

## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03L:DER\_SLVVA

### Results Summary

|                            |   |
|----------------------------|---|
| Flyability:                | Completed   |
| DME/DME:                   | Completed - No Critical DMEs  |
| Name:                      | Paul CTR Jackson  |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs   |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\KDTW-RW03L-DER_SLVVA\KDTW PAVYL (RNAV) DEPARTURE_KDTW_RW03L_DER_SLVVA_2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)  |
| Software:<br>DmeDmePlugin: | 5.5.1   |
| Date/Time:                 | 03/04/2019 02:40 PM CST   |
| Databases:                 | DTED 0 Max  |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name              | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------------------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| KDTW:RW03L:DER    | WP   | N42° 13' 41.85",<br>W083° 20' 10.11" | 631.4         | VNAV      | 130       | FLY_BY    | TF       |
| KDTW:RW03L-VI End | WP   | N42° 14' 36.02",<br>W083° 19' 30.16" | 1146          | VNAV      | 145       | FLY_BY    | TF       |
| WNNGZ_            | WP   | N42° 20' 03.77",<br>W083° 10' 37.55" | 4000          | VNAV      | 200       | FLY_BY    | TF       |
| DATSK             | WP   | N42° 16' 29.78",<br>W082° 59' 17.88" | 4000          | VNAV      | 200       | FLY_BY    | TF       |
| SLVVA             | WP   | N42° 08' 38.11",<br>W082° 37' 36.16" | 4000          | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03L:DER\_SLVVA

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03L:DER\_SLVVA**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |        |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|--------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |        |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time   | Distance |
| 1                          | DJB  | N41° 21' 29.03",<br>W082° 09' 43.09" | 5.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 20.5 % | 20.8 %   |
| 2                          | DXO  | N42° 12' 47.29",<br>W083° 21' 59.99" | 6.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 94.1 % | 95.4 %   |
| 3                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 78.4 % | 79.5 %   |
| 4                          | PSI  | N42° 42' 03.09",<br>W083° 31' 57.98" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Enabled  | 90.8 % | 92.1 %   |
| 5                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 95.9 % | 97.2 %   |
| 6                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 7                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 8                          | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 9                          | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 10                         | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 11                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 12                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 13                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 14                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |        |          |
| 15                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 16                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 17                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 18                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 19                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 20                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 21                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 22                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 23                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 24                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 25                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 26                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 27                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 28                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 29                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 30                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 31                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 32                         | GSH  | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 33                         | HIC  | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03L:DER\_SLVVA**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |      |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |      |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 34                         | HML  | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 35                         | HNK  | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 36                         | HNN  | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 37                         | HTO  | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 38                         | HUO  | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 39                         | IHD  | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 40                         | JFN  | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 41                         | JVL  | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 42                         | LFD  | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 43                         | LGA  | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 44                         | LNR  | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 45                         | LVZ  | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 46                         | MIP  | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 47                         | MKG  | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 48                         | MNM  | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 49                         | MSS  | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 50                         | MXE  | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 51                         | ODI  | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 52                         | PLL  | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 53                         | PLN  | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 54                         | PMM  | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 55                         | PNT  | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 56                         | PWL  | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 57                         | RBS  | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 58                         | REC  | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 59                         | RKA  | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 60                         | RST  | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 61                         | SAM  | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 62                         | SFK  | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 63                         | SLK  | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 64                         | SLT  | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 65                         | TDT  | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 66                         | THS  | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03L:DER\_SLVVA

## DME/DME (Continued)

### DMEs Used

| #  | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
|----|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| 67 | UCA  | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 68 | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 69 | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70 | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 71 | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

## Flight Check DME Selection

| Distance [NM] | Selected DMEs |     |     |     |     | Alternate |
|---------------|---------------|-----|-----|-----|-----|-----------|
| 0.0           |               |     |     |     |     |           |
| 1.0           | SVM           | CRL |     |     |     |           |
| 1.7           | SVM           | DXO | CRL |     |     |           |
| 2.9           | SVM           | CRL | DXO | PSI |     |           |
| 29.0          | DJB           | CRL | DXO | PSI | SVM |           |
| 30.2          | DJB           | CRL | DXO | PSI |     |           |

## Inertial Drift Segments

| #  | Start Location                    | End Location                      | Length [NM] |
|----|-----------------------------------|-----------------------------------|-------------|
| 1  | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2  | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3  | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4  | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5  | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6  | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7  | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8  | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9  | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10 | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11 | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12 | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13 | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14 | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15 | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16 | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17 | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18 | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19 | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

## Available DMEs by Waypoints

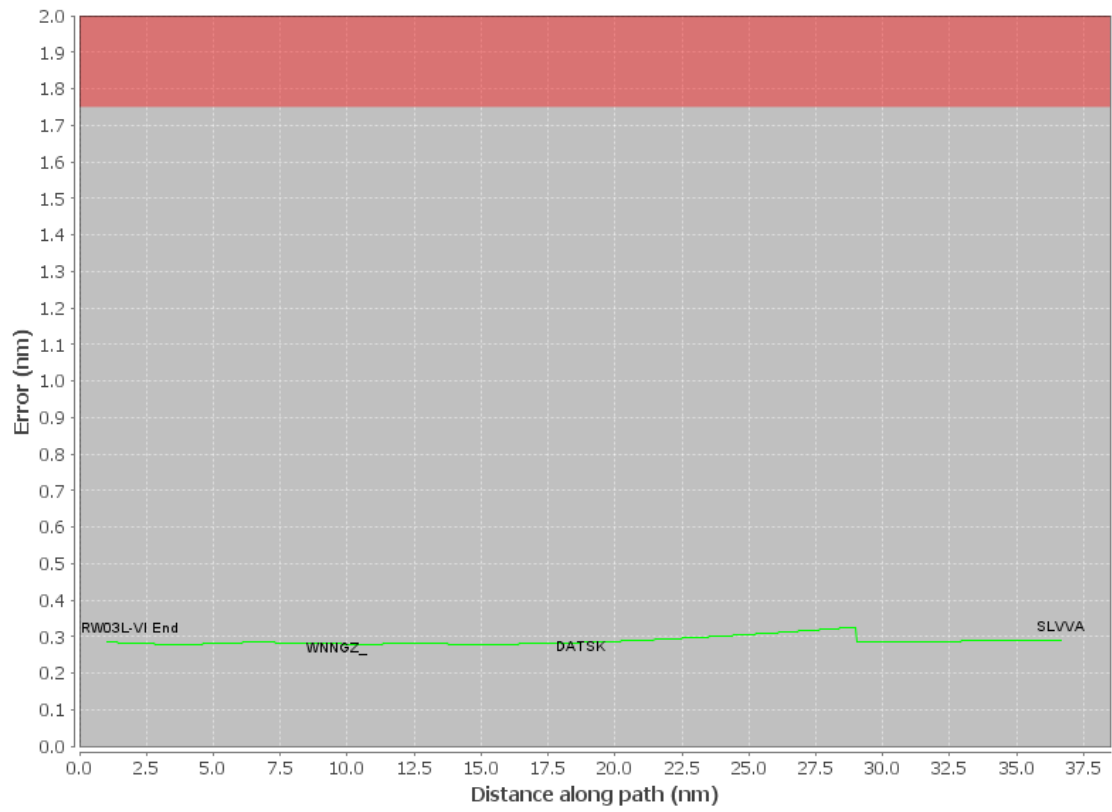
| Waypoint Before   | Waypoint After    | DME List                |
|-------------------|-------------------|-------------------------|
| KDTW:RW03L:DER    | KDTW:RW03L-VI End | SVM, CRL                |
| KDTW:RW03L-VI End | WNNGZ_            | PSI, DXO, SVM, CRL      |
| WNNGZ_            | DATSK             | PSI, DXO, SVM, CRL      |
| DATSK             | SLVVA             | PSI, DXO, SVM, CRL, DJB |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03L:DER\_SLVVA

| User Data Files |                                    |   |        |       |                |  |                   |        |
|-----------------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| #               | File Name                          |   |        |       |                |  |                   |        |
| 1               | PAVYL2.udt                         |   |        |       |                |  |                   |        |
| User DMEs       |                                    |   |        |       |                |  |                   |        |
| #               | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
| 1               | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV:            |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2               | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV:            |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3               | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV:            |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4               | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV:            |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5               | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV:            |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6               | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV:            |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7               | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV:            |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03L:DER\_SLVVA

## DME Error



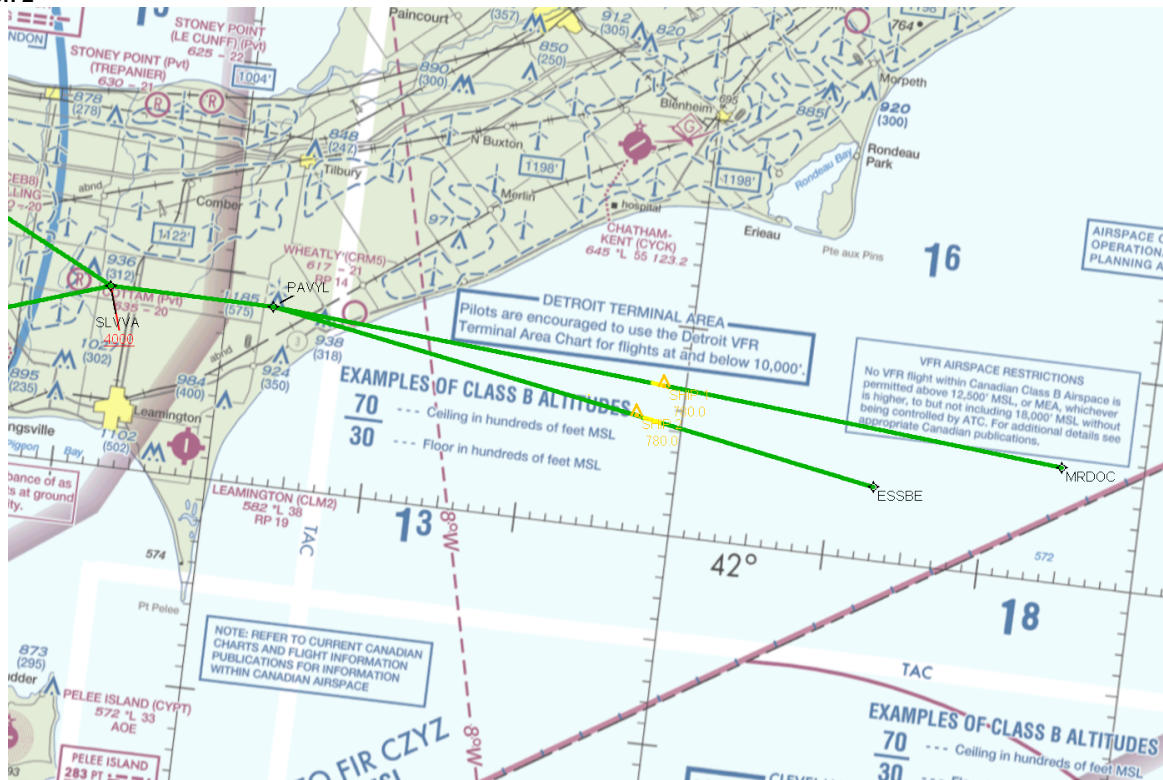
### Graphic Depiction 1





# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03L:DER\_SLVVA

Graphic Depiction 2



## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03R:DER\_WNNGZ\_

### Results Summary

|                            |   |
|----------------------------|---|
| Flyability:                | Completed   |
| DME/DME:                   | Completed - No Critical DMEs  |
| Name:                      | Paul CTR Jackson  |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs   |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\KDTW-RW03R-DER_WNNGZ_\KDTW PAVYL (RNAV) DEPARTURE_KDTW_RW03R_DER_WNNGZ__2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)  |
| Software:<br>DmeDmePlugin: | 5.5.1   |
| Date/Time:                 | 03/04/2019 02:40 PM CST   |
| Databases:                 | DTED 0 Max  |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name              | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------------------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| KDTW:RW03R:DER    | WP   | N42° 13' 10.86",<br>W083° 20' 02.65" | 631.8         | VNAV      | 130       | FLY_BY    | TF       |
| KDTW:RW03R-VI End | WP   | N42° 14' 04.99",<br>W083° 19' 22.74" | 1146          | VNAV      | 145       | FLY_BY    | TF       |
| WNNGZ_            | WP   | N42° 20' 03.77",<br>W083° 10' 37.55" | 4000          | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03R:DER\_WNNGZ\_

