Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: SID	Date Open: 04/18/2012	Task #: 2009050622060302005	Request #: 20090506220603
Procedure: SID HUBEE (RNAV) TWO SAN ANTONIO TX KSAT		Airport ID: KSAT	Airport: SAN ANTONIO INTL		Reimbursable #:
City: SAN ANTONIO	ST: TX	GPS #:		Estimated Chart Date: 11/15/2012	FICO #:
Fac ID:	Fac. Type: Proc-D	Specialist: THERON CYRUS			

P3

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	04/18/2012	07/30/2012	JEREL PAWLEY	
QA:	07/30/2012	08/16/2012	STEVEN SZUKALA	
Liaison:	08/16/2012		M. Spurlin	P3

Procedure Comments: ENROUTE **Remark Type:** INFORMATION PKG 7 of 8

SAN ANTONIO, TX SAN ANTONIO INTL (KSAT) SID HUBEE (RNAV) TWO ENROUTE-YES FC BY 9/18/12 PUB 11/15/12

ATTACHED FORMS: 8260-15B; 8260-15C.
8260-2 (S): CHURN, REV 4 (INFO ONLY); ERRAD, ORIG (INFO ONLY); HAMMU, ORIG (INFO ONLY); HOBBY (HUB) VOR/DME, REV 15 (INFO ONLY); HUBEE, ORIG (INFO ONLY); HUMBLE (IAH) VORTAC, REV 6 (INFO ONLY); WEMAR, REV 5 (INFO ONLY).

CONTACT: JILL OLSON/STEVE BARNETT -AVJ-353 LEADS, 405.954.4014/405.954.9307.

ATIS 118.9
CLNC DEL 126.7
GND CON
121.9 348.6
SAN ANTONIO TOWER
119.8 257.8
SAN ANTONIO DEP CON
124.45 335.625 (360-090)
128.05 318.1 (091-140)
118.05 353.5 (141-270)
125.1 307.0 (271-359)

N

PROTOTYPE-NOT FOR NAVIGATION

NOTE: RNAV 1.
NOTE: RADAR Required.
NOTE: DME/DME/IRU or GPS Required.
NOTE: HAMMU and HUMBLE TRANSITIONS: For non-GPS equipped aircraft, TNV, PSX, IDU, and ELA DMEs must be operational.
NOTE: HOBBY TRANSITION: For non-GPS equipped aircraft, TNV, PSX, IDU, ELA, and IAH DMEs must be operational.

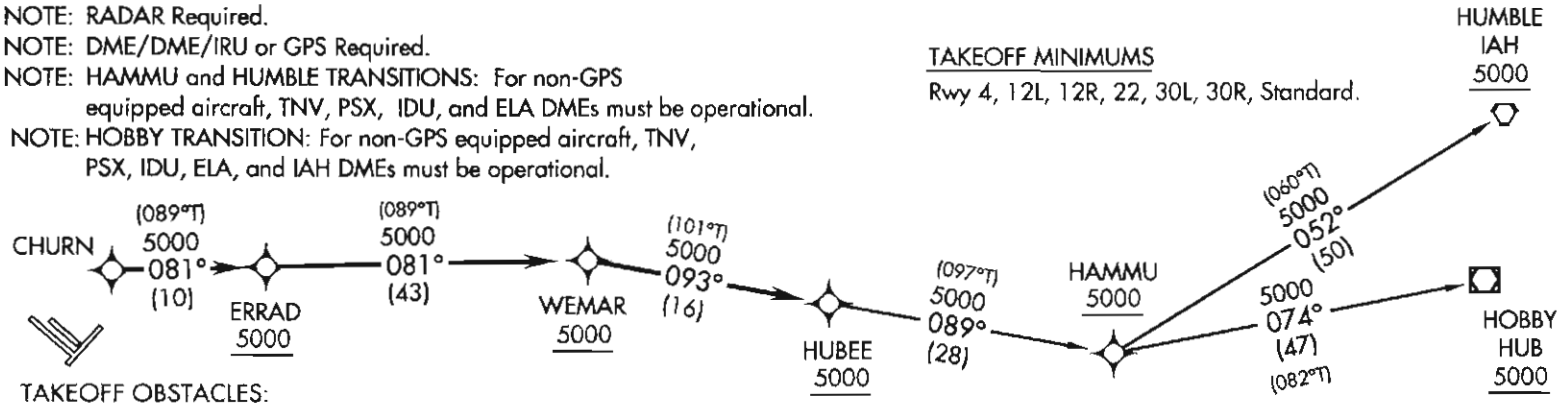
DEPARTURE ROUTE DESCRIPTION

Climb on assigned heading for radar vectors to CHURN, thence. . . .

. . . .on depicted route/transition to HUBEE, maintain 5000.
Expected filed altitude 10 minutes after departure.

HAMMU TRANSITION (HUBEE2.HAMMU)
HOBBY TRANSITION (HUBEE2.HUB)
HUMBLE TRANSITION (HUBEE2.IAH)

TAKEOFF MINIMUMS
Rwy 4, 12L, 12R, 22, 30L, 30R, Standard.



TAKEOFF OBSTACLES:

Rwy 12R: Antenna on RTR tower, 1034′ from DER, 723′ right of centerline, 42′ AGL/820′ MSL.
Building 3801′ from DER, 1488′ right of centerline, 117′ AGL/881′ MSL.
Rwy 22: Antenna on hangar and flagpole, 1198′ from DER, 700′ right of centerline, 39′ AGL/825′ MSL.
Poles beginning 2209′ from DER, 1041′ right of centerline, up to 23′ AGL/869′ MSL.
Sign 2713′ from DER, 1034′ right of centerline, 71′ AGL/857′ MSL.
Rwy 30L: Pole 1931′ from DER, 911′ left of centerline, 867′ MSL.
Poles beginning 2356′ from DER, 913′ left of centerline, up to 42′ AGL/892′ MSL.
Sign 2435′ from DER, 1032′ right of centerline, 873′ MSL.
Tower 2766′ from DER, 834′ left of centerline, 891′ MSL.
Rwy 30R: Rod on OL glideslope 1261′ from DER, 591′ left of centerline, 57′ AGL/854′ MSL.

CHURN: 2939.040N/09801.048W
ERRAD: 2939.226N/09749.438W
HAMMU: 2932.721N/09610.068W
HUB: 2939.338N/09516.599W
HUBEE: 2936.398N/09642.245W
IAH: 2957.415N/09520.743W
WEMAR: 2939.619N/09700.624W

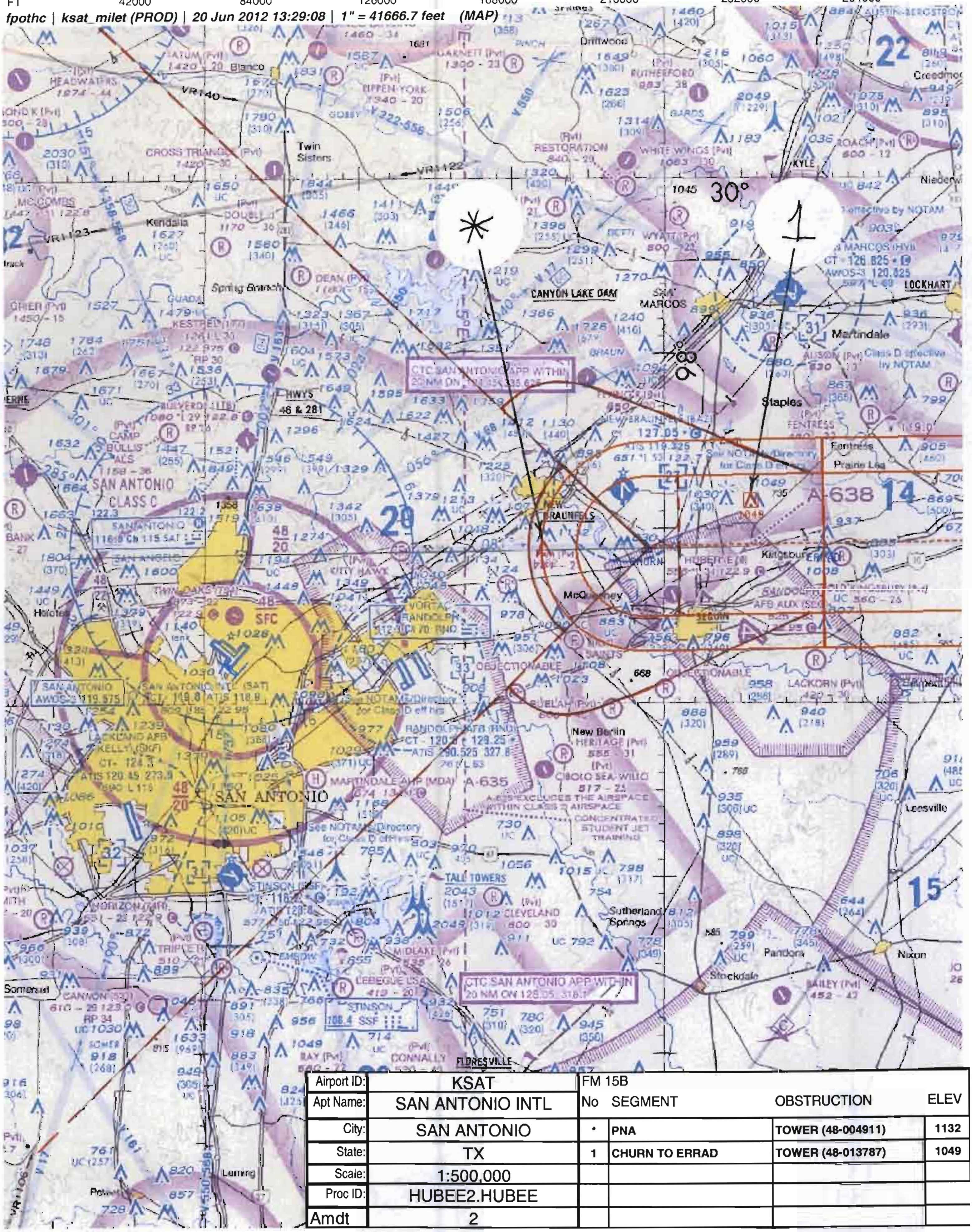
Note: Chart not to scale.

HUBEE TWO DEPARTURE (RNAV)
(HUBEE2.HUBEE) FIG
SAN ANTONIO INTL (SAT)
SAN ANTONIO, TEXAS

AUTOMATED SL-369 HUBEE DEPARTURE.REF
AUTOMATED SL-369 HUBEE DEPARTURE
SC-3
6/27/2012
COMPILER: GM
REVIEWER:
DBL CHKR:
EFF: FIG

NM		7	14	21	28	35	42	49
FT		42000	84000	126000	168000	210000	252000	294000

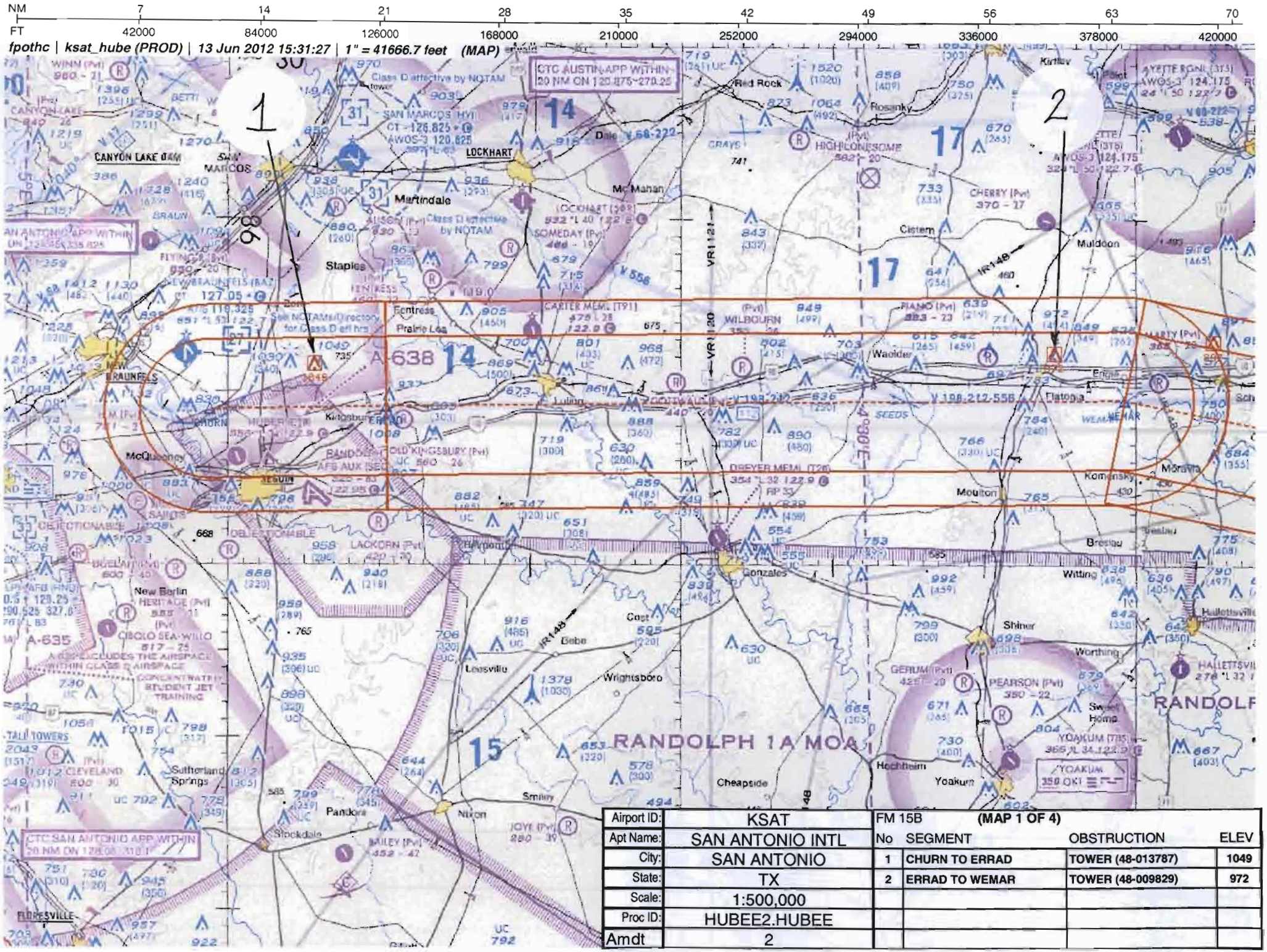
fpothc | ksat_milet (PROD) | 20 Jun 2012 13:29:08 | 1" = 41666.7 feet (MAP)



Airport ID:	KSAT
Apt Name:	SAN ANTONIO INTL
City:	SAN ANTONIO
State:	TX
Scale:	1:500,000
Proc ID:	HUBEE2.HUBEE
Amdt	2

FM 15B

No	SEGMENT	OBSTRUCTION	ELEV
*	PNA	TOWER (48-004911)	1132
1	CHURN TO ERRAD	TOWER (48-013787)	1049

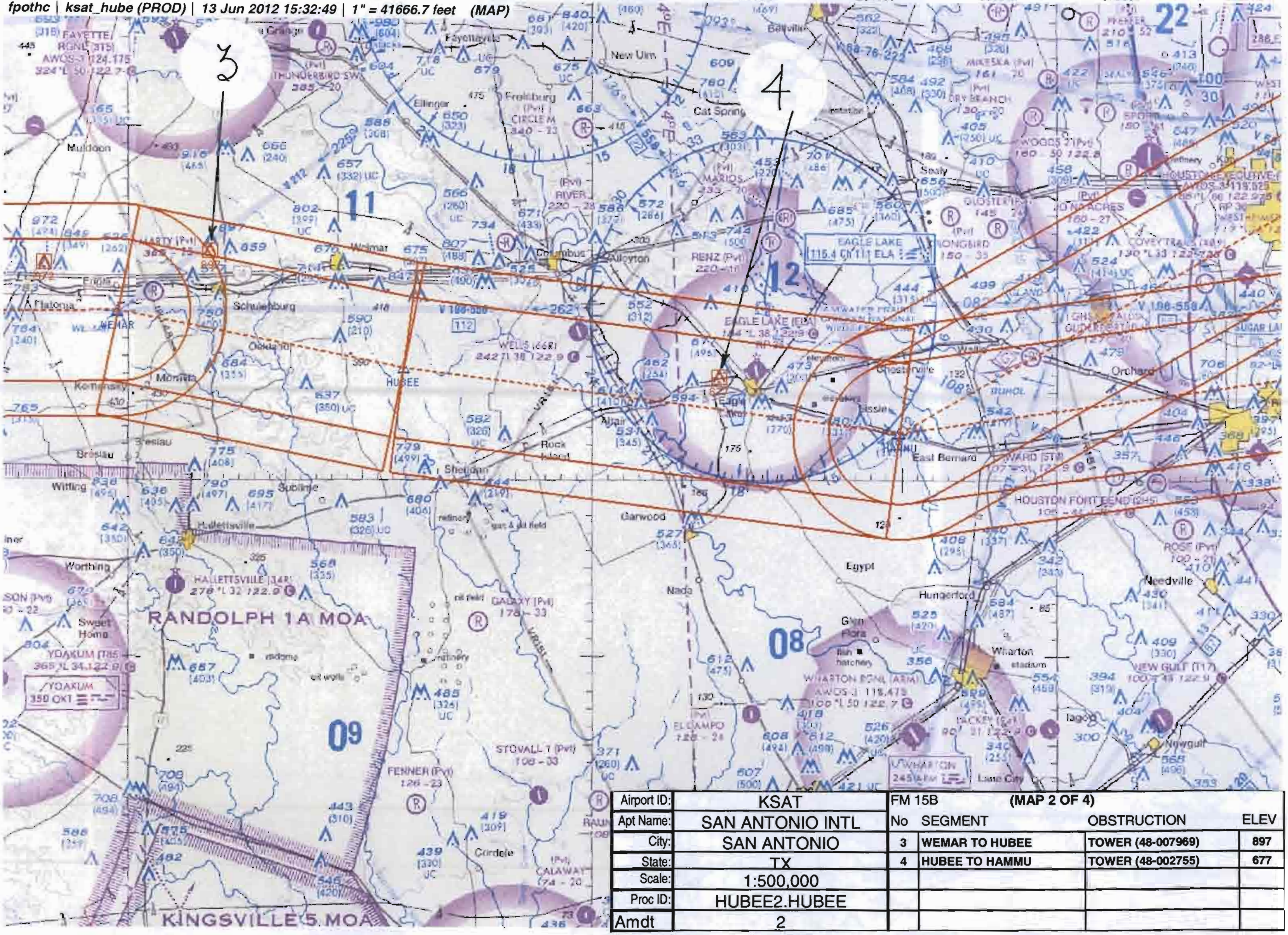


Airport ID:	KSAT	FM 15B (MAP 1 OF 4)			
Apt Name:	SAN ANTONIO INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	SAN ANTONIO	1	CHURN TO ERRAD	TOWER (48-013787)	1049
State:	TX	2	ERRAD TO WEMAR	TOWER (48-009829)	972
Scale:	1:500,000				
Proc ID:	HUBEE2.HUBEE				
Amdt	2				

