		
OU Tower	30.21700	-89.78522
Slidell NWS		

NOAA42 0503 29.6° 88.6° 960 mb dropsonde
 0528 29° 44" 88° 40"
 0543 29° 46" 88° 40"



CLEMSON TOWER DU TOWER
 UAH PROFFER
 DOW 2 Gulfport
 DOW 1 KEESLER
 TTU Tower