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03R:DER\_WNNGZ**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |        |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|--------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |        |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time   | Distance |
| 1                          | DXO  | N42° 12' 47.29",<br>W083° 21' 59.99" | 6.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 74 %   | 77.7 %   |
| 2                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 85.3 % | 89.6 %   |
| 3                          | PSI  | N42° 42' 03.09",<br>W083° 31' 57.98" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Enabled  | 70.8 % | 74.3 %   |
| 4                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 85.3 % | 89.6 %   |
| 5                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 6                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 7                          | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 8                          | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 9                          | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 10                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 11                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 12                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 13                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |        |          |
| 14                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 15                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 16                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 17                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 18                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 19                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 20                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 21                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 22                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 23                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 24                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 25                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 26                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 27                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 28                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 29                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 30                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 31                         | GSH  | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 32                         | HIC  | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 33                         | HML  | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03R:DER\_WNNGZ**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |      |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |      |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 34                         | HNK  | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 35                         | HNN  | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 36                         | HTO  | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 37                         | HUO  | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 38                         | IHD  | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 39                         | JFN  | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 40                         | JVL  | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 41                         | LFD  | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 42                         | LGA  | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 43                         | LNR  | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 44                         | LVZ  | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 45                         | MIP  | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 46                         | MKG  | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 47                         | MNM  | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 48                         | MSS  | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 49                         | MXE  | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 50                         | ODI  | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 51                         | PLL  | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 52                         | PLN  | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 53                         | PMM  | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 54                         | PNT  | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 55                         | PWL  | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 56                         | RBS  | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 57                         | REC  | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 58                         | RKA  | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 59                         | RST  | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 60                         | SAM  | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 61                         | SFK  | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 62                         | SLK  | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 63                         | SLT  | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 64                         | TDT  | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 65                         | THS  | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 66                         | UCA  | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03R:DER\_WNNGZ\_

| DME/DME (Continued) |      |                                      |        |       |      |         |          |          |      |          |
|---------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| DMEs Used           |      |                                      |        |       |      |         |          |          |      |          |
| #                   | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 67                  | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 68                  | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 69                  | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70                  | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

| Flight Check DME Selection |               |     |     |     |  |           |
|----------------------------|---------------|-----|-----|-----|--|-----------|
| Distance [NM]              | Selected DMEs |     |     |     |  | Alternate |
| 0.0                        |               |     |     |     |  |           |
| 1.0                        | SVM           | CRL |     |     |  |           |
| 2.2                        | SVM           | CRL | DXO |     |  |           |
| 2.5                        | SVM           | CRL | PSI | DXO |  |           |

| Inertial Drift Segments |                                   |                                   |             |
|-------------------------|-----------------------------------|-----------------------------------|-------------|
| #                       | Start Location                    | End Location                      | Length [NM] |
| 1                       | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2                       | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3                       | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4                       | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5                       | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6                       | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7                       | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8                       | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9                       | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10                      | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11                      | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12                      | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13                      | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14                      | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15                      | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16                      | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17                      | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18                      | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19                      | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

| Available DMEs by Waypoints |                   |                    |
|-----------------------------|-------------------|--------------------|
| Waypoint Before             | Waypoint After    | DME List           |
| KDTW:RW03R:DER              | KDTW:RW03R-VI End | SVM, CRL           |
| KDTW:RW03R-VI End           | WNNGZ_            | PSI, DXO, SVM, CRL |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03R:DER\_WNNGZ

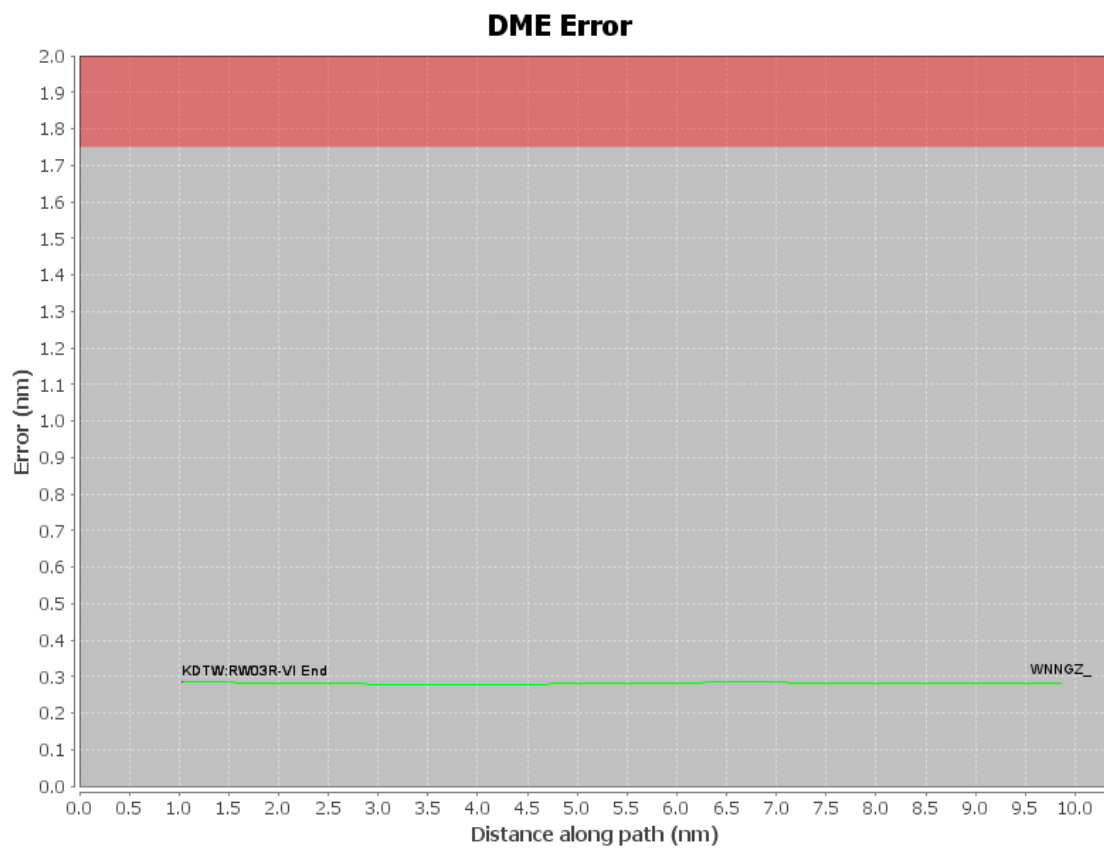
## User Data Files

| # | File Name  |
|---|------------|
| 1 | PAVYL2.udt |

## User DMEs

| #    | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
|------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| 1    | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV: |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2    | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV: |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4    | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV: |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5    | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV: |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7    | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV: |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03R:DER\_WNNGZ\_



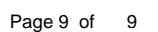


# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW03R:DER\_WNNGZ\_

Graphic Depiction 1



### Graphic Depiction 2



## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ\_

### Results Summary

|                            |  |
|----------------------------|--|
| Flyability:                | Completed  |
| DME/DME:                   | Completed - No Critical DMEs   |
| Name:                      | Paul CTR Jackson   |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs  |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\KDTW-RW04L-DER_WNNGZ_\KDTW PAVYL (RNAV) DEPARTURE_KDTW_RW04L_DER_WNNGZ_2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)   |
| Software:<br>DmeDmePlugin: | 5.5.1  |
| Date/Time:                 | 03/04/2019 02:40 PM CST  |
| Databases:                 | DTED 0 Max   |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name              | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------------------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| KDTW:RW04L:DER    | WP   | N42° 13' 34.48",<br>W083° 21' 58.61" | 642.1         | VNAV      | 130       | FLY_BY    | TF       |
| KDTW:RW04L-VI End | WP   | N42° 14' 27.54",<br>W083° 21' 19.53" | 1146          | VNAV      | 145       | FLY_BY    | TF       |
| WNNGZ_            | WP   | N42° 20' 03.77",<br>W083° 10' 37.55" | 4000          | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ\_

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |        |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|--------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |        |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time   | Distance |
| 1                          | DXO  | N42° 12' 47.29",<br>W083° 21' 59.99" | 6.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 73.8 % | 77.1 %   |
| 2                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 87.1 % | 90.9 %   |
| 3                          | PSI  | N42° 42' 03.09",<br>W083° 31' 57.98" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Enabled  | 67.9 % | 70.9 %   |
| 4                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 87.1 % | 90.9 %   |
| 5                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 6                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 7                          | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 8                          | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 9                          | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 10                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 11                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 12                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 13                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |        |          |
| 14                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 15                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 16                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 17                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 18                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 19                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 20                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 21                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 22                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 23                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 24                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 25                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 26                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 27                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 28                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 29                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 30                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 31                         | GSH  | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 32                         | HIC  | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 33                         | HML  | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |      |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |      |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 34                         | HNK  | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 35                         | HNN  | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 36                         | HTO  | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 37                         | HUO  | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 38                         | IHD  | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 39                         | JFN  | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 40                         | JVL  | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 41                         | LFD  | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 42                         | LGA  | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 43                         | LNR  | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 44                         | LVZ  | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 45                         | MIP  | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 46                         | MKG  | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 47                         | MNM  | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 48                         | MSS  | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 49                         | MXE  | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 50                         | ODI  | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 51                         | PLL  | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 52                         | PLN  | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 53                         | PMM  | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 54                         | PNT  | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 55                         | PWL  | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 56                         | RBS  | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 57                         | REC  | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 58                         | RKA  | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 59                         | RST  | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 60                         | SAM  | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 61                         | SFK  | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 62                         | SLK  | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 63                         | SLT  | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 64                         | TDT  | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 65                         | THS  | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 66                         | UCA  | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ\_

| DME/DME (Continued) |      |                                      |        |       |      |         |          |          |      |          |
|---------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| DMEs Used           |      |                                      |        |       |      |         |          |          |      |          |
| #                   | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 67                  | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 68                  | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 69                  | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70                  | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

| Flight Check DME Selection |               |     |     |     |  |           |
|----------------------------|---------------|-----|-----|-----|--|-----------|
| Distance [NM]              | Selected DMEs |     |     |     |  | Alternate |
| 0.0                        |               |     |     |     |  |           |
| 1.0                        | SVM           | CRL |     |     |  |           |
| 2.5                        | SVM           | DXO | CRL |     |  |           |
| 3.1                        | SVM           | DXO | CRL | PSI |  |           |

| Inertial Drift Segments |                                   |                                   |             |
|-------------------------|-----------------------------------|-----------------------------------|-------------|
| #                       | Start Location                    | End Location                      | Length [NM] |
| 1                       | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2                       | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3                       | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4                       | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5                       | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6                       | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7                       | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8                       | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9                       | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10                      | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11                      | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12                      | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13                      | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14                      | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15                      | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16                      | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17                      | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18                      | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19                      | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

| Available DMEs by Waypoints |                   |                    |
|-----------------------------|-------------------|--------------------|
| Waypoint Before             | Waypoint After    | DME List           |
| KDTW:RW04L:DER              | KDTW:RW04L-VI End | SVM, CRL           |
| KDTW:RW04L-VI End           | WNNGZ_            | PSI, DXO, SVM, CRL |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ\_

## User Data Files

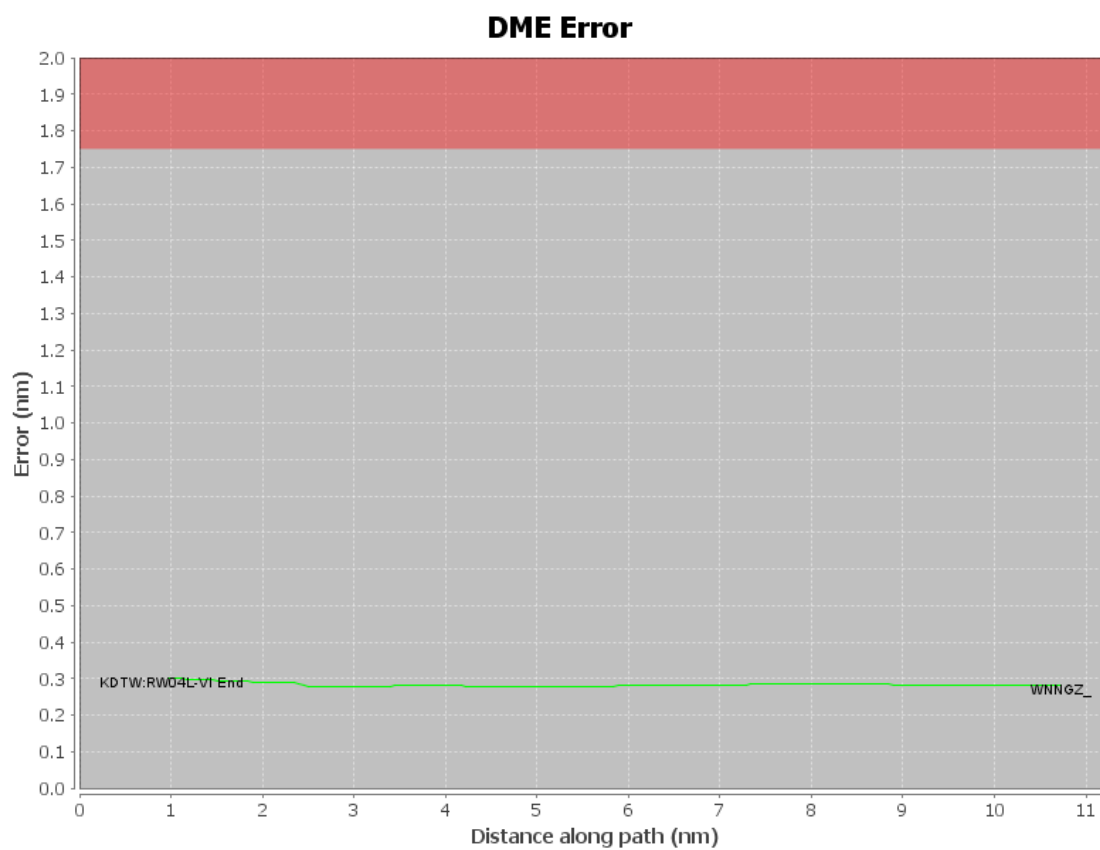
| # | File Name  |
|---|------------|
| 1 | PAVYL2.udt |

## User DMEs

| #    | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
|------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| 1    | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV: |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2    | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV: |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4    | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV: |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5    | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV: |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7    | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV: |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ\_



