

11-5-2008

Ex. 280-US-459

Unknown

Follow this and additional works at: <https://digitalcommons.law.uidaho.edu/all>

---

### Recommended Citation

Unknown, "Ex. 280-US-459" (2008). *Hedden-Nicely Collection, All*. 497.  
<https://digitalcommons.law.uidaho.edu/all/497>

This Expert Report is brought to you for free and open access by the Hedden-Nicely at Digital Commons @ UIdaho Law. It has been accepted for inclusion in Hedden-Nicely Collection, All by an authorized administrator of Digital Commons @ UIdaho Law. For more information, please contact [annablaine@uidaho.edu](mailto:annablaine@uidaho.edu).

Stream: NF Sprague River  
 Site: 650  
 Date: 9/26/1990  
 Habitat: Run

Flow: Low

(1) Level Loop Survey (BM & HP)

| BM/HP (ft) | BS (ft) | HI (ft) | FS (ft) | Elev (ft) |
|------------|---------|---------|---------|-----------|
| BM         | 6.27    | 106.27  |         | 100.00    |
| HP1        |         |         | 5.08    | 101.19    |
| HP2        |         |         | 4.88    | 101.39    |
| HP3        |         |         | 5.56    | 100.71    |
| TP         |         |         |         |           |
| HP3        | 5.51    | 106.22  |         |           |
| HP2        |         |         | 4.83    | 101.39    |
| HP1        |         |         | 5.03    | 101.19    |
| BM         |         |         | 6.22    | 100.00    |

Comment:

Date: 4/8/1991  
 Habitat: Run

Flow: Mid

(1) Level Loop Survey

| BM/HP (ft) | BS (ft) | HI (ft) | FS (ft) | Elev (ft) |
|------------|---------|---------|---------|-----------|
| BM         | 7.03    | 107.03  |         | 100.00    |
| HP3        |         |         | 6.32    | 100.71    |
| HP2        |         |         | 5.64    | 101.39    |
| HP1        |         |         | 5.84    | 101.19    |
| TP         |         |         |         |           |
| HP1        | 5.74    | 106.93  |         |           |
| HP2        |         |         | 5.54    | 101.39    |
| HP3        |         |         | 6.22    | 100.71    |
| BM         |         |         | 6.93    | 100.00    |

Comment: Field note: WSE dropped about 4" during survey

Date: 5/16/1993  
 Habitat: Run

Flow: High

(1) Level Loop Survey

| BM/HP (ft) | BS (ft) | HI (ft) | FS (ft) | Elev (ft) |
|------------|---------|---------|---------|-----------|
| BM         | 6.04    | 106.04  |         | 100.00    |
| HP1        |         |         | 4.97    | 101.07    |
| HP2        |         |         | 4.64    | 101.40    |
| HP3        |         |         | 5.44    | 100.60    |
| TP         |         |         |         |           |
| HP3        | 5.80    | 106.40  |         |           |
| HP2        |         |         | 5.00    | 101.40    |
| HP1        |         |         | 5.33    | 101.07    |
| BM         |         |         | 6.40    | 100.00    |

Comment:

(2) Water Surface Elevation (WSE) Survey

| TR  | River Station |          | Rod (ft) | FS (ft) | HI (ft) | Ave      |          | Q (cfs) |
|-----|---------------|----------|----------|---------|---------|----------|----------|---------|
|     | L/R bank (ft) | Ave (ft) |          |         |         | WSE (ft) | WSE (ft) |         |
| 1-L | 0             | 0        | 0.00     | 11.20   | 106.22  | 95.02    | 95.01    | 29.8    |
| 1-R | 0             | 0        | 0.00     | 11.22   | 106.22  | 95.00    | 95.00    | 29.8    |
| 2-L | 95            | 87       | 0.00     | 11.16   | 106.22  | 95.06    | 95.06    | 25.9    |
| 2-R | 78            | 78       | 0.00     | 11.17   | 106.23  | 95.05    | 95.05    | 25.9    |
| 3-L | 183           | 162      | 0.00     | 11.14   | 106.23  | 95.09    | 95.08    | 25.1    |
| 3-R | 141           | 141      | 0.00     | 11.16   | 106.23  | 95.07    | 95.07    | 25.1    |

