

FLT ID: <u>I950516</u>	FM: <u>OKC</u>	TO: <u>OKC</u>
FLT NO: <u>95-041</u>	BLK IN: <u>0300Z</u>	ATA: <u>0256Z</u>
ETD: <u>2000Z</u>	BLK OUT: <u>1956Z</u>	ATD: <u>2005Z</u>
ETE: <u>11</u>	BLK TIME: <u>7:04</u>	FLT TIME: <u>6:51</u>
SPONSOR ORG: <u>NSSL</u>	PROGRAM: <u>VORTEX95</u>	PURPOSE: <u>FLY CONVECTIVE S.W. KANSAS</u>

DAO PERSONNEL

AC <u>KENNEDY</u>	SYS ENG <u>McMILLAN</u>
CP <u>TENNESEN</u>	DATA SYS <u>BARR</u>
NAV <u>STRONG</u>	RADAR
FE <u>WADE</u>	BT/ODW
RADIO <u>SANS SOUET</u>	CLD PHYS
FD <u>DAMIANO</u>	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
31 <u>WATSON</u>	<u>PI</u>	<u>NSSL</u>
<u>ZIEGLER</u>	<u>ASST. PI</u>	
<u>SHEPHERD</u>	<u>RADAR</u>	
<u>GORDON</u>	<u>RADAR</u>	
<u>DETWILER</u>	<u>OBS</u>	
<u>GEISZLER</u>	<u>OBS</u>	<u>STUDENT</u>
<u>WEEK</u>	<u>OBS</u>	<u>STUDENT</u>
47		

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)

Gerber LWC Pass a .036 offset at T/O

WORKING DRYLINE BTW ASHLAND + SITKA ALONG HWY 160

37°12'

100W - 99°20'W

Broke from DRYLINE at 2155Z

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.2 OAOWF2 FILE

FLT ID: 1950516 TIME OFF: 2005Z TIME ON: 0256Z

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	957.9		955.9	

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES

FAST FLT LVL TAPES

RADAR TAPES

DOPPLER TAPES

ODW CASSETTES

HARD COPIES

PMS

AXBT

AXCP

ODW

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

850 mb. at LND
1908 211/44
1606

NOAA • AOC • SED Flight Performance Log

22 March 95

Aircraft : N43RF

Project: VORTEX • ARM '95

Mission : VortexSED Crew: McMillan, BarrFlight ID : 950516EPre-Flight: 1747Take-Off: 20:05:40Landing: 02:55:29

System			Pre-Flight	In-Flight	Post-Flight		
N A V	INE #1	Aligned to : 1747	1845 STM		+5.3	-2.6	1
	INE #2	Aligned to : 1747	1845 STM		+16.5	+1.7	3
	GPS	1747	STM ✓		Lat	Long	GS
R A D A R	Nose		STM ✓				
	L/F	R/T SN : 102	AM (P)				
	Tail	R&T SN : 201 202	AM				Mod Switch Off? STM
	ASAU's & RCU		AM				Mod Switch Off? STM
P M S	MARS Data System						# DATs : 4
	2DG-C	Ch 1/64: /	AM				
	2DG-P	Ch 1/64: /	AM				
	FSSP	Ref VDC:	AM				
T E M P	SEA Data System		AM				# DATs : 1
		Cal High	Cal Low			Cal High	Cal Low
	Temp #1	+30.6	-30.2	+25.1 Z		30.5	-30.2
	Temp #2	+30.5	-30.3	+24.9 Z		30.3	-30.3
	Temp #3 (Starboard)			✓ Z			
	Dewpoint #1			+19.3 Z			
P R E S S	Dewpoint #2		✓ Z				
	Attack Angle (AP/DAP)		STM ✓				
	Slip Angle (BP/DBP)		STM ✓				
	Differential (PQ1/PQ2/PQ3)		STM ✓				
	Absolute (PS1/PS2)		STM ✓				
F L T L V L	Radome Transducers		Plugs Out? ✓ STM				
	Apr-159	SN: 66-024	STM ✓				
	Apr-232	SN: 1699	STM ✓				
	King Liquid Water		N/A				
	J&W Liquid Water		STM ✓				
	Down PRT-5 (SST)		✓ Z				
	Side PRT-5 (CO ²)		✓ Z				
	Up PRT-5		Open? STM ✓				Closed? STM ✓
	RAMS Data System		STM ✓ (1)				# DATs : 2
	Exterior Walk Around		STM ✓				
	Video	(N) (L) (R) D	STM ✓				
	FCU	- A-B-C-	STM ✓				
U S E R	Charge Probe		N/A				Accelerometers
	Gerber Liquid Water		STM ✓				#1 (2 G) : 8179
	Field Mills	(L) (R) U (D)	✓ Z				#2 (2.5 G) : 6684
	ETL Dual-Channel uWave Radiometer		✓ Z				#3 (3 G) : 5967
	Epply Radiometers (PSP / PIR)						#4 (3.5 G) : 2892
	2 Meter Repeater / Duplexer		STM ✓				
	Cappiccuno Machine		N/A				

