

10-30-2008

Ex. 277-US-454

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Stream: Williamson River
 Site: 637 (Jackson Creek)
 Date: 9/19/1990
 Habitat: Cascade

Flow: Mid

(1) Level Loop Survey (BM & HP)

| BM/HP (ft) | BS (ft) | HI (ft) | FS (ft) | Elev (ft) |
|------------|---------|---------|---------|-----------|
| BM | 8.84 | 108.84 | | |
| HP1 | | | 8.86 | 99.98 |
| HP2 | | | 8.62 | 100.22 |
| HP3 | | | 7.36 | 101.48 |
| TP | | | | |
| HP3 | 6.16 | 107.64 | | |
| HP2 | | | 7.42 | 100.22 |
| HP1 | | | 7.66 | 99.98 |
| BM | | | 7.64 | 100.00 |

Comment:

Date: 4/6/1991
 Habitat: Cascade

Flow: Low

(1) Level Loop Survey

| BM/HP (ft) | BS (ft) | HI (ft) | FS (ft) | Elev (ft) |
|------------|---------|---------|---------|-----------|
| BM | 7.78 | 107.78 | | |
| HP1 | | | 7.80 | 99.98 |
| HP2 | | | 7.56 | 100.22 |
| HP3 | | | 6.29 | 101.49 |
| TP | | | | |
| HP3 | 6.41 | 107.90 | | |
| HP2 | | | 7.68 | 100.22 |
| HP1 | | | 7.92 | 99.98 |
| BM | | | 7.90 | 100.00 |

Comment:

Date: 5/10/1993
 Habitat: Cascade

Flow: High

(1) Level Loop Survey

| BM/HP (ft) | BS (ft) | HI (ft) | FS (ft) | Elev (ft) |
|------------|---------|---------|---------|-----------|
| BM | 7.46 | 107.46 | | |
| HP1 | | | 7.48 | 99.98 |
| HP2 | | | 7.24 | 100.22 |
| HP3 | | | 5.96 | 101.50 |
| TP | | | | |
| HP3 | 5.93 | 107.43 | | |
| HP2 | | | 7.21 | 100.22 |
| HP1 | | | 7.45 | 99.98 |
| BM | | | 7.43 | 100.00 |

Comment:

(2) Water Surface Elevation (WSE) Survey

| | Sta | | HI | FS | Rod | WSE | Ave WSE | Q |
|-----|---------|------|--------|------|------|-------|---------|-----|
| | (ft) | (ft) | | | | | | |
| TR1 | L/R WSE | 0 | 107.64 | 9.79 | 0.00 | 97.85 | 97.82 | 1.6 |
| | LWSE | | | 9.85 | 0.00 | 97.79 | | |
| TR2 | L/R WSE | 8.5 | 107.64 | 9.62 | 0.00 | 98.02 | 98.07 | 1.5 |
| | LWSE | | | 9.52 | 0.00 | 98.12 | | |
| TR3 | L/R WSE | 30.5 | 107.52 | 8.88 | 0.00 | 98.64 | 98.64 | 1.1 |
| | RWSE | | | | 0.00 | | | |

Ave WSE = 1.54
 Site Ave WSE = 1.4

Note: WSE slope = 2.69%

(2) Water Surface Elevation (WSE) Survey

HI =

| | Sta | | HI | FS | Rod | WSE | Ave WSE | Q |
|-----|---------|------|--------|-------|------|-------|---------|-----|
| | (ft) | (ft) | | | | | | |
| TR1 | L/R WSE | 0 | 107.90 | 10.03 | 0.00 | 97.87 | 97.89 | 1.5 |
| | LWSE | | | 10.00 | 0.00 | 97.90 | | |
| TR2 | L/R WSE | 8.5 | 107.90 | 9.86 | 0.00 | 98.04 | 98.09 | 1.1 |
| | LWSE | | | 9.76 | 0.00 | 98.14 | | |
| TR3 | L/R WSE | 30.5 | 107.90 | 9.33 | 0.00 | 98.57 | 98.56 | 0.6 |
| | RWSE | | | 9.36 | 0.00 | 98.54 | | |

