Click Here to Return to AR Index

Site: Industr. Plex
Break: 3.6
Other: 34149

# APPENDIX C

Data Summaries

C1 Summary of Ground-Water Quality Data
C2 Summary of Surface-Water Quality Data
C3 Summary of Stream-Sediment Quality Data
C4 Sediment Bioassay: Statistical Analysis
C5 Sediment Bioassay: Raw Data

# APPENDIX C1

Summary of Ground-Water Quality Data

# APPENDIX C1

Summary of Ground-Water Quality Data

Volatile Organic Compounds

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-30A
DATE: 12/16/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: **OW-30B**
DATE: **12/16/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-31
DATE: 12/18/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 16.0 ug/L | 10.0 | U |
| Benzene | 63000.0 ug/L | 4000.0 | A |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | 2.0 ug/L | 10.0 | J |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | 62.0 ug/L | 10.0 | A |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | 4.0 ug/L | 10.0 | J |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | 84.0 ug/L | 10.0 | A |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | 320.0 ug/L | 10.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-37
DATE: 12/18/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-37A
DATE: 12/18/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-52A
DATE: 12/17/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | 1.0 ug/L | 10.0 | J |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-52B
DATE: 12/17/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | 6.0 ug/L | 10.0 | J |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | UJ |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | 6.0 ug/L | 10.0 | J |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | 29.0 ug/L | 10.0 | J |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | 66.0 ug/L | 10.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: **OW-54A**
DATE: **12/17/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | 1.0 ug/L | 10.0 | J |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-54B
DATE: 12/17/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 40.0 ug/L | 40.0 | U |
| Benzene | 620.0 ug/L | 40.0 | J |
| Bromodichloromethane | < 40.0 ug/L | 40.0 | U |
| Bromoform | < 40.0 ug/L | 40.0 | U |
| Bromomethane | < 40.0 ug/L | 40.0 | U |
| 2-Butanone | < 40.0 ug/L | 40.0 | U |
| Carbon disulfide | < 40.0 ug/L | 40.0 | U |
| Carbon tetrachloride | < 40.0 ug/L | 40.0 | U |
| Chlorobenzene | < 40.0 ug/L | 40.0 | UJ |
| Chloroethane | < 40.0 ug/L | 40.0 | U |
| Chloroform | < 40.0 ug/L | 40.0 | U |
| Chloromethane | < 40.0 ug/L | 40.0 | U |
| Dibromochloromethane | < 40.0 ug/L | 40.0 | U |
| 1,1-Dichloroethane | < 40.0 ug/L | 40.0 | U |
| 1,2-Dichloroethane | < 40.0 ug/L | 40.0 | U |
| 1,1-Dichloroethene | < 40.0 ug/L | 40.0 | U |
| 1,2-Dichloroethene, total | < 40.0 ug/L | 40.0 | U |
| 1,2-Dichloropropane | < 40.0 ug/L | 40.0 | U |
| cis-1,3-Dichloropropene | < 40.0 ug/L | 40.0 | U |
| trans-1,3-Dichloropropene | < 40.0 ug/L | 40.0 | U |
| Ethylbenzene | < 40.0 ug/L | 40.0 | UJ |
| 2-Hexanone | < 40.0 ug/L | 40.0 | U |
| Methylene chloride | < 40.0 ug/L | 40.0 | U |
| 4-Methyl-2-pentanone | < 40.0 ug/L | 40.0 | U |
| Styrene | < 40.0 ug/L | 40.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 40.0 ug/L | 40.0 | U |
| Tetrachloroethene | < 40.0 ug/L | 40.0 | U |
| Toluene | < 40.0 ug/L | 40.0 | UJ |
| 1,1,1-Trichloroethane | < 40.0 ug/L | 40.0 | U |
| 1,1,2-Trichloroethane | < 40.0 ug/L | 40.0 | U |
| Trichloroethene | < 40.0 ug/L | 40.0 | U |
| Vinyl chloride | < 40.0 ug/L | 40.0 | U |
| Xylenes, total | 13.0 ug/L | 40.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-54C
DATE: 12/17/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 210.0 ug/L | 10.0 | J |
| Benzene | 200.0 ug/L | 40.0 | J |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 17.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | UJ |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | 4.0 ug/L | 10.0 | J |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | 4.0 ug/L | 10.0 | J |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | 29.0 ug/L | 10.0 | A |
| Styrene | < 10.0 ug/L | 10.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | 430.0 ug/L | 40.0 | J |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | 1.0 ug/L | 10.0 | J |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | 25.0 ug/L | 10.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-55
DATE: 12/18/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 1800.0 ug/L | 200.0 | A |
| Benzene | 1800.0 ug/L | 200.0 | A |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | 110.0 ug/L | 10.0 | J |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | 8.0 ug/L | 10.0 | J |
| 2-Hexanone | 2.0 ug/L | 10.0 | J |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | 83.0 ug/L | 10.0 | A |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | 2100.0 ug/L | 200.0 | A |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | 49.0 ug/L | 10.0 | A |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-56A
DATE: 12/16/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 50.0 ug/L | 50.0 | U |
| Benzene | 360.0 ug/L | 50.0 | A |
| Bromodichloromethane | < 50.0 ug/L | 50.0 | U |
| Bromoform | < 50.0 ug/L | 50.0 | U |
| Bromomethane | < 50.0 ug/L | 50.0 | U |
| 2-Butanone | < 50.0 ug/L | 50.0 | U |
| Carbon disulfide | 10.0 ug/L | 50.0 | J |
| Carbon tetrachloride | < 50.0 ug/L | 50.0 | U |
| Chlorobenzene | < 50.0 ug/L | 50.0 | U |
| Chloroethane | < 50.0 ug/L | 50.0 | U |
| Chloroform | < 50.0 ug/L | 50.0 | U |
| Chloromethane | < 50.0 ug/L | 50.0 | U |
| Dibromochloromethane | < 50.0 ug/L | 50.0 | U |
| 1,1-Dichloroethane | < 50.0 ug/L | 50.0 | U |
| 1,2-Dichloroethane | < 50.0 ug/L | 50.0 | U |
| 1,1-Dichloroethene | < 50.0 ug/L | 50.0 | U |
| 1,2-Dichloroethene, total | < 50.0 ug/L | 50.0 | U |
| 1,2-Dichloropropane | < 50.0 ug/L | 50.0 | U |
| cis-1,3-Dichloropropene | < 50.0 ug/L | 50.0 | U |
| trans-1,3-Dichloropropene | < 50.0 ug/L | 50.0 | U |
| Ethylbenzene | < 50.0 ug/L | 50.0 | U |
| 2-Hexanone | < 50.0 ug/L | 50.0 | U |
| Methylene chloride | < 50.0 ug/L | 50.0 | U |
| 4-Methyl-2-pentanone | < 50.0 ug/L | 50.0 | U |
| Styrene | < 50.0 ug/L | 50.0 | U |
| 1,1,2,2-Tetrachloroethane | < 50.0 ug/L | 50.0 | U |
| Tetrachloroethene | < 50.0 ug/L | 50.0 | U |
| Toluene | < 50.0 ug/L | 50.0 | U |
| 1,1,1-Trichloroethane | < 50.0 ug/L | 50.0 | U |
| 1,1,2-Trichloroethane | < 50.0 ug/L | 50.0 | U |
| Trichloroethene | < 50.0 ug/L | 50.0 | U |
| Vinyl chloride | < 50.0 ug/L | 50.0 | U |
| Xylenes, total | < 50.0 ug/L | 50.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-56B
DATE: 12/16/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 790.0 ug/L | 250.0 | U |
| Benzene | 3600.0 ug/L | 250.0 | J |
| Bromodichloromethane | < 250.0 ug/L | 250.0 | U |
| Bromoform | < 250.0 ug/L | 250.0 | U |
| Bromomethane | < 250.0 ug/L | 250.0 | U |
| 2-Butanone | < 250.0 ug/L | 250.0 | U |
| Carbon disulfide | < 250.0 ug/L | 250.0 | U |
| Carbon tetrachloride | < 250.0 ug/L | 250.0 | U |
| Chlorobenzene | < 250.0 ug/L | 250.0 | UJ |
| Chloroethane | < 250.0 ug/L | 250.0 | U |
| Chloroform | < 250.0 ug/L | 250.0 | U |
| Chloromethane | < 250.0 ug/L | 250.0 | U |
| Dibromochloromethane | < 250.0 ug/L | 250.0 | U |
| 1,1-Dichloroethane | < 250.0 ug/L | 250.0 | U |
| 1,2-Dichloroethane | < 250.0 ug/L | 250.0 | U |
| 1,1-Dichloroethene | < 250.0 ug/L | 250.0 | U |
| 1,2-Dichloroethene, total | < 250.0 ug/L | 250.0 | U |
| 1,2-Dichloropropane | < 250.0 ug/L | 250.0 | U |
| cis-1,3-Dichloropropene | < 250.0 ug/L | 250.0 | U |
| trans-1,3-Dichloropropene | < 250.0 ug/L | 250.0 | U |
| Ethylbenzene | < 250.0 ug/L | 250.0 | UJ |
| 2-Hexanone | < 250.0 ug/L | 250.0 | U |
| Methylene chloride | < 250.0 ug/L | 250.0 | U |
| 4-Methyl-2-pentanone | < 250.0 ug/L | 250.0 | U |
| Styrene | < 250.0 ug/L | 250.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 250.0 ug/L | 250.0 | U |
| Tetrachloroethene | < 250.0 ug/L | 250.0 | U |
| Toluene | 26.0 ug/L | 250.0 | J |
| 1,1,1-Trichloroethane | < 250.0 ug/L | 250.0 | U |
| 1,1,2-Trichloroethane | < 250.0 ug/L | 250.0 | U |
| Trichloroethene | < 250.0 ug/L | 250.0 | U |
| Vinyl chloride | < 250.0 ug/L | 250.0 | U |
| Xylenes, total | 100.0 ug/L | 250.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: OW-56C
DATE: 12/16/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 440.0 ug/L | 200.0 | U |
| Benzene | 12000.0 ug/L | 800.0 | J |
| Bromodichloromethane | < 200.0 ug/L | 200.0 | U |
| Bromoform | < 200.0 ug/L | 200.0 | U |
| Bromomethane | < 200.0 ug/L | 200.0 | U |
| 2-Butanone | < 200.0 ug/L | 200.0 | U |
| Carbon disulfide | < 200.0 ug/L | 200.0 | U |
| Carbon tetrachloride | < 200.0 ug/L | 200.0 | U |
| Chlorobenzene | < 200.0 ug/L | 200.0 | UJ |
| Chloroethane | < 200.0 ug/L | 200.0 | U |
| Chloroform | < 200.0 ug/L | 200.0 | U |
| Chloromethane | < 200.0 ug/L | 200.0 | U |
| Dibromochloromethane | < 200.0 ug/L | 200.0 | U |
| 1,1-Dichloroethane | < 200.0 ug/L | 200.0 | U |
| 1,2-Dichloroethane | < 200.0 ug/L | 200.0 | U |
| 1,1-Dichloroethene | < 200.0 ug/L | 200.0 | U |
| 1,2-Dichloroethene, total | < 200.0 ug/L | 200.0 | U |
| 1,2-Dichloropropane | < 200.0 ug/L | 200.0 | U |
| cis-1,3-Dichloropropene | < 200.0 ug/L | 200.0 | U |
| trans-1,3-Dichloropropene | < 200.0 ug/L | 200.0 | U |
| Ethylbenzene | 30.0 ug/L | 200.0 | J |
| 2-Hexanone | < 200.0 ug/L | 200.0 | U |
| Methylene chloride | < 200.0 ug/L | 200.0 | U |
| 4-Methyl-2-pentanone | < 200.0 ug/L | 200.0 | U |
| Styrene | < 200.0 ug/L | 200.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 200.0 ug/L | 200.0 | U |
| Tetrachloroethene | < 200.0 ug/L | 200.0 | U |
| Toluene | 460.0 ug/L | 200.0 | J |
| 1,1,1-Trichloroethane | < 200.0 ug/L | 200.0 | U |
| 1,1,2-Trichloroethane | < 200.0 ug/L | 200.0 | U |
| Trichloroethene | < 200.0 ug/L | 200.0 | U |
| Vinyl chloride | < 200.0 ug/L | 200.0 | U |
| Xylenes, total | 290.0 ug/L | 200.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: **OW-56C - Field Replicate**
DATE: **12/16/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 350.0 ug/L | 200.0 | U |
| Benzene | 11000.0 ug/L | 800.0 | J |
| Bromodichloromethane | < 200.0 ug/L | 200.0 | U |
| Bromoform | < 200.0 ug/L | 200.0 | U |
| Bromomethane | < 200.0 ug/L | 200.0 | U |
| 2-Butanone | < 200.0 ug/L | 200.0 | U |
| Carbon disulfide | < 200.0 ug/L | 200.0 | U |
| Carbon tetrachloride | < 200.0 ug/L | 200.0 | U |
| Chlorobenzene | < 200.0 ug/L | 200.0 | UJ |
| Chloroethane | < 200.0 ug/L | 200.0 | U |
| Chloroform | < 200.0 ug/L | 200.0 | U |
| Chloromethane | < 200.0 ug/L | 200.0 | U |
| Dibromochloromethane | < 200.0 ug/L | 200.0 | U |
| 1,1-Dichloroethane | < 200.0 ug/L | 200.0 | U |
| 1,2-Dichloroethane | < 200.0 ug/L | 200.0 | U |
| 1,1-Dichloroethene | < 200.0 ug/L | 200.0 | U |
| 1,2-Dichloroethene, total | < 200.0 ug/L | 200.0 | U |
| 1,2-Dichloropropane | < 200.0 ug/L | 200.0 | U |
| cis-1,3-Dichloropropene | < 200.0 ug/L | 200.0 | U |
| trans-1,3-Dichloropropene | < 200.0 ug/L | 200.0 | U |
| Ethylbenzene | 32.0 ug/L | 200.0 | J |
| 2-Hexanone | < 200.0 ug/L | 200.0 | U |
| Methylene chloride | < 200.0 ug/L | 200.0 | U |
| 4-Methyl-2-pentanone | < 200.0 ug/L | 200.0 | U |
| Styrene | < 200.0 ug/L | 200.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 200.0 ug/L | 200.0 | U |
| Tetrachloroethene | < 200.0 ug/L | 200.0 | U |
| Toluene | 460.0 ug/L | 800.0 | J |
| 1,1,1-Trichloroethane | < 200.0 ug/L | 200.0 | U |
| 1,1,2-Trichloroethane | < 200.0 ug/L | 200.0 | U |
| Trichloroethene | < 200.0 ug/L | 200.0 | U |
| Vinyl chloride | < 200.0 ug/L | 200.0 | U |
| Xylenes, total | 290.0 ug/L | 200.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: **WP-1**
DATE: **12/19/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: WP-3
DATE: 12/19/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 28.0 ug/L | 10.0 | U |
| Benzene | 12000.0 ug/L | 1000.0 | A |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | 31.0 ug/L | 10.0 | A |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | 440.0 ug/L | 1000.0 | J |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | 250.0 ug/L | 1000.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: WP-4
DATE: 12/19/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 16.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | UJ |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | UJ |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | UJ |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | 3.0 ug/L | 10.0 | J |
| Styrene | < 10.0 ug/L | 10.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | 41.0 ug/L | 10.0 | J |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | 1.0 ug/L | 10.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: WP-5
DATE: 12/19/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | 2.0 ug/L | 10.0 | J |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Volatile Organic Compounds

SAMPLE: **WP-5 - Field Replicate**
DATE: **12/19/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | 2.0 ug/L | 10.0 | J |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C1

Summary of Ground-Water Quality Data

Dissolved Metals

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-30A
DATE: 12/16/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | < 0.0022 mg/L | 0.0100 | 0.0010 | U |
| Barium, dissolved | 0.0870 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 60.8000 mg/L | 5.0000 | 0.0080 | A |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Cobalt, dissolved | 0.0429 mg/L | 0.0500 | 0.0040 | A |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 3.9900 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, dissolved | 4.8700 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 3.0800 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | 0.0186 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 8.7900 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 31.7000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | 0.3350 mg/L | 0.0200 | 0.0020 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: **OW-30B**
DATE: **12/16/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | < 0.0040 mg/L | 0.0100 | 0.0010 | U |
| Barium, dissolved | < 0.0058 mg/L | 0.2000 | 0.0010 | U |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 55.1000 mg/L | 5.0000 | 0.0080 | A |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | < 0.0118 mg/L | 0.1000 | 0.0080 | UJ |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, dissolved | 9.2000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | < 0.0058 mg/L | 0.0150 | 0.0010 | U |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | < 0.0100 mg/L | 0.0400 | 0.0100 | U |
| Potassium, dissolved | 5.3700 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 38.0000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | < 0.0074 mg/L | 0.0200 | 0.0020 | U |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-31
DATE: 12/18/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.1520 mg/L | 0.2000 | 0.0360 | J |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | UJ |
| Arsenic, dissolved | 0.4840 mg/L | 0.1000 | 0.0100 | J |
| Barium, dissolved | 0.2300 mg/L | 0.2000 | 0.0010 | J |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | UJ |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 365.0000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | R |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | UJ |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | UJ |
| Iron, dissolved | 0.2670 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0050 mg/L | 0.0150 | 0.0050 | UJ |
| Magnesium, dissolved | 169.0000 mg/L | 5.0000 | 0.0340 | J |
| Manganese, dissolved | 5.3000 mg/L | 0.0150 | 0.0010 | J |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | UJ |
| Nickel, dissolved | < 0.0100 mg/L | 0.0400 | 0.0100 | UJ |
| Potassium, dissolved | 40.2000 mg/L | 5.0000 | 0.6710 | J |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 114.0000 mg/L | 5.0000 | 1.7370 | J |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | 0.0293 mg/L | 0.0500 | 0.0040 | J |
| Zinc, dissolved | < 0.0020 mg/L | 0.0200 | 0.0020 | R |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-37
DATE: 12/18/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 0.1120 mg/L | 0.0200 | 0.0020 | J |
| Barium, dissolved | 0.0566 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 59.1000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 0.8300 mg/L | 0.1000 | 0.0080 | A |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, dissolved | 7.2600 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.5820 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | < 0.0100 mg/L | 0.0400 | 0.0100 | U |
| Potassium, dissolved | 2.7600 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 21.0000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | 0.0141 mg/L | 0.0200 | 0.0020 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-37A
DATE: 12/18/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 2.0100 mg/L | 0.5000 | 0.0500 | J |
| Barium, dissolved | 0.0456 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 48.7000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 1.7700 mg/L | 0.1000 | 0.0080 | A |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, dissolved | 6.4500 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.3740 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | < 0.0100 mg/L | 0.0400 | 0.0100 | U |
| Potassium, dissolved | 2.6200 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 28.9000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | 0.0328 mg/L | 0.0200 | 0.0020 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-52A
DATE: 12/17/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 0.4000 mg/L | 0.0500 | 0.0050 | A |
| Barium, dissolved | 0.0299 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 561.0000 mg/L | 5.0000 | 0.0080 | A |
| Chromium, dissolved | 0.0056 mg/L | 0.0100 | 0.0040 | A |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 14.0000 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, dissolved | 7.3000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.6070 mg/L | 0.0150 | 0.0010 | J |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | < 0.0100 mg/L | 0.0400 | 0.0100 | U |
| Potassium, dissolved | 12.3000 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 20.3000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | < 0.0020 mg/L | 0.0200 | 0.0020 | R |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-52B
DATE: 12/17/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.0865 mg/L | 0.2000 | 0.0360 | A |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 0.3940 mg/L | 0.1000 | 0.0100 | A |
| Barium, dissolved | 0.0805 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 268.0000 mg/L | 5.0000 | 0.0080 | A |
| Chromium, dissolved | 0.0706 mg/L | 0.0100 | 0.0040 | A |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 0.1840 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, dissolved | 19.9000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.3130 mg/L | 0.0150 | 0.0010 | J |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | < 0.0100 mg/L | 0.0400 | 0.0100 | U |
| Potassium, dissolved | 18.1000 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 61.9000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | 0.0062 mg/L | 0.0500 | 0.0040 | J |
| Zinc, dissolved | < 0.0020 mg/L | 0.0200 | 0.0020 | U |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: **OW-54A**
DATE: **12/17/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | < 0.0039 mg/L | 0.0100 | 0.0010 | U |
| Barium, dissolved | 0.0121 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 99.7000 mg/L | 5.0000 | 0.0080 | A |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 0.8390 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, dissolved | 2.8200 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.3510 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | 0.0115 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 4.1800 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 9.8700 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | 0.0390 mg/L | 0.0200 | 0.0020 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-54B
DATE: 12/17/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 0.0843 mg/L | 0.0100 | 0.0010 | A |
| Barium, dissolved | 0.0411 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 305.0000 mg/L | 5.0000 | 0.0080 | A |
| Chromium, dissolved | 0.0461 mg/L | 0.0100 | 0.0040 | A |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 0.1490 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, dissolved | 88.2000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.3730 mg/L | 0.0150 | 0.0010 | J |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | 0.0111 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 7.2800 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 108.0000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | 0.0296 mg/L | 0.0500 | 0.0040 | A |
| Zinc, dissolved | 0.0143 mg/L | 0.0200 | 0.0020 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-54C
DATE: 12/17/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.0411 mg/L | 0.2000 | 0.0360 | J |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | UJ |
| Arsenic, dissolved | 0.9490 mg/L | 0.2000 | 0.0200 | J |
| Barium, dissolved | 0.2320 mg/L | 0.2000 | 0.0010 | J |
| Beryllium, dissolved | < 0.0012 mg/L | 0.0050 | 0.0010 | UJ |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 23.0000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | 0.1450 mg/L | 0.0100 | 0.0040 | J |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | UJ |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | UJ |
| Iron, dissolved | 0.8490 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, dissolved | 75.9000 mg/L | 5.0000 | 0.0340 | J |
| Manganese, dissolved | 0.0636 mg/L | 0.0150 | 0.0010 | J |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | UJ |
| Nickel, dissolved | 0.0375 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 34.5000 mg/L | 5.0000 | 0.6710 | J |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 244.0000 mg/L | 5.0000 | 1.7370 | J |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | 0.1810 mg/L | 0.0500 | 0.0040 | J |
| Zinc, dissolved | < 0.0118 mg/L | 0.0200 | 0.0020 | UJ |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-55
DATE: 12/18/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | UJ |
| Antimony, dissolved | 0.0293 mg/L | 0.0600 | 0.0180 | J |
| Arsenic, dissolved | 0.1930 mg/L | 0.0500 | 0.0050 | J |
| Barium, dissolved | 0.2010 mg/L | 0.2000 | 0.0010 | J |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | UJ |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 98.7000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | 0.1220 mg/L | 0.0100 | 0.0040 | J |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | UJ |
| Copper, dissolved | 0.0524 mg/L | 0.0250 | 0.0030 | J |
| Iron, dissolved | 1.1600 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, dissolved | 96.2000 mg/L | 5.0000 | 0.0340 | J |
| Manganese, dissolved | 0.3490 mg/L | 0.0150 | 0.0010 | J |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | UJ |
| Nickel, dissolved | 0.0604 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 84.4000 mg/L | 5.0000 | 0.6710 | J |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 570.0000 mg/L | 5.0000 | 1.7370 | J |
| Thallium, dissolved | < 0.0150 mg/L | 0.0500 | 0.0150 | UJ |
| Vanadium, dissolved | 0.0833 mg/L | 0.0500 | 0.0040 | J |
| Zinc, dissolved | 0.2590 mg/L | 0.0200 | 0.0020 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-56A
DATE: 12/16/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 0.5280 mg/L | 0.0500 | 0.0050 | A |
| Barium, dissolved | 0.0445 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 196.0000 mg/L | 5.0000 | 0.0080 | A |
| Chromium, dissolved | 0.0185 mg/L | 0.0100 | 0.0040 | A |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 0.1610 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, dissolved | 29.7000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.3620 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | 0.0143 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 3.8000 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 41.3000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | 0.0221 mg/L | 0.0500 | 0.0040 | A |
| Zinc, dissolved | < 0.0092 mg/L | 0.0200 | 0.0020 | U |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-56B
DATE: 12/16/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | UJ |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | UJ |
| Arsenic, dissolved | < 0.0250 mg/L | 0.0500 | 0.0050 | UJ |
| Barium, dissolved | 0.0852 mg/L | 0.2000 | 0.0010 | J |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | UJ |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 105.0000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | 0.0539 mg/L | 0.0100 | 0.0040 | J |
| Cobalt, dissolved | 0.0194 mg/L | 0.0500 | 0.0040 | J |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | UJ |
| Iron, dissolved | 4.8700 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, dissolved | 73.0000 mg/L | 5.0000 | 0.0340 | J |
| Manganese, dissolved | 2.5900 mg/L | 0.0150 | 0.0010 | J |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | UJ |
| Nickel, dissolved | 0.0180 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 39.6000 mg/L | 5.0000 | 0.6710 | J |
| Selenium, dissolved | 0.0037 mg/L | 0.0050 | 0.0020 | J |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 1090.0000 mg/L | 5.0000 | 1.7370 | J |
| Thallium, dissolved | < 0.0300 mg/L | 0.0500 | 0.0150 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | UJ |
| Zinc, dissolved | < 0.0020 mg/L | 0.0200 | 0.0020 | UJ |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: OW-56C
DATE: 12/16/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.0878 mg/L | 0.4000 | 0.0720 | A |
| Antimony, dissolved | < 0.0360 mg/L | 0.1200 | 0.0360 | U |
| Arsenic, dissolved | < 0.0200 mg/L | 0.1000 | 0.0100 | U |
| Barium, dissolved | 0.0138 mg/L | 0.4000 | 0.0020 | A |
| Beryllium, dissolved | < 0.0050 mg/L | 0.0100 | 0.0020 | U |
| Cadmium, dissolved | 0.0062 mg/L | 0.0100 | 0.0060 | A |
| Calcium, dissolved | 5030.0000 mg/L | 10.0000 | 0.0160 | A |
| Chromium, dissolved | 0.0408 mg/L | 0.0200 | 0.0080 | A |
| Cobalt, dissolved | 0.0266 mg/L | 0.1000 | 0.0080 | A |
| Copper, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Iron, dissolved | 568.0000 mg/L | 0.2000 | 0.0160 | J |
| Lead, dissolved | < 0.0050 mg/L | 0.0150 | 0.0050 | U |
| Magnesium, dissolved | 167.0000 mg/L | 10.0000 | 0.0680 | A |
| Manganese, dissolved | 15.4000 mg/L | 0.0300 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | < 0.0200 mg/L | 0.0800 | 0.0200 | U |
| Potassium, dissolved | 67.6000 mg/L | 10.0000 | 1.3420 | A |
| Selenium, dissolved | 0.0042 mg/L | 0.0050 | 0.0020 | A |
| Silver, dissolved | < 0.0080 mg/L | 0.0200 | 0.0080 | UJ |
| Sodium, dissolved | 2380.0000 mg/L | 10.0000 | 3.4740 | A |
| Thallium, dissolved | < 0.0300 mg/L | 0.1000 | 0.0300 | UJ |
| Vanadium, dissolved | 0.0298 mg/L | 0.1000 | 0.0080 | A |
| Zinc, dissolved | < 0.0040 mg/L | 0.0400 | 0.0040 | U |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: **OW-56C - Field Replicate**
DATE: **12/16/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.1320 mg/L | 0.4000 | 0.0720 | A |
| Antimony, dissolved | < 0.0360 mg/L | 0.1200 | 0.0360 | U |
| Arsenic, dissolved | < 0.0200 mg/L | 0.1000 | 0.0100 | U |
| Barium, dissolved | 0.0135 mg/L | 0.4000 | 0.0020 | A |
| Beryllium, dissolved | < 0.0048 mg/L | 0.0100 | 0.0020 | U |
| Cadmium, dissolved | 0.0064 mg/L | 0.0100 | 0.0060 | A |
| Calcium, dissolved | 505.0000 mg/L | 10.0000 | 0.0160 | A |
| Chromium, dissolved | 0.0408 mg/L | 0.0200 | 0.0080 | A |
| Cobalt, dissolved | 0.0292 mg/L | 0.1000 | 0.0080 | A |
| Copper, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Iron, dissolved | 566.0000 mg/L | 0.2000 | 0.0160 | J |
| Lead, dissolved | < 0.0050 mg/L | 0.0150 | 0.0050 | U |
| Magnesium, dissolved | 168.0000 mg/L | 10.0000 | 0.0680 | A |
| Manganese, dissolved | 152.0000 mg/L | 0.0300 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | < 0.0200 mg/L | 0.0800 | 0.0200 | U |
| Potassium, dissolved | 68.3000 mg/L | 10.0000 | 1.3420 | A |
| Selenium, dissolved | 0.0061 mg/L | 0.0050 | 0.0020 | A |
| Silver, dissolved | < 0.0080 mg/L | 0.0200 | 0.0080 | UJ |
| Sodium, dissolved | 2390.0000 mg/L | 10.0000 | 3.4740 | A |
| Thallium, dissolved | < 0.0300 mg/L | 0.1000 | 0.0300 | UJ |
| Vanadium, dissolved | 0.0363 mg/L | 0.1000 | 0.0080 | A |
| Zinc, dissolved | < 0.0040 mg/L | 0.0400 | 0.0040 | U |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: **WP-1**
DATE: **12/19/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | < 0.0050 mg/L | 0.0500 | 0.0050 | UJ |
| Barium, dissolved | < 0.0010 mg/L | 0.2000 | 0.0010 | U |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 575.0000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 0.4360 mg/L | 0.1000 | 0.0080 | A |
| Lead, dissolved | < 0.0050 mg/L | 0.0150 | 0.0050 | UJ |
| Magnesium, dissolved | 23.3000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.6550 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | 0.0195 mg/L | 0.0400 | 0.0100 | A |
| Potassium, dissolved | 17.6000 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | 0.0075 mg/L | 0.0050 | 0.0020 | A |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 16.0000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | 0.0228 mg/L | 0.0200 | 0.0020 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: WP-3
DATE: 12/19/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 0.0204 mg/L | 0.0100 | 0.0010 | J |
| Barium, dissolved | < 0.0126 mg/L | 0.2000 | 0.0010 | U |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 606.0000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Cobalt, dissolved | 0.0775 mg/L | 0.0500 | 0.0040 | A |
| Copper, dissolved | 0.0767 mg/L | 0.0250 | 0.0030 | A |
| Iron, dissolved | 0.7200 mg/L | 0.1000 | 0.0080 | A |
| Lead, dissolved | < 0.0050 mg/L | 0.0150 | 0.0050 | UJ |
| Magnesium, dissolved | 229.0000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 0.4400 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | 0.0163 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 15.8000 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 276.0000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | 0.1120 mg/L | 0.0200 | 0.0020 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: **WP-4**
DATE: **12/19/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.0527 mg/L | 0.2000 | 0.0360 | J |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | UJ |
| Arsenic, dissolved | 0.5450 mg/L | 0.1000 | 0.0100 | J |
| Barium, dissolved | 0.0704 mg/L | 0.2000 | 0.0010 | J |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | UJ |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 256.0000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | 0.0616 mg/L | 0.0100 | 0.0040 | J |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | UJ |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | UJ |
| Iron, dissolved | 0.1270 mg/L | 0.1000 | 0.0080 | J |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, dissolved | 77.7000 mg/L | 5.0000 | 0.0340 | J |
| Manganese, dissolved | 3.2200 mg/L | 0.0150 | 0.0010 | J |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | UJ |
| Nickel, dissolved | 0.0218 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 18.3000 mg/L | 5.0000 | 0.6710 | J |
| Selenium, dissolved | < 0.0200 mg/L | 0.0500 | 0.0200 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 34.2000 mg/L | 5.0000 | 1.7370 | J |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | 0.0051 mg/L | 0.0500 | 0.0040 | J |
| Zinc, dissolved | 0.0153 mg/L | 0.0200 | 0.0020 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: WP-5
DATE: 12/19/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.0732 mg/L | 0.2000 | 0.0360 | A |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 0.8690 mg/L | 0.1000 | 0.0100 | J |
| Barium, dissolved | 0.0850 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 328.0000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 60.2000 mg/L | 0.1000 | 0.0080 | A |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, dissolved | 77.2000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 4.5200 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | 0.0116 mg/L | 0.0400 | 0.0100 | J |
| Potassium, dissolved | 19.3000 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 110.0000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | 0.0212 mg/L | 0.0200 | 0.0020 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Ground-Water Quality Data Collected on December 16-19, 1991
Dissolved Metals