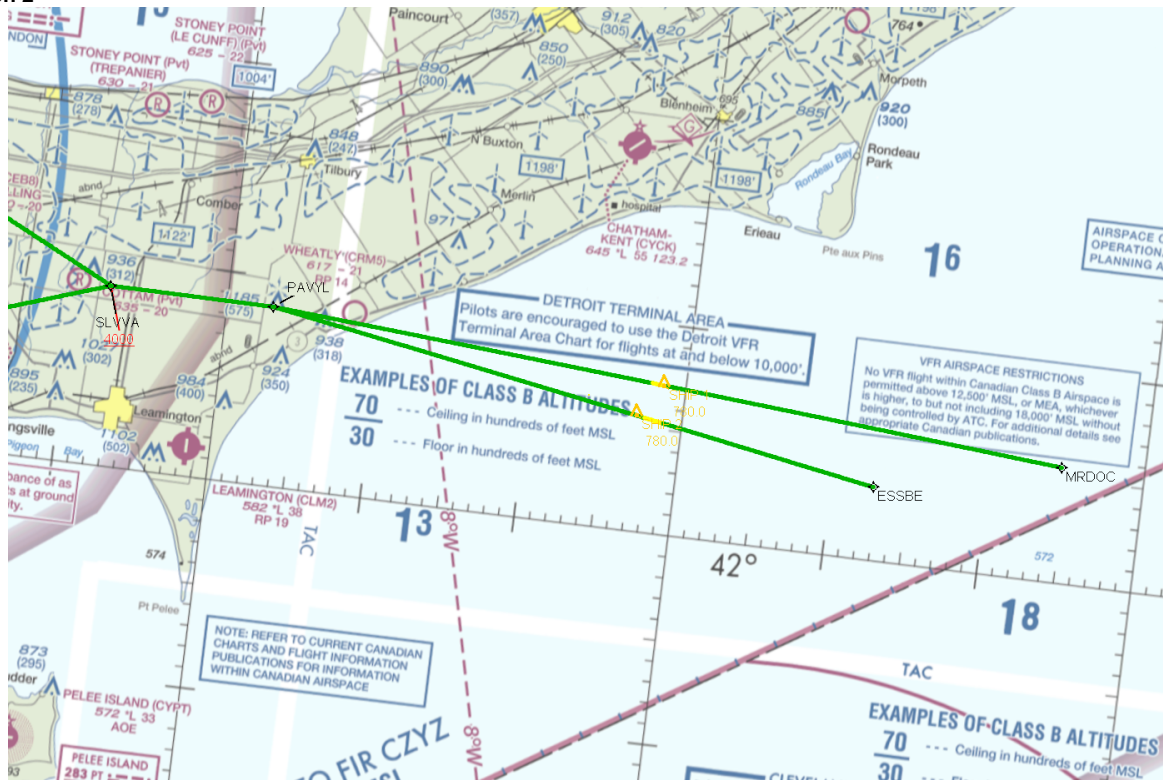
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ\_

Graphic Depiction 1



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04L:DER\_WNNGZ\_

Graphic Depiction 2



## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ\_

### Results Summary

|                            |   |
|----------------------------|---|
| Flyability:                | Completed   |
| DME/DME:                   | Completed - No Critical DMEs  |
| Name:                      | Paul CTR Jackson  |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs   |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\KDTW-RW04R-DER_WNNGZ_\KDTW PAVYL (RNAV) DEPARTURE_KDTW_RW04R_DER_WNNGZ__2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)  |
| Software:<br>DmeDmePlugin: | 5.5.1   |
| Date/Time:                 | 03/04/2019 02:40 PM CST   |
| Databases:                 | DTED 0 Max  |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name              | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------------------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| KDTW:RW04R:DER    | WP   | N42° 13' 52.36",<br>W083° 20' 59.97" | 635.8         | VNAV      | 130       | FLY_BY    | TF       |
| KDTW:RW04R-VI End | WP   | N42° 14' 46.08",<br>W083° 20' 20.37" | 1146          | VNAV      | 145       | FLY_BY    | TF       |
| WNNGZ_            | WP   | N42° 20' 03.77",<br>W083° 10' 37.55" | 4000          | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ\_

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |        |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|--------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |        |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time   | Distance |
| 1                          | DXO  | N42° 12' 47.29",<br>W083° 21' 59.99" | 6.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 78.6 % | 82.5 %   |
| 2                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 86 %   | 90.1 %   |
| 3                          | PSI  | N42° 42' 03.09",<br>W083° 31' 57.98" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Enabled  | 67 %   | 70.2 %   |
| 4                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 86 %   | 90.1 %   |
| 5                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 6                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 7                          | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 8                          | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 9                          | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 10                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 11                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 12                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 13                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |        |          |
| 14                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 15                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 16                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 17                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 18                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 19                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 20                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 21                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 22                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 23                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 24                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 25                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 26                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 27                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 28                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 29                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 30                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 31                         | GSH  | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 32                         | HIC  | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 33                         | HML  | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |      |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |      |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 34                         | HNK  | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 35                         | HNN  | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 36                         | HTO  | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 37                         | HUO  | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 38                         | IHD  | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 39                         | JFN  | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 40                         | JVL  | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 41                         | LFD  | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 42                         | LGA  | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 43                         | LNR  | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 44                         | LVZ  | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 45                         | MIP  | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 46                         | MKG  | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 47                         | MNM  | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 48                         | MSS  | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 49                         | MXE  | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 50                         | ODI  | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 51                         | PLL  | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 52                         | PLN  | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 53                         | PMM  | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 54                         | PNT  | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 55                         | PWL  | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 56                         | RBS  | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 57                         | REC  | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 58                         | RKA  | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 59                         | RST  | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 60                         | SAM  | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 61                         | SFK  | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 62                         | SLK  | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 63                         | SLT  | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 64                         | TDT  | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 65                         | THS  | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 66                         | UCA  | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ\_

| DME/DME (Continued) |      |                                      |        |       |      |         |          |          |      |          |
|---------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| DMEs Used           |      |                                      |        |       |      |         |          |          |      |          |
| #                   | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 67                  | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 68                  | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 69                  | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70                  | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

| Flight Check DME Selection |               |     |     |     |  |           |
|----------------------------|---------------|-----|-----|-----|--|-----------|
| Distance [NM]              | Selected DMEs |     |     |     |  | Alternate |
| 0.0                        |               |     |     |     |  |           |
| 1.0                        | SVM           | CRL |     |     |  |           |
| 1.7                        | SVM           | DXO | CRL |     |  |           |
| 3.0                        | SVM           | CRL | DXO | PSI |  |           |

| Inertial Drift Segments |                                   |                                   |             |
|-------------------------|-----------------------------------|-----------------------------------|-------------|
| #                       | Start Location                    | End Location                      | Length [NM] |
| 1                       | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2                       | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3                       | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4                       | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5                       | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6                       | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7                       | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8                       | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9                       | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10                      | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11                      | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12                      | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13                      | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14                      | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15                      | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16                      | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17                      | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18                      | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19                      | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

| Available DMEs by Waypoints |                   |                    |
|-----------------------------|-------------------|--------------------|
| Waypoint Before             | Waypoint After    | DME List           |
| KDTW:RW04R:DER              | KDTW:RW04R-VI End | SVM, CRL           |
| KDTW:RW04R-VI End           | WNNGZ_            | PSI, DXO, SVM, CRL |



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ

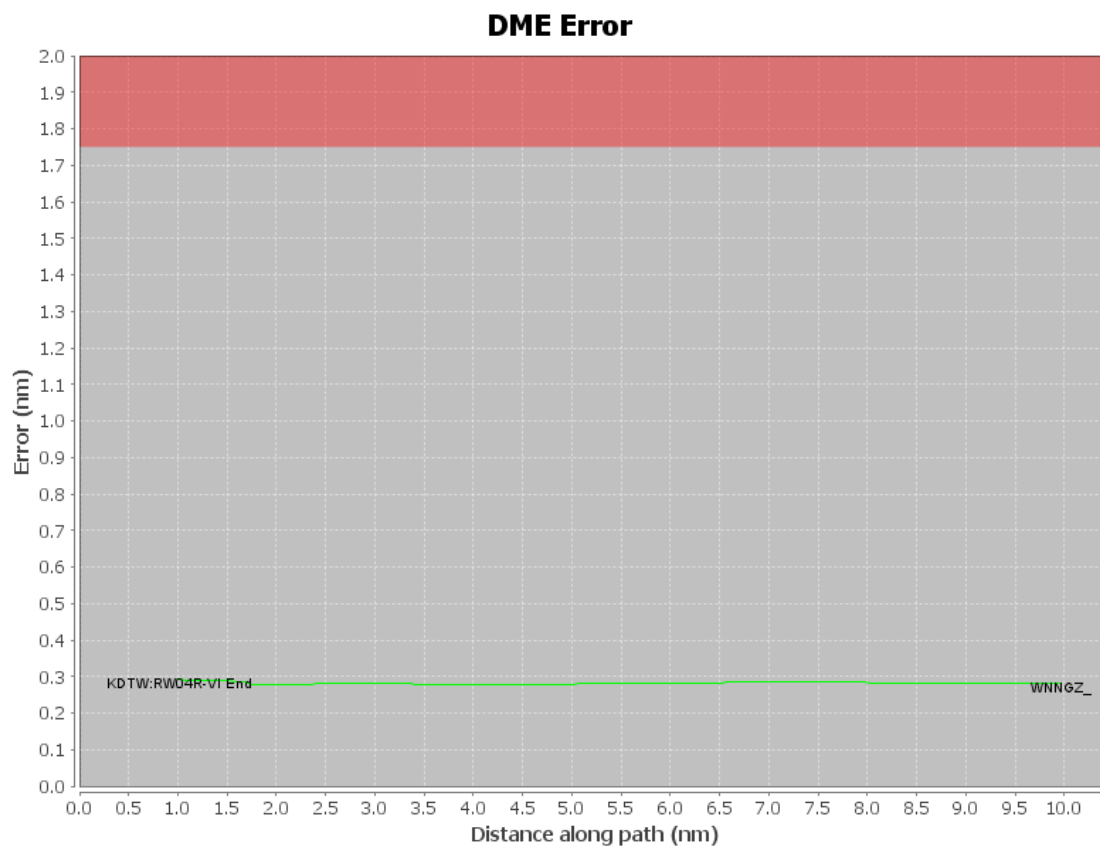
## User Data Files

| # | File Name  |
|---|------------|
| 1 | PAVYL2.udt |

## User DMEs

| #    | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
|------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| 1    | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV: |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2    | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV: |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4    | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV: |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5    | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV: |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7    | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV: |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ\_



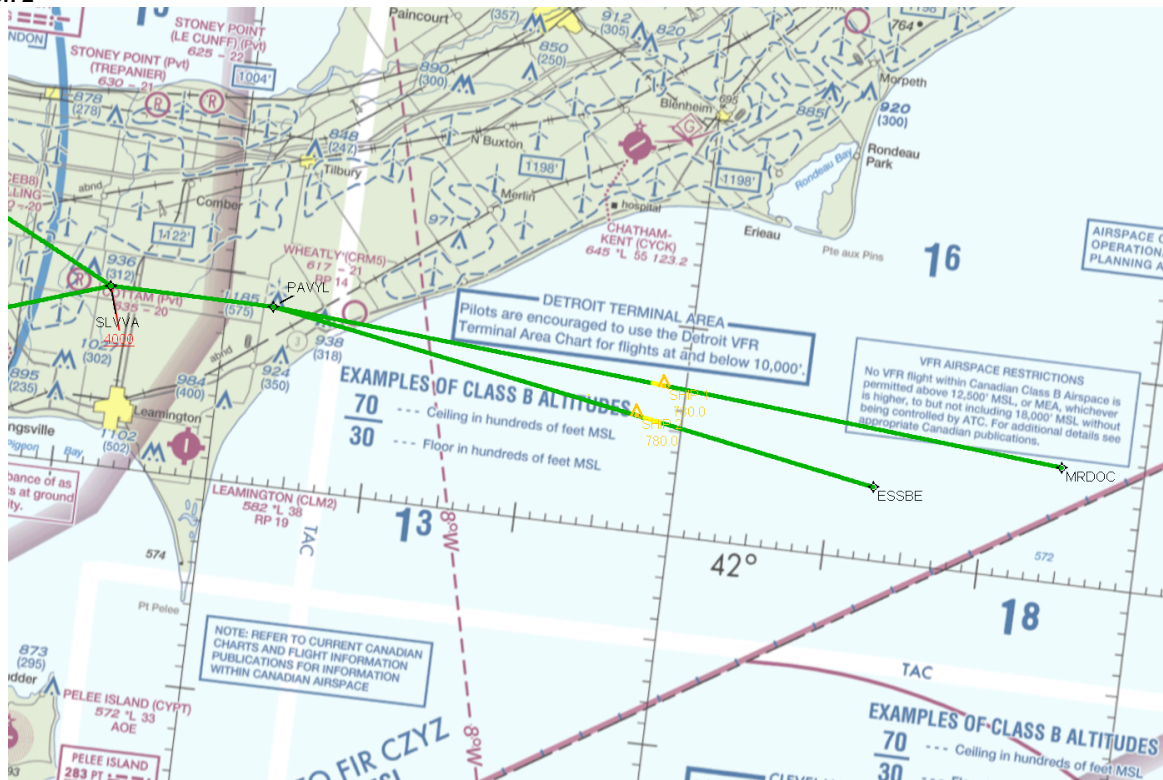
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ\_