Note: WSE slope = 0.043% Ave Q= 26.9

(2) Water Surface Elevation (WSE) Survey

| TR  | River Station |          | Rod (ft) | FS (ft) | HI (ft) | Ave      |          | Q (cfs) |
|-----|---------------|----------|----------|---------|---------|----------|----------|---------|
|     | L/R bank (ft) | Ave (ft) |          |         |         | WSE (ft) | WSE (ft) |         |
| 1-L | 0             | 0        | 0.00     | 11.79   | 106.93  | 95.14    | 95.14    | 45.7    |
| 1-R | 0             | 0        | 0.00     | 11.80   | 106.93  | 95.13    | 95.13    | 45.7    |
| 2-L | 95            | 87       | 0.00     | 11.75   | 106.93  | 95.18    | 95.18    | 46.9    |
| 2-R | 78            | 78       | 0.00     | 11.76   | 106.93  | 95.17    | 95.17    | 46.9    |
| 3-L | 183           | 162      | 0.00     | 11.79   | 106.93  | 95.14    | 95.14    | 48.5    |
| 3-R | 141           | 141      | 0.00     | 11.79   | 106.93  | 95.14    | 95.14    | 48.5    |

Note: WSE slope = 0.003% Ave Q= 47.1

(2) Water Surface Elevation (WSE) Survey

| TR  | River Station |          | Rod (ft) | FS (ft) | HI (ft) | Ave      |          | Q (cfs) |
|-----|---------------|----------|----------|---------|---------|----------|----------|---------|
|     | L/R bank (ft) | Ave (ft) |          |         |         | WSE (ft) | WSE (ft) |         |
| 1-L | 0             | 0        | 0.00     | 7.00    | 106.40  | 99.40    | 99.41    | 499.6   |
| 1-R | 0             | 0        | 0.00     | 6.99    | 106.40  | 99.41    | 99.41    | 499.6   |
| 2-L | 95            | 87       | 0.00     | 6.87    | 106.40  | 99.53    | 99.53    |         |
| 2-R | 78            | 78       | 0.00     | 6.88    | 106.40  | 99.52    | 99.52    |         |
| 3-L | 183           | 162      | 0.00     | 6.92    | 106.40  | 99.48    | 99.47    |         |
| 3-R | 141           | 141      | 0.00     | 6.95    | 106.40  | 99.45    | 99.45    |         |