SAMPLE: **WP-5 - Field Replicate**
DATE: **12/19/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0360 mg/L | 0.2000 | 0.0360 | U |
| Antimony, dissolved | < 0.0180 mg/L | 0.0600 | 0.0180 | U |
| Arsenic, dissolved | 0.0637 mg/L | 0.1000 | 0.0100 | J |
| Barium, dissolved | 0.0715 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | U |
| Calcium, dissolved | 324.0000 mg/L | 5.0000 | 0.0080 | J |
| Chromium, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Cobalt, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Copper, dissolved | < 0.0030 mg/L | 0.0250 | 0.0030 | U |
| Iron, dissolved | 59.4000 mg/L | 0.1000 | 0.0080 | A |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, dissolved | 76.1000 mg/L | 5.0000 | 0.0340 | A |
| Manganese, dissolved | 4.5700 mg/L | 0.0150 | 0.0010 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.2000 | U |
| Nickel, dissolved | < 0.0100 mg/L | 0.0400 | 0.0100 | U |
| Potassium, dissolved | 19.2000 mg/L | 5.0000 | 0.6710 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 102.0000 mg/L | 5.0000 | 1.7370 | A |
| Thallium, dissolved | < 0.0030 mg/L | 0.0100 | 0.0030 | UJ |
| Vanadium, dissolved | < 0.0040 mg/L | 0.0500 | 0.0040 | U |
| Zinc, dissolved | 0.0178 mg/L | 0.0200 | 0.0020 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C1

## Summary of Ground-Water Quality Data

## Field Measurements

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: OW-30A
DATE: 12/16/91

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 5.65 mg/L | F |
| Eh, field | 112.00 mvolts | F |
| pH, field | 6.75 mg/L | F |
| Specific conductance, field | 560.00 umhos/cm | F |
| Temperature, field | 10.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **OW-30B**
DATE: **12/16/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 7.53 mg/L | F |
| Eh, field | 22.80 mvolts | F |
| pH, field | 7.46 mg/L | F |
| Specific conductance, field | 540.00 umhos/cm | F |
| Temperature, field | 6.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: OW-31
DATE: 12/18/91

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 4.72 mg/L | F |
| Eh, field | -29.64 mvolts | F |
| pH, field | 6.82 mg/L | F |
| Specific conductance, field | 6520.00 umhos/cm | F |
| Temperature, field | 8.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **OW-37**
DATE: **12/18/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 3.70 mg/L | F |
| Eh, field | 6.40 mvolts | F |
| pH, field | 6.24 mg/L | F |
| Specific conductance, field | 430.00 umhos/cm | F |
| Temperature, field | 6.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: OW-37A
DATE: 12/18/91

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 3.31 mg/L | F |
| Eh, field | 81.80 mvolts | F |
| pH, field | 6.43 mg/L | F |
| Specific conductance, field | 440.00 umhos/cm | F |
| Temperature, field | 9.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **OW-52A**
DATE: **12/17/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 2.69 mg/L | F |
| Eh, field | 61.60 mvolts | F |
| pH, field | 6.02 mg/L | F |
| Specific conductance, field | 1990.00 umhos/cm | F |
| Temperature, field | 9.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: OW-52B
DATE: 12/17/91

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 2.41 mg/L | F |
| Eh, field | 194.30 mvolts | F |
| pH, field | 6.94 mg/L | F |
| Specific conductance, field | 3340.00 umhos/cm | F |
| Temperature, field | 10.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **OW-54A**
DATE: **12/17/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 3.92 mg/L | F |
| Eh, field | 106.00 mvolts | F |
| pH, field | 7.14 mg/L | F |
| Specific conductance, field | 620.00 umhos/cm | F |
| Temperature, field | 8.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: OW-54B
DATE: 12/17/91

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 3.04 mg/L | F |
| Eh, field | -279.90 mvolts | F |
| pH, field | 8.08 mg/L | F |
| Specific conductance, field | 5110.00 umhos/cm | F |
| Temperature, field | 8.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **OW-54C**
DATE: **12/17/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 5.70 mg/L | F |
| Eh, field | 135.80 mvolts | F |
| pH, field | 7.80 mg/L | F |
| Specific conductance, field | 5720.00 umhos/cm | F |
| Temperature, field | 9.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: OW-55
DATE: 12/18/91

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Eh, field | -54.00 mvolts | F |
| pH, field | 7.89 mg/L | F |
| Specific conductance, field | 14150.00 umhos/cm | F |
| Temperature, field | 10.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **OW-56A**
DATE: **12/16/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 1.80 mg/L | F |
| Eh, field | -278.00 mvolts | F |
| pH, field | 7.09 mg/L | F |
| Specific conductance, field | 2450.00 umhos/cm | F |
| Temperature, field | 7.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: OW-56B
DATE: 12/16/91

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 1.15 mg/L | F |
| Eh, field | -146.10 mvolts | F |
| pH, field | 7.09 mg/L | F |
| Specific conductance, field | 10960.00 umhos/cm | F |
| Temperature, field | 6.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **OW-56C**
DATE: **12/16/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 1.32 mg/L | F |
| Eh, field | -63.20 mvolts | F |
| pH, field | 6.57 mg/L | F |
| Specific conductance, field | 12690.00 umhos/cm | F |
| Temperature, field | 4.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **WP-1**
DATE: **12/19/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 7.00 mg/L | F |
| Eh, field | 54.60 mvolts | F |
| pH, field | 6.72 mg/L | F |
| Specific conductance, field | 2190.00 umhos/cm | F |
| Temperature, field | 6.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **WP-3**
DATE: **12/19/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 1.33 mg/L | F |
| Eh, field | -28.70 mvolts | F |
| pH, field | 7.30 mg/L | F |
| Specific conductance, field | 5100.00 umhos/cm | F |
| Temperature, field | 7.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: WP-4
DATE: 12/19/91

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 0.37 mg/L | F |
| Eh, field | -314.30 mvolts | F |
| pH, field | 7.46 mg/L | F |
| Specific conductance, field | 6290.00 umhos/cm | F |
| Temperature, field | 10.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

Ground-Water Quality Data Collected on December 16-19, 1991
Field Measurements

SAMPLE: **WP-5**
DATE: **12/19/91**

| PARAMETER | VALUE | VALID CODE |
|---|---|---|
| Dissolved oxygen, field | 2.74 mg/L | F |
| Eh, field | -68.30 mvolts | F |
| pH, field | 6.70 mg/L | F |
| Specific conductance, field | 3110.00 umhos/cm | F |
| Temperature, field | 8.00 Celsius | F |

NOTE:

Valid Codes: F = Field Measurement

# APPENDIX C2

Summary of Surface-Water Quality Data

# APPENDIX C2

Summary of Surface-Water Quality Data

Volatile Organic Compounds

Surface-Water Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: SW-18
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | 11.0 ug/L | 10.0 | A |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | 1.0 ug/L | 10.0 | J |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | 2.0 ug/L | 10.0 | J |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | 130.0 ug/L | 10.0 | A |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | 11.0 ug/L | 10.0 | A |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | 7.0 ug/L | 10.0 | J |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: **SW-19**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | 2.0 ug/L | 10.0 | J |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: **SW-19 - Field Replicate**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | 2.0 ug/L | 10.0 | J |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: SW-21
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | 2.0 ug/L | 10.0 | J |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | 3.0 ug/L | 10.0 | J |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | 3.0 ug/L | 10.0 | J |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: SW-22
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | 1.0 ug/L | 10.0 | J |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | 2.0 ug/L | 10.0 | J |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: SW-23
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | 1.0 ug/L | 10.0 | J |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: SW-24
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | < 10.0 ug/L | 10.0 | U |
| Benzene | < 10.0 ug/L | 10.0 | U |
| Bromodichloromethane | < 10.0 ug/L | 10.0 | U |
| Bromoform | < 10.0 ug/L | 10.0 | U |
| Bromomethane | < 10.0 ug/L | 10.0 | U |
| 2-Butanone | < 10.0 ug/L | 10.0 | U |
| Carbon disulfide | < 10.0 ug/L | 10.0 | U |
| Carbon tetrachloride | < 10.0 ug/L | 10.0 | U |
| Chlorobenzene | < 10.0 ug/L | 10.0 | U |
| Chloroethane | < 10.0 ug/L | 10.0 | U |
| Chloroform | < 10.0 ug/L | 10.0 | U |
| Chloromethane | < 10.0 ug/L | 10.0 | U |
| Dibromochloromethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1-Dichloroethene | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloroethene, total | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichloropropane | < 10.0 ug/L | 10.0 | U |
| cis-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| trans-1,3-Dichloropropene | < 10.0 ug/L | 10.0 | U |
| Ethylbenzene | < 10.0 ug/L | 10.0 | U |
| 2-Hexanone | < 10.0 ug/L | 10.0 | U |
| Methylene chloride | < 10.0 ug/L | 10.0 | U |
| 4-Methyl-2-pentanone | < 10.0 ug/L | 10.0 | U |
| Styrene | < 10.0 ug/L | 10.0 | U |
| 1,1,2,2-Tetrachloroethane | < 10.0 ug/L | 10.0 | U |
| Tetrachloroethene | < 10.0 ug/L | 10.0 | U |
| Toluene | < 10.0 ug/L | 10.0 | U |
| 1,1,1-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| 1,1,2-Trichloroethane | < 10.0 ug/L | 10.0 | U |
| Trichloroethene | < 10.0 ug/L | 10.0 | U |
| Vinyl chloride | < 10.0 ug/L | 10.0 | U |
| Xylenes, total | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C2

Summary of Surface-Water Quality Data

Semi-Volatile Organic Compounds

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-18
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 10.0 ug/L | 10.0 | U |
| Acenaphthylene | < 10.0 ug/L | 10.0 | U |
| Anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) pyrene | < 10.0 ug/L | 10.0 | U |
| Benzo (b) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Benzo (g,h,i) perylene | < 10.0 ug/L | 10.0 | U |
| Benzo (k) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethoxy) methane | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethyl) ether | < 10.0 ug/L | 10.0 | U |
| Bis (2-Ethylhexyl) phthalate | 10.0 ug/L | 10.0 | U |
| 4-Bromophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Butylbenzylphthalate | < 10.0 ug/L | 10.0 | U |
| Carbazole | < 10.0 ug/L | 10.0 | U |
| 4-Chloroaniline | < 10.0 ug/L | 10.0 | U |
| 4-Chloro-3-methylphenol | < 10.0 ug/L | 10.0 | U |
| 2-Chloronaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Chlorophenol | < 10.0 ug/L | 10.0 | U |
| 4-Chlorophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Chrysene | < 10.0 ug/L | 10.0 | U |
| Dibenzo (a,h) anthracene | < 10.0 ug/L | 10.0 | U |
| Dibenzofuran | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,3-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,4-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 3,3'-Dichlorobenzidine | < 10.0 ug/L | 10.0 | U |
| 2,4-Dichlorophenol | < 10.0 ug/L | 10.0 | U |
| Diethylphthalate | < 10.0 ug/L | 10.0 | U |
| 2,4-Dimethylphenol | < 10.0 ug/L | 10.0 | U |
| Dimethyl phthalate | < 10.0 ug/L | 10.0 | U |
| Di-n-butylphthalate | < 10.0 ug/L | 10.0 | U |
| 4,6-Dinitro-2-methylphenol | < 25.0 ug/L | 25.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SW-18**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 25.0 ug/L | 25.0 | UJ |
| 2,4-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| 2,6-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| Di-n-octyl phthalate | < 10.0 ug/L | 10.0 | U |
| Fluoranthene | < 10.0 ug/L | 10.0 | U |
| Fluorene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobenzene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobutadiene | < 10.0 ug/L | 10.0 | U |
| Hexachlorocyclopentadiene | < 10.0 ug/L | 10.0 | U |
| Hexachloroethane | < 10.0 ug/L | 10.0 | U |
| Indeno (1,2,3-cd) pyrene | < 10.0 ug/L | 10.0 | U |
| Isophorone | < 10.0 ug/L | 10.0 | U |
| 2-Methylnaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Methylphenol | 6.0 ug/L | 10.0 | J |
| 4-Methylphenol | < 10.0 ug/L | 10.0 | U |
| Naphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 3-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 4-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| Nitrobenzene | < 10.0 ug/L | 10.0 | U |
| 2-Nitrophenol | < 10.0 ug/L | 10.0 | U |
| 4-Nitrophenol | < 25.0 ug/L | 25.0 | U |
| N-Nitroso-di-n-propylamine | < 10.0 ug/L | 10.0 | U |
| N-Nitrosodiphenylamine | < 10.0 ug/L | 10.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 10.0 ug/L | 10.0 | U |
| Pentachlorophenol | < 25.0 ug/L | 25.0 | U |
| Phenanthrene | < 10.0 ug/L | 10.0 | U |
| Phenol | < 10.0 ug/L | 10.0 | U |
| Pyrene | < 10.0 ug/L | 10.0 | U |
| 1,2,4-Trichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 2,4,5-Trichlorophenol | < 25.0 ug/L | 25.0 | U |
| 2,4,6-Trichlorophenol | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-19
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 10.0 ug/L | 10.0 | U |
| Acenaphthylene | < 10.0 ug/L | 10.0 | U |
| Anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) pyrene | < 10.0 ug/L | 10.0 | U |
| Benzo (b) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Benzo (g,h,i) perylene | < 10.0 ug/L | 10.0 | U |
| Benzo (k) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethoxy) methane | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethyl) ether | < 10.0 ug/L | 10.0 | U |
| Bis (2-Ethylhexyl) phthalate | 10.0 ug/L | 10.0 | U |
| 4-Bromophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Butylbenzylphthalate | < 10.0 ug/L | 10.0 | U |
| Carbazole | < 10.0 ug/L | 10.0 | U |
| 4-Chloroaniline | < 10.0 ug/L | 10.0 | U |
| 4-Chloro-3-methylphenol | < 10.0 ug/L | 10.0 | U |
| 2-Chloronaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Chlorophenol | < 10.0 ug/L | 10.0 | U |
| 4-Chlorophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Chrysene | < 10.0 ug/L | 10.0 | U |
| Dibenzo (a,h) anthracene | < 10.0 ug/L | 10.0 | U |
| Dibenzofuran | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,3-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,4-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 3,3'-Dichlorobenzidine | < 10.0 ug/L | 10.0 | U |
| 2,4-Dichlorophenol | < 10.0 ug/L | 10.0 | U |
| Diethylphthalate | < 10.0 ug/L | 10.0 | U |
| 2,4-Dimethylphenol | < 10.0 ug/L | 10.0 | U |
| Dimethyl phthalate | < 10.0 ug/L | 10.0 | U |
| Di-n-butylphthalate | < 10.0 ug/L | 10.0 | U |
| 4,6-Dinitro-2-methylphenol | < 25.0 ug/L | 25.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-19
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 25.0 ug/L | 25.0 | UJ |
| 2,4-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| 2,6-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| Di-n-octyl phthalate | < 10.0 ug/L | 10.0 | U |
| Fluoranthene | < 10.0 ug/L | 10.0 | U |
| Fluorene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobenzene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobutadiene | < 10.0 ug/L | 10.0 | U |
| Hexachlorocyclopentadiene | < 10.0 ug/L | 10.0 | U |
| Hexachloroethane | < 10.0 ug/L | 10.0 | U |
| Indeno (1,2,3-cd) pyrene | < 10.0 ug/L | 10.0 | U |
| Isophorone | < 10.0 ug/L | 10.0 | U |
| 2-Methylnaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Methylphenol | < 10.0 ug/L | 10.0 | U |
| 4-Methylphenol | < 10.0 ug/L | 10.0 | U |
| Naphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 3-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 4-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| Nitrobenzene | < 10.0 ug/L | 10.0 | U |
| 2-Nitrophenol | < 10.0 ug/L | 10.0 | U |
| 4-Nitrophenol | < 25.0 ug/L | 25.0 | U |
| N-Nitroso-di-n-propylamine | < 10.0 ug/L | 10.0 | U |
| N-Nitrosodiphenylamine | < 10.0 ug/L | 10.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 10.0 ug/L | 10.0 | U |
| Pentachlorophenol | < 25.0 ug/L | 25.0 | U |
| Phenanthrene | < 10.0 ug/L | 10.0 | U |
| Phenol | < 10.0 ug/L | 10.0 | U |
| Pyrene | < 10.0 ug/L | 10.0 | U |
| 1,2,4-Trichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 2,4,5-Trichlorophenol | < 25.0 ug/L | 25.0 | U |
| 2,4,6-Trichlorophenol | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

**SAMPLE: SW-19 - Field Replicate**
**DATE: 10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 10.0 ug/L | 10.0 | U |
| Acenaphthylene | < 10.0 ug/L | 10.0 | U |
| Anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) pyrene | < 10.0 ug/L | 10.0 | U |
| Benzo (b) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Benzo (g,h,i) perylene | < 10.0 ug/L | 10.0 | U |
| Benzo (k) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethoxy) methane | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethyl) ether | < 10.0 ug/L | 10.0 | U |
| Bis (2-Ethylhexyl) phthalate | < 10.0 ug/L | 10.0 | U |
| 4-Bromophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Butylbenzylphthalate | < 10.0 ug/L | 10.0 | U |
| Carbazole | < 10.0 ug/L | 10.0 | U |
| 4-Chloroaniline | < 10.0 ug/L | 10.0 | U |
| 4-Chloro-3-methylphenol | < 10.0 ug/L | 10.0 | U |
| 2-Chloronaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Chlorophenol | < 10.0 ug/L | 10.0 | U |
| 4-Chlorophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Chrysene | < 10.0 ug/L | 10.0 | U |
| Dibenzo (a,h) anthracene | < 10.0 ug/L | 10.0 | U |
| Dibenzofuran | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,3-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,4-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 3,3'-Dichlorobenzidine | < 10.0 ug/L | 10.0 | U |
| 2,4-Dichlorophenol | < 10.0 ug/L | 10.0 | U |
| Diethylphthalate | < 10.0 ug/L | 10.0 | U |
| 2,4-Dimethylphenol | < 10.0 ug/L | 10.0 | U |
| Dimethyl phthalate | < 10.0 ug/L | 10.0 | U |
| Di-n-butylphthalate | < 10.0 ug/L | 10.0 | U |
| 4,6-Dinitro-2-methylphenol | < 25.0 ug/L | 25.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SW-19 - Field Replicate**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 25.0 ug/L | 25.0 | UJ |
| 2,4-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| 2,6-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| Di-n-octyl phthalate | < 10.0 ug/L | 10.0 | U |
| Fluoranthene | < 10.0 ug/L | 10.0 | U |
| Fluorene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobenzene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobutadiene | < 10.0 ug/L | 10.0 | U |
| Hexachlorocyclopentadiene | < 10.0 ug/L | 10.0 | U |
| Hexachloroethane | < 10.0 ug/L | 10.0 | U |
| Indeno (1,2,3-cd) pyrene | < 10.0 ug/L | 10.0 | U |
| Isophorone | < 10.0 ug/L | 10.0 | U |
| 2-Methylnaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Methylphenol | < 10.0 ug/L | 10.0 | U |
| 4-Methylphenol | < 10.0 ug/L | 10.0 | U |
| Naphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 3-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 4-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| Nitrobenzene | < 10.0 ug/L | 10.0 | U |
| 2-Nitrophenol | < 10.0 ug/L | 10.0 | U |
| 4-Nitrophenol | < 25.0 ug/L | 25.0 | U |
| N-Nitroso-di-n-propylamine | < 10.0 ug/L | 10.0 | U |
| N-Nitrosodiphenylamine | < 10.0 ug/L | 10.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 10.0 ug/L | 10.0 | U |
| Pentachlorophenol | < 25.0 ug/L | 25.0 | U |
| Phenanthrene | < 10.0 ug/L | 10.0 | U |
| Phenol | < 10.0 ug/L | 10.0 | U |
| Pyrene | < 10.0 ug/L | 10.0 | U |
| 1,2,4-Trichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 2,4,5-Trichlorophenol | < 25.0 ug/L | 25.0 | U |
| 2,4,6-Trichlorophenol | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-21
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 10.0 ug/L | 10.0 | U |
| Acenaphthylene | < 10.0 ug/L | 10.0 | U |
| Anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) pyrene | < 10.0 ug/L | 10.0 | U |
| Benzo (b) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Benzo (g,h,i) perylene | < 10.0 ug/L | 10.0 | U |
| Benzo (k) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethoxy) methane | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethyl) ether | < 10.0 ug/L | 10.0 | U |
| Bis (2-Ethylhexyl) phthalate | < 10.0 ug/L | 10.0 | U |
| 4-Bromophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Butylbenzylphthalate | < 10.0 ug/L | 10.0 | U |
| Carbazole | < 10.0 ug/L | 10.0 | U |
| 4-Chloroaniline | < 10.0 ug/L | 10.0 | U |
| 4-Chloro-3-methylphenol | < 10.0 ug/L | 10.0 | U |
| 2-Chloronaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Chlorophenol | < 10.0 ug/L | 10.0 | U |
| 4-Chlorophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Chrysene | < 10.0 ug/L | 10.0 | U |
| Dibenzo (a,h) anthracene | < 10.0 ug/L | 10.0 | U |
| Dibenzofuran | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,3-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,4-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 3,3'-Dichlorobenzidine | < 10.0 ug/L | 10.0 | U |
| 2,4-Dichlorophenol | < 10.0 ug/L | 10.0 | U |
| Diethylphthalate | < 10.0 ug/L | 10.0 | U |
| 2,4-Dimethylphenol | < 10.0 ug/L | 10.0 | U |
| Dimethyl phthalate | < 10.0 ug/L | 10.0 | U |
| Di-n-butylphthalate | < 10.0 ug/L | 10.0 | U |
| 4,6-Dinitro-2-methylphenol | < 25.0 ug/L | 25.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-21
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 25.0 ug/L | 25.0 | U |
| 2,4-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| 2,6-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| Di-n-octyl phthalate | < 10.0 ug/L | 10.0 | U |
| Fluoranthene | < 10.0 ug/L | 10.0 | U |
| Fluorene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobenzene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobutadiene | < 10.0 ug/L | 10.0 | U |
| Hexachlorocyclopentadiene | < 10.0 ug/L | 10.0 | U |
| Hexachloroethane | < 10.0 ug/L | 10.0 | U |
| Indeno (1,2,3-cd) pyrene | < 10.0 ug/L | 10.0 | U |
| Isophorone | < 10.0 ug/L | 10.0 | U |
| 2-Methylnaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Methylphenol | < 10.0 ug/L | 10.0 | U |
| 4-Methylphenol | < 10.0 ug/L | 10.0 | U |
| Naphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 3-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 4-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| Nitrobenzene | < 10.0 ug/L | 10.0 | U |
| 2-Nitrophenol | < 10.0 ug/L | 10.0 | U |
| 4-Nitrophenol | < 25.0 ug/L | 25.0 | U |
| N-Nitroso-di-n-propylamine | < 10.0 ug/L | 10.0 | U |
| N-Nitrosodiphenylamine | < 10.0 ug/L | 10.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 10.0 ug/L | 10.0 | U |
| Pentachlorophenol | < 25.0 ug/L | 25.0 | U |
| Phenanthrene | < 10.0 ug/L | 10.0 | U |
| Phenol | < 10.0 ug/L | 10.0 | U |
| Pyrene | < 10.0 ug/L | 10.0 | U |
| 1,2,4-Trichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 2,4,5-Trichlorophenol | < 25.0 ug/L | 25.0 | U |
| 2,4,6-Trichlorophenol | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-22
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 10.0 ug/L | 10.0 | U |
| Acenaphthylene | < 10.0 ug/L | 10.0 | U |
| Anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) pyrene | < 10.0 ug/L | 10.0 | U |
| Benzo (b) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Benzo (g,h,i) perylene | < 10.0 ug/L | 10.0 | U |
| Benzo (k) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethoxy) methane | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethyl) ether | < 10.0 ug/L | 10.0 | U |
| Bis (2-Ethylhexyl) phthalate | < 10.0 ug/L | 10.0 | U |
| 4-Bromophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Butylbenzylphthalate | < 10.0 ug/L | 10.0 | U |
| Carbazole | < 10.0 ug/L | 10.0 | U |
| 4-Chloroaniline | < 10.0 ug/L | 10.0 | U |
| 4-Chloro-3-methylphenol | < 10.0 ug/L | 10.0 | U |
| 2-Chloronaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Chlorophenol | < 10.0 ug/L | 10.0 | U |
| 4-Chlorophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Chrysene | < 10.0 ug/L | 10.0 | U |
| Dibenzo (a,h) anthracene | < 10.0 ug/L | 10.0 | U |
| Dibenzofuran | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,3-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,4-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 3,3'-Dichlorobenzidine | < 10.0 ug/L | 10.0 | U |
| 2,4-Dichlorophenol | < 10.0 ug/L | 10.0 | U |
| Diethylphthalate | < 10.0 ug/L | 10.0 | U |
| 2,4-Dimethylphenol | < 10.0 ug/L | 10.0 | U |
| Dimethyl phthalate | < 10.0 ug/L | 10.0 | U |
| Di-n-butylphthalate | < 10.0 ug/L | 10.0 | U |
| 4,6-Dinitro-2-methylphenol | < 25.0 ug/L | 25.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-22
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 25.0 ug/L | 25.0 | U |
| 2,4-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| 2,6-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| Di-n-octyl phthalate | < 10.0 ug/L | 10.0 | U |
| Fluoranthene | < 10.0 ug/L | 10.0 | U |
| Fluorene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobenzene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobutadiene | < 10.0 ug/L | 10.0 | U |
| Hexachlorocyclopentadiene | < 10.0 ug/L | 10.0 | U |
| Hexachloroethane | < 10.0 ug/L | 10.0 | U |
| Indeno (1,2,3-cd) pyrene | < 10.0 ug/L | 10.0 | U |
| Isophorone | < 10.0 ug/L | 10.0 | U |
| 2-Methylnaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Methylphenol | < 10.0 ug/L | 10.0 | U |
| 4-Methylphenol | < 10.0 ug/L | 10.0 | U |
| Naphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 3-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 4-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| Nitrobenzene | < 10.0 ug/L | 10.0 | U |
| 2-Nitrophenol | < 10.0 ug/L | 10.0 | U |
| 4-Nitrophenol | < 25.0 ug/L | 25.0 | U |
| N-Nitroso-di-n-propylamine | < 10.0 ug/L | 10.0 | U |
| N-Nitrosodiphenylamine | < 10.0 ug/L | 10.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 10.0 ug/L | 10.0 | U |
| Pentachlorophenol | < 25.0 ug/L | 25.0 | U |
| Phenanthrene | < 10.0 ug/L | 10.0 | U |
| Phenol | < 10.0 ug/L | 10.0 | U |
| Pyrene | < 10.0 ug/L | 10.0 | U |
| 1,2,4-Trichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 2,4,5-Trichlorophenol | < 25.0 ug/L | 25.0 | U |
| 2,4,6-Trichlorophenol | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-23
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 10.0 ug/L | 10.0 | U |
| Acenaphthylene | < 10.0 ug/L | 10.0 | U |
| Anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) pyrene | < 10.0 ug/L | 10.0 | U |
| Benzo (b) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Benzo (g,h,i) perylene | < 10.0 ug/L | 10.0 | U |
| Benzo (k) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethoxy) methane | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethyl) ether | < 10.0 ug/L | 10.0 | U |
| Bis (2-Ethylhexyl) phthalate | < 10.0 ug/L | 10.0 | U |
| 4-Bromophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Butylbenzylphthalate | < 10.0 ug/L | 10.0 | U |
| Carbazole | < 10.0 ug/L | 10.0 | U |
| 4-Chloroaniline | < 10.0 ug/L | 10.0 | U |
| 4-Chloro-3-methylphenol | < 10.0 ug/L | 10.0 | U |
| 2-Chloronaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Chlorophenol | < 10.0 ug/L | 10.0 | U |
| 4-Chlorophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Chrysene | < 10.0 ug/L | 10.0 | U |
| Dibenzo (a,h) anthracene | < 10.0 ug/L | 10.0 | U |
| Dibenzofuran | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,3-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,4-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 3,3'-Dichlorobenzidine | < 10.0 ug/L | 10.0 | U |
| 2,4-Dichlorophenol | < 10.0 ug/L | 10.0 | U |
| Diethylphthalate | < 10.0 ug/L | 10.0 | U |
| 2,4-Dimethylphenol | < 10.0 ug/L | 10.0 | U |
| Dimethyl phthalate | < 10.0 ug/L | 10.0 | U |
| Di-n-butylphthalate | < 10.0 ug/L | 10.0 | U |
| 4,6-Dinitro-2-methylphenol | < 25.0 ug/L | 25.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-23
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 25.0 ug/L | 25.0 | U |
| 2,4-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| 2,6-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| Di-n-octyl phthalate | < 10.0 ug/L | 10.0 | U |
| Fluoranthene | < 10.0 ug/L | 10.0 | U |
| Fluorene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobenzene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobutadiene | < 10.0 ug/L | 10.0 | U |
| Hexachlorocyclopentadiene | < 10.0 ug/L | 10.0 | U |
| Hexachloroethane | < 10.0 ug/L | 10.0 | U |
| Indeno (1,2,3-cd) pyrene | < 10.0 ug/L | 10.0 | U |
| Isophorone | < 10.0 ug/L | 10.0 | U |
| 2-Methylnaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Methylphenol | < 10.0 ug/L | 10.0 | U |
| 4-Methylphenol | < 10.0 ug/L | 10.0 | U |
| Naphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 3-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 4-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| Nitrobenzene | < 10.0 ug/L | 10.0 | U |
| 2-Nitrophenol | < 10.0 ug/L | 10.0 | U |
| 4-Nitrophenol | < 25.0 ug/L | 25.0 | U |
| N-Nitroso-di-n-propylamine | < 10.0 ug/L | 10.0 | U |
| N-Nitrosodiphenylamine | < 10.0 ug/L | 10.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 10.0 ug/L | 10.0 | U |
| Pentachlorophenol | < 25.0 ug/L | 25.0 | U |
| Phenanthrene | < 10.0 ug/L | 10.0 | U |
| Phenol | < 10.0 ug/L | 10.0 | U |
| Pyrene | < 10.0 ug/L | 10.0 | U |
| 1,2,4-Trichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 2,4,5-Trichlorophenol | < 25.0 ug/L | 25.0 | U |
| 2,4,6-Trichlorophenol | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SW-24
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 10.0 ug/L | 10.0 | U |
| Acenaphthylene | < 10.0 ug/L | 10.0 | U |
| Anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) anthracene | < 10.0 ug/L | 10.0 | U |
| Benzo (a) pyrene | < 10.0 ug/L | 10.0 | U |
| Benzo (b) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Benzo (g,h,i) perylene | < 10.0 ug/L | 10.0 | U |
| Benzo (k) fluoranthene | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethoxy) methane | < 10.0 ug/L | 10.0 | U |
| Bis (2-Chloroethyl) ether | < 10.0 ug/L | 10.0 | U |
| Bis (2-Ethylhexyl) phthalate | < 10.0 ug/L | 10.0 | U |
| 4-Bromophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Butylbenzylphthalate | < 10.0 ug/L | 10.0 | U |
| Carbazole | < 10.0 ug/L | 10.0 | U |
| 4-Chloroaniline | < 10.0 ug/L | 10.0 | U |
| 4-Chloro-3-methylphenol | < 10.0 ug/L | 10.0 | U |
| 2-Chloronaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Chlorophenol | < 10.0 ug/L | 10.0 | U |
| 4-Chlorophenyl-phenylether | < 10.0 ug/L | 10.0 | U |
| Chrysene | < 10.0 ug/L | 10.0 | U |
| Dibenzo (a,h) anthracene | < 10.0 ug/L | 10.0 | U |
| Dibenzofuran | < 10.0 ug/L | 10.0 | U |
| 1,2-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,3-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 1,4-Dichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 3,3'-Dichlorobenzidine | < 10.0 ug/L | 10.0 | U |
| 2,4-Dichlorophenol | < 10.0 ug/L | 10.0 | U |
| Diethylphthalate | < 10.0 ug/L | 10.0 | U |
| 2,4-Dimethylphenol | < 10.0 ug/L | 10.0 | U |
| Dimethyl phthalate | < 10.0 ug/L | 10.0 | U |
| Di-n-butylphthalate | < 10.0 ug/L | 10.0 | U |
| 4,6-Dinitro-2-methylphenol | < 25.0 ug/L | 25.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SW-24**
DATE: **10/03/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 25.0 ug/L | 25.0 | UJ |
| 2,4-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| 2,6-Dinitrotoluene | < 10.0 ug/L | 10.0 | U |
| Di-n-octyl phthalate | < 10.0 ug/L | 10.0 | U |
| Fluoranthene | < 10.0 ug/L | 10.0 | U |
| Fluorene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobenzene | < 10.0 ug/L | 10.0 | U |
| Hexachlorobutadiene | < 10.0 ug/L | 10.0 | U |
| Hexachlorocyclopentadiene | < 10.0 ug/L | 10.0 | U |
| Hexachloroethane | < 10.0 ug/L | 10.0 | U |
| Indeno (1,2,3-cd) pyrene | < 10.0 ug/L | 10.0 | U |
| Isophorone | < 10.0 ug/L | 10.0 | U |
| 2-Methylnaphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Methylphenol | < 10.0 ug/L | 10.0 | U |
| 4-Methylphenol | < 10.0 ug/L | 10.0 | U |
| Naphthalene | < 10.0 ug/L | 10.0 | U |
| 2-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 3-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| 4-Nitroaniline | < 25.0 ug/L | 25.0 | U |
| Nitrobenzene | < 10.0 ug/L | 10.0 | U |
| 2-Nitrophenol | < 10.0 ug/L | 10.0 | U |
| 4-Nitrophenol | < 25.0 ug/L | 25.0 | U |
| N-Nitroso-di-n-propylamine | < 10.0 ug/L | 10.0 | U |
| N-Nitrosodiphenylamine | < 10.0 ug/L | 10.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 10.0 ug/L | 10.0 | U |
| Pentachlorophenol | < 25.0 ug/L | 25.0 | U |
| Phenanthrene | < 10.0 ug/L | 10.0 | U |
| Phenol | < 10.0 ug/L | 10.0 | U |
| Pyrene | < 10.0 ug/L | 10.0 | U |
| 1,2,4-Trichlorobenzene | < 10.0 ug/L | 10.0 | U |
| 2,4,5-Trichlorophenol | < 25.0 ug/L | 25.0 | U |
| 2,4,6-Trichlorophenol | < 10.0 ug/L | 10.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C2