Graphic Depiction 1



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW04R:DER\_WNNGZ\_

Graphic Depiction 2



## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE

### Results Summary

|                            |   |
|----------------------------|---|
| Flyability:                | Completed   |
| DME/DME:                   | Completed - No Critical DMEs  |
| Name:                      | Paul CTR Jackson  |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs   |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\KDTW-RW21L-DER_ESSBE\KDTW PAVYL (RNAV) DEPARTURE_KDTW_RW21L_DER_ESSBE_2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)  |
| Software:<br>DmeDmePlugin: | 5.5.1   |
| Date/Time:                 | 03/04/2019 02:40 PM CST   |
| Databases:                 | DTED 0 Max  |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name              | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------------------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| KDTW:RW21L:DER    | WP   | N42° 11' 44.21",<br>W083° 21' 06.49" | 632.8         | VNAV      | 130       | FLY_BY    | TF       |
| KDTW:RW21L-VI End | WP   | N42° 10' 50.18",<br>W083° 21' 46.27" | 1146          | VNAV      | 145       | FLY_BY    | TF       |
| JOELU_            | WP   | N42° 02' 13.33",<br>W083° 21' 16.60" | 4000          | VNAV      | 200       | FLY_BY    | TF       |
| YIMMY             | WP   | N42° 00' 46.57",<br>W083° 11' 14.47" | 4000          | VNAV      | 200       | FLY_BY    | TF       |
| HWARD             | WP   | N42° 01' 30.79",<br>W083° 05' 53.79" | 4000          | VNAV      | 200       | FLY_BY    | TF       |
| SLVVA             | WP   | N42° 08' 38.11",<br>W082° 37' 36.16" | 4000          | VNAV      | 200       | FLY_BY    | TF       |
| PAVYL             | WP   | N42° 08' 34.90",<br>W082° 27' 05.46" | 10000         | VNAV      | 200       | FLY_BY    | TF       |
| ESSBE             | WP   | N42° 03' 31.96",<br>W081° 47' 17.79" | 10000         | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |

## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |        |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|--------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |        |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time   | Distance |
| 1                          | DJB  | N41° 21' 29.03",<br>W082° 09' 43.09" | 5.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 68.7 % | 69.1 %   |
| 2                          | DXO  | N42° 12' 47.29",<br>W083° 21' 59.99" | 6.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 51.7 % | 52 %     |
| 3                          | CXR  | N41° 31' 00.94",<br>W081° 09' 47.47" | 5.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 39.7 % | 39.9 %   |
| 4                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 53.1 % | 53.4 %   |
| 5                          | VWV  | N41° 27' 05.34",<br>W083° 38' 19.30" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 30 %   | 30.1 %   |
| 6                          | PSI  | N42° 42' 03.09",<br>W083° 31' 57.98" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Enabled  | 32.5 % | 32.7 %   |
| 7                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 77.3 % | 77.7 %   |
| 8                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 9                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 10                         | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 11                         | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 12                         | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 13                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 14                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 15                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 16                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |        |          |
| 17                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 18                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 19                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 20                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 21                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 22                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 23                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 24                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 25                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 26                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 27                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 28                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 29                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 30                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 31                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 32                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 33                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE**

| <b>DME/DME (Continued)</b> |             |                                      |               |              |             |               |                 |               |             |                 |
|----------------------------|-------------|--------------------------------------|---------------|--------------|-------------|---------------|-----------------|---------------|-------------|-----------------|
| <b>DMEs Used</b>           |             |                                      |               |              |             |               |                 |               |             |                 |
| <b>#</b>                   | <b>Name</b> | <b>Lat/Lon</b>                       | <b>MAGVAR</b> | <b>Range</b> | <b>Type</b> | <b>Source</b> | <b>Critical</b> | <b>Status</b> | <b>Time</b> | <b>Distance</b> |
| 34                         | GSH         | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 35                         | HIC         | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 36                         | HML         | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 37                         | HNK         | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 38                         | HNN         | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 39                         | HTO         | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 40                         | HUO         | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 41                         | IHD         | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 42                         | JFN         | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 43                         | JVL         | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 44                         | LFD         | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 45                         | LGA         | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 46                         | LNR         | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 47                         | LVZ         | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 48                         | MIP         | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 49                         | MKG         | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 50                         | MNM         | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 51                         | MSS         | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 52                         | MXE         | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 53                         | ODI         | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 54                         | PLL         | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 55                         | PLN         | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 56                         | PMM         | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 57                         | PNT         | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 58                         | PWL         | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 59                         | RBS         | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 60                         | REC         | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 61                         | RKA         | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 62                         | RST         | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 63                         | SAM         | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 64                         | SFK         | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 65                         | SLK         | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 66                         | SLT         | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE

## DME/DME (Continued)

### DMEs Used

| #  | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
|----|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| 67 | TDT  | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 68 | THS  | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 69 | UCA  | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70 | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 71 | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 72 | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 73 | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

## Flight Check DME Selection

| Distance [NM] | Selected DMEs |     |     |     |     | Alternate |
|---------------|---------------|-----|-----|-----|-----|-----------|
| 0.0           |               |     |     |     |     |           |
| 2.1           | DXO           | CRL |     |     |     |           |
| 4.3           |               |     |     |     |     |           |
| 8.7           | SVM           | VWV |     |     |     |           |
| 9.7           | DXO           | CRL |     |     |     |           |
| 12.6          | VWV           | CRL | DXO | SVM |     |           |
| 25.1          | VWV           | SVM | DXO | DJB | CRL |           |
| 30.7          | VWV           | DJB | PSI | DXO | CRL |           |
| 36.2          | DJB           | CRL | PSI | DXO |     |           |
| 46.4          | CRL           | DJB | DXO | SVM | PSI |           |
| 49.9          | CRL           | DJB | SVM | PSI | CXR |           |
| 56.8          | CRL           | DJB | SVM | CXR |     |           |
| 70.9          | DJB           | SVM | CXR |     |     |           |
| 70.9          | CXR           | DJB |     |     |     |           |

## Inertial Drift Segments

| #  | Start Location                    | End Location                      | Length [NM] |
|----|-----------------------------------|-----------------------------------|-------------|
| 1  | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2  | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3  | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4  | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5  | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6  | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7  | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8  | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9  | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10 | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11 | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12 | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13 | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14 | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15 | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16 | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17 | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18 | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19 | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE

## Available DMEs by Waypoints

| Waypoint Before   | Waypoint After    | DME List                     |
|-------------------|-------------------|------------------------------|
| KDTW:RW21L:DER    | KDTW:RW21L-VI End |                              |
| KDTW:RW21L-VI End | JOELU_            | VWV, DXO, SVM, CRL           |
| JOELU_            | YIMMY             | VWV, DXO, SVM, CRL           |
| YIMMY             | HWARD             | VWV, DXO, SVM, CRL           |
| HWARD             | SLVVA             | VWV, PSI, DXO, SVM, CRL, DJB |
| SLVVA             | PAVYL             | PSI, DXO, SVM, CRL, CXR, DJB |
| PAVYL             | ESSBE             | PSI, SVM, CXR, CRL, DJB      |

## User Data Files

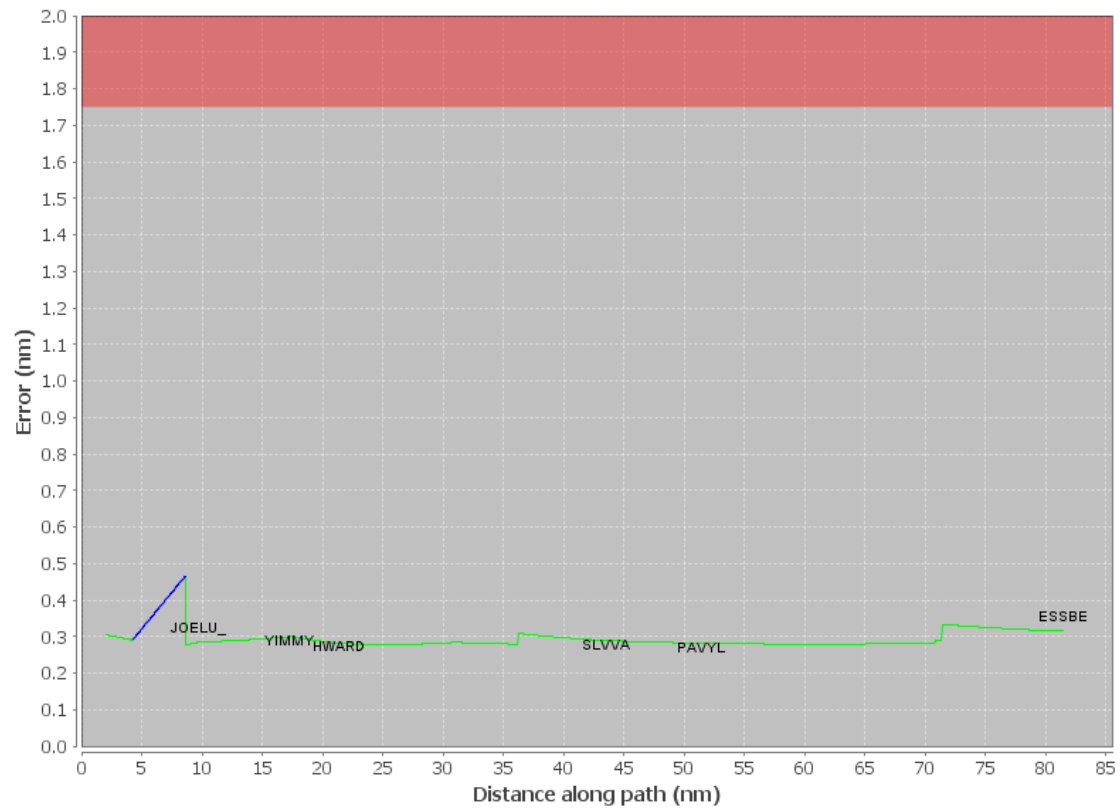
| # | File Name  |
|---|------------|
| 1 | PAVYL2.udt |

## User DMEs

| #    | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
|------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| 1    | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV: |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2    | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV: |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4    | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV: |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5    | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV: |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7    | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV: |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE

## DME Error



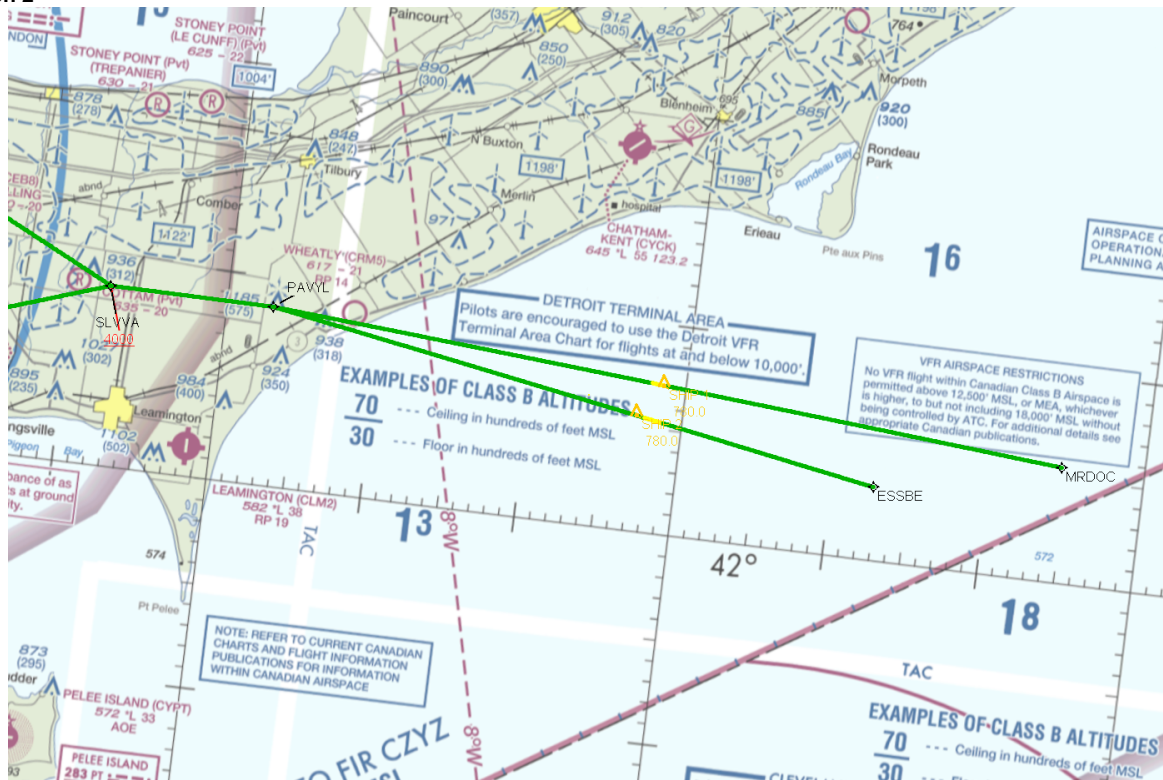
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE

Graphic Depiction 1



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21L:DER\_ESSBE

Graphic Depiction 2



## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21R:DER\_JOELU\_

### Results Summary

|                            |   |
|----------------------------|---|
| Flyability:                | Completed   |
| DME/DME:                   | Completed - No Critical DMEs  |
| Name:                      | Paul CTR Jackson  |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs   |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\KDTW-RW21R-DER_JOELU_KDTW PAVYL (RNAV) DEPARTURE_KDTW_RW21R_DER_JOELU_2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)  |
| Software:<br>DmeDmePlugin: | 5.5.1   |
| Date/Time:                 | 03/04/2019 02:40 PM CST   |
| Databases:                 | DTED 0 Max  |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name              | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------------------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| KDTW:RW21R:DER    | WP   | N42° 12' 28.21",<br>W083° 21' 04.39" | 635.7         | VNAV      | 130       | FLY_BY    | TF       |
| KDTW:RW21R-VI End | WP   | N42° 11' 34.48",<br>W083° 21' 43.96" | 1146          | VNAV      | 145       | FLY_BY    | TF       |
| JOELU_            | WP   | N42° 02' 13.33",<br>W083° 21' 16.60" | 4000          | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21R:DER\_JOELU\_