Note: WSE slope = 0.037% Ave Q= 499.6

(3) Meter and propeller ID for Velocity Correction

Meter ID: NA  
 Propeller ID: NA

(3) Meter and propeller ID for Velocity Correction

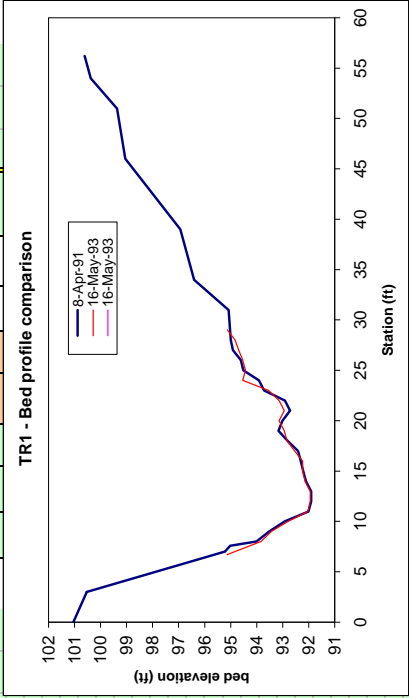
Meter ID: NA  
 Propeller ID: NA

(3) Meter and propeller ID for Velocity Correction

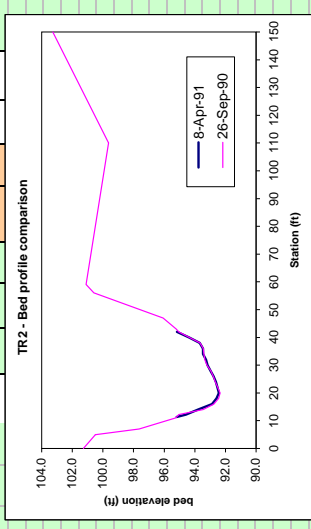
Meter ID: NA  
 Propeller ID: NA

| Stream: NF Sprague Riv |         | 26-Sep-90 |         |             |            |                       |                  |                   |      |         |           | 8-Apr-91 |         |             |            |                       |                  |                        |                   |      |         | 16-May-93 |          |         |             |            |                       |                  |                        |                   |      |         |           |       |       |      |      |
|------------------------|---------|-----------|---------|-------------|------------|-----------------------|------------------|-------------------|------|---------|-----------|----------|---------|-------------|------------|-----------------------|------------------|------------------------|-------------------|------|---------|-----------|----------|---------|-------------|------------|-----------------------|------------------|------------------------|-------------------|------|---------|-----------|-------|-------|------|------|
| Site: 650              | Q (cfs) | Sta (ft)  | FS (ft) | Ground (ft) | Depth (ft) | V <sub>0.20/0.6</sub> | V <sub>0.8</sub> | NV <sub>0.8</sub> | Ave  | q (cfs) | substrate | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | V <sub>0.20/0.6</sub> | V <sub>0.8</sub> | NV <sub>0.20/0.6</sub> | NV <sub>0.8</sub> | Ave  | q (cfs) | substrate | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | V <sub>0.20/0.6</sub> | V <sub>0.8</sub> | NV <sub>0.20/0.6</sub> | NV <sub>0.8</sub> | Ave  | q (cfs) | substrate |       |       |      |      |
| Transect: I            | Run     | LWP       | 0.0     | 5.17        | 101.05     | 0.00                  | 0.00             | 0.00              | 0.00 | 0.00    | 1.1       | LWP      | 0.0     | 6.7         | 11.79      | 95.14                 | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 1.1      | LWE     | 4.3         | 0.00       | 0.00                  | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 0.00  | 0.00  | 0.00 |      |
| Survey: HI             | Q       | 3.0       | 5.69    | 100.53      | 0.00       | 0.65                  | 0.65             | 0.46              | 3.2  | 0.00    | 1.1       | LEW      | 8.0     | 93.84       | 1.30       | 0.83                  | 0.83             | 0.83                   | 1.24              | 2.11 | 9.3     | 9.3       | 1.1      | 8.0     | 2.60        | 1.90       | 0.55                  | 0.55             | 0.81                   | 0.55              | 0.81 | 0.55    | 0.55      | 0.55  | 0.55  | 0.55 | 1.93 |
| Date                   | (cfs)   | 7.0       | 11.00   | 95.22       | 0.00       | 0.53                  | 0.53             | 0.53              | 3.0  | 0.00    | 1.1       | 9.0      | 93.44   | 1.70        | 1.24       | 1.24                  | 1.24             | 1.24                   | 1.24              | 2.11 | 9.3     | 9.3       | 1.1      | 11.0    | 3.20        | 3.20       | 1.11                  | 0.65             | 1.11                   | 0.65              | 1.11 | 0.65    | 0.88      | 0.88  | 0.88  | 4.42 |      |