Summary of Surface-Water Quality Data

Dissolved Metals

Surface-Water Quality Data Collected on October 2-3, 1991
Dissolved Metals

SAMPLE: SW-18
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.1360 mg/L | 0.2000 | 0.0430 | A |
| Antimony, dissolved | < 0.0346 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, dissolved | < 0.0050 mg/L | 0.0100 | 0.0010 | U |
| Barium, dissolved | 0.0268 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 30.7000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, dissolved | 0.0156 mg/L | 0.0100 | 0.0080 | A |
| Cobalt, dissolved | 0.0074 mg/L | 0.0500 | 0.0050 | A |
| Copper, dissolved | 0.0067 mg/L | 0.0250 | 0.0040 | J |
| Iron, dissolved | 0.3610 mg/L | 0.1000 | 0.0100 | A |
| Lead, dissolved | < 0.0010 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, dissolved | 5.5700 mg/L | 5.0000 | 0.0730 | A |
| Manganese, dissolved | 0.7530 mg/L | 0.0150 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, dissolved | 0.1080 mg/L | 0.0400 | 0.0130 | A |
| Potassium, dissolved | 4.9400 mg/L | 5.0000 | 1.0090 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, dissolved | 107.0000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, dissolved | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, dissolved | 0.0238 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Dissolved Metals

SAMPLE: SW-19
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0430 mg/L | 0.2000 | 0.0430 | U |
| Antimony, dissolved | < 0.0240 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, dissolved | < 0.0050 mg/L | 0.0100 | 0.0010 | UJ |
| Barium, dissolved | 0.0258 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 22.0000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, dissolved | < 0.0080 mg/L | 0.0100 | 0.0080 | U |
| Cobalt, dissolved | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, dissolved | 0.0084 mg/L | 0.0250 | 0.0040 | A |
| Iron, dissolved | 0.4210 mg/L | 0.1000 | 0.0100 | A |
| Lead, dissolved | 0.0019 mg/L | 0.0030 | 0.0010 | J |
| Magnesium, dissolved | 3.8700 mg/L | 5.0000 | 0.0730 | A |
| Manganese, dissolved | 0.0406 mg/L | 0.0150 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, dissolved | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, dissolved | 3.9300 mg/L | 5.0000 | 1.0090 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, dissolved | 36.3000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, dissolved | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, dissolved | 0.0173 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Dissolved Metals

SAMPLE: **SW-19 - Field Replicate**
DATE: **10/02/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.1080 mg/L | 0.2000 | 0.0430 | A |
| Antimony, dissolved | < 0.0240 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, dissolved | < 0.0050 mg/L | 0.0100 | 0.0010 | UJ |
| Barium, dissolved | 0.0283 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 22.4000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, dissolved | < 0.0080 mg/L | 0.0100 | 0.0080 | U |
| Cobalt, dissolved | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, dissolved | 0.0101 mg/L | 0.0250 | 0.0040 | A |
| Iron, dissolved | 0.4460 mg/L | 0.1000 | 0.0100 | A |
| Lead, dissolved | 0.0022 mg/L | 0.0030 | 0.0010 | A |
| Magnesium, dissolved | 4.0100 mg/L | 5.0000 | 0.0730 | A |
| Manganese, dissolved | 0.0452 mg/L | 0.0150 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, dissolved | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, dissolved | 4.1400 mg/L | 5.0000 | 1.0090 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, dissolved | 36.1000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, dissolved | < 0.0020 mg/L | 0.0100 | 0.0020 | U |
| Vanadium, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | UJ |
| Zinc, dissolved | 0.0298 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Dissolved Metals

SAMPLE: **SW-21**
DATE: **10/03/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0430 mg/L | 0.2000 | 0.0430 | U |
| Antimony, dissolved | < 0.0262 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, dissolved | 0.0075 mg/L | 0.0100 | 0.0010 | J |
| Barium, dissolved | 0.0316 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 32.3000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, dissolved | < 0.0080 mg/L | 0.0100 | 0.0080 | U |
| Cobalt, dissolved | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, dissolved | 0.0090 mg/L | 0.0250 | 0.0040 | A |
| Iron, dissolved | 0.6890 mg/L | 0.1000 | 0.0100 | A |
| Lead, dissolved | < 0.0016 mg/L | 0.0030 | 0.0010 | J |
| Magnesium, dissolved | 5.5600 mg/L | 5.0000 | 0.0730 | A |
| Manganese, dissolved | 0.3800 mg/L | 0.0150 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, dissolved | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, dissolved | 6.0300 mg/L | 5.0000 | 1.0090 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, dissolved | 46.8000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, dissolved | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, dissolved | 0.0890 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Dissolved Metals

SAMPLE: SW-22
DATE: 10/03/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0430 mg/L | 0.2000 | 0.0430 | U |
| Antimony, dissolved | < 0.0442 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, dissolved | 0.0065 mg/L | 0.0100 | 0.0010 | J |
| Barium, dissolved | 0.0311 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 31.3000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, dissolved | < 0.0080 mg/L | 0.0100 | 0.0080 | U |
| Cobalt, dissolved | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, dissolved | 0.0068 mg/L | 0.0250 | 0.0040 | J |
| Iron, dissolved | 0.8980 mg/L | 0.1000 | 0.0100 | A |
| Lead, dissolved | 0.0011 mg/L | 0.0030 | 0.0010 | J |
| Magnesium, dissolved | 5.3300 mg/L | 5.0000 | 0.0730 | A |
| Manganese, dissolved | 0.4600 mg/L | 0.0150 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, dissolved | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, dissolved | 4.9600 mg/L | 5.0000 | 1.0090 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0043 mg/L | 0.0100 | 0.0040 | UJ |
| Sodium, dissolved | 40.7000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, dissolved | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, dissolved | 0.1060 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Dissolved Metals

SAMPLE: **SW-23**
DATE: **10/03/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | < 0.0430 mg/L | 0.2000 | 0.0430 | U |
| Antimony, dissolved | < 0.0240 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, dissolved | 0.0090 mg/L | 0.0100 | 0.0010 | A |
| Barium, dissolved | 0.0322 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 33.1000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, dissolved | < 0.0080 mg/L | 0.0100 | 0.0080 | U |
| Cobalt, dissolved | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, dissolved | < 0.0040 mg/L | 0.0250 | 0.0040 | U |
| Iron, dissolved | 0.7490 mg/L | 0.1000 | 0.0100 | A |
| Lead, dissolved | 0.0012 mg/L | 0.0030 | 0.0010 | J |
| Magnesium, dissolved | 5.6400 mg/L | 5.0000 | 0.0730 | A |
| Manganese, dissolved | 0.5030 mg/L | 0.0150 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, dissolved | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, dissolved | 5.6100 mg/L | 5.0000 | 1.0090 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, dissolved | 42.9000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, dissolved | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, dissolved | 0.1210 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Dissolved Metals

SAMPLE: SW-24
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, dissolved | 0.0742 mg/L | 0.2000 | 0.0430 | A |
| Antimony, dissolved | < 0.0240 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, dissolved | 0.0105 mg/L | 0.0100 | 0.0010 | J |
| Barium, dissolved | 0.0243 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, dissolved | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, dissolved | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, dissolved | 30.3000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, dissolved | < 0.0080 mg/L | 0.0100 | 0.0080 | U |
| Cobalt, dissolved | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, dissolved | 0.0057 mg/L | 0.0250 | 0.0040 | J |
| Iron, dissolved | 0.7210 mg/L | 0.1000 | 0.0100 | A |
| Lead, dissolved | 0.0022 mg/L | 0.0030 | 0.0010 | A |
| Magnesium, dissolved | 5.6700 mg/L | 5.0000 | 0.0730 | A |
| Manganese, dissolved | 0.1610 mg/L | 0.0150 | 0.0020 | A |
| Mercury, dissolved | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, dissolved | 0.1260 mg/L | 0.0400 | 0.0130 | A |
| Potassium, dissolved | 3.3800 mg/L | 5.0000 | 1.0090 | A |
| Selenium, dissolved | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, dissolved | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, dissolved | 31.7000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, dissolved | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, dissolved | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, dissolved | 0.0238 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C2

Summary of Surface-Water Quality Data

Total Metals

Surface-Water Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SW-18
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 1.6400 mg/L | 0.2000 | 0.0430 | A |
| Antimony, total | < 0.0324 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, total | 0.0036 mg/L | 0.0100 | 0.0010 | A |
| Barium, total | 0.0257 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, total | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, total | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, total | 28.9000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, total | 0.1950 mg/L | 0.0100 | 0.0080 | A |
| Cobalt, total | 0.0095 mg/L | 0.0500 | 0.0050 | A |
| Copper, total | < 0.0096 mg/L | 0.0250 | 0.0040 | UJ |
| Iron, total | 1.7600 mg/L | 0.1000 | 0.0100 | J |
| Lead, total | < 0.0011 mg/L | 0.0030 | 0.0010 | UJ |
| Magnesium, total | 5.1300 mg/L | 5.0000 | 0.0730 | A |
| Manganese, total | 0.7770 mg/L | 0.0150 | 0.0020 | A |
| Mercury, total | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, total | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, total | 4.9600 mg/L | 5.0000 | 1.0090 | A |
| Selenium, total | < 0.0020 mg/L | 0.0050 | 0.0020 | UJ |
| Silver, total | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, total | 94.2000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, total | < 0.0100 mg/L | 0.0100 | 0.0020 | U |
| Vanadium, total | 0.0060 mg/L | 0.0500 | 0.0060 | A |
| Zinc, total | 0.0282 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SW-19
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 0.0755 mg/L | 0.2000 | 0.0430 | A |
| Antimony, total | < 0.0371 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, total | < 0.0010 mg/L | 0.0100 | 0.0010 | U |
| Barium, total | 0.0278 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, total | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, total | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, total | 20.4000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, total | 0.0109 mg/L | 0.0100 | 0.0080 | A |
| Cobalt, total | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, total | 0.0324 mg/L | 0.0250 | 0.0040 | A |
| Iron, total | 0.6070 mg/L | 0.1000 | 0.0100 | J |
| Lead, total | < 0.0036 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, total | 3.5500 mg/L | 5.0000 | 0.0730 | A |
| Manganese, total | 0.0485 mg/L | 0.0150 | 0.0020 | A |
| Mercury, total | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, total | 0.0135 mg/L | 0.0400 | 0.0130 | J |
| Potassium, total | 4.4200 mg/L | 5.0000 | 1.0090 | A |
| Selenium, total | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, total | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, total | 28.5000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, total | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, total | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, total | 0.0287 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Total Metals

**SAMPLE: SW-19 - Field Replicate**
**DATE: 10/02/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 0.0827 mg/L | 0.2000 | 0.0430 | A |
| Antimony, total | < 0.0240 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, total | < 0.0010 mg/L | 0.0100 | 0.0010 | U |
| Barium, total | 0.0276 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, total | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, total | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, total | 20.8000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, total | < 0.0080 mg/L | 0.0100 | 0.0080 | U |
| Cobalt, total | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, total | < 0.0111 mg/L | 0.0250 | 0.0040 | UJ |
| Iron, total | 0.6090 mg/L | 0.1000 | 0.0100 | J |
| Lead, total | < 0.0050 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, total | 3.5900 mg/L | 5.0000 | 0.0730 | A |
| Manganese, total | 0.0487 mg/L | 0.0150 | 0.0020 | A |
| Mercury, total | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, total | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, total | 3.6700 mg/L | 5.0000 | 1.0090 | A |
| Selenium, total | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, total | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, total | 29.0000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, total | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, total | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, total | 0.0288 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SW-21
DATE: 10/03/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 0.1230 mg/L | 0.2000 | 0.0430 | A |
| Antimony, total | < 0.0240 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, total | 0.0146 mg/L | 0.0100 | 0.0010 | A |
| Barium, total | 0.0318 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, total | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, total | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, total | 30.3000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, total | 0.0146 mg/L | 0.0100 | 0.0080 | A |
| Cobalt, total | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, total | < 0.0153 mg/L | 0.0250 | 0.0040 | U |
| Iron, total | 1.7000 mg/L | 0.1000 | 0.0100 | J |
| Lead, total | < 0.0043 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, total | 5.1600 mg/L | 5.0000 | 0.0730 | A |
| Manganese, total | 0.3800 mg/L | 0.0150 | 0.0020 | A |
| Mercury, total | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, total | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, total | 4.8400 mg/L | 5.0000 | 1.0090 | A |
| Selenium, total | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, total | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, total | 40.2000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, total | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, total | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, total | 0.2060 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SW-22
DATE: 10/03/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 0.0927 mg/L | 0.2000 | 0.0430 | A |
| Antimony, total | < 0.0240 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, total | 0.0131 mg/L | 0.0100 | 0.0010 | A |
| Barium, total | 0.0318 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, total | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, total | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, total | 31.7000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, total | 0.0123 mg/L | 0.0100 | 0.0080 | A |
| Cobalt, total | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, total | < 0.0154 mg/L | 0.0250 | 0.0040 | U |
| Iron, total | 2.5300 mg/L | 0.1000 | 0.0100 | J |
| Lead, total | < 0.0037 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, total | 5.2700 mg/L | 5.0000 | 0.0730 | A |
| Manganese, total | 0.4970 mg/L | 0.0150 | 0.0020 | A |
| Mercury, total | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, total | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, total | 5.2600 mg/L | 5.0000 | 1.0090 | A |
| Selenium, total | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, total | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, total | 40.7000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, total | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, total | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, total | 0.2060 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SW-23
DATE: 10/03/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 0.1030 mg/L | 0.2000 | 0.0430 | A |
| Antimony, total | 0.0306 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, total | 0.0145 mg/L | 0.0100 | 0.0010 | A |
| Barium, total | 0.0316 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, total | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, total | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, total | 31.8000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, total | 0.0109 mg/L | 0.0100 | 0.0080 | A |
| Cobalt, total | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, total | < 0.0163 mg/L | 0.0250 | 0.0040 | U |
| Iron, total | 2.3100 mg/L | 0.1000 | 0.0100 | J |
| Lead, total | < 0.0036 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, total | 5.3000 mg/L | 5.0000 | 0.0730 | A |
| Manganese, total | 0.4890 mg/L | 0.0150 | 0.0020 | A |
| Mercury, total | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, total | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, total | 5.2600 mg/L | 5.0000 | 1.0090 | A |
| Selenium, total | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, total | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, total | 40.8000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, total | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, total | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, total | 0.1930 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Surface-Water Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SW-24
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 0.0852 mg/L | 0.2000 | 0.0430 | A |
| Antimony, total | < 0.0240 mg/L | 0.0600 | 0.0240 | UJ |
| Arsenic, total | 0.0126 mg/L | 0.0100 | 0.0010 | A |
| Barium, total | 0.0248 mg/L | 0.2000 | 0.0010 | A |
| Beryllium, total | < 0.0010 mg/L | 0.0050 | 0.0010 | U |
| Cadmium, total | < 0.0030 mg/L | 0.0050 | 0.0030 | UJ |
| Calcium, total | 28.4000 mg/L | 5.0000 | 0.0410 | A |
| Chromium, total | 0.0085 mg/L | 0.0100 | 0.0080 | A |
| Cobalt, total | < 0.0050 mg/L | 0.0500 | 0.0050 | U |
| Copper, total | < 0.0106 mg/L | 0.0250 | 0.0040 | U |
| Iron, total | 1.0900 mg/L | 0.1000 | 0.0100 | J |
| Lead, total | < 0.0040 mg/L | 0.0030 | 0.0010 | U |
| Magnesium, total | 5.1800 mg/L | 5.0000 | 0.0730 | A |
| Manganese, total | 0.1700 mg/L | 0.0150 | 0.0020 | A |
| Mercury, total | < 0.2000 ug/L | 0.2000 | 0.1000 | U |
| Nickel, total | < 0.0130 mg/L | 0.0400 | 0.0130 | U |
| Potassium, total | 3.1300 mg/L | 5.0000 | 1.0090 | A |
| Selenium, total | < 0.0020 mg/L | 0.0050 | 0.0020 | U |
| Silver, total | < 0.0040 mg/L | 0.0100 | 0.0040 | U |
| Sodium, total | 23.6000 mg/L | 5.0000 | 0.0530 | A |
| Thallium, total | < 0.0020 mg/L | 0.0100 | 0.0020 | UJ |
| Vanadium, total | < 0.0060 mg/L | 0.0500 | 0.0060 | U |
| Zinc, total | 0.0469 mg/L | 0.0200 | 0.0030 | A |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C2

Summary of Surface-Water Quality Data

Miscellaneous Parameters and Field Measurements

Surface-Water Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters and Field Measurements

SAMPLE: SW-18
DATE: 10/02/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Total organic carbon | 7.50 mg/L | 1.00 | J |
| Total suspended solids | < 10.00 mg/L | 10.00 | UJ |
| Dissolved oxygen, field | 8.03 mg/L | 0.01 | F |
| Eh, field | 29.00 mvolts | 1.00 | F |
| pH, field | 5.30 s.u. | 0.01 | F |
| Specific conductance, field | 974.00 umhos/cm | 1.00 | F |
| Temperature, field | 16.80 Celsius | 0.10 | F |

NOTES: IDL- Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Ground-Water/Surface Water Investigation Plan
Phase 2 Remedial Investigation
Industri-Plex Site, Woburn, Massachusetts

Surface-Water Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters and Field Measurements

SAMPLE: **SW-19**
DATE: **10/02/91**

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Total organic carbon | 9.50 mg/L | 1.00 | J |
| Total suspended solids | < 10.00 mg/L | 10.00 | UJ |
| Dissolved oxygen, field | 7.31 mg/L | 0.01 | F |
| Eh, field | 124.00 mvolts | 1.00 | F |
| pH, field | 5.03 s.u. | 0.01 | F |
| [illegible] | 340.00 umhos/cm | 1.00 | F |

Ground-Water/Surface Water Investigation Plan
Phase 2 Remedial Investigation
Industri-Plex Site, Woburn, Massachusetts

Surface-Water Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters and Field Measurements

SAMPLE: **SW-21**
DATE: **10/03/91**

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Total organic carbon | 10.90 mg/L | 1.00 | J |
| Total suspended solids | < 10.00 mg/L | 10.00 | UJ |
| Dissolved oxygen, field | 7.41 mg/L | 0.01 | F |
| Eh, field | 147.00 mvolts | 1.00 | F |
| pH, field | 6.21 s.u. | 0.01 | F |
| Specific conductance, field | 495.00 umhos/cm | 1.00 | F |
| Temperature, field | 15.50 Celsius | 0.10 | F |

Surface-Water Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters

SAMPLE: **SW-19 - Field Replicate**
DATE: 10/02/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Total organic carbon | 9.50 mg/L | 1.00 | J |
| Total suspended solids | < 10.00 mg/L | 10.00 | UJ |

NOTES: IDL- Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Surface-Water Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters and Field Measurements

SAMPLE: **SW-21**
DATE: **10/03/91**

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Total organic carbon | 10.90 mg/L | 1.00 | J |
| Total suspended solids | < 10.00 mg/L | 10.00 | UJ |
| Dissolved oxygen, field | 7.41 mg/L | 0.01 | F |
| Eh, field | 147.00 mvolts | 1.00 | F |
| pH, field | 6.21 s.u. | 0.01 | F |
| Specific conductance, field | 495.00 umhos/cm | 1.00 | F |
| Temperature, field | 15.50 Celsius | 0.10 | F |

NOTES: IDL- Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Surface-Water Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters and Field Measurements

SAMPLE: SW-22
DATE: 10/03/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Total organic carbon | 9.50 mg/L | 1.00 | J |
| Total suspended solids | < 10.00 mg/L | 10.00 | UJ |
| Dissolved oxygen, field | 5.92 mg/L | 0.01 | F |
| Eh, field | 130.00 mvolts | 1.00 | F |
| pH, field | 4.83 s.u. | 0.01 | F |
| Specific conductance, field | 477.00 umhos/cm | 1.00 | F |
| Temperature, field | 15.90 Celsius | 0.10 | F |

NOTES: IDL- Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Surface-Water Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters and Field Measurements

SAMPLE: SW-23
DATE: 10/03/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Total organic carbon | 9.00 mg/L | 1.00 | J |
| Total suspended solids | < 10.00 mg/L | 10.00 | UJ |
| Dissolved oxygen, field | 6.32 mg/L | 0.01 | F |
| Eh, field | 140.00 mvolts | 1.00 | F |
| pH, field | 4.86 s.u. | 0.01 | F |
| Specific conductance, field | 539.00 umhos/cm | 1.00 | F |
| Temperature, field | 16.00 Celsius | 0.10 | F |

NOTES: IDL- Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Surface-Water Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters and Field Measurements

SAMPLE: SW-24
DATE: 10/02/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Total organic carbon | 7.30 mg/L | 1.00 | J |
| Total suspended solids | < 10.00 mg/L | 10.00 | UJ |
| Dissolved oxygen, field | 6.35 mg/L | 0.01 | F |
| Eh, field | 133.00 mvolts | 1.00 | F |
| pH, field | 5.07 s.u. | 0.01 | F |
| Specific conductance, field | 376.00 umhos/cm | 1.00 | F |
| Temperature, field | 20.00 Celsius | 0.10 | F |

