Flt ID: 020204H	From: KPDX	To: KPDX
Flt No: 02-025	Blk In: 0550	ATA: 0538
ETD: 2200Z	Blk Out: 2154	ATD: 2205
ETE: 9+00	Blk Time: 7.9 7:56	Flt Time: 7.5 7:33
Sponsor Org: NOAA/ETL	Program: PACJET - OCEAN WINDS	Purpose: IOP2

AC: TE BEEST, R ✓	Sys Eng: SMITH, J ✓
CP: HALVERSON, H / TAGGART, B	Data Sys: BARR, J ✓
Nav: ADLER, J ✓	Radar:
FE: FLOYD, D ✓	GPS/BT:
FD: SHEPHERD, T ✓	Cld Phys:
Avionics: ROGERS, M ✓	

Name (Last, First)	Activity on Aircraft	Affiliation
PERSSON, O ✓	PI	NOAA/ETL CIRES
CHANG, P ✓	PI	NOAA/NESDIS
JORGENSEN, D ✓	RADAR	NOAA/NSSL
ZHANG, A ✓	SFMR/CSCAT	UMASS
ESTABAN, D ✓	SFMR/CSCAT	UMASS
WILDE, TYREE ✓	OBS	NOAA/NWS
✓ HILL, ROD ✓	MEDIA	CH 12 KUPN ✓
✓ CRNICH, LARRY ✓	MEDIA	CH 12 KUPN

Proposed/Actual Mission Remarks (Recco, Fixes, Storm, PENET, NHOP #)

~2225 Turn on King LW & JW

110
54
7:56

Flt ID:	Time Off:	Time On:
020204H	2225	0538

	Aft Pressure	Aft Temperature	Fwd Pressure	Fwd Temperature
	1025.1	30.33	1021.3	30.19

	Number	Data Disposition / Date / Quality
Flt Lvl Tapes	2	
Radar Tapes	1	
Cloud Physics Tapes	1	
Video Tapes	4	
AXBT		
AXCP		
AXCTD		
Dropsondes	2	good – NESDIS SONDES

	Forward	Left Side	Right Side	Down	Remarks
Time On					
Time Off					
Rate					

Remarks

Pacjet Ocean Winds
2002

Flight #2 020204H

Sensor or system	Number or Name
INE	1
Accelerometer	1
Temperature Probe	1
Dew Point Probe	1
Altitude (for vertical wind)	Radar Alt. (APN-159)
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2021.CON

Notes:

Takeoff: 2205Z
Land: 0538Z

There were no data gaps during the flight.

The radar altimeter (APN-159) was replaced by the APN-232 due to spiking during takeoff (220201 - 221830) and landing (053200 - 054100).

During times when the aircraft was flying through heavy precipitation, the dew point temperature exceeded the ambient temperature resulting in humidities greater than 100%. This could also be due in part to wet bulbing effect on the total temperature sensor. No adjustments were made.

The vertical winds are calculated using the selected altimeter (radar altimeter for this flight).Therefore, the vertical wind speeds are erroneous at the beginning and end of the flight as the aircraft transited over mountainous terrain between the coast and KPDX.

	Takeoff	Landing
Aircraft static pressure	1025.1	1021.3
Corrected tower pressure	1027.1	1022.4

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 resectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

