

U.S. Dept. of Commerce/NOAA/Aircraft Operations Center

AOCWF1

Flt ID: 01021212	From: KMRY	To: KMRY
Flt No.: 01-18	Blk In: 0745Z	ATA: 0737Z
ETD: 0930Z	Blk Out: 2129Z	ATD: 2139Z
ETE: 1730Z	Blk Time: 10.3 10:16	Flt Time: 10.0 9:58
Sponsor Org: NOAA/ETC	Program: PACJET	Purpose: IOP10

AOC Personnel

AC: TAGGART, B ✓	Sys Eng: MCNAMARA, R ✓
CP: TEBEST, R / HALVERSON, H ✓	Data Sys: LYNCH, T ✓
Nav: NEWMAN, C ✓	Radar:
FE: BAST, G / FLOYD, D ✓	GPS/BT: DELGADO, J ✓
Avionics: ROGERS, M ✓	Cld Phys:
FD: SHEPHERD, T ✓	FINN, M ✓

Participating Scientists/Visitors/AOC

Name (Last, First)	Activity on Aircraft	Affiliation
RALPH, M ✓	PI	ETC
Kingsmill, D ✓	Co-PI	DRI
JORGENSEN, D ✓	RADAR	NSSL
COLLE, B ✓	OBS	SUNY
MILLER, D ✓	DATA SYN.	NPS
BROWN, John ✓	OBS	FSL
Gudgel, Dan ✓	OBS	NWS
SNEU, Hollie ✓	OBS	NWS

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

004400 Bal DPT1 Blew Fuse during bal
 0105 DPT 2 LOW compared to 1+3
 0118 Bal DPT1
 0232 Lost Freq converter - restart system
 0624 Bal DPT3

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AOCWF2

Flt ID: 010212IB Time Off: 2139Z Time On: 0737Z

	A/C (Take Off)	Wx Stn (Take Off)	A/C (Land)	Wx Stn (Land)
Pressure	1004.1	29.86	1000.2	29.72

	Number	Data Disposition/Date/Quality
Slow/Fast Flt Lvl Tapes	2	
Radar Tapes	1	
Cloud Physics Tapes	1	
Video Tapes	4	
AXBT		
AXCP		
AXCTD		
Dropsondes	16	3 bad (1 no wind, 1 noisy, 1 intermittent winds) (18.75% bad)

Video

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

Remarks

Pacjet IOP 10

Flight #10 010212I (B)

<u>Sensor or system</u>	<u>Number or Name</u>
INE	2
Accelerometer	2
Temperature Probe	1
Dew Point Probe	1
Altitude (for vertical wind)	APN-159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO3012.CON

Notes:

Takeoff: 2139Z

Land: 0737Z

The radar altimeter (APN-159) was replaced by the APN-232 due to spiking during take off and landing (213601-214300 take off; 071400-073800 landing). No offset was applied.

From approximately 004000 to 014000, there were significant problems with all 3 dew pointers. A balancing spike was removed from dew pointer #2 from 011200-011700. Then dew pointer #2 was substituted for dew pointer #1 with a -5° C offset (004045-012821). Dew pointer #1 was replaced with dew pointer #2 with a 0.0° C offset (013425-013700). Additionally, dew pointer #1 was replaced by dew pointer #3 with a 0.0° C offset (022936-023019).

There were times (other than those noted above) as the aircraft flew through saturated conditions that the dew point temperature exceeded the ambient temperature. These problems, due to water build-up on the hygrometer mirror and/or a wet bulb effect on the total temperature probe, were not corrected.

A spike was removed from both the pitch and roll (064430-064500).

Spikes in the radar altimeter occurred as the aircraft over flew one of the Channel Islands (051000-051200) resulting in spiking in the vertical wind. Since the spike was fairly lengthy in time, the APN-159 was replaced by the GPS altitude in order for the vertical wind speeds to be calculated correctly.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1004.1 mb	1000.2 mb
Corrected tower pressure	1011.2 mb	1006.4 mb

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.