| 9/26/1990              | 106.22  | 29.8      |         |             | 0.00       | 0.62                  | 0.62             | 1.30              | 9.3  | 0.00    | 1.1       | 10.0     | 92.79   | 2.35        | 1.18       | 1.18                  | 1.18             | 1.18                   | 1.18              | 2.77 | 9.3     | 9.3       | 1.1      | 12.2    | 4.70        | 4.70       | 1.24                  | 0.77             | 1.24                   | 0.77              | 1.01 | 0.77    | 1.01      | 0.77  | 1.01  | 4.96 |      |
| 5/16/1993              | 106.40  | 499.6     |         |             | 0.00       | 0.93                  | 0.23             | 0.58              | 1.74 | 3.2     | 1.1       | 12.0     | 91.94   | 3.20        | 1.39       | 1.04                  | 1.39             | 1.04                   | 1.39              | 3.89 | 4.3     | 4.3       | 1.1      | 14.0    | 5.40        | 5.40       | 1.24                  | 0.77             | 1.24                   | 0.77              | 1.01 | 0.77    | 1.01      | 0.77  | 1.01  | 4.96 |      |
|                        |         |           |         |             | 0.00       | 0.71                  | 1.13             | 0.92              | 2.85 | 4.3     | 1.1       | 13.0     | 91.91   | 3.10        | 1.13       | 0.71                  | 1.13             | 1.29                   | 1.29              | 1.29 | 4.03    | 3.2       | 3.2      | 1.1     | 14.3        | 8.25       | 8.25                  | 2.20             | 2.09                   | 2.20              | 2.09 | 2.15    | 2.15      | 2.15  | 35.39 |      |      |
|                        |         |           |         |             | 0.00       | 1.28                  | 1.00             | 1.14              | 3.53 | 3.2     | 1.1       | 14.0     | 92.14   | 3.00        | 1.04       | 1.13                  | 1.04             | 1.13                   | 1.04              | 1.13 | 3.26    | 3.2       | 3.2      | 1.1     | 18.0        | 9.00       | 9.00                  | 1.07             | 1.60                   | 1.07              | 1.60 | 1.33    | 1.33      | 1.33  | 34.18 |      |      |
|                        |         |           |         |             | 0.00       | 1.22                  | 1.23             | 1.23              | 3.43 | 3.2     | 1.1       | 15.0     | 92.24   | 2.90        | 1.09       | 1.34                  | 1.09             | 1.34                   | 1.09              | 1.34 | 3.77    | 3.2       | 3.2      | 1.1     | 20.0        | 8.25       | 8.25                  | 2.20             | 2.09                   | 2.20              | 2.09 | 2.15    | 2.15      | 2.15  | 35.39 |      |      |
|                        |         |           |         |             | 0.00       | 1.26                  | 1.06             | 1.16              | 3.13 | 3.2     | 1.1       | 16.0     | 92.54   | 2.60        | 1.17       | 1.14                  | 1.17             | 1.14                   | 1.17              | 1.14 | 3.00    | 3.2       | 3.2      | 1.1     | 22.0        | 7.75       | 7.75                  | 2.47             | 2.30                   | 2.47              | 2.30 | 2.39    | 2.39      | 2.39  | 36.97 |      |      |
|                        |         |           |         |             | 0.00       | 1.30                  | 1.01             | 1.16              | 3.00 | 3.2     | 1.1       | 17.0     | 92.84   | 2.30        | 1.23       | 1.23                  | 1.23             | 1.23                   | 1.23              | 1.23 | 2.85    | 3.2       | 3.2      | 1.1     | 24.0        | 7.50       | 7.50                  | 2.35             | 2.28                   | 2.35              | 2.28 | 2.32    | 2.32      | 2.32  | 34.73 |      |      |