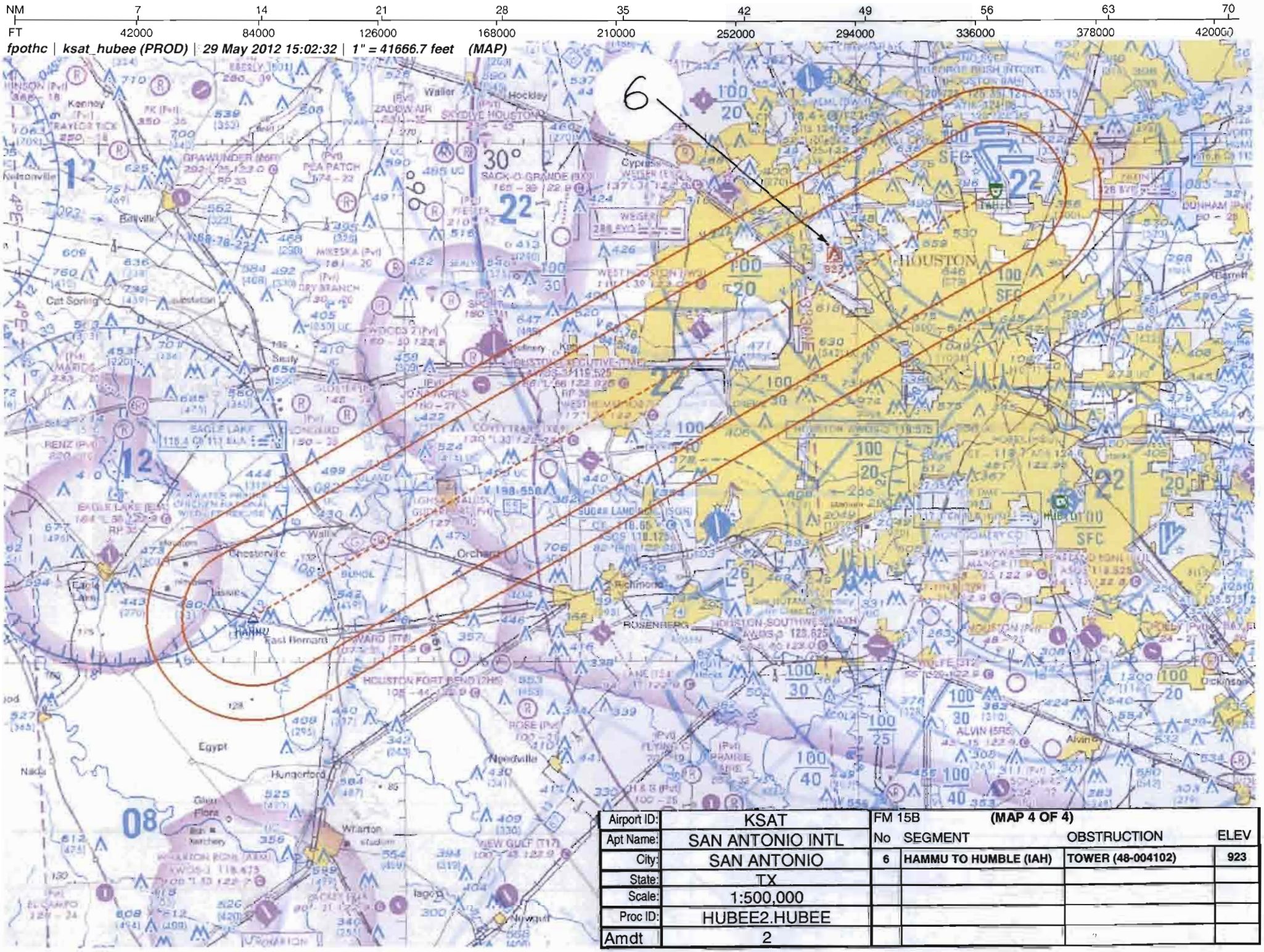
NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

fpothc | ksat_hube (PROD) | 13 Jun 2012 15:32:49 | 1" = 41666.7 feet (MAP)



Airport ID:	KSAT	FM 15B	(MAP 2 OF 4)		
Apt Name:	SAN ANTONIO INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	SAN ANTONIO	3	**WEMAR TO HUBEE**	**TOWER (48-007969)**	**897**
State:	TX	4	**HUBEE TO HAMMU**	**TOWER (48-002755)**	**677**
Scale:	1:500,000				
Proc ID:	HUBEE2.HUBEE				
Amdt	2				

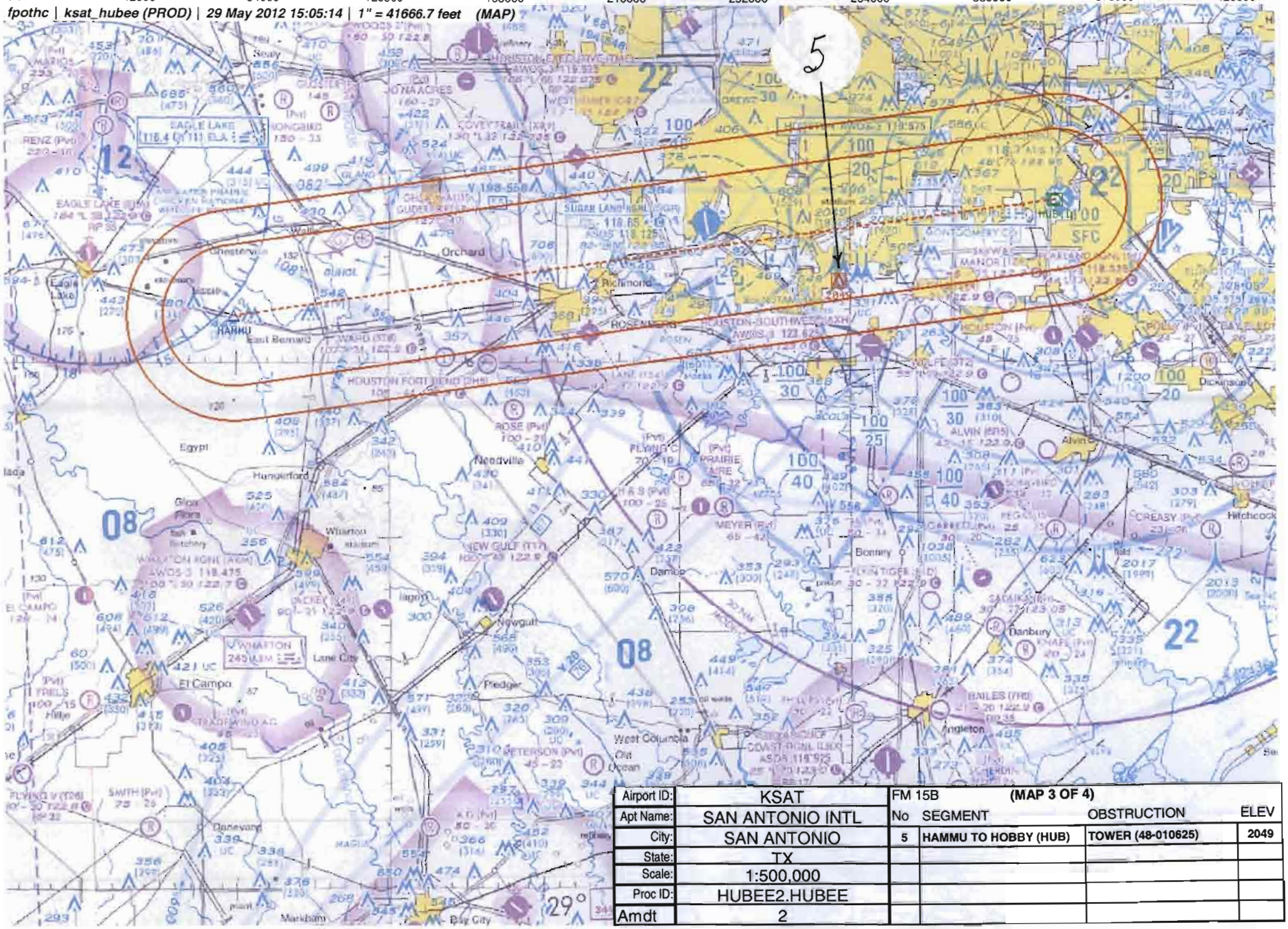


Airport ID:	KSAT	FM 15B	(MAP 4 OF 4)		
Apt Name:	SAN ANTONIO INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	SAN ANTONIO	6	HAMMU TO HUMBLE (IAH)	TOWER (48-004102)	923
State:	TX				
Scale:	1:500,000				
Proc ID:	HUBEE2.HUBEE				
Amdt	2				

NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

fpothc | ksat_hubee (PROD) | 29 May 2012 15:05:14 | 1" = 41666.7 feet (MAP)



Airport ID:	KSAT
Apt Name:	SAN ANTONIO INTL
City:	SAN ANTONIO
State:	TX
Scale:	1:500,000
Proc ID:	HUBEE2.HUBEE
Amdt	2

FM 15B **(MAP 3 OF 4)**

No	SEGMENT	OBSTRUCTION	ELEV
5	HAMMU TO HOBBY (HUB)	TOWER (48-010625)	2049

U.S. DEPARTMENT of TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION

GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statue miles or feet RVR unless otherwise indicated. Graphic depictions attached.

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE	TWO	HUBEE2.HUBEE	1	10/29/2010	

TYPE: SID RNAV

DP ROUTE DESCRIPTION:

DEPARTING SAN ANTONIO INTL:
TAKEOFF RWY 4, 12L, 12R, 22, 30L, 30R: CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO CHURN. THENCE...
...ON DEPICTED ROUTE/TRANSITION TO HUBEE, MAINTAIN 5000. EXPECTED FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

DEPARTING STINSON MUNI:
TAKEOFF RWY 9, 14, 27, 32: CLIMB ON ASSIGNED HEADING AND ALTITUDE FOR RADAR VECTORS TO CHURN, THENCE...
...ON DEPICTED ROUTE/TRANSITION TO HUBEE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):

Transition Name	Transition Computer Codes	From FIX/NAVAID	To FIX/NAVAID	Course	Distance	MEA	MOCA	Crossing Altitudes/Fixes
HAMMU	HUBEE2.HAMMU	HUBEE	HAMMU	089.32	28.30	5000		
HUMBLE	HUBEE2.IAH	HUBEE	HAMMU	089.32	28.30	5000		
		HAMMU	IAH VORTAC	051.95	49.50	5000		
HOBBY	HUBEE2.HUB	HUBEE	HAMMU	089.32	28.30	5000		
		HAMMU	HUB VOR/DME	073.72	47.08	5000		

PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS:

NOTE: RNAV 1.
NOTE: RADAR REQUIRED.
NOTE: DME/DME/IRU OR GPS REQUIRED.
NOTE: HAMMU AND HUMBLE TRANSITIONS: FOR NON-GPS EQUIPPED AIRCRAFT TNV, PSX, IDU AND ELA DME MUST BE OPERATIONAL.
NOTE: HOBBY TRANSITION: FOR NON-GPS EQUIPPED AIRCRAFT TNV, PSX, IDU, ELA AND IAH DMEs MUST BE OPERATIONAL.

SAN ANTONIO INTL: TAKEOFF RWY 4, 12L, 12R, 22, 30L, 30R: STANDARD.

STINSON MUNI:
TAKEOFF RWY 14, 32: STANDARD.

TAKEOFF RWY 9, STANDARD WITH MINIMUM CLIMB OF 225 FT PER NM TO 1900 OR 1000-2 1/2 FOR CLIMB IN VISUAL CONDITIONS.

TAKEOFF RWY 27, 300-1 3/4 OR STANDARD WITH A MINIMUM CLIMB OF 221 FT PER NM TO 900, OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1700 FT PRIOR TO DEPARTURE END OF RUNWAY.

CHECKED

GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statue miles or feet RVR unless otherwise indicated. Graphic depictions attached.

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE	TWO	HUBEE2.HUBEE	1	10/29/2010	

TAKEOFF OBSTACLES NOTES:

SAN ANTONIO INTL:

NOTE: RWY 12R, ANTENNA ON RTR TOWER, 1034 FT FROM DER, 723 FT RIGHT OF CENTERLINE, 42 FT AGL/820 FT MSL. BUILDING 3801 FT FROM DER, 1488 FT RIGHT OF CENTERLINE, 177 FT AGL/881 FT MSL.

NOTE: RWY 22, ANTENNA ON HANGAR AND FLAGPOLE, 1198 FT FROM DER, 700 FT RIGHT OF CENTERLINE, 39 FT AGL/825 FT MSL. POLES BEGINNING 2209 FT FROM DER, 1041 FT RIGHT OF CENTERLINE, UP TO 23 FT AGL/869 FT MSL. SIGN 2713 FT FROM DER, 1034 FT RIGHT OF CENTERLINE, 71 FT AGL/857 FT MSL.

NOTE: RWY 30L, POLE 1931 FT FROM DER, 911 FT LEFT OF CENTERLINE, 42 FT AGL/867 FT MSL. POLES BEGINNING 2356 FT FROM DER, 913 FT LEFT OF CENTERLINE, UP TO 42 FT AGL/892 FT MSL. SIGN 2435 FT FROM DER, 1032 FT RIGHT OF CENTERLINE, 42 FT AGL/873 FT MSL. TOWER 2766 FT FROM DER, 834 FT LEFT OF CENTERLINE, 54 FT AGL/891 FT MSL.

NOTE: RWY 30R, ROD ON OL GS 1261 FT FROM DER, 591 FT LEFT OF CENTERLINE, 57 FT AGL/854 FT MSL.

STINSON MUNI:

NOTE: RWY 9, VEHICLE ON ROAD 285 FT FROM DER, 380 FT LEFT OF CENTERLINE, 15 FT AGL/584 FT MSL. TREES BEGINNING 1653 FT FROM DER, 435 FT RIGHT OF CENTERLINE, UP TO 70 FT AGL/629 FT MSL.

NOTE: RWY 14, VEHICLE ON ROAD 114 FT FROM DER, ON CENTERLINE EXTENDING 373 FT LEFT OF CENTERLINE, UP TO 15 FT AGL/564 FT MSL. TREES BEGINNING 72 FT FROM DER, 79 FT RIGHT OF CENTERLINE, UP TO 70 FT AGL/607 FT MSL. TREES BEGINNING 232 FROM DER, 54 FT LEFT OF CENTERLINE, UP TO 70 FT AGL/618 FT MSL. TRANSMISSION LINE TOWER 4205 FT FROM DER, 133 FT RIGHT OF CENTERLINE, 119 FT AGL/663 FT MSL.

NOTE: RWY 27, FENCE 41 FT FROM DER, 30 FT RIGHT OF CENTERLINE, 8 FT AGL/584 FT MSL. VEHICLE ON ROAD 108 FT FROM DER, 202 FT RIGHT OF CENTERLINE, 15 FT AGL/584 FT MSL. VEHICLE ON ROAD 123 FT FROM DER, 113 FT RIGHT OF CENTERLINE, 15 FT AGL/596 FT MSL. TREES AND POLES BEGINNING 229 FT FROM DER, 117 FT RIGHT OF CENTERLINE, UP TO 70 FT AGL/645 FT MSL. TREES AND POLES BEGINNING 599 FT FROM DER, 6 FT LEFT OF CENTERLINE, UP TO 70 FT AGL/634 FT MSL. TANKS BEGINNING 1.32 NM FROM DER, 1338 FT RIGHT OF CENTERLINE, 179 FT AGL/799 FT MSL. BUILDING 1422 FT FROM DER, 432 FT RIGHT OF CENTERLINE, 40 FT AGL/627 FT MSL. BUILDING 2133 FT FROM DER, 36 FT LEFT OF CENTERLINE, 55 FT AGL/635 FT MSL.

NOTE: RWY 32, FENCE 17 FT FROM DER, 80 FT LEFT OF CENTERLINE, 8 FT AGL/578 FT MSL. VEHICLE ON ROAD 54 FT FROM DER, 199 FT LEFT OF CENTERLINE, 15 FT AGL/586 FT MSL. TREES BEGINNING 164 FT FROM DER, 125 FT RIGHT OF CENTERLINE, UP TO 70 FT AGL/639 FT MSL. TREES AND POLES BEGINNING 43 FT FROM DER, 41 FT LEFT OF CENTERLINE, UP TO 75 FT AGL/668 FT MSL.

CONTROLLING OBSTACLES:

STINSON MUNI:

RWY 9, 14: 1546 MSL TOWER (48-004668) 291938.75N/0982117.63W
RWY 27: 799 MSL TANK (48-005287) 292048.97N/0983016.50W
RWY 32: 1379 MSL TOWER (48-001577) 292509.00N/0982901.00W
VCOA: 940 MSL TOWER (48-007986) 292304.00N/0982719.00W

LOST COMMUNICATIONS PROCEDURES:

QUALITY 4 CHECKED

GRAPHIC DEPARTURE PROCEDURE (DP)

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DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE	TWO	HUBEE2.HUBEE	1	10/29/2010	

ADDITIONAL FLIGHT DATA:

REFERENCE MAG VAR: KSAT 8E/EPOCH YEAR: 1980
DME/DME ASSESMENT: SAT (RNP 2.0)
CHART: MEA FROM CHURN TO ERRAD, 5000.
CHART: MEA FROM ERRAD TO WEMAR, 5000.
CHART: MEA FROM WEMAR TO HUBEE, 5000.
PILOT NAVIGATION AREA: 7 NM ARC CENTERED ON CHURN (IF), CW
FROM: POINT A (BEARING 036 DEGREES TO CHURN)
TO: POINT B (BEARING 126 DEGREES TO CHURN)

AIRPORTS SERVED:

SAN ANTONIO INTL, STINSON MUNI — SAN ANTONIO, TX

COMMUNICATIONS:

ATIS: SAT, SSF; GND CON: SAT, SSF; AWOS/ASOS: SAT; SAT CLNC DEL; SAT DEP CON; SAT ATCT; SSF ATCT

FIXES AND/OR NAVAIDS:

ERRAD; WEMAR

REMARKS:

QUALITY 4 CHECKED

U.S. DEPARTMENT of TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION

GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statue miles or feet RVR unless otherwise indicated. Graphic depictions attached.