Please Note any Discrepancies

[illegible]

88111000

25512 * Change IN sector From All FWD's to All AFT's
then went to FAS. 7 ONLY had tilt in one direction
on RCV AND DSP & Aft in SHARP (spiral) changing 180° track .
Tilt +20

Speed 10

MSDR FAS

Sec ctr 20

Sec wid 155

(No errors after About 60 sec. 1. Radar started to
scan normally with +20 to -20° tilt .)

EQUIPMENT MAINTENANCE DOCUMENT

WS FORM A-23A
(12-86)U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.
OFFICE OF AIRCRAFT OPERATIONS1a. CONTROL NUMBER
00001183

OPERATOR INFORMATION SECTION

1. ZTIME OUTAGE		2. AIRCRAFT		GROUND		SYSTEM		3. OPERATOR NAME	
MO	DY	YR	HOUR	SYSTEM?	()	SYSTEM?	()	SYSTEM	SPARE? ()
				OTHER	()				

4. OPERATORS DESCRIPTION OF FAULT (equipment, status, malfunction, etc.)

MAINTENANCE INFORMATION SECTION

5. EQUIPMENT DESCRIPTION	6. SERIAL NO.	7. PROP. NO.	8. REASON FOR OUTAGE	() power surge/loss () preventive maintenance () modification () other (specify below)
			() component failure () software () calibration	

9. TECHNICIANS DESCRIPTION OF FAILURE/CORRECTIVE ACTION

10. REPAIR TIME & DATE COMPLETED		11. PARTS ORDERED?		DATE ORDERED		DATE RECEIVED		12. DIAGS USED?		DID DIAGS FIND DEFECTIVE LRU?		13. TECHNICIAN NAME	
HRS	MI	MO	DY	YR	() yes () no	MO	DY	YR	() yes () no	Specify Diag used in block 15.			

14. REPAIR PARTS INFORMATION (list all parts used, description, part no., schematic designator, etc.)

15. BRIEF TROUBLESHOOTING PROCEDURE DESCRIPTION

16. ELTECH INIT.

17. APPROVED BY:

X



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Rockville, MD 20852-3019

OFFICE OF NOAA CORPS OPERATIONS

Aircraft Operations Center
P.O. Box 6829
Tampa, Florida 33608-0829

MEMORANDUM FOR: DR. ROBERT MADDOX, DIRECTOR NSSC

FROM: CAPT George C. Player III, NOAA
Acting Director, Aircraft Operations Center

SUBJECT: Hazard Duty Flight

The mission flown on AOC aircraft # N430F on 5/16/95
has been declared hazardous. The following personnel from you
laboratory participated in this mission.

WATSON

ZIEGLER

SHEPHERD

For purposes of computing allowable hazard duty time, the hazard
period during this mission was from 3pm local time on
5/16/95 until 10pm on 5/16/95.



I950516

INE 1 RENAV

NO DATA GAPS

205900, +.6, +1.

215900, +.9, +1.2

225900, +1.5, +.3

235900, +3.5, -1.1

005900, +3.1, +1.8

015900, +3.9, 0.