NOTES: IDL- Instrument Detection Limit

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

# APPENDIX C3

Summary of Stream-Sediment Quality Data

# APPENDIX C3

Summary of Stream-Sediment Quality Data

Volatile Organic Compounds

Stream Sediment Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: SED-18
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 880.0 ug/kg | 140.0 | A |
| Benzene | < 140.0 ug/kg | 140.0 | U |
| Bromodichloromethane | < 140.0 ug/kg | 140.0 | U |
| Bromoform | < 140.0 ug/kg | 140.0 | U |
| Bromomethane | < 140.0 ug/kg | 140.0 | U |
| 2-Butanone | 140.0 ug/kg | 140.0 | A |
| Carbon disulfide | < 140.0 ug/kg | 140.0 | U |
| Carbon tetrachloride | < 140.0 ug/kg | 140.0 | U |
| Chlorobenzene | < 140.0 ug/kg | 140.0 | U |
| Chloroethane | < 140.0 ug/kg | 140.0 | U |
| Chloroform | < 140.0 ug/kg | 140.0 | U |
| Chloromethane | < 140.0 ug/kg | 140.0 | U |
| Dibromochloromethane | < 140.0 ug/kg | 140.0 | U |
| 1,1-Dichloroethane | < 140.0 ug/kg | 140.0 | U |
| 1,2-Dichloroethane | < 140.0 ug/kg | 140.0 | U |
| 1,1-Dichloroethene | < 140.0 ug/kg | 140.0 | U |
| 1,2-Dichloroethene, total | < 140.0 ug/kg | 140.0 | U |
| 1,2-Dichloropropane | < 140.0 ug/kg | 140.0 | U |
| cis-1,3-Dichloropropene | < 140.0 ug/kg | 140.0 | U |
| trans-1,3-Dichloropropene | < 140.0 ug/kg | 140.0 | U |
| Ethylbenzene | < 140.0 ug/kg | 140.0 | U |
| 2-Hexanone | < 140.0 ug/kg | 140.0 | U |
| Methylene chloride | < 140.0 ug/kg | 140.0 | U |
| 4-Methyl-2-pentanone | < 140.0 ug/kg | 140.0 | U |
| Styrene | < 140.0 ug/kg | 140.0 | U |
| 1,1,2,2-Tetrachloroethane | < 140.0 ug/kg | 140.0 | U |
| Tetrachloroethene | < 140.0 ug/kg | 140.0 | U |
| Toluene | < 140.0 ug/kg | 140.0 | U |
| 1,1,1-Trichloroethane | < 140.0 ug/kg | 140.0 | U |
| 1,1,2-Trichloroethane | < 140.0 ug/kg | 140.0 | U |
| Trichloroethene | < 140.0 ug/kg | 140.0 | U |
| Vinyl chloride | < 140.0 ug/kg | 140.0 | U |
| Xylenes, total | < 140.0 ug/kg | 140.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: **SED-19**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 110.0 ug/kg | 16.0 | A |
| Benzene | < 16.0 ug/kg | 16.0 | U |
| Bromodichloromethane | < 16.0 ug/kg | 16.0 | U |
| Bromoform | < 16.0 ug/kg | 16.0 | U |
| Bromomethane | < 16.0 ug/kg | 16.0 | U |
| 2-Butanone | 31.0 ug/kg | 16.0 | A |
| Carbon disulfide | < 16.0 ug/kg | 16.0 | U |
| Carbon tetrachloride | < 16.0 ug/kg | 16.0 | U |
| Chlorobenzene | < 16.0 ug/kg | 16.0 | U |
| Chloroethane | < 16.0 ug/kg | 16.0 | U |
| Chloroform | < 16.0 ug/kg | 16.0 | U |
| Chloromethane | < 16.0 ug/kg | 16.0 | U |
| Dibromochloromethane | < 16.0 ug/kg | 16.0 | U |
| 1,1-Dichloroethane | < 16.0 ug/kg | 16.0 | U |
| 1,2-Dichloroethane | < 16.0 ug/kg | 16.0 | U |
| 1,1-Dichloroethene | < 16.0 ug/kg | 16.0 | U |
| 1,2-Dichloroethene, total | < 16.0 ug/kg | 16.0 | U |
| 1,2-Dichloropropane | < 16.0 ug/kg | 16.0 | U |
| cis-1,3-Dichloropropene | < 16.0 ug/kg | 16.0 | U |
| trans-1,3-Dichloropropene | < 16.0 ug/kg | 16.0 | U |
| Ethylbenzene | < 16.0 ug/kg | 16.0 | U |
| 2-Hexanone | < 16.0 ug/kg | 16.0 | U |
| Methylene chloride | < 16.0 ug/kg | 16.0 | U |
| 4-Methyl-2-pentanone | < 16.0 ug/kg | 16.0 | U |
| Styrene | < 16.0 ug/kg | 16.0 | U |
| 1,1,2,2-Tetrachloroethane | < 16.0 ug/kg | 16.0 | U |
| Tetrachloroethene | < 16.0 ug/kg | 16.0 | U |
| Toluene | 9.0 ug/kg | 16.0 | J |
| 1,1,1-Trichloroethane | < 16.0 ug/kg | 16.0 | U |
| 1,1,2-Trichloroethane | < 16.0 ug/kg | 16.0 | U |
| Trichloroethene | < 16.0 ug/kg | 16.0 | U |
| Vinyl chloride | < 16.0 ug/kg | 16.0 | U |
| Xylenes, total | < 16.0 ug/kg | 16.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: **SED-19 - Field Replicate**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 120.0 ug/kg | 14.0 | A |
| Benzene | < 14.0 ug/kg | 14.0 | U |
| Bromodichloromethane | < 14.0 ug/kg | 14.0 | U |
| Bromoform | < 14.0 ug/kg | 14.0 | U |
| Bromomethane | < 14.0 ug/kg | 14.0 | U |
| 2-Butanone | 31.0 ug/kg | 14.0 | A |
| Carbon disulfide | < 14.0 ug/kg | 14.0 | U |
| Carbon tetrachloride | < 14.0 ug/kg | 14.0 | U |
| Chlorobenzene | < 14.0 ug/kg | 14.0 | U |
| Chloroethane | < 14.0 ug/kg | 14.0 | U |
| Chloroform | < 14.0 ug/kg | 14.0 | U |
| Chloromethane | < 14.0 ug/kg | 14.0 | U |
| Dibromochloromethane | < 14.0 ug/kg | 14.0 | U |
| 1,1-Dichloroethane | < 14.0 ug/kg | 14.0 | U |
| 1,2-Dichloroethane | < 14.0 ug/kg | 14.0 | U |
| 1,1-Dichloroethene | < 14.0 ug/kg | 14.0 | U |
| 1,2-Dichloroethene, total | 2.0 ug/kg | 14.0 | J |
| 1,2-Dichloropropane | < 14.0 ug/kg | 14.0 | U |
| cis-1,3-Dichloropropene | < 14.0 ug/kg | 14.0 | U |
| trans-1,3-Dichloropropene | < 14.0 ug/kg | 14.0 | U |
| Ethylbenzene | < 14.0 ug/kg | 14.0 | U |
| 2-Hexanone | < 14.0 ug/kg | 14.0 | U |
| Methylene chloride | < 14.0 ug/kg | 14.0 | U |
| 4-Methyl-2-pentanone | < 14.0 ug/kg | 14.0 | U |
| Styrene | < 14.0 ug/kg | 14.0 | U |
| 1,1,2,2-Tetrachloroethane | < 14.0 ug/kg | 14.0 | U |
| Tetrachloroethene | < 14.0 ug/kg | 14.0 | U |
| Toluene | 7.0 ug/kg | 14.0 | J |
| 1,1,1-Trichloroethane | < 14.0 ug/kg | 14.0 | U |
| 1,1,2-Trichloroethane | < 14.0 ug/kg | 14.0 | U |
| Trichloroethene | < 14.0 ug/kg | 14.0 | U |
| Vinyl chloride | < 14.0 ug/kg | 14.0 | U |
| Xylenes, total | < 14.0 ug/kg | 14.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: **SED-21**
DATE: **10/03/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 640.0 ug/kg | 83.0 | J |
| Benzene | < 83.0 ug/kg | 83.0 | UJ |
| Bromodichloromethane | < 83.0 ug/kg | 83.0 | UJ |
| Bromoform | < 83.0 ug/kg | 83.0 | UJ |
| Bromomethane | < 83.0 ug/kg | 83.0 | UJ |
| 2-Butanone | 170.0 ug/kg | 83.0 | J |
| Carbon disulfide | < 83.0 ug/kg | 83.0 | UJ |
| Carbon tetrachloride | < 83.0 ug/kg | 83.0 | UJ |
| Chlorobenzene | 13.0 ug/kg | 83.0 | J |
| Chloroethane | < 83.0 ug/kg | 83.0 | UJ |
| Chloroform | < 83.0 ug/kg | 83.0 | UJ |
| Chloromethane | < 83.0 ug/kg | 83.0 | UJ |
| Dibromochloromethane | < 83.0 ug/kg | 83.0 | UJ |
| 1,1-Dichloroethane | < 83.0 ug/kg | 83.0 | UJ |
| 1,2-Dichloroethane | < 83.0 ug/kg | 83.0 | UJ |
| 1,1-Dichloroethene | < 83.0 ug/kg | 83.0 | UJ |
| 1,2-Dichloroethene, total | 12.0 ug/kg | 83.0 | J |
| 1,2-Dichloropropane | < 83.0 ug/kg | 83.0 | UJ |
| cis-1,3-Dichloropropene | < 83.0 ug/kg | 83.0 | UJ |
| trans-1,3-Dichloropropene | < 83.0 ug/kg | 83.0 | UJ |
| Ethylbenzene | < 83.0 ug/kg | 83.0 | UJ |
| 2-Hexanone | < 83.0 ug/kg | 83.0 | UJ |
| Methylene chloride | < 83.0 ug/kg | 83.0 | UJ |
| 4-Methyl-2-pentanone | < 83.0 ug/kg | 83.0 | UJ |
| Styrene | < 83.0 ug/kg | 83.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 83.0 ug/kg | 83.0 | UJ |
| Tetrachloroethene | < 83.0 ug/kg | 83.0 | UJ |
| Toluene | < 83.0 ug/kg | 83.0 | UJ |
| 1,1,1-Trichloroethane | < 83.0 ug/kg | 83.0 | UJ |
| 1,1,2-Trichloroethane | < 83.0 ug/kg | 83.0 | UJ |
| Trichloroethene | < 83.0 ug/kg | 83.0 | UJ |
| Vinyl chloride | < 83.0 ug/kg | 83.0 | UJ |
| Xylenes, total | < 83.0 ug/kg | 83.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: SED-22
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 1900.0 ug/kg | 120.0 | J |
| Benzene | < 120.0 ug/kg | 120.0 | UJ |
| Bromodichloromethane | < 120.0 ug/kg | 120.0 | UJ |
| Bromoform | < 120.0 ug/kg | 120.0 | UJ |
| Bromomethane | < 120.0 ug/kg | 120.0 | UJ |
| 2-Butanone | 550.0 ug/kg | 120.0 | A |
| Carbon disulfide | < 120.0 ug/kg | 120.0 | UJ |
| Carbon tetrachloride | < 120.0 ug/kg | 120.0 | UJ |
| Chlorobenzene | < 120.0 ug/kg | 120.0 | UJ |
| Chloroethane | < 120.0 ug/kg | 120.0 | UJ |
| Chloroform | < 120.0 ug/kg | 120.0 | UJ |
| Chloromethane | < 120.0 ug/kg | 120.0 | UJ |
| Dibromochloromethane | < 120.0 ug/kg | 120.0 | UJ |
| 1,1-Dichloroethane | < 120.0 ug/kg | 120.0 | UJ |
| 1,2-Dichloroethane | < 120.0 ug/kg | 120.0 | UJ |
| 1,1-Dichloroethene | < 120.0 ug/kg | 120.0 | UJ |
| 1,2-Dichloroethene, total | < 120.0 ug/kg | 120.0 | UJ |
| 1,2-Dichloropropane | < 120.0 ug/kg | 120.0 | UJ |
| cis-1,3-Dichloropropene | < 120.0 ug/kg | 120.0 | UJ |
| trans-1,3-Dichloropropene | < 120.0 ug/kg | 120.0 | UJ |
| Ethylbenzene | 15.0 ug/kg | 120.0 | J |
| 2-Hexanone | < 120.0 ug/kg | 120.0 | UJ |
| Methylene chloride | < 120.0 ug/kg | 120.0 | U |
| 4-Methyl-2-pentanone | < 120.0 ug/kg | 120.0 | UJ |
| Styrene | < 120.0 ug/kg | 120.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 120.0 ug/kg | 120.0 | UJ |
| Tetrachloroethene | < 120.0 ug/kg | 120.0 | UJ |
| Toluene | < 120.0 ug/kg | 120.0 | UJ |
| 1,1,1-Trichloroethane | < 120.0 ug/kg | 120.0 | UJ |
| 1,1,2-Trichloroethane | < 120.0 ug/kg | 120.0 | UJ |
| Trichloroethene | < 120.0 ug/kg | 120.0 | UJ |
| Vinyl chloride | 52.0 ug/kg | 120.0 | J |
| Xylenes, total | < 120.0 ug/kg | 120.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: **SED-23**
DATE: **10/03/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 2200.0 ug/kg | 190.0 | J |
| Benzene | < 48.0 ug/kg | 48.0 | UJ |
| Bromodichloromethane | < 48.0 ug/kg | 48.0 | UJ |
| Bromoform | < 48.0 ug/kg | 48.0 | UJ |
| Bromomethane | < 48.0 ug/kg | 48.0 | UJ |
| 2-Butanone | 410.0 ug/kg | 48.0 | J |
| Carbon disulfide | < 48.0 ug/kg | 48.0 | UJ |
| Carbon tetrachloride | < 48.0 ug/kg | 48.0 | UJ |
| Chlorobenzene | < 48.0 ug/kg | 48.0 | UJ |
| Chloroethane | < 48.0 ug/kg | 48.0 | UJ |
| Chloroform | < 48.0 ug/kg | 48.0 | UJ |
| Chloromethane | < 48.0 ug/kg | 48.0 | UJ |
| Dibromochloromethane | < 48.0 ug/kg | 48.0 | UJ |
| 1,1-Dichloroethane | < 48.0 ug/kg | 48.0 | UJ |
| 1,2-Dichloroethane | < 48.0 ug/kg | 48.0 | UJ |
| 1,1-Dichloroethene | < 48.0 ug/kg | 48.0 | UJ |
| 1,2-Dichloroethene, total | 10.0 ug/kg | 48.0 | J |
| 1,2-Dichloropropane | < 48.0 ug/kg | 48.0 | UJ |
| cis-1,3-Dichloropropene | < 48.0 ug/kg | 48.0 | UJ |
| trans-1,3-Dichloropropene | < 48.0 ug/kg | 48.0 | UJ |
| Ethylbenzene | < 48.0 ug/kg | 48.0 | UJ |
| 2-Hexanone | < 48.0 ug/kg | 48.0 | UJ |
| Methylene chloride | < 48.0 ug/kg | 48.0 | U |
| 4-Methyl-2-pentanone | < 48.0 ug/kg | 48.0 | UJ |
| Styrene | < 48.0 ug/kg | 48.0 | UJ |
| 1,1,2,2-Tetrachloroethane | < 48.0 ug/kg | 48.0 | UJ |
| Tetrachloroethene | < 48.0 ug/kg | 48.0 | UJ |
| Toluene | < 48.0 ug/kg | 48.0 | UJ |
| 1,1,1-Trichloroethane | < 48.0 ug/kg | 48.0 | UJ |
| 1,1,2-Trichloroethane | < 48.0 ug/kg | 48.0 | UJ |
| Trichloroethene | < 48.0 ug/kg | 48.0 | UJ |
| Vinyl chloride | < 48.0 ug/kg | 48.0 | UJ |
| Xylenes, total | < 48.0 ug/kg | 48.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Volatile Organic Compounds

SAMPLE: SED-24
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acetone | 460.0 ug/kg | 47.0 | A |
| Benzene | < 23.0 ug/kg | 23.0 | U |
| Bromodichloromethane | < 23.0 ug/kg | 23.0 | U |
| Bromoform | < 23.0 ug/kg | 23.0 | U |
| Bromomethane | < 23.0 ug/kg | 23.0 | U |
| 2-Butanone | 120.0 ug/kg | 23.0 | A |
| Carbon disulfide | < 23.0 ug/kg | 23.0 | U |
| Carbon tetrachloride | < 23.0 ug/kg | 23.0 | U |
| Chlorobenzene | < 23.0 ug/kg | 23.0 | U |
| Chloroethane | < 23.0 ug/kg | 23.0 | U |
| Chloroform | < 23.0 ug/kg | 23.0 | U |
| Chloromethane | < 23.0 ug/kg | 23.0 | U |
| Dibromochloromethane | < 23.0 ug/kg | 23.0 | U |
| 1,1-Dichloroethane | < 23.0 ug/kg | 23.0 | U |
| 1,2-Dichloroethane | < 23.0 ug/kg | 23.0 | U |
| 1,1-Dichloroethene | < 23.0 ug/kg | 23.0 | U |
| 1,2-Dichloroethene, total | < 23.0 ug/kg | 23.0 | U |
| 1,2-Dichloropropane | < 23.0 ug/kg | 23.0 | U |
| cis-1,3-Dichloropropene | < 23.0 ug/kg | 23.0 | U |
| trans-1,3-Dichloropropene | < 23.0 ug/kg | 23.0 | U |
| Ethylbenzene | < 23.0 ug/kg | 23.0 | U |
| 2-Hexanone | < 23.0 ug/kg | 23.0 | U |
| Methylene chloride | < 23.0 ug/kg | 23.0 | U |
| 4-Methyl-2-pentanone | < 23.0 ug/kg | 23.0 | U |
| Styrene | < 23.0 ug/kg | 23.0 | U |
| 1,1,2,2-Tetrachloroethane | < 23.0 ug/kg | 23.0 | U |
| Tetrachloroethene | < 23.0 ug/kg | 23.0 | U |
| Toluene | < 23.0 ug/kg | 23.0 | U |
| 1,1,1-Trichloroethane | < 23.0 ug/kg | 23.0 | U |
| 1,1,2-Trichloroethane | < 23.0 ug/kg | 23.0 | U |
| Trichloroethene | < 23.0 ug/kg | 23.0 | U |
| Vinyl chloride | < 23.0 ug/kg | 23.0 | U |
| Xylenes, total | < 23.0 ug/kg | 23.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C3

Summary of Stream-Sediment Quality Data

Semi-Volatile Organic Compounds

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SED-18
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 45000.0 ug/kg | 45000.0 | U |
| Acenaphthylene | < 45000.0 ug/kg | 45000.0 | U |
| Anthracene | < 45000.0 ug/kg | 45000.0 | U |
| Benzo (a) anthracene | < 45000.0 ug/kg | 45000.0 | U |
| Benzo (a) pyrene | < 45000.0 ug/kg | 45000.0 | U |
| Benzo (b) fluoranthene | < 45000.0 ug/kg | 45000.0 | U |
| Benzo (g,h,i) perylene | < 45000.0 ug/kg | 45000.0 | U |
| Benzo (k) fluoranthene | < 45000.0 ug/kg | 45000.0 | U |
| Bis (2-Chloroethoxy) methane | < 45000.0 ug/kg | 45000.0 | U |
| Bis (2-Chloroethyl) ether | < 45000.0 ug/kg | 45000.0 | U |
| Bis (2-Ethylhexyl) phthalate | 2200000.0 ug/kg | 450000.0 | A |
| 4-Bromophenyl-phenylether | < 45000.0 ug/kg | 45000.0 | U |
| Butylbenzylphthalate | < 45000.0 ug/kg | 45000.0 | U |
| Carbazole | < 45000.0 ug/kg | 45000.0 | U |
| 4-Chloroaniline | < 45000.0 ug/kg | 45000.0 | U |
| 4-Chloro-3-methylphenol | < 45000.0 ug/kg | 45000.0 | U |
| 2-Chloronaphthalene | < 45000.0 ug/kg | 45000.0 | U |
| 2-Chlorophenol | < 45000.0 ug/kg | 45000.0 | U |
| 4-Chlorophenyl-phenylether | < 45000.0 ug/kg | 45000.0 | U |
| Chrysene | < 45000.0 ug/kg | 45000.0 | U |
| Dibenzo (a,h) anthracene | < 45000.0 ug/kg | 45000.0 | U |
| Dibenzofuran | < 45000.0 ug/kg | 45000.0 | U |
| 1,2-Dichlorobenzene | < 45000.0 ug/kg | 45000.0 | U |
| 1,3-Dichlorobenzene | < 45000.0 ug/kg | 45000.0 | U |
| 1,4-Dichlorobenzene | < 45000.0 ug/kg | 45000.0 | U |
| 3,3'-Dichlorobenzidine | < 45000.0 ug/kg | 45000.0 | U |
| 2,4-Dichlorophenol | < 45000.0 ug/kg | 45000.0 | U |
| Diethylphthalate | < 45000.0 ug/kg | 45000.0 | U |
| 2,4-Dimethylphenol | < 45000.0 ug/kg | 45000.0 | U |
| Dimethyl phthalate | < 45000.0 ug/kg | 45000.0 | U |
| Di-n-butylphthalate | < 45000.0 ug/kg | 45000.0 | U |
| 4,6-Dinitro-2-methylphenol | < 110000.0 ug/kg | 110000.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SED-18**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 110000.0 ug/kg | 110000.0 | U |
| 2,4-Dinitrotoluene | < 45000.0 ug/kg | 45000.0 | U |
| 2,6-Dinitrotoluene | < 45000.0 ug/kg | 45000.0 | U |
| Di-n-octyl phthalate | < 45000.0 ug/kg | 45000.0 | U |
| Fluoranthene | < 45000.0 ug/kg | 45000.0 | U |
| Fluorene | < 45000.0 ug/kg | 45000.0 | U |
| Hexachlorobenzene | < 45000.0 ug/kg | 45000.0 | U |
| Hexachlorobutadiene | < 45000.0 ug/kg | 45000.0 | U |
| Hexachlorocyclopentadiene | < 45000.0 ug/kg | 45000.0 | U |
| Hexachloroethane | < 45000.0 ug/kg | 45000.0 | U |
| Indeno (1,2,3-cd) pyrene | < 45000.0 ug/kg | 45000.0 | U |
| Isophorone | < 45000.0 ug/kg | 45000.0 | U |
| 2-Methylnaphthalene | < 45000.0 ug/kg | 45000.0 | U |
| 2-Methylphenol | < 45000.0 ug/kg | 45000.0 | U |
| 4-Methylphenol | < 45000.0 ug/kg | 45000.0 | U |
| Naphthalene | < 45000.0 ug/kg | 45000.0 | U |
| 2-Nitroaniline | < 110000.0 ug/kg | 110000.0 | U |
| 3-Nitroaniline | < 110000.0 ug/kg | 110000.0 | U |
| 4-Nitroaniline | < 110000.0 ug/kg | 110000.0 | U |
| Nitrobenzene | < 45000.0 ug/kg | 45000.0 | U |
| 2-Nitrophenol | < 45000.0 ug/kg | 45000.0 | U |
| 4-Nitrophenol | < 110000.0 ug/kg | 110000.0 | U |
| N-Nitroso-di-n-propylamine | < 45000.0 ug/kg | 45000.0 | U |
| N-Nitrosodiphenylamine | < 45000.0 ug/kg | 45000.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 45000.0 ug/kg | 45000.0 | UJ |
| Pentachlorophenol | < 110000.0 ug/kg | 110000.0 | U |
| Phenanthrene | < 45000.0 ug/kg | 45000.0 | U |
| Phenol | < 45000.0 ug/kg | 45000.0 | U |
| Pyrene | < 45000.0 ug/kg | 45000.0 | U |
| 1,2,4-Trichlorobenzene | < 45000.0 ug/kg | 45000.0 | U |
| 2,4,5-Trichlorophenol | < 110000.0 ug/kg | 110000.0 | U |
| 2,4,6-Trichlorophenol | < 45000.0 ug/kg | 45000.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SED-19
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 520.0 ug/kg | 520.0 | U |
| Acenaphthylene | < 520.0 ug/kg | 520.0 | U |
| Anthracene | 65.0 ug/kg | 520.0 | J |
| Benzo (a) anthracene | 170.0 ug/kg | 520.0 | J |
| Benzo (a) pyrene | 190.0 ug/kg | 520.0 | J |
| Benzo (b) fluoranthene | 310.0 ug/kg | 520.0 | J |
| Benzo (g,h,i) perylene | 97.0 ug/kg | 520.0 | J |
| Benzo (k) fluoranthene | 110.0 ug/kg | 520.0 | J |
| Bis (2-Chloroethoxy) methane | < 520.0 ug/kg | 520.0 | U |
| Bis (2-Chloroethyl) ether | < 520.0 ug/kg | 520.0 | U |
| Bis (2-Ethylhexyl) phthalate | < 520.0 ug/kg | 520.0 | U |
| 4-Bromophenyl-phenylether | < 520.0 ug/kg | 520.0 | U |
| Butylbenzylphthalate | < 520.0 ug/kg | 520.0 | U |
| Carbazole | < 520.0 ug/kg | 520.0 | U |
| 4-Chloroaniline | < 520.0 ug/kg | 520.0 | U |
| 4-Chloro-3-methylphenol | < 520.0 ug/kg | 520.0 | U |
| 2-Chloronaphthalene | < 520.0 ug/kg | 520.0 | U |
| 2-Chlorophenol | < 520.0 ug/kg | 520.0 | U |
| 4-Chlorophenyl-phenylether | < 520.0 ug/kg | 520.0 | U |
| Chrysene | 200.0 ug/kg | 520.0 | J |
| Dibenzo (a,h) anthracene | < 520.0 ug/kg | 520.0 | U |
| Dibenzofuran | < 520.0 ug/kg | 520.0 | U |
| 1,2-Dichlorobenzene | < 520.0 ug/kg | 520.0 | U |
| 1,3-Dichlorobenzene | < 520.0 ug/kg | 520.0 | U |
| 1,4-Dichlorobenzene | < 520.0 ug/kg | 520.0 | U |
| 3,3'-Dichlorobenzidine | < 520.0 ug/kg | 520.0 | U |
| 2,4-Dichlorophenol | < 520.0 ug/kg | 520.0 | U |
| Diethylphthalate | < 520.0 ug/kg | 520.0 | U |
| 2,4-Dimethylphenol | < 520.0 ug/kg | 520.0 | U |
| Dimethyl phthalate | < 520.0 ug/kg | 520.0 | U |
| Di-n-butylphthalate | < 520.0 ug/kg | 520.0 | U |
| 4,6-Dinitro-2-methylphenol | < 1300.0 ug/kg | 1300.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SED-19
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 1300.0 ug/kg | 1300.0 | U |
| 2,4-Dinitrotoluene | < 520.0 ug/kg | 520.0 | U |
| 2,6-Dinitrotoluene | < 520.0 ug/kg | 520.0 | U |
| Di-n-octyl phthalate | < 520.0 ug/kg | 520.0 | U |
| Fluoranthene | 440.0 ug/kg | 520.0 | J |
| Fluorene | < 520.0 ug/kg | 520.0 | U |
| Hexachlorobenzene | < 520.0 ug/kg | 520.0 | U |
| Hexachlorobutadiene | < 520.0 ug/kg | 520.0 | U |
| Hexachlorocyclopentadiene | < 520.0 ug/kg | 520.0 | U |
| Hexachloroethane | < 520.0 ug/kg | 520.0 | U |
| Indeno (1,2,3-cd) pyrene | 130.0 ug/kg | 520.0 | J |
| Isophorone | < 520.0 ug/kg | 520.0 | U |
| 2-Methylnaphthalene | < 520.0 ug/kg | 520.0 | U |
| 2-Methylphenol | < 520.0 ug/kg | 520.0 | U |
| 4-Methylphenol | 220.0 ug/kg | 520.0 | J |
| Naphthalene | < 520.0 ug/kg | 520.0 | U |
| 2-Nitroaniline | < 1300.0 ug/kg | 1300.0 | U |
| 3-Nitroaniline | < 1300.0 ug/kg | 1300.0 | U |
| 4-Nitroaniline | < 1300.0 ug/kg | 1300.0 | U |
| Nitrobenzene | < 520.0 ug/kg | 520.0 | U |
| 2-Nitrophenol | < 520.0 ug/kg | 520.0 | U |
| 4-Nitrophenol | < 1300.0 ug/kg | 1300.0 | U |
| N-Nitroso-di-n-propylamine | < 520.0 ug/kg | 520.0 | U |
| N-Nitrosodiphenylamine | < 520.0 ug/kg | 520.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 520.0 ug/kg | 520.0 | U |
| Pentachlorophenol | < 1300.0 ug/kg | 1300.0 | U |
| Phenanthrene | 250.0 ug/kg | 520.0 | J |
| Phenol | < 520.0 ug/kg | 520.0 | U |
| Pyrene | 310.0 ug/kg | 520.0 | J |
| 1,2,4-Trichlorobenzene | < 520.0 ug/kg | 520.0 | U |
| 2,4,5-Trichlorophenol | < 1300.0 ug/kg | 1300.0 | U |
| 2,4,6-Trichlorophenol | < 520.0 ug/kg | 520.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