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE	TWO	HUBEE2.HUBEE	1	10/29/2010	

FLIGHT INSPECTED BY:

REQUIRED EFFECTIVE DATE:

ROUTINE

DEVELOPED BY:

LARRY STROUT (THERON CYRUS) AJV-353 06/18/2012

APPROVED BY:

JILL OLSON AJV-353

COORDINATED WITH:

AOPA, ALPA, ATA, APA, NBAA, ZHU, SAT APP CON, SAT ATCT, AMGR, ST. AV. DIR

CHANGES:

1. UPDATED TAKEOFF OBS NOTES.
2. CHANGED RWY 3/21 TO RWY 4/22.

REASONS:

1. NEW OBS EVALUATION.
2. 3. PER FPT REQUEST

QUALITY 4 CHECKED

DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE	TWO	HUBEE2.HUBEE	1	10/29/2010	

FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
CHURN	293902.39N/0980102.90W	Y	FB	IF	-	-			
ERRAD	293913.55N/0974926.30W	Y	FB	TF	088.90	10.12			
WEMAR	293937.15N/0970037.45W	Y	FB	TF	089.27	42.53			
HUBEE	293623.90N/0964214.72W	Y	FB	TF	101.27	16.34			
HUBEE	293623.90N/0964214.72W	Y	-	IF					HUBEE2.HAMMU
HAMMU	293243.26N/0961004.08W	Y	FB	TF	097.32	28.30			
HUBEE	293623.90N/0964214.72W	Y	-	IF					HUBEE2.IAH
HAMMU	293243.26N/0961004.08W	Y	FB	TF	097.32	28.30			
IAH VORTAC	295724.90N/0952044.59W	Y	FB	TF	059.95	49.50			
HUBEE	293623.90N/0964214.72W	Y	-	IF					HUBEE2.HUB
HAMMU	293243.26N/0961004.08W	Y	FB	TF	097.32	28.30			
HUB VOR/DME	293920.26N/0951635.92W	Y	FB	TF	081.72	47.08			

QUALITY CHECKED 4

DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE	TWO	HUBEE2.HUBEE	1	10/29/2010	

FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS

QUALITY CHECKED 4

DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE RNAV	TWO	HUBEE2.HUBEE	ONE	10/29/2010	

ARINC PACKET - 424-18 - SID

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                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        HUB   K4011710VDHW N29392026W095163592    N29392026W095163592E0050000822     NARHOBBY
        SUSAD        IAH   K4011660VTHA N29572490W095204459    N29572490W095204459E0050000812     NARHUMBLE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   CHURN K40    C   L N29390239W098010290                      E0046     NAR           CHURN
        SUSAEAENRT   ERRAD K40    W   L N29391355W097492630                      E0045     NAR           ERRAD
        SUSAEAENRT   HAMMU K40    C   B N29324326W096100408                      E0035     NAR           HAMMU
        SUSAEAENRT   HUBEE K40    W   L N29362390W096421472                      E0038     NAR           HUBEE
        SUSAEAENRT   WEMAR K40    C   B N29393715W097003745                      E0040     NAR           WEMAR

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSSFK4ASSF     0     050YHN29201314W098281576E008000577         1800018000C    MNAR    STINSON MUNI

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSSFK4DHUBEE25ALL   010CHURNK4EA0E       IF                                                  18000
        SUSAP KSSFK4DHUBEE25ALL   020ERRADK4EA0E    010TF                    08090101
        SUSAP KSSFK4DHUBEE25ALL   030WEMARK4EA0E    010TF                    08130425
        SUSAP KSSFK4DHUBEE25ALL   040HUBEEK4EA0EE   010TF                    09330163
        SUSAP KSSFK4DHUBEE26HAMMU 010HUBEEK4EA0E       IF                                                  18000
        SUSAP KSSFK4DHUBEE26HAMMU 020HAMMUK4EA0EE   010TF                    08930283
        SUSAP KSSFK4DHUBEE26HUB   010HUBEEK4EA0E       IF                                                  18000
        SUSAP KSSFK4DHUBEE26HUB   020HAMMUK4EA0E    010TF                    08930283
        SUSAP KSSFK4DHUBEE26HUB   030HUB  K4D 0VE   010TF                    07370471
        SUSAP KSSFK4DHUBEE26IAH   010HUBEEK4EA0E       IF                                                  18000
        SUSAP KSSFK4DHUBEE26IAH   020HAMMUK4EA0E    010TF                    08930283
        SUSAP KSSFK4DHUBEE26IAH   030IAH  K4D 0VE   010TF                    05200495

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSSFK4GRW09    0050000945 N29201781W098284642+0000    +015010057704504010 0V
        SUSAP KSSFK4GRW14    0041281374 N29202487W098281553-0500    +014870057105843510 0V
        SUSAP KSSFK4GRW27    0050002745 N29200803W098275623+0000    +014670057700004010 0V
        SUSAP KSSFK4GRW32    0041283174 N29195903W098275516+0500    +014430055603724010 0R
```

DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE RNAV	TWO	HUBEE2.HUBEE	ONE	10/29/2010	

ARINC SUMMARY - 424-18 - SID

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	ALL	CHURN	010		IF		FB					
	ALL	ERRAD	020		TF		FB	1.0	080.9()	010.1		
	ALL	WEMAR	030		TF		FB	1.0	081.3()	042.5		
	ALL	HUBEE	040		TF		FB	1.0	093.3()	016.3		
	HAMMU	HUBEE	010		IF		FB					
	HAMMU	HAMMU	020		TF		FB	1.0	089.3()	028.3		
	HUB	HUBEE	010		IF		FB					
	HUB	HAMMU	020		TF		FB	1.0	089.3()	028.3		
	HUB	HUB	030		TF		FB	1.0	073.7()	047.1		
	IAH	HUBEE	010		IF		FB					
	IAH	HAMMU	020		TF		FB	1.0	089.3()	028.3		
	IAH	IAH	030		TF		FB	1.0	052.0()	049.5		

POINT DATA

WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
HUB	N293920.26	W0951635.92	N2939.338	W09516.599
IAH	N295724.90	W0952044.59	N2957.415	W09520.743
CHURN	N293902.39	W0980102.90	N2939.040	W09801.048
ERRAD	N293913.55	W0974926.30	N2939.226	W09749.438
HAMMU	N293243.26	W0961004.08	N2932.721	W09610.068
HUBEE	N293623.90	W0964214.72	N2936.398	W09642.245
WEMAR	N293937.15	W0970037.45	N2939.619	W09700.624
RW09	N292017.81	W0982846.42	N2920.297	W09828.774
RW14	N292024.87	W0982815.53	N2920.415	W09828.259
RW27	N292008.03	W0982756.23	N2920.134	W09827.937
RW32	N291959.03	W0982755.16	N2919.984	W09827.919

RUNWAY DATA

RWY	THRESHOLD ELEVATION	TCH
RW09	00577	40
RW14	00571	35
RW27	00577	40
RW32	00556	40

DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE RNAV	TWO	HUBEE2.HUBEE	ONE	10/29/2010	

ARINC PACKET - 424-18 - SID

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        HUB   K4011710VDHW N29392026W095163592    N29392026W095163592E0050000822     NARHOBBY
        SUSAD        IAH   K4011660VTHA N29572490W095204459    N29572490W095204459E0050000812     NARHUMBLE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   CHURN K40    C   L N29390239W098010290                      E0046     NAR           CHURN
        SUSAEAENRT   ERRAD K40    W   L N29391355W097492630                      E0045     NAR           ERRAD
        SUSAEAENRT   HAMMU K40    C   B N29324326W096100408                      E0035     NAR           HAMMU
        SUSAEAENRT   HUBEE K40    W   L N29362390W096421472                      E0038     NAR           HUBEE
        SUSAEAENRT   WEMAR K40    C   B N29393715W097003745                      E0040     NAR           WEMAR

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSATK4ASAT     0     085YHN29320130W098281120E008000809         1800018000C    MNAR    SAN ANTONIO INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSATK4DHUBEE25ALL   010CHURNK4EA0E       IF                                                  18000
        SUSAP KSATK4DHUBEE25ALL   020ERRADK4EA0E    010TF                    08090101
        SUSAP KSATK4DHUBEE25ALL   030WEMARK4EA0E    010TF                    08130425
        SUSAP KSATK4DHUBEE25ALL   040HUBEEK4EA0EE   010TF                    09330163
        SUSAP KSATK4DHUBEE26HAMMU 010HUBEEK4EA0E       IF                                                  18000
        SUSAP KSATK4DHUBEE26HAMMU 020HAMMUK4EA0EE   010TF                    08930283
        SUSAP KSATK4DHUBEE26HUB   010HUBEEK4EA0E       IF                                                  18000
        SUSAP KSATK4DHUBEE26HUB   020HAMMUK4EA0E    010TF                    08930283
        SUSAP KSATK4DHUBEE26HUB   030HUB  K4D 0VE   010TF                    07370471
        SUSAP KSATK4DHUBEE26IAH   010HUBEEK4EA0E       IF                                                  18000
        SUSAP KSATK4DHUBEE26IAH   020HAMMUK4EA0E    010TF                    08930283
        SUSAP KSATK4DHUBEE26IAH   030IAH  K4D 0VE   010TF                    05200495

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSATK4GRW04     0085050328 N29312364W098281166-0400    +021420078600005 6150IISAT1
        SUSAP KSATK4GRW12L    0055191236 N29322507W098283971-0300    +0217700797000040100V
        SUSAP KSATK4GRW12R    0085021236 N29323389W098290795-0400    +0221400809000058150IIANT2
        SUSAP KSATK4GRW22     0085052128 N29322739W098270877+0400    +020440075400005 5150R
        SUSAP KSATK4GRW30L    0085023036 N29313800W098275599+0400    +0212000778000060150IIIZR1
```

DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE RNAV	TWO	HUBEE2.HUBEE	ONE	10/29/2010	

```
SUSAP KSATK4GRW30R    0055193036 N29314878W098275302+0300     +0212200779000060100V
```

DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HUBEE RNAV	**TWO**	**HUBEE2.HUBEE**	**ONE**	**10/29/2010**	

ARINC SUMMARY - 424-18 - SID

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	ALL	CHURN	010		IF		FB					
	ALL	ERRAD	020		TF		FB	1.0	080.9()	010.1		
	ALL	WEMAR	030		TF		FB	1.0	081.3()	042.5		
	ALL	HUBEE	040		TF		FB	1.0	093.3()	016.3		
	HAMMU	HUBEE	010		IF		FB					
	HAMMU	HAMMU	020		TF		FB	1.0	089.3()	028.3		
	HUB	HUBEE	010		IF		FB					
	HUB	HAMMU	020		TF		FB	1.0	089.3()	028.3		
	HUB	HUB	030		TF		FB	1.0	073.7()	047.1		
	IAH	HUBEE	010		IF		FB					
	IAH	HAMMU	020		TF		FB	1.0	089.3()	028.3		
	IAH	IAH	030		TF		FB	1.0	052.0()	049.5		

POINT DATA

WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
HUB	N293920.26	W0951635.92	N2939.338	W09516.599
IAH	N295724.90	W0952044.59	N2957.415	W09520.743
CHURN	N293902.39	W0980102.90	N2939.040	W09801.048
ERRAD	N293913.55	W0974926.30	N2939.226	W09749.438
HAMMU	N293243.26	W0961004.08	N2932.721	W09610.068
HUBEE	N293623.90	W0964214.72	N2936.398	W09642.245
WEMAR	N293937.15	W0970037.45	N2939.619	W09700.624
RW04	N293123.64	W0982811.66	N2931.394	W09828.194
RW12L	N293225.07	W0982839.71	N2932.418	W09828.662
RW12R	N293233.89	W0982907.95	N2932.565	W09829.133
RW22	N293227.39	W0982708.77	N2932.457	W09827.146
RW30L	N293138.00	W0982755.99	N2931.633	W09827.933
RW30R	N293148.78	W0982753.02	N2931.813	W09827.884

RUNWAY DATA

RWY	THRESHOLD ELEVATION	TCH
RW04	00786	56
RW12L	00797	40
RW12R	00809	58
RW22	00754	55
RW30L	00778	60
RW30R	00779	60

RADIO FIX AND HOLDING DATA RECORD

NAME: CHURN **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 293902.39N/0980102.90W **TYPE:** WP, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	SAN ANTONIO	SAT	VORTAC	H	080.91	088.91	23.21	23.21		2900	45000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	HUBEE (RNAV)			KSAT	SAN ANTONIO	TX (US)
DP	HUBEE (RNAV)			KSSF	SAN ANTONIO	TX (US)
EN ROUTE	V198	1				(US)
EN ROUTE	V212	1				(US)

REQUIRED CHARTING: DP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
UPDATE FIX USE.
REMOVED MILITARY IAP FROM REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 07/23/2012 **OFFICE:** AJV-353 **NAME:** LARRY STROUT (THERON CYRUS)

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** JILL OLSON

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZHU
ATC FACILITY: SAT / SAT / RND
OTHER:

QUALITY CHECKED 4

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

INFO ONLY

NAME: ERIAN **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 293913.55N/0974926.30W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	HUBEE (RNAV)			KSAT	SAN ANTONIO	TX (US)
DP	HUBEE (RNAV)			KSSF	SAN ANTONIO	TX (US)

REQUIRED CHARTING: DP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 07/29/2010

DEVELOPED BY: **DATE:** 08/11/2009 **OFFICE:** AVN-120 **NAME:** THOMAS KIRKPATRICK

APPROVED BY: **DATE:** 02/23/2010 **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZHU
ATC FACILITY: SAT
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: HAMMU **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 293243.26N/0961004.08W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	HUMBLE	IAH	VORTAC	H	235.36	240.36		49.50		5000	45000
2	EAGLE LAKE	ELA	VOR/DME	H	123.87	131.87		10.50		5000	45000
3	PALACIOS	PSX	VORTAC	H	000.81	008.81	47.30	47.30		5000	45000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
IAH	VORTAC	R-235	50	5000	14600
PSX	VORTAC	R-001	48	5000	14600

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
IAH (FAC 1) AND PSX (FAC 3) USED TO ESTABLISH FIX COORDINATES.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	HUBEE (RNAV)			KSAT	SAN ANTONIO	TX (US)
DP	HUBEE (RNAV)			KSSF	SAN ANTONIO	TX (US)
STAR	CARNE	1, 2, 3		KT00	ANAHUAC	TX (US)
STAR	HAMMU (RNAV)			KT00	ANAHUAC	TX (US)
STAR	CARNE	1, 2, 3		KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	HAMMU (RNAV)			KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	CARNE	1, 2, 3		K54T	BAYTOWN	TX (US)
STAR	HAMMU (RNAV)			K54T	BAYTOWN	TX (US)
STAR	CARNE	1, 2, 3		KHPY	BAYTOWN	TX (US)
STAR	HAMMU (RNAV)			KHPY	BAYTOWN	TX (US)
STAR	CARNE	1, 2, 3		KGLS	GALVESTON	TX (US)
STAR	HAMMU (RNAV)			KGLS	GALVESTON	TX (US)
STAR	CARNE	1, 2, 3		KAXH	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KAXH	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KCXO	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KCXO	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KDWH	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KDWH	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KEFD	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KEFD	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KEYQ	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KEYQ	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KHOU	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KHOU	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KIAH	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KIAH	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KIWS	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KIWS	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KLVJ	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KLVJ	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KSGR	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KSGR	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KTME	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KTME	HOUSTON	TX (US)
STAR	CARNE	1, 2, 3		KT41	LA PORTE	TX (US)
STAR	HAMMU (RNAV)			KT41	LA PORTE	TX (US)

REQUIRED CHARTING: DP, STAR, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
ADDED FIX MAKE-UP FACS.
UPDATE FIX USE.
CHANGED FAC 2 MAG/TRUE BEARING FROM 123.86/131.86 TO 123.87/131.87.

DEVELOPED BY: **DATE:** 07/18/2012 **OFFICE:** AJV-353 **NAME:** LARRY STROUT (THERON CYRUS)

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** JILL OLSON

QUALITY 4 CHECKED

SIGNATURE:

DISTRIBUTION:

NFDC
FPO: CEN
ARTCC: ZHU
ATC FACILITY: HOUSTON APP CON
OTHER:

QUALITY CHECKED 4

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY INFO ONLY

NAME: HOBBY VOR/DME **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 293920.26N/0951635.92W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	HOBBY	HUB	VOR/DME	H							45000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	SE	HUB	VOR/DME	146.95	326.95	R	1		3000	6000	4	5

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	BLDG (48-004185)	294531.00N/0952204.00W	1049	5D
1	200	STACK (48-004269)	294300.00N/0951339.00W	501	5D

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	PALACIOS			KLBX	ANGLETON/LAKE JACKSON	TX (US)
DP	TRUAX			KLBX	ANGLETON/LAKE JACKSON	TX (US)
DP	PALACIOS			KGLS	GALVESTON	TX (US)
DP	TRUAX			KGLS	GALVESTON	TX (US)
DP	PALACIOS			KAXH	HOUSTON	TX (US)
DP	PALACIOS			KCXO	HOUSTON	TX (US)
DP	PALACIOS			KDWH	HOUSTON	TX (US)
DP	PALACIOS			KEFD	HOUSTON	TX (US)
DP	TRUAX			KEFD	HOUSTON	TX (US)
DP	PALACIOS			KEYQ	HOUSTON	TX (US)
DP	PALACIOS			KHOU	HOUSTON	TX (US)
DP	TRUAX			KHOU	HOUSTON	TX (US)
DP	PALACIOS			KIAH	HOUSTON	TX (US)
DP	TRUAX			KIAH	HOUSTON	TX (US)
DP	PALACIOS			KIWS	HOUSTON	TX (US)
DP	PALACIOS			KSGR	HOUSTON	TX (US)
DP	TRUAX			KSGR	HOUSTON	TX (US)
DP	PALACIOS			KTME	HOUSTON	TX (US)
DP	PALACIOS			KT41	LA PORTE	TX (US)
DP	HUBEE (RNAV)			KSAT	SAN ANTONIO	TX (US)
DP	HUBEE (RNAV)			KSSF	SAN ANTONIO	TX (US)
EN ROUTE	J138					(US)
EN ROUTE	J177					(US)
EN ROUTE	J37					(US)
EN ROUTE	V15					(US)
EN ROUTE	V194					(US)
EN ROUTE	V198					(US)
EN ROUTE	V20					(US)
EN ROUTE	V68					(US)
EN ROUTE	V548					TX (US)
EN ROUTE	V558					TX (US)
EN ROUTE	V76					TX (US)
IAP	ILS OR LOC RWY 17			KLBX	ANGLETON/LAKE JACKSON	TX (US)
IAP	ILS OR LOC RWY 13			KGLS	GALVESTON	TX (US)
IAP	VOR RWY 13			KGLS	GALVESTON	TX (US)
IAP	LOC/DME RWY 9			KAXH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 14			KCXO	HOUSTON	TX (US)
IAP	NBD RWY 14			KCXO	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 17R			KEFD	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 22			KEFD	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 35L			KEFD	HOUSTON	TX (US)
IAP	NDB-F			KEYQ	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 12R			KHOU	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 30L			KHOU	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 4			KHOU	HOUSTON	TX (US)
IAP	ILS RWY 4 (CAT II)			KHOU	HOUSTON	TX (US)
IAP	ILS RWY 4 (CAT III)			KHOU	HOUSTON	TX (US)
IAP	LOC RWY 22			KHOU	HOUSTON	TX (US)
IAP	VOR/DME RWY 30L			KHOU	HOUSTON	TX (US)
IAP	VOR/DME RWY 35			KHOU	HOUSTON	TX (US)
IAP	VOR/DME RWY 4			KHOU	HOUSTON	TX (US)

QUALITY CHECKED 4

IAP	VOR/DME-E	KHOU	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 15R	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 26L	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 26R	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 27	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 8L	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 8R	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 9	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26L (CAT I)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26L (CAT II)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26L (CAT III)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26R (CAT I)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26R (CAT II)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26R (CAT III)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 27 (CAT I)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 27 (CAT II)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 27 (CAT III)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 8L (CAT II)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 8L (CAT III)	KIAH	HOUSTON	TX (US)
IAP	RNAV (GPS) Y RWY 33	KIWS	HOUSTON	TX (US)
IAP	RNAV (GPS) Z RWY 33	KIWS	HOUSTON	TX (US)
IAP	VOR-D	KIWS	HOUSTON	TX (US)
IAP	VOR/DME RNAV RWY 33	KIWS	HOUSTON	TX (US)
IAP	VOR-B	KLVJ	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 35	KSGR	HOUSTON	TX (US)
IAP	VOR/DME-A	KSGR	HOUSTON	TX (US)
IAP	NDB RWY 30	KT41	LA PORTE	TX (US)
IAP	VOR-A	KT41	LA PORTE	TX (US)
STAR	CARNE	KT00	ANAHUAC	TX (US)
STAR	DAISETTA	KT00	ANAHUAC	TX (US)
STAR	KABOY (RNAV)	KT00	ANAHUAC	TX (US)
STAR	ROKIT (RNAV)	KT00	ANAHUAC	TX (US)
STAR	ROYOH	KT00	ANAHUAC	TX (US)
STAR	CARNE	KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	DAISETTA	KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	KABOY (RNAV)	KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	ROKIT (RNAV)	KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	ROYOH	KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	TEXNN	KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	BITER	K3R9	AUSTIN	TX (US)
STAR	WLEEE (RNAV)	K3R9	AUSTIN	TX (US)
STAR	BITER	K6R4	AUSTIN	TX (US)
STAR	WLEEE (RNAV)	K6R4	AUSTIN	TX (US)
STAR	BITER	KAUS	AUSTIN	TX (US)
STAR	WLEEE (RNAV)	KAUS	AUSTIN	TX (US)
STAR	CARNE	K54T	BAYTOWN	TX (US)
STAR	DAISETTA	K54T	BAYTOWN	TX (US)
STAR	KABOY (RNAV)	K54T	BAYTOWN	TX (US)
STAR	ROKIT (RNAV)	K54T	BAYTOWN	TX (US)
STAR	ROYOH	K54T	BAYTOWN	TX (US)
STAR	CARNE	KHPY	BAYTOWN	TX (US)
STAR	DAISETTA	KHPY	BAYTOWN	TX (US)
STAR	KABOY (RNAV)	KHPY	BAYTOWN	TX (US)
STAR	ROKIT (RNAV)	KHPY	BAYTOWN	TX (US)
STAR	ROYOH	KHPY	BAYTOWN	TX (US)
STAR	CARNE	KGLS	GALVESTON	TX (US)
STAR	DAISETTA	KGLS	GALVESTON	TX (US)
STAR	KABOY (RNAV)	KGLS	GALVESTON	TX (US)
STAR	ROKIT (RNAV)	KGLS	GALVESTON	TX (US)
STAR	ROYOH	KGLS	GALVESTON	TX (US)
STAR	TEXNN	KGLS	GALVESTON	TX (US)
STAR	BITER	KGTU	GEORGETOWN	TX (US)
STAR	WLEEE (RNAV)	KGTU	GEORGETOWN	TX (US)
STAR	CARNE	KAXH	HOUSTON	TX (US)
STAR	DAISETTA	KAXH	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KAXH	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KAXH	HOUSTON	TX (US)
STAR	ROYOH	KAXH	HOUSTON	TX (US)
STAR	CARNE	KCXO	HOUSTON	TX (US)
STAR	DAISETTA	KCXO	HOUSTON	TX (US)
STAR	GILCO	KCXO	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KCXO	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KCXO	HOUSTON	TX (US)
STAR	ROYOH	KCXO	HOUSTON	TX (US)
STAR	CARNE	KDWH	HOUSTON	TX (US)
STAR	DAISETTA	KDWH	HOUSTON	TX (US)
STAR	GILCO	KDWH	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KDWH	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KDWH	HOUSTON	TX (US)
STAR	ROYOH	KDWH	HOUSTON	TX (US)
STAR	CARNE	KEFD	HOUSTON	TX (US)
STAR	DAISETTA	KEFD	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KEFD	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KEFD	HOUSTON	TX (US)
STAR	ROYOH	KEFD	HOUSTON	TX (US)
STAR	TEXNN	KEFD	HOUSTON	TX (US)
STAR	CARNE	KEYQ	HOUSTON	TX (US)
STAR	DAISETTA	KEYQ	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KEYQ	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KEYQ	HOUSTON	TX (US)