Ave WSE = 1.30
 Site Ave WSE = 1.1

Note: WSE slope = 2.20%

(2) Water Surface Elevation (WSE) Survey

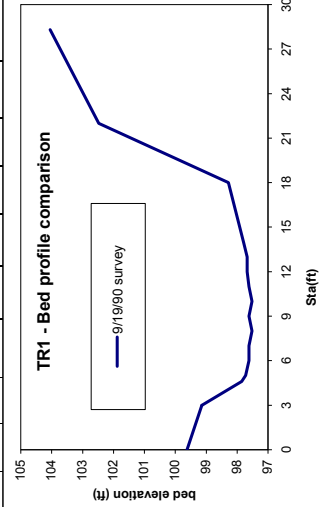
HI =

| | Sta | | HI | FS | Rod | WSE | Ave WSE | Q |
|-----|---------|------|--------|------|------|-------|---------|------|
| | (ft) | (ft) | | | | | | |
| TR1 | L/R WSE | 0 | 107.43 | 9.15 | 0.00 | 98.28 | 98.28 | 14.0 |
| | LWSE | | | 9.16 | 0.00 | 98.27 | | |
| TR2 | L/R WSE | 8.5 | 107.43 | 9.02 | 0.00 | 98.41 | 98.40 | |
| | LWSE | | | 9.04 | 0.00 | 98.39 | | |
| TR3 | L/R WSE | 30.5 | 107.43 | 8.22 | 0.00 | 99.21 | 99.24 | |
| | RWSE | | | 8.17 | 0.00 | 99.26 | | |