Flight Director: Tom Shepherd, (813) 828-3310 ext. 3053

Flight ID: 020204H

U.S. Dept. of Commerce/NOAA/Aircraft Operations Center — Form 1050

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T_a	T_d	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
222740	4529	12359	272	268	210	29.2	-2.0	-28.3	2937	3041	1022.8	706.8	91.8	
223315	4530	12431												CHOP IF PLANE
223840	4531	12502	271	265	207	34.1	-1.9	-28.2	2932	3025	1021.4	707.2	78.1	
2240	ZERO	JOG @ 220			IAS						(250 TAS)			
230030	4532	12706	272	265	200	39.0	-2.9	-14.1	2987	3051	1018.2	702.1	82.1	OVC BLO & ABV
231830	4535	12844	273	261	199	58.5	-6.6	-8.4	3005	3026	1018.0	700.7		
233820	4535	12947	267	255	197	64.0	-6.7	-9.0	3026	3017	1013.0	698.7	89.7	SPEED UP TO 235 IAS
000555	4532	13306	262	254	202	46.7	-5.5	-5.8	3120	3028	1001.9	689.1	90.4	D1 - NESDIS
001225	4528	13340	166	173	201	42.3	-6.5	-11.9	3137	3027	1001.3	689.0	83.9	Hdg P3
002730	4433	13323	171	178	208	47.0	-7.0	-24.3	3135	3030	1003.1	689.1	80.8	OVC BLO SCT ABV
005240	4300	13258	128	142	221	57.2	-7.1	-30.0	3122	3063	1008.7	690.3	86.1	BKN BLO OVC ABV
011336	4204	13127	128	144	216	65.7	-3.8	-5.6	3037	3036	1010.8	697.9	85.2	D2 - NESDIS
102345	4139	13048			R90 L270			TO	TRK 315 ↓		TO	5000' RA		
013656	4208	13126	309	299	205	51.1	3.7	4.3	1565	1490	1011.8	845.0	89.8	OVR D2 SPL pt
014643	4233	1320		Spiral ↓		TO 1000			RA	TO	TRK 100			END NESDIS
015600	4236	13140	097	110	201	51.2	9.8	9.8	347	315	1009.4	972.3	87.3	1000 RA
022200	4220	12939		L90	R270		↓ 500 RA		TO TRK 290					
023915	4228	13036	289	278	184	42.8	10.7	9.8	159	141	1011.2	994.1	77.1	
024442	4245	13100		Spiral	(R)	↑	6000 RA							
025500	4252	13044	100	112	218	50.7	6.2	6.6	1090	1074	1011.7	889.1	80.0	3500 RA
031116	4240	12918		Spiral	(R)	↑	6000'	RA						
031930	4242	12912			Begin	Spiral up to			2000					Touch 500 RA
033820	4303	13039	290	275	205	59.9	8.4	9.0	596	569	1010.1	943.6	77.0	
034115	4305	13047												
0350	4308	13018		TRK	015	↓	500 RA							
041555	4454	12937	15	20	181	45.1	9.9	9.4	179	140	1008.9	992.3	72.0	500 RA
042505	4504	12900			Spiral R		↑	8000 RA						
045030	4507	12901			193	87.7	-4.6	-6.0	2895	2875	1011.4	7106	86.9	END SCIENCE
050815	4442	12516	100	110	207	41.5	-1.2	-33.3	2834	2915	1018.7	711.2	76.8	Climbing to 10000