STAR	ROYOH	KEYQ	HOUSTON	TX (US)
STAR	BLUBELL	KHOU	HOUSTON	TX (US)
STAR	CARNE	KHOU	HOUSTON	TX (US)
STAR	DAISETTA	KHOU	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KHOU	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KHOU	HOUSTON	TX (US)
STAR	ROYOH	KHOU	HOUSTON	TX (US)
STAR	TEXNN	KHOU	HOUSTON	TX (US)
STAR	CARNE	KIAH	HOUSTON	TX (US)
STAR	DAISETTA	KIAH	HOUSTON	TX (US)
STAR	GILCO	KIAH	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KIAH	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KIAH	HOUSTON	TX (US)
STAR	ROYOH	KIAH	HOUSTON	TX (US)
STAR	CARNE	KIWS	HOUSTON	TX (US)
STAR	DAISETTA	KIWS	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KIWS	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KIWS	HOUSTON	TX (US)
STAR	ROYOH	KIWS	HOUSTON	TX (US)
STAR	ROYOH	KIWS	HOUSTON	TX (US)
STAR	CARNE	KLVJ	HOUSTON	TX (US)
STAR	DAISETTA	KLVJ	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KLVJ	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KLVJ	HOUSTON	TX (US)
STAR	ROYOH	KLVJ	HOUSTON	TX (US)
STAR	CARNE	KSGR	HOUSTON	TX (US)
STAR	DAISETTA	KSGR	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KSGR	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KSGR	HOUSTON	TX (US)
STAR	ROYOH	KSGR	HOUSTON	TX (US)
STAR	CARNE	KTME	HOUSTON	TX (US)
STAR	DAISETTA	KTME	HOUSTON	TX (US)
STAR	KABOY (RNAV)	KTME	HOUSTON	TX (US)
STAR	ROKIT (RNAV)	KTME	HOUSTON	TX (US)
STAR	ROYOH	KTME	HOUSTON	TX (US)
STAR	CARNE	KT41	LA PORTE	TX (US)
STAR	DAISETTA	KT41	LA PORTE	TX (US)
STAR	KABOY (RNAV)	KT41	LA PORTE	TX (US)
STAR	ROKIT (RNAV)	KT41	LA PORTE	TX (US)
STAR	ROYOH	KT41	LA PORTE	TX (US)
STAR	BITER	KRYW	LAGO VISTA	TX (US)
STAR	WLEEE (RNAV)	KRYW	LAGO VISTA	TX (US)
STAR	RODIO (RNAV)	KSAT	SAN ANTONIO	TX (US)
STAR	RODIO (RNAV)	KSKF	SAN ANTONIO	TX (US)
STAR	RODIO (RNAV)	KSSF	SAN ANTONIO	TX (US)
STAR	BITER	KHYI	SAN MARCOS	TX (US)
STAR	WLEEE (RNAV)	KHYI	SAN MARCOS	TX (US)
STAR	RODIO (RNAV)	KRND	UNIVERSAL CITY	TX (US)

REQUIRED CHARTING: DP, STAR, MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 15 **DATE OF REVISION:** 12/17/2009 **INFO ONLY**

REASON FOR REVISION:
LAT/LNG UPDATED: MOVED 2.04 FT NE.
UNPLANNED HOLDING NOTE MOVED FROM FIX REMARKS TO HOLDING RESTRICTIONS.
REMARK ADDED: PRECIPITOUS TERRAIN EVALUATION COMPLETED.

DEVELOPED BY: **DATE:** 08/19/2009 **OFFICE:** AVN-101 **NAME:** EUGENE NEWTON (ERIC VALDEZ)

APPROVED BY: **DATE:** **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZHU
ATC FACILITY: HOUSTON APP CON
OTHER:

QUALITY CHECKED

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: HUBEE **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 293623.90N/0964214.72W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	HUBEE (RNAV)			KSAT	SAN ANTONIO	TX (US)
DP	HUBEE (RNAV)			KSSF	SAN ANTONIO	TX (US)

REQUIRED CHARTING: DP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 07/29/2010

DEVELOPED BY: **DATE:** 08/11/2009 **OFFICE:** AVN-120 **NAME:** THOMAS KIRKPATRICK

APPROVED BY: **DATE:** 02/23/2010 **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZHU
ATC FACILITY:
OTHER:

QUALITY CHECKED 4

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: HUMBLE VORTAC **STATE:** TX **COUNTY:** US

LATITUDE/LONGITUDE: 295724.90N/0952044.59W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	HUMBLE	IAH	VORTAC	H							45000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	TOWER (48-004102)	295316.00N/0953123.00W	923	2C

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	JACKSON			KJAN	JACKSON	MS (US)
DP	ALEXANDRIA			KLBX	ANGLETON/LAKE JACKSON	TX (US)
DP	CRIED			KLBX	ANGLETON/LAKE JACKSON	TX (US)
DP	EL DORADO			KLBX	ANGLETON/LAKE JACKSON	TX (US)
DP	INDUSTRY			KLBX	ANGLETON/LAKE JACKSON	TX (US)
DP	LEONA			KLBX	ANGLETON/LAKE JACKSON	TX (US)
DP	LUFKIN			KLBX	ANGLETON/LAKE JACKSON	TX (US)
DP	GIFFA			K54T	BAYTOWN	TX (US)
DP	GIFFA			KHPY	BAYTOWN	TX (US)
DP	ALEXANDRIA			KGLS	GALVESTON	TX (US)
DP	CRIED			KGLS	GALVESTON	TX (US)
DP	EL DORADO			KGLS	GALVESTON	TX (US)
DP	GIFFA			KGLS	GALVESTON	TX (US)
DP	INDUSTRY			KGLS	GALVESTON	TX (US)
DP	LEONA			KGLS	GALVESTON	TX (US)
DP	LUFKIN			KGLS	GALVESTON	TX (US)
DP	ALEXANDRIA			KAXH	HOUSTON	TX (US)
DP	CRIED			KAXH	HOUSTON	TX (US)
DP	EL DORADO			KAXH	HOUSTON	TX (US)
DP	GIFFA			KAXH	HOUSTON	TX (US)
DP	INDUSTRY			KAXH	HOUSTON	TX (US)
DP	LEONA			KAXH	HOUSTON	TX (US)
DP	LUFKIN			KAXH	HOUSTON	TX (US)
DP	ALEXANDRIA			KCXO	HOUSTON	TX (US)
DP	CRIED			KCXO	HOUSTON	TX (US)
DP	EL DORADO			KCXO	HOUSTON	TX (US)
DP	GIFFA			KCXO	HOUSTON	TX (US)
DP	INDUSTRY			KCXO	HOUSTON	TX (US)
DP	JUNCTION			KCXO	HOUSTON	TX (US)
DP	LAKE CHARLES			KCXO	HOUSTON	TX (US)
DP	LEONA			KCXO	HOUSTON	TX (US)
DP	LUFKIN			KCXO	HOUSTON	TX (US)
DP	ALEXANDRIA			KDWH	HOUSTON	TX (US)
DP	CRIED			KDWH	HOUSTON	TX (US)
DP	DAISETTA			KDWH	HOUSTON	TX (US)
DP	EL DORADO			KDWH	HOUSTON	TX (US)
DP	GIFFA			KDWH	HOUSTON	TX (US)
DP	INDUSTRY			KDWH	HOUSTON	TX (US)
DP	JUNCTION			KDWH	HOUSTON	TX (US)
DP	LAKE CHARLES			KDWH	HOUSTON	TX (US)
DP	LEONA			KDWH	HOUSTON	TX (US)
DP	LUFKIN			KDWH	HOUSTON	TX (US)
DP	ALEXANDRIA			KEFD	HOUSTON	TX (US)
DP	CRIED			KEFD	HOUSTON	TX (US)
DP	EL DORADO			KEFD	HOUSTON	TX (US)
DP	GIFFA			KEFD	HOUSTON	TX (US)
DP	INDUSTRY			KEFD	HOUSTON	TX (US)
DP	LEONA			KEFD	HOUSTON	TX (US)
DP	LUFKIN			KEFD	HOUSTON	TX (US)
DP	ALEXANDRIA			KEYQ	HOUSTON	TX (US)
DP	CRIED			KEYQ	HOUSTON	TX (US)
DP	EL DORADO			KEYQ	HOUSTON	TX (US)
DP	GIFFA			KEYQ	HOUSTON	TX (US)
DP	INDUSTRY			KEYQ	HOUSTON	TX (US)
DP	LEONA			KEYQ	HOUSTON	TX (US)
DP	LUFKIN			KEYQ	HOUSTON	TX (US)
DP	ALEXANDRIA			KHOU	HOUSTON	TX (US)

QUALITY CHECKED 4

DP	CRIED	KHOU	HOUSTON	TX (US)
DP	EL DORADO	KHOU	HOUSTON	TX (US)
DP	GIFFA	KHOU	HOUSTON	TX (US)
DP	INDUSTRY	KHOU	HOUSTON	TX (US)
DP	LEONA	KHOU	HOUSTON	TX (US)
DP	LUFKIN	KHOU	HOUSTON	TX (US)
DP	ALEXANDRIA	KIAH	HOUSTON	TX (US)
DP	CRIED	KIAH	HOUSTON	TX (US)
DP	EL DORADO	KIAH	HOUSTON	TX (US)
DP	GIFFA	KIAH	HOUSTON	TX (US)
DP	INDUSTRY	KIAH	HOUSTON	TX (US)
DP	JUNCTION	KIAH	HOUSTON	TX (US)
DP	LAKE CHARLES	KIAH	HOUSTON	TX (US)
DP	LEONA	KIAH	HOUSTON	TX (US)
DP	LUFKIN	KIAH	HOUSTON	TX (US)
DP	ALEXANDRIA	KIWS	HOUSTON	TX (US)
DP	CRIED	KIWS	HOUSTON	TX (US)
DP	EL DORADO	KIWS	HOUSTON	TX (US)
DP	GIFFA	KIWS	HOUSTON	TX (US)
DP	INDUSTRY	KIWS	HOUSTON	TX (US)
DP	LEONA	KIWS	HOUSTON	TX (US)
DP	LUFKIN	KIWS	HOUSTON	TX (US)
DP	ALEXANDRIA	KSGR	HOUSTON	TX (US)
DP	CRIED	KSGR	HOUSTON	TX (US)
DP	EL DORADO	KSGR	HOUSTON	TX (US)
DP	GIFFA	KSGR	HOUSTON	TX (US)
DP	INDUSTRY	KSGR	HOUSTON	TX (US)
DP	LEONA	KSGR	HOUSTON	TX (US)
DP	LUFKIN	KSGR	HOUSTON	TX (US)
DP	ALEXANDRIA	KTME	HOUSTON	TX (US)
DP	CRIED	KTME	HOUSTON	TX (US)
DP	EL DORADO	KTME	HOUSTON	TX (US)
DP	GIFFA	KTME	HOUSTON	TX (US)
DP	INDUSTRY	KTME	HOUSTON	TX (US)
DP	LEONA	KTME	HOUSTON	TX (US)
DP	LUFKIN	KTME	HOUSTON	TX (US)
DP	ALEXANDRIA	KT41	LA PORTE	TX (US)
DP	CRIED	KT41	LA PORTE	TX (US)
DP	EL DORADO	KT41	LA PORTE	TX (US)
DP	GIFFA	KT41	LA PORTE	TX (US)
DP	INDUSTRY	KT41	LA PORTE	TX (US)
DP	LEONA	KT41	LA PORTE	TX (US)
DP	LUFKIN	KT41	LA PORTE	TX (US)
DP	HUBEE (RNAV)	KSAT	SAN ANTONIO	TX (US)
DP	HUBEE (RNAV)	KSSF	SAN ANTONIO	TX (US)
EN ROUTE	J101			(US)
EN ROUTE	J15			(US)
EN ROUTE	J177			(US)
EN ROUTE	J180			(US)
EN ROUTE	J2			(US)
EN ROUTE	J29			(US)
EN ROUTE	J33			(US)
EN ROUTE	J86			(US)
EN ROUTE	J87			(US)
EN ROUTE	V13			(US)
EN ROUTE	V222			(US)
EN ROUTE	V407-574 — separate			(US)
EN ROUTE	V477			(US)
EN ROUTE	V571-574 — delete			(US)
IAP	RNAV (GPS) RWY 32	KCXO	HOUSTON	TX (US)
IAP	LOC RWY 17R	KDWH	HOUSTON	TX (US)
IAP	ILS RWY 22	KEFD	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 12R	KHOU	HOUSTON	TX (US)
IAP	ILS RWY 30L	KHOU	HOUSTON	TX (US)
IAP	LOC RWY 22	KHOU	HOUSTON	TX (US)
IAP	VOR/DME RWY 30L	KHOU	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 15R	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 26L	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 26R	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 27	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 33R	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 8L	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 8R	KIAH	HOUSTON	TX (US)
IAP	ILS OR LOC RWY 9	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26L (CAT II)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26L (CAT III)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26R (CAT II)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 26R (CAT III)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 27 (CAT II)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 27 (CAT III)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 8L (CAT II)	KIAH	HOUSTON	TX (US)
IAP	ILS RWY 8L (CAT III)	KIAH	HOUSTON	TX (US)
IAP	VOR-D	KIWS	HOUSTON	TX (US)
IAP	NDB RWY 17	KSGR	HOUSTON	TX (US)
STAR	CARNE	KT00	ANAHUAC	TX (US)
STAR	DAISETTA	KT00	ANAHUAC	TX (US)
STAR	DOCCC	KT00	ANAHUAC	TX (US)
STAR	CARNE	KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	DAISETTA	KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	DOCCC	KLBX	ANGLETON/LAKE JACKSON	TX (US)

QUALITY CHECKED 4

STAR	BITER	K3R9	AUSTIN	TX (US)
STAR	WLEEE (RNAV)	K3R9	AUSTIN	TX (US)
STAR	BITER	K6R4	AUSTIN	TX (US)
STAR	WLEEE (RNAV)	K6R4	AUSTIN	TX (US)
STAR	BITER	KAUS	AUSTIN	TX (US)
STAR	WLEEE (RNAV)	KAUS	AUSTIN	TX (US)
STAR	CARNE	K54T	BAYTOWN	TX (US)
STAR	DAISETTA	K54T	BAYTOWN	TX (US)
STAR	DOCCC	K54T	BAYTOWN	TX (US)
STAR	CARNE	KHPY	BAYTOWN	TX (US)
STAR	DAISETTA	KHPY	BAYTOWN	TX (US)
STAR	DOCCC	KHPY	BAYTOWN	TX (US)
STAR	CEDAR CREEK	KDFW	DALLAS-FORT WORTH	TX (US)
STAR	DUMPY	KDFW	DALLAS-FORT WORTH	TX (US)
STAR	DODJE	KAFW	FORT WORTH	TX (US)
STAR	CARNE	KGLS	GALVESTON	TX (US)
STAR	DAISETTA	KGLS	GALVESTON	TX (US)
STAR	DOCCC	KGLS	GALVESTON	TX (US)
STAR	BITER	KGTU	GEORGETOWN	TX (US)
STAR	WLEEE (RNAV)	KGTU	GEORGETOWN	TX (US)
STAR	CARNE	KAXH	HOUSTON	TX (US)
STAR	DAISETTA	KAXH	HOUSTON	TX (US)
STAR	DOCCC	KAXH	HOUSTON	TX (US)
STAR	CARNE	KCXO	HOUSTON	TX (US)
STAR	DAISETTA	KCXO	HOUSTON	TX (US)
STAR	GILCO	KCXO	HOUSTON	TX (US)
STAR	RIICE	KCXO	HOUSTON	TX (US)
STAR	CARNE	KDWH	HOUSTON	TX (US)
STAR	GILCO	KDWH	HOUSTON	TX (US)
STAR	RIICE	KDWH	HOUSTON	TX (US)
STAR	CARNE	KEFD	HOUSTON	TX (US)
STAR	DAISETTA	KEFD	HOUSTON	TX (US)
STAR	DOCCC	KEFD	HOUSTON	TX (US)
STAR	CARNE	KEYQ	HOUSTON	TX (US)
STAR	DAISETTA	KEYQ	HOUSTON	TX (US)
STAR	DOCCC	KEYQ	HOUSTON	TX (US)
STAR	CARNE	KHOU	HOUSTON	TX (US)
STAR	DAISETTA	KHOU	HOUSTON	TX (US)
STAR	DOCCC	KHOU	HOUSTON	TX (US)
STAR	RIICE	KHOU	HOUSTON	TX (US)
STAR	CARNE	KIAH	HOUSTON	TX (US)
STAR	DAISETTA	KIAH	HOUSTON	TX (US)
STAR	GILCO	KIAH	HOUSTON	TX (US)
STAR	RIICE	KIAH	HOUSTON	TX (US)
STAR	CARNE	KIWS	HOUSTON	TX (US)
STAR	DAISETTA	KIWS	HOUSTON	TX (US)
STAR	DOCCC	KIWS	HOUSTON	TX (US)
STAR	CARNE	KLVJ	HOUSTON	TX (US)
STAR	DAISETTA	KLVJ	HOUSTON	TX (US)
STAR	DOCCC	KLVJ	HOUSTON	TX (US)
STAR	CARNE	KSGR	HOUSTON	TX (US)
STAR	DAISETTA	KSGR	HOUSTON	TX (US)
STAR	DOCCC	KSGR	HOUSTON	TX (US)
STAR	CARNE	KTME	HOUSTON	TX (US)
STAR	DAISETTA	KTME	HOUSTON	TX (US)
STAR	DOCCC	KTME	HOUSTON	TX (US)
STAR	CARNE	KT41	LA PORTE	TX (US)
STAR	DAISETTA	KT41	LA PORTE	TX (US)
STAR	DOCCC	KT41	LA PORTE	TX (US)
STAR	BITER	KRYW	LAGO VISTA	TX (US)
STAR	WLEEE (RNAV)	KRYW	LAGO VISTA	TX (US)
STAR	RODIO (RNAV)	KSAT	SAN ANTONIO	TX (US)
STAR	RODIO (RNAV)	KSKF	SAN ANTONIO	TX (US)
STAR	RODIO (RNAV)	KSSF	SAN ANTONIO	TX (US)
STAR	BITER	KHYI	SAN MARCOS	TX (US)
STAR	WLEEE (RNAV)	KHYI	SAN MARCOS	TX (US)
STAR	RODIO (RNAV)	KRND	UNIVERSAL CITY	TX (US)

REQUIRED CHARTING: DP, STAR, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

INFO ONLY

RECORD REVISION NUMBER: 6 **DATE OF REVISION:** 07/29/2010

REASON FOR REVISION:
ADDED "PRECIPITOUS TERRAIN EVALUATION COMPLETED" TO REMARKS.