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21R:DER\_JOELU\_**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |        |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|--------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |        |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time   | Distance |
| 1                          | DXO  | N42° 12' 47.29",<br>W083° 21' 59.99" | 6.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 18.8 % | 19.7 %   |
| 2                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 9.7 %  | 10.1 %   |
| 3                          | VWV  | N41° 27' 05.34",<br>W083° 38' 19.30" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 9.7 %  | 10.1 %   |
| 4                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 18.8 % | 19.7 %   |
| 5                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 6                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 7                          | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 8                          | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 9                          | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 10                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 11                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 12                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 13                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |        |          |
| 14                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 15                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 16                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 17                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 18                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 19                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 20                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 21                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 22                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 23                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 24                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 25                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 26                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 27                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 28                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 29                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 30                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 31                         | GSH  | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 32                         | HIC  | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 33                         | HML  | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |



**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21R:DER\_JOELU\_**

| <b>DME/DME (Continued)</b> |             |                                      |               |              |             |               |                 |               |             |                 |
|----------------------------|-------------|--------------------------------------|---------------|--------------|-------------|---------------|-----------------|---------------|-------------|-----------------|
| <b>DMEs Used</b>           |             |                                      |               |              |             |               |                 |               |             |                 |
| <b>#</b>                   | <b>Name</b> | <b>Lat/Lon</b>                       | <b>MAGVAR</b> | <b>Range</b> | <b>Type</b> | <b>Source</b> | <b>Critical</b> | <b>Status</b> | <b>Time</b> | <b>Distance</b> |
| 34                         | HNK         | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 35                         | HNN         | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 36                         | HTO         | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 37                         | HUO         | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 38                         | IHD         | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 39                         | JFN         | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 40                         | JVL         | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 41                         | LFD         | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 42                         | LGA         | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 43                         | LNR         | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 44                         | LVZ         | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 45                         | MIP         | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 46                         | MKG         | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 47                         | MNM         | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 48                         | MSS         | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 49                         | MXE         | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 50                         | ODI         | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 51                         | PLL         | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 52                         | PLN         | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 53                         | PMM         | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 54                         | PNT         | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 55                         | PWL         | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 56                         | RBS         | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 57                         | REC         | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 58                         | RKA         | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 59                         | RST         | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 60                         | SAM         | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 61                         | SFK         | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 62                         | SLK         | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 63                         | SLT         | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 64                         | TDT         | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 65                         | THS         | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 66                         | UCA         | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21R:DER\_JOELU\_

## DME/DME (Continued)

### DMEs Used

| #  | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
|----|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| 67 | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 68 | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 69 | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70 | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

## Flight Check DME Selection

| Distance [NM] | Selected DMEs |     |  |  |  | Alternate |
|---------------|---------------|-----|--|--|--|-----------|
| 0.0           |               |     |  |  |  |           |
| 2.8           | DXO           | CRL |  |  |  |           |
| 5.0           |               |     |  |  |  |           |
| 9.3           | SVM           | VWV |  |  |  |           |

## Inertial Drift Segments

| #  | Start Location                    | End Location                      | Length [NM] |
|----|-----------------------------------|-----------------------------------|-------------|
| 1  | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2  | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3  | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4  | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5  | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6  | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7  | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8  | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9  | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10 | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11 | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12 | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13 | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14 | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15 | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16 | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17 | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18 | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19 | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

## Available DMEs by Waypoints

| Waypoint Before   | Waypoint After    | DME List           |
|-------------------|-------------------|--------------------|
| KDTW:RW21R:DER    | KDTW:RW21R-VI End |                    |
| KDTW:RW21R-VI End | JOELU_            | VWV, DXO, SVM, CRL |

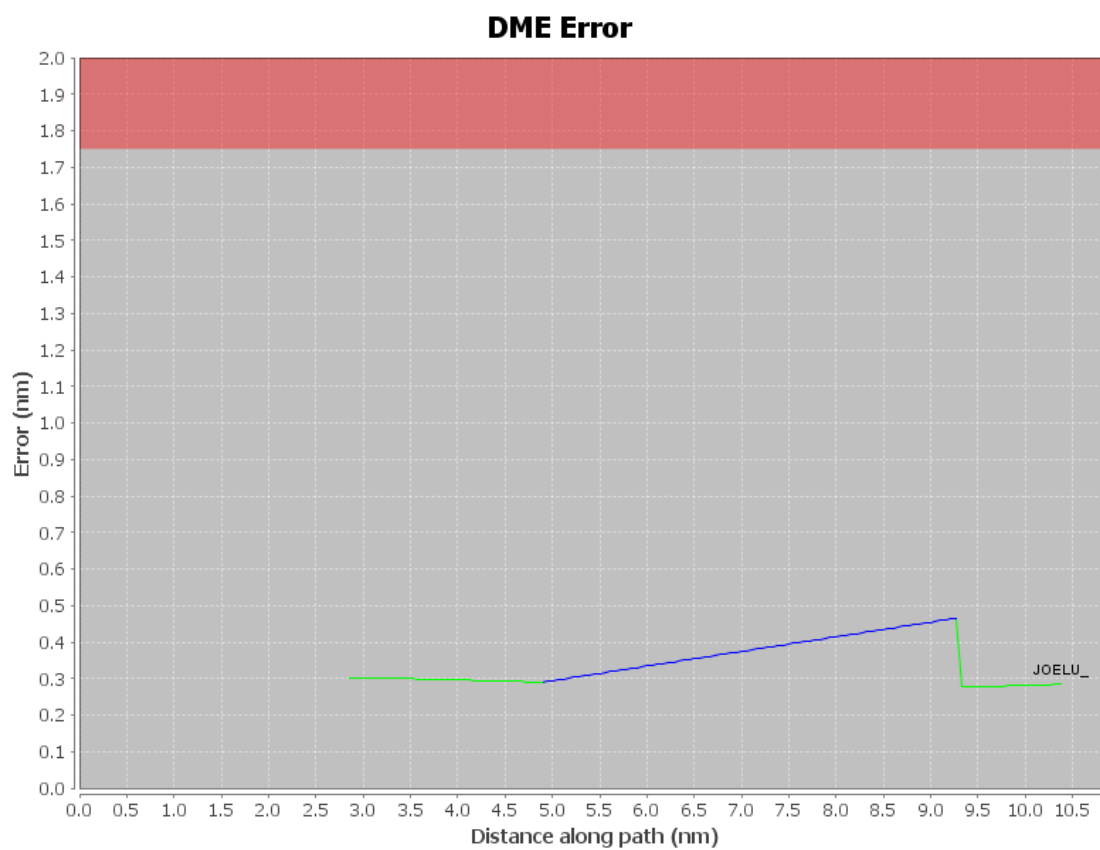
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21R:DER\_JOELU\_

## User Data Files

| # | File Name  |
|---|------------|
| 1 | PAVYL2.udt |

## User DMEs

| #    | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
|------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| 1    | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV: |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2    | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV: |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4    | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV: |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5    | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV: |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7    | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV: |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |



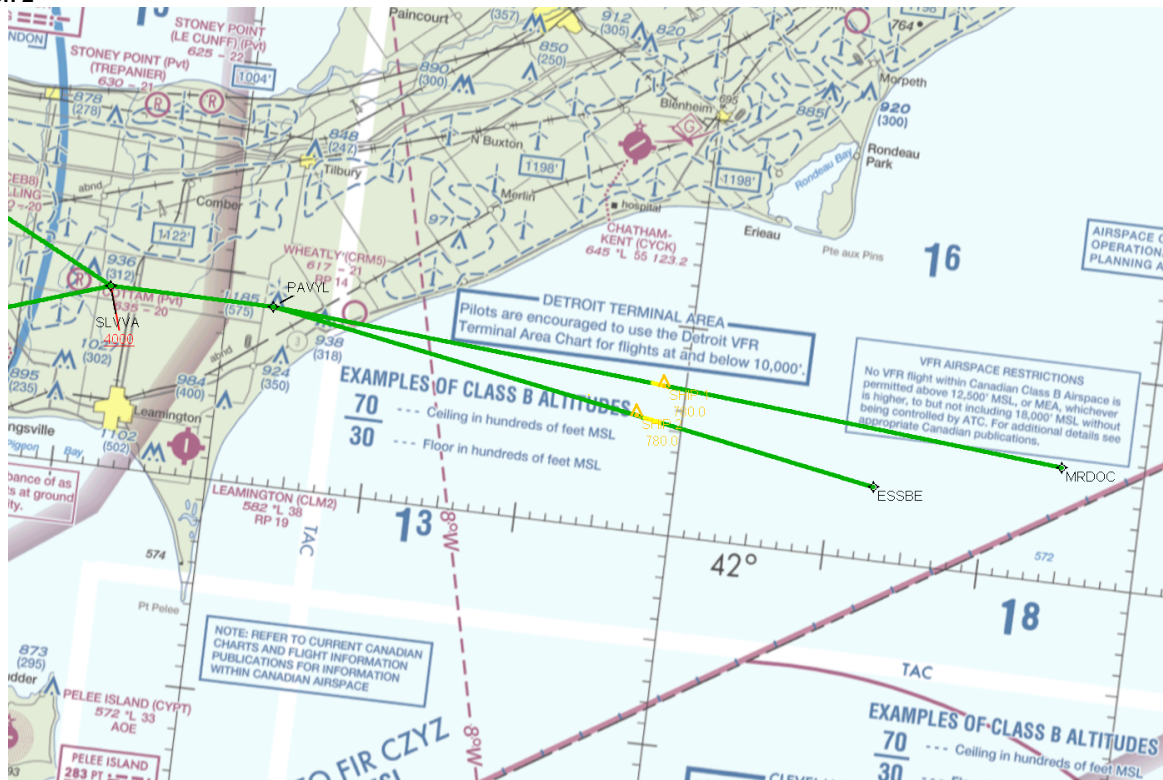
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21R:DER\_JOELU\_

Graphic Depiction 1



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW21R:DER\_JOELU\_

Graphic Depiction 2



## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22L:DER\_JOELU\_

### Results Summary

|                            |   |
|----------------------------|---|
| Flyability:                | Completed   |
| DME/DME:                   | Completed - No Critical DMEs  |
| Name:                      | Paul CTR Jackson  |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs   |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\KDTW-RW22L-DER_JOELU_\KDTW PAVYL (RNAV) DEPARTURE_KDTW_RW22L_DER_JOELU__2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)  |
| Software:<br>DmeDmePlugin: | 5.5.1   |
| Date/Time:                 | 03/04/2019 02:40 PM CST   |
| Databases:                 | DTED 0 Max  |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name              | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------------------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| KDTW:RW22L:DER    | WP   | N42° 12' 08.37",<br>W083° 22' 16.57" | 637           | VNAV      | 130       | FLY_BY    | TF       |
| KDTW:RW22L-VI End | WP   | N42° 11' 14.77",<br>W083° 22' 56.02" | 1146          | VNAV      | 145       | FLY_BY    | TF       |
| JOELU_            | WP   | N42° 02' 13.33",<br>W083° 21' 16.60" | 4000          | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22L:DER\_JOELU\_

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |



**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22L:DER\_JOELU**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |        |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|--------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |        |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time   | Distance |
| 1                          | DXO  | N42° 12' 47.29",<br>W083° 21' 59.99" | 6.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 17.3 % | 18.1 %   |
| 2                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 6.8 %  | 7.1 %    |
| 3                          | VWV  | N41° 27' 05.34",<br>W083° 38' 19.30" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 6.8 %  | 7.1 %    |
| 4                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 17.3 % | 18.1 %   |
| 5                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 6                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 7                          | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 8                          | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 9                          | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 10                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 11                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 12                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 13                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |        |          |
| 14                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 15                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 16                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 17                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 18                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 19                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 20                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 21                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 22                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 23                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 24                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 25                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 26                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 27                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 28                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 29                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 30                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 31                         | GSH  | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 32                         | HIC  | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 33                         | HML  | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22L:DER\_JOELU**

| <b>DME/DME (Continued)</b> |             |                                      |               |              |             |               |                 |               |             |                 |
|----------------------------|-------------|--------------------------------------|---------------|--------------|-------------|---------------|-----------------|---------------|-------------|-----------------|
| <b>DMEs Used</b>           |             |                                      |               |              |             |               |                 |               |             |                 |
| <b>#</b>                   | <b>Name</b> | <b>Lat/Lon</b>                       | <b>MAGVAR</b> | <b>Range</b> | <b>Type</b> | <b>Source</b> | <b>Critical</b> | <b>Status</b> | <b>Time</b> | <b>Distance</b> |
| 34                         | HNK         | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 35                         | HNN         | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 36                         | HTO         | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 37                         | HUO         | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 38                         | IHD         | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 39                         | JFN         | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 40                         | JVL         | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 41                         | LFD         | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 42                         | LGA         | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 43                         | LNR         | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 44                         | LVZ         | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 45                         | MIP         | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 46                         | MKG         | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 47                         | MNM         | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 48                         | MSS         | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W        | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 49                         | MXE         | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 50                         | ODI         | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 51                         | PLL         | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 52                         | PLN         | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 53                         | PMM         | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 54                         | PNT         | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 55                         | PWL         | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 56                         | RBS         | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 57                         | REC         | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 58                         | RKA         | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 59                         | RST         | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 60                         | SAM         | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 61                         | SFK         | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 62                         | SLK         | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 63                         | SLT         | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W         | 130          | H           | AIRNAV2       | NO              | Disabled      |             |                 |
| 64                         | TDT         | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 65                         | THS         | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W         | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |
| 66                         | UCA         | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W        | 40           | L           | AIRNAV2       | NO              | Disabled      |             |                 |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22L:DER\_JOELU\_

## DME/DME (Continued)

### DMEs Used

| #  | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
|----|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| 67 | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 68 | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 69 | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70 | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