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

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Form 413-50

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _d	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
215300	3629	12243	250	249	206	15.3	-30.8	-38.8	5357	5190	1021.1	512.3	63.7	Climb the FL210 for FL210
220720	3604	12353	249	250	243	24.2	-35.1	-39.4	5822	5607	1022.0	483.5	81.8	FL210 SFC BLO
221800	3555	12422	249	250	244	27.5	-35.0	-37.7	5820	5603	1021.4	483.6	83.3	(D1)
22228	3525	12536												Climb to FL210
223336	3517	12600	251	253	276	21.9	-40.2	-45.4	6420	6186	1028.4	448.2	73.1	(D2) FL210
225120	3443	12728	245	249	328	18.7	-39.6	-47.7	6416	6198	1029.9	445.4	74.7	
230101	3430	12759	1150	148	354	39.4	-38.9	-54.1	6419	6211	1027.6	445.3	79.2	(D3) FL210 P1
231047	3320	12710	150	153	312	24.1	-39.2	-43.8	6413	6202	1028.5	445.7	74.4	(D4) FL210 BKN BLO
233233	3210	12621	149	153	287	21.3	-38.1	-41.8	6413	6205	1023.2	445.7	87.8	(D5) FL210 BKN BLO
235215	3104	12531	276	275	253	35.5	-32.9	-56.2	6408	6224	1010.4	446.0	74.9	(D6) FL210 BKN BLO
000925	3130	12648	296	299	305	43.2	-34.8	-56.7	7032	6830	1003.9	408.8	74.0	(D7) FL230 BKN BLO
002600	3159	12803	P3	none										P3
002720	3202	12809												(D8) NOISY
003150	3154	12805												(D9)
004100	3200	12707	087	080	327	47.8	-35.8	-57.4	7030	6823	1006.0	408.9	82.4	FL230 BKN BLO
010000	3201	12500	120	127	230	28.0	-37.8	-59.2	7025	6810	1011.4	409.0	81.3	(D10) EXP DROP
011515	3107	12403	137	146	215	41.9	-37.7	-59.0	7027	6841	1014.6	409.1	76.2	(D11)
012944	3015	12309	137	153	-36.2	-42.8	231	74.5	7027	6903	1017.2	408.9	69.8	(D12)
014327	2922	12219	139	152	-33.8	-53.7	252	75.0	7025	6962	1015.3	409.2	80.4	(D13)
015933	2829	12130	023	011	-30.5	-55.1	257	94.3	7026	7017	1011.2	409.2	84.2	(D14) P5'
021705	3005	12055	017	011	-34.2	-40.3	236	51.8	7021	6952	1017.3	409.1	73.7	(D15) NOWIND
021925	3016	12050	016	011	-34.1	-42.3	232	45.1	7023	6952	1015.8	409.2	70.7	(D16) 105° WINDS
0304	3219	12003	Climb for	Comms										
030706	3228	11958	037	041	180	16.5	2.0	1.0	1214	1129	1006.2	882.1	70.2	Descending from 5000 to 1000
031339	3246	11941			In porpoise maneuver									
033140	3331	11849	046	051	128	16.3	5.0	4.6	977	919	1007.4	901.4	72.5	3000'
033555	3341	11835			Turning to	trk 250								
040955	3412	12037	266	269	014	9.3	6.5	4.7	512	458	1007.5	953.1	65.8	1500'
042320	3343	12057	089	087	030	13.2	7.0	4.8	512	449	1006.3	953.1	64.1	1500' 1500' BOX hdg to SE corner
044130	3344	11948	096	093	039	13.4	6.7	2.7	513	447	1006.0	953.1	65.2	1500'
044957	3343	11915												SE corner of BOX around channel NE corner of box
050011	3415	11928												
051625	3344	11951	183	181	056	15.0	1.4	0.8	1128	1047	1006.1	884.9	79.9	3500'
052010	3330	11952			EAST END OF "mini stair"									spiral up to 6000'
052946	3329	11923			WEST END OF "mini stair"									spiral up to 8000'
060450	3300	12031			Spiral down to 2000'									Then head to 36N 123W
061900	3317	12047	327	333	018	22.4	5.0	2.3	685	599	1004.2	933.6	67.8	2000'
072150	3610	12224	023	024	024	8.9	0.5	-7.3	1302	1232	1008.0	866.4	64.5	4000' Direct to Shore

IOP 10 010212 I(B)

T.O. 2139
Land 0737

Azt 2

INE 2

TT 1

DP 1 ?

Alt APN159

DPI 004200-012500

Replace DPI with DP2 (-5.0 offset) ✓

{ 004045 - ~~012100~~ 012821

{ after removing balancing spike in DP2 at

013425-013700 0.0 offset replace DPI with DP2 ✓ 0112-0117

Pitch 2 064430-064500 ✓

Sub DP3 (Buck) for DPI 022936-023019
0.0 offset ✓

Roll 2 064430-064500 ✓

159-GPS

APN 159 222230-222330, 013400-013600, 045500-045600

051000-051200 (island?)

20-50 ✓

Sub APN 232 for APN 159

213601-214300 Take off ✓

071400-073800 Landing ✓

RENAV(OVER)

- 1) 223000 0.1 0.1 35 22.9 -125 42.7 ✓
- 233000 -0.2 0.0 32 21.3 -126 29.5 ✓
- 003000 -0.9 -0.3 ^{-0.6} 31 55.9 -128 ^{16.3} 16.6 ✓
- 013000 -0.9 -0.4 30 14.0 -123 8.7 ✓
- 5) 023000 -1.5 -0.2 31 11.8 -120 27.4 ✓
- 033000 -1.6 -0.3 33 27.0 -118 53.9 ✓
- 043000 -1.6 -0.1 33 44.2 -120 33.0 ✓
- 053000 -1.4 +0.7 33 28.8 -119 22.7 ✓
- 063000 -1.5 +0.1 33 46.7 -121 9.1 ✓
- 10) 073000 -1.9 +1.1 36 30.8 -122 12.4 ✓
- 11) 073800 -1.8 +0.9 36 35.2 -121 50.5 ✓

P-3 CHIEF SCIENTIST EVENT/RADAR LOG

Flight Number: 010212I_2

PACJET IOP #10

Date: Feb. 12, 2001

Aircraft ID: N43RF

Chief Scientist: Ralph

Doppler Scientist: Jorgensen (NSSL)

Radar Tech: Rogers

Cloud Physics Sci: Kingsmill

Data Tech: Lynch

Radar parameters: PRF1/PRF2 3200/2133, 0.25 microsecond pulse

Setup file = PACJ2

Pulses/sample = 32

Threshold on REF

Alternate Setup = PACJ1: PRF 1600, 0.50 pulse

Mission Description: Microphysics and radar monitoring of frontal precipitation along the southern California coast, preceeded by a dropsonde pattern in a low center near 32N, 125W

Event Log

<i>Time (Lat, Lon), Trk (deg), Prs (mb), Alt (m)</i>	<i>Event & Comments</i>
	Flight Deck Crew: Pilot: Taggart, Tebeest; flt eng: Bast, fd: Shepherd, cp:Kingsmill; Radar: Jorgensen; comms: Miller; observers: Brown, Snell, Colle
212420 Z (36.58891, -121.85651) 14.854°, 1004.6 mb, 1502.0 m	Engine Start
212924 Z (36.58900, -121.85655) 345.017°, 1004.4 mb, 1502.0 m	Block Out
213842 Z (36.58325, -121.83342) 293.310°, 1001.2 mb, 1502.0 m	Takeoff
213959 Z (36.60896, -121.87546) 329.041°, 981.1 mb, 240.0 m	skies clear, seas relatively calm, fair weather cu on horizon to the west
214343 Z (36.71966, -122.03899) 245.771°, 783.0 mb, 2058.0 m	radars up and running. Same old 2nd trip problem evident from this altitude.
215131 Z (36.51849, -122.61000) 251.535°, 552.1 mb, 4688.0 m	no echoes on LF or TA, small cu below skies clear above.