DEVELOPED BY: **DATE:** 07/17/2009 **OFFICE:** AVN-120 **NAME:** THOMAS KIRKPATRICK

APPROVED BY: **DATE:** 02/26/2010 **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

QUALITY CHECKED

DISTRIBUTION:

NFDC
FPO: CEN
ARTCC: ZHU
ATC FACILITY: IAH
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WEMAR **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 293937.15N/0970037.45W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	EAGLE LAKE	ELA	VOR/DME	H	261.97	269.97	36.24	36.24		2000	45000
2	INDUSTRY	IDU	VORTAC	L	225.00	233.00	29.34	29.34		2000	17500

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
INDUSTRY (FAC 2) AND EAGLE LAKE (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BEVOH (RNAV)			K3R9	AUSTIN	TX (US)
DP	BEVOH (RNAV)			KAUS	AUSTIN	TX (US)
DP	BEVOH (RNAV)			KEDC	AUSTIN	TX (US)
DP	BEVOH (RNAV)			KGTU	GEORGETOWN	TX (US)
DP	BEVOH (RNAV)			KRYW	LAGO VISTA	TX (US)
DP	HUBEE (RNAV)			KSAT	SAN ANTONIO	TX (US)
DP	HUBEE (RNAV)			KSSF	SAN ANTONIO	TX (US)
DP	BEVOH (RNAV)			KHYI	SAN MARCOS	TX (US)
EN ROUTE	J138					(US)
EN ROUTE	T284					(US)
EN ROUTE	V198	1, 2				(US)
EN ROUTE	V212	1, 2				(US)
EN ROUTE	V556	1, 2				(US)
IAP	NDB RWY 31	1, 2		KT85	YOAKUM	TX (US)
IAP	RNAV (GPS) RWY 31			KT85	YOAKUM	TX (US)
STAR	HAMMU (RNAV)			KT00	ANAHUAC	TX (US)
STAR	STROS (RNAV)			KT00	ANAHUAC	TX (US)
STAR	HAMMU (RNAV)			KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	STROS (RNAV)			KLBX	ANGLETON/LAKE JACKSON	TX (US)
STAR	HAMMU (RNAV)			K54T	BAYTOWN	TX (US)
STAR	STROS (RNAV)			K54T	BAYTOWN	TX (US)
STAR	HAMMU (RNAV)			KHPY	BAYTOWN	TX (US)
STAR	STROS (RNAV)			KHPY	BAYTOWN	TX (US)
STAR	HAMMU (RNAV)			KGLS	GALVESTON	TX (US)
STAR	STROS (RNAV)			KGLS	GALVESTON	TX (US)
STAR	HAMMU (RNAV)			KAXH	HOUSTON	TX (US)
STAR	STROS (RNAV)			KAXH	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KCXO	HOUSTON	TX (US)
STAR	STROS (RNAV)			KCXO	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KDWH	HOUSTON	TX (US)
STAR	STROS (RNAV)			KDWH	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KEFD	HOUSTON	TX (US)
STAR	STROS (RNAV)			KEFD	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KEYQ	HOUSTON	TX (US)
STAR	STROS (RNAV)			KEYQ	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KHOU	HOUSTON	TX (US)
STAR	STROS (RNAV)			KHOU	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KIAH	HOUSTON	TX (US)
STAR	STROS (RNAV)			KIAH	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KIWS	HOUSTON	TX (US)
STAR	STROS (RNAV)			KIWS	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KLVJ	HOUSTON	TX (US)
STAR	STROS (RNAV)			KLVJ	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KSGR	HOUSTON	TX (US)
STAR	STROS (RNAV)			KSGR	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KTME	HOUSTON	TX (US)
STAR	STROS (RNAV)			KTME	HOUSTON	TX (US)
STAR	HAMMU (RNAV)			KT41	LA PORTE	TX (US)
STAR	STROS (RNAV)			KT41	LA PORTE	TX (US)

REQUIRED CHARTING: DP, STAR, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 11/15/2012

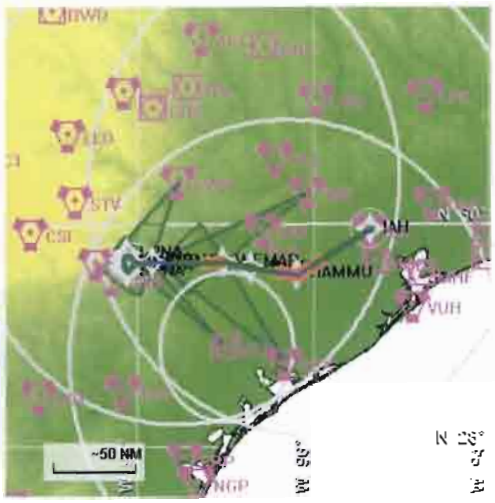
REASON FOR REVISION:
ADDED ENROUTE HIGH CHARTING.
UPDATED FIX USE.
DELETED FAC 3.
DELETED FAC 3 ESV.

QUALITY 4 CHECKED

DEVELOPED BY:	**DATE:** 07/23/2012	**OFFICE:** AJV-353	**NAME:** LARRY STROUT (THERON CYRUS)
APPROVED BY:	**DATE:**	**OFFICE:** AJV-353	**NAME:** JILL OLSON
	SIGNATURE:		

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZHU
ATC FACILITY: HOUSTON APP CON
OTHER:

QUALITY CHECKED 4



Name:	enanders
Project Name:	
Software:	RNAV-Pro™
Version:	2.34
Date/Time:	7/9/2009 8:03:40 AM
Input File:	KSAT_PNA_CHURN_NXTFi...
Databases:	AVNIS Date: 06/19/2009
	NFD Date: 07/02/2009
	DTED® (MAX) Date: 2002

Results Summary:

Flyability	✔
DME/DME	✔
Radars	✔
Comms	?
TERPS	?

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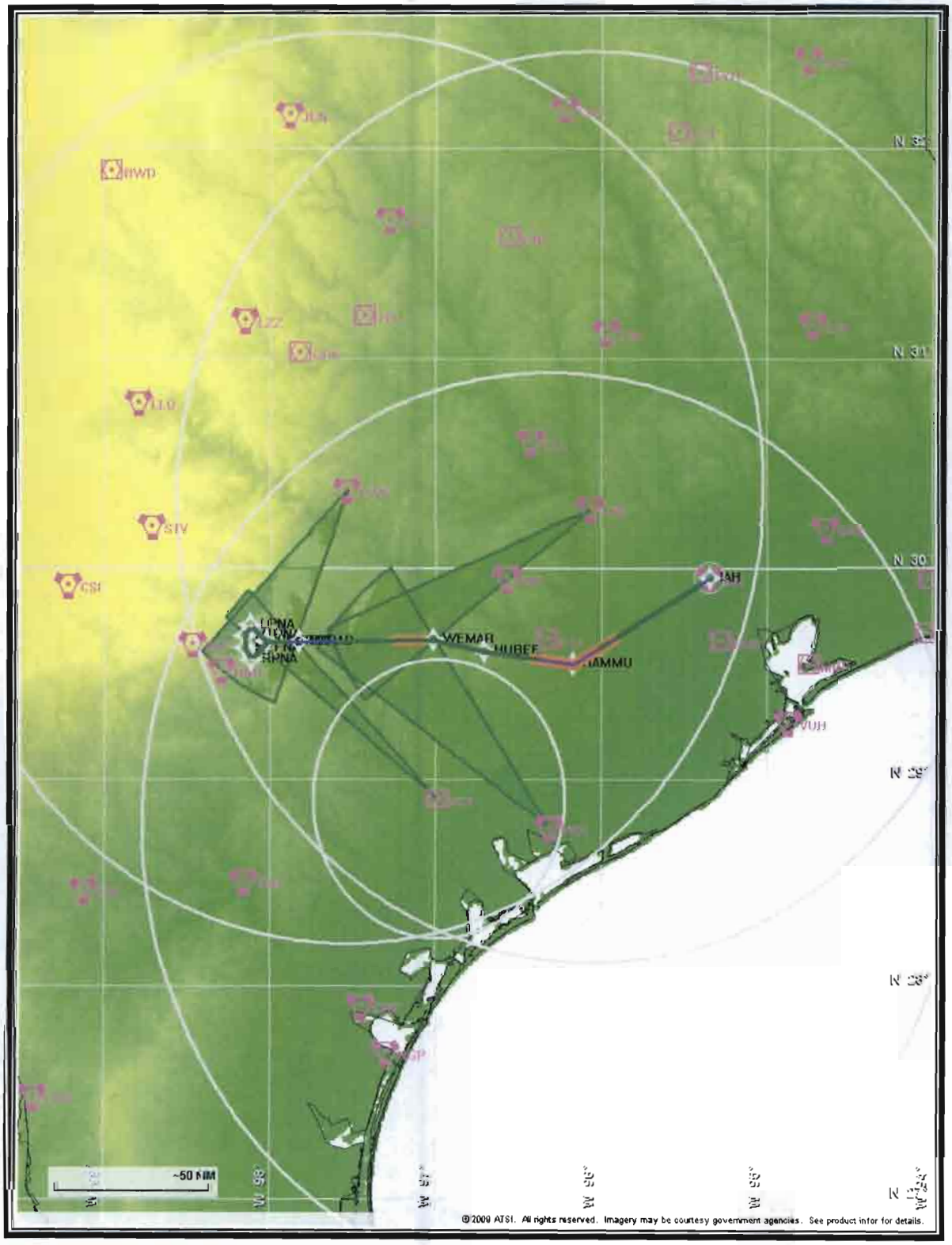
N 31
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W 93
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LZZ
LLO
STV
CSI
IAH
VUH
WEMAR
HUBEE
HAMMU
~50 NM
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Flight Plan

Return To Summary

Name	Type	Lat/Lon	Alt [Ft]	IAS [Kts]	Turn Type	Leg Type
CHURN	WP	N 29° 39' 2.39" W 98° 1' 2.90"	5000.0	200.0	Fly Over	TF
LPNA	WP	N 29° 43' 54.72" W 98° 6' 49.93"	5000.0	200.0	Fly By	TF
M1PNA	WP	N 29° 40' 44.00" W 98° 8' 50.74"	5000.0	200.0	Fly By	TF
M2PNA	WP	N 29° 37' 6.09" W 98° 8' 46.09"	5000.0	200.0	Fly By	TF
RPNA	WP	N 29° 33' 59.39" W 98° 6' 37.44"	5000.0	200.0	Fly By	TF
CHURN1	WP	N 29° 39' 2.39" W 98° 1' 2.90"	5000.0	200.0	Fly By	TF
ERRAD	WP	N 29° 39' 13.55" W 97° 49' 26.30"	5000.0	200.0	Fly By	TF
WEMAR	WP	N 29° 39' 37.15" W 97° 0' 37.45"	5000.0	200.0	Fly By	TF
HUBEE	WP	N 29° 36' 23.90" W 96° 42' 14.72"	5000.0	200.0	Fly By	TF
HAMMU	WP	N 29° 32' 43.26" W 96° 10' 4.08"	5000.0	200.0	Fly By	TF
IAH	WP	N 29° 57' 24.90" W 95° 20' 44.59"	5000.0	200.0	Fly Over	TF

Flyability

Return To Summary

Settings:

Flight Type: Arrival/Approach
Aircraft Category: Cat D
Climb Gradient: *None assigned*
Ground Speeds:

Table:

200.0 Kts up to **11000.0 Ft.**
240.0 Kts up to **18000.0 Ft.**
260.0 Kts up to **24000.0 Ft.**
340.0 Kts up to **99900.0 Ft.**

Wind Settings: *None assigned*
Descent During a Turn: Allowed

Entire track is fly-able

DME/DME

Return To Summary

Settings:

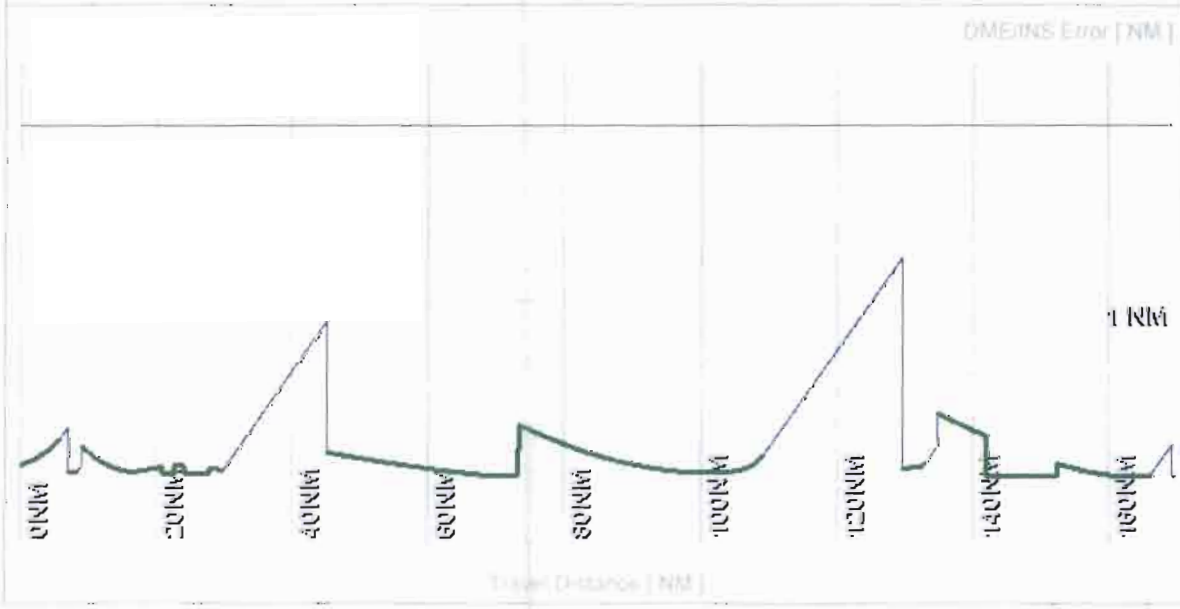
RNP: 2.0
Flight Mode: Manual
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Inertial Drift: Enabled
Initial Drift: 0.558 NM
INS Drift Rate: 8.000 NM/Hour
Range Mode: OSV
Co-Frequencies: Evaluated
RNP Edges: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , TACAN , and User
DME Include Angles: 30 to 150
Critical DMEs: Allowed
DoD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Flight Check DMEs: Selected
Higher Altitudes: Evaluated
Near Maximum Altitude: Evaluated

Total Number of DMEs Used: 10

Maximum DME Error: 1.180 NM.

4 Critical DMEs were found.

Available DMEs: CWK, SAT, VCT, PSX, TNV, IDU, ELA, IAH, HUB, DAS



DME/DME (Continued.)

Return To Summary

DMEs Used

#	Name	Lat/Lon	Range	Source	Critical	Err. [NM]	Status	Time	Distance
1	CWK	N 30° 22' 42.78" W 97° 31' 47.45"	H + ESV	User	NO	1.180	Enabled	16.3 %	16.3 %
2	SAT	N 29° 38' 38.51" W 98° 27' 40.73"	H	Database	NO	1.180	Enabled	12.4 %	12.4 %
3	VCT	N 28° 54' 1.15" W 96° 58' 44.16"	L + ESV	User	NO	1.180	Enabled	3.9 %	3.9 %
4	TNV	N 30° 17' 18.67" W 96° 3' 29.63"	H + ESV	User	YES	**Drift Time**	Enabled	21.0 %	21.0 %
5	PSX	N 28° 45' 51.93" W 96° 18' 22.25"	H + ESV	User	YES	**1.980**	Enabled	16.6 %	16.6 %
6	IDU	N 29° 57' 21.81" W 96° 33' 43.90"	L	Database	YES	**2.804**	Enabled	24.7 %	24.7 %
7	ELA	N 29° 39' 44.83" W 96° 19' 1.79"	H	Database	YES	**2.535**	Enabled	21.1 %	21.1 %
8	IAH	N 29° 57' 24.90" W 95° 20' 44.59"	H	Database	NO	1.671	Enabled	20.3 %	20.3 %
9	HUB	N 29° 39' 20.26" W 95° 16' 35.92"	H	Database	NO	1.180	Enabled	12.4 %	12.4 %
10	DAS	N 30° 11' 22.96" W 94° 38' 41.94"	H	Database	NO	1.180	Enabled	0.1 %	0.1 %

Flight Check DME Selection

Distance [NM]	Selected DMEs					Alternate
0.0	CWK	SAT				
5.1	CWK	SAT	VCT			
8.9	CWK	SAT				
12.6	CWK	SAT				
14.8	CWK	SAT	VCT			
21.9	CWK	SAT	VCT			
32.7	PSX	SAT	TNV			
63.1	PSX	IDU	TNV	ELA		
74.8	ELA	IDU				
91.4	ELA	IDU				
119.2	ELA	IDU	IAH	HUB	TNV	
129.5	ELA	IDU	IAH	HUB	TNV	
139.5	ELA	IDU	IAH	HUB	TNV	
154.1	HUB	DAS	IAH			

DME/DME (Continued.)

Return To Summary

Inertial Drift Segments

#	Start Location	End Location	Length [NM]
1	N 29° 42' 54.80" W 98° 5' 47.64"	N 29° 42' 51.78" W 98° 7' 12.63"	1.3
	VOR: RND	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
	VOR: SAT	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
	VOR: SSF	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
2	N 29° 41' 50.42" W 98° 8' 9.22"	N 29° 41' 9.36" W 98° 8' 34.91"	0.8
	VOR: RND	Available from N 29° 41' 50.42" W 98° 8' 9.22" to N 29° 41' 9.36" W 98° 8' 34.91"	
	VOR: SAT	Available from N 29° 41' 50.42" W 98° 8' 9.22" to N 29° 41' 9.36" W 98° 8' 34.91"	
	VOR: SSF	Available from N 29° 41' 50.42" W 98° 8' 9.22" to N 29° 41' 9.36" W 98° 8' 34.91"	
3	N 29° 39' 10.56" W 97° 52' 44.18"	N 29° 39' 22.36" W 97° 35' 16.03"	15.2
	VOR: RND	Available from N 29° 39' 10.56" W 97° 52' 44.18" to N 29° 39' 22.36" W 97° 35' 16.03"	
	VOR: SAT	Available from N 29° 39' 10.56" W 97° 52' 44.18" to N 29° 39' 18.55" W 97° 41' 50.06"	
	VOR: SSF	Available from N 29° 39' 10.56" W 97° 52' 44.18" to N 29° 39' 13.35" W 97° 49' 40.58"	
4	N 29° 34' 9.34" W 96° 22' 29.33"	N 29° 37' 34.08" W 96° 0' 27.90"	20.6
	VOR: ELA	Available from N 29° 34' 9.34" W 96° 22' 29.33" to N 29° 37' 34.08" W 96° 0' 27.90"	
	VOR: IDU	Available from N 29° 34' 9.34" W 96° 22' 29.33" to N 29° 37' 34.08" W 96° 0' 27.90"	
	VOR: HUB	Available from N 29° 36' 37.29" W 96° 2' 20.51" to N 29° 37' 34.08" W 96° 0' 27.90"	
	VOR: TNV	Available from N 29° 37' 17.38" W 96° 1' 1.02" to N 29° 37' 34.08" W 96° 0' 27.90"	
	VOR: IAH	Available from N 29° 37' 29.07" W 96° 0' 37.84" to N 29° 37' 34.08" W 96° 0' 27.90"	

DME/DME (Continued.)