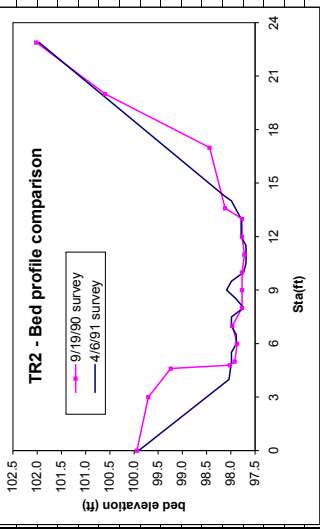
Ave WSE = 14.0
 Site Ave WSE = 14.0

Note: WSE slope = 3.15%

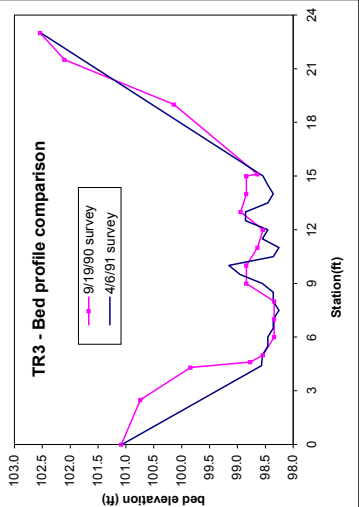
| Streams: Williamson Rive | 19-Sep-90 | | | | | | | 6-Apr-91 | | | | | | | 10-May-93 | | | | | | | |
|--------------------------|-----------|------|--------|--------|--------------------|------------------|-----------|----------|------|--------|-------|--------------------|------------------|-----------|-----------|------|--------|--------|--------------------|------------------|------|-----------|
| | Sta | FS | Ground | Depth | Vel (ft/s) | Ave | q | Sta | FS | Ground | Depth | Vel (ft/s) | Ave | q | Sta | FS | Ground | Depth | Vel (ft/s) | Ave | q | |
| | (ft) | (ft) | (ft) | (ft) | V _{0.206} | V _{0.8} | substrate | (ft) | (ft) | (ft) | (ft) | V _{0.206} | V _{0.8} | substrate | (ft) | (ft) | (ft) | (ft) | V _{0.206} | V _{0.8} | Ave | substrate |
| Survey | LWP | 0.0 | 8.02 | 99.62 | | | | LWP | 0.0 | 8.50 | 99.40 | | | | LWP | 0.0 | 7.89 | 99.54 | | | | |
| | LWE | 3.0 | 8.50 | 99.14 | | | | LWE | 5.0 | 10.03 | 97.87 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 8.39 | 99.04 | | | | |
| Date | | 5.0 | 97.72 | 0.10 | 0.00 | 0.00 | 0.00 | | 6.0 | 97.69 | 0.20 | 0.24 | 0.24 | 0.24 | 0.24 | 4.0 | 8.85 | 98.58 | | | | |
| 4/6/1991 | | 7.0 | 97.62 | 0.20 | 1.37 | 1.37 | 0.27 | | 6.5 | 97.69 | 0.20 | 0.56 | 0.56 | 0.56 | 0.56 | 5.0 | | 97.78 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5/10/1993 | | 8.0 | 97.52 | 0.30 | 0.76 | 0.76 | 0.23 | | 7.0 | 97.64 | 0.25 | 1.42 | 1.42 | 1.42 | 1.42 | 6.0 | | 97.68 | 0.60 | 2.26 | 2.26 | 1.36 |
| | | 9.0 | 97.62 | 0.20 | 0.76 | 0.76 | 0.15 | | 7.5 | 97.69 | 0.20 | 1.24 | 1.24 | 1.24 | 1.24 | 7.0 | | 97.58 | 0.70 | 2.59 | 2.59 | 1.81 |
| | | 10.0 | 97.52 | 0.30 | 1.43 | 1.43 | 0.43 | | 8.0 | 97.59 | 0.30 | 0.56 | 0.56 | 0.56 | 0.56 | 8.0 | | 97.68 | 0.60 | 2.43 | 2.43 | 1.46 |
| | | 11.0 | 97.62 | 0.20 | 1.25 | 1.25 | 0.25 | | 8.5 | 97.59 | 0.30 | 0.68 | 0.68 | 0.68 | 0.68 | 9.0 | | 97.58 | 0.70 | 3.01 | 3.01 | 1.05 |
| | | 12.0 | 97.67 | 0.15 | 0.43 | 0.43 | 0.06 | | 9.0 | 97.59 | 0.30 | 0.46 | 0.46 | 0.46 | 0.46 | 9.5 | | 97.58 | 0.70 | 3.01 | 3.01 | 1.05 |
| | | 13.0 | 97.67 | 0.15 | 0.79 | 0.79 | 0.12 | | 9.5 | 97.69 | 0.20 | 2.60 | 2.60 | 2.60 | 2.60 | 10.0 | | 97.68 | 0.60 | 2.14 | 2.14 | 0.64 |
| | | 14.0 | 98.85 | 97.79 | 0.10 | 0.00 | 0.00 | | 10.0 | 97.59 | 0.30 | 1.46 | 1.46 | 1.46 | 1.46 | 10.5 | | 97.78 | 0.50 | 1.84 | 1.84 | 0.46 |
| | | 18.0 | 9.36 | 98.28 | | | | | 10.5 | 97.79 | 0.10 | 0.30 | 0.30 | 0.30 | 0.30 | 11.0 | | 97.58 | 0.70 | 3.09 | 3.09 | 1.08 |
| | | 22.0 | 5.16 | 102.48 | | | | | 11.0 | 97.69 | 0.20 | 0.61 | 0.61 | 0.61 | 0.61 | 11.5 | | 97.58 | 0.70 | 3.33 | 3.33 | 1.17 |
| | | RWP | 28.3 | 3.59 | 104.05 | | | | 11.5 | 97.79 | 0.10 | 1.51 | 1.51 | 1.51 | 1.51 | 12.0 | | 97.68 | 0.60 | 3.15 | 3.15 | 1.42 |
| | | | | | | | | | 12.0 | 97.69 | 0.20 | 0.96 | 0.96 | 0.96 | 0.96 | 13.0 | | 97.68 | 0.60 | 1.51 | 1.51 | 0.91 |
| | | | | | | | | | 12.5 | 97.79 | 0.10 | 1.24 | 1.24 | 1.24 | 1.24 | 14.0 | | 97.88 | 0.40 | 1.48 | 1.48 | 0.59 |
| | | | | | | | | | 13.0 | 97.69 | 0.20 | 0.40 | 0.40 | 0.40 | 0.40 | 15.0 | | 97.98 | 0.30 | 0.09 | 0.09 | 0.03 |
| | | | | | | | | | 13.5 | 97.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.0 | | 98.18 | 0.10 | 0.00 | 0.00 | 0.00 |
| | | | | | | | | | 14.0 | 97.79 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 16.1 | | 98.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | | | RWE | 14.9 | 10.00 | 97.90 | 0.10 | 0.00 | 0.00 | 17.2 | | 98.26 | | | | |
| | | | | | | | | | RWP | 28.3 | 3.72 | 104.18 | | | | 19.0 | | 8.90 | 98.53 | | | |
| | | | | | | | | | | | | | | | 20.0 | | 6.89 | 100.54 | | | | |
| | | | | | | | | | | | | | | | 23.0 | | 4.92 | 102.51 | | | | |
| | | | | | | | | | | | | | | | 25.0 | | 4.39 | 103.04 | | | | |
| | | | | | | | | | | | | | | | RWP | 28.3 | 3.33 | 104.10 | | | | |