1' 4532 / 13120 / 13230

020204H

TT #1

DP #1

INE #1

AZI #1

Takeoff: 2205

Land 0538

DP#1 subbed with DP3

~~040550-040700 offset 7-36°~~

RA 159 subbed with RA232

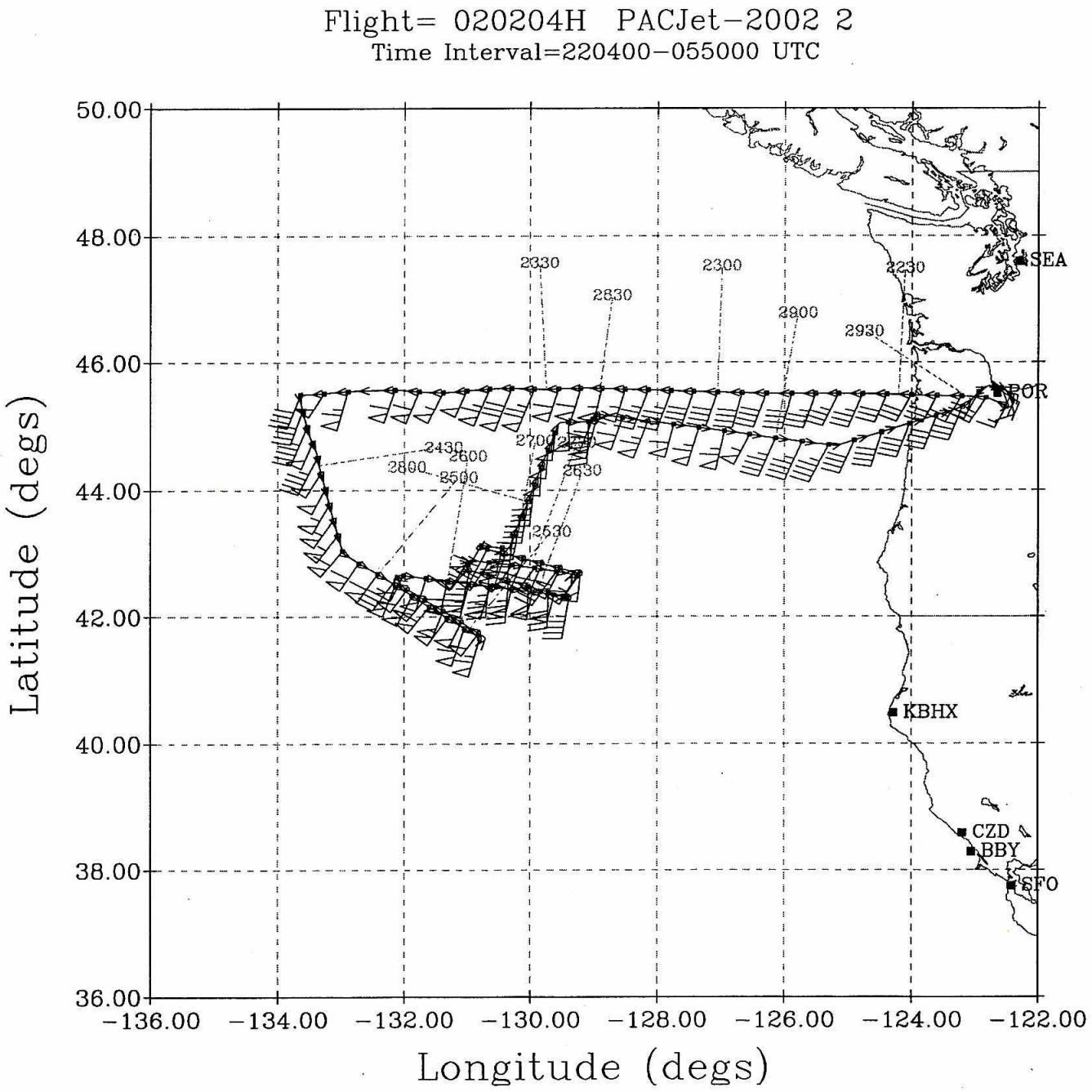
Takeoff 220201 — 221830 ✓

Landing 053200 — 054100 ✓

PDSF 0158-0200, 0207-0211,
OK ✓ OK ✓

RENAV (OVER)

1)	222500	0.0	0.2	45 28.8	123 42.3 ✓
	224200	0.0	0.3	45 30.5	125 20.0 ✓
	233400	0.0	0.0	45 35.1	130 6.8 ✓
	001300	0.0	-0.1	45 26.4	133 39.2 ✓
5)	003600	0.2	-0.6	44 1.1	133 15.1 ✓
	012500	0.5	-1.1	41 36.3	130 48.1 ✓
	021500	0.4	-1.3	42 23.9	130 2.6 ✓
	024800	0.7	-1.4	42 47.3	130 58.5 ✓
	032500	0.3	-1.5	42 46.9	129 35.7 ✓
10)	041400	0.1	-2.0	44 45.9	129 39.8 ✓
	045100	-0.4	-1.7	44 56.3	127 2.7 ✓
	052300	-1.1	-2.6	45 8.2	123 43.4 ✓
	054100	-0.7	-2.8	45 35.4	122 36.2 ✓


Flight= 020204H PACJet-2002 2
Time Interval=220400-055000 UTC
Latitude (degs)
Longitude (degs)
50.00
48.00
46.00
44.00
42.00
40.00
38.00
36.00
-136.00
-134.00
-132.00
-130.00
-128.00
-126.00
-124.00
-122.00
2330
2300
2230
2830
2900
2930
2430
2600
2800
2500
2700
2730
2630
2530
SEA
POR
KBHX
CZD
BBY
SFO

P-3 Chief Scientist Event/Radar Log

Flight: 020204H

Project: PACJET-2002

Aircraft: N42RF

Primary Mission: Investigation of developing wave and cold front near 45N 133W. First part of This is a 3 part mission. Part 1 will be to gather scatterometer data from 10 kft through the high wind region near the low center. The second part of the mission will be flux stacks in the warm sector and low-level jet coincident with the QuickScat overpass, and the final part will be an NCFR investigation emphasizing the Doppler radar data near gaps and breaks in the NCFR.

Alternative Mission: if no strong NCFR, then return home following flux stacks

Comments: Paul Chang will direct part 1, Ola Persson will direct part 2, and Dave Jorgensen will direct part 3.