## Flight Check DME Selection

| Distance [NM] | Selected DMEs |     |  |  |  | Alternate |
|---------------|---------------|-----|--|--|--|-----------|
| 0.0           |               |     |  |  |  |           |
| 3.9           | DXO           | CRL |  |  |  |           |
| 5.8           |               |     |  |  |  |           |
| 9.4           | SVM           | VWV |  |  |  |           |

## Inertial Drift Segments

| #  | Start Location                    | End Location                      | Length [NM] |
|----|-----------------------------------|-----------------------------------|-------------|
| 1  | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2  | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3  | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4  | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5  | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6  | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7  | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8  | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9  | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10 | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11 | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12 | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13 | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14 | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15 | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16 | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17 | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18 | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19 | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

## Available DMEs by Waypoints

| Waypoint Before   | Waypoint After    | DME List           |
|-------------------|-------------------|--------------------|
| KDTW:RW22L:DER    | KDTW:RW22L-VI End |                    |
| KDTW:RW22L-VI End | JOELU_            | VWV, DXO, SVM, CRL |

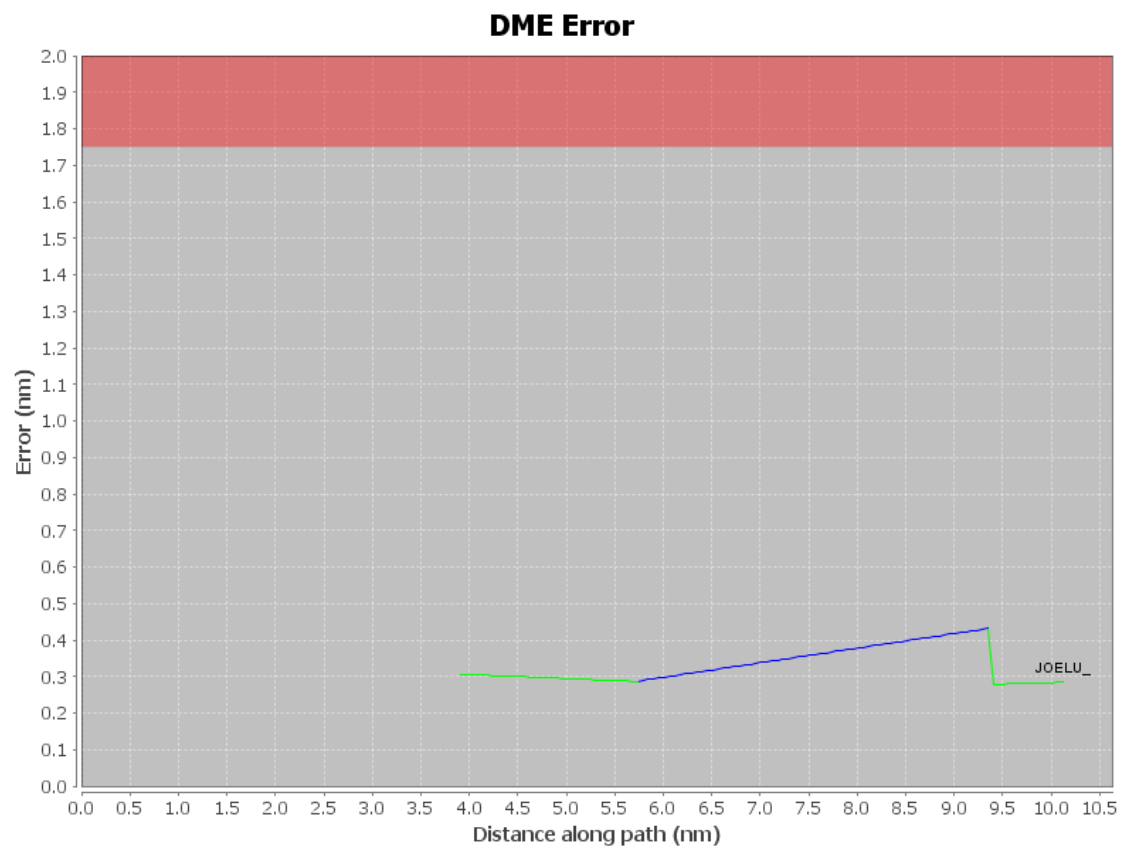
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22L:DER\_JOELU\_

## User Data Files

| # | File Name  |
|---|------------|
| 1 | PAVYL2.udt |

## User DMEs

| #    | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
|------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| 1    | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV: |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2    | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV: |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4    | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV: |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5    | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV: |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7    | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV: |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |



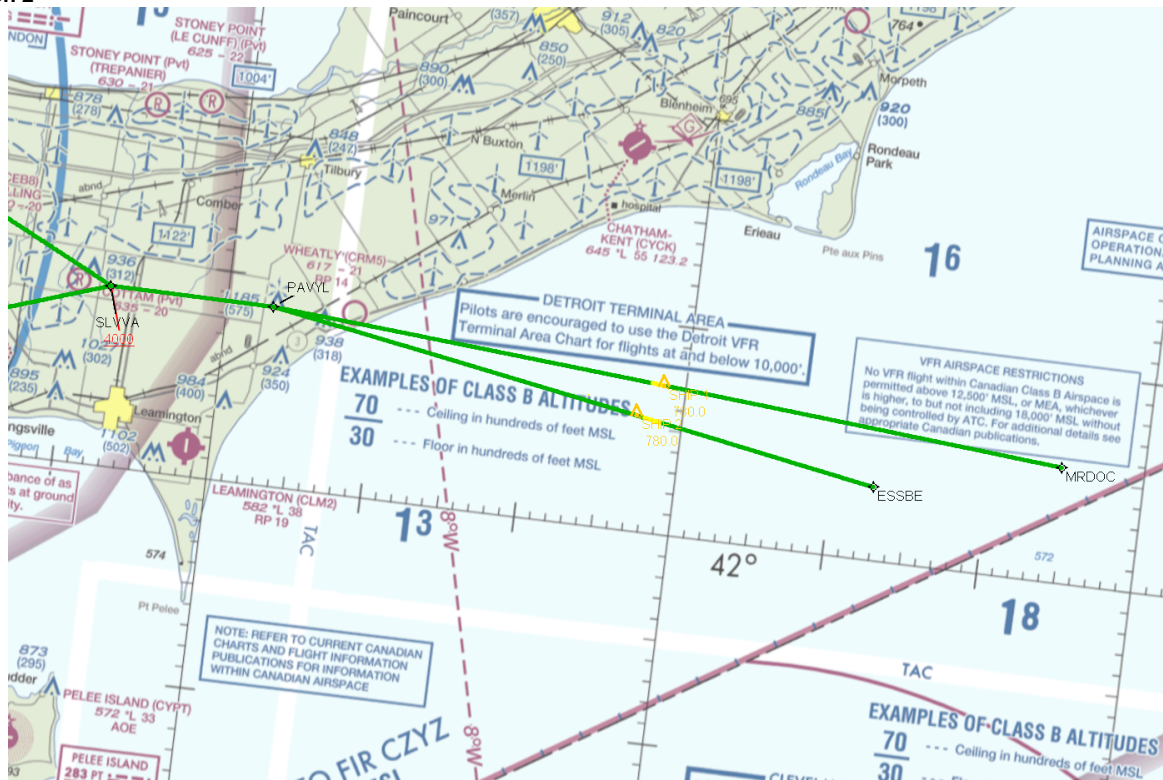
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22L:DER\_JOELU\_

Graphic Depiction 1



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22L:DER\_JOELU\_

Graphic Depiction 2



## DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22R:DER\_JOELU\_

### Results Summary

|                            |  |
|----------------------------|--|
| Flyability:                | Completed  |
| DME/DME:                   | Completed - No Critical DMEs   |
| Name:                      | Paul CTR Jackson   |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs  |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\KDTW-RW22R-DER_JOELU_\KDTW PAVYL (RNAV) DEPARTURE_KDTW_RW22R_DER_JOELU_2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)   |
| Software:<br>DmeDmePlugin: | 5.5.1  |
| Date/Time:                 | 03/04/2019 02:40 PM CST  |
| Databases:                 | DTED 0 Max   |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name              | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------------------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| KDTW:RW22R:DER    | WP   | N42° 12' 07.82",<br>W083° 23' 02.40" | 645.2         | VNAV      | 130       | FLY_BY    | TF       |
| KDTW:RW22R-VI End | WP   | N42° 11' 15.08",<br>W083° 23' 41.20" | 1146          | VNAV      | 145       | FLY_BY    | TF       |
| JOELU_            | WP   | N42° 02' 13.33",<br>W083° 21' 16.60" | 4000          | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22R:DER\_JOELU\_

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22R:DER\_JOELU\_**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |       |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|-------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |       |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time  | Distance |
| 1                          | DXO  | N42° 12' 47.29",<br>W083° 21' 59.99" | 6.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 9.3 % | 9.8 %    |
| 2                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 4.7 % | 4.9 %    |
| 3                          | VWV  | N41° 27' 05.34",<br>W083° 38' 19.30" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 4.7 % | 4.9 %    |
| 4                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 9.3 % | 9.8 %    |
| 5                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 6                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 7                          | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |       |          |
| 8                          | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 9                          | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |       |          |
| 10                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 11                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 12                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 13                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |       |          |
| 14                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 15                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 16                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 17                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 18                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 19                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 20                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 21                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 22                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |       |          |
| 23                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 24                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 25                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |       |          |
| 26                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 27                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 28                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 29                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |       |          |
| 30                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 31                         | GSH  | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |       |          |
| 32                         | HIC  | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |       |          |
| 33                         | HML  | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |       |          |

**DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22R:DER\_JOELU\_**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |      |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |      |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 34                         | HNK  | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 35                         | HNN  | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 36                         | HTO  | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 37                         | HUO  | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 38                         | IHD  | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 39                         | JFN  | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 40                         | JVL  | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 41                         | LFD  | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 42                         | LGA  | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 43                         | LNR  | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 44                         | LVZ  | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 45                         | MIP  | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 46                         | MKG  | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 47                         | MNM  | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 48                         | MSS  | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 49                         | MXE  | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 50                         | ODI  | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 51                         | PLL  | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 52                         | PLN  | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 53                         | PMM  | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 54                         | PNT  | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 55                         | PWL  | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 56                         | RBS  | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 57                         | REC  | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 58                         | RKA  | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 59                         | RST  | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 60                         | SAM  | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 61                         | SFK  | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 62                         | SLK  | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 63                         | SLT  | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 64                         | TDT  | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 65                         | THS  | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 66                         | UCA  | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22R:DER\_JOELU\_

## DME/DME (Continued)

### DMEs Used

| #  | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
|----|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| 67 | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 68 | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 69 | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70 | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

## Flight Check DME Selection

| Distance [NM] | Selected DMEs |     |  |  |  | Alternate |
|---------------|---------------|-----|--|--|--|-----------|
| 0.0           |               |     |  |  |  |           |
| 4.7           | DXO           | CRL |  |  |  |           |
| 5.7           |               |     |  |  |  |           |
| 9.7           | SVM           | VWV |  |  |  |           |

## Inertial Drift Segments

| #  | Start Location                    | End Location                      | Length [NM] |
|----|-----------------------------------|-----------------------------------|-------------|
| 1  | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2  | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3  | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4  | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5  | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6  | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7  | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8  | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9  | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10 | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11 | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12 | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13 | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14 | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15 | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16 | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17 | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18 | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19 | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

## Available DMEs by Waypoints

| Waypoint Before   | Waypoint After    | DME List           |
|-------------------|-------------------|--------------------|
| KDTW:RW22R:DER    | KDTW:RW22R-VI End |                    |
| KDTW:RW22R-VI End | JOELU_            | VWV, DXO, SVM, CRL |

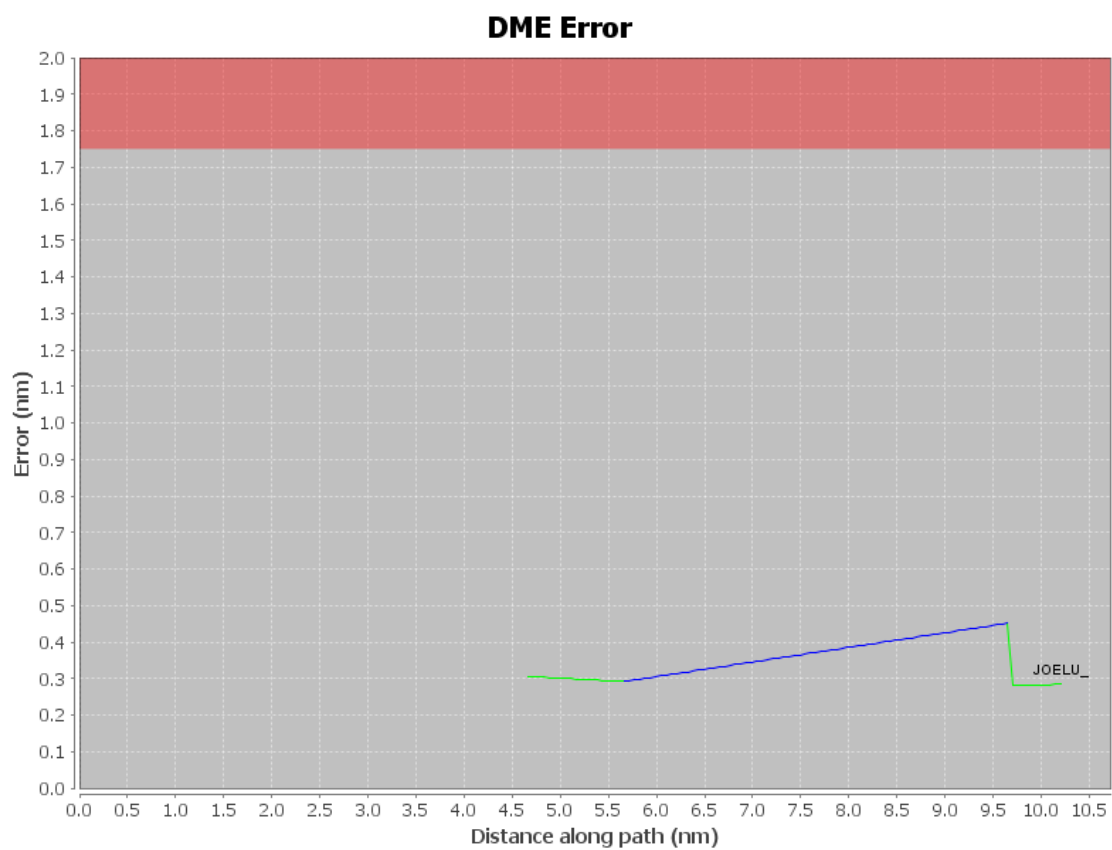
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22R:DER\_JOELU\_