| Stream: Williamson River | | 19-Sep-90 | | | | | | | | | | 6-Apr-91 | | | | | | | | | | 10-May-93 | | | | | | | | | |
|--------------------------|---------|-----------|---------|-------------|------------|--------------------|------------------|---------|-----------|----------|---------|-------------|------------|--------------------|------------------|---------|-----------|----------|---------|-------------|------------|--------------------|------------------|---------|-----------|-----|--|--|--|--|--|
| Survey Date | Q (cfs) | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | Vel (ft/s) | Ave | q (cfs) | substrate | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | Vel (ft/s) | Ave | q (cfs) | substrate | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | Vel (ft/s) | Ave | q (cfs) | substrate | | | | | | |
| | | | | | | V _{0.206} | V _{0.8} | | | | | | | V _{0.206} | V _{0.8} | | | | | | | V _{0.206} | V _{0.8} | | | | | | | | |
| 9/19/1990 | 107.64 | 1.5 | LWP | 0.0 | 7.70 | 99.94 | | | 1.1 | LWP | 0.0 | 8.00 | 99.90 | | | | 1.1 | LWP | 0.0 | 8.00 | 99.90 | | | | | 1.1 | | | | | |
| 4/6/1991 | 107.90 | 1.1 | | 3 | 7.94 | 99.70 | | | 1.1 | LWE | 4.0 | 9.86 | 98.04 | 0.10 | 0.00 | | 0.00 | 1.1 | | | | | | | | | | | | | |
| 5/10/1993 | 107.43 | | | 4.6 | 8.40 | 99.24 | | | 5.6 | | 5.5 | | 97.99 | 0.10 | 0.00 | | 0.00 | 6.5 | | | | | | | | | | | | | |
| | | | | LWE | 4.8 | 9.62 | 98.02 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.92 | 0.05 | 6.5 | 6.5 | 0.69 | 0.07 | 6.5 | | | | | | | | | | | |
| | | | | | 6 | | 97.92 | 0.15 | 0.40 | 0.40 | 0.04 | 0.04 | 6.5 | 6.5 | 0.69 | 0.07 | 6.5 | 1.09 | 0.11 | 6.5 | | | | | | | | | | | |
| | | | | | 7 | | 97.87 | 0.20 | 1.37 | 1.37 | 0.27 | 6.5 | 7.0 | 97.89 | 0.20 | 1.09 | 0.82 | 0.04 | 6.5 | | | | | | | | | | | | |
| | | | | | 8 | | 97.97 | 0.10 | 0.57 | 0.57 | 0.06 | 6.5 | 7.5 | 97.99 | 0.10 | 1.38 | 0.07 | 6.5 | | | | | | | | | | | | | |
| | | | | | 9 | | 97.77 | 0.30 | 1.37 | 1.37 | 0.41 | 7.6 | 8.0 | 97.74 | 0.35 | 0.15 | 0.03 | 7.6 | | | | | | | | | | | | | |
| | | | | | 10 | | 97.77 | 0.30 | 0.00 | 0.00 | 0.00 | 7.6 | 8.5 | 97.89 | 0.20 | 0.75 | 0.08 | 7.6 | | | | | | | | | | | | | |
| | | | | | 11 | | 97.72 | 0.35 | 1.34 | 1.34 | 0.47 | 7.6 | 9.0 | 98.09 | 0.00 | 0.00 | 0.00 | 7.6 | | | | | | | | | | | | | |
| | | | | | 12 | | 97.77 | 0.30 | 0.57 | 0.57 | 0.17 | 7.2 | 9.5 | 97.99 | 0.10 | 0.01 | 0.00 | 7.6 | | | | | | | | | | | | | |
| | | | | | 13 | | 97.77 | 0.30 | 0.25 | 0.25 | 0.06 | 2.6 | 10.0 | 97.74 | 0.35 | 0.00 | 0.00 | 7.6 | | | | | | | | | | | | | |
| | | | | | RWE | 13.6 | 9.52 | 98.12 | 0.10 | 0.00 | 0.00 | 7.6 | 10.5 | 97.69 | 0.40 | 0.07 | 0.01 | 7.6 | | | | | | | | | | | | | |
| | | | | | 17 | | 9.20 | 98.44 | | | | 11.0 | 11.0 | 97.69 | 0.40 | 0.95 | 0.19 | 7.6 | | | | | | | | | | | | | |
| | | | | | 20 | | 7.04 | 100.60 | | | | 11.5 | 11.5 | 97.69 | 0.40 | 1.42 | 0.28 | 7.6 | | | | | | | | | | | | | |
| | | | | | RWP | 22.9 | 5.62 | 102.02 | | | | 12.5 | 12.5 | 97.79 | 0.30 | 0.85 | 0.13 | 7.2 | | | | | | | | | | | | | |
| | | | | | | | | | | | 13.0 | 13.0 | 97.79 | 0.30 | 0.56 | 0.08 | 7.2 | | | | | | | | | | | | | | |
| | | | | | | | | | | | 13.5 | 13.5 | 97.89 | 0.20 | 0.00 | 0.00 | 2.6 | | | | | | | | | | | | | | |
| | | | | | | | | | | | 14.0 | 14.0 | 97.99 | 0.10 | 0.00 | 0.00 | 7.6 | | | | | | | | | | | | | | |
| | | | | | | | | | | | RWE | 14.3 | 9.76 | 98.14 | 0.00 | 0.00 | 0.00 | 7.6 | | | | | | | | | | | | | |
| | | | | | | | | | | | RWP | 22.9 | 5.94 | 101.96 | | | | 1.1 | | | | | | | | | | | | | |