Return To Summary

Inertial Drift Segments (Continued.)

#	Start Location	End Location	Length [NM]
5	N 29° 39' 7.59" W 95° 57' 22.35"	N 29° 40' 7.64" W 95° 55' 23.01"	2.0
	VOR: ELA	Available from N 29° 39' 7.59" W 95° 57' 22.35" to N 29° 40' 7.64" W 95° 55' 23.01"	
	VOR: HUB	Available from N 29° 39' 7.59" W 95° 57' 22.35" to N 29° 40' 7.64" W 95° 55' 23.01"	
	VOR: IAH	Available from N 29° 39' 7.59" W 95° 57' 22.35" to N 29° 40' 7.64" W 95° 55' 23.01"	
	VOR: IDU	Available from N 29° 39' 7.59" W 95° 57' 22.35" to N 29° 40' 7.64" W 95° 55' 23.01"	
	VOR: TNV	Available from N 29° 39' 7.59" W 95° 57' 22.35" to N 29° 40' 7.64" W 95° 55' 23.01"	
6	N 29° 55' 45.79" W 95° 24' 4.55"	N 29° 57' 20.00" W 95° 20' 54.49"	3.2
	VOR: HUB	Available from N 29° 55' 45.79" W 95° 24' 4.55" to N 29° 57' 20.00" W 95° 20' 54.49"	
	VOR: IAH	Available from N 29° 55' 45.79" W 95° 24' 4.55" to N 29° 57' 20.00" W 95° 20' 54.49"	
	VOR: DAS	Available from N 29° 56' 56.87" W 95° 21' 41.18" to N 29° 57' 20.00" W 95° 20' 54.49"	
	VOR: MHF	Available from N 29° 57' 6.79" W 95° 21' 21.17" to N 29° 57' 20.00" W 95° 20' 54.49"	

User DMEs

#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
1	CWK	N 30° 22' 42.78" W 97° 31' 47.45"	H	593.2	112.80	CWK	Used
		ESV:	Bearing [True]: 201.0° to 225.0° Bearing [Mag]: 195.0° to 219.0°		Arc Distance: Out to 65.0 NM Altitude: 3500.0 to 6000.0 Ft.		
2	TNV	N 30° 17' 18.67" W 96° 3' 29.63"	H	230.0	115.90	TNV	Used
		ESV:	Bearing [True]: 233.0° to 248.0° Bearing [Mag]: 225.0° to 240.0°		Arc Distance: Out to 90.0 NM Altitude: 5000.0 to 14500.0 Ft.		

DME/DME (Continued.)

Return To Summary

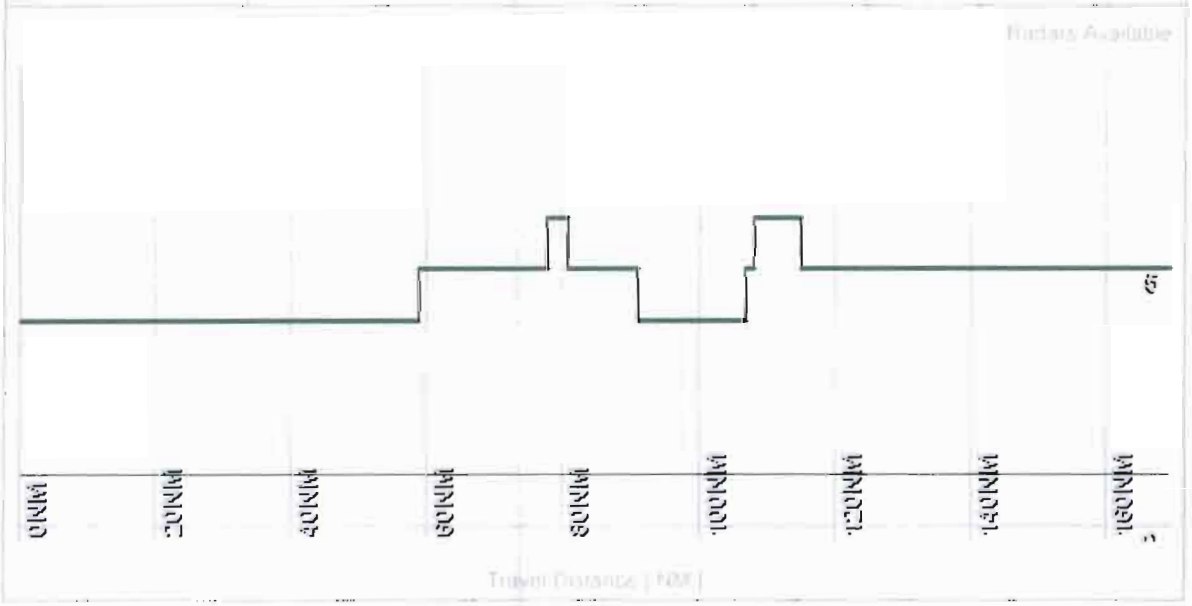
User DMEs (Continued.)

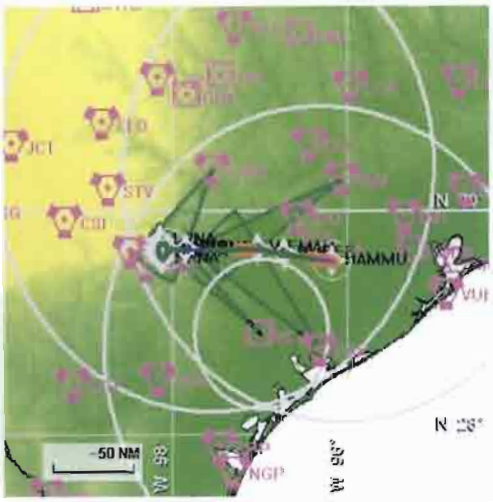
#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
3	PSX	N 28° 45' 51.93" W 96° 18' 22.25"	H	15.0	117.30	PSX	Used
		ESV:	Bearing [True]: 305.0° to 326.0° Bearing [Mag]: 297.0° to 318.0°		Arc Distance: Out to 90.0 NM Altitude: 5000.0 to 14500.0 Ft.		
4	VCT	N 28° 54' 1.15" W 96° 58' 44.16"	L	130.0	109.00	VCT	Used
		ESV:	Bearing [True]: 308.0° to 315.0° Bearing [Mag]: 302.0° to 309.0°		Arc Distance: Out to 85.0 NM Altitude: 5000.0 to 6000.0 Ft.		

Radar Analysis

Return To Summary

Settings: **Radar Types:** ARSR and ASR





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Project Name:	
Software:	RNAV-Pro™
Version:	2.33
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Input File:	KSAT_PNA_CHURN_NXTFi...
Databases:	AVNIS Date: 01/29/2009
	NFD Date: 08/28/2008
	DTED® (MAX) Date: 2002

Results Summary:

Flyability	✔
DME/DME	✔
Radars	?
Comms	?
TERPS	?

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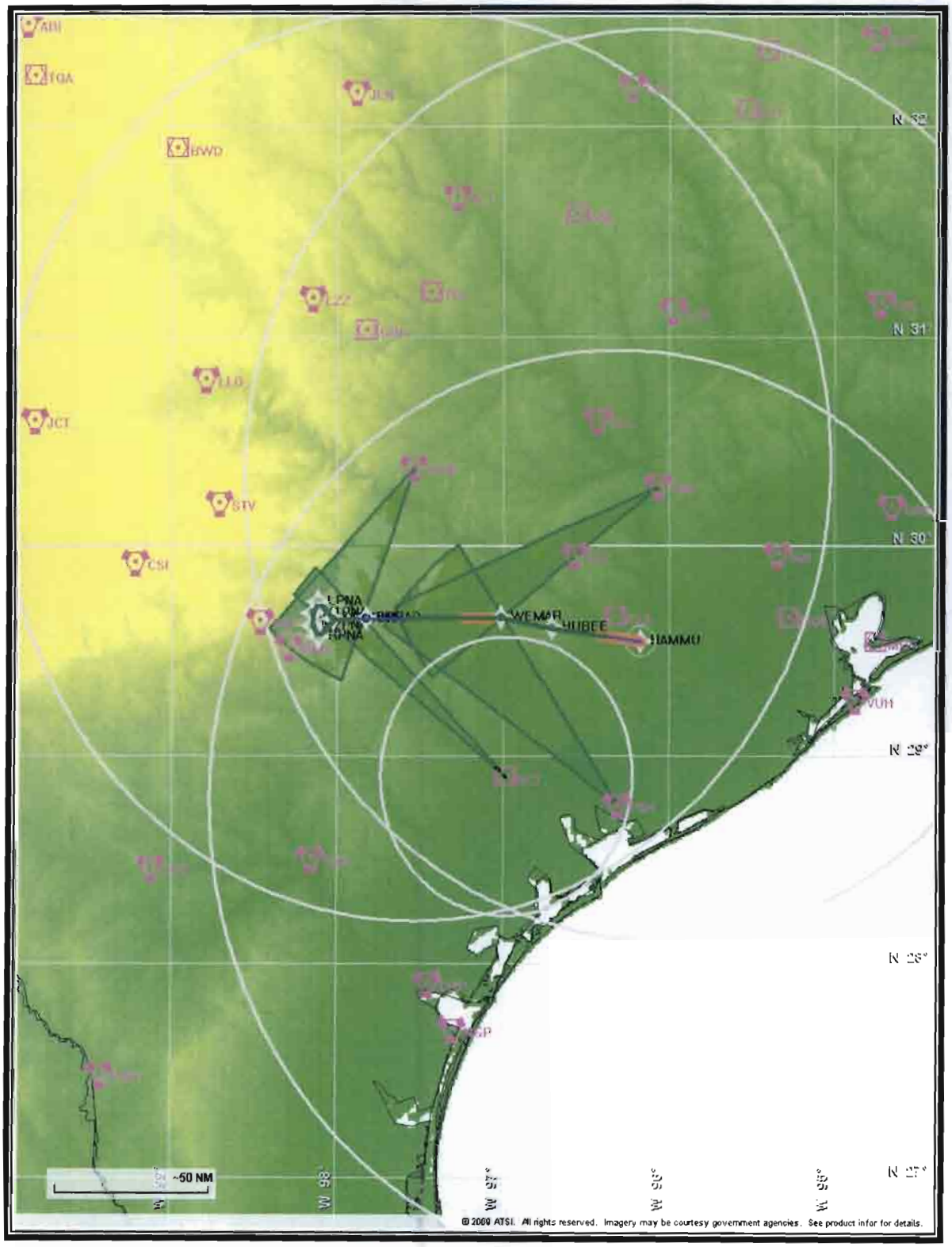
ABI
FGA
BWD
JCT
STV
CSI
VUH
N 32°
N 31°
N 30°
N 29°
N 28°
N 27°
W 98°
W 97°
W 96°
W 95°
LPNA
WEMAR
HUBEE
HAMMU
~50 NM
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Flight Plan

Return To Summary

Name	Type	Lat/Lon	Alt [Ft]	IAS [Kts]	Turn Type	Leg Type
CHURN	WP	N 29° 39' 2.39" W 98° 1' 2.90"	5000.0	200.0	Fly Over	TF
LPNA	WP	N 29° 43' 54.72" W 98° 6' 49.93"	5000.0	200.0	Fly By	TF
M1PNA	WP	N 29° 40' 44.00" W 98° 8' 50.74"	5000.0	200.0	Fly By	TF
M2PNA	WP	N 29° 37' 6.09" W 98° 8' 46.09"	5000.0	200.0	Fly By	TF
RPNA	WP	N 29° 33' 59.39" W 98° 6' 37.44"	5000.0	200.0	Fly By	TF
CHURN1	WP	N 29° 39' 2.39" W 98° 1' 2.90"	5000.0	200.0	Fly By	TF
ERRAD	WP	N 29° 39' 13.55" W 97° 49' 26.30"	5000.0	200.0	Fly By	TF
WEMAR	WP	N 29° 39' 37.15" W 97° 0' 37.45"	5000.0	200.0	Fly By	TF
HUBEE	WP	N 29° 36' 23.90" W 96° 42' 14.72"	5000.0	200.0	Fly By	TF
HAMMU	WP	N 29° 32' 43.26" W 96° 10' 4.08"	5000.0	200.0	Fly Over	TF

Flyability

Return To Summary

Settings:	**Flight Type:** Arrival/Approach **Aircraft Category:** Cat D **Climb Gradient:** *None assigned* **Ground Speeds:** Table: **200.0 Kts** up to **29000.0 Ft.** **280.0 Kts** up to **99900.0 Ft.** **Wind Settings:** *None assigned* **Descent During a Turn:** Allowed

Entire track is fly-able

DME/DME

Return To Summary

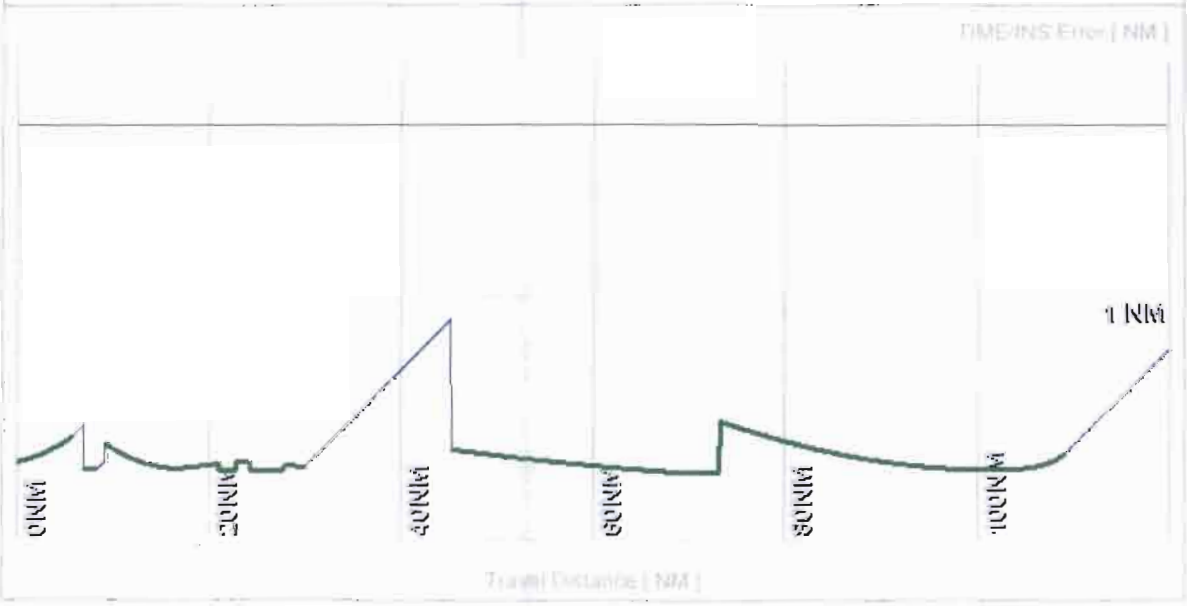
Settings:

RNP: 2.0
Flight Mode: Manual
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Inertial Drift: Enabled
Initial Drift: 0.558 NM
INS Drift Rate: 8.000 NM/Hour
Range Mode: OSV
Co-Frequencies: Evaluated
RNP Edges: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , TACAN , and User
DME Include Angles: 30 To 150
Critical DMEs: Allowed
DOD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Flight Check DMEs: Selected
Higher Altitudes: Evaluated

Total Number of DMEs Used: 7

Maximum DME Error: 0.915 NM. 4 Critical DMEs were found.

Available DMEs: CWK, SAT, VCT, PSX, TNV, IDU, ELA



DME/DME (Continued.)

Return To Summary

DMEs Used

#	Name	Lat/Lon	Range	Source	Critical	Err. [NM]	Status	Time	Distance
1	CWK	N 30° 22' 42.78" W 97° 31' 47.45"	H + ESV	User	NO	1.105	Enabled	23.1 %	23.0 %
2	SAT	N 29° 38' 38.51" W 98° 27' 40.73"	H	Database	NO	0.987	Enabled	17.6 %	17.5 %
3	VCT	N 28° 54' 1.15" W 96° 58' 44.16"	L + ESV	User	NO	0.915	Enabled	5.5 %	5.5 %
4	TNV	N 30° 17' 18.67" W 96° 3' 29.63"	H + ESV	User	YES	**Drift Time**	Enabled	20.9 %	20.9 %
5	PSX	N 28° 45' 51.93" W 96° 18' 22.25"	H + ESV	User	YES	**1.980**	Enabled	23.4 %	23.4 %
6	IDU	N 29° 57' 21.81" W 96° 33' 43.90"	L	Database	YES	**2.213**	Enabled	32.3 %	32.4 %
7	ELA	N 29° 39' 44.83" W 96° 19' 1.79"	H	Database	YES	**2.148**	Enabled	29.8 %	29.9 %

Flight Check DME Selection

Distance [NM]	Selected DMEs					Alternate
0.0	TNV	SAT	VCT	PSX	CWK	
65.0	TNV	ELA	IDU	PSX		

Inertial Drift Segments

#	Start Location	End Location	Length [NM]
1	N 29° 42' 54.80" W 98° 5' 47.64"	N 29° 42' 51.78" W 98° 7' 12.63"	1.3
	VOR: RND	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
	VOR: SAT	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
	VOR: SSF	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
2	N 29° 41' 50.39" W 98° 8' 9.18"	N 29° 41' 9.35" W 98° 8' 34.89"	0.8
	VOR: RND	Available from N 29° 41' 50.39" W 98° 8' 9.18" to N 29° 41' 9.35" W 98° 8' 34.89"	
	VOR: SAT	Available from N 29° 41' 50.39" W 98° 8' 9.18" to N 29° 41' 9.35" W 98° 8' 34.89"	
	VOR: SSF	Available from N 29° 41' 50.39" W 98° 8' 9.18" to N 29° 41' 9.35" W 98° 8' 34.89"	

DME/DME (Continued.)

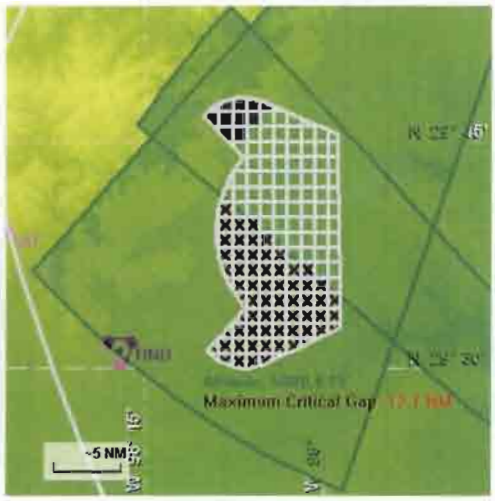
Return To Summary

Inertial Drift Segments (Continued.)