025900, +5.1, -2.6

DW1 check

2325-2330

2327-2330 fix

using DW2

WZ check 2315-2325

Fix RA159 at T/O

RA159 = RA232

0255 - 0259

VORTEX95/ARM95

FLIGHT #19 I950516 (VORTEX, Storms near Garden City, KS)

TYPE OF DATA	SENSOR OR OPTION
INE	1
Accelerometer	1
Temperature probe	1
Altitude change option (for vertical winds)	PA
Static pressure	Rosemount fuselage
Dynamic pressure	Rosemount fuselage
Time source	Micro 99
Constants file	CO3956.CON

Notes:

There were no time/data gaps.

The dewpoint sensor, DW1, spiked between 2327Z - 2330Z. The spike was removed and patched over.

The King Liquid water probe was not operational.

INE1 groundspeeds were the best of a bad lot compared to groundspeeds from INE2.

The aircraft INE positions were renavigated with respect to GPS.

SPECIAL NOTE!!! Locations 80, 81 and 82 of record five on the standard tape contain vertical ground, vertical air and vertical speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Takeoff	Landing
Aircraft static pressure	957.9mb	955.9mb
Corrected tower pressure	N/A	N/A

Flight Meteorologist: A. Barry Damiano, (813) 828-3310 ext. 3073

1950516

TIME	LAT	LONG	TRK	HD	WD	WS	PA	GA	TA	TD	SP	PS			RG
200800	3524	9741	16	16	201	30	1640	1258	22.8	6.3	-	826.9	CLD	ABU	62.9
201500	3554	9738	344	337	228	41	3144	2928	10.0	1.4	-	688.4	BTN	CLD	69.0
202400	3632	9746	4	1	210	36	3131	2870	10.9	0.1	-	689.4	BTN	CLD	64.7
203300	3706	9754	295	285	219	48	3131	2834	10.5	1.4	-	689.6	BTN	CLD	71.6
203900	3715	9820	294	285	224	48	3127	2760	11.1	1.7	-	689.8	BTN	CLD	66.3
204900	3727	9902	245	243	228	46	3128	2641	11.0	1.4	-	689.6	BTN	CLD	68.1
205900	3712	9939	267	264	199	17	841	166	28.2	17.8	-	916.2	NR	SITKA	70.6
210600	3712	9959	92	95	240	18	897	154	27.7	17.4	-	910.0	NR	ASHLAND	65.3
211000	3712	9940	90	94	170	11	832	151	27.1	19.4	-	916.9	WIND	SHFT	69.8
211430	End 500 ft leg E														
211700	start 3000 ft leg W														
211910	3712	9921	268	265	217	24	1579	937	20.3	16.8	-	832.4	BLW	CLD	69.5
212000	3712	9930	269	266	206	23	1579	966	20.8	16.5	-	832.6	BLW	CLD	70.2
212300	3712	9946	271	269	207	18	1577	934	20.9	16.4	-	832.4	BLW	CLD	70.0
212545	end 3000 ft leg														