| Stream: Williamson River | | 19-Sep-90 | | | | | | | | | | 6-Apr-91 | | | | | | | | | | 10-May-93 | | | | | | | | | | | | | | | | | |
|--------------------------|--------------|------------------|--------|------|------|--------|----------|---------|-------------|------------|-----------------------------|-------------------------|------------|---------|-----------|----------|---------|-------------|------------|-----------------------------|-------------------------|------------|---------|-----------|----------|---------|-------------|------------|-----------------------------|-------------------------|------------|---------|-----------|--|--|--|--|--|--|
| Site: 637 | Transsect: 3 | Habitat: Cascade | Survey | HI | Q | (cfs) | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | V _{0.2/0.6} (ft/s) | V _{0.8} (ft/s) | Ave (ft/s) | q (cfs) | substrate | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | V _{0.2/0.6} (ft/s) | V _{0.8} (ft/s) | Ave (ft/s) | q (cfs) | substrate | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | V _{0.2/0.6} (ft/s) | V _{0.8} (ft/s) | Ave (ft/s) | q (cfs) | substrate | | | | | | |
| | | | LWP | 0.0 | 6.44 | 101.08 | | | | | | | | | 1.1 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | LWE | 2.5 | 6.78 | 100.74 | | | | | | | | | 1.1 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | LWP | 4.3 | 7.68 | 99.84 | | | | | | | | | 1.1 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | LWE | 4.6 | 8.75 | 98.77 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.4 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 5 | | 98.54 | 0.10 | 0.59 | 0.59 | 0.04 | 6.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 6 | | 98.34 | 0.30 | 1.72 | 1.72 | 0.52 | 6.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 7 | | 98.34 | 0.30 | 1.12 | 1.12 | 0.34 | 7.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 8 | | 98.34 | 0.30 | 1.49 | 1.49 | 0.22 | 7.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 9 | | 98.84 | -0.20 | | | | 7.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 10 | | 98.84 | -0.20 | | | | 7.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 11 | | 98.64 | 0.00 | 0 | 0.00 | 0.00 | 7.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 12 | | 98.54 | 0.10 | 0.34 | 0.34 | 0.02 | 7.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 13 | | 98.94 | -0.30 | | | | 7.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 14 | | 98.84 | -0.20 | | | | 7.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 15 | | 98.84 | -0.20 | | | | 7.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 19 | | 7.38 | 100.14 | | | | 1.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 21.5 | | 5.42 | 102.10 | | | | 1.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | RWP | 23 | 4.98 | 102.54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | RWE | 15.1 | 98.64 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | RWP | 23.0 | 5.37 | 102.53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | RWE | 15.0 | 9.36 | 98.54 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | RWP | 23.0 | 5.37 | 102.53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