**SAMPLE: SED-19 - Field Replicate**
**DATE: 10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 460.0 ug/kg | 460.0 | U |
| Acenaphthylene | < 460.0 ug/kg | 460.0 | U |
| Anthracene | 56.0 ug/kg | 460.0 | J |
| Benzo (a) anthracene | 170.0 ug/kg | 460.0 | J |
| Benzo (a) pyrene | 200.0 ug/kg | 460.0 | J |
| Benzo (b) fluoranthene | 310.0 ug/kg | 460.0 | J |
| Benzo (g,h,i) perylene | 92.0 ug/kg | 460.0 | J |
| Benzo (k) fluoranthene | 120.0 ug/kg | 460.0 | J |
| Bis (2-Chloroethoxy) methane | < 460.0 ug/kg | 460.0 | U |
| Bis (2-Chloroethyl) ether | < 460.0 ug/kg | 460.0 | U |
| Bis (2-Ethylhexyl) phthalate | < 460.0 ug/kg | 460.0 | U |
| 4-Bromophenyl-phenylether | < 460.0 ug/kg | 460.0 | U |
| Butylbenzylphthalate | < 460.0 ug/kg | 460.0 | U |
| Carbazole | < 460.0 ug/kg | 460.0 | U |
| 4-Chloroaniline | < 460.0 ug/kg | 460.0 | U |
| 4-Chloro-3-methylphenol | < 460.0 ug/kg | 460.0 | U |
| 2-Chloronaphthalene | < 460.0 ug/kg | 460.0 | U |
| 2-Chlorophenol | < 460.0 ug/kg | 460.0 | U |
| 4-Chlorophenyl-phenylether | < 460.0 ug/kg | 460.0 | U |
| Chrysene | 210.0 ug/kg | 460.0 | J |
| Dibenzo (a,h) anthracene | < 460.0 ug/kg | 460.0 | U |
| Dibenzofuran | < 460.0 ug/kg | 460.0 | U |
| 1,2-Dichlorobenzene | < 460.0 ug/kg | 460.0 | U |
| 1,3-Dichlorobenzene | < 460.0 ug/kg | 460.0 | U |
| 1,4-Dichlorobenzene | < 460.0 ug/kg | 460.0 | U |
| 3,3'-Dichlorobenzidine | < 460.0 ug/kg | 460.0 | U |
| 2,4-Dichlorophenol | < 460.0 ug/kg | 460.0 | U |
| Diethylphthalate | < 460.0 ug/kg | 460.0 | U |
| 2,4-Dimethylphenol | < 460.0 ug/kg | 460.0 | U |
| Dimethyl phthalate | < 460.0 ug/kg | 460.0 | U |
| Di-n-butylphthalate | < 460.0 ug/kg | 460.0 | U |
| 4,6-Dinitro-2-methylphenol | < 1100.0 ug/kg | 1100.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SED-19 - Field Replicate**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 1100.0 ug/kg | 1100.0 | U |
| 2,4-Dinitrotoluene | < 460.0 ug/kg | 460.0 | U |
| 2,6-Dinitrotoluene | < 460.0 ug/kg | 460.0 | U |
| Di-n-octyl phthalate | < 460.0 ug/kg | 460.0 | U |
| Fluoranthene | 420.0 ug/kg | 460.0 | J |
| Fluorene | < 460.0 ug/kg | 460.0 | U |
| Hexachlorobenzene | < 460.0 ug/kg | 460.0 | U |
| Hexachlorobutadiene | < 460.0 ug/kg | 460.0 | U |
| Hexachlorocyclopentadiene | < 460.0 ug/kg | 460.0 | U |
| Hexachloroethane | < 460.0 ug/kg | 460.0 | U |
| Indeno (1,2,3-cd) pyrene | 100.0 ug/kg | 460.0 | J |
| Isophorone | < 460.0 ug/kg | 460.0 | U |
| 2-Methylnaphthalene | < 460.0 ug/kg | 460.0 | U |
| 2-Methylphenol | < 460.0 ug/kg | 460.0 | U |
| 4-Methylphenol | 330.0 ug/kg | 460.0 | J |
| Naphthalene | < 460.0 ug/kg | 460.0 | U |
| 2-Nitroaniline | < 1100.0 ug/kg | 1100.0 | U |
| 3-Nitroaniline | < 1100.0 ug/kg | 1100.0 | U |
| 4-Nitroaniline | < 1100.0 ug/kg | 1100.0 | U |
| Nitrobenzene | < 460.0 ug/kg | 460.0 | U |
| 2-Nitrophenol | < 460.0 ug/kg | 460.0 | U |
| 4-Nitrophenol | < 1100.0 ug/kg | 1100.0 | U |
| N-Nitroso-di-n-propylamine | < 460.0 ug/kg | 460.0 | U |
| N-Nitrosodiphenylamine | < 460.0 ug/kg | 460.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 460.0 ug/kg | 460.0 | U |
| Pentachlorophenol | < 1100.0 ug/kg | 1100.0 | U |
| Phenanthrene | 210.0 ug/kg | 460.0 | J |
| Phenol | < 460.0 ug/kg | 460.0 | U |
| Pyrene | 310.0 ug/kg | 460.0 | J |
| 1,2,4-Trichlorobenzene | < 460.0 ug/kg | 460.0 | U |
| 2,4,5-Trichlorophenol | < 1100.0 ug/kg | 1100.0 | U |
| 2,4,6-Trichlorophenol | < 460.0 ug/kg | 460.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SED-21
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 2700.0 ug/kg | 2700.0 | UJ |
| Acenaphthylene | < 2700.0 ug/kg | 2700.0 | UJ |
| Anthracene | < 2700.0 ug/kg | 2700.0 | UJ |
| Benzo (a) anthracene | 690.0 ug/kg | 2700.0 | J |
| Benzo (a) pyrene | 1100.0 ug/kg | 2700.0 | J |
| Benzo (b) fluoranthene | 2000.0 ug/kg | 2700.0 | J |
| Benzo (g,h,i) perylene | 720.0 ug/kg | 2700.0 | J |
| Benzo (k) fluoranthene | 580.0 ug/kg | 2700.0 | J |
| Bis (2-Chloroethoxy) methane | < 2700.0 ug/kg | 2700.0 | UJ |
| Bis (2-Chloroethyl) ether | < 2700.0 ug/kg | 2700.0 | UJ |
| Bis (2-Ethylhexyl) phthalate | 16000.0 ug/kg | 2700.0 | A |
| 4-Bromophenyl-phenylether | < 2700.0 ug/kg | 2700.0 | UJ |
| Butylbenzylphthalate | < 2700.0 ug/kg | 2700.0 | UJ |
| Carbazole | < 2700.0 ug/kg | 2700.0 | UJ |
| 4-Chloroaniline | < 2700.0 ug/kg | 2700.0 | UJ |
| 4-Chloro-3-methylphenol | < 2700.0 ug/kg | 2700.0 | UJ |
| 2-Chloronaphthalene | < 2700.0 ug/kg | 2700.0 | UJ |
| 2-Chlorophenol | < 2700.0 ug/kg | 2700.0 | UJ |
| 4-Chlorophenyl-phenylether | < 2700.0 ug/kg | 2700.0 | UJ |
| Chrysene | 1100.0 ug/kg | 2700.0 | J |
| Dibenzo (a,h) anthracene | < 2700.0 ug/kg | 2700.0 | UJ |
| Dibenzofuran | < 2700.0 ug/kg | 2700.0 | UJ |
| 1,2-Dichlorobenzene | < 2700.0 ug/kg | 2700.0 | UJ |
| 1,3-Dichlorobenzene | < 2700.0 ug/kg | 2700.0 | UJ |
| 1,4-Dichlorobenzene | < 2700.0 ug/kg | 2700.0 | UJ |
| 3,3'-Dichlorobenzidine | < 2700.0 ug/kg | 2700.0 | UJ |
| 2,4-Dichlorophenol | < 2700.0 ug/kg | 2700.0 | UJ |
| Diethylphthalate | < 2700.0 ug/kg | 2700.0 | UJ |
| 2,4-Dimethylphenol | < 2700.0 ug/kg | 2700.0 | UJ |
| Dimethyl phthalate | < 2700.0 ug/kg | 2700.0 | UJ |
| Di-n-butylphthalate | < 2700.0 ug/kg | 2700.0 | UJ |
| 4,6-Dinitro-2-methylphenol | < 6600.0 ug/kg | 2700.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SED-21**
DATE: **10/03/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 6600.0 ug/kg | 2700.0 | UJ |
| 2,4-Dinitrotoluene | < 2700.0 ug/kg | 2700.0 | UJ |
| 2,6-Dinitrotoluene | < 2700.0 ug/kg | 2700.0 | UJ |
| Di-n-octyl phthalate | < 2700.0 ug/kg | 2700.0 | UJ |
| Fluoranthene | 2200.0 ug/kg | 2700.0 | J |
| Fluorene | < 2700.0 ug/kg | 2700.0 | UJ |
| Hexachlorobenzene | < 2700.0 ug/kg | 2700.0 | UJ |
| Hexachlorobutadiene | < 2700.0 ug/kg | 2700.0 | UJ |
| Hexachlorocyclopentadiene | < 2700.0 ug/kg | 2700.0 | UJ |
| Hexachloroethane | < 2700.0 ug/kg | 2700.0 | UJ |
| Indeno (1,2,3-cd) pyrene | 600.0 ug/kg | 2700.0 | J |
| Isophorone | < 2700.0 ug/kg | 2700.0 | UJ |
| 2-Methylnaphthalene | < 2700.0 ug/kg | 2700.0 | UJ |
| 2-Methylphenol | < 2700.0 ug/kg | 2700.0 | UJ |
| 4-Methylphenol | < 2700.0 ug/kg | 2700.0 | UJ |
| Naphthalene | < 2700.0 ug/kg | 2700.0 | UJ |
| 2-Nitroaniline | < 6600.0 ug/kg | 2700.0 | UJ |
| 3-Nitroaniline | < 6600.0 ug/kg | 2700.0 | UJ |
| 4-Nitroaniline | < 6600.0 ug/kg | 2700.0 | UJ |
| Nitrobenzene | < 2700.0 ug/kg | 2700.0 | UJ |
| 2-Nitrophenol | < 2700.0 ug/kg | 2700.0 | UJ |
| 4-Nitrophenol | < 6600.0 ug/kg | 2700.0 | UJ |
| N-Nitroso-di-n-propylamine | < 2700.0 ug/kg | 2700.0 | UJ |
| N-Nitrosodiphenylamine | < 2700.0 ug/kg | 2700.0 | UJ |
| 2,2'-oxybis(1-Chloropropane) | < 2700.0 ug/kg | 2700.0 | UJ |
| Pentachlorophenol | < 6600.0 ug/kg | 2700.0 | UJ |
| Phenanthrene | 620.0 ug/kg | 2700.0 | J |
| Phenol | < 2700.0 ug/kg | 2700.0 | UJ |
| Pyrene | 1600.0 ug/kg | 2700.0 | J |
| 1,2,4-Trichlorobenzene | < 2700.0 ug/kg | 2700.0 | UJ |
| 2,4,5-Trichlorophenol | < 6600.0 ug/kg | 2700.0 | UJ |
| 2,4,6-Trichlorophenol | < 2700.0 ug/kg | 2700.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SED-22
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 4100.0 ug/kg | 4100.0 | UJ |
| Acenaphthylene | < 4100.0 ug/kg | 4100.0 | UJ |
| Anthracene | < 4100.0 ug/kg | 4100.0 | UJ |
| Benzo (a) anthracene | 1900.0 ug/kg | 4100.0 | J |
| Benzo (a) pyrene | 3100.0 ug/kg | 4100.0 | J |
| Benzo (b) fluoranthene | 5300.0 ug/kg | 4100.0 | J |
| Benzo (g,h,i) perylene | 1700.0 ug/kg | 4100.0 | J |
| Benzo (k) fluoranthene | 1200.0 ug/kg | 4100.0 | J |
| Bis (2-Chloroethoxy) methane | < 4100.0 ug/kg | 4100.0 | UJ |
| Bis (2-Chloroethyl) ether | < 4100.0 ug/kg | 4100.0 | UJ |
| Bis (2-Ethylhexyl) phthalate | 10000.0 ug/kg | 4100.0 | J |
| 4-Bromophenyl-phenylether | < 4100.0 ug/kg | 4100.0 | UJ |
| Butylbenzylphthalate | < 4100.0 ug/kg | 4100.0 | UJ |
| Carbazole | < 4100.0 ug/kg | 4100.0 | UJ |
| 4-Chloroaniline | < 4100.0 ug/kg | 4100.0 | UJ |
| 4-Chloro-3-methylphenol | < 4100.0 ug/kg | 4100.0 | UJ |
| 2-Chloronaphthalene | < 4100.0 ug/kg | 4100.0 | UJ |
| 2-Chlorophenol | < 4100.0 ug/kg | 4100.0 | UJ |
| 4-Chlorophenyl-phenylether | < 4100.0 ug/kg | 4100.0 | UJ |
| Chrysene | 2600.0 ug/kg | 4100.0 | J |
| Dibenzo (a,h) anthracene | 460.0 ug/kg | 4100.0 | J |
| Dibenzofuran | < 4100.0 ug/kg | 4100.0 | UJ |
| 1,2-Dichlorobenzene | < 4100.0 ug/kg | 4100.0 | UJ |
| 1,3-Dichlorobenzene | < 4100.0 ug/kg | 4100.0 | UJ |
| 1,4-Dichlorobenzene | < 4100.0 ug/kg | 4100.0 | UJ |
| 3,3'-Dichlorobenzidine | < 4100.0 ug/kg | 4100.0 | UJ |
| 2,4-Dichlorophenol | < 4100.0 ug/kg | 4100.0 | UJ |
| Diethylphthalate | < 4100.0 ug/kg | 4100.0 | UJ |
| 2,4-Dimethylphenol | < 4100.0 ug/kg | 4100.0 | UJ |
| Dimethyl phthalate | < 4100.0 ug/kg | 4100.0 | UJ |
| Di-n-butylphthalate | < 4100.0 ug/kg | 4100.0 | UJ |
| 4,6-Dinitro-2-methylphenol | < 10000.0 ug/kg | 4100.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SED-22**
DATE: **10/03/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 10000.0 ug/kg | 10000.0 | UJ |
| 2,4-Dinitrotoluene | < 4100.0 ug/kg | 4100.0 | UJ |
| 2,6-Dinitrotoluene | < 4100.0 ug/kg | 4100.0 | UJ |
| Di-n-octyl phthalate | < 4100.0 ug/kg | 4100.0 | UJ |
| Fluoranthene | 5100.0 ug/kg | 4100.0 | J |
| Fluorene | < 4100.0 ug/kg | 4100.0 | UJ |
| Hexachlorobenzene | < 4100.0 ug/kg | 4100.0 | UJ |
| Hexachlorobutadiene | < 4100.0 ug/kg | 4100.0 | UJ |
| Hexachlorocyclopentadiene | < 4100.0 ug/kg | 4100.0 | UJ |
| Hexachloroethane | < 4100.0 ug/kg | 4100.0 | UJ |
| Indeno (1,2,3-cd) pyrene | 1500.0 ug/kg | 4100.0 | J |
| Isophorone | < 4100.0 ug/kg | 4100.0 | UJ |
| 2-Methylnaphthalene | < 4100.0 ug/kg | 4100.0 | UJ |
| 2-Methylphenol | < 4100.0 ug/kg | 4100.0 | UJ |
| 4-Methylphenol | < 4100.0 ug/kg | 4100.0 | UJ |
| Naphthalene | < 4100.0 ug/kg | 4100.0 | UJ |
| 2-Nitroaniline | < 10000.0 ug/kg | 10000.0 | UJ |
| 3-Nitroaniline | < 10000.0 ug/kg | 10000.0 | UJ |
| 4-Nitroaniline | < 10000.0 ug/kg | 10000.0 | UJ |
| Nitrobenzene | < 4100.0 ug/kg | 4100.0 | UJ |
| 2-Nitrophenol | < 4100.0 ug/kg | 4100.0 | UJ |
| 4-Nitrophenol | < 10000.0 ug/kg | 10000.0 | UJ |
| N-Nitroso-di-n-propylamine | < 4100.0 ug/kg | 4100.0 | UJ |
| N-Nitrosodiphenylamine | < 4100.0 ug/kg | 4100.0 | UJ |
| 2,2'-oxybis(1-Chloropropane) | < 4100.0 ug/kg | 4100.0 | UJ |
| Pentachlorophenol | < 10000.0 ug/kg | 10000.0 | UJ |
| Phenanthrene | 1500.0 ug/kg | 4100.0 | J |
| Phenol | < 4100.0 ug/kg | 4100.0 | UJ |
| Pyrene | 4100.0 ug/kg | 4100.0 | J |
| 1,2,4-Trichlorobenzene | < 4100.0 ug/kg | 4100.0 | UJ |
| 2,4,5-Trichlorophenol | < 10000.0 ug/kg | 10000.0 | UJ |
| 2,4,6-Trichlorophenol | < 4100.0 ug/kg | 4100.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SED-23
DATE: 10/03/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 1600.0 ug/kg | 1600.0 | UJ |
| Acenaphthylene | < 1600.0 ug/kg | 1600.0 | UJ |
| Anthracene | 240.0 ug/kg | 1600.0 | J |
| Benzo (a) anthracene | 780.0 ug/kg | 1600.0 | J |
| Benzo (a) pyrene | 1200.0 ug/kg | 1600.0 | J |
| Benzo (b) fluoranthene | 2000.0 ug/kg | 1600.0 | J |
| Benzo (g,h,i) perylene | 560.0 ug/kg | 1600.0 | J |
| Benzo (k) fluoranthene | 720.0 ug/kg | 1600.0 | J |
| Bis (2-Chloroethoxy) methane | < 1600.0 ug/kg | 1600.0 | UJ |
| Bis (2-Chloroethyl) ether | < 1600.0 ug/kg | 1600.0 | UJ |
| Bis (2-Ethylhexyl) phthalate | 2800.0 ug/kg | 1600.0 | A |
| 4-Bromophenyl-phenylether | < 1600.0 ug/kg | 1600.0 | UJ |
| Butylbenzylphthalate | < 1600.0 ug/kg | 1600.0 | UJ |
| Carbazole | < 1600.0 ug/kg | 1600.0 | UJ |
| 4-Chloroaniline | < 1600.0 ug/kg | 1600.0 | UJ |
| 4-Chloro-3-methylphenol | < 1600.0 ug/kg | 1600.0 | UJ |
| 2-Chloronaphthalene | < 1600.0 ug/kg | 1600.0 | UJ |
| 2-Chlorophenol | < 1600.0 ug/kg | 1600.0 | UJ |
| 4-Chlorophenyl-phenylether | < 1600.0 ug/kg | 1600.0 | UJ |
| Chrysene | 1200.0 ug/kg | 1600.0 | J |
| Dibenzo (a,h) anthracene | 170.0 ug/kg | 1600.0 | J |
| Dibenzofuran | < 1600.0 ug/kg | 1600.0 | UJ |
| 1,2-Dichlorobenzene | < 1600.0 ug/kg | 1600.0 | UJ |
| 1,3-Dichlorobenzene | < 1600.0 ug/kg | 1600.0 | UJ |
| 1,4-Dichlorobenzene | < 1600.0 ug/kg | 1600.0 | UJ |
| 3,3'-Dichlorobenzidine | < 1600.0 ug/kg | 1600.0 | UJ |
| 2,4-Dichlorophenol | < 1600.0 ug/kg | 1600.0 | UJ |
| Diethylphthalate | < 1600.0 ug/kg | 1600.0 | UJ |
| 2,4-Dimethylphenol | < 1600.0 ug/kg | 1600.0 | UJ |
| Dimethyl phthalate | < 1600.0 ug/kg | 1600.0 | UJ |
| Di-n-butylphthalate | < 1600.0 ug/kg | 1600.0 | UJ |
| 4,6-Dinitro-2-methylphenol | < 3800.0 ug/kg | 3800.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SED-23**
DATE: **10/03/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 3800.0 ug/kg | 3800.0 | UJ |
| 2,4-Dinitrotoluene | < 1600.0 ug/kg | 1600.0 | UJ |
| 2,6-Dinitrotoluene | < 1600.0 ug/kg | 1600.0 | UJ |
| Di-n-octyl phthalate | < 1600.0 ug/kg | 1600.0 | UJ |
| Fluoranthene | 2700.0 ug/kg | 1600.0 | A |
| Fluorene | < 1600.0 ug/kg | 1600.0 | UJ |
| Hexachlorobenzene | < 1600.0 ug/kg | 1600.0 | UJ |
| Hexachlorobutadiene | < 1600.0 ug/kg | 1600.0 | UJ |
| Hexachlorocyclopentadiene | < 1600.0 ug/kg | 1600.0 | UJ |
| Hexachloroethane | < 1600.0 ug/kg | 1600.0 | UJ |
| Indeno (1,2,3-cd) pyrene | 530.0 ug/kg | 1600.0 | J |
| Isophorone | < 1600.0 ug/kg | 1600.0 | UJ |
| 2-Methylnaphthalene | < 1600.0 ug/kg | 1600.0 | UJ |
| 2-Methylphenol | < 1600.0 ug/kg | 1600.0 | UJ |
| 4-Methylphenol | < 1600.0 ug/kg | 1600.0 | UJ |
| Naphthalene | < 1600.0 ug/kg | 1600.0 | UJ |
| 2-Nitroaniline | < 3800.0 ug/kg | 3800.0 | UJ |
| 3-Nitroaniline | < 3800.0 ug/kg | 3800.0 | UJ |
| 4-Nitroaniline | < 3800.0 ug/kg | 3800.0 | UJ |
| Nitrobenzene | < 1600.0 ug/kg | 1600.0 | UJ |
| 2-Nitrophenol | < 1600.0 ug/kg | 1600.0 | UJ |
| 4-Nitrophenol | < 3800.0 ug/kg | 3800.0 | UJ |
| N-Nitroso-di-n-propylamine | < 1600.0 ug/kg | 1600.0 | UJ |
| N-Nitrosodiphenylamine | 680.0 ug/kg | 1600.0 | J |
| 2,2'-oxybis(1-Chloropropane) | < 1600.0 ug/kg | 1600.0 | UJ |
| Pentachlorophenol | < 3800.0 ug/kg | 3800.0 | UJ |
| Phenanthrene | 890.0 ug/kg | 1600.0 | J |
| Phenol | < 1600.0 ug/kg | 1600.0 | UJ |
| Pyrene | 2100.0 ug/kg | 1600.0 | A |
| 1,2,4-Trichlorobenzene | < 1600.0 ug/kg | 1600.0 | UJ |
| 2,4,5-Trichlorophenol | < 3800.0 ug/kg | 3800.0 | UJ |
| 2,4,6-Trichlorophenol | < 1600.0 ug/kg | 1600.0 | UJ |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: SED-24
DATE: 10/02/91

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| Acenaphthene | < 7700.0 ug/kg | 7700.0 | U |
| Acenaphthylene | < 7700.0 ug/kg | 7700.0 | U |
| Anthracene | 1200.0 ug/kg | 7700.0 | J |
| Benzo (a) anthracene | 5800.0 ug/kg | 7700.0 | J |
| Benzo (a) pyrene | 8700.0 ug/kg | 7700.0 | A |
| Benzo (b) fluoranthene | 15000.0 ug/kg | 7700.0 | A |
| Benzo (g,h,i) perylene | 5700.0 ug/kg | 7700.0 | J |
| Benzo (k) fluoranthene | 4900.0 ug/kg | 7700.0 | J |
| Bis (2-Chloroethoxy) methane | < 7700.0 ug/kg | 7700.0 | U |
| Bis (2-Chloroethyl) ether | < 7700.0 ug/kg | 7700.0 | U |
| Bis (2-Ethylhexyl) phthalate | 4400.0 ug/kg | 7700.0 | J |
| 4-Bromophenyl-phenylether | < 7700.0 ug/kg | 7700.0 | U |
| Butylbenzylphthalate | < 7700.0 ug/kg | 7700.0 | U |
| Carbazole | 1500.0 ug/kg | 7700.0 | J |
| 4-Chloroaniline | < 7700.0 ug/kg | 7700.0 | U |
| 4-Chloro-3-methylphenol | < 7700.0 ug/kg | 7700.0 | U |
| 2-Chloronaphthalene | < 7700.0 ug/kg | 7700.0 | U |
| 2-Chlorophenol | < 7700.0 ug/kg | 7700.0 | U |
| 4-Chlorophenyl-phenylether | < 7700.0 ug/kg | 7700.0 | U |
| Chrysene | 8900.0 ug/kg | 7700.0 | A |
| Dibenzo (a,h) anthracene | 2100.0 ug/kg | 7700.0 | J |
| Dibenzofuran | < 7700.0 ug/kg | 7700.0 | U |
| 1,2-Dichlorobenzene | < 7700.0 ug/kg | 7700.0 | U |
| 1,3-Dichlorobenzene | < 7700.0 ug/kg | 7700.0 | U |
| 1,4-Dichlorobenzene | < 7700.0 ug/kg | 7700.0 | U |
| 3,3'-Dichlorobenzidine | < 7700.0 ug/kg | 7700.0 | U |
| 2,4-Dichlorophenol | < 7700.0 ug/kg | 7700.0 | U |
| Diethylphthalate | < 7700.0 ug/kg | 7700.0 | U |
| 2,4-Dimethylphenol | < 7700.0 ug/kg | 7700.0 | U |
| Dimethyl phthalate | < 7700.0 ug/kg | 7700.0 | U |
| Di-n-butylphthalate | < 7700.0 ug/kg | 7700.0 | U |
| 4,6-Dinitro-2-methylphenol | < 7700.0 ug/kg | 19000.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Semi-Volatile Organic Compounds

SAMPLE: **SED-24**
DATE: **10/02/91**

| COMPOUND | CONCENTRATION | CRQL | VALID CODE |
|---|---|---|---|
| 2,4-Dinitrophenol | < 7700.0 ug/kg | 19000.0 | U |
| 2,4-Dinitrotoluene | < 7700.0 ug/kg | 7700.0 | U |
| 2,6-Dinitrotoluene | < 7700.0 ug/kg | 7700.0 | U |
| Di-n-octyl phthalate | < 7700.0 ug/kg | 7700.0 | U |
| Fluoranthene | 19000.0 ug/kg | 19000.0 | A |
| Fluorene | < 7700.0 ug/kg | 7700.0 | U |
| Hexachlorobenzene | < 7700.0 ug/kg | 7700.0 | U |
| Hexachlorobutadiene | < 7700.0 ug/kg | 7700.0 | U |
| Hexachlorocyclopentadiene | < 7700.0 ug/kg | 7700.0 | U |
| Hexachloroethane | < 7700.0 ug/kg | 7700.0 | U |
| Indeno (1,2,3-cd) pyrene | 6100.0 ug/kg | 7700.0 | J |
| Isophorone | < 7700.0 ug/kg | 7700.0 | U |
| 2-Methylnaphthalene | < 7700.0 ug/kg | 7700.0 | U |
| 2-Methylphenol | < 7700.0 ug/kg | 7700.0 | U |
| 4-Methylphenol | < 7700.0 ug/kg | 7700.0 | U |
| Naphthalene | < 7700.0 ug/kg | 7700.0 | U |
| 2-Nitroaniline | < 7700.0 ug/kg | 19000.0 | U |
| 3-Nitroaniline | < 7700.0 ug/kg | 19000.0 | U |
| 4-Nitroaniline | < 7700.0 ug/kg | 19000.0 | U |
| Nitrobenzene | < 7700.0 ug/kg | 7700.0 | U |
| 2-Nitrophenol | < 7700.0 ug/kg | 7700.0 | U |
| 4-Nitrophenol | < 7700.0 ug/kg | 19000.0 | U |
| N-Nitroso-di-n-propylamine | < 7700.0 ug/kg | 7700.0 | U |
| N-Nitrosodiphenylamine | < 7700.0 ug/kg | 7700.0 | U |
| 2,2'-oxybis(1-Chloropropane) | < 7700.0 ug/kg | 7700.0 | U |
| Pentachlorophenol | < 7700.0 ug/kg | 19000.0 | U |
| Phenanthrene | 8000.0 ug/kg | 7700.0 | A |
| Phenol | < 7700.0 ug/kg | 7700.0 | U |
| Pyrene | 13000.0 ug/kg | 7700.0 | A |
| 1,2,4-Trichlorobenzene | < 7700.0 ug/kg | 7700.0 | U |
| 2,4,5-Trichlorophenol | < 7700.0 ug/kg | 19000.0 | U |
| 2,4,6-Trichlorophenol | < 7700.0 ug/kg | 7700.0 | U |

NOTES: CRQL-Contract Required Quantitation Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C3

Summary of Stream Sediment Quality Data

Total Metals

Stream Sediment Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SED-18
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 16600.00 mg/kg | 108.00 | 23.20 | J |
| Antimony, total | 20.40 mg/kg | 32.40 | 13.00 | R |
| Arsenic, total | 80.00 mg/kg | 5.40 | 2.70 | A |
| Barium, total | 38.40 mg/kg | 108.00 | 0.54 | A |
| Beryllium, total | 2.30 mg/kg | 2.70 | 0.54 | A |
| Cadmium, total | 1.60 mg/kg | 2.70 | 1.60 | J |
| Calcium, total | 3000.00 mg/kg | 2703.00 | 22.20 | A |
| Chromium, total | 1530.00 mg/kg | 5.40 | 4.30 | J |
| Cobalt, total | 13.40 mg/kg | 27.00 | 2.70 | A |
| Copper, total | 34.80 mg/kg | 13.50 | 2.20 | J |
| Iron, total | 33900.00 mg/kg | 54.10 | 5.40 | J |
| Lead, total | 46.50 mg/kg | 1.60 | 5.40 | J |
| Magnesium, total | 1100.00 mg/kg | 2703.00 | 39.50 | A |
| Manganese, total | 216.00 mg/kg | 8.10 | 1.10 | J |
| Mercury, total | < 0.27 mg/kg | 0.27 | 0.27 | U |
| Nickel, total | 21.70 mg/kg | 21.60 | 7.00 | A |
| Potassium, total | < 302.00 mg/kg | 2703.00 | 545.00 | UJ |
| Selenium, total | < 1.10 mg/kg | 2.70 | 1.10 | UJ |
| Silver, total | < 3.20 mg/kg | 5.40 | 3.20 | UJ |
| Sodium, total | < 28.10 mg/kg | 2703.00 | 28.60 | UJ |
| Thallium, total | < 1.60 mg/kg | 5.40 | 1.10 | UJ |
| Vanadium, total | 27.40 mg/kg | 27.00 | 3.20 | A |
| Zinc, total | 175.00 mg/kg | 10.80 | 1.60 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes: A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SED-19
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 2880.00 mg/kg | 63.40 | 13.60 | J |
| Antimony, total | 8.80 mg/kg | 19.00 | 8.80 | UJ |
| Arsenic, total | 4.10 mg/kg | 3.20 | 0.32 | A |
| Barium, total | 13.40 mg/kg | 63.40 | 0.32 | A |
| Beryllium, total | < 0.32 mg/kg | 1.60 | 0.32 | UJ |
| Cadmium, total | < 0.63 mg/kg | 1.60 | 0.95 | UJ |
| Calcium, total | 889.00 mg/kg | 1585.00 | 13.00 | A |
| Chromium, total | 24.90 mg/kg | 3.20 | 2.50 | J |
| Cobalt, total | 2.40 mg/kg | 15.80 | 1.60 | A |
| Copper, total | 13.00 mg/kg | 7.90 | 1.30 | J |
| Iron, total | 4710.00 mg/kg | 31.70 | 3.20 | J |
| Lead, total | 25.30 mg/kg | 1.00 | 3.20 | J |
| Magnesium, total | 959.00 mg/kg | 1585.00 | 23.10 | A |
| Manganese, total | 108.00 mg/kg | 4.80 | 0.63 | J |
| Mercury, total | < 0.16 mg/kg | 0.16 | 0.16 | U |
| Nickel, total | 6.80 mg/kg | 12.70 | 4.10 | A |
| Potassium, total | 580.00 mg/kg | 1585.00 | 320.00 | A |
| Selenium, total | < 0.63 mg/kg | 1.60 | 0.63 | UJ |
| Silver, total | < 1.30 mg/kg | 3.20 | 1.30 | U |
| Sodium, total | < 130.00 mg/kg | 1585.00 | 130.00 | U |
| Thallium, total | < 0.95 mg/kg | 3.20 | 0.63 | UJ |
| Vanadium, total | 7.60 mg/kg | 15.80 | 1.90 | A |
| Zinc, total | < 46.00 mg/kg | 6.30 | 46.00 | UJ |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes: A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: **SED-19 - Field Replicate**
DATE: **10/02/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 3160.00 mg/kg | 55.90 | 12.00 | J |
| Antimony, total | < 7.60 mg/kg | 16.80 | 7.60 | UJ |
| Arsenic, total | 3.00 mg/kg | 2.80 | 0.28 | A |
| Barium, total | 18.50 mg/kg | 55.90 | 0.28 | A |
| Beryllium, total | < 0.28 mg/kg | 1.40 | 0.28 | UJ |
| Cadmium, total | < 0.56 mg/kg | 1.40 | 0.84 | UJ |
| Calcium, total | 1550.00 mg/kg | 1397.00 | 11.50 | A |
| Chromium, total | 30.10 mg/kg | 2.80 | 2.20 | J |
| Cobalt, total | 1.70 mg/kg | 14.00 | 1.40 | A |
| Copper, total | 20.20 mg/kg | 7.00 | 1.10 | J |
| Iron, total | 4500.00 mg/kg | 27.90 | 2.80 | J |
| Lead, total | 26.10 mg/kg | 0.84 | 0.56 | J |
| Magnesium, total | 830.00 mg/kg | 1397.00 | 20.40 | A |
| Manganese, total | 189.00 mg/kg | 4.20 | 0.56 | J |
| Mercury, total | < 0.14 mg/kg | 0.14 | 0.14 | U |
| Nickel, total | 6.90 mg/kg | 11.20 | 3.60 | A |
| Potassium, total | 273.00 mg/kg | 1397.00 | 282.00 | A |
| Selenium, total | < 0.56 mg/kg | 1.40 | 0.56 | UJ |
| Silver, total | < 0.84 mg/kg | 2.80 | 1.10 | UJ |
| Sodium, total | < 14.50 mg/kg | 1397.00 | 14.80 | UJ |
| Thallium, total | < 0.84 mg/kg | 2.80 | 0.56 | UJ |
| Vanadium, total | 8.00 mg/kg | 14.00 | 1.70 | A |
| Zinc, total | 55.80 mg/kg | 5.60 | 0.84 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes: A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: **SED-21**
DATE: **10/03/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 8840.00 mg/kg | 331.00 | 71.10 | J |
| Antimony, total | < 38.00 mg/kg | 99.20 | 39.70 | UJ |
| Arsenic, total | 607.00 mg/kg | 16.50 | 8.30 | J |
| Barium, total | 63.30 mg/kg | 331.00 | 1.70 | J |
| Beryllium, total | < 1.70 mg/kg | 8.30 | 1.65 | UJ |
| Cadmium, total | 26.80 mg/kg | 8.30 | 5.00 | J |
| Calcium, total | 6350.00 mg/kg | 8264.00 | 67.80 | J |
| Chromium, total | 441.00 mg/kg | 16.50 | 13.20 | J |
| Cobalt, total | 52.10 mg/kg | 82.60 | 8.30 | J |
| Copper, total | 650.00 mg/kg | 41.30 | 6.60 | J |
| Iron, total | 97500.00 mg/kg | 165.30 | 16.50 | J |
| Lead, total | 294.00 mg/kg | 5.00 | 16.50 | J |
| Magnesium, total | 1490.00 mg/kg | 8264.00 | 121.00 | J |
| Manganese, total | 1820.00 mg/kg | 24.80 | 3.30 | J |
| Mercury, total | 0.91 mg/kg | 0.83 | 0.83 | J |
| Nickel, total | 42.60 mg/kg | 66.10 | 21.50 | J |
| Potassium, total | < 1670.00 mg/kg | 8264.00 | 1668.00 | UJ |
| Selenium, total | 3.60 mg/kg | 8.30 | 3.30 | J |
| Silver, total | < 7.40 mg/kg | 16.50 | 7.40 | UJ |
| Sodium, total | 96.90 mg/kg | 8264.00 | 87.60 | R |
| Thallium, total | 3.00 mg/kg | 16.50 | 3.30 | UJ |
| Vanadium, total | 36.00 mg/kg | 82.60 | 9.90 | J |
| Zinc, total | 5730.00 mg/kg | 33.10 | 5.00 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes: A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SED-22
DATE: 10/03/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 19900.00 mg/kg | 494.00 | 106.20 | J |
| Antimony, total | 98.60 mg/kg | 148.00 | 59.30 | R |
| Arsenic, total | 1380.00 mg/kg | 24.70 | 12.30 | J |
| Barium, total | 282.00 mg/kg | 494.00 | 2.50 | J |
| Beryllium, total | 2.90 mg/kg | 12.30 | 2.47 | J |
| Cadmium, total | 77.40 mg/kg | 12.30 | 7.40 | J |
| Calcium, total | 16700.00 mg/kg | 12346.00 | 101.20 | J |
| Chromium, total | 1040.00 mg/kg | 24.70 | 19.80 | J |
| Cobalt, total | 121.00 mg/kg | 123.00 | 12.30 | J |
| Copper, total | 1100.00 mg/kg | 61.70 | 9.90 | J |
| Iron, total | 376000.00 mg/kg | 247.00 | 24.70 | J |
| Lead, total | 452.00 mg/kg | 7.40 | 24.70 | J |
| Magnesium, total | 2900.00 mg/kg | 12346.00 | 180.00 | J |
| Manganese, total | 7220.00 mg/kg | 37.00 | 4.90 | J |
| Mercury, total | 2.40 mg/kg | 1.20 | 1.20 | J |
| Nickel, total | 88.10 mg/kg | 98.80 | 32.10 | J |
| Potassium, total | < 2490.00 mg/kg | 12346.00 | 2491.00 | UJ |
| Selenium, total | 7.20 mg/kg | 12.30 | 4.90 | J |
| Silver, total | 15.30 mg/kg | 24.70 | 15.30 | UJ |
| Sodium, total | 1580.00 mg/kg | 12346.00 | 131.00 | R |
| Thallium, total | 3.20 mg/kg | 24.70 | 4.90 | UJ |
| Vanadium, total | 96.90 mg/kg | 123.00 | 14.80 | J |
| Zinc, total | 17900.00 mg/kg | 49.40 | 7.40 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes: A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: **SED-23**
DATE: **10/03/91**

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 24500.00 mg/kg | 191.00 | 41.10 | J |
| Antimony, total | 44.50 mg/kg | 57.40 | 23.00 | R |
| Arsenic, total | 791.00 mg/kg | 9.60 | 19.10 | J |
| Barium, total | 91.60 mg/kg | 191.00 | 1.00 | J |
| Beryllium, total | 1.60 mg/kg | 4.80 | 0.96 | J |
| Cadmium, total | 32.50 mg/kg | 4.80 | 2.90 | J |
| Calcium, total | 5660.00 mg/kg | 4785.00 | 39.20 | J |
| Chromium, total | 2180.00 mg/kg | 9.60 | 7.70 | J |
| Cobalt, total | 39.00 mg/kg | 47.80 | 4.80 | J |
| Copper, total | 2450.00 mg/kg | 23.90 | 3.80 | J |
| Iron, total | 69400.00 mg/kg | 95.70 | 9.60 | J |
| Lead, total | 348.00 mg/kg | 2.90 | 9.60 | J |
| Magnesium, total | 1270.00 mg/kg | 4785.00 | 69.90 | J |
| Manganese, total | 854.00 mg/kg | 14.40 | 1.90 | J |
| Mercury, total | 5.70 mg/kg | 0.48 | 0.48 | J |
| Nickel, total | 34.20 mg/kg | 38.30 | 12.40 | J |
| Potassium, total | 978.00 mg/kg | 4785.00 | 966.00 | J |
| Selenium, total | 8.10 mg/kg | 4.80 | 1.90 | J |
| Silver, total | < 5.50 mg/kg | 9.60 | 5.50 | UJ |
| Sodium, total | 222.00 mg/kg | 4785.00 | 51.00 | R |
| Thallium, total | < 0.96 mg/kg | 9.60 | 1.90 | UJ |
| Vanadium, total | 48.60 mg/kg | 47.80 | 5.70 | J |
| Zinc, total | 5630.00 mg/kg | 19.10 | 2.90 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes: A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

Stream Sediment Quality Data Collected on October 2-3, 1991
Total Metals

SAMPLE: SED-24
DATE: 10/02/91

| ANALYTE | CONCENTRATION | CRDL | IDL | VALID CODE |
|---|---|---|---|---|
| Aluminum, total | 8000.00 mg/kg | 93.20 | 20.00 | J |
| Antimony, total | < 18.50 mg/kg | 28.00 | 18.50 | UJ |
| Arsenic, total | 91.50 mg/kg | 4.70 | 2.30 | A |
| Barium, total | 41.90 mg/kg | 93.20 | 0.47 | A |
| Beryllium, total | 0.63 mg/kg | 2.30 | 0.47 | A |
| Cadmium, total | 4.20 mg/kg | 2.30 | 1.40 | J |
| Calcium, total | 3080.00 mg/kg | 2331.00 | 19.10 | A |
| Chromium, total | 116.00 mg/kg | 4.70 | 3.70 | J |
| Cobalt, total | 8.30 mg/kg | 23.30 | 2.30 | A |
| Copper, total | 112.00 mg/kg | 11.70 | 1.90 | J |
| Iron, total | 17600.00 mg/kg | 46.60 | 4.70 | J |
| Lead, total | 108.00 mg/kg | 1.40 | 4.70 | J |
| Magnesium, total | 2400.00 mg/kg | 2331.00 | 34.00 | A |
| Manganese, total | 229.00 mg/kg | 7.00 | 0.93 | J |
| Mercury, total | 2.40 mg/kg | 0.23 | 0.23 | A |
| Nickel, total | 16.30 mg/kg | 18.60 | 6.10 | A |
| Potassium, total | 1090.00 mg/kg | 2331.00 | 470.00 | A |
| Selenium, total | 1.00 mg/kg | 2.30 | 0.93 | J |
| Silver, total | < 6.70 mg/kg | 4.70 | 6.70 | UJ |
| Sodium, total | < 33.50 mg/kg | 2331.00 | 33.50 | UJ |
| Thallium, total | < 1.40 mg/kg | 4.70 | 0.93 | UJ |
| Vanadium, total | 32.20 mg/kg | 23.30 | 2.80 | A |
| Zinc, total | 387.00 mg/kg | 9.30 | 1.40 | J |

NOTES: CRDL-Contract Required Detection Limit
IDL -Instrument Detection Limit
Sample concentrations are reported on a dry weight basis.