#	Start Location	End Location	Length [NM]
3	N 29° 39' 10.55" W 97° 52' 44.06"	N 29° 39' 22.36" W 97° 35' 15.91"	15.2
	VOR: RND	Available from N 29° 39' 10.55" W 97° 52' 44.06" to N 29° 39' 22.36" W 97° 35' 15.91"	
	VOR: SAT	Available from N 29° 39' 10.55" W 97° 52' 44.06" to N 29° 39' 18.55" W 97° 41' 49.93"	
	VOR: SSF	Available from N 29° 39' 10.55" W 97° 52' 44.06" to N 29° 39' 13.35" W 97° 49' 40.46"	
4	N 29° 34' 9.32" W 96° 22' 29.21"	N 29° 32' 43.55" W 96° 10' 6.54"	10.9
	VOR: ELA	Available from N 29° 34' 9.32" W 96° 22' 29.21" to N 29° 32' 43.55" W 96° 10' 6.54"	
	VOR: IDU	Available from N 29° 34' 9.32" W 96° 22' 29.21" to N 29° 32' 43.55" W 96° 10' 6.54"	

User DMEs

#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
1	CWK	N 30° 22' 42.78" W 97° 31' 47.45"	H	593.2	112.80	CWK	Used
		ESV: Bearing [True]: 201.0° to 225.0° Bearing [Mag]: 195.0° to 219.0°			Arc Distance: Out to 65.0 NM Altitude: 3500.0 to 6000.0 Ft.		
2	TNV	N 30° 17' 18.67" W 96° 3' 29.63"	H	230.0	115.90	TNV	Used
		ESV: Bearing [True]: 233.0° to 248.0° Bearing [Mag]: 225.0° to 240.0°			Arc Distance: Out to 90.0 NM Altitude: 5000.0 to 14500.0 Ft.		
3	PSX	N 28° 45' 51.93" W 96° 18' 22.25"	H	15.0	117.30	PSX	Used
		ESV: Bearing [True]: 305.0° to 326.0° Bearing [Mag]: 297.0° to 318.0°			Arc Distance: Out to 90.0 NM Altitude: 5000.0 to 14500.0 Ft.		
4	VCT	N 28° 54' 1.15" W 96° 58' 44.16"	L	130.0	109.00	VCT	Used
		ESV: Bearing [True]: 308.0° to 315.0° Bearing [Mag]: 302.0° to 309.0°			Arc Distance: Out to 85.0 NM Altitude: 5000.0 to 6000.0 Ft.		



Name:	enanders
Project Name:	HUBEE1 RNAV
Software:	RNAV-Pro™
Version:	2.33
Date/Time:	5/21/2009 9:19:08 AM
Input File:	Grid Area Assessment
Databases:	AVNIS Date: 01/29/2009
	NFD Date: 08/28/2008
	DTED® (MAX) Date: 2002

Results Summary:

Grid	✔ DME/DME Grid Analysis

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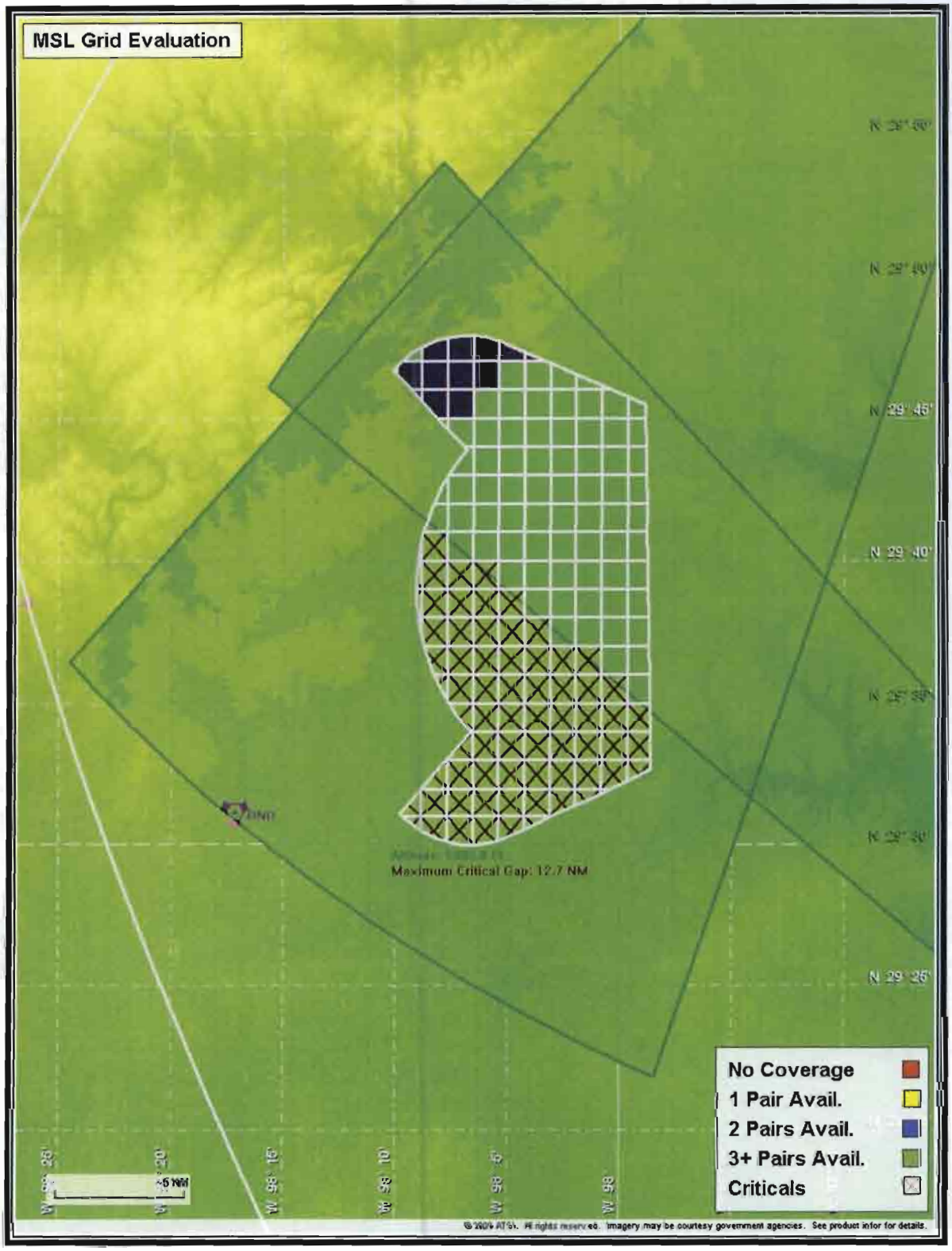

MSL Grid Evaluation
N 29° 50'
N 29° 40'
N 29° 45'
N 29° 40'
N 29° 35'
N 29° 30'
N 29° 25'
Maximum Critical Gap: 12.7 NM
W 98° 25'
W 98° 20'
W 98° 15'
W 98° 10'
W 98° 5'
W 98°
5 NM
No Coverage
1 Pair Avail.
2 Pairs Avail.
3+ Pairs Avail.
Criticals

DME/DME Grid Analysis

Return To Summary

Coverage Exists (Criticals)

Settings:

Polygon Grid Definition:

1	Lat: N 29° 43' 54.82" Lon: W 98° 6' 49.82"	21	Lat: N 29° 30' 11.34" Lon: W 98° 8' 4.90"
2	Lat: N 29° 46' 41.96" Lon: W 98° 10' 8.15"	22	Lat: N 29° 30' 22.34" Lon: W 98° 8' 36.04"
3	Lat: N 29° 47' 1.81" Lon: W 98° 9' 43.33"	23	Lat: N 29° 30' 36.58" Lon: W 98° 9' 5.41"
4	Lat: N 29° 47' 18.87" Lon: W 98° 9' 15.92"	24	Lat: N 29° 30' 53.85" Lon: W 98° 9' 32.58"
5	Lat: N 29° 47' 32.88" Lon: W 98° 8' 46.32"	25	Lat: N 29° 31' 6.42" Lon: W 98° 9' 48.70"
6	Lat: N 29° 47' 43.65" Lon: W 98° 8' 14.99"	26	Lat: N 29° 33' 59.48" Lon: W 98° 6' 37.56"
7	Lat: N 29° 47' 51.00" Lon: W 98° 7' 42.38"	27	Lat: N 29° 33' 59.49" Lon: W 98° 6' 37.56"
8	Lat: N 29° 47' 54.83" Lon: W 98° 7' 8.99"	28	Lat: N 29° 34' 37.37" Lon: W 98° 7' 17.31"
9	Lat: N 29° 47' 55.08" Lon: W 98° 6' 35.31"	29	Lat: N 29° 35' 19.20" Lon: W 98° 7' 51.50"
10	Lat: N 29° 47' 51.74" Lon: W 98° 6' 1.85"	30	Lat: N 29° 36' 4.36" Lon: W 98° 8' 19.60"
11	Lat: N 29° 47' 44.87" Lon: W 98° 5' 29.10"	31	Lat: N 29° 36' 52.17" Lon: W 98° 8' 41.21"
12	Lat: N 29° 47' 38.63" Lon: W 98° 5' 8.66"	32	Lat: N 29° 37' 41.93" Lon: W 98° 8' 55.98"
13	Lat: N 29° 45' 30.26" Lon: W 97° 58' 53.68"	33	Lat: N 29° 38' 32.90" Lon: W 98° 9' 3.72"
14	Lat: N 29° 32' 40.45" Lon: W 97° 58' 36.78"	34	Lat: N 29° 39' 24.30" Lon: W 98° 9' 4.28"
15	Lat: N 29° 30' 18.80" Lon: W 98° 4' 47.96"	35	Lat: N 29° 40' 15.38" Lon: W 98° 8' 57.67"
16	Lat: N 29° 30' 8.77" Lon: W 98° 5' 19.52"	36	Lat: N 29° 41' 5.38" Lon: W 98° 8' 43.97"
17	Lat: N 29° 30' 2.18" Lon: W 98° 5' 52.24"	37	Lat: N 29° 41' 53.54" Lon: W 98° 8' 23.40"

DME/DME Grid Analysis (Continued.)

Return To Summary

Coverage Exists (Criticals)

Settings:

Polygon Grid Definition:

18	Lat: N 29° 29' 59.11" Lon: W 98° 6' 25.64"	**38**	Lat: N 29° 42' 39.16" Lon: W 98° 7' 56.25"
19	Lat: N 29° 29' 59.64" Lon: W 98° 6' 59.21"	**39**	Lat: N 29° 43' 21.54" Lon: W 98° 7' 22.92"
20	Lat: N 29° 30' 3.73" Lon: W 98° 7' 32.47"	**40**	Lat: N 29° 43' 54.82" Lon: W 98° 6' 49.82"

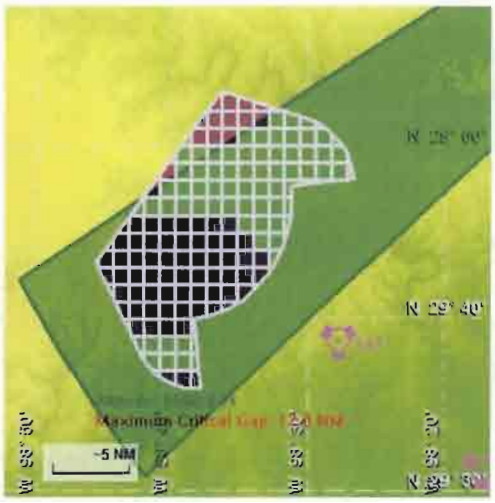
Lat Step: 1 NM
Lon Step: 1 NM
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Co-Frequencies: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , and User
DME Include Angles: 30 To 150
DOD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Altitude: Scanning For Minimum Passing Alt every 1000.0 Ft.

Passing Altitude: 5000.0 Ft.
Maximum Gap: 0.0 NM
Maximum Critical Gap: 12.7 NM

	AGL Altitudes
Min Cell Altitude	3,828.7 Ft.
Max Cell Altitude	4,461.9 Ft.
Mean Cell Altitude	4,303.2 Ft.
Std. Dev. Cell Altitude	110.7 Ft.

Statistics based only on passing cells

Most Used DMEs: SAT (163), CWK (163), VCT (87), and STV (1).



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Project Name:	
Software:	RNAV-Pro™
Version:	2.33
Date/Time:	6/2/2009 1:50:57 PM
Input File:	Grid Area Assessment
Databases:	AVNIS Date: 01/29/2009
	NFD Date: 08/28/2008
	DTED® (MAX) Date: 2002

Results Summary:

Grid	✔	DME/DME Grid Analysis

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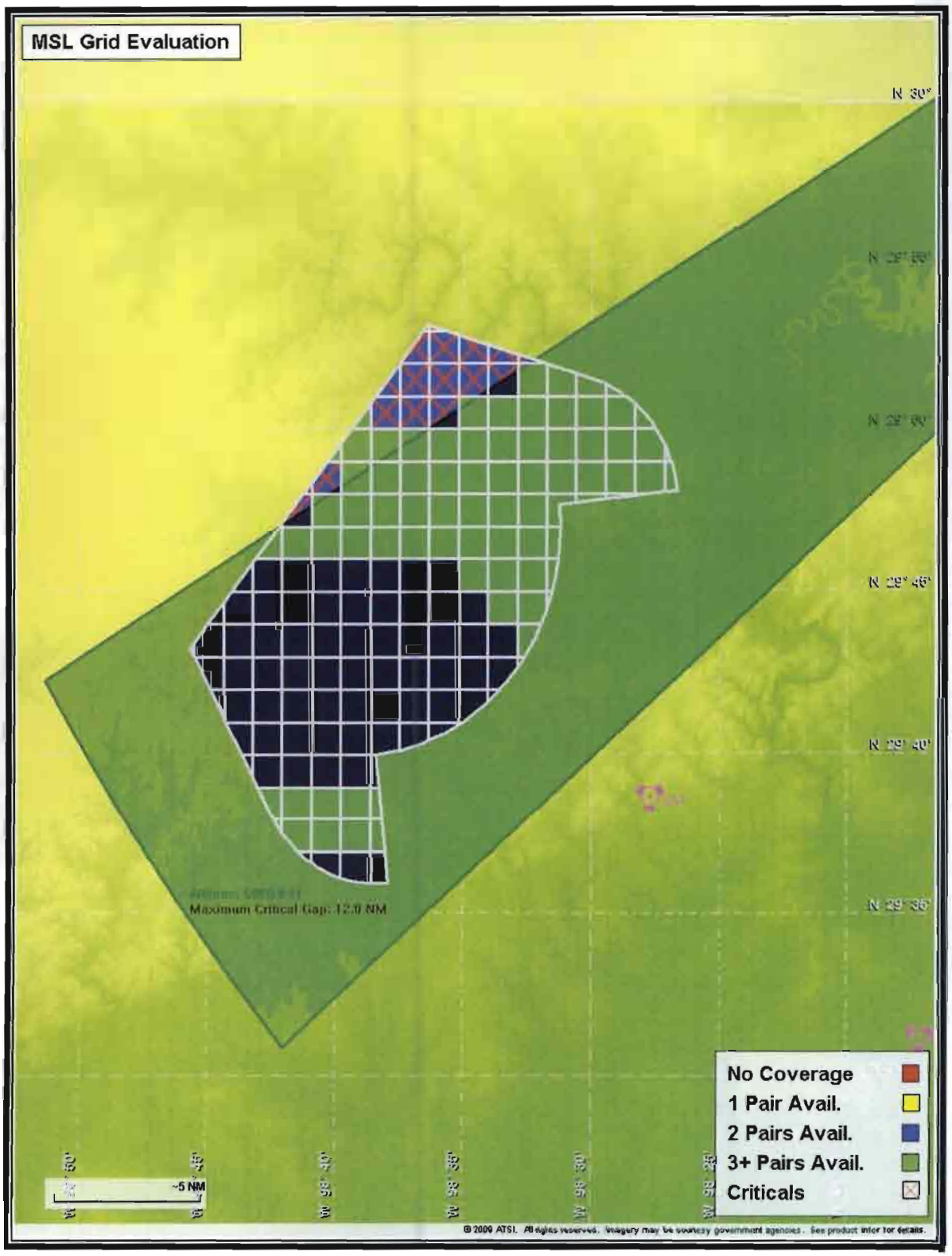
MSL Grid Evaluation
N 30°
N 29° 55'
N 29° 50'
N 29° 45'
N 29° 40'
N 29° 35'
Maximum Critical Gap: 12.0 NM
~5 NM
No Coverage
1 Pair Avail.
2 Pairs Avail.
3+ Pairs Avail.
Criticals
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DME/DME Grid Analysis

Return To Summary

Coverage Exists (Criticals)

Settings:

Polygon Grid Definition:

1	Lat: N 29° 39' 56.33" Lon: W 98° 38' 23.71"	21	Lat: N 29° 49' 44.47" Lon: W 98° 27' 18.77"
2	Lat: N 29° 35' 57.06" Lon: W 98° 37' 54.94"	22	Lat: N 29° 49' 18.53" Lon: W 98° 27' 2.97"
3	Lat: N 29° 35' 55.78" Lon: W 98° 38' 28.52"	23	Lat: N 29° 48' 51.10" Lon: W 98° 26' 50.92"
4	Lat: N 29° 35' 58.08" Lon: W 98° 39' 2.03"	24	Lat: N 29° 48' 22.59" Lon: W 98° 26' 42.79"
5	Lat: N 29° 36' 3.93" Lon: W 98° 39' 34.97"	25	Lat: N 29° 48' 3.89" Lon: W 98° 26' 39.70"
6	Lat: N 29° 36' 13.25" Lon: W 98° 40' 6.85"	26	Lat: N 29° 47' 38.82" Lon: W 98° 31' 14.04"
7	Lat: N 29° 36' 25.89" Lon: W 98° 40' 37.19"	27	Lat: N 29° 47' 38.82" Lon: W 98° 31' 14.04"
8	Lat: N 29° 36' 41.66" Lon: W 98° 41' 5.55"	28	Lat: N 29° 46' 47.46" Lon: W 98° 31' 11.54"
9	Lat: N 29° 37' 0.34" Lon: W 98° 41' 31.50"	29	Lat: N 29° 45' 56.22" Lon: W 98° 31' 16.23"
10	Lat: N 29° 37' 21.64" Lon: W 98° 41' 54.65"	30	Lat: N 29° 45' 5.86" Lon: W 98° 31' 28.04"
11	Lat: N 29° 37' 45.24" Lon: W 98° 42' 14.67"	31	Lat: N 29° 44' 17.13" Lon: W 98° 31' 46.79"
12	Lat: N 29° 38' 1.47" Lon: W 98° 42' 25.73"	32	Lat: N 29° 43' 30.75" Lon: W 98° 32' 12.21"
13	Lat: N 29° 43' 12.69" Lon: W 98° 45' 38.62"	33	Lat: N 29° 42' 47.42" Lon: W 98° 32' 43.90"
14	Lat: N 29° 53' 9.76" Lon: W 98° 36' 22.46"	34	Lat: N 29° 42' 7.79" Lon: W 98° 33' 21.40"
15	Lat: N 29° 51' 29.49" Lon: W 98° 29' 55.64"	35	Lat: N 29° 41' 32.43" Lon: W 98° 34' 4.14"
16	Lat: N 29° 51' 19.44" Lon: W 98° 29' 23.98"	36	Lat: N 29° 41' 1.88" Lon: W 98° 34' 51.49"
17	Lat: N 29° 51' 6.10" Lon: W 98° 28' 53.96"	37	Lat: N 29° 40' 36.59" Lon: W 98° 35' 42.75"

DME/DME Grid Analysis (Continued.)