|                        |         |           |         |             | 0.00       | 1.25                  | 0.92             | 1.70              | 9.3  | 3.2     | 1.1       | 18.0     | 92.84   | 2.00        | 1.22       | 1.22                  | 1.22             | 1.22                   | 1.22              | 1.22 | 2.68    | 9.3       | 9.3      | 1.1     | 26.0        | 7.00       | 7.00                  | 3.06             | 2.07                   | 3.06              | 2.07 | 2.57    | 2.57      | 2.57  | 35.91 |      |      |
|                        |         |           |         |             | 0.00       | 0.01                  | 0.01             | 0.02              | 9.3  | 3.2     | 1.1       | 20.0     | 93.14   | 2.00        | 1.16       | 1.16                  | 1.16             | 1.16                   | 1.16              | 1.16 | 2.32    | 9.3       | 9.3      | 1.1     | 28.0        | 6.80       | 6.80                  | 2.98             | 2.35                   | 2.98              | 2.35 | 2.67    | 2.67      | 2.67  | 36.24 |      |      |
|                        |         |           |         |             | 0.00       | 0.34                  | 0.34             | 0.71              | 3.3  | 3.2     | 1.1       | 21.0     | 92.94   | 2.00        | 1.05       | 1.05                  | 1.05             | 1.05                   | 1.05              | 1.05 | 2.31    | 9.3       | 9.3      | 1.1     | 30.0        | 6.50       | 6.50                  | 3.20             | 2.51                   | 3.20              | 2.51 | 2.86    | 2.86      | 2.86  | 37.12 |      |      |
|                        |         |           |         |             | 0.00       | 0.55                  | 0.55             | 0.72              | 9.3  | 3.2     | 1.1       | 23.0     | 93.54   | 1.60        | 0.91       | 0.91                  | 0.91             | 0.91                   | 0.91              | 0.91 | 1.94    | 9.3       | 9.3      | 1.1     | 32.0        | 6.20       | 6.20                  | 3.23             | 2.64                   | 3.23              | 2.64 | 2.94    | 2.94      | 2.94  | 36.39 |      |      |
|                        |         |           |         |             | 0.00       | 0.00                  | 0.00             | 0.00              | 9.3  | 3.2     | 1.1       | 24.0     | 94.54   | 0.70        | 0.79       | 0.79                  | 0.79             | 0.79                   | 0.79              | 0.79 | 0.55    | 2.2       | 2.2      | 1.1     | 36.0        | 6.00       | 6.00                  | 3.05             | 2.68                   | 3.05              | 2.68 | 2.87    | 2.87      | 2.87  | 34.38 |      |      |
|                        |         |           |         |             | 0.00       | 0.35                  | 0.35             | 0.18              | 2.2  | 2.2     | 1.1       | 25.0     | 94.44   | 0.60        | 0.64       | 0.64                  | 0.64             | 0.64                   | 0.64              | 0.64 | 0.38    | 2.2       | 2.2      | 1.1     | 38.0        | 5.60       | 5.60                  | 2.37             | 2.93                   | 2.37              | 2.93 | 2.65    | 2.65      | 2.65  | 29.68 |      |      |
|                        |         |           |         |             | 0.00       | 0.00                  | 0.00             | 0.00              | 2.2  | 2.2     | 1.1       | 26.0     | 94.54   | 0.45        | 0.31       | 0.31                  | 0.31             | 0.31                   | 0.31              | 0.31 | 0.14    | 2.2       | 2.2      | 1.1     | 40.0        | 5.10       | 5.10                  | 2.68             | 1.90                   | 2.68              | 1.90 | 2.29    | 2.29      | 2.29  | 23.36 |      |      |