Valid Codes: A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.

# APPENDIX C3

Summary of Stream-Sediment Quality Data

Miscellaneous Parameters

Stream-Sediment Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters

SAMPLE: SED-18
DATE: 10/02/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Ammonia as N | 162.00 mg/kg | 16.20 | J |
| Sulfide, total | < 1.40 mg/kg | 1.40 | UJ |
| Total organic carbon | 8045.00 mg/kg | 2.70 | J |
| Eh, laboratory | -192.00 mv | 0.00 | J |
| Percent solids | 37.00 percent | 0.00 | A |
| pH, laboratory | 6.90 s.u. | 0.01 | A |

NOTES: IDL- Instrument Detection Limit
Sample concentrations are reported on a dry weight basis, where applicable.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Stream-Sediment Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters

SAMPLE: SED-19
DATE: 10/02/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Ammonia as N | 60.00 mg/kg | 9.80 | J |
| Sulfide, total | < 0.79 mg/kg | 0.79 | UJ |
| Total organic carbon | 3580.00 mg/kg | 1.60 | J |
| Eh, laboratory | -153.00 mv | 0.00 | J |
| Percent solids | 63.10 percent | 0.00 | A |
| pH, laboratory | 6.30 s.u. | 0.01 | A |

NOTES: IDL- Instrument Detection Limit
Sample concentrations are reported on a dry weight basis, where applicable.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Stream-Sediment Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters

**SAMPLE: SED-19 - Field Replicate**
**DATE: 10/02/91**

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Ammonia as N | 52.90 mg/kg | 8.50 | J |
| Sulfide, total | < 0.70 mg/kg | 0.70 | UJ |
| Total organic carbon | 3238.00 mg/kg | 1.40 | J |
| Eh, laboratory | -217.00 mv | 0.00 | J |
| Percent solids | 71.60 percent | 0.00 | A |
| pH, laboratory | 5.50 s.u. | 0.01 | A |

NOTES: IDL- Instrument Detection Limit
Sample concentrations are reported on a dry weight basis, where applicable.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Stream-Sediment Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters

SAMPLE: **SED-21**
DATE: **10/03/91**

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Ammonia as N | 661.00 mg/kg | 49.70 | J |
| Sulfide, total | < 4.10 mg/kg | 4.10 | UJ |
| Total organic carbon | 22465.00 mg/kg | 8.30 | J |
| Eh, laboratory | -269.00 mv | 0.00 | J |
| Percent solids | 12.10 percent | 0.00 | A |
| pH, laboratory | 6.90 s.u. | 0.01 | J |

NOTES: IDL- Instrument Detection Limit
Sample concentrations are reported on a dry weight basis, where applicable.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Stream-Sediment Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters

SAMPLE: SED-22
DATE: 10/03/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Ammonia as N | 1050.00 mg/kg | 76.50 | J |
| Sulfide, total | < 6.20 mg/kg | 6.20 | UJ |
| Total organic carbon | 22465.00 mg/kg | 1.20 | J |
| Eh, laboratory | -233.00 mv | 0.00 | J |
| Percent solids | 8.10 percent | 0.00 | A |
| pH, laboratory | 6.50 s.u. | 0.01 | J |

NOTES: IDL- Instrument Detection Limit
Sample concentrations are reported on a dry weight basis, where applicable.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Stream-Sediment Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters

SAMPLE: SED-23
DATE: 10/03/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Ammonia as N | 434.00 mg/kg | 26.60 | J |
| Sulfide, total | < 2.40 mg/kg | 2.40 | UJ |
| Total organic carbon | 63893.00 mg/kg | 4.80 | J |
| Eh, laboratory | -191.00 mv | 0.00 | J |
| Percent solids | 20.90 percent | 0.00 | A |
| pH, laboratory | 6.90 s.u. | 0.01 | J |

NOTES: IDL- Instrument Detection Limit
Sample concentrations are reported on a dry weight basis, where applicable.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

Stream-Sediment Quality Data Collected on October 2-3, 1991
Miscellaneous Parameters

SAMPLE: SED-24
DATE: 10/02/91

| PARAMETER | VALUE | IDL | CODE |
|---|---|---|---|
| Ammonia as N | 216.00 mg/kg | 14.00 | J |
| Sulfide, total | < 1.20 mg/kg | 1.20 | UJ |
| Total organic carbon | 20689.00 mg/kg | 2.30 | J |
| Eh, laboratory | -33.00 mv | 0.00 | J |
| Percent solids | 42.90 percent | 0.00 | A |
| pH, laboratory | 5.60 s.u. | 0.01 | A |

NOTES: IDL- Instrument Detection Limit
Sample concentrations are reported on a dry weight basis, where applicable.

Valid Codes:
A = Quantitative Value.
J = Estimated Value.
R = Unusable Value.
U = Value not detected; numerical value is quantitation limit.
UJ = Value not detected; numerical value is estimated quantitation limit.
F = Field Measurement

# APPENDIX C4

Sediment Bioassay: Statistical Analysis

AMHERST SEDIMENT C. TENTENS-SURVIVAL
File: ASCTS.1 Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

| INTERVAL | <-1.5 | -1.5 to <-0.5 | -0.5 to 0.5 | >0.5 to 1.5 | >1.5 |
|---|---|---|---|---|---|
| EXPECTED | 0.938 | 3.388 | 5.348 | 3.388 | 0.938 |
| OBSERVED | 0 | 6 | 2 | 6 | 0 |

Calculated Chi-Square goodness of fit test statistic = 7.9994
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

TITLE: AMHERST SEDIMENT C. TENTENS-SURVIVAL
FILE: ASCTS.1
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 7

| GRP | IDENTIFICATION | REP | VALUE | TRANS VALUE |
|---|---|---|---|---|
| 1 | LAB CONTROL | 1 | 24.0000 | 24.0000 |
| 1 | LAB CONTROL | 2 | 27.0000 | 27.0000 |
| 2 | 1 (SW-18) | 1 | 0.0000 | 0.0000 |
| 2 | 1 (SW-18) | 2 | 0.0000 | 0.0000 |
| 3 | 2 (SW-19) | 1 | 19.0000 | 19.0000 |
| 3 | 2 (SW-19) | 2 | 27.0000 | 27.0000 |
| 4 | 3 (SW-21) | 1 | 28.0000 | 28.0000 |
| 4 | 3 (SW-21) | 2 | 26.0000 | 26.0000 |
| 5 | 4 (SW-22) | 1 | 25.0000 | 25.0000 |
| 5 | 4 (SW-22) | 2 | 29.0000 | 29.0000 |
| 6 | 5 (SW-23) | 1 | 25.0000 | 25.0000 |
| 6 | 5 (SW-23) | 2 | 23.0000 | 23.0000 |
| 7 | 6 (SW-24) | 1 | 28.0000 | 28.0000 |
| 7 | 6 (SW-24) | 2 | 23.0000 | 23.0000 |

AMHERST SEDIMENT C. TENTENS-SURVIVAL
File: ASCTS.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

| GRP | IDENTIFICATION | N | MIN | MAX | MEAN |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 2 | 24.000 | 27.000 | 25.500 |
| 2 | 1 (SW-18) | 2 | 0.000 | 0.000 | 0.000 |
| 3 | 2 (SW-19) | 2 | 19.000 | 27.000 | 23.000 |
| 4 | 3 (SW-21) | 2 | 26.000 | 28.000 | 27.000 |
| 5 | 4 (SW-22) | 2 | 25.000 | 29.000 | 27.000 |
| 6 | 5 (SW-23) | 2 | 23.000 | 25.000 | 24.000 |
| 7 | 6 (SW-24) | 2 | 23.000 | 28.000 | 25.500 |

AMHERST SEDIMENT C. TENTENS-SURVIVAL
File: ASCTS.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

| GRP | IDENTIFICATION | VARIANCE | SD | SEM |
|---|---|---|---|---|
| 1 | LAB CONTROL | 4.500 | 2.121 | 1.500 |
| 2 | 1 (SW-18) | 0.000 | 0.000 | 0.000 |
| 3 | 2 (SW-19) | 32.000 | 5.657 | 4.000 |
| 4 | 3 (SW-21) | 2.000 | 1.414 | 1.000 |
| 5 | 4 (SW-22) | 8.000 | 2.828 | 2.000 |
| 6 | 5 (SW-23) | 2.000 | 1.414 | 1.000 |
| 7 | 6 (SW-24) | 12.500 | 3.536 | 2.500 |

AMHERST SEDIMENT C. TENTENS-SURVIVAL
File: ASCTS.1 Transform: NO TRANSFORMATION

ANOVA TABLE

| SOURCE | DF | SS | MS | F |
|---|---|---|---|---|
| Between | 6 | 1125.857 | 187.643 | 21.534 |
| Within (Error) | 7 | 61.000 | 8.714 | |
| Total | 13 | 1186.857 | | |

Critical F value = 3.87 (0.05,6,7)
Since F > Critical F REJECT Ho:All groups equal

AMHERST SEDIMENT C. TENTENS-SURVIVAL
File: ASCTS.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | TRANSFORMED MEAN | MEAN CALCULATED IN ORIGINAL UNITS | T STAT | SIG |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 25.500 | 25.500 | | |
| 2 | 1 (SW-18) | 0.000 | 0.000 | 8.638 | * |
| 3 | 2 (SW-19) | 23.000 | 23.000 | 0.847 | |
| 4 | 3 (SW-21) | 27.000 | 27.000 | -0.508 | |
| 5 | 4 (SW-22) | 27.000 | 27.000 | -0.508 | |
| 6 | 5 (SW-23) | 24.000 | 24.000 | 0.508 | |
| 7 | 6 (SW-24) | 25.500 | 25.500 | 0.000 | |

Bonferroni T table value = 3.13 (1 Tailed Value, P=0.05, df=7,6)

AMHERST SEDIMENT C. TENTENS-SURVIVAL
File: ASCTS.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | NUM OF REPS | Minimum Sig Diff (IN ORIG. UNITS) | % of CONTROL | DIFFERENCE FROM CONTROL |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 2 | | | |
| 2 | 1 (SW-18) | 2 | 9.234 | 36.2 | 25.500 |
| 3 | 2 (SW-19) | 2 | 9.234 | 36.2 | 2.500 |
| 4 | 3 (SW-21) | 2 | 9.234 | 36.2 | -1.500 |
| 5 | 4 (SW-22) | 2 | 9.234 | 36.2 | -1.500 |
| 6 | 5 (SW-23) | 2 | 9.234 | 36.2 | 1.500 |
| 7 | 6 (SW-24) | 2 | 9.234 | 36.2 | 0.000 |

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

| INTERVAL | <-1.5 | -1.5 to <-0.5 | -0.5 to 0.5 | >0.5 to 1.5 | >1.5 |
|---|---|---|---|---|---|
| EXPECTED | 20.368 | 73.568 | 116.128 | 73.568 | 20.368 |
| OBSERVED | 18 | 73 | 117 | 74 | 22 |

Calculated Chi-Square goodness of fit test statistic = 0.4195
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

---

Calculated H statistic (max Var/min Var) = 2.73
Closest, conservative, Table H statistic = 3.6 (alpha = 0.01)

| | | | | |
|---|---|---|---|---|
| Used for Table H ==> | R (# groups) = | 6, | df (# reps-1) = | 30 |
| Actual values ==> | R (# groups) = | 6, | df (# avg reps-1) = (average df used) | 49.67 |

---

Data PASS homogeneity test. Continue analysis.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

TITLE: AMHERST SEDIMENT C. TENTENS-LENGTH
FILE: ASCTL.1
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 6

| GRP | IDENTIFICATION | REP | VALUE | TRANS VALUE |
|---|---|---|---|---|
| 1 | LAB CONTROL | 1 | 20.9000 | 20.9000 |
| 1 | LAB CONTROL | 2 | 17.6000 | 17.6000 |
| 1 | LAB CONTROL | 3 | 18.5000 | 18.5000 |
| 1 | LAB CONTROL | 4 | 18.5500 | 18.5500 |
| 1 | LAB CONTROL | 5 | 19.5000 | 19.5000 |
| 1 | LAB CONTROL | 6 | 19.3500 | 19.3500 |
| 1 | LAB CONTROL | 7 | 17.4000 | 17.4000 |
| 1 | LAB CONTROL | 8 | 16.8500 | 16.8500 |
| 1 | LAB CONTROL | 9 | 19.1000 | 19.1000 |
| 1 | LAB CONTROL | 10 | 22.1500 | 22.1500 |
| 1 | LAB CONTROL | 11 | 22.2000 | 22.2000 |
| 1 | LAB CONTROL | 12 | 16.8500 | 16.8500 |
| 1 | LAB CONTROL | 13 | 15.8000 | 15.8000 |
| 1 | LAB CONTROL | 14 | 21.1500 | 21.1500 |
| 1 | LAB CONTROL | 15 | 18.1000 | 18.1000 |
| 1 | LAB CONTROL | 16 | 21.0500 | 21.0500 |
| 1 | LAB CONTROL | 17 | 21.2500 | 21.2500 |
| 1 | LAB CONTROL | 18 | 21.4000 | 21.4000 |
| 1 | LAB CONTROL | 19 | 17.4500 | 17.4500 |
| 1 | LAB CONTROL | 20 | 16.3500 | 16.3500 |
| 1 | LAB CONTROL | 21 | 18.3000 | 18.3000 |
| 1 | LAB CONTROL | 22 | 18.0000 | 18.0000 |
| 1 | LAB CONTROL | 23 | 19.8000 | 19.8000 |
| 1 | LAB CONTROL | 24 | 16.7500 | 16.7500 |
| 1 | LAB CONTROL | 25 | 22.1000 | 22.1000 |
| 1 | LAB CONTROL | 26 | 19.3500 | 19.3500 |
| 1 | LAB CONTROL | 27 | 23.1500 | 23.1500 |
| 1 | LAB CONTROL | 28 | 21.2500 | 21.2500 |
| 1 | LAB CONTROL | 29 | 21.0000 | 21.0000 |
| 1 | LAB CONTROL | 30 | 15.8000 | 15.8000 |
| 1 | LAB CONTROL | 31 | 21.6500 | 21.6500 |
| 1 | LAB CONTROL | 32 | 21.1500 | 21.1500 |
| 1 | LAB CONTROL | 33 | 21.5000 | 21.5000 |
| 1 | LAB CONTROL | 34 | 23.4500 | 23.4500 |
| 1 | LAB CONTROL | 35 | 16.9000 | 16.9000 |
| 1 | LAB CONTROL | 36 | 19.1000 | 19.1000 |
| 1 | LAB CONTROL | 37 | 14.9000 | 14.9000 |
| 1 | LAB CONTROL | 38 | 17.4000 | 17.4000 |
| 1 | LAB CONTROL | 39 | 16.2000 | 16.2000 |
| 1 | LAB CONTROL | 40 | 20.5500 | 20.5500 |
| 1 | LAB CONTROL | 41 | 22.1000 | 22.1000 |
| 1 | LAB CONTROL | 42 | 16.5000 | 16.5000 |
| 1 | LAB CONTROL | 43 | 16.3500 | 16.3500 |
| 1 | LAB CONTROL | 44 | 21.1000 | 21.1000 |
| 1 | LAB CONTROL | 45 | 21.0000 | 21.0000 |
| 1 | LAB CONTROL | 46 | 20.3000 | 20.3000 |
| 1 | LAB CONTROL | 47 | 18.0000 | 18.0000 |
| 1 | LAB CONTROL | 48 | 19.8500 | 19.8500 |
| 1 | LAB CONTROL | 49 | 21.0000 | 21.0000 |

| | | | | |
|---|---|---|---|---|
| 1 | LAB CONTROL | 50 | 21.2500 | 21.2500 |
| 1 | LAB CONTROL | 51 | 20.4000 | 20.4000 |
| 2 | 2 (SW-19) | 1 | 26.1000 | 26.1000 |
| 2 | 2 (SW-19) | 2 | 19.9000 | 19.9000 |
| 2 | 2 (SW-19) | 3 | 17.5000 | 17.5000 |
| 2 | 2 (SW-19) | 4 | 25.3000 | 25.3000 |
| 2 | 2 (SW-19) | 5 | 17.3000 | 17.3000 |
| 2 | 2 (SW-19) | 6 | 17.0000 | 17.0000 |
| 2 | 2 (SW-19) | 7 | 23.6000 | 23.6000 |
| 2 | 2 (SW-19) | 8 | 17.9000 | 17.9000 |
| 2 | 2 (SW-19) | 9 | 18.7000 | 18.7000 |
| 2 | 2 (SW-19) | 10 | 13.8000 | 13.8000 |
| 2 | 2 (SW-19) | 11 | 13.4000 | 13.4000 |
| 2 | 2 (SW-19) | 12 | 18.2000 | 18.2000 |
| 2 | 2 (SW-19) | 13 | 12.4000 | 12.4000 |
| 2 | 2 (SW-19) | 14 | 15.0000 | 15.0000 |
| 2 | 2 (SW-19) | 15 | 15.2000 | 15.2000 |
| 2 | 2 (SW-19) | 16 | 14.0000 | 14.0000 |
| 2 | 2 (SW-19) | 17 | 17.0000 | 17.0000 |
| 2 | 2 (SW-19) | 18 | 16.2000 | 16.2000 |
| 2 | 2 (SW-19) | 19 | 16.9000 | 16.9000 |
| 2 | 2 (SW-19) | 20 | 20.3000 | 20.3000 |
| 2 | 2 (SW-19) | 21 | 19.6000 | 19.6000 |
| 2 | 2 (SW-19) | 22 | 21.1000 | 21.1000 |
| 2 | 2 (SW-19) | 23 | 21.5000 | 21.5000 |
| 2 | 2 (SW-19) | 24 | 18.3000 | 18.3000 |
| 2 | 2 (SW-19) | 25 | 20.3000 | 20.3000 |
| 2 | 2 (SW-19) | 26 | 19.2000 | 19.2000 |
| 2 | 2 (SW-19) | 27 | 24.7000 | 24.7000 |
| 2 | 2 (SW-19) | 28 | 25.2000 | 25.2000 |
| 2 | 2 (SW-19) | 29 | 22.8000 | 22.8000 |
| 2 | 2 (SW-19) | 30 | 16.6000 | 16.6000 |
| 2 | 2 (SW-19) | 31 | 14.5000 | 14.5000 |
| 2 | 2 (SW-19) | 32 | 20.5500 | 20.5500 |
| 2 | 2 (SW-19) | 33 | 16.7500 | 16.7500 |
| 2 | 2 (SW-19) | 34 | 14.8000 | 14.8000 |
| 2 | 2 (SW-19) | 35 | 13.7500 | 13.7500 |
| 2 | 2 (SW-19) | 36 | 16.1000 | 16.1000 |
| 2 | 2 (SW-19) | 37 | 13.6000 | 13.6000 |
| 2 | 2 (SW-19) | 38 | 25.0500 | 25.0500 |
| 2 | 2 (SW-19) | 39 | 16.7500 | 16.7500 |
| 2 | 2 (SW-19) | 40 | 19.3000 | 19.3000 |
| 2 | 2 (SW-19) | 41 | 20.9000 | 20.9000 |
| 2 | 2 (SW-19) | 42 | 16.5000 | 16.5000 |
| 2 | 2 (SW-19) | 43 | 16.5500 | 16.5500 |
| 2 | 2 (SW-19) | 44 | 19.3000 | 19.3000 |
| 2 | 2 (SW-19) | 45 | 17.1500 | 17.1500 |
| 2 | 2 (SW-19) | 46 | 13.6000 | 13.6000 |
| 3 | 3 (SW-21) | 1 | 21.1000 | 21.1000 |
| 3 | 3 (SW-21) | 2 | 19.3000 | 19.3000 |
| 3 | 3 (SW-21) | 3 | 18.7500 | 18.7500 |
| 3 | 3 (SW-21) | 4 | 20.2000 | 20.2000 |
| 3 | 3 (SW-21) | 5 | 18.6000 | 18.6000 |
| 3 | 3 (SW-21) | 6 | 16.7500 | 16.7500 |
| 3 | 3 (SW-21) | 7 | 19.6500 | 19.6500 |
| 3 | 3 (SW-21) | 8 | 17.4500 | 17.4500 |
| 3 | 3 (SW-21) | 9 | 13.6000 | 13.6000 |
| 3 | 3 (SW-21) | 10 | 25.5000 | 25.5000 |
| 3 | 3 (SW-21) | 11 | 18.1000 | 18.1000 |
| 3 | 3 (SW-21) | 12 | 22.6500 | 22.6500 |

| | | | | | |
|---|---|---|---|---|---|
| 3 | 3 | (SW-21) | 13 | 25.7000 | 25.7000 |
| 3 | 3 | (SW-21) | 14 | 16.5000 | 16.5000 |
| 3 | 3 | (SW-21) | 15 | 18.1000 | 18.1000 |
| 3 | 3 | (SW-21) | 16 | 17.8000 | 17.8000 |
| 3 | 3 | (SW-21) | 17 | 20.5500 | 20.5500 |
| 3 | 3 | (SW-21) | 18 | 14.7000 | 14.7000 |
| 3 | 3 | (SW-21) | 19 | 16.1000 | 16.1000 |
| 3 | 3 | (SW-21) | 20 | 13.6500 | 13.6500 |
| 3 | 3 | (SW-21) | 21 | 24.2000 | 24.2000 |
| 3 | 3 | (SW-21) | 22 | 23.6000 | 23.6000 |
| 3 | 3 | (SW-21) | 23 | 24.2000 | 24.2000 |
| 3 | 3 | (SW-21) | 24 | 24.4000 | 24.4000 |
| 3 | 3 | (SW-21) | 25 | 21.8000 | 21.8000 |
| 3 | 3 | (SW-21) | 26 | 16.5000 | 16.5000 |
| 3 | 3 | (SW-21) | 27 | 18.6500 | 18.6500 |
| 3 | 3 | (SW-21) | 28 | 14.3000 | 14.3000 |
| 3 | 3 | (SW-21) | 29 | 25.0000 | 25.0000 |
| 3 | 3 | (SW-21) | 30 | 18.1000 | 18.1000 |
| 3 | 3 | (SW-21) | 31 | 23.0000 | 23.0000 |
| 3 | 3 | (SW-21) | 32 | 19.0000 | 19.0000 |
| 3 | 3 | (SW-21) | 33 | 25.7000 | 25.7000 |
| 3 | 3 | (SW-21) | 34 | 25.7000 | 25.7000 |
| 3 | 3 | (SW-21) | 35 | 24.2000 | 24.2000 |
| 3 | 3 | (SW-21) | 36 | 22.6000 | 22.6000 |
| 3 | 3 | (SW-21) | 37 | 16.5000 | 16.5000 |
| 3 | 3 | (SW-21) | 38 | 20.9000 | 20.9000 |
| 3 | 3 | (SW-21) | 39 | 23.8000 | 23.8000 |
| 3 | 3 | (SW-21) | 40 | 20.5500 | 20.5500 |
| 3 | 3 | (SW-21) | 41 | 18.6000 | 18.6000 |
| 3 | 3 | (SW-21) | 42 | 21.0000 | 21.0000 |
| 3 | 3 | (SW-21) | 43 | 25.6000 | 25.6000 |
| 3 | 3 | (SW-21) | 44 | 25.0500 | 25.0500 |
| 3 | 3 | (SW-21) | 45 | 16.7500 | 16.7500 |
| 3 | 3 | (SW-21) | 46 | 19.3000 | 19.3000 |
| 3 | 3 | (SW-21) | 47 | 18.6000 | 18.6000 |
| 3 | 3 | (SW-21) | 48 | 18.1000 | 18.1000 |
| 3 | 3 | (SW-21) | 49 | 14.8000 | 14.8000 |
| 3 | 3 | (SW-21) | 50 | 17.7000 | 17.7000 |
| 3 | 3 | (SW-21) | 51 | 23.8000 | 23.8000 |
| 3 | 3 | (SW-21) | 52 | 17.1500 | 17.1500 |
| 3 | 3 | (SW-21) | 53 | 16.1000 | 16.1000 |
| 3 | 3 | (SW-21) | 54 | 13.6000 | 13.6000 |
| 4 | 4 | (SW-22) | 1 | 24.8500 | 24.8500 |
| 4 | 4 | (SW-22) | 2 | 26.0000 | 26.0000 |
| 4 | 4 | (SW-22) | 3 | 13.1000 | 13.1000 |
| 4 | 4 | (SW-22) | 4 | 22.0000 | 22.0000 |
| 4 | 4 | (SW-22) | 5 | 18.0500 | 18.0500 |
| 4 | 4 | (SW-22) | 6 | 23.9000 | 23.9000 |
| 4 | 4 | (SW-22) | 7 | 24.2000 | 24.2000 |
| 4 | 4 | (SW-22) | 8 | 24.0500 | 24.0500 |
| 4 | 4 | (SW-22) | 9 | 20.3500 | 20.3500 |
| 4 | 4 | (SW-22) | 10 | 22.0000 | 22.0000 |
| 4 | 4 | (SW-22) | 11 | 26.0000 | 26.0000 |
| 4 | 4 | (SW-22) | 12 | 24.7000 | 24.7000 |
| 4 | 4 | (SW-22) | 13 | 19.4000 | 19.4000 |
| 4 | 4 | (SW-22) | 14 | 20.9000 | 20.9000 |
| 4 | 4 | (SW-22) | 15 | 23.6000 | 23.6000 |
| 4 | 4 | (SW-22) | 16 | 27.5000 | 27.5000 |
| 4 | 4 | (SW-22) | 17 | 25.8500 | 25.8500 |
| 4 | 4 | (SW-22) | 18 | 19.0000 | 19.0000 |

| | | | | |
|---|---|---|---|---|
| 4 | 4 (SW-22) | 19 | 17.8000 | 17.8000 |
| 4 | 4 (SW-22) | 20 | 25.8000 | 25.8000 |
| 4 | 4 (SW-22) | 21 | 21.6000 | 21.6000 |
| 4 | 4 (SW-22) | 22 | 11.6500 | 11.6500 |
| 4 | 4 (SW-22) | 23 | 20.0000 | 20.0000 |
| 4 | 4 (SW-22) | 24 | 21.6000 | 21.6000 |
| 4 | 4 (SW-22) | 25 | 12.0500 | 12.0500 |
| 4 | 4 (SW-22) | 26 | 23.7000 | 23.7000 |
| 4 | 4 (SW-22) | 27 | 23.2000 | 23.2000 |
| 4 | 4 (SW-22) | 28 | 17.4000 | 17.4000 |
| 4 | 4 (SW-22) | 29 | 21.2000 | 21.2000 |
| 4 | 4 (SW-22) | 30 | 19.0500 | 19.0500 |
| 4 | 4 (SW-22) | 31 | 20.0000 | 20.0000 |
| 4 | 4 (SW-22) | 32 | 19.9000 | 19.9000 |
| 4 | 4 (SW-22) | 33 | 16.8500 | 16.8500 |
| 4 | 4 (SW-22) | 34 | 21.0000 | 21.0000 |
| 4 | 4 (SW-22) | 35 | 17.2000 | 17.2000 |
| 4 | 4 (SW-22) | 36 | 18.2500 | 18.2500 |
| 4 | 4 (SW-22) | 37 | 24.0000 | 24.0000 |
| 4 | 4 (SW-22) | 38 | 18.4000 | 18.4000 |
| 4 | 4 (SW-22) | 39 | 21.0000 | 21.0000 |
| 4 | 4 (SW-22) | 40 | 21.5000 | 21.5000 |
| 4 | 4 (SW-22) | 41 | 20.3500 | 20.3500 |
| 4 | 4 (SW-22) | 42 | 15.7000 | 15.7000 |
| 4 | 4 (SW-22) | 43 | 19.7000 | 19.7000 |
| 4 | 4 (SW-22) | 44 | 22.0000 | 22.0000 |
| 4 | 4 (SW-22) | 45 | 23.2000 | 23.2000 |
| 4 | 4 (SW-22) | 46 | 20.7000 | 20.7000 |
| 4 | 4 (SW-22) | 47 | 21.3500 | 21.3500 |
| 4 | 4 (SW-22) | 48 | 20.4000 | 20.4000 |
| 4 | 4 (SW-22) | 49 | 19.5000 | 19.5000 |
| 4 | 4 (SW-22) | 50 | 14.0000 | 14.0000 |
| 4 | 4 (SW-22) | 51 | 17.6000 | 17.6000 |
| 4 | 4 (SW-22) | 52 | 22.8000 | 22.8000 |
| 4 | 4 (SW-22) | 53 | 24.1000 | 24.1000 |
| 4 | 4 (SW-22) | 54 | 22.2000 | 22.2000 |
| 5 | 5 (SW-23) | 1 | 20.5000 | 20.5000 |
| 5 | 5 (SW-23) | 2 | 23.2000 | 23.2000 |
| 5 | 5 (SW-23) | 3 | 17.4000 | 17.4000 |
| 5 | 5 (SW-23) | 4 | 16.4000 | 16.4000 |
| 5 | 5 (SW-23) | 5 | 19.2000 | 19.2000 |
| 5 | 5 (SW-23) | 6 | 16.6000 | 16.6000 |
| 5 | 5 (SW-23) | 7 | 23.1000 | 23.1000 |
| 5 | 5 (SW-23) | 8 | 21.2000 | 21.2000 |
| 5 | 5 (SW-23) | 9 | 24.1000 | 24.1000 |
| 5 | 5 (SW-23) | 10 | 18.4000 | 18.4000 |
| 5 | 5 (SW-23) | 11 | 19.0000 | 19.0000 |
| 5 | 5 (SW-23) | 12 | 17.3000 | 17.3000 |
| 5 | 5 (SW-23) | 13 | 13.2500 | 13.2500 |
| 5 | 5 (SW-23) | 14 | 15.6500 | 15.6500 |
| 5 | 5 (SW-23) | 15 | 18.3000 | 18.3000 |
| 5 | 5 (SW-23) | 16 | 15.5000 | 15.5000 |
| 5 | 5 (SW-23) | 17 | 16.8000 | 16.8000 |
| 5 | 5 (SW-23) | 18 | 15.6000 | 15.6000 |
| 5 | 5 (SW-23) | 19 | 16.7000 | 16.7000 |
| 5 | 5 (SW-23) | 20 | 19.8000 | 19.8000 |
| 5 | 5 (SW-23) | 21 | 18.4000 | 18.4000 |
| 5 | 5 (SW-23) | 22 | 21.2000 | 21.2000 |
| 5 | 5 (SW-23) | 23 | 22.5500 | 22.5500 |
| 5 | 5 (SW-23) | 24 | 18.2000 | 18.2000 |