Scientists/Visitors

- *Chief Scientist:* **Ola Persson**
- *Doppler Scientist:* **Dave Jorgensen**
- *Observer 1:* **Paul Chang**
- *Observer 2:* **Wilde, T.**

AOC Crew

- *A/C Commander:* **Tabeest**
- *Pilot:* **Halversen**
- *Flight Engineer:* **Floyd**
- *Flight Director:* **Thomas Shepherd**
- *Navigator:* **Adler**
- *Sys Tech:* **Barr**
- *Data Tech:* **Hill**

Time (Latitude, Longitude), Track (deg), Static Pressure (mb), Radar Alt (m)	Event & Comments
215400Z (45.51855, -122.44373) 127.174 deg, 929.8 mb, 730.0 m	block out
220407Z (45.50782, -122.43054) 155.660 deg, 921.8 mb, 792.0 m	take off

001615Z (45.23962, -133.60434) 170.132 deg, 689.0 mb, 3029.0 m	blue sky overhead as we proceed South, TA reflectivity almost gone. 2nd trip ground echo evident on the display
003841Z (43.85429, -133.20963) 169.774 deg, 689.0 mb, 3048.0 m	LF radar pattern may be indicative of sea clutter change due to sfc wind change near low center that we flew through as we apprached pt 2
004640Z (43.37017, -133.07758) 168.144 deg, 690.3 mb, 3050.0 m	LF showing enhanced reflectivty in short N-S band segments about 100 nm ahead - NCFR?
004730Z (43.31927, -133.06259) 168.060 deg, 690.4 mb, 3049.0 m	Tom Shepherd reports sfc winds 35 knots out of the south, so we're in the warm sector
005252Z (42.99474, -132.94733) 126.860 deg, 690.7 mb, 3057.0 m	at Pt 3 turning to track 130 deg to Pt. 4 which hopefully will be throught the NCFR, will set up flux legs on the warm side.
011341Z (42.08097, -131.48044) 128.063 deg, 697.9 mb, 3031.0 m	Sonde #2 away
011353Z (42.07220, -131.46527) 127.639 deg, 697.7 mb, 3034.0 m	NCFR that was evident on LF earlier no longer there. Most of that region is now masked by the sea clutter
012112Z (41.76819, -130.96454) 128.494 deg, 697.8 mb, 3048.0 m	precip increasing again on the TA. Bright band about 600 m below us. No strong NCFR shown
012346Z (41.66570, -130.80109) 162.062 deg, 698.5 mb, 3044.0 m	end of leg, descend to 5 kft and return back toward Pt 3
012731Z (41.71645, -130.78397) 309.471 deg, 843.4 mb, 1528.0 m	start of leg at 5 kft, tracking 310 deg for at least 100 km. We are now just barely below the bright band. Temp is about 5 C.
013355Z (41.99656, -131.22583) 308.634 deg, 845.0 mb, 1499.0 m	No NCFR is evident, so will proceed about 100 km on recip track, then set up the flux stacks. Pronounced low-level jet in dropsonde data.
014703Z (42.57053, -132.16364) 352.757 deg, 851.8 mb, 1402.0 m	end of leg, descend to 1000 ft, then track 100 degrees about 150 nm to get across the wind shift zone
015029Z (42.60963, -132.12231) 2.282 deg, 972.8 mb, 302.0 m	at 1000 ft
015156Z (42.64986, -132.01550) 99.694 deg, 972.4 mb, 308.0 m	now tracking 100 degrees
015553Z (42.60445, -131.66251) 97.496 deg, 972.4	light reflectivty in 10 nm wide band oriented ENE-WSW ahead 15