Pacific Land Falling Jets Experiment (PACJet)

215445 Z (36.44481, -122.85979) 248.716°, 492.9 mb, 5491.0 m	can't send e-mail from P-3 due to NPS mail server is down. Can receive it, however
215907 Z (36.31501, -123.20493) 242.419°, 483.9 mb, 5614.0 m	Playing with the TA config a bit since there are no echoes. Switching to 4/3 ratio to see what a 71 m/s Nyquist looks like
220659 Z (36.08080, -123.85394) 248.868°, 483.4 mb, 5614.0 m	back to normal operations with the radar. 3200/2133 dual PRF mode, 51 m/s Nyquist
221257 Z (35.92411, -124.35632) 249.601°, 483.7 mb, 5608.0 m	Dropsonde #1 away. Looks good
221954 Z (35.70212, -124.91486) 243.483°, 483.7 mb, 5608.0 m	small convective cells off to the right 10-20 km. Tops to our altitude, max dbz about 35. Cold air convective cells
222804 Z (35.42895, -125.56798) 246.891°, 480.7 mb, 5657.0 m	climbing to 21k ft for second drop
223334 Z (35.29240, -126.00067) 250.564°, 445.2 mb, 6193.0 m	Dropsonde #2 away. Looks good.
224118 Z (35.04133, -126.62994) 244.927°, 445.4 mb, 6197.0 m	continued small Cu below us on TA. Tops to our flight level, max dbz about 40
225751 Z (34.47814, -128.01764) 241.337°, 445.4 mb, 6219.0 m	Pt. 1. Turning to get on track to Pt. 2 before releasing sonde
230101 Z (34.50433, -127.99010) 148.707°, 445.6 mb, 6212.0 m	Dropsonde #3 away. On course to Pt. 2 Drop looks good.
230710 Z (34.03336, -127.66141) 149.605°, 445.6 mb, 6214.0 m	Sea state looks pretty rough. Wind estimate is 40 knots. Wind dir 015 according to Shepherd
231257 Z (33.60479, -127.36449) 150.096°, 445.6 mb, 6215.0 m	TA continue to show field of small cu with max dbz about 40-45, and echo tops just to our altitude
231642 Z (33.33455, -127.17017) 149.831°, 445.6 mb, 6212.0 m	Dropsonde #4 away. Looks good
232631 Z (32.60454, -126.67041) 149.556°, 445.8 mb, 6209.0 m	stratiform cloud deepening as we move South toward Pt. 2. Embedded Cells to our flight level, max dbz 40-45. Some bright band evident within about 500 m of the sfc.
233233 Z (32.16485, -126.35522) 148.961°, 445.7 mb, 6213.0 m	Dropsonde #5 away. Looks good
233612 Z (31.88461, -126.16451) 149.911°, 445.9 mb, 6216.0 m	Cold air cu disappearing as we move south. No echoes on TA now
234859 Z (30.96915, -125.54373) 123.707°, 446.2 mb, 6237.0 m	At pt. 2, turning toward pt. 3 before dropping
235211 Z (31.08064, -125.50316) 275.806°, 446.0 mb, 6236.0 m	Dropsonde #6 away. Looks good.
235653 Z (31.13480, -125.87933) 286.900°, 421.6 mb, 6633.0 m	stratiform precip increasing again on the TA. Small embedded cells to about 30 dbz, very shallow
235953 Z (31.21247, -126.09172) 295.421°, 408.6 mb, 6846.0 m	more intense cells max cbz to 50
000925 Z (31.49253, -126.80707) 295.253°, 408.7 mb, 6843.0 m	Dropsonde #7 away. Looks good. Ops center reports they're getting the drops off of GTS
001843 Z (31.77592, -127.49873) 296.324°, 408.8 mb, 6848.0 m	winds continue to veer now 325/50 knots
002307 Z (31.90603, -127.82307) 293.602°, 409.0 mb, 6854.0 m	Updated pt. 5: 28.5N 121.5W
002714 Z (32.02163, -128.12369) 295.336°, 408.8 mb, 6862.0 m	Dropsonde #8 away just past Pt. 3
002753 Z (32.04076, -128.17123) 295.451°, 408.9 mb, 6864.0 m	Turning to Pt. 4