| | | | | |
|---|---|---|---|---|
| 5 | 5 | (SW-23) | 25 | 18.8000 | 18.8000 |
| 5 | 5 | (SW-23) | 26 | 18.2000 | 18.2000 |
| 5 | 5 | (SW-23) | 27 | 19.3000 | 19.3000 |
| 5 | 5 | (SW-23) | 28 | 19.0000 | 19.0000 |
| 5 | 5 | (SW-23) | 29 | 18.8500 | 18.8500 |
| 5 | 5 | (SW-23) | 30 | 17.8000 | 17.8000 |
| 5 | 5 | (SW-23) | 31 | 24.2000 | 24.2000 |
| 5 | 5 | (SW-23) | 32 | 20.0500 | 20.0500 |
| 5 | 5 | (SW-23) | 33 | 20.9000 | 20.9000 |
| 5 | 5 | (SW-23) | 34 | 23.5500 | 23.5500 |
| 5 | 5 | (SW-23) | 35 | 18.9000 | 18.9000 |
| 5 | 5 | (SW-23) | 36 | 18.9500 | 18.9500 |
| 5 | 5 | (SW-23) | 37 | 17.5000 | 17.5000 |
| 5 | 5 | (SW-23) | 38 | 22.1500 | 22.1500 |
| 5 | 5 | (SW-23) | 39 | 21.9000 | 21.9000 |
| 5 | 5 | (SW-23) | 40 | 17.4000 | 17.4000 |
| 5 | 5 | (SW-23) | 41 | 18.7000 | 18.7000 |
| 5 | 5 | (SW-23) | 42 | 16.4500 | 16.4500 |
| 5 | 5 | (SW-23) | 43 | 14.9000 | 14.9000 |
| 5 | 5 | (SW-23) | 44 | 15.6000 | 15.6000 |
| 5 | 5 | (SW-23) | 45 | 14.7000 | 14.7000 |
| 5 | 5 | (SW-23) | 46 | 12.8500 | 12.8500 |
| 5 | 5 | (SW-23) | 47 | 20.0000 | 20.0000 |
| 5 | 5 | (SW-23) | 48 | 15.1500 | 15.1500 |
| 6 | 6 | (SW-24) | 1 | 20.8000 | 20.8000 |
| 6 | 6 | (SW-24) | 2 | 21.3000 | 21.3000 |
| 6 | 6 | (SW-24) | 3 | 18.0000 | 18.0000 |
| 6 | 6 | (SW-24) | 4 | 21.6000 | 21.6000 |
| 6 | 6 | (SW-24) | 5 | 21.5000 | 21.5000 |
| 6 | 6 | (SW-24) | 6 | 19.6000 | 19.6000 |
| 6 | 6 | (SW-24) | 7 | 18.0000 | 18.0000 |
| 6 | 6 | (SW-24) | 8 | 22.3000 | 22.3000 |
| 6 | 6 | (SW-24) | 9 | 20.0000 | 20.0000 |
| 6 | 6 | (SW-24) | 10 | 18.5000 | 18.5000 |
| 6 | 6 | (SW-24) | 11 | 19.1500 | 19.1500 |
| 6 | 6 | (SW-24) | 12 | 22.5000 | 22.5000 |
| 6 | 6 | (SW-24) | 13 | 16.7500 | 16.7500 |
| 6 | 6 | (SW-24) | 14 | 17.5000 | 17.5000 |
| 6 | 6 | (SW-24) | 15 | 19.3000 | 19.3000 |
| 6 | 6 | (SW-24) | 16 | 19.4500 | 19.4500 |
| 6 | 6 | (SW-24) | 17 | 17.4000 | 17.4000 |
| 6 | 6 | (SW-24) | 18 | 18.1500 | 18.1500 |
| 6 | 6 | (SW-24) | 19 | 16.8000 | 16.8000 |
| 6 | 6 | (SW-24) | 20 | 20.3000 | 20.3000 |
| 6 | 6 | (SW-24) | 21 | 16.7500 | 16.7500 |
| 6 | 6 | (SW-24) | 22 | 23.3000 | 23.3000 |
| 6 | 6 | (SW-24) | 23 | 20.7000 | 20.7000 |
| 6 | 6 | (SW-24) | 24 | 16.9000 | 16.9000 |
| 6 | 6 | (SW-24) | 25 | 18.0000 | 18.0000 |
| 6 | 6 | (SW-24) | 26 | 12.2000 | 12.2000 |
| 6 | 6 | (SW-24) | 27 | 18.5500 | 18.5500 |
| 6 | 6 | (SW-24) | 28 | 20.4000 | 20.4000 |
| 6 | 6 | (SW-24) | 29 | 18.4000 | 18.4000 |
| 6 | 6 | (SW-24) | 30 | 20.0000 | 20.0000 |
| 6 | 6 | (SW-24) | 31 | 19.5500 | 19.5500 |
| 6 | 6 | (SW-24) | 32 | 16.2000 | 16.2000 |
| 6 | 6 | (SW-24) | 33 | 16.7500 | 16.7500 |
| 6 | 6 | (SW-24) | 34 | 22.5000 | 22.5000 |
| 6 | 6 | (SW-24) | 35 | 18.4000 | 18.4000 |
| 6 | 6 | (SW-24) | 36 | 19.4500 | 19.4500 |

| | | | | |
|---|---|---|---|---|
| 6 | 6 (SW-24) | 37 | 14.1500 | 14.1500 |
| 6 | 6 (SW-24) | 38 | 18.0000 | 18.0000 |
| 6 | 6 (SW-24) | 39 | 19.4000 | 19.4000 |
| 6 | 6 (SW-24) | 40 | 16.9000 | 16.9000 |
| 6 | 6 (SW-24) | 41 | 18.2000 | 18.2000 |
| 6 | 6 (SW-24) | 42 | 15.5000 | 15.5000 |
| 6 | 6 (SW-24) | 43 | 16.4500 | 16.4500 |
| 6 | 6 (SW-24) | 44 | 13.5000 | 13.5000 |
| 6 | 6 (SW-24) | 45 | 18.7000 | 18.7000 |
| 6 | 6 (SW-24) | 46 | 21.5000 | 21.5000 |
| 6 | 6 (SW-24) | 47 | 19.2500 | 19.2500 |
| 6 | 6 (SW-24) | 48 | 17.5000 | 17.5000 |
| 6 | 6 (SW-24) | 49 | 16.8000 | 16.8000 |
| 6 | 6 (SW-24) | 50 | 12.8500 | 12.8500 |
| 6 | 6 (SW-24) | 51 | 14.9000 | 14.9000 |

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

| GRP | IDENTIFICATION | N | MIN | MAX | MEAN |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 51 | 14.900 | 23.450 | 19.366 |
| 2 | 2 (SW-19) | 46 | 12.400 | 26.100 | 18.264 |
| 3 | 3 (SW-21) | 54 | 13.600 | 25.700 | 19.881 |
| 4 | 4 (SW-22) | 54 | 11.650 | 27.500 | 20.781 |
| 5 | 5 (SW-23) | 48 | 12.850 | 24.200 | 18.628 |
| 6 | 6 (SW-24) | 51 | 12.200 | 23.300 | 18.442 |

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

| GRP | IDENTIFICATION | VARIANCE | SD | SEM |
|---|---|---|---|---|
| 1 | LAB CONTROL | 4.852 | 2.203 | 0.308 |
| 2 | 2 (SW-19) | 12.861 | 3.586 | 0.529 |
| 3 | 3 (SW-21) | 13.233 | 3.638 | 0.495 |
| 4 | 4 (SW-22) | 12.437 | 3.527 | 0.480 |
| 5 | 5 (SW-23) | 7.703 | 2.775 | 0.401 |
| 6 | 6 (SW-24) | 6.087 | 2.467 | 0.345 |

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

ANOVA TABLE

| SOURCE | DF | SS | MS | F |
|---|---|---|---|---|
| Between | 5 | 245.294 | 49.059 | 5.133 |
| Within (Error) | 298 | 2848.175 | 9.558 | |
| Total | 303 | 3093.469 | | |

Critical F value = 2.29 (0.05,5,120)
Since F > Critical F REJECT Ho:All groups equal

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

DUNNETTS TEST

****** WARNING ******

This data set has unequal replicates. The Bonferroni T-test should be used instead of the Dunnetts test.

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | TRANSFORMED MEAN | MEAN CALCULATED IN ORIGINAL UNITS | T STAT | SIG |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 19.366 | 19.366 | | |
| 2 | 2 (SW-19) | 18.264 | 18.264 | 1.752 | |
| 3 | 3 (SW-21) | 19.881 | 19.881 | -0.854 | |
| 4 | 4 (SW-22) | 20.781 | 20.781 | -2.345 | |
| 5 | 5 (SW-23) | 18.628 | 18.628 | 1.186 | |
| 6 | 6 (SW-24) | 18.442 | 18.442 | 1.508 | |

Dunnett table value = 2.23 (1 Tailed Value, P=0.05, df=298,5)

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 2 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | NUM OF REPS | Minimum Sig Diff (IN ORIG. UNITS) | % of CONTROL | DIFFERENCE FROM CONTROL |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 51 | | | |
| 2 | 2 (SW-19) | 46 | 1.402 | 7.2 | 1.102 |
| 3 | 3 (SW-21) | 54 | 1.346 | 7.0 | -0.516 |
| 4 | 4 (SW-22) | 54 | 1.346 | 7.0 | -1.416 |
| 5 | 5 (SW-23) | 48 | 1.386 | 7.2 | 0.738 |
| 6 | 6 (SW-24) | 51 | 1.365 | 7.0 | 0.924 |

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

ANOVA TABLE

| SOURCE | DF | SS | MS | F |
|---|---|---|---|---|
| Between | 5 | 245.294 | 49.059 | 5.133 |
| Within (Error) | 298 | 2848.175 | 9.558 | |
| Total | 303 | 3093.469 | | |

Critical F value = 2.29 (0.05,5,120)
Since F > Critical F REJECT Ho:All groups equal

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | TRANSFORMED MEAN | MEAN CALCULATED IN ORIGINAL UNITS | T STAT | SIG |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 19.366 | 19.366 | | |
| 2 | 2 (SW-19) | 18.264 | 18.264 | 1.752 | |
| 3 | 3 (SW-21) | 19.881 | 19.881 | -0.854 | |
| 4 | 4 (SW-22) | 20.781 | 20.781 | -2.345 | |
| 5 | 5 (SW-23) | 18.628 | 18.628 | 1.186 | |
| 6 | 6 (SW-24) | 18.442 | 18.442 | 1.508 | |

Bonferroni T table value = 2.36 (1 Tailed Value, P=0.05, df=120,5)

AMHERST SEDIMENT C. TENTENS-LENGTH
File: ASCTL.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | NUM OF REPS | Minimum Sig Diff (IN ORIG. UNITS) | % of CONTROL | DIFFERENCE FROM CONTROL |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 51 | | | |
| 2 | 2 (SW-19) | 46 | 1.482 | 7.7 | 1.102 |
| 3 | 3 (SW-21) | 54 | 1.423 | 7.4 | -0.516 |
| 4 | 4 (SW-22) | 54 | 1.423 | 7.4 | -1.416 |
| 5 | 5 (SW-23) | 48 | 1.466 | 7.6 | 0.738 |
| 6 | 6 (SW-24) | 51 | 1.444 | 7.5 | 0.924 |

AMHERST SEDIMENTS C. TENTANS-WEIGHT
File: ASCTW.1 Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

| INTERVAL | <-1.5 | -1.5 to <-0.5 | -0.5 to 0.5 | >0.5 to 1.5 | >1.5 |
|---|---|---|---|---|---|
| EXPECTED | 20.368 | 73.568 | 116.128 | 73.568 | 20.368 |
| OBSERVED | 25 | 66 | 107 | 93 | 13 |

Calculated Chi-Square goodness of fit test statistic = 10.3474
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

AMHERST SEDIMENTS C. TENTANS-WEIGHT
File: ASCTW.1 Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

---

Calculated B statistic = 10.57
Table Chi-square value = 15.09 (alpha = 0.01)
Table Chi-square value = 11.07 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 49.67
Used for Chi-square table value ==> df (#groups-1) = 5

---

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: AMHERST SEDIMENTS C. TENTANS-WEIGHT
FILE: ASCTW.1
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 6

| GRP | IDENTIFICATION | REP | VALUE | TRANS VALUE |
|---|---|---|---|---|
| 1 | LAB CONTROL | 1 | 0.0440 | 0.0440 |
| 1 | LAB CONTROL | 2 | 0.0410 | 0.0410 |
| 1 | LAB CONTROL | 3 | 0.0436 | 0.0436 |
| 1 | LAB CONTROL | 4 | 0.0437 | 0.0437 |
| 1 | LAB CONTROL | 5 | 0.0481 | 0.0481 |
| 1 | LAB CONTROL | 6 | 0.0476 | 0.0476 |
| 1 | LAB CONTROL | 7 | 0.0359 | 0.0359 |
| 1 | LAB CONTROL | 8 | 0.0335 | 0.0335 |
| 1 | LAB CONTROL | 9 | 0.0420 | 0.0420 |
| 1 | LAB CONTROL | 10 | 0.0472 | 0.0472 |
| 1 | LAB CONTROL | 11 | 0.0480 | 0.0480 |
| 1 | LAB CONTROL | 12 | 0.0383 | 0.0383 |
| 1 | LAB CONTROL | 13 | 0.0296 | 0.0296 |
| 1 | LAB CONTROL | 14 | 0.0413 | 0.0413 |
| 1 | LAB CONTROL | 15 | 0.0330 | 0.0330 |
| 1 | LAB CONTROL | 16 | 0.0405 | 0.0405 |
| 1 | LAB CONTROL | 17 | 0.0415 | 0.0415 |
| 1 | LAB CONTROL | 18 | 0.0407 | 0.0407 |
| 1 | LAB CONTROL | 19 | 0.0305 | 0.0305 |
| 1 | LAB CONTROL | 20 | 0.0224 | 0.0224 |
| 1 | LAB CONTROL | 21 | 0.0270 | 0.0270 |
| 1 | LAB CONTROL | 22 | 0.0285 | 0.0285 |
| 1 | LAB CONTROL | 23 | 0.0310 | 0.0310 |
| 1 | LAB CONTROL | 24 | 0.0259 | 0.0259 |
| 1 | LAB CONTROL | 25 | 0.0405 | 0.0405 |
| 1 | LAB CONTROL | 26 | 0.0490 | 0.0490 |
| 1 | LAB CONTROL | 27 | 0.0458 | 0.0458 |
| 1 | LAB CONTROL | 28 | 0.0423 | 0.0423 |
| 1 | LAB CONTROL | 29 | 0.0231 | 0.0231 |
| 1 | LAB CONTROL | 30 | 0.0461 | 0.0461 |
| 1 | LAB CONTROL | 31 | 0.0461 | 0.0461 |
| 1 | LAB CONTROL | 32 | 0.0435 | 0.0435 |
| 1 | LAB CONTROL | 33 | 0.0418 | 0.0418 |
| 1 | LAB CONTROL | 34 | 0.0499 | 0.0499 |
| 1 | LAB CONTROL | 35 | 0.0245 | 0.0245 |
| 1 | LAB CONTROL | 36 | 0.0312 | 0.0312 |
| 1 | LAB CONTROL | 37 | 0.0157 | 0.0157 |
| 1 | LAB CONTROL | 38 | 0.0259 | 0.0259 |
| 1 | LAB CONTROL | 39 | 0.0232 | 0.0232 |
| 1 | LAB CONTROL | 40 | 0.0382 | 0.0382 |
| 1 | LAB CONTROL | 41 | 0.0470 | 0.0470 |
| 1 | LAB CONTROL | 42 | 0.0250 | 0.0250 |
| 1 | LAB CONTROL | 43 | 0.0224 | 0.0224 |
| 1 | LAB CONTROL | 44 | 0.0420 | 0.0420 |
| 1 | LAB CONTROL | 45 | 0.0370 | 0.0370 |
| 1 | LAB CONTROL | 46 | 0.0415 | 0.0415 |
| 1 | LAB CONTROL | 47 | 0.0335 | 0.0335 |
| 1 | LAB CONTROL | 48 | 0.0407 | 0.0407 |
| 1 | LAB CONTROL | 49 | 0.0458 | 0.0458 |

| | | | | |
|---|---|---|---|---|
| 1 | LAB | CONTROL | 50 | 0.0385 | 0.0385 |
| 1 | LAB | CONTROL | 51 | 0.0360 | 0.0360 |
| 2 | 2 | (SW-19) | 1 | 0.0560 | 0.0560 |
| 2 | 2 | (SW-19) | 2 | 0.0435 | 0.0435 |
| 2 | 2 | (SW-19) | 3 | 0.0347 | 0.0347 |
| 2 | 2 | (SW-19) | 4 | 0.0504 | 0.0504 |
| 2 | 2 | (SW-19) | 5 | 0.0399 | 0.0399 |
| 2 | 2 | (SW-19) | 6 | 0.0347 | 0.0347 |
| 2 | 2 | (SW-19) | 7 | 0.0517 | 0.0517 |
| 2 | 2 | (SW-19) | 8 | 0.0356 | 0.0356 |
| 2 | 2 | (SW-19) | 9 | 0.0380 | 0.0380 |
| 2 | 2 | (SW-19) | 10 | 0.0251 | 0.0251 |
| 2 | 2 | (SW-19) | 11 | 0.0199 | 0.0199 |
| 2 | 2 | (SW-19) | 12 | 0.0337 | 0.0337 |
| 2 | 2 | (SW-19) | 13 | 0.0145 | 0.0145 |
| 2 | 2 | (SW-19) | 14 | 0.0209 | 0.0209 |
| 2 | 2 | (SW-19) | 15 | 0.0211 | 0.0211 |
| 2 | 2 | (SW-19) | 16 | 0.0125 | 0.0125 |
| 2 | 2 | (SW-19) | 17 | 0.0298 | 0.0298 |
| 2 | 2 | (SW-19) | 18 | 0.0393 | 0.0393 |
| 2 | 2 | (SW-19) | 19 | 0.0251 | 0.0251 |
| 2 | 2 | (SW-19) | 20 | 0.0275 | 0.0275 |
| 2 | 2 | (SW-19) | 21 | 0.0376 | 0.0376 |
| 2 | 2 | (SW-19) | 22 | 0.0422 | 0.0422 |
| 2 | 2 | (SW-19) | 23 | 0.0415 | 0.0415 |
| 2 | 2 | (SW-19) | 24 | 0.0353 | 0.0353 |
| 2 | 2 | (SW-19) | 25 | 0.0366 | 0.0366 |
| 2 | 2 | (SW-19) | 26 | 0.0358 | 0.0358 |
| 2 | 2 | (SW-19) | 27 | 0.0575 | 0.0575 |
| 2 | 2 | (SW-19) | 28 | 0.0589 | 0.0589 |
| 2 | 2 | (SW-19) | 29 | 0.0496 | 0.0496 |
| 2 | 2 | (SW-19) | 30 | 0.0288 | 0.0288 |
| 2 | 2 | (SW-19) | 31 | 0.0185 | 0.0185 |
| 2 | 2 | (SW-19) | 32 | 0.0356 | 0.0356 |
| 2 | 2 | (SW-19) | 33 | 0.0254 | 0.0254 |
| 2 | 2 | (SW-19) | 34 | 0.0144 | 0.0144 |
| 2 | 2 | (SW-19) | 35 | 0.0210 | 0.0210 |
| 2 | 2 | (SW-19) | 36 | 0.0135 | 0.0135 |
| 2 | 2 | (SW-19) | 37 | 0.0585 | 0.0585 |
| 2 | 2 | (SW-19) | 38 | 0.0292 | 0.0292 |
| 2 | 2 | (SW-19) | 39 | 0.0382 | 0.0382 |
| 2 | 2 | (SW-19) | 40 | 0.0410 | 0.0410 |
| 2 | 2 | (SW-19) | 41 | 0.0269 | 0.0269 |
| 2 | 2 | (SW-19) | 42 | 0.0244 | 0.0244 |
| 2 | 2 | (SW-19) | 43 | 0.0357 | 0.0357 |
| 2 | 2 | (SW-19) | 44 | 0.0322 | 0.0322 |
| 2 | 2 | (SW-19) | 45 | 0.0176 | 0.0176 |
| 2 | 2 | (SW-19) | 46 | 0.0122 | 0.0122 |
| 3 | 3 | (SW-21) | 1 | 0.0457 | 0.0457 |
| 3 | 3 | (SW-21) | 2 | 0.0345 | 0.0345 |
| 3 | 3 | (SW-21) | 3 | 0.0343 | 0.0343 |
| 3 | 3 | (SW-21) | 4 | 0.0476 | 0.0476 |
| 3 | 3 | (SW-21) | 5 | 0.0369 | 0.0369 |
| 3 | 3 | (SW-21) | 6 | 0.0285 | 0.0285 |
| 3 | 3 | (SW-21) | 7 | 0.0396 | 0.0396 |
| 3 | 3 | (SW-21) | 8 | 0.0315 | 0.0315 |
| 3 | 3 | (SW-21) | 9 | 0.0139 | 0.0139 |
| 3 | 3 | (SW-21) | 10 | 0.0507 | 0.0507 |
| 3 | 3 | (SW-21) | 11 | 0.0285 | 0.0285 |
| 3 | 3 | (SW-21) | 12 | 0.0415 | 0.0415 |

| | | | | |
|---|---|---|---|---|
| 3 | 3 | (SW-21) | 13 | 0.0486 | 0.0486 |
| 3 | 3 | (SW-21) | 14 | 0.0112 | 0.0112 |
| 3 | 3 | (SW-21) | 15 | 0.0304 | 0.0304 |
| 3 | 3 | (SW-21) | 16 | 0.0315 | 0.0315 |
| 3 | 3 | (SW-21) | 17 | 0.0427 | 0.0427 |
| 3 | 3 | (SW-21) | 18 | 0.0194 | 0.0194 |
| 3 | 3 | (SW-21) | 19 | 0.0238 | 0.0238 |
| 3 | 3 | (SW-21) | 20 | 0.0099 | 0.0099 |
| 3 | 3 | (SW-21) | 21 | 0.0487 | 0.0487 |
| 3 | 3 | (SW-21) | 22 | 0.0465 | 0.0465 |
| 3 | 3 | (SW-21) | 23 | 0.0432 | 0.0432 |
| 3 | 3 | (SW-21) | 24 | 0.0422 | 0.0422 |
| 3 | 3 | (SW-21) | 25 | 0.0418 | 0.0418 |
| 3 | 3 | (SW-21) | 26 | 0.0276 | 0.0276 |
| 3 | 3 | (SW-21) | 27 | 0.0366 | 0.0366 |
| 3 | 3 | (SW-21) | 28 | 0.0101 | 0.0101 |
| 3 | 3 | (SW-21) | 29 | 0.0512 | 0.0512 |
| 3 | 3 | (SW-21) | 30 | 0.0357 | 0.0357 |
| 3 | 3 | (SW-21) | 31 | 0.0445 | 0.0445 |
| 3 | 3 | (SW-21) | 32 | 0.0309 | 0.0309 |
| 3 | 3 | (SW-21) | 33 | 0.0493 | 0.0493 |
| 3 | 3 | (SW-21) | 34 | 0.0383 | 0.0383 |
| 3 | 3 | (SW-21) | 35 | 0.0278 | 0.0278 |
| 3 | 3 | (SW-21) | 36 | 0.0444 | 0.0444 |
| 3 | 3 | (SW-21) | 37 | 0.0553 | 0.0553 |
| 3 | 3 | (SW-21) | 38 | 0.0458 | 0.0458 |
| 3 | 3 | (SW-21) | 39 | 0.0222 | 0.0222 |
| 3 | 3 | (SW-21) | 40 | 0.0343 | 0.0343 |
| 3 | 3 | (SW-21) | 41 | 0.0335 | 0.0335 |
| 3 | 3 | (SW-21) | 42 | 0.0276 | 0.0276 |
| 3 | 3 | (SW-21) | 43 | 0.0192 | 0.0192 |
| 3 | 3 | (SW-21) | 44 | 0.0269 | 0.0269 |
| 3 | 3 | (SW-21) | 45 | 0.0469 | 0.0469 |
| 3 | 3 | (SW-21) | 46 | 0.0266 | 0.0266 |
| 3 | 3 | (SW-21) | 47 | 0.0185 | 0.0185 |
| 3 | 3 | (SW-21) | 48 | 0.0068 | 0.0068 |
| 3 | 3 | (SW-21) | 49 | 0.0390 | 0.0390 |
| 3 | 3 | (SW-21) | 50 | 0.0544 | 0.0544 |
| 3 | 3 | (SW-21) | 51 | 0.0601 | 0.0601 |
| 3 | 3 | (SW-21) | 52 | 0.0510 | 0.0510 |
| 3 | 3 | (SW-21) | 53 | 0.0406 | 0.0406 |
| 3 | 3 | (SW-21) | 54 | 0.0282 | 0.0282 |
| 4 | 4 | (SW-22) | 1 | 0.0521 | 0.0521 |
| 4 | 4 | (SW-22) | 2 | 0.0576 | 0.0576 |
| 4 | 4 | (SW-22) | 3 | 0.0077 | 0.0077 |
| 4 | 4 | (SW-22) | 4 | 0.0377 | 0.0377 |
| 4 | 4 | (SW-22) | 5 | 0.0325 | 0.0325 |
| 4 | 4 | (SW-22) | 6 | 0.0433 | 0.0433 |
| 4 | 4 | (SW-22) | 7 | 0.0470 | 0.0470 |
| 4 | 4 | (SW-22) | 8 | 0.0399 | 0.0399 |
| 4 | 4 | (SW-22) | 9 | 0.0376 | 0.0376 |
| 4 | 4 | (SW-22) | 10 | 0.0417 | 0.0417 |
| 4 | 4 | (SW-22) | 11 | 0.0539 | 0.0539 |
| 4 | 4 | (SW-22) | 12 | 0.0470 | 0.0470 |
| 4 | 4 | (SW-22) | 13 | 0.0349 | 0.0349 |
| 4 | 4 | (SW-22) | 14 | 0.0347 | 0.0347 |
| 4 | 4 | (SW-22) | 15 | 0.0418 | 0.0418 |
| 4 | 4 | (SW-22) | 16 | 0.0549 | 0.0549 |
| 4 | 4 | (SW-22) | 17 | 0.0542 | 0.0542 |
| 4 | 4 | (SW-22) | 18 | 0.0346 | 0.0346 |

| | | | | |
|---|---|---|---|---|
| 4 | 4 | (SW-22) | 19 | 0.0277 | 0.0277 |
| 4 | 4 | (SW-22) | 20 | 0.0539 | 0.0539 |
| 4 | 4 | (SW-22) | 21 | 0.0461 | 0.0461 |
| 4 | 4 | (SW-22) | 22 | 0.0083 | 0.0083 |
| 4 | 4 | (SW-22) | 23 | 0.0358 | 0.0358 |
| 4 | 4 | (SW-22) | 24 | 0.0458 | 0.0458 |
| 4 | 4 | (SW-22) | 25 | 0.0096 | 0.0096 |
| 4 | 4 | (SW-22) | 26 | 0.0504 | 0.0504 |
| 4 | 4 | (SW-22) | 27 | 0.0506 | 0.0506 |
| 4 | 4 | (SW-22) | 28 | 0.0318 | 0.0318 |
| 4 | 4 | (SW-22) | 29 | 0.0462 | 0.0462 |
| 4 | 4 | (SW-22) | 30 | 0.0451 | 0.0451 |
| 4 | 4 | (SW-22) | 31 | 0.0430 | 0.0430 |
| 4 | 4 | (SW-22) | 32 | 0.0406 | 0.0406 |
| 4 | 4 | (SW-22) | 33 | 0.0251 | 0.0251 |
| 4 | 4 | (SW-22) | 34 | 0.0357 | 0.0357 |
| 4 | 4 | (SW-22) | 35 | 0.0237 | 0.0237 |
| 4 | 4 | (SW-22) | 36 | 0.0316 | 0.0316 |
| 4 | 4 | (SW-22) | 37 | 0.0449 | 0.0449 |
| 4 | 4 | (SW-22) | 38 | 0.0363 | 0.0363 |
| 4 | 4 | (SW-22) | 39 | 0.0461 | 0.0461 |
| 4 | 4 | (SW-22) | 40 | 0.0498 | 0.0498 |
| 4 | 4 | (SW-22) | 41 | 0.0404 | 0.0404 |
| 4 | 4 | (SW-22) | 42 | 0.0259 | 0.0259 |
| 4 | 4 | (SW-22) | 43 | 0.0439 | 0.0439 |
| 4 | 4 | (SW-22) | 44 | 0.0504 | 0.0504 |
| 4 | 4 | (SW-22) | 45 | 0.0435 | 0.0435 |
| 4 | 4 | (SW-22) | 46 | 0.0335 | 0.0335 |
| 4 | 4 | (SW-22) | 47 | 0.0400 | 0.0400 |
| 4 | 4 | (SW-22) | 48 | 0.0354 | 0.0354 |
| 4 | 4 | (SW-22) | 49 | 0.0416 | 0.0416 |
| 4 | 4 | (SW-22) | 50 | 0.0471 | 0.0471 |
| 4 | 4 | (SW-22) | 51 | 0.0384 | 0.0384 |
| 4 | 4 | (SW-22) | 52 | 0.0374 | 0.0374 |
| 4 | 4 | (SW-22) | 53 | 0.0116 | 0.0116 |
| 4 | 4 | (SW-22) | 54 | 0.0304 | 0.0304 |
| 5 | 5 | (SW-23) | 1 | 0.0398 | 0.0398 |
| 5 | 5 | (SW-23) | 2 | 0.0469 | 0.0469 |
| 5 | 5 | (SW-23) | 3 | 0.0295 | 0.0295 |
| 5 | 5 | (SW-23) | 4 | 0.0239 | 0.0239 |
| 5 | 5 | (SW-23) | 5 | 0.0340 | 0.0340 |
| 5 | 5 | (SW-23) | 6 | 0.0239 | 0.0239 |
| 5 | 5 | (SW-23) | 7 | 0.0439 | 0.0439 |
| 5 | 5 | (SW-23) | 8 | 0.0436 | 0.0436 |
| 5 | 5 | (SW-23) | 9 | 0.0447 | 0.0447 |
| 5 | 5 | (SW-23) | 10 | 0.0364 | 0.0364 |
| 5 | 5 | (SW-23) | 11 | 0.0336 | 0.0336 |
| 5 | 5 | (SW-23) | 12 | 0.0434 | 0.0434 |
| 5 | 5 | (SW-23) | 13 | 0.0561 | 0.0561 |
| 5 | 5 | (SW-23) | 14 | 0.0324 | 0.0324 |
| 5 | 5 | (SW-23) | 15 | 0.0375 | 0.0375 |
| 5 | 5 | (SW-23) | 16 | 0.0233 | 0.0233 |
| 5 | 5 | (SW-23) | 17 | 0.0141 | 0.0141 |
| 5 | 5 | (SW-23) | 18 | 0.0235 | 0.0235 |
| 5 | 5 | (SW-23) | 19 | 0.0299 | 0.0299 |
| 5 | 5 | (SW-23) | 20 | 0.0183 | 0.0183 |
| 5 | 5 | (SW-23) | 21 | 0.0278 | 0.0278 |
| 5 | 5 | (SW-23) | 22 | 0.0267 | 0.0267 |
| 5 | 5 | (SW-23) | 23 | 0.0251 | 0.0251 |
| 5 | 5 | (SW-23) | 24 | 0.0389 | 0.0389 |