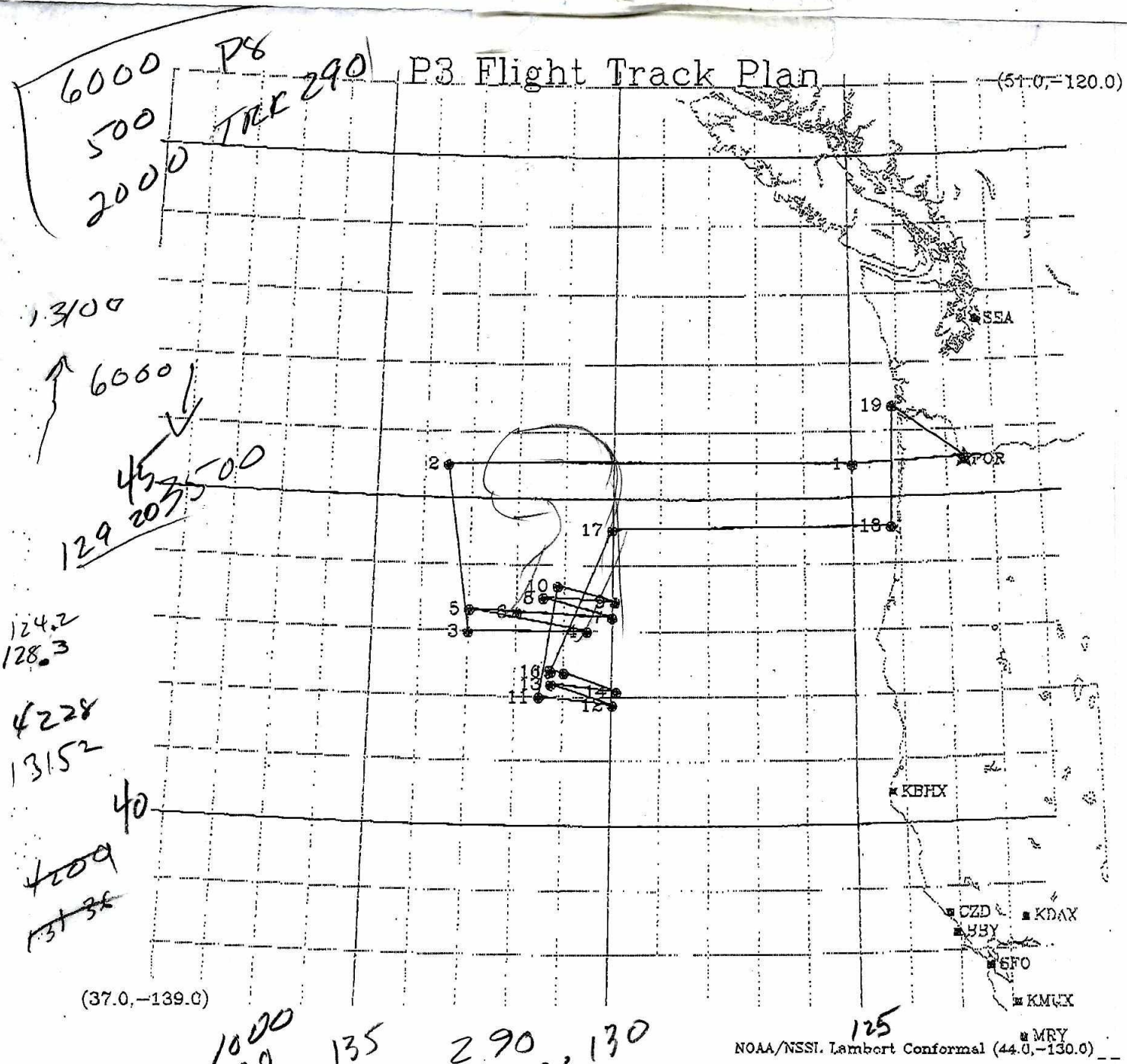
128.99222) 91.235 deg, 992.3 mb, 151.0 m	end of leg, spiral up to 8000 ft for another low level jet sounding, then RTB
045208Z (44.92400, -126.93080) 99.912 deg, 713.7 mb, 2896.0 m	Radars secured.
050817Z (44.69990, -125.28369) 100.026 deg, 716.8 mb, 2893.0 m	The Global Star sat comm system worked very well. 9600 baud connection was good enough to run Netscape and ftp sat images pretty fast. No trouble connecting or staying connected.
053047Z (45.46102, -123.02057) 32.530 deg, 789.7 mb, 1974.0 m	descending into PDX
053800Z (45.59310, -122.61624) 119.432 deg, 1023.0 mb, 1256.0 m	land PDX
054658Z (45.58980, -122.58597) 118.292 deg, 1021.1 mb, 6802.0 m	block in

N42RF AVAPS DropSonde Log

N42RF Project: PACJET 02 Flight ID 0202064H

Mission: _____ Flight #: 2 System Status: _____

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. offset	Winds time	Operator Initials	Comments / Drop Status/ Failure Reason	GOOD ☑
1	~~003 135139~~	~~1~~		~~0~~				
2	993915001	2	0006	0	33	JAS		✓
3	994338024	1	0113	-.3	20	JAS		✓
4								
5								
6								
7								
8								
9	NESDIS sondes							
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								