## User Data Files

| # | File Name  |
|---|------------|
| 1 | PAVYL2.udt |

## User DMEs

| #    | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
|------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| 1    | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV: |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2    | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV: |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4    | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV: |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5    | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV: |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6    | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV: |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7    | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV: |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |



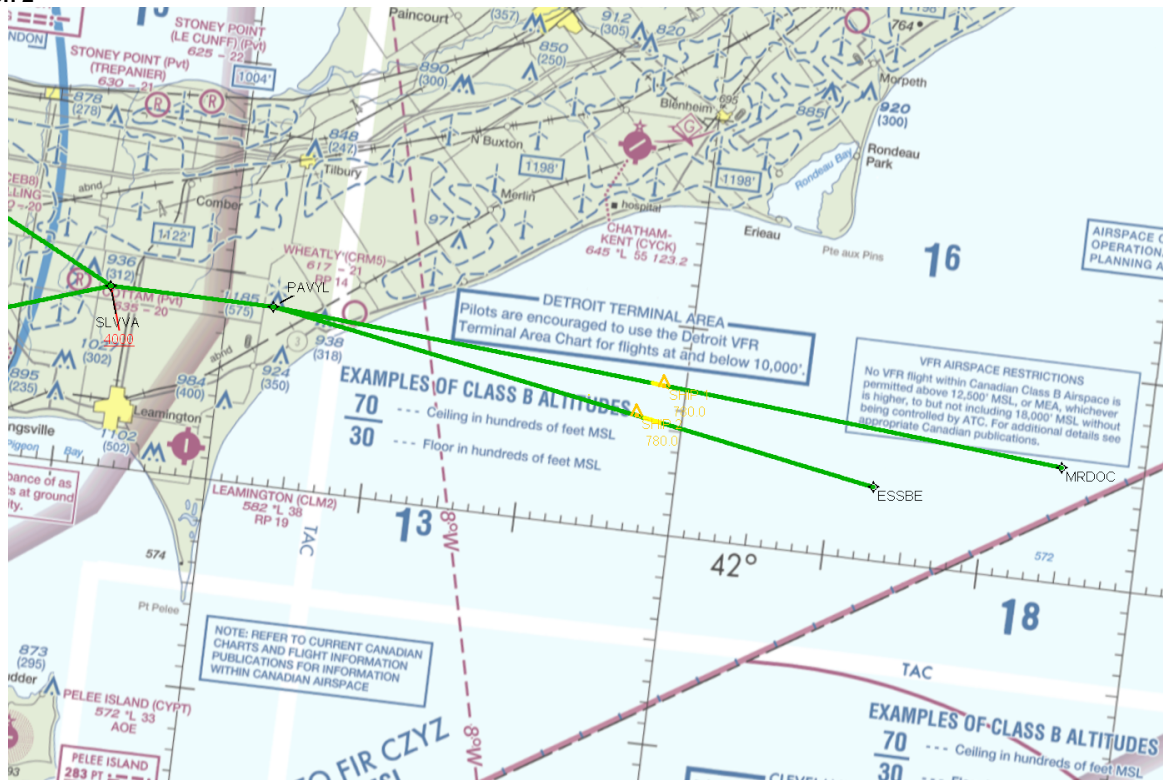
# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22R:DER\_JOELU\_

Graphic Depiction 1



# DME DME Assessment Results for PAVYL (RNAV) path KDTW:RW22R:DER\_JOELU\_

Graphic Depiction 2





## DME DME Assessment Results for PAVYL (RNAV) path PAVYL\_MRDOC

### Results Summary

|                            |   |
|----------------------------|---|
| Flyability:                | Completed   |
| DME/DME:                   | Completed - No Critical DMEs  |
| Name:                      | Paul CTR Jackson  |
| Project File:              | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\DTW SID PAVYL TWO 20190301 DME.tgs   |
| Output File:               | C:\Users\Paul CTR Jackson\Documents\Current Projects\DTW\SID Amendments Nov 2018\PAVYL2\KDTW PAVYL (RNAV)_2019-03-04_0240\PAVYL_MRDOC\KDTW PAVYL (RNAV) DEPARTURE_PAVYL_MRDOC_2019-03-04_0240.pdf |
| Procedure Name:            | PAVYL (RNAV)  |
| Software:<br>DmeDmePlugin: | 5.5.1   |
| Date/Time:                 | 03/04/2019 02:40 PM CST   |
| Databases:                 | DTED 0 Max  |

### Failures

No Failures

### Notes For Flight Check

None

### Flight Plan

| Name  | Type | Lat/Lon                              | Altitude (ft) | VNAV Mode | IAS (kts) | Turn Type | Leg Type |
|-------|------|--------------------------------------|---------------|-----------|-----------|-----------|----------|
| PAVYL | WP   | N42° 08' 34.90",<br>W082° 27' 05.46" | 10000         | VNAV      | 200       | FLY_BY    | TF       |
| MRDOC | WP   | N42° 05' 33.23",<br>W081° 35' 26.34" | 10000         | VNAV      | 200       | FLY_BY    | TF       |

### Flyability

|                        |                                    |
|------------------------|------------------------------------|
| Flight Type:           | DEPARTURE                          |
| Selected Airport:      | KDTW                               |
| Climb Gradient:        | None assigned                      |
| Speeds:                | 130 at the Runway DER              |
|                        | 145 at the end of the VA or VI leg |
|                        | 200 Ground Speed to 11000 FT       |
|                        | 240 Ground Speed to 18000 FT       |
|                        | 260 Ground Speed to 24000 FT       |
|                        | 340 Ground Speed above 24000 FT    |
| Descent During a Turn: | Allowed                            |
| VNAV Mode:             | Flight Plan                        |

## DME DME Assessment Results for PAVYL (RNAV) path PAVYL\_MRDOC

| DME/DME                           |   |
|-----------------------------------|---|
| RNP:                              | RNP 2   |
| Flight Mode:                      | Manual  |
| Line of Sight (DTED Level 0 Max): | Evaluated   |
| Inertial Drift:                   | Enabled   |
| Initial Drift:                    | 0.558 NM  |
| INS Drift Rate:                   | 8.0 NM/Hour   |
| Range Mode:                       | OSV   |
| RNP Edges:                        | Evaluated   |
| Min DME Range:                    | 3.0 NM  |
| DME Types:                        | DME, VOR-DME, VORTAC  |
| DME Include Angles:               | 30 to 150   |
| Critical DMEs:                    | Allowed   |
| DoD Facilities:                   | Not included  |
| Foreign Facilities:               | Not included  |
| High DMEs:                        | Included  |
| Low DMEs:                         | Included  |
| Terminal DMEs:                    | Included  |
| Flight Check DMEs:                | Not selected  |
| Higher Altitudes:                 | Not Evaluated   |
| Near Maximum Altitude:            | Not Evaluated   |
| Automatic ESVs:                   | Not enabled   |
| Disabled DMEs:                    | AGC,AUW,BDF,BFD,BRD,BVT,CIP,C<br>KB,CMK,CRI,CTW,DNV,DNY,DWN,E<br>CB,ELX,EON,ESL,ETG,EWO,FJC,FL<br>M,FQM,GFL,GGT,GIJ,GRV,GSH,HIC,<br>HML,HNK,HNN,HTO,HUO,IHD,JFN,J<br>VL,LAN,LFD,LGA,LNR,LVZ,MIP,MKG,<br>MNM,MSS,MXE,ODI,PLL,PLN,PMM,P<br>NT,PWL,RBS,REC,RKA,RST,SAM,SF<br>K,SLK,SLT,TDT,THS,UCA,UIN,ULW,V<br>LA,YRK |

**DME DME Assessment Results for PAVYL (RNAV) path PAVYL\_MRDOC**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |        |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|--------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |        |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time   | Distance |
| 1                          | DJB  | N41° 21' 29.03",<br>W082° 09' 43.09" | 5.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 100 %  | 100 %    |
| 2                          | CXR  | N41° 31' 00.94",<br>W081° 09' 47.47" | 5.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 100 %  | 100 %    |
| 3                          | SVM  | N42° 24' 31.11",<br>W083° 35' 38.05" | 3.0 W  | 40    | L    | AIRNAV2 | NO       | Enabled  | 50.5 % | 50.5 %   |
| 4                          | PSI  | N42° 42' 03.09",<br>W083° 31' 57.98" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Enabled  | 13.5 % | 13.5 %   |
| 5                          | CRL  | N42° 02' 52.90",<br>W083° 27' 27.26" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Enabled  | 49.6 % | 49.6 %   |
| 6                          | AGC  | N40° 16' 43.12",<br>W080° 02' 27.08" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 7                          | AUW  | N44° 50' 48.40",<br>W089° 35' 11.68" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 8                          | BDF  | N41° 09' 35.03",<br>W089° 35' 16.34" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 9                          | BFD  | N41° 47' 10.99",<br>W078° 37' 09.65" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 10                         | BVT  | N40° 33' 22.22",<br>W087° 04' 09.75" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 11                         | CIP  | N41° 08' 46.66",<br>W079° 27' 28.71" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 12                         | CKB  | N39° 15' 11.58",<br>W080° 16' 04.30" | 4.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 13                         | CMK  | N41° 16' 48.32",<br>W073° 34' 52.77" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 14                         | CRI  | N40° 36' 44.90",<br>W073° 53' 40.00" | 11.0 W | 25    | T    | AIRNAV2 | NO       | Disabled |        |          |
| 15                         | CTW  | N40° 13' 45.15",<br>W081° 28' 35.32" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 16                         | DNV  | N40° 17' 37.56",<br>W087° 33' 26.14" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 17                         | DNY  | N42° 10' 41.81",<br>W074° 57' 24.99" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 18                         | DWN  | N45° 05' 14.87",<br>W094° 27' 13.86" | 7.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 19                         | ECB  | N38° 09' 30.11",<br>W082° 54' 36.20" | 2.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 20                         | ELX  | N42° 08' 39.88",<br>W086° 07' 21.74" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 21                         | EON  | N41° 16' 10.68",<br>W087° 47' 27.79" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 22                         | ESL  | N39° 13' 31.77",<br>W078° 59' 22.20" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 23                         | ETG  | N41° 12' 53.82",<br>W078° 08' 33.92" | 10.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 24                         | EWO  | N37° 37' 54.52",<br>W085° 40' 33.16" | 1.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 25                         | FJC  | N40° 43' 36.12",<br>W075° 27' 17.12" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 26                         | FLM  | N38° 38' 57.99",<br>W084° 18' 38.17" | 4.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 27                         | FQM  | N41° 20' 18.81",<br>W076° 46' 29.52" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 28                         | GFL  | N43° 20' 30.09",<br>W073° 36' 42.32" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 29                         | GGT  | N42° 47' 20.24",<br>W075° 49' 36.29" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 30                         | GIJ  | N41° 46' 07.00",<br>W086° 19' 06.42" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 31                         | GRV  | N39° 38' 06.11",<br>W079° 03' 01.90" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |
| 32                         | GSH  | N41° 31' 30.56",<br>W086° 01' 40.63" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |        |          |
| 33                         | HIC  | N43° 34' 29.47",<br>W085° 42' 58.18" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |        |          |