212800	start 5K ft leg E (must go higher to get ABU CLDS) 8K ft														
212900	3712	9955	58	97	220	27	2624	2020	14.0	6.9	-	732.6	BTN	CLD	
213140	3712	9942	102	109	222	29	3031	2504	11.8	4.5	-	698.3	CLDS		65.7
213500	3712	9924	87	95	226	43	3026	2489	12.4	2.0	-	698.5	CLDS		66.1
213600	end 8K ft leg														
213800	start 8.5K ft leg W														
	3714	9915	266	260	224	48	3137	2558	11.0	.9		689.0	ABU	CLDS	
214300	3713	9936	276	269	227	39	2421	2890	9.1	-2.2		665.0	ABU	CLDS	67.1
214710	3713	9955	268	266	239	28	3325	2747	9.2	-4.0		672.6	ABU	CLDS	64.4
214930	3712	10006	267	266	243	27	3326	2700	8.8	-8.2		672.6	ABU	CLDS	67.1
215600	3717	10035	294	289	230	31	3324	2553	9.3	-9.0		672.6	CLD	ABU	68.2
220500	3729	10114	275	272	239	31	3322	2459	8.7	-4.1		672.9			
221000	3735	10127	70	72	243	23	3323	2429	8.3	-1		672.9	CLD	LNE	65.1
221700	3741	10114	255	252	231	44	3929	3056	3.3	-10.3		622.4	CLD	LNE	66.8
222000	end old leg														
222120	3737	10121	58	60	231	40	3924	3079	3.4	-11.8		622.6	CLD	LNE	65.8
222600	3749	10059			215	38			3.5	-10.3					
222800	3745	10102	237	235	219	43	3923	3099	3.5	-11.4		622.6	CLD	LNE	71.8
223010			236	235	225	45			43.7	-13.5		622.7	CLD	LNE	70.5
223300	3734	10120	233	235	238	37	3924	3093	3.2	-10.4		622.6	CLD	LNE	63.1
223520	3736	10122	56	56	244	33	3920	3072	3.2	-6.8		622.9	CLD	LNE	58.7
223900	3745	10104	54	58	221	45	3923	3101	3.2	-9.8		622.7	CLD	LNE	71.3
224120	3746	10059	239	236	218	46	3922	3097	3.4	-11.6		622.8	CLD	LNE	70.9
224420	3740	10110	236	237	237	43	3923	3060	3.6	-13.6		622.6	CLD	LNE	64.0
224740	3740	10115	57	59	239	37	3920	3049	3.1	-3.6		623.0	CLD	LNE	60.9
225000	3746	10103	55	58	226	52	3921	3090	3.5	-13.0		622.8	CLD	LNE	71.0
225400	3750	10050	241	237	213	52	3921	3116	3.3	-11.8		622.9	CLD	LNE	74.6
			238	238	230	56	3920	3089	4.4	-16.7					
225800	3743	10105	236	238	240	49	3919	3079	4.5	-18.3		623.0	CLD	LNE	59.0
230010	3741	10105	56	56	240	44	3919	3083	4.5	-16.9		622.9	CLD	LNE	60.3
230400	3753	10044	56	56	211	40	3931	3141	3.0	-10.9		623.0	CLD	LNE	69.1
230600	3751	10045	240	236	215	53	3923	3118	3.2	-12.3		622.7	CLD	LNE	74.0
230900	3746	10056	236	237	235	53	3920	3097	4.6	-18.4		622.9	CLD	LNE	64.8
DROP DOWN A LITTLE															