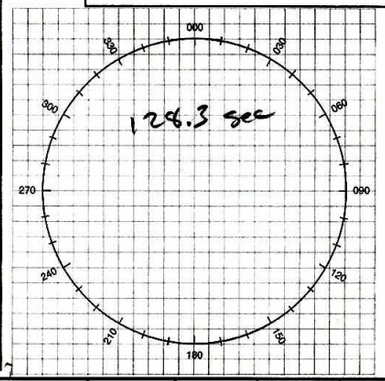

P3 Flight Track Plan
(51.0,-120.0)
(37.0,-139.0)
SEA
POR
KBHX
CZD
KDAX
SBY
SFO
KMUX
MRY
NOAA/NSSI. Lambert Conformal (44.0,-130.0)
1
2
3
5
6
7
8
10
11
12
13
16
17
18
19

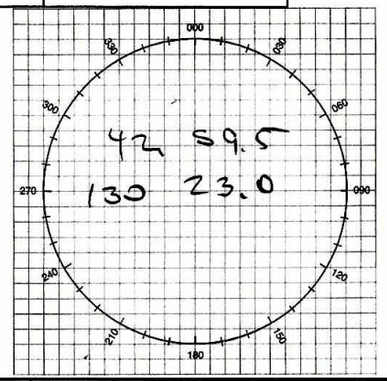
MISSION LOG

PAGE ___ OF ___

CLEARANCES

FREQ	ALT	HDG	OTHER
			260/080 NP1
			4735q
			10L ↗9K. L
			160
			280° ↗10K
			015 ↗7K ↓5K
			4K 040 3K 2500





POSITION REPORT

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

EMERGENCY MESSAGE

TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY 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/CW	MF/CW
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

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
2149 2154	ENG TAXI										/	/									
2154 2204	BLOCK T/O										/	/									
2207	X✓	45 30.6 122 25.9	45 30.3 122 25.7	+.3 +.2	45 30.4 122 25.7	+.2 +.2				2L	128	193	215	15	↗9K	207					125/10 PDX
2230	△	45 29.7 124 14.7	45 29.7 124 14.7	+0 -0	45 29.7 124 14.9	+0 -.2				5R	272	241	200	25	10K	252					275/54 Newberg
2246	△	45 30.4 125 42.0	45 30.4 125 41.4	+0 +.6	45 30.5 125 41.7	-.1 +.3				6R	270	236	200	30	10K	247					
2330	△	45 34.6 129 46.8	45 34.6 129 47.0	+0 +.2	45 34.8 129 46.8	-.2 +0				14R	270	238	200	65	10K	261					
0015	△	45 22.2 133 38.2	45 22.0 133 38.3	+.2 -.1	45 22.4 133 38.2	-.2 +0				5L	170	223	210	40	10K	255					
0104	△	42 30.0 132 08.3	42 29.7 132 09.5	+.3 -1.2	42 30.8 132 07.6	-.8 +.7				13L	131	226	210	60	10K	244					Return 42.1304 108 131.4445
0153	△	42 37.3 131 47.2	42 36.6 131 47.9	+.7 -.7	42 38.6 131 46.0	-1.3 +1.2				14L	99	241	205	55	1K	230					129 30
0239	△	42 37.7 130 35.2	42 37.2 130 36.6	+.5 -1.4	42 39.2 130 33.8	+1.5 +1.4				11R	289	219	185	40	500	215					13/100 = X/60
0322	△	42 43.4 129 22.6	42 43.1 129 24.2	+.3 -1.6	42 48.6 129 21.1	-5.2 +1.5				12R	291	226	205	80	2K	234					131.0
0409	△	44 25.5 129 48.1	44 25.8 129 50.0	+.3 -1.9	44 28.1 129 46.0	-2.6 +2.1				5L	016	255	180	50	500	205					13045
0454	△	44 53.9 126 44.9	44 54.4 126 46.4		44 56.5 126 41.3					14L	101	260	200	60	9500	253					
0538	△	45 35.3 122 36.1	45 36.1 122 38.9	-.8 -2.8	45 38.2 122 33.0	-2.9 +3.1															
	LAND	PDX																			

08
26