**DME DME Assessment Results for PAVYL (RNAV) path PAVYL\_MRDOC**

| <b>DME/DME (Continued)</b> |      |                                      |        |       |      |         |          |          |      |          |
|----------------------------|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| <b>DMEs Used</b>           |      |                                      |        |       |      |         |          |          |      |          |
| #                          | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
| 34                         | HML  | N48° 52' 09.09",<br>W097° 07' 01.51" | 9.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 35                         | HNK  | N42° 03' 47.01",<br>W075° 18' 58.62" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 36                         | HNN  | N38° 45' 14.85",<br>W082° 01' 34.20" | 3.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 37                         | HTO  | N40° 55' 08.38",<br>W072° 19' 00.14" | 13.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 38                         | HUO  | N41° 24' 34.87",<br>W074° 35' 29.74" | 11.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 39                         | IHD  | N39° 58' 27.27",<br>W079° 21' 30.12" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 40                         | JFN  | N41° 45' 36.42",<br>W080° 44' 53.20" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 41                         | JVL  | N42° 33' 28.83",<br>W089° 06' 18.93" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 42                         | LFD  | N42° 03' 44.96",<br>W084° 45' 54.48" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 43                         | LGA  | N40° 47' 01.38",<br>W073° 52' 06.96" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 44                         | LNR  | N43° 17' 39.85",<br>W090° 07' 59.33" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 45                         | LVZ  | N41° 16' 22.10",<br>W075° 41' 22.07" | 10.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 46                         | MIP  | N41° 01' 24.21",<br>W076° 39' 55.04" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 47                         | MKG  | N43° 10' 09.31",<br>W086° 02' 21.76" | 1.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 48                         | MNM  | N45° 10' 48.58",<br>W087° 38' 49.83" | 0.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 49                         | MSS  | N44° 54' 51.92",<br>W074° 43' 21.78" | 14.0 W | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 50                         | MXE  | N39° 55' 04.98",<br>W075° 40' 14.96" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 51                         | ODI  | N43° 54' 44.38",<br>W091° 28' 03.06" | 1.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 52                         | PLL  | N41° 57' 56.31",<br>W089° 31' 27.19" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 53                         | PLN  | N45° 37' 50.33",<br>W084° 39' 50.79" | 6.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 54                         | PMM  | N42° 27' 57.73",<br>W086° 06' 17.32" | 0.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 55                         | PNT  | N40° 49' 16.32",<br>W088° 44' 00.63" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 56                         | PWL  | N41° 46' 11.18",<br>W073° 36' 01.99" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 57                         | RBS  | N40° 34' 54.13",<br>W088° 09' 51.36" | 2.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 58                         | REC  | N40° 32' 47.25",<br>W078° 44' 49.28" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 59                         | RKA  | N42° 27' 58.91",<br>W075° 14' 21.51" | 11.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 60                         | RST  | N43° 46' 58.45",<br>W092° 35' 49.06" | 5.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 61                         | SAM  | N38° 29' 06.68",<br>W088° 05' 08.90" | 3.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 62                         | SFK  | N41° 41' 42.91",<br>W077° 25' 11.66" | 8.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 63                         | SLK  | N44° 23' 04.42",<br>W074° 12' 16.22" | 14.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 64                         | SLT  | N41° 30' 45.93",<br>W077° 58' 12.39" | 8.0 W  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 65                         | TDT  | N41° 42' 46.91",<br>W079° 25' 02.17" | 9.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 66                         | THS  | N39° 55' 59.62",<br>W077° 57' 03.40" | 7.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

# DME DME Assessment Results for PAVYL (RNAV) path PAVYL\_MRDOC

## DME/DME (Continued)

### DMEs Used

| #  | Name | Lat/Lon                              | MAGVAR | Range | Type | Source  | Critical | Status   | Time | Distance |
|----|------|--------------------------------------|--------|-------|------|---------|----------|----------|------|----------|
| 67 | UCA  | N43° 01' 35.45",<br>W075° 09' 52.28" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 68 | UIN  | N39° 50' 52.35",<br>W091° 16' 44.13" | 5.0 E  | 130   | H    | AIRNAV2 | NO       | Disabled |      |          |
| 69 | ULW  | N42° 05' 39.16",<br>W077° 01' 28.53" | 12.0 W | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 70 | VLA  | N39° 05' 37.82",<br>W089° 09' 44.08" | 4.0 E  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |
| 71 | YRK  | N38° 38' 38.88",<br>W082° 58' 42.02" | 5.0 W  | 40    | L    | AIRNAV2 | NO       | Disabled |      |          |

## Flight Check DME Selection

| Distance [NM] | Selected DMEs |     |     |     |     | Alternate |
|---------------|---------------|-----|-----|-----|-----|-----------|
| 0.0           | CRL           | DJB | SVM | PSI | CXR |           |
| 5.3           | CRL           | DJB | SVM | CXR |     |           |
| 19.2          | DJB           | SVM | CXR |     |     |           |
| 19.5          | CXR           | DJB |     |     |     |           |

## Inertial Drift Segments

| #  | Start Location                    | End Location                      | Length [NM] |
|----|-----------------------------------|-----------------------------------|-------------|
| 1  | N42° 13' 36.38", W083° 21' 57.22" | N42° 14' 25.65", W083° 21' 20.92" | 0.9354      |
| 2  | N42° 10' 50.17", W083° 21' 46.27" | N42° 09' 47.22", W083° 21' 42.65" | 1.0502      |
| 3  | N42° 07' 34.70", W083° 21' 35.03" | N42° 03' 12.97", W083° 21' 20.02" | 4.3667      |
| 4  | N42° 11' 42.35", W083° 21' 07.86" | N42° 14' 04.99", W083° 19' 22.74" | 2.7087      |
| 5  | N42° 10' 50.18", W083° 21' 46.27" | N42° 01' 30.79", W083° 05' 53.79" | 15.0231     |
| 6  | N42° 13' 12.72", W083° 20' 01.28" | N42° 14' 04.99", W083° 19' 22.74" | 0.9925      |
| 7  | N42° 12' 26.35", W083° 21' 05.75" | N42° 13' 52.36", W083° 20' 59.97" | 1.4354      |
| 8  | N42° 13' 54.22", W083° 20' 58.60" | N42° 14' 44.23", W083° 20' 21.73" | 0.9496      |
| 9  | N42° 11' 15.08", W083° 23' 41.20" | N42° 07' 39.69", W083° 22' 43.62" | 3.66        |
| 10 | N42° 06' 37.68", W083° 22' 27.07" | N42° 02' 42.70", W083° 21' 24.42" | 3.9927      |
| 11 | N42° 11' 34.48", W083° 21' 43.96" | N42° 02' 13.33", W083° 21' 16.60" | 9.3597      |
| 12 | N42° 14' 04.99", W083° 19' 22.74" | N42° 14' 04.99", W083° 19' 22.74" | 0           |
| 13 | N42° 12' 06.52", W083° 22' 17.93" | N42° 09' 44.90", W083° 21' 38.61" | 2.4099      |
| 14 | N42° 07' 38.73", W083° 21' 32.45" | N42° 03' 16.42", W083° 21' 19.67" | 4.3752      |
| 15 | N42° 11' 15.08", W083° 23' 41.20" | N42° 14' 27.54", W083° 21' 19.53" | 3.6538      |
| 16 | N42° 11' 14.76", W083° 22' 56.02" | N42° 08' 23.09", W083° 22' 24.44" | 2.888       |
| 17 | N42° 06' 30.85", W083° 22' 03.83" | N42° 02' 56.25", W083° 21' 24.46" | 3.61        |
| 18 | N42° 12' 05.94", W083° 23' 03.79" | N42° 13' 41.85", W083° 20' 10.11" | 2.6745      |
| 19 | N42° 13' 43.72", W083° 20' 08.74" | N42° 14' 36.02", W083° 19' 30.16" | 0.9933      |

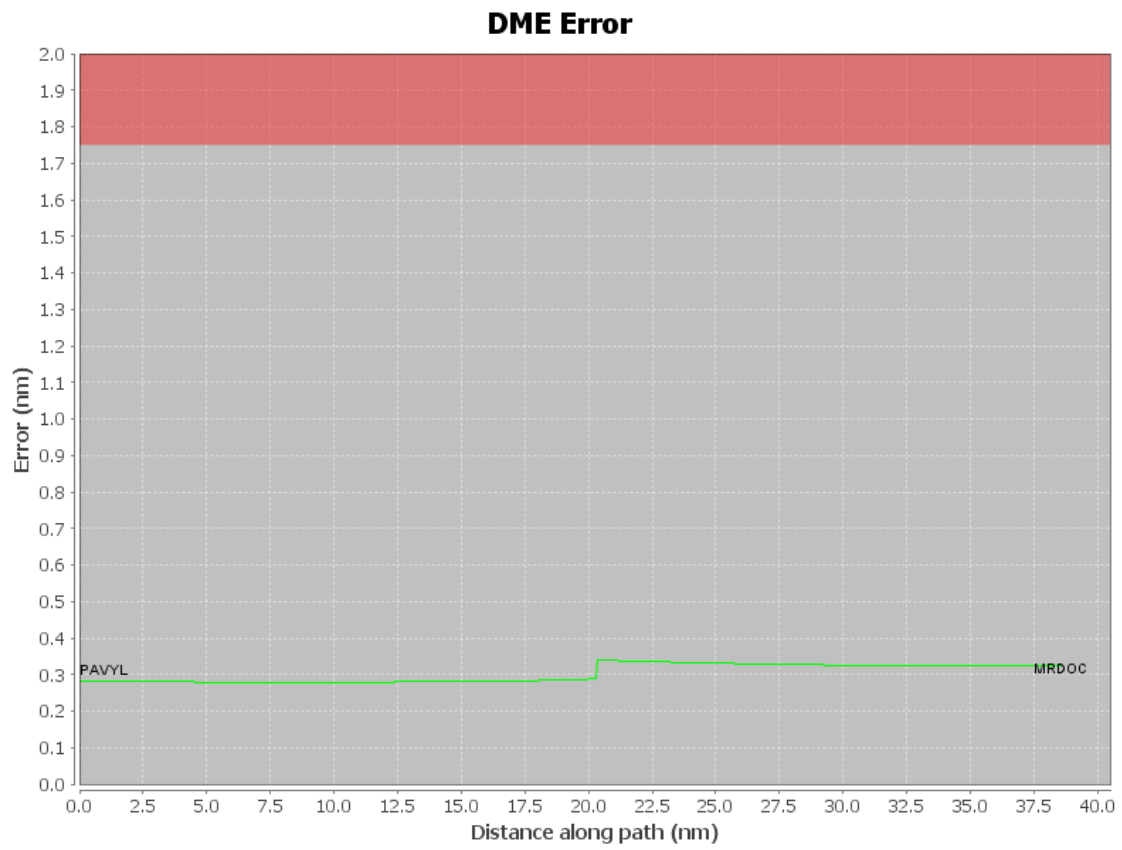
## Available DMEs by Waypoints

| Waypoint Before | Waypoint After | DME List                |
|-----------------|----------------|-------------------------|
| PAVYL           | MRDOC          | PSI, SVM, CXR, CRL, DJB |

# DME DME Assessment Results for PAVYL (RNAV) path PAVYL\_MRDOC

| User Data Files |                                    |   |        |       |                |  |                   |        |
|-----------------|------------------------------------|---|--------|-------|----------------|--|-------------------|--------|
| #               | File Name                          |   |        |       |                |  |                   |        |
| 1               | PAVYL2.udt                         |   |        |       |                |  |                   |        |
| User DMEs       |                                    |   |        |       |                |  |                   |        |
| #               | Name                               | Lat/Lon   | MAGVAR | Range | Elevation [ft] | Frequency  | Replaces          | Status |
| 1               | ESV VWV [AIRNAV2]<br>VWV [AIRNAV2] | N41° 27' 05.34",<br>W083° 38' 19.30"                                | 2.0 W  | 40    | 669.3          | 113.1  | ESV VWV [AIRNAV2] |        |
| ESV:            |                                    | Bearing [True]: 23.0° to 48.0°<br>Bearing [Mag]: 25.0° to 50.0°     |        |       |                | Arc Distance: Out to 57.0 NM<br>Altitude: 3900.0 to 20000.0 ft |                   |        |
| 2               | UDT ESV CXR<br>CXR [AIRNAV2]       | N41° 31' 00.94",<br>W081° 09' 47.47"                                | 5.0 W  | 130   | 1317           | 112.7  | UDT ESV CXR       |        |
| ESV:            |                                    | Bearing [True]: 298.0° to 343.0°<br>Bearing [Mag]: 303.0° to 348.0° |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 16000.0 ft |                   |        |
| 3               | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV:            |                                    | Bearing [True]: 342.0° to 28.0°<br>Bearing [Mag]: 347.0° to 33.0°   |        |       |                | Arc Distance: Out to 81.0 NM<br>Altitude: 5000.0 to 16000.0 ft |                   |        |
| 4               | UDT ESV CRL<br>CRL [AIRNAV2]       | N42° 02' 52.90",<br>W083° 27' 27.26"                                | 3.0 W  | 130   | 652.9          | 115.7  | UDT ESV CRL       |        |
| ESV:            |                                    | Bearing [True]: 65.0° to 98.0°<br>Bearing [Mag]: 68.0° to 101.0°    |        |       |                | Arc Distance: Out to 64.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 5               | UDT ESV SVM<br>SVM [AIRNAV2]       | N42° 24' 31.11",<br>W083° 35' 38.05"                                | 3.0 W  | 40    | 955            | 114.3  | UDT ESV SVM       |        |
| ESV:            |                                    | Bearing [True]: 89.0° to 117.0°<br>Bearing [Mag]: 92.0° to 120.0°   |        |       |                | Arc Distance: Out to 73.0 NM<br>Altitude: 6200.0 to 20000.0 ft |                   |        |
| 6               | UDT ESV DJB<br>DJB [AIRNAV2]       | N41° 21' 29.03",<br>W082° 09' 43.09"                                | 5.0 W  | 130   | 807.1          | 113.6  | UDT ESV DJB       |        |
| ESV:            |                                    | Bearing [True]: 313.0° to 359.0°<br>Bearing [Mag]: 318.0° to 4.0°   |        |       |                | Arc Distance: Out to 60.0 NM<br>Altitude: 4000.0 to 16000.0 ft |                   |        |
| 7               | UDT ESV PSI<br>PSI [AIRNAV2]       | N42° 42' 03.09",<br>W083° 31' 57.98"                                | 0.0 E  | 40    | 1149           | null   | UDT ESV PSI       |        |
| ESV:            |                                    | Bearing [True]: 80.0° to 145.0°<br>Bearing [Mag]: 80.0° to 145.0°   |        |       |                | Arc Distance: Out to 65.0 NM<br>Altitude: 3900.0 to 11000.0 ft |                   |        |

## DME DME Assessment Results for PAVYL (RNAV) path PAVYL\_MRDOC



## DME DME Assessment Results for PAVYL (RNAV) path PAVYL\_MRDOC

Graphic Depiction 1





### Graphic Depiction 2