|                        |         |           |         |             | 0.00       | 0.00                  | 0.00             | 0.00              | 2.2  | 2.2     | 1.1       | 27.0     | 94.69   | 0.45        | 0.31       | 0.31                  | 0.31             | 0.31                   | 0.31              | 0.31 | 0.14    | 2.2       | 2.2      | 1.1     | 42.0        | 4.50       | 4.50                  | 2.39             | 1.89                   | 2.39              | 1.89 | 2.14    | 2.14      | 2.14  | 19.26 |      |      |
|                        |         |           |         |             | 0.00       | 0.00                  | 0.00             | 0.00              | 2.1  | 2.1     | 1.1       | 28.0     | 94.84   | 0.30        | 0.00       | 0.00                  | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 0.00     | 1.1     | 44.0        | 3.80       | 3.80                  | 1.80             | 1.61                   | 1.80              | 1.61 | 1.71    | 1.71      | 1.71  | 12.96 |      |      |
|                        |         |           |         |             | 0.00       | 31.0                  | 11.14            | 95.08             | 1.1  | 1.1     | 1.1       | 30.5     | 95.13   | 0.10        | 0.00       | 0.00                  | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 1.1      | 46.0    | 3.40        | 3.40       | 1.87                  | 1.28             | 1.87                   | 1.28              | 1.58 | 1.58    | 1.58      | 10.71 |       |      |      |
|                        |         |           |         |             | 0.00       | 34.0                  | 9.81             | 96.41             | 1.1  | 1.1     | 1.1       | 32.0     | 95.14   | 0.10        | 0.00       | 0.00                  | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 1.1      | 48.0    | 2.60        | 2.60       | 1.55                  | 0.26             | 1.55                   | 0.26              | 0.91 | 0.91    | 0.91      | 4.71  |       |      |      |
|                        |         |           |         |             | 0.00       | 39.0                  | 9.29             | 96.93             | 1.1  | 1.1     | 1.1       | 46.0     | 96.93   | 0.10        | 0.00       | 0.00                  | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 1.1      | 50.0    | 1.80        | 1.80       | 0.90                  | 0.90             | 0.90                   | 0.90              | 0.90 | 0.90    | 0.90      | 3.56  |       |      |      |
|                        |         |           |         |             | 0.00       | 51.0                  | 6.85             | 99.37             | 1.1  | 1.1     | 1.1       | 54.0     | 100.38  | 0.10        | 0.00       | 0.00                  | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 1.1      | 52.0    | 1.00        | 1.00       | 0.90                  | 0.90             | 0.90                   | 0.90              | 0.90 | 0.90    | 0.90      | 1.80  |       |      |      |
|                        |         |           |         |             | 0.00       | 56.2                  | 5.61             | 100.61            | 1.1  | 1.1     | 1.1       | 56.2     | 100.61  | 0.10        | 0.00       | 0.00                  | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 1.1      | 54.0    | 0.00        | 0.00       | 0.00                  | 0.00             | 0.00                   | 0.00              | 0.00 | 0.00    | 0.00      | 0.00  | 0.00  |      |      |