003045 Z (31.88246, -128.20718) 107.707°, 409.0 mb, 6871.0 m	lost contact with sonde. Preparing to launch another
003140 Z (31.89260, -128.11401) 70.697°, 408.9 mb, 6863.0 m	dropsonde #9 away. Looks good
004029 Z (32.00640, -127.19856) 87.086°, 408.9 mb, 6836.0 m	precip decreasing on TA. Sea sfc visible below.
004544 Z (32.02090, -126.62085) 91.142°, 408.9 mb, 6823.0 m	entering stratiform echo. Bright band to over 40 dbz within a 100 m of the sfc. Echo tops to within 500 m of our alt. Tracking east. Just now crossing the track we made from pt. 1 to 2
005441 Z (32.00626, -125.62196) 88.735°, 408.8 mb, 6819.0 m	will drop 2 sondes at pt. 4. The first one is for PACJET, the 2nd is an experimental sonde with an improved GPS engine. The purpose is to compare the winds to see if the new GPS is any better
005544 Z (32.00900, -125.50415) 88.724°, 408.9 mb, 6818.0 m	flt level winds calming down quite a bit. Now only 260/23 knots
005958 Z (32.02377, -125.02887) 90.464°, 408.9 mb, 6821.0 m	Dropsonde #10 & #11 away. At Pt. 4, Turning to new Pt. 5'
010145 Z (31.97212, -124.86502) 156.527°, 409.1 mb, 6820.0 m	Strong bright band still evident on TA to 40 dbz. Echo tops, however, have come down to perhaps 5 km off the sfc.
010401 Z (31.79850, -124.78249) 137.536°, 409.1 mb, 6826.0 m	Apparently the test sonde (#11) has failed.
010959 Z (31.42890, -124.38857) 135.950°, 408.9 mb, 6841.0 m	precip getting more intense again as we move South. 2Nd trip echo over the top of the stratiform rain. Embedded cells to 45 dbz, strong bright band a few hundred meters off the sfc.
011510 Z (31.11674, -124.05594) 137.116°, 408.9 mb, 6853.0 m	Dropsonde #12 away. 409 mb winds 215/45 kts.
011722 Z (30.98404, -123.91669) 138.752°, 409.1 mb, 6856.0 m	Tail radar went down at 01:15 UTC.
012001 Z (30.82018, -123.75490) 139.480°, 408.9 mb, 6873.0 m	Tail radar back up. Entering the baroclinic cloud leaf on satellite. Light chop near the top of clouds. FL winds increasing 209/60kts.
012528 Z (30.50850, -123.43541) 137.029°, 408.9 mb, 6897.0 m	Stratiform precip on the tail filling in, tops to 23000ft. Bright band 1.5 km above surface.
012718 Z (30.40058, -123.32310) 138.216°, 408.9 mb, 6903.0 m	Very intense stratiform, bright band to 40 dBZ. 232/68kts.
012943 Z (30.25162, -123.16307) 136.244°, 408.9 mb, 6910.0 m	Dropsonde #13 away. Now some moderate chop. 234/67Kts. Tail radar down at 01:30 UTC.
013124 Z (30.14803, -123.05696) 137.086°, 409.0 mb, 6915.0 m	tail radar back up at 01:31 UTC. Bright band increasing height to 1.5 km but weakening to 30 dBZ. Some generating cells aloft. Winds up to 225/90kts
013732 Z (29.77175, -122.69331) 144.787°, 409.2 mb, 6938.0 m	Intense generating cells look more like sloping convective towers, with echoes to 35 dBZ above 4km. 242/70kts
014324 Z (29.36639, -122.33124) 138.941°, 409.1 mb, 6974.0 m	Dropsonde #14 away. Echoes have decreased in coverage on tail. Light stratiform below 3km. Bright band now up to ~2 km. 252/76kts
014633 Z (29.15186, -122.10881) 136.131°, 409.0 mb, 6988.0 m	precip becoming more convective, echoes to 50 dBZ penetrating up to 4km. Drop indicates 0C level at 2km
015021 Z (28.89642, -121.84598) 138.188°, 409.5 mb, 6995.0 m	Entering 2nd band with embedded convection. Winds up to 258/90kts, increasing to 100 kts a few minutes later.
015644 Z (28.43646, -121.44145) 170.817°, 409.1 mb, 7038.0 m	At pt. 5', turning towards pt 6. Very little precip within 30 km of aircraft. 257/95kts
015930 Z (28.46605, -121.52055) 23.767°, 409.1 mb, 7038.0 m	Dropsonde #15 away. 258/94Kts. Can see convective line out window to the left of plane.
020616 Z (29.10602, -121.24896) 10.986°, 409.2 mb, 6997.0 m	Now penetrating mid and upper-level deck. Winds 248/81 kts.