CASCADE

MID

TRANSECT 1

IOC 1101100000001000101000

QARD 1.1
 QARD 1.3
 QARD 1.5
 QARD 1.7
 QARD 2.0
 QARD 2.5
 QARD 3.0
 QARD 3.5
 QARD 4.0
 QARD 4.5
 QARD 5.0
 QARD 5.5
 QARD 6.0
 QARD 6.5
 QARD 7.0
 QARD 8.0
 QARD 9.0
 QARD 10.0
 QARD 11.0
 QARD 12.0
 QARD 13.0
 QARD 14.0
 QARD 15.0
 QARD 16.0
 QARD 18.0
 QARD 20.0
 QARD 22.0
 QARD 24.0
 QARD 26.0
 QARD 28.0

XSEC1000.0 0.00 1.0 97.52 0.02690
 1000.0 0.0 99.6 3.0 99.1 4.6 97.9 5.0 97.7 6.0 97.6 7.0 97.6
 1000.0 8.0 97.5 9.0 97.6 10.0 97.5 11.0 97.6 12.0 97.7 13.0 97.7
 1000.0 14.0 97.8 18.0 98.3 22.0 102.5 28.3 104.1
 NS 1000.0 1.1 1.1 6.5 0.4 6.5 6.5 .08 6.5
 NS 1000.0 6.5 7.6 7.6 7.6 7.6 2.6
 NS 1000.0 0.2 6.7 1.1 1.1 1.1
 CAL11000.0 97.85 1.5
 VEL11000.0 0.00 0.01 0.40 1.37 0.76 0.76 1.43 1.25 0.43 0.79
 VEL11000.0 0.00
 CAL21000.0 97.87 1.3
 VEL21000.0
 VEL21000.0
 CAL31000.0 98.28 14.0
 VEL31000.0
 VEL31000.0
 ENDJ