Flow Transect



| Stream: NF Sprague Riv |             | 26-Sep-90 |         |             |            |                     |                  |                      |                   |     |         | 8-Apr-91  |          |         |             |            |                     |                  |                      |                   |     | 16-May-93 |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|------------------------|-------------|-----------|---------|-------------|------------|---------------------|------------------|----------------------|-------------------|-----|---------|-----------|----------|---------|-------------|------------|---------------------|------------------|----------------------|-------------------|-----|-----------|-----------|----------|---------|-------------|------------|---------------------|------------------|----------------------|-------------------|-----|---------|-----------|--|--|
| Site: 650              | Transect: 2 | Sta (ft)  | FS (ft) | Ground (ft) | Depth (ft) | V <sub>0.30.6</sub> | V <sub>0.3</sub> | NV <sub>0.30.6</sub> | NV <sub>0.3</sub> | Ave | q (cfs) | substrate | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | V <sub>0.30.6</sub> | V <sub>0.3</sub> | NV <sub>0.30.6</sub> | NV <sub>0.3</sub> | Ave | q (cfs)   | substrate | Sta (ft) | FS (ft) | Ground (ft) | Depth (ft) | V <sub>0.30.6</sub> | V <sub>0.3</sub> | NV <sub>0.30.6</sub> | NV <sub>0.3</sub> | Ave | q (cfs) | substrate |  |  |
|                        |             | LWP       | 0.0     | 4.94        | 101.28     |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 5.0     | 5.73        | 100.49     |                     |                  |                      |                   |     |         | 2.2       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 7.0     | 8.58        | 97.64      |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 11.0    | 10.98       | 95.24      |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 14.0    | 93.46       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 16.0    | 92.76       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 18.0    | 92.46       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 20.0    | 92.36       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 22.0    | 92.51       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 24.0    | 92.66       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 26.0    | 92.81       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 28.0    | 92.96       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 30.0    | 93.21       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 32.0    | 93.36       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 34.0    | 93.41       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 36.0    | 93.46       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 38.0    | 93.66       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 40.0    | 94.36       |            |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | REW     | 42.0        | 11.17      | 95.05               | 0.00             | 0.00                 |                   |     | 0.00    | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 43.0    | 11.02       | 95.20      |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 47.0    | 10.15       | 96.07      |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 56.0    | 5.65        | 100.59     |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | RWP     | 59.1        | 5.12       | 101.10              |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 110.0   | 6.58        | 99.64      |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |
|                        |             |           | 150.0   | 2.95        | 103.27     |                     |                  |                      |                   |     |         | 1.1       |          |         |             |            |                     |                  |                      |                   |     |           |           |          |         |             |            |                     |                  |                      |                   |     |         |           |  |  |





```

RUN          MID          TRANSECT 1
IOC          1101100100001000101000
QARD 15.0
QARD 20.0
QARD 25.0
QARD 26.9
QARD 30.0
QARD 35.0
QARD 40.0
QARD 47.1
QARD 50.0
QARD 55.0
QARD 60.0
QARD 70.0
QARD 80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 200.0
QARD 220.0
QARD 240.0
QARD 260.0
QARD 290.0
QARD 320.0
QARD 350.0
QARD 380.0
QARD 410.0
QARD 440.0
QARD 470.0
QARD 498.1
XSEC1000.0      0.00 1.0      91.94      0.0040
1000.0  0.0101.1  3.0100.5  6.795.14  8.093.84  9.093.44  10.092.79
1000.0  11.092.04  12.091.94  13.091.94  14.092.14  15.092.24  16.092.24
1000.0  17.092.54  18.092.84  19.092.94  20.093.14  21.092.94  22.093.14
1000.0  23.093.54  24.094.54  25.094.44  26.094.54  27.094.69  28.094.84
1000.0  29.095.13  31.095.08  34.096.41  39.096.93  46.099.05  51.099.37
1000.0  54.0100.4  56.2100.6
NS 1000.0      1.1      1.1 0.2  1.1      9.3 .13  9.3      9.3
NS 1000.0      3.2      4.3      3.2      3.2      3.2      3.2
NS 1000.0      3.2      3.2      9.3      9.3      9.3      3.3
NS 1000.0      9.3 .20  9.3 .11  2.2      2.2      2.2 .2  2.1
NS 1000.0 .3  1.1 .4  1.1      1.1      1.1      1.1      1.1
NS 1000.0      1.1      1.1
WSL 1000.0     94.87     94.92     95.00     95.02     95.10     95.17
WSL 1000.0     95.26     95.41     95.45     95.54     95.61     95.78
WSL 1000.0     95.91     96.16     96.40     96.60     96.81     97.01
WSL 1000.0     97.19     97.36     97.54     97.72     97.98     98.22
WSL 1000.0     98.44     98.66     98.86     99.06     99.24     99.41
CAL11000.0     95.14     47.1
VEL11000.0      0.00 0.83 1.24 1.18 1.11 1.22 1.26 1.09 1.30 1.22
VEL11000.0  1.16 1.23 1.22 1.16 1.05 0.97 0.91 0.16 0.79 0.64 0.31 .001
VEL11000.0  0.00
CAL21000.0     95.01     26.9
VEL21000.0
VEL21000.0
VEL21000.0
CAL31000.0     99.41     498.1
VEL31000.0
VEL31000.0
VEL31000.0
ENDJ