021355 Z (29.79406, -121.02646) 19.275°, 409.3 mb, 6972.0 m	Deep stratiform precip coverage increasing on the tail to the left of plane. 235/58 kts
021938 Z (30.30362, -120.83890) 16.078°, 409.3 mb, 6963.0 m	Dropsonde #16 away. Precip increasing intensity.
022704 Z (30.95602, -120.59055) 17.838°, 409.3 mb, 6947.0 m	Widespread intense stratiform precip. Rain echoes below bright band to 40 dBZ. 224/48Kts. Some embedded convective cells to 50 dBZ.
022918 Z (31.15731, -120.51237) 24.857°, 410.5 mb, 6924.0 m	Spiral decent to 1000 ft. Still heading towards towards pt. 6. Stratiform decreasing in intensity to 30 dBZ on tail.
023818 Z (31.15438, -120.48972) 336.262°, 688.7 mb, 3067.0 m	Lost frequency converter at 02:32UTC. Going to backup.
024536 Z (31.21759, -120.38788) 231.634°, 968.1 mb, 310.0 m	At 1000 ft, low-level southerly jet at 25 kts at 2000 ft. Within intense stratiform precip, echoes to 40 dBZ. At 1000 ft, 165/12 kts. Extensive stratiform precip on LF (out 100 km from plane to NW)
025001 Z (31.44852, -120.39252) 13.857°, 968.8 mb, 304.0 m	change LF tilt to 3.1deg. winds decreasing to 201/7kts. Intense stratiform to 50dBZ. A secondary wide band 100 km to the west of plane extending NE-SW.
030220 Z (32.16528, -120.11436) 21.410°, 936.3 mb, 597.0 m	Climbing up to 5000 ft. 181/15Kts at 1000 ft, 188/25kts at 5000 ft.
030707 Z (32.46458, -119.98338) 51.246°, 837.1 mb, 1510.0 m	At pt 6, heading towards pt. 11, now descending to 1000 ft. Some evidence of 2ndary bright band at 4.5 km. Winds are 120/18kts.
031210 Z (32.70892, -119.76367) 41.028°, 966.2 mb, 340.0 m	At 1000 ft, ascending to 5000 ft.
031541 Z (32.85412, -119.58603) 50.938°, 869.4 mb, 1203.0 m	Radar went down. Back up at 03:18UTC.
032603 Z (33.28822, -119.08742) 43.711°, 971.2 mb, 300.0 m	LF shows stratiform extending just to the coast near Santa Barbara.
032758 Z (33.36545, -118.99800) 43.688°, 943.9 mb, 539.0 m	Ascending to 3000 ft. Winds 134/14kts
033208 Z (33.53934, -118.78920) 45.403°, 901.4 mb, 919.0 m	Radar down, rebooting. 127/17Kts. Back up at 03:35UTC
033626 Z (33.66757, -118.57495) 173.550°, 901.0 mb, 922.0 m	At pt. 11, heading towards pt. 8. 113/17Kts. 30-35 dBZ echoes now making landfall to the east of LAX.. Nice fallstreaks aloft.
034211 Z (33.63324, -118.99167) 275.127°, 901.3 mb, 917.0 m	Too much air traffic, switching heading 331 back to channel islands. 90/19kts.
035358 Z (34.21779, -119.46585) 330.356°, 901.3 mb, 919.0 m	begin turn to 270. We are now starting box around channel islands to map. 85/10kts
040323 Z (34.22433, -120.14682) 267.975°, 952.9 mb, 460.0 m	Broad area of stratiform to the S and E of the channel islands. Some orographic enhancement, but not widespread, 98/3kts at 1500ft.
041518 Z (34.18988, -121.00543) 271.547°, 953.1 mb, 461.0 m	Start southward turn towards SW corner of box around SB channel. Aircraft located 50 km SW of Pt. Conception. No precip within 50 km of the plane. 34/11kts.
042100 Z (33.85681, -120.99971) 177.204°, 953.3 mb, 454.0 m	20-30km area of stratiform precip to west of the plane.
042305 Z (33.73009, -120.99429) 158.059°, 953.1 mb, 452.0 m	Now at SW corner of box around SB channel. Turning east. 29/14Kts. Broad area of stratiform precip is within 25 km SE of plane.
042821 Z (33.72984, -120.65715) 85.918°, 953.1 mb, 450.0 m	winds 045/11 knots as we proceed eastbound at 1500 feet alt. Strongest precipitation in a band that runs NE-SW from near the Channel Islands to the SW. Max dbz on the LF is only about 35.
043052 Z (33.74067, -120.49356) 84.945°, 953.1 mb, 450.0 m	Entering the stratiform band. Weak bright band on TA about 2.5 km off the sfc.
043926 Z (33.74136, -119.93832) 95.198°, 953.3 mb, 447.0 m	precip increasing in intensity as we get into the stratiform band. Bright band to about 40 dbz about 2.5 km off the sfc

045050 Z (33.75351, -119.24660) 336.153°, 953.3 mb, 445.0 m	at the SE corner of the box. Turning northbound. In extensive stratiform precip
045958 Z (34.23843, -119.44778) 347.410°, 953.6 mb, 446.0 m	at the NE corner of the box turning to track west. Still fairly extensive stratiform precip here.
050229 Z (34.24834, -119.60762) 258.413°, 953.4 mb, 446.0 m	precip decreasing in intensity as we proceed westbound. Winds 77/14 knots.
050537 Z (34.21273, -119.83130) 263.448°, 953.3 mb, 444.0 m	end of leg. Climbing to 3500 feet.
050748 Z (34.26470, -119.80846) 153.064°, 885.2 mb, 1053.0 m	setting up an E-W stack pattern along 33.5N (in the strongest stratiform precip). 5 min legs from that point at 6k ft, 9k ft, 12k ft, and 15k ft. Then RTB
051045 Z (34.07451, -119.82292) 184.287°, 885.1 mb, 1052.0 m	southbound to 33.5N to start the stack
051942 Z (33.50150, -119.85698) 179.134°, 884.8 mb, 1044.0 m	at westernmost end point, spiraling up to 6k ft for run to the east of 5 minutes
052245 Z (33.51554, -119.90442) 95.230°, 802.2 mb, 1831.0 m	start run to the east. Winds 118/21 knots here at 6k ft
052521 Z (33.50018, -119.71764) 94.209°, 806.5 mb, 1787.0 m	just above the bright band here. Temp is -1.3C
052931 Z (33.49162, -119.41403) 92.351°, 806.2 mb, 1795.0 m	end of leg, climb to 8k ft for run to the west. ATC wouldn't give us 9k ft.
053200 Z (33.42112, -119.45935) 312.286°, 733.3 mb, 2547.0 m	9k ft is now OK for return leg. Heavy stratiform precip here. Winds have gone to 160/40 knots.
054010 Z (33.46493, -119.83246) 271.733°, 718.8 mb, 2698.0 m	end of leg, climb to 12k ft for run to the east. Precip moderate here. Bright band to 35 dbz with spots of 40 dbz
054407 Z (33.55293, -119.69536) 99.457°, 639.3 mb, 3613.0 m	tracking eastbound, precip heavier here
054639 Z (33.52732, -119.49622) 86.531°, 639.0 mb, 3624.0 m	radar died, rebooting
054720 Z (33.52856, -119.44023) 90.872°, 638.8 mb, 3625.0 m	end of leg, climb to 15k ft for run back to the west
054834 Z (33.47525, -119.39473) 206.097°, 601.0 mb, 4095.0 m	Radars are back! Still in climbing turn for run back to west
055018 Z (33.47094, -119.53146) 280.775°, 567.1 mb, 4532.0 m	in the run to the west. Just at the top of the radar echo. Some stellar images on the 2DC PMS
060152 Z (33.07077, -120.36388) 224.169°, 567.0 mb, 4508.0 m	radar froze again, rebooting
060215 Z (33.05206, -120.38625) 226.570°, 567.0 mb, 4508.0 m	radar is back
060358 Z (32.97224, -120.49014) 227.612°, 567.1 mb, 4505.0 m	spiraling down to 2k ft for run to MRY
060532 Z (33.00380, -120.59042) 348.129°, 610.9 mb, 3939.0 m	bright band much lower here - about 1-1.5 km off the sfc but a little more intense up to 40 dbz
060924 Z (33.02063, -120.59106) 337.634°, 754.6 mb, 2301.0 m	winds switched suddenly from 120 deg to 045 degrees as we descended through 2.5 km. Top of warm front?
061150 Z (33.00883, -120.50026) 199.869°, 849.6 mb, 1353.0 m	going through bright band at 1.3 km off the sfc
061320 Z (33.00797, -120.58350) 332.945°, 911.3 mb, 792.0 m	winds now northerly at 30 knots
061400 Z (33.03945, -120.60052) 333.461°, 922.4 mb, 695.0 m	starting run to home at 2k ft.