1950516

TIME	LAT	LONG	TRK	HD	WD	WS	PA	GA	TA	TD	SP	PS			PA
231300	3746	10049	62	65	231	47	3290	2441	9.2	-6.0	—	625.8	WALL	CLD	76.8
231630	3750	10037	244	241	209	35	3289	2470	9.0	-10.5	—	625.9	WALL	CLD	74.5
231850	3746	10047	243	242	237	44			9.4	-7.2	—	625.9			
232240	3742	10049	61	62	244	37	3288	2463	9.4	-7.6	—	625.7	CLD	LNE	64.9
232550	3750	10032	58	63	200	27			8.9	-11.7	—	676.1			
232930	3750	10029	245	242	168	14	2074	1220	18.0	9.6	—	787.8	CLD	LNE	72.4
			246	242	190	20			20.1	5.0	—	788.2	CLD	LNE	
234030	3743	10046	67	72	208	18	1764	854	22.6	8.3	—	818.5	CLD	LNE	66.3
234400	3749	10030	66	71	170	18	1766	890	24.2	10.8	—	818.1	CLD	LNE	68.8
234500	TORNADO		SPOTTED												
234700	3751	10021	244	240	165	24	1769	883	20.8	13.0	—	818.0	CLD	LNE	64.9
235100	3745	10037	245	241	191	23	1765	866	21.8	7.4	—	817.7	CLD	LNE	68.2
235300	3744	10034	66	72	190	21	1768	876	21.6	8.4	—	818.0	CLD	LNE	62.1
235600	3749	10021	65	72	181	23	1766	886	20.5	13.3	—	818.3	CLD	LNE	70.9
			66	71	166	17	1767	914	20.0	14.9	—				64.1
000000	3752	10009	244	241	176	18	1769	922	20.1	14.6	—	818.2	CLD	LNE	64.8
000730	3748	10025	68	71	208	20	1768	926	21.1	10.6	—	818.3	CLD	LNE	66.6
001000	3752	10013	66	72	190	20	1767	904	19.9	15.2	—	818.2	CLD	LNE	67.8
001400	3756	10006	239	236	193	18	1764	921	21.1	10.9	—	818.9	CLD	LNE	60.5
001740	3758	10019	237	236	213	24			20.7	13.5	—				
001920	3748	10017	64	67	224	23	1766	892	20.9	11.5	—	817.9	CLD	LNE	65.2
002230	3754	10004	61	67	192	23	1767	953	20.0	14.5	—	818.3	CLD	LNE	61.4
002600	3756	9957	246	242	195	28	1769	983	20.1	14.0	—	818.4	CLD	LNE	65.6
003000	3749	10014	242	242	227	25	1766	899	20.4	12.5	—	818.0	CLD	LNE	65.5
003230	3753	10010	64	68	216	22	1768	922	20.1	14.6	—	818.2	CLD	LNE	65.4
003510			62	67	195	23	1766		20.1	13.7	—	817.8			
003810	3800	9951	245	241	186	23	1767	971	19.7	15.0	—	818.0	CLD	LNE	65.2
004200	3754	10006	245	242	207	26	1770	932	20.2	14.2	—	818.1	CLD	LNE	62.1
004420	3754	10010	63	66	220	19	1767	930	20.1	14.2	—	818.1	CLD	LNE	66.7
			63	69	185	22			20.0	14.8	—	817.9			
005100	3802	9947	246	242	178	21	1767	943	19.7	15.2	—	818.8	CLD	LNE	63.8
			247	243	188	24			19.7	15.5	—	818.1			
005800	3755	10003	62	67	192	19	1768	951	20.2	13.9	—	818.3	CLD	LNE	66.5
010200	3803	9945	61	67	163	18	1770	1040	19.6	15.6	—	818.3	CLD	LNE	62.3
010500	3803	9941	246	242	162	21	1767	1033	19.5	15.7	—	818.3	CLD	LNE	65.5
011000	3756	10001	246	243	167	18	1770	960	19.8	15.4	—	818.3	CLD	LNE	68.2
011240	3756	9951	61	67	171	19	1769	993	19.4	16.1	—	817.9	CLD	LNE	66.2
011510	3801	9943	60	67	161	24	1768	1035	19.2	16.3	—	818.0	CLD	LNE	64.3
011900	3805	9930	245	241	169	22	1768	1029	18.8	16.3	—	818.0	CLD	LNE	62.6
012200	3800	9941	246	241	157	26	1773	1040	18.8	16.5	—	817.7	CLD	LNE	65.1
012830	3753	9956	65	68	238	29	3523	2858	5.8	-7.4	—	647.5	CLD	LNE	57.8
013200	3759	9937	68	72	230	37	3621	2958	5.4	-14.3	—	647.4	CLD	LNE	76.7
013620	3803	9918	242	241	220	33	3618	3026	5.6	-16.4	—	647.7	CLD	LNE	67.9
013930	3758	9930	243	242	233	45	3617	2983	5.6	-16.9	—	647.8	CLD	LNE	63.6
014430	3754	9943	65	67	239	44	3618	2952	6.0	-17.5	—	647.8	CLD	LNE	63.8
014900	3804	9918	64	68	224	40			5.5	-17.1	—				
015100	3802	9915	243	242	230	44	3620	3036	5.7	-17.1	—	647.6	CLD	LNE	72.6
			241	242	239	52			5.9	-17.1	—				
015900	3755	9937	66	67	244	51	3618	2976	5.9	-17.3	—	647.6	CLD	LNE	66.9
020300	3804	9914	65	68	230	35	3617	3046	5.3	-17.4	—	647.9	CLD	LNE	70.3