```

```

RUN                                MID                                TRANSECT 2
IOC      1101100100001000101000
QARD 15.0
QARD 20.0
QARD 25.0
QARD 26.9
QARD 30.0
QARD 35.0
QARD 40.0
QARD 47.1
QARD 50.0
QARD 55.0
QARD 60.0
QARD 70.0
QARD 80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 200.0
QARD 220.0
QARD 240.0
QARD 260.0
QARD 290.0
QARD 320.0
QARD 350.0
QARD 380.0
QARD 410.0
QARD 440.0
QARD 470.0
QARD 498.1
XSEC1000.0      0.00 1.0      94.95      0.0040
1000.0  0.0101.3  5.0100.5  7.097.64 11.095.24 11.395.18 12.294.58
1000.0 14.093.78 16.092.88 18.092.58 20.092.43 22.092.53 24.092.63
1000.0 26.092.78 28.092.98 30.093.18 32.093.28 34.093.48 36.093.48
1000.0 38.093.68 40.094.38 42.095.17 43.095.20 47.096.07 56.0100.6
1000.0 59.1101.1110.099.64150.0103.3
NS 1000.0      1.1      2.2      1.1      1.1      1.1      1.3
NS 1000.0      9.3      9.3      3.2      3.2      3.2      3.2
NS 1000.0      3.2      3.2      3.2      3.2      3.2      3.2
NS 1000.0      9.3      9.3      1.1      1.1      1.1      1.1
NS 1000.0      1.1      1.1      1.1
WSL 1000.0     94.90     94.95     95.03     95.05     95.13     95.20
WSL 1000.0     95.29     95.45     95.49     95.58     95.65     95.82
WSL 1000.0     95.95     96.21     96.45     96.66     96.87     97.07
WSL 1000.0     97.26     97.42     97.61     97.79     98.05     98.30
WSL 1000.0     98.52     98.74     98.95     99.14     99.33     99.50
CAL11000.0     95.18     47.1
VEL11000.0                                0.00 0.29 0.40 0.41 0.47 0.70 0.94 1.13
VEL11000.0  1.00 1.12 1.16 0.98 0.94 0.65 0.62 0.30 0.00
VEL11000.0
CAL21000.0     95.06     26.9
VEL21000.0
VEL21000.0
VEL21000.0
CAL31000.0     99.53     498.1
VEL31000.0
VEL31000.0
VEL31000.0
ENDJ

```

Sprague River SP10 04/08/91

```

RUN                                MID                                TRANSECT 3
IOC      1101100100001000101000
QARD 15.0
QARD 20.0
QARD 25.0
QARD 26.9
QARD 30.0
QARD 35.0
QARD 40.0
QARD 47.1
QARD 50.0
QARD 55.0
QARD 60.0
QARD 70.0
QARD 80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 200.0
QARD 220.0
QARD 240.0
QARD 260.0
QARD 290.0
QARD 320.0
QARD 350.0
QARD 380.0
QARD 410.0
QARD 440.0
QARD 470.0
QARD 498.1
XSEC1000.0      0.00 1.0      92.44      0.0040
      1000.0  0.0100.6  5.098.98  7.895.14  8.994.54  10.093.94  12.093.24
      1000.0  14.092.84  16.092.84  18.092.44  20.092.54  22.092.64  24.092.84
      1000.0  26.092.84  28.092.74  30.093.04  32.092.94  34.093.34  36.995.14
      1000.0  37.095.36  45.0100.3  47.1100.7
NS 1000.0      1.1      1.1 .9      1.1 .8      1.1 .7      9.3      9.3
NS 1000.0      9.3      9.3      3.2      3.2 .16      3.2      3.2
NS 1000.0 .13  3.2      3.2      9.3 .25      9.3      9.3      1.1
NS 1000.0      1.1      1.1      1.1
WSL 1000.0      94.92      94.97      95.05      95.07      95.15      95.22
WSL 1000.0      95.31      95.47      95.51      95.60      95.66      95.84
WSL 1000.0      95.97      96.22      96.46      96.67      96.88      97.09
WSL 1000.0      97.27      97.44      97.63      97.81      98.07      98.31
WSL 1000.0      98.54      98.75      98.96      99.15      99.34      99.50
CAL11000.0      95.14      47.1
VEL11000.0      0.00 0.00 0.07 0.28 0.46 0.86 0.97 1.08 0.90 1.24
VEL11000.0  1.38 1.26 0.83 0.43 0.57 0.00
CAL21000.0      95.08      26.9
VEL21000.0
VEL21000.0
CAL31000.0      99.47      498.1
VEL31000.0
VEL31000.0
ENDJ

```