062207 Z (33.43776, -120.88441) 326.860°, 933.3 mb, 602.0 m	precip fairly heavy on LF just to our right out to 50 km, 45 dbz. Some small convective cells evident on the TA both sides of the track
063731 Z (34.10058, -121.43913) 324.637°, 933.4 mb, 617.0 m	out of the precip according to the TA. Only anvil overhead.
064809 Z (34.57147, -121.81375) 328.394°, 933.5 mb, 620.0 m	radar froze at 0645, now back up at 064830
070136 Z (35.15514, -122.32385) 325.369°, 933.5 mb, 625.0 m	Turning TA off due to lack of any echoes between here and MRY
071217 Z (35.61499, -122.66566) 23.394°, 925.3 mb, 705.0 m	end of leg, climb and RTB to MRY
073712 Z (36.59026, -121.85406) 115.178°, 1002.8 mb, 541.0 m	land
074510 Z (36.58890, -121.85661) 223.911°, 1001.9 mb, 6750.0 m	block in

IOP #10

T.O. 0000Z 12 FEB. 2001

W.P.#	LAT.	LONG.
1	34.5N	128.0W 3430 12800
2	31.0N	125.6W 3100 12548 12536
3	32.0N	128.0W 3200 12800
4	32.0N	125.0W 3200 12500
5	28.0N	123.0W 2800 12300 2830 12130
6	32.5N	120.0N 3230 12000
7	32.5N	117.4W 3230 11724
8	33.3N	117.7W 3318 11742
9	33.8N	117.5W 3348 11730
10	33.3N	117.7W 3318 11742
11	33.7N	118.6W 3342 11836
12	32.0N	120.6W 3200 12036

MRY

Drops

✓ 1. 3540 12400 (12422)