CASCADE

MID

TRANSECT 2

IOC 1101100000001000101000

QARD 1.1
 QARD 1.3
 QARD 1.5
 QARD 1.7
 QARD 2.0
 QARD 2.5
 QARD 3.0
 QARD 3.5
 QARD 4.0
 QARD 4.5
 QARD 5.0
 QARD 5.5
 QARD 6.0
 QARD 6.5
 QARD 7.0
 QARD 8.0
 QARD 9.0
 QARD 10.0
 QARD 11.0
 QARD 12.0
 QARD 13.0
 QARD 14.0
 QARD 15.0
 QARD 16.0
 QARD 18.0
 QARD 20.0
 QARD 22.0
 QARD 24.0
 QARD 26.0
 QARD 28.0

XSEC1000.0 0.00 1.0 97.72 0.02690
 1000.0 0.0 99.9 3.0 99.7 4.6 99.2 4.8 98.0 5.0 97.9 6.0 97.9
 1000.0 7.0 98.0 8.0 97.8 9.0 97.8 10.0 97.8 11.0 97.7 12.0 97.8
 1000.0 13.0 97.8 13.6 98.1 17.0 98.4 20.0 100.6 22.9 102.0
 NS 1000.0 1.1 1.1 1.1 5.6 .08 6.5 6.5
 NS 1000.0 .040 6.5 7.6 0.3 7.6 0.3 7.6 7.6 .10 7.2
 NS 1000.0 .15 2.6 0.12 7.6 1.1 1.1 1.1
 CAL11000.0 98.02 1.5
 VEL11000.0 0.00 0.40 1.37 0.57 1.37 .001 .001 1.34 0.57
 VEL11000.0 0.25 0.00
 CAL21000.0 98.04 1.3
 VEL21000.0
 VEL21000.0
 CAL31000.0 98.41 14.0
 VEL31000.0
 VEL31000.0
 ENDJ

CASCADE

MID

TRANSECT 3

IOC 1101100000001000101000

QARD 1.1
 QARD 1.3
 QARD 1.5
 QARD 1.7
 QARD 2.0
 QARD 2.5
 QARD 3.0
 QARD 3.5
 QARD 4.0
 QARD 4.5
 QARD 5.0
 QARD 5.5
 QARD 6.0
 QARD 6.5
 QARD 7.0
 QARD 8.0
 QARD 9.0
 QARD 10.0
 QARD 11.0
 QARD 12.0
 QARD 13.0
 QARD 14.0
 QARD 15.0
 QARD 16.0
 QARD 18.0
 QARD 20.0
 QARD 22.0
 QARD 24.0
 QARD 26.0
 QARD 28.0

XSEC1000.0 0.00 1.0 98.34 0.02690
 1000.0 0.0101.1 2.5100.7 4.3 99.8 4.6 98.8 5.0 98.5 6.0 98.3
 1000.0 7.0 98.3 8.0 98.3 9.0 98.8 10.0 98.8 11.0 98.6 12.0 98.5
 1000.0 13.0 98.9 14.0 98.8 15.0 98.8 15.1 98.6 19.0100.1 21.5102.1
 1000.0 23.0102.5
 NS 1000.0 1.1 1.1 1.1 1.1 6.4 .080 6.5
 NS 1000.0 7.7 7.7 7.7 7.7 .16 7.2 7.4
 NS 1000.0 7.4 7.4 7.2 7.7 1.1 1.1
 NS 1000.0 1.1
 CAL11000.0 98.64 1.5
 VEL11000.0 0.00 0.59 1.72 1.12 1.49 0.34
 VEL11000.0
 CAL21000.0 98.57 1.3
 VEL21000.0
 VEL21000.0
 CAL31000.0 99.21 14.0
 VEL31000.0
 VEL31000.0
 ENDJ