Return To Summary

Coverage Exists (Criticals)

Settings:

Polygon Grid Definition:

18	Lat: N 29° 50' 49.66" Lon: W 98° 28' 26.03"	**38**	Lat: N 29° 40' 16.94" Lon: W 98° 36' 37.14"
19	Lat: N 29° 50' 30.38" Lon: W 98° 28' 0.61"	**39**	Lat: N 29° 40' 3.22" Lon: W 98° 37' 33.87"
20	Lat: N 29° 50' 8.54" Lon: W 98° 27' 38.08"	**40**	Lat: N 29° 39' 56.33" Lon: W 98° 38' 23.71"

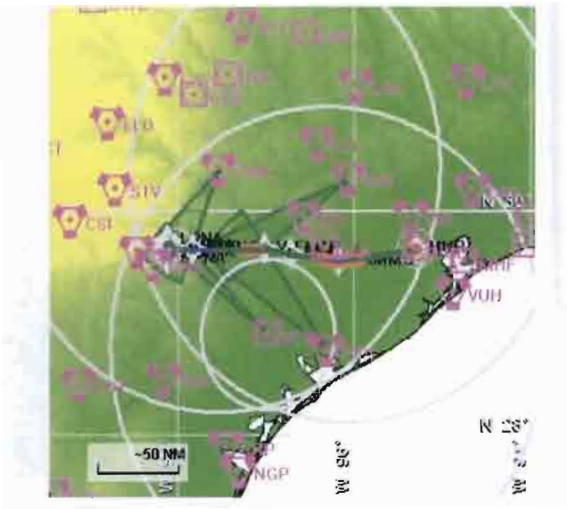
Lat Step: 1 NM
Lon Step: 1 NM
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Co-Frequencies: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , and User
DME Include Angles: 30 To 150
DOD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Altitude: Scanning For Minimum Passing Alt every 500.0 Ft.

Passing Altitude: 5000.0 Ft.
Maximum Gap: 0.0 NM
Maximum Critical Gap: 12.0 NM

	AGL Altitudes
Min Cell Altitude	3,175.9 Ft.
Max Cell Altitude	3,795.9 Ft.
Mean Cell Altitude	3,560.9 Ft.
Std. Dev. Cell Altitude	118.6 Ft.

Statistics based only on passing cells

Most Used DMEs: SAT (171), CSI (168), CWK (147), and STV (80).



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Project Name:	
Software:	RNAV-Pro™
Version:	2.34
Date/Time:	7/9/2009 7:49:14 AM
Input File:	KSAT_PNA_CHURN_NXTFi...
Databases:	AVNIS Date: 06/19/2009
	NFD Date: 07/02/2009
	DTED® (MAX) Date: 2002

Results Summary:

Flyability	✔
DME/DME	✔
Radars	✔
Comms	?
TERPS	?

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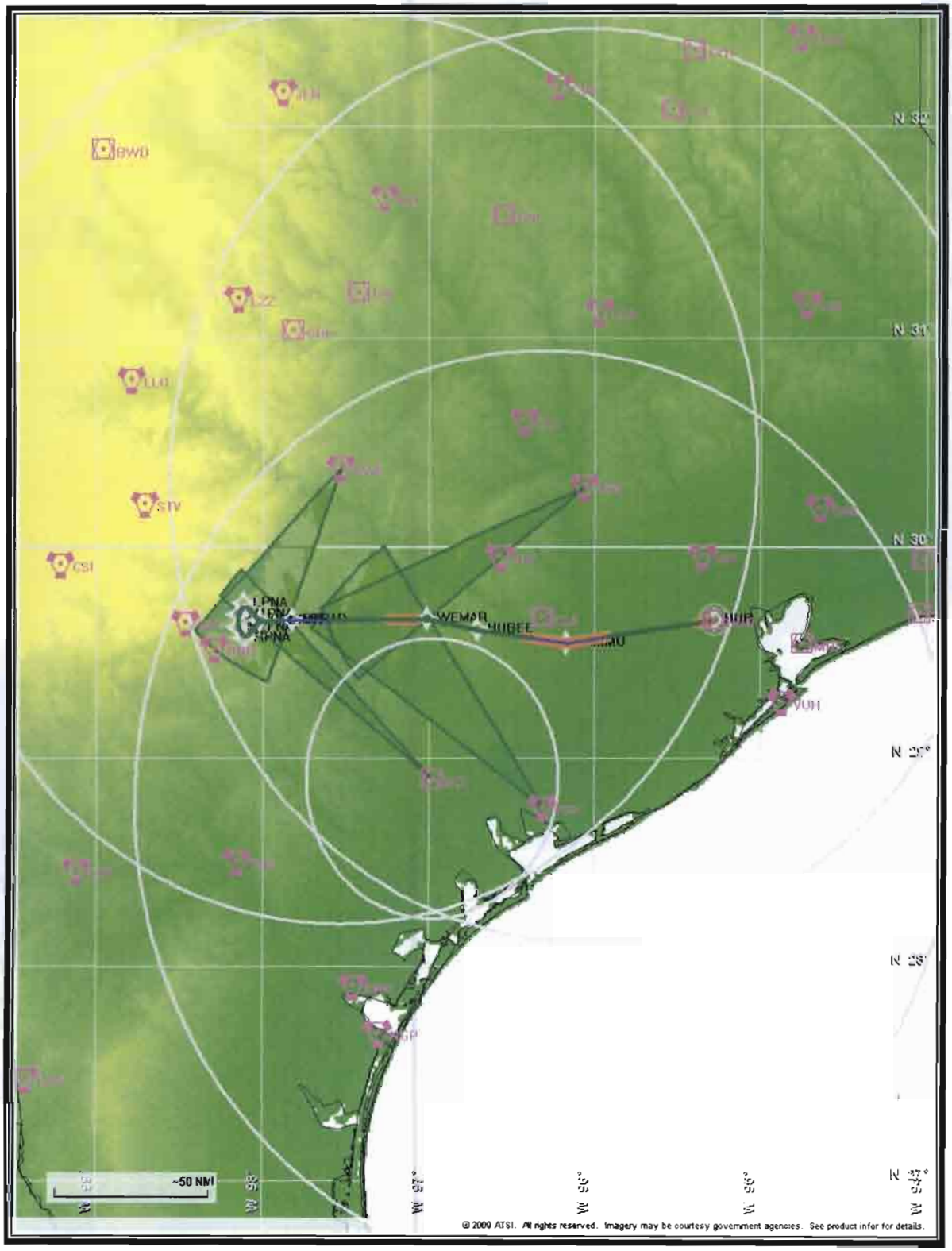
N 32°
N 31°
N 30°
N 29°
N 28°
N 27°
W 100°
W 99°
W 98°
W 97°
W 96°
W 95°
W 94°
~50 NM
BWD
STV
CSI
VUH
HUBEE
WEMAR
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Flight Plan

Return To Summary

Name	Type	Lat/Lon	Alt [Ft]	IAS [Kts]	Turn Type	Leg Type
CHURN	WP	N 29° 39' 2.39" W 98° 1' 2.90"	5000.0	200.0	Fly Over	TF
LPNA	WP	N 29° 43' 54.72" W 98° 6' 49.93"	5000.0	200.0	Fly By	TF
M1PNA	WP	N 29° 40' 44.00" W 98° 8' 50.74"	5000.0	200.0	Fly By	TF
M2PNA	WP	N 29° 37' 6.09" W 98° 8' 46.09"	5000.0	200.0	Fly By	TF
RPNA	WP	N 29° 33' 59.39" W 98° 6' 37.44"	5000.0	200.0	Fly By	TF
CHURN1	WP	N 29° 39' 2.39" W 98° 1' 2.90"	5000.0	200.0	Fly By	TF
ERRAD	WP	N 29° 39' 13.55" W 97° 49' 26.30"	5000.0	200.0	Fly By	TF
WEMAR	WP	N 29° 39' 37.15" W 97° 0' 37.45"	5000.0	200.0	Fly By	TF
HUBEE	WP	N 29° 36' 23.90" W 96° 42' 14.72"	5000.0	200.0	Fly By	TF
HAMMU	WP	N 29° 32' 43.26" W 96° 10' 4.08"	5000.0	200.0	Fly By	TF
HUB	WP	N 29° 39' 20.26" W 95° 16' 35.92"	5000.0	200.0	Fly Over	TF

Flyability

Return To Summary

Settings:

Flight Type: Arrival/Approach
Aircraft Category: Cat D
Climb Gradient: *None assigned*
Ground Speeds:

Table:

200.0 Kts up to **11000.0 Ft.**
240.0 Kts up to **18000.0 Ft.**
260.0 Kts up to **24000.0 Ft.**
340.0 Kts up to **99900.0 Ft.**

Wind Settings: *None assigned*
Descent During a Turn: Allowed

Entire track is fly-able

DME/DME

Return To Summary

Settings:

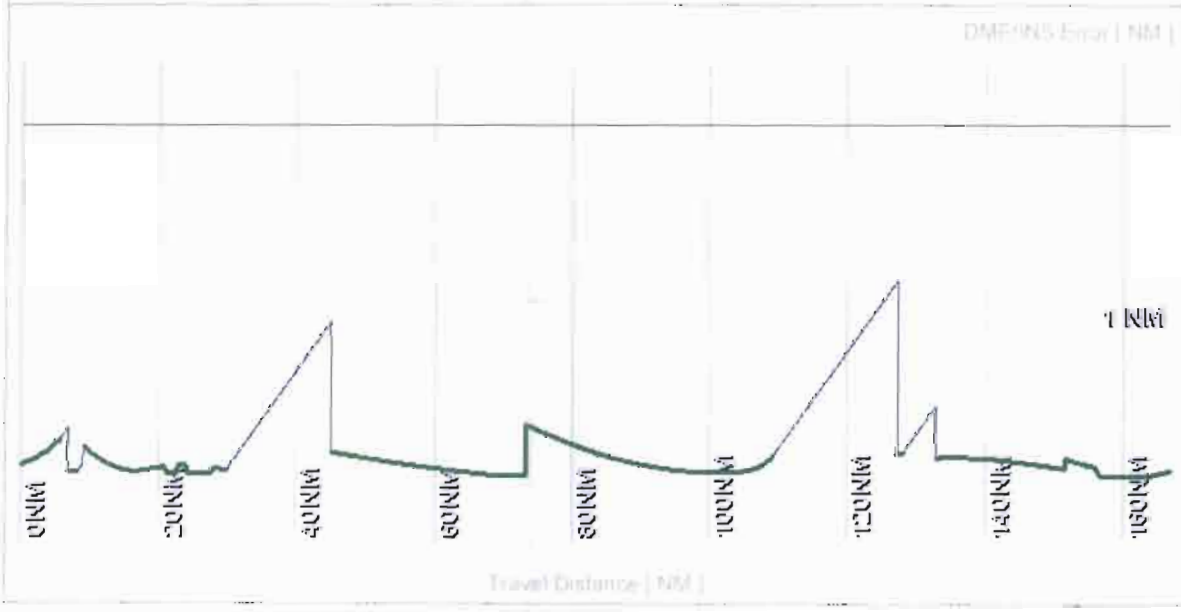
RNP: 2.0
Flight Mode: Manual
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Inertial Drift: Enabled
Initial Drift: 0.558 NM
INS Drift Rate: 8.000 NM/Hour
Range Mode: OSV
Co-Frequencies: Evaluated
RNP Edges: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , TACAN , and User
DME Include Angles: 30 to 150
Critical DMEs: Allowed
DoD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Flight Check DMEs: Selected
Higher Altitudes: Evaluated
Near Maximum Altitude: Evaluated

Total Number of DMEs Used: 10

Maximum DME Error: 1.085 NM.

5 Critical DMEs were found.

Available DMEs: CWK, SAT, VCT, PSX, TNV, IDU, ELA, HUB, IAH, MHF, VUH



DME/DME (Continued.)

Return To Summary

DMEs Used

#	Name	Lat/Lon	Range	Source	Critical	Err. [NM]	Status	Time	Distance
1	CWK	N 30° 22' 42.78" W 97° 31' 47.45"	H + ESV	User	NO	1.102	Enabled	16.6 %	16.5 %
2	SAT	N 29° 38' 38.51" W 98° 27' 40.73"	H	Database	NO	1.085	Enabled	12.6 %	12.5 %
3	VCT	N 28° 54' 1.15" W 96° 58' 44.16"	L + ESV	User	NO	1.085	Enabled	4.0 %	4.0 %
4	TNV	N 30° 17' 18.67" W 96° 3' 29.63"	H + ESV	User	YES	**Drift Time**	Enabled	15.0 %	15.0 %
5	PSX	N 28° 45' 51.93" W 96° 18' 22.25"	H + ESV	User	YES	**1.980**	Enabled	16.8 %	16.8 %
6	IDU	N 29° 57' 21.81" W 96° 33' 43.90"	L	Database	YES	**2.727**	Enabled	23.7 %	23.7 %
7	ELA	N 29° 39' 44.83" W 96° 19' 1.79"	H	Database	YES	**2.439**	Enabled	32.6 %	32.6 %
8	HUB	N 29° 39' 20.26" W 95° 16' 35.92"	H	Database	NO	1.307	Enabled	4.0 %	4.0 %
9	IAH	N 29° 57' 24.90" W 95° 20' 44.59"	H	Database	YES	**1.892**	Enabled	20.5 %	20.5 %
10	MHF	N 29° 32' 46.84" W 94° 44' 51.05"	L	Database	NO	1.085	Enabled	5.9 %	5.9 %

Flight Check DME Selection

Distance [NM]	Selected DMEs					Alternate
0.0	CWK	SAT				
5.1	CWK	SAT	VCT			
8.9	CWK	SAT				
12.6	CWK	SAT				
14.8	CWK	SAT	VCT			
21.9	CWK	SAT	VCT			
32.7	PSX	SAT	TNV			
63.1	PSX	IDU	TNV	ELA		
74.8	ELA	IDU				
91.4	ELA	IDU				
119.4	ELA	IDU	HUB			
129.4	ELA	IAH	HUB			
139.4	ELA	IAH	HUB			
151.3	MHF	IAH	HUB	VUH		

DME/DME (Continued.)

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Inertial Drift Segments

#	Start Location	End Location	Length [NM]
1	N 29° 42' 54.80" W 98° 5' 47.64"	N 29° 42' 51.78" W 98° 7' 12.63"	1.3
	VOR: RND	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
	VOR: SAT	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
	VOR: SSF	Available from N 29° 42' 54.80" W 98° 5' 47.64" to N 29° 42' 51.78" W 98° 7' 12.63"	
2	N 29° 41' 50.42" W 98° 8' 9.22"	N 29° 41' 9.36" W 98° 8' 34.91"	0.8
	VOR: RND	Available from N 29° 41' 50.42" W 98° 8' 9.22" to N 29° 41' 9.36" W 98° 8' 34.91"	
	VOR: SAT	Available from N 29° 41' 50.42" W 98° 8' 9.22" to N 29° 41' 9.36" W 98° 8' 34.91"	
	VOR: SSF	Available from N 29° 41' 50.42" W 98° 8' 9.22" to N 29° 41' 9.36" W 98° 8' 34.91"	
3	N 29° 39' 10.56" W 97° 52' 44.18"	N 29° 39' 22.36" W 97° 35' 16.03"	15.2
	VOR: RND	Available from N 29° 39' 10.56" W 97° 52' 44.18" to N 29° 39' 22.36" W 97° 35' 16.03"	
	VOR: SAT	Available from N 29° 39' 10.56" W 97° 52' 44.18" to N 29° 39' 18.55" W 97° 41' 50.06"	
	VOR: SSF	Available from N 29° 39' 10.56" W 97° 52' 44.18" to N 29° 39' 13.35" W 97° 49' 40.58"	
4	N 29° 34' 9.34" W 96° 22' 29.33"	N 29° 33' 45.45" W 96° 1' 50.77"	18.2
	VOR: ELA	Available from N 29° 34' 9.34" W 96° 22' 29.33" to N 29° 33' 45.45" W 96° 1' 50.77"	
	VOR: IDU	Available from N 29° 34' 9.34" W 96° 22' 29.33" to N 29° 33' 45.45" W 96° 1' 50.77"	
	VOR: HUB	Available from N 29° 33' 44.02" W 96° 2' 2.12" to N 29° 33' 45.45" W 96° 1' 50.77"	
5	N 29° 33' 52.63" W 96° 0' 54.02"	N 29° 34' 33.17" W 95° 55' 32.44"	4.7
	VOR: ELA	Available from N 29° 33' 52.63" W 96° 0' 54.02" to N 29° 34' 33.17" W 95° 55' 32.44"	
	VOR: HUB	Available from N 29° 33' 52.63" W 96° 0' 54.02" to N 29° 34' 33.17" W 95° 55' 32.44"	
	VOR: IDU	Available from N 29° 33' 52.63" W 96° 0' 54.02" to N 29° 34' 29.84" W 95° 55' 58.92"	
	VOR: IAH	Available from N 29° 34' 13.17" W 95° 58' 11.35" to N 29° 34' 33.17" W 95° 55' 32.44"	

DME/DME (Continued.)

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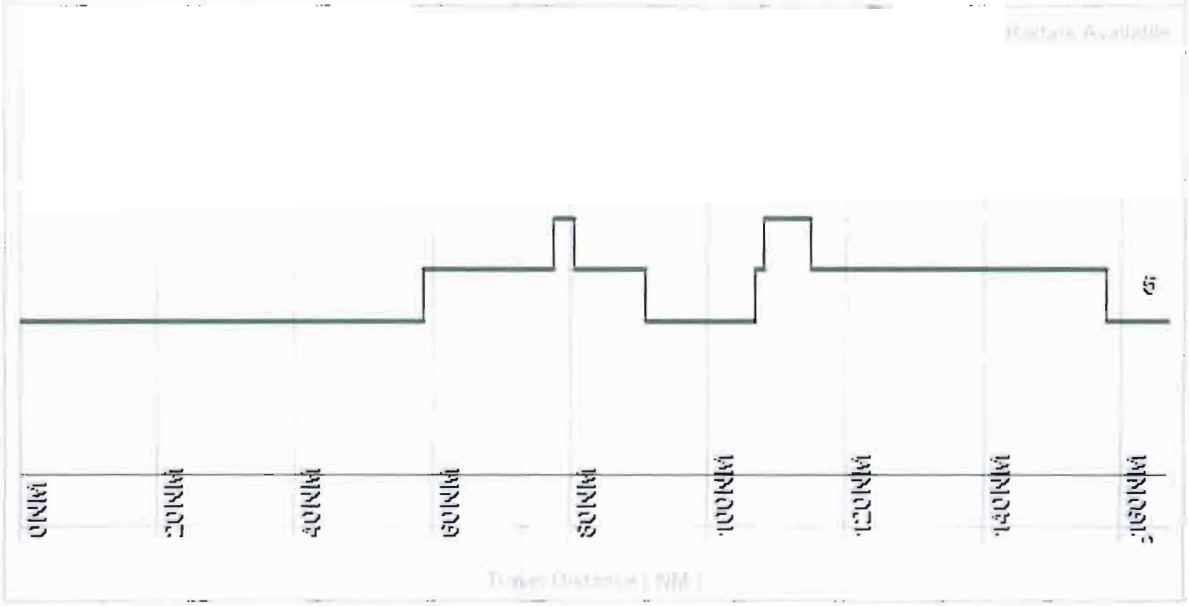
User DMEs

#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
1	CWK	N 30° 22' 42.78" W 97° 31' 47.45"	H	593.2	112.80	CWK	Used
		ESV: Bearing [True]: 201.0° to 225.0° Bearing [Mag]: 195.0° to 219.0°			Arc Distance: Out to 65.0 NM Altitude: 3500.0 to 6000.0 Ft.		
2	TNV	N 30° 17' 18.67" W 96° 3' 29.63"	H	230.0	115.90	TNV	Used
		ESV: Bearing [True]: 233.0° to 248.0° Bearing [Mag]: 225.0° to 240.0°			Arc Distance: Out to 90.0 NM Altitude: 5000.0 to 14500.0 Ft.		
3	PSX	N 28° 45' 51.93" W 96° 18' 22.25"	H	15.0	117.30	PSX	Used
		ESV: Bearing [True]: 305.0° to 326.0° Bearing [Mag]: 297.0° to 318.0°			Arc Distance: Out to 90.0 NM Altitude: 5000.0 to 14500.0 Ft.		
4	VCT	N 28° 54' 1.15" W 96° 58' 44.16"	L	130.0	109.00	VCT	Used
		ESV: Bearing [True]: 308.0° to 315.0° Bearing [Mag]: 302.0° to 309.0°			Arc Distance: Out to 85.0 NM Altitude: 5000.0 to 6000.0 Ft.		

Radar Analysis

Return To Summary

Settings: **Radar Types:** ARSR and ASR