✓ 2. 3514 12600

P1 ✓ 3. 3430 12800

✓ 4. 3320 12710

✓ 5. 3210 12620

P2 ✓ 6. 3100 12536

✓ 7. 3130 12648

✓ 8. 3200 12800

✓ 9. 3200 12500

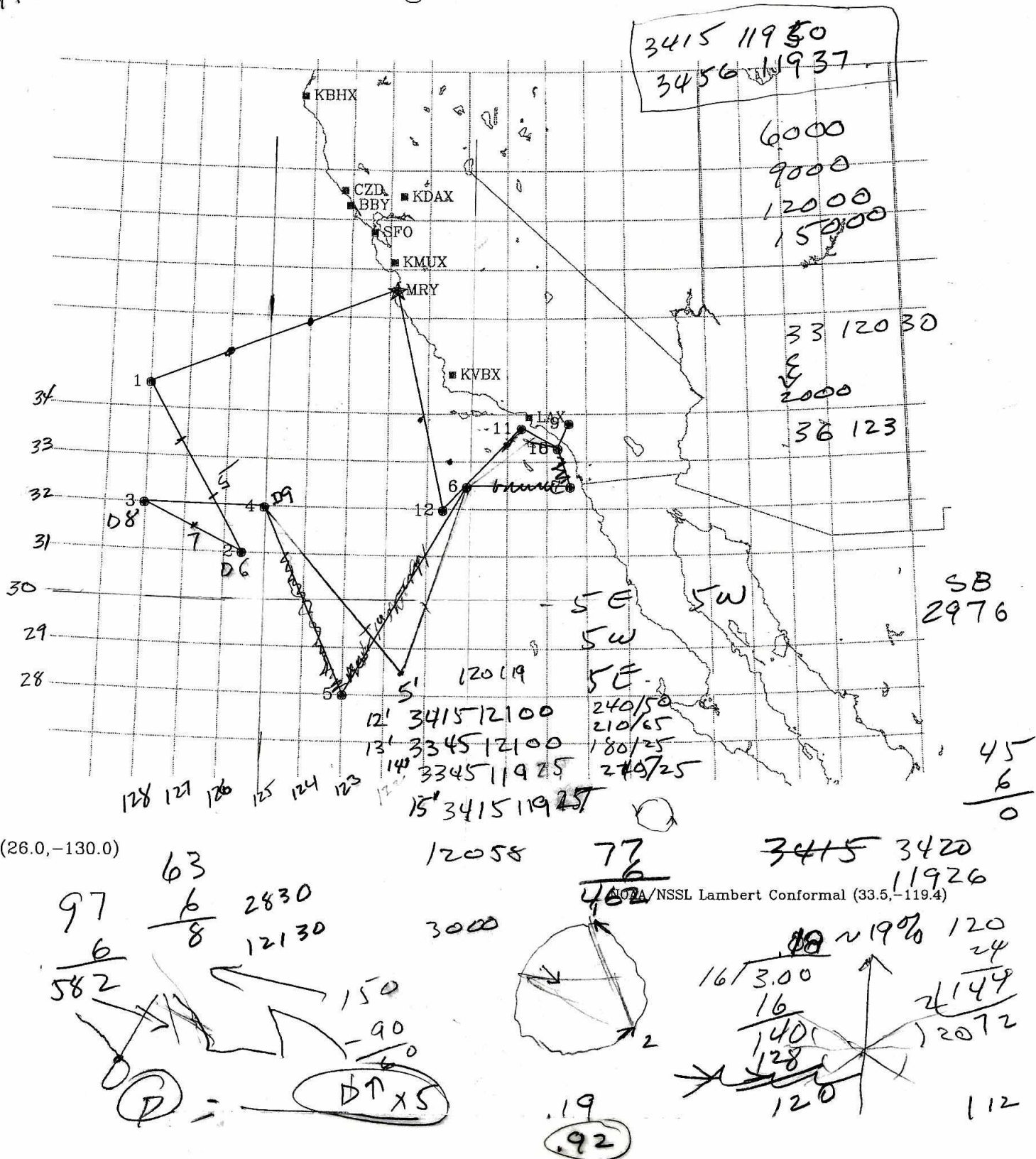
✓ 10. 3107 12407

✓ 11. 3015 12315

13 2922 12222

P5' 14 2830 12130

(41.0, -108.0)



NOAA • AOC • SED
N43RF DATA STATION LOG

Project : PacJet '01

Mission : PacJet #10

Flight ID : 010212BI

Operators : _____

Take Off : 21:39

Landing : 07:37

RAMS DAT 1 On <u>21:27</u>	RAMS DAT 1 Off : <u>07:45</u>	Data : <u>Slow</u> <u>Fast</u> <u>AVAPS</u>
RAMS DAT 2 On [8 / 9] :	RAMS DAT 2 Off :	Data : Slow Fast AVAPS
RAMS DAT 3 On [8 / 9] :	RAMS DAT 3 Off :	Data : Slow Fast AVAPS
Printer On : <u>21:27</u>	Printer Off : <u>07:45</u>	Disk Recording : <u>Enabled</u> / Disabled
MARS DAT 1 On [8 / 9] : <u>21:44</u>	MARS DAT 1 Off : <u>07:34</u>	CPU Selected : A <u>B</u>
MARS DAT 2 On [8 / 9] :	MARS DAT 2 Off :	VCR's Used : <u>N</u> <u>L</u> <u>R</u> <u>D</u>
MARS DAT 3 On [8 / 9] :	MARS DAT 3 Off :	VCR Mode : VHS / <u>S-VHS</u> 2 / <u>12</u>
PMS DAT 1 On : <u>21:47</u>	PMS DAT 1 Off : <u>07:38</u>	
PMS DAT 2 On :	PMS DAT 2 Off :	Tapes Given To
PMS DAT 3 On :	PMS DAT 3 Off :	RAMS : <u>Tom S</u>
VCR Tape 1 On : <u>21:27</u>	VCR Tape 1 Off : <u>02:32</u>	MARS : <u>John D</u>
VCR Tape 2 On :	VCR Tape 2 Off :	PMS : <u>↓</u>
VCR Tape 3 On :	VCR Tape 3 Off :	VCR : <u>↓</u>

CARCAH Tasking

Mission Number : WXXWE

Storm Name : Train

ASDL Setup

Flight Level (Minobs) Sample Frequency : 30s

Flight Level (Minobs) Block Time : 10m

Data Station Operator Notes

02:32 FCU A did-terrain setup

NOAA • AOC • SED Flight Performance Log

Aircraft : N43RF

Project : PacJet '01

Mission : PacJet #10SED Crew: Delgado, Lynch, McNamara, RogersFlight ID : 010212BIPre-Flight: 18:30Take-Off: 21:39Landing: 07:37

System			Pre-Flight	In-Flight	Post-Flight		
NAV	INE #1	Aligned to: ϕ	$\checkmark$ TL		-0.8	-1.0	4
	INE #2	Aligned to: ϕ	$\checkmark$ TL		+1.8	+1.9	1
	GPS		$\checkmark$ TL		Lat	Long	CS
	Diff GPS		(4) RJM				
RADAR	Nose		RJM				
	L/F	R/T SN: 103	$\checkmark$ TL		Mod Switch Off? $\checkmark$		
	Tail	R&T SN: 102/202	$\checkmark$ TL		Mod Switch Off? $\checkmark$		
	MARS Data System		Clean DAT? Y $\checkmark$ OK		# DATs: 1		
PMS	2DG-C	Ch 1/64: /	$\checkmark$ TL				
	2D-P Mono	Ch 1/32: /	$\checkmark$ TL				
	FSSP	Ref VDC:	$\checkmark$ 124 (3)				
	SEA Data System		Clean DAT? Y $\checkmark$ OK		# DATs: 1		
TEMP		Cal High	Cal Low			Cal High	Cal Low
	Temp #1	+30.9	-30.6	RJM		30.8	-30.4
	Temp #2			RJM			
	Temp #3	(Starboard)		N/A			
	Dewpoint #1	(General Eastern)		RJM			
	Dewpoint #2	(Edge Tech 137)					
PRES	Dewpoint #3	(Buck 1011C)					
	Attack Angle	(AP/DAP)					
	Slip Angle	(BP/DBP)					
	Differential	(PQ1/PQ2/PQ3/PQ4)	(1)				
	Absolute	(PS1/PS2)	RJM				
	Radome Transducers		Plugs? RJM				
FLTLVL	Cabin Transducer	(Station 5)	(2) RJM				
	Apn-159	SN: 71-02	$\checkmark$ TL		(Off?) $\checkmark$ MR		
	Apn-232	SN: 1701	$\checkmark$ TL		(Off?) $\checkmark$ MR		
	King Liquid Water		RJM				
	J&W Liquid Water		RJM				
	Lyman Alpha Hygrometer		Plugs? RJM		Plugs? $\checkmark$		
	Down PRT-5	(SST)	$\checkmark$ TL				
	Side PRT-5	(CO ²)	$\checkmark$ TL				
	Up PRT-5		Open? RJM		(Closed) $\checkmark$ MR		
	RAMS Data System		Clean DAT? Y $\checkmark$ OK		# DATs: 2		
MISC	F/D Laptop		RJM		(Off?) $\checkmark$ MR		
	C.I. Printer		$\checkmark$ MR				
	ASDL				(Off?) $\checkmark$ MR		
	Exterior Walk Around		$\checkmark$ MR				
	Video	(1) (2) (3) (4)	RJM		Lens Covers: $\checkmark$ MR		
	AXBT Receivers		N/A				
	AXBT Sonobouys		#On Board: N/A	# Dropped: <u> </u>	# Good: <u> </u>		
	AVAPS		$\checkmark$ MR				
	GPS Dropsondes	25+20	#On Board: 45	# Dropped: 17	# Good: 15		
	FCU	A-B-C	$\checkmark$ TL	(7)	UPS Off: ? $\checkmark$		
USER	SatComm		$\checkmark$ MR	$\checkmark$ MR	Accelerometers		
	NASA GORE		$\checkmark$ TL		#1 (2 G): 8194		
					#2 (2.5 G): 6686		
					#3 (3 G): 5967		
				#4 (3.5 G): 2892			