WSI RADAR TOP 21:51(43)GMT 16-MAY-95

FXUS21 KTOP 161736
NOWTOP

~~240~~
~~060~~

SHORT TERM FORECAST
NATIONAL WEATHER SERVICE TOPEKA KS
1236 PM CDT TUE MAY 16 1995

KSZ056-058-059-161945-
FRANKLIN-COFFEY-ANDERSON-
1236 PM CDT TUE MAY 16 1995

.NOW...
SCATTERED SHOWERS AND THUNDERSTORMS CAN BE EXPECTED THROUGH 2 PM
WITH TEMPERATURES AROUND 80 DEGREES. SOUTH WINDS WILL PERSIST AT 10
TO 20 MPH...WITH OCCASIONAL HIGHER GUSTS.
\$\$

WHITMORE

200
240
~~605~~
235

1000 ALC 75

000

29.
(120) (20/20)

~~060~~
20 D/34
65
180

285/15

DETWILER

245/0.9

~~060~~

GORDON

235

GEISZLER

99 20 '2

93

~~240~~
~~240~~

WEEK

250

260-270/25

240

200 Bradley
160 weak
ECHO
REGION

~~240~~

(B) 035
65
245

065

240

~~240~~

~~240~~

065
~~235~~ 240

~~070~~
~~240~~

DATE : 5/16/95
TO : Chief, AOC Flight Operations
FROM : Pilot/Flight Director, Aircraft N43RF ON 0300Z BLOCKTIME
SUBJECT: Hazardous Duty OFF 1956Z 7:04

PURPOSE OF FLIGHT: VORTEX95 PROJECT

Hazardous Duty Pay is required for flight made on 5/16/95
(DATE)

Request based on FLYING AROUND THUNDERSTORMS
PRODUCING TORNADOES

Personnel on board authorized Hazard Pay:

WADE	
DAMIANO	
SANS SOUCI	
McMILLAN	
BARR	

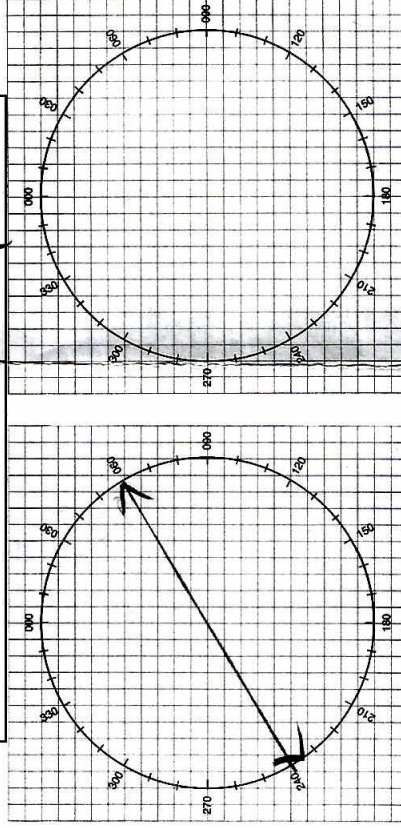
PILOT/FLIGHT DIRECTOR: A. Barry Damiano

APPROVED: _____ DISAPPROVED: _____

CHIEF, AOC FLIGHT OPERATIONS: _____

[illegible]

POSITION REPORT



TRANSMIT THE FOLLOWING MESSAGE TO ANY AIRCRAFT ON THE AIR-GROUND
FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON
ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:

UHF/VOICE	VHF/VOICE	MF/VOICE	HF/ICW	MF/ICW
243.0	121.5	2182 KHZ	8364 KHZ	500 KHZ

MAYDAY, MAYDAY, MAYDAY

THIS IS NOAA _____, NOAA _____, NOAA _____

- POSITION _____ N / S _____ E / W AT _____ Z

- HEADING _____ TRUE/MAG _____

- AT _____ KTS TRUE/INDICATED _____

- FLIGHT LEVEL OR ALTITUDE _____

- WE ARE A P-3 AIRCRAFT WITH _____ SOULS ON BOARD

- NATURE OF EMERGENCY _____

- ASSISTANCE DESIRED _____

- PILOT INTENTIONS _____

- WE HAVE _____ ENDURANCE REMAINING _____

1. POSITION	2. TIME	3. ALTITUDE	4. NEXT POSITION	5. ETA	6. NEXT POSITION

[illegible]

16 MAY 01

16 MAY 95

REMARKS
INF's RESET TO
55.24.1 / 97.36.2
⑥ 19352