Please Note any Discrepancies

Item #	Zulu Time	Problem Description	Initials	Status
①		PQ1 READING $\approx$ 1 mb HIGH	RJM	
②		CABIN PRESS. READING HIGH $\approx$ 1 mb	RJM	
③		Diode 32 show 0.8 V lower than Diode 1 when canister bolts are Torqued.		
		On next alignment increase by 0.8 V diode 32 (P) to compensate	JCY	
④		DGPS OPERATIONAL BUT NO DATA BEING SENT TO DATA SYSTEM	RJM	OK
5		DTH GPS data not being read at 1A4 - resolder ACIA card - OK now	TZ	OK
6		Look into changing defaults on temp drop program	TZ	—
7	02:32	FCU A tripped input C/B - switched to B-C + Rman setup		
⑧		RT SIDE FLD MILL BLANK OUT PLATE LEAKING.	RJM	OK
4		- Spare Pitoh tube cover (restock in GBA) - Restock LS-120 @ S145		
4		DSPL1 = RS232 DSPL2/3 = RS422 ?		

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

POSITION REPORT

1. POSITION

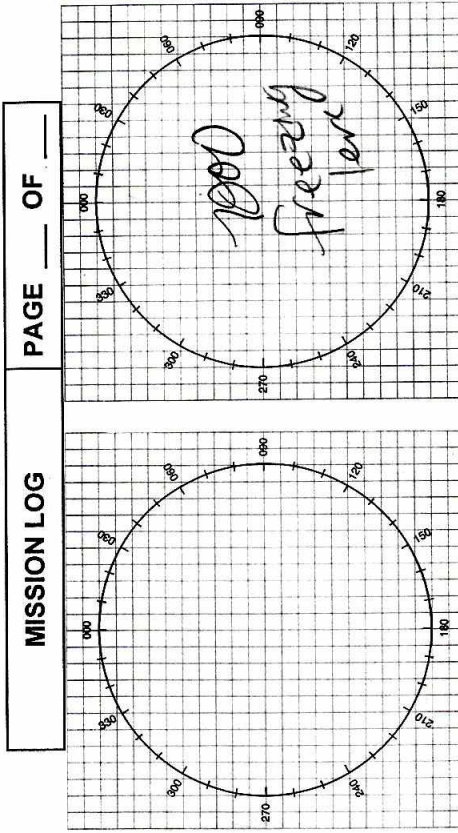
2. TIME

3. ALTITUDE

4. NEXT POSITION

5. ETA

6. NEXT POSITION



CLEARANCES			
FREQ	ALT	HDG	OTHER
			Mary 1000
			180 3653
			CLR L 12000
			VIS 10 4/4
			120/3
			TAF 3000ST 5000ST
			040/8

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	VAR +E=>	TH	DR +R=>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
2129																				58K
2139																				Taxi 29.86
2148	A	36 34.8 122 24.4	36 34.8N 122 24.4W	0	36 34.8N 122 24.4W	0	14E	250	2L	248	241	226	13	7	253				2054	70FF
2241	A	35 02.4 126 37.5	35 03N 126 37.9	-6	35 03.5 126 38.0	-1	14E	250	5L	245	267	307	16	210	274		68	715	2258	2257
2331	A	32 13.9 126 24.2	32 14.3 126 24.4	-4	32 14.2 126 24.2	-3	15E	153	4L	149	317	283	22	210	303	2			2348	
0046	A	32 01.2 126 34.3	32 01.6 126 34.0	-4	32 02.1 126 34.3	-9	14E	090	3R	093	339	312	35	230	313	4			0101	
0152	A	28 46.7 124 43.7	28 47.3 124 43.9	-16	28 47.8 124 44.3	-11	13E	159	18L	141	328	259	100	230	298	5			0458	
0252	A	31 36.4 120 20.8	31 36.9 120 21.0	-5	31 37.9 120 21.2	-5	12E	17	1L	016	213	192	12	1K	202	6			0300	
0400	A	34 12.7 119 47.7	34 13.9 119 48.8	-12	34 15.3 119 47.6	-6	14E	269	1R	270	219	134	7	15K	214					
0553	A	33 27.4 119 52.9	33 28.9 119 53.9	-15	33 29.0 119 52.7	-16				226		172	43	15K	285					
0715	A	35 47.7 122 34.7	35 49.4 122 34.8	-13	35 49.5 122 33.5	-18		023		024	208	058	5	4K	218					
0737																				LAND
0745																				Chock

OF

(G) - GPS (I) - INS (R) - RADIO (V) - VISUAL (C) - CELESTIAL (D) - DR

[illegible]