| | | | | |
|---|---|---|---|---|
| 5 | 5 (SW-23) | 25 | 0.0347 | 0.0347 |
| 5 | 5 (SW-23) | 26 | 0.0381 | 0.0381 |
| 5 | 5 (SW-23) | 27 | 0.0434 | 0.0434 |
| 5 | 5 (SW-23) | 28 | 0.0423 | 0.0423 |
| 5 | 5 (SW-23) | 29 | 0.0407 | 0.0407 |
| 5 | 5 (SW-23) | 30 | 0.0374 | 0.0374 |
| 5 | 5 (SW-23) | 31 | 0.0543 | 0.0543 |
| 5 | 5 (SW-23) | 32 | 0.0416 | 0.0416 |
| 5 | 5 (SW-23) | 33 | 0.0407 | 0.0407 |
| 5 | 5 (SW-23) | 34 | 0.0460 | 0.0460 |
| 5 | 5 (SW-23) | 35 | 0.0377 | 0.0377 |
| 5 | 5 (SW-23) | 36 | 0.0405 | 0.0405 |
| 5 | 5 (SW-23) | 37 | 0.0359 | 0.0359 |
| 5 | 5 (SW-23) | 38 | 0.0462 | 0.0462 |
| 5 | 5 (SW-23) | 39 | 0.0446 | 0.0446 |
| 5 | 5 (SW-23) | 40 | 0.0334 | 0.0334 |
| 5 | 5 (SW-23) | 41 | 0.0316 | 0.0316 |
| 5 | 5 (SW-23) | 42 | 0.0262 | 0.0262 |
| 5 | 5 (SW-23) | 43 | 0.0205 | 0.0205 |
| 5 | 5 (SW-23) | 44 | 0.0216 | 0.0216 |
| 5 | 5 (SW-23) | 45 | 0.0162 | 0.0162 |
| 5 | 5 (SW-23) | 46 | 0.0423 | 0.0423 |
| 5 | 5 (SW-23) | 47 | 0.0174 | 0.0174 |
| 5 | 5 (SW-23) | 48 | 0.0284 | 0.0284 |
| 6 | 6 (SW-24) | 1 | 0.0385 | 0.0385 |
| 6 | 6 (SW-24) | 2 | 0.0424 | 0.0424 |
| 6 | 6 (SW-24) | 3 | 0.0332 | 0.0332 |
| 6 | 6 (SW-24) | 4 | 0.0435 | 0.0435 |
| 6 | 6 (SW-24) | 5 | 0.0440 | 0.0440 |
| 6 | 6 (SW-24) | 6 | 0.0376 | 0.0376 |
| 6 | 6 (SW-24) | 7 | 0.0318 | 0.0318 |
| 6 | 6 (SW-24) | 8 | 0.0459 | 0.0459 |
| 6 | 6 (SW-24) | 9 | 0.0421 | 0.0421 |
| 6 | 6 (SW-24) | 10 | 0.0333 | 0.0333 |
| 6 | 6 (SW-24) | 11 | 0.0402 | 0.0402 |
| 6 | 6 (SW-24) | 12 | 0.0535 | 0.0535 |
| 6 | 6 (SW-24) | 13 | 0.0295 | 0.0295 |
| 6 | 6 (SW-24) | 14 | 0.0305 | 0.0305 |
| 6 | 6 (SW-24) | 15 | 0.0312 | 0.0312 |
| 6 | 6 (SW-24) | 16 | 0.0335 | 0.0335 |
| 6 | 6 (SW-24) | 17 | 0.0214 | 0.0214 |
| 6 | 6 (SW-24) | 18 | 0.0248 | 0.0248 |
| 6 | 6 (SW-24) | 19 | 0.0187 | 0.0187 |
| 6 | 6 (SW-24) | 20 | 0.0395 | 0.0395 |
| 6 | 6 (SW-24) | 21 | 0.0238 | 0.0238 |
| 6 | 6 (SW-24) | 22 | 0.0490 | 0.0490 |
| 6 | 6 (SW-24) | 23 | 0.0385 | 0.0385 |
| 6 | 6 (SW-24) | 24 | 0.0219 | 0.0219 |
| 6 | 6 (SW-24) | 25 | 0.0350 | 0.0350 |
| 6 | 6 (SW-24) | 26 | 0.0128 | 0.0128 |
| 6 | 6 (SW-24) | 27 | 0.0303 | 0.0303 |
| 6 | 6 (SW-24) | 28 | 0.0429 | 0.0429 |
| 6 | 6 (SW-24) | 29 | 0.0323 | 0.0323 |
| 6 | 6 (SW-24) | 30 | 0.0435 | 0.0435 |
| 6 | 6 (SW-24) | 31 | 0.0344 | 0.0344 |
| 6 | 6 (SW-24) | 32 | 0.0237 | 0.0237 |
| 6 | 6 (SW-24) | 33 | 0.0243 | 0.0243 |
| 6 | 6 (SW-24) | 34 | 0.0428 | 0.0428 |
| 6 | 6 (SW-24) | 35 | 0.0318 | 0.0318 |
| 6 | 6 (SW-24) | 36 | 0.0375 | 0.0375 |

| | | | | |
|---|---|---|---|---|
| 6 | 6 (SW-24) | 37 | 0.0148 | 0.0148 |
| 6 | 6 (SW-24) | 38 | 0.0385 | 0.0385 |
| 6 | 6 (SW-24) | 39 | 0.0431 | 0.0431 |
| 6 | 6 (SW-24) | 40 | 0.0289 | 0.0289 |
| 6 | 6 (SW-24) | 41 | 0.0347 | 0.0347 |
| 6 | 6 (SW-24) | 42 | 0.0189 | 0.0189 |
| 6 | 6 (SW-24) | 43 | 0.0295 | 0.0295 |
| 6 | 6 (SW-24) | 44 | 0.0087 | 0.0087 |
| 6 | 6 (SW-24) | 45 | 0.0325 | 0.0325 |
| 6 | 6 (SW-24) | 46 | 0.0485 | 0.0485 |
| 6 | 6 (SW-24) | 47 | 0.0267 | 0.0267 |
| 6 | 6 (SW-24) | 48 | 0.0092 | 0.0092 |
| 6 | 6 (SW-24) | 49 | 0.0383 | 0.0383 |
| 6 | 6 (SW-24) | 50 | 0.0265 | 0.0265 |
| 6 | 6 (SW-24) | 51 | 0.0184 | 0.0184 |

AMHERST SEDIMENTS C. TENTANS-WEIGHT
File: ASCTW.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

| GRP | IDENTIFICATION | N | MIN | MAX | MEAN |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 51 | 0.016 | 0.050 | 0.037 |
| 2 | 2 (SW-19) | 46 | 0.012 | 0.059 | 0.033 |
| 3 | 3 (SW-21) | 54 | 0.007 | 0.060 | 0.035 |
| 4 | 4 (SW-22) | 54 | 0.008 | 0.058 | 0.039 |
| 5 | 5 (SW-23) | 48 | 0.014 | 0.056 | 0.035 |
| 6 | 6 (SW-24) | 51 | 0.009 | 0.053 | 0.032 |

AMHERST SEDIMENTS C. TENTANS-WEIGHT
File: ASCTW.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

| GRP | IDENTIFICATION | VARIANCE | SD | SEM |
|---|---|---|---|---|
| 1 | LAB CONTROL | 0.000 | 0.009 | 0.001 |
| 2 | 2 (SW-19) | 0.000 | 0.013 | 0.002 |
| 3 | 3 (SW-21) | 0.000 | 0.013 | 0.002 |
| 4 | 4 (SW-22) | 0.000 | 0.012 | 0.002 |
| 5 | 5 (SW-23) | 0.000 | 0.010 | 0.001 |
| 6 | 6 (SW-24) | 0.000 | 0.010 | 0.001 |

AMHERST SEDIMENTS C. TENTANS-WEIGHT
File: ASCTW.1 Transform: NO TRANSFORMATION

ANOVA TABLE

| SOURCE | DF | SS | MS | F |
|---|---|---|---|---|
| Between | 5 | 0.0016 | 0.0003 | 3.000 |
| Within (Error) | 298 | 0.0368 | 0.0001 | |
| Total | 303 | 0.0384 | | |

Critical F value = 2.29 (0.05,5,120)
Since F > Critical F REJECT Ho:All groups equal

AMHERST SEDIMENTS C. TENTANS-WEIGHT
File: ASCTW.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | TRANSFORMED MEAN | MEAN CALCULATED IN ORIGINAL UNITS | T STAT | SIG |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 0.037 | 0.037 | | |
| 2 | 2 (SW-19) | 0.033 | 0.033 | 2.059 | |
| 3 | 3 (SW-21) | 0.035 | 0.035 | 1.009 | |
| 4 | 4 (SW-22) | 0.039 | 0.039 | -0.833 | |
| 5 | 5 (SW-23) | 0.035 | 0.035 | 1.350 | |
| 6 | 6 (SW-24) | 0.032 | 0.032 | 2.418 | * |

Bonferroni T table value = 2.36 (1 Tailed Value, P=0.05, df=120,5)

AMHERST SEDIMENTS C. TENTANS-WEIGHT
File: ASCTW.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | NUM OF REPS | Minimum Sig Diff (IN ORIG. UNITS) | % of CONTROL | DIFFERENCE FROM CONTROL |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 51 | | | |
| 2 | 2 (SW-19) | 46 | 0.005 | 12.9 | 0.004 |
| 3 | 3 (SW-21) | 54 | 0.005 | 12.4 | 0.002 |
| 4 | 4 (SW-22) | 54 | 0.005 | 12.4 | -0.002 |
| 5 | 5 (SW-23) | 48 | 0.005 | 12.7 | 0.003 |
| 6 | 6 (SW-24) | 51 | 0.005 | 12.5 | 0.005 |

TITLE: AMHERST SEDIMENT HYALLELA-SURVIVAL
FILE: ASHS.1
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 7

| GRP | IDENTIFICATION | REP | VALUE | TRANS VALUE |
|---|---|---|---|---|
| 1 | LAB CONTROL | 1 | 25.0000 | 25.0000 |
| 1 | LAB CONTROL | 2 | 24.0000 | 24.0000 |
| 2 | 1 (SW-18) | 1 | 0.0000 | 0.0000 |
| 2 | 1 (SW-18) | 2 | 0.0000 | 0.0000 |
| 3 | 2 (SW-19) | 1 | 19.0000 | 19.0000 |
| 3 | 2 (SW-19) | 2 | 18.0000 | 18.0000 |
| 4 | 3 (SW-21) | 1 | 21.0000 | 21.0000 |
| 4 | 3 (SW-21) | 2 | 16.0000 | 16.0000 |
| 5 | 4 (SW-22) | 1 | 27.0000 | 27.0000 |
| 5 | 4 (SW-22) | 2 | 26.0000 | 26.0000 |
| 6 | 5 (SW-23) | 1 | 23.0000 | 23.0000 |
| 6 | 5 (SW-23) | 2 | 21.0000 | 21.0000 |
| 7 | 6 (SW-24) | 1 | 22.0000 | 22.0000 |
| 7 | 6 (SW-24) | 2 | 26.0000 | 26.0000 |

AMHERST SEDIMENT HYALLELA-SURVIVAL
File: ASHS.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

| GRP | IDENTIFICATION | N | MIN | MAX | MEAN |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 2 | 24.000 | 25.000 | 24.500 |
| 2 | 1 (SW-18) | 2 | 0.000 | 0.000 | 0.000 |
| 3 | 2 (SW-19) | 2 | 18.000 | 19.000 | 18.500 |
| 4 | 3 (SW-21) | 2 | 16.000 | 21.000 | 18.500 |
| 5 | 4 (SW-22) | 2 | 26.000 | 27.000 | 26.500 |
| 6 | 5 (SW-23) | 2 | 21.000 | 23.000 | 22.000 |
| 7 | 6 (SW-24) | 2 | 22.000 | 26.000 | 24.000 |

AMHERST SEDIMENT HYALLELA-SURVIVAL
File: ASHS.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

| GRP | IDENTIFICATION | VARIANCE | SD | SEM |
|---|---|---|---|---|
| 1 | LAB CONTROL | 0.500 | 0.707 | 0.500 |
| 2 | 1 (SW-18) | 0.000 | 0.000 | 0.000 |

| | | | | |
|---|---|---|---|---|
| 3 | 2 (SW-19) | 0.500 | 0.707 | 0.500 |
| 4 | 3 (SW-21) | 12.500 | 3.536 | 2.500 |
| 5 | 4 (SW-22) | 0.500 | 0.707 | 0.500 |
| 6 | 5 (SW-23) | 2.000 | 1.414 | 1.000 |
| 7 | 6 (SW-24) | 8.000 | 2.828 | 2.000 |

AMHERST SEDIMENT HYALLELA-SURVIVAL
File: ASHS.1 Transform: NO TRANSFORMATION

ANOVA TABLE

| SOURCE | DF | SS | MS | F |
|---|---|---|---|---|
| Between | 6 | 963.714 | 160.619 | 46.841 |
| Within (Error) | 7 | 24.000 | 3.429 | |
| Total | 13 | 987.714 | | |

Critical F value = 3.87 (0.05,6,7)
Since F > Critical F REJECT Ho:All groups equal

AMHERST SEDIMENT HYALLELA-SURVIVAL
File: ASHS.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | TRANSFORMED MEAN | MEAN CALCULATED IN ORIGINAL UNITS | T STAT | SIG |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 24.500 | 24.500 | | |
| 2 | 1 (SW-18) | 0.000 | 0.000 | 13.231 | * |
| 3 | 2 (SW-19) | 18.500 | 18.500 | 3.240 | * |
| 4 | 3 (SW-21) | 18.500 | 18.500 | 3.240 | * |
| 5 | 4 (SW-22) | 26.500 | 26.500 | -1.080 | |
| 6 | 5 (SW-23) | 22.000 | 22.000 | 1.350 | |
| 7 | 6 (SW-24) | 24.000 | 24.000 | 0.270 | |

Bonferroni T table value = 3.13 (1 Tailed Value, P=0.05, df=7,6)

AMHERST SEDIMENT HYALLELA-SURVIVAL
File: ASHS.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | NUM OF REPS | Minimum Sig Diff (IN ORIG. UNITS) | % of CONTROL | DIFFERENCE FROM CONTROL |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 2 | | | |
| 2 | 1 (SW-18) | 2 | 5.792 | 23.6 | 24.500 |
| 3 | 2 (SW-19) | 2 | 5.792 | 23.6 | 6.000 |

| | | | | | |
|---|---|---|---|---|---|
| 4 | 3 (SW-21) | 2 | 5.792 | 23.6 | 6.000 |
| 5 | 4 (SW-22) | 2 | 5.792 | 23.6 | -2.000 |
| 6 | 5 (SW-23) | 2 | 5.792 | 23.6 | 2.500 |
| 7 | 6 (SW-24) | 2 | 5.792 | 23.6 | 0.500 |

AMHERST SEDIMENT HYALLELA-SURVIVAL
File: ASHS.1 Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

| INTERVAL | <-1.5 | -1.5 to <-0.5 | -0.5 to 0.5 | >0.5 to 1.5 | >1.5 |
|---|---|---|---|---|---|
| EXPECTED | 0.938 | 3.388 | 5.348 | 3.388 | 0.938 |
| OBSERVED | 0 | 6 | 2 | 6 | 0 |

Calculated Chi-Square goodness of fit test statistic = 7.9994
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

AMHERST SEDIMENT HYALLELA-SURVIVAL
File: ASHS.1 Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

| INTERVAL | <-1.5 | -1.5 to <-0.5 | -0.5 to 0.5 | >0.5 to 1.5 | >1.5 |
|---|---|---|---|---|---|
| EXPECTED | 0.938 | 3.388 | 5.348 | 3.388 | 0.938 |
| OBSERVED | 0 | 6 | 2 | 6 | 0 |

Calculated Chi-Square goodness of fit test statistic = 7.9994
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

AMHERST SEDIMENT-HYALLELA LENGTH
File: ashl.1 Transform: NATURAL LOG(Y)

Chi-square test for normality: actual and expected frequencies

| INTERVAL | <-1.5 | -1.5 to <-0.5 | -0.5 to 0.5 | >0.5 to 1.5 | >1.5 |
|---|---|---|---|---|---|
| EXPECTED | 17.956 | 64.856 | 102.376 | 64.856 | 17.956 |
| OBSERVED | 17 | 77 | 87 | 69 | 18 |

Calculated Chi-Square goodness of fit test statistic = 4.8990
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

AMHERST SEDIMENT-HYALLELA LENGTH
File: ashl.1 Transform: NATURAL LOG(Y)

Bartletts test for homogeneity of variance

---

Calculated B statistic = 8.05
Table Chi-square value = 15.09 (alpha = 0.01)
Table Chi-square value = 11.07 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 43.67
Used for Chi-square table value ==> df (#groups-1) = 5

---

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: AMHERST SEDIMENT-HYALLELA LENGTH
FILE: ash1.1
TRANSFORM: NATURAL LOG(Y) NUMBER OF GROUPS: 6

| GRP | IDENTIFICATION | REP | VALUE | TRANS VALUE |
|---|---|---|---|---|
| 1 | LAB CONTROL | 1 | 7.1000 | 1.9601 |
| 1 | LAB CONTROL | 2 | 7.3500 | 1.9947 |
| 1 | LAB CONTROL | 3 | 7.0500 | 1.9530 |
| 1 | LAB CONTROL | 4 | 7.2500 | 1.9810 |
| 1 | LAB CONTROL | 5 | 6.7500 | 1.9095 |
| 1 | LAB CONTROL | 6 | 6.8500 | 1.9242 |
| 1 | LAB CONTROL | 7 | 5.8500 | 1.7664 |
| 1 | LAB CONTROL | 8 | 6.0500 | 1.8001 |
| 1 | LAB CONTROL | 9 | 7.1500 | 1.9671 |
| 1 | LAB CONTROL | 10 | 6.8500 | 1.9242 |
| 1 | LAB CONTROL | 11 | 4.8000 | 1.5686 |
| 1 | LAB CONTROL | 12 | 4.0000 | 1.3863 |
| 1 | LAB CONTROL | 13 | 4.3500 | 1.4702 |
| 1 | LAB CONTROL | 14 | 5.0500 | 1.6194 |
| 1 | LAB CONTROL | 15 | 6.3500 | 1.8485 |
| 1 | LAB CONTROL | 16 | 6.5000 | 1.8718 |
| 1 | LAB CONTROL | 17 | 7.0000 | 1.9459 |
| 1 | LAB CONTROL | 18 | 4.8000 | 1.5686 |
| 1 | LAB CONTROL | 19 | 4.1500 | 1.4231 |
| 1 | LAB CONTROL | 20 | 3.9500 | 1.3737 |
| 1 | LAB CONTROL | 21 | 5.7500 | 1.7492 |
| 1 | LAB CONTROL | 22 | 6.0500 | 1.8001 |
| 1 | LAB CONTROL | 23 | 3.7500 | 1.3218 |
| 1 | LAB CONTROL | 24 | 4.8000 | 1.5686 |
| 1 | LAB CONTROL | 25 | 4.1500 | 1.4231 |
| 1 | LAB CONTROL | 26 | 5.0500 | 1.6194 |
| 1 | LAB CONTROL | 27 | 3.7500 | 1.3218 |
| 1 | LAB CONTROL | 28 | 6.3500 | 1.8485 |
| 1 | LAB CONTROL | 29 | 6.8500 | 1.9242 |
| 1 | LAB CONTROL | 30 | 7.0500 | 1.9530 |
| 1 | LAB CONTROL | 31 | 7.0000 | 1.9459 |
| 1 | LAB CONTROL | 32 | 5.8500 | 1.7664 |
| 1 | LAB CONTROL | 33 | 6.5000 | 1.8718 |
| 1 | LAB CONTROL | 34 | 6.0000 | 1.7918 |
| 1 | LAB CONTROL | 35 | 6.1500 | 1.8165 |
| 1 | LAB CONTROL | 36 | 6.2500 | 1.8326 |
| 1 | LAB CONTROL | 37 | 5.7500 | 1.7492 |
| 1 | LAB CONTROL | 38 | 4.8500 | 1.5790 |
| 1 | LAB CONTROL | 39 | 5.0500 | 1.6194 |
| 1 | LAB CONTROL | 40 | 3.7500 | 1.3218 |
| 1 | LAB CONTROL | 41 | 4.0500 | 1.3987 |
| 1 | LAB CONTROL | 42 | 5.0500 | 1.6194 |
| 1 | LAB CONTROL | 43 | 5.1500 | 1.6390 |
| 1 | LAB CONTROL | 44 | 4.4000 | 1.4816 |
| 1 | LAB CONTROL | 45 | 4.2000 | 1.4351 |
| 1 | LAB CONTROL | 46 | 7.0000 | 1.9459 |
| 1 | LAB CONTROL | 47 | 5.3500 | 1.6771 |
| 1 | LAB CONTROL | 48 | 4.8000 | 1.5686 |
| 1 | LAB CONTROL | 49 | 6.5000 | 1.8718 |

| | | | | |
|---|---|---|---|---|
| 2 | 2 | (SW-19) | 1 | 5.3500 | 1.6771 |
| 2 | 2 | (SW-19) | 2 | 5.2000 | 1.6487 |
| 2 | 2 | (SW-19) | 3 | 7.5000 | 2.0149 |
| 2 | 2 | (SW-19) | 4 | 6.0000 | 1.7918 |
| 2 | 2 | (SW-19) | 5 | 4.0000 | 1.3863 |
| 2 | 2 | (SW-19) | 6 | 4.1500 | 1.4231 |
| 2 | 2 | (SW-19) | 7 | 3.8000 | 1.3350 |
| 2 | 2 | (SW-19) | 8 | 5.0000 | 1.6094 |
| 2 | 2 | (SW-19) | 9 | 5.2500 | 1.6582 |
| 2 | 2 | (SW-19) | 10 | 4.3500 | 1.4702 |
| 2 | 2 | (SW-19) | 11 | 4.8500 | 1.5790 |
| 2 | 2 | (SW-19) | 12 | 3.9000 | 1.3610 |
| 2 | 2 | (SW-19) | 13 | 4.1000 | 1.4110 |
| 2 | 2 | (SW-19) | 14 | 4.7500 | 1.5581 |
| 2 | 2 | (SW-19) | 15 | 5.1000 | 1.6292 |
| 2 | 2 | (SW-19) | 16 | 5.2000 | 1.6487 |
| 2 | 2 | (SW-19) | 17 | 5.0000 | 1.6094 |
| 2 | 2 | (SW-19) | 18 | 4.8500 | 1.5790 |
| 2 | 2 | (SW-19) | 19 | 4.2500 | 1.4469 |
| 2 | 2 | (SW-19) | 20 | 6.3000 | 1.8405 |
| 2 | 2 | (SW-19) | 21 | 6.0000 | 1.7918 |
| 2 | 2 | (SW-19) | 22 | 5.2000 | 1.6487 |
| 2 | 2 | (SW-19) | 23 | 6.1000 | 1.8083 |
| 2 | 2 | (SW-19) | 24 | 5.0000 | 1.6094 |
| 2 | 2 | (SW-19) | 25 | 5.3000 | 1.6677 |
| 2 | 2 | (SW-19) | 26 | 4.3500 | 1.4702 |
| 2 | 2 | (SW-19) | 27 | 4.0000 | 1.3863 |
| 2 | 2 | (SW-19) | 28 | 5.0000 | 1.6094 |
| 2 | 2 | (SW-19) | 29 | 5.0000 | 1.6094 |
| 2 | 2 | (SW-19) | 30 | 5.1000 | 1.6292 |
| 2 | 2 | (SW-19) | 31 | 5.0000 | 1.6094 |
| 2 | 2 | (SW-19) | 32 | 5.3500 | 1.6771 |
| 2 | 2 | (SW-19) | 33 | 7.0000 | 1.9459 |
| 2 | 2 | (SW-19) | 34 | 4.1500 | 1.4231 |
| 2 | 2 | (SW-19) | 35 | 5.2500 | 1.6582 |
| 2 | 2 | (SW-19) | 36 | 4.3500 | 1.4702 |
| 2 | 2 | (SW-19) | 37 | 6.5000 | 1.8718 |
| 3 | 3 | (SW-21) | 1 | 7.1500 | 1.9671 |
| 3 | 3 | (SW-21) | 2 | 7.0000 | 1.9459 |
| 3 | 3 | (SW-21) | 3 | 6.3000 | 1.8405 |
| 3 | 3 | (SW-21) | 4 | 4.5000 | 1.5041 |
| 3 | 3 | (SW-21) | 5 | 4.1500 | 1.4231 |
| 3 | 3 | (SW-21) | 6 | 5.0500 | 1.6194 |
| 3 | 3 | (SW-21) | 7 | 3.4000 | 1.2238 |
| 3 | 3 | (SW-21) | 8 | 5.1500 | 1.6390 |
| 3 | 3 | (SW-21) | 9 | 4.5000 | 1.5041 |
| 3 | 3 | (SW-21) | 10 | 5.0000 | 1.6094 |
| 3 | 3 | (SW-21) | 11 | 6.4500 | 1.8641 |
| 3 | 3 | (SW-21) | 12 | 6.3500 | 1.8485 |
| 3 | 3 | (SW-21) | 13 | 4.2500 | 1.4469 |
| 3 | 3 | (SW-21) | 14 | 3.8000 | 1.3350 |
| 3 | 3 | (SW-21) | 15 | 5.1500 | 1.6390 |
| 3 | 3 | (SW-21) | 16 | 3.3500 | 1.2090 |
| 3 | 3 | (SW-21) | 17 | 3.8000 | 1.3350 |
| 3 | 3 | (SW-21) | 18 | 4.1500 | 1.4231 |
| 3 | 3 | (SW-21) | 19 | 6.5000 | 1.8718 |
| 3 | 3 | (SW-21) | 20 | 6.0000 | 1.7918 |
| 3 | 3 | (SW-21) | 21 | 5.8500 | 1.7664 |
| 3 | 3 | (SW-21) | 22 | 7.1500 | 1.9671 |
| 3 | 3 | (SW-21) | 23 | 4.5000 | 1.5041 |

| | | | | |
|---|---|---|---|---|
| 3 | 3 (SW-21) | 24 | 6.0500 | 1.8001 |
| 3 | 3 (SW-21) | 25 | 6.0000 | 1.7918 |
| 3 | 3 (SW-21) | 26 | 6.3500 | 1.8485 |
| 3 | 3 (SW-21) | 27 | 4.4000 | 1.4816 |
| 3 | 3 (SW-21) | 28 | 5.4000 | 1.6864 |
| 3 | 3 (SW-21) | 29 | 5.0000 | 1.6094 |
| 3 | 3 (SW-21) | 30 | 5.0000 | 1.6094 |
| 3 | 3 (SW-21) | 31 | 5.0000 | 1.6094 |
| 3 | 3 (SW-21) | 32 | 5.1000 | 1.6292 |
| 3 | 3 (SW-21) | 33 | 5.0500 | 1.6194 |
| 3 | 3 (SW-21) | 34 | 4.5500 | 1.5151 |
| 3 | 3 (SW-21) | 35 | 4.1500 | 1.4231 |
| 3 | 3 (SW-21) | 36 | 3.3000 | 1.1939 |
| 3 | 3 (SW-21) | 37 | 4.8000 | 1.5686 |
| 4 | 4 (SW-22) | 1 | 4.1500 | 1.4231 |
| 4 | 4 (SW-22) | 2 | 6.6500 | 1.8946 |
| 4 | 4 (SW-22) | 3 | 7.2500 | 1.9810 |
| 4 | 4 (SW-22) | 4 | 6.0500 | 1.8001 |
| 4 | 4 (SW-22) | 5 | 6.0000 | 1.7918 |
| 4 | 4 (SW-22) | 6 | 5.3000 | 1.6677 |
| 4 | 4 (SW-22) | 7 | 4.0000 | 1.3863 |
| 4 | 4 (SW-22) | 8 | 5.8000 | 1.7579 |
| 4 | 4 (SW-22) | 9 | 5.0000 | 1.6094 |
| 4 | 4 (SW-22) | 10 | 7.2000 | 1.9741 |
| 4 | 4 (SW-22) | 11 | 6.3500 | 1.8485 |
| 4 | 4 (SW-22) | 12 | 4.4000 | 1.4816 |
| 4 | 4 (SW-22) | 13 | 4.0000 | 1.3863 |
| 4 | 4 (SW-22) | 14 | 5.0000 | 1.6094 |
| 4 | 4 (SW-22) | 15 | 7.0000 | 1.9459 |
| 4 | 4 (SW-22) | 16 | 5.4000 | 1.6864 |
| 4 | 4 (SW-22) | 17 | 5.0000 | 1.6094 |
| 4 | 4 (SW-22) | 18 | 5.1000 | 1.6292 |
| 4 | 4 (SW-22) | 19 | 5.0500 | 1.6194 |
| 4 | 4 (SW-22) | 20 | 4.5000 | 1.5041 |
| 4 | 4 (SW-22) | 21 | 5.0000 | 1.6094 |
| 4 | 4 (SW-22) | 22 | 4.5500 | 1.5151 |
| 4 | 4 (SW-22) | 23 | 4.1500 | 1.4231 |
| 4 | 4 (SW-22) | 24 | 3.7000 | 1.3083 |
| 4 | 4 (SW-22) | 25 | 3.8000 | 1.3350 |
| 4 | 4 (SW-22) | 26 | 3.8000 | 1.3350 |
| 4 | 4 (SW-22) | 27 | 4.0000 | 1.3863 |
| 4 | 4 (SW-22) | 28 | 7.8000 | 2.0541 |
| 4 | 4 (SW-22) | 29 | 7.1000 | 1.9601 |
| 4 | 4 (SW-22) | 30 | 7.8000 | 2.0541 |
| 4 | 4 (SW-22) | 31 | 6.2500 | 1.8326 |
| 4 | 4 (SW-22) | 32 | 4.1000 | 1.4110 |
| 4 | 4 (SW-22) | 33 | 5.0000 | 1.6094 |
| 4 | 4 (SW-22) | 34 | 4.1500 | 1.4231 |
| 4 | 4 (SW-22) | 35 | 7.0000 | 1.9459 |
| 4 | 4 (SW-22) | 36 | 6.3500 | 1.8485 |
| 4 | 4 (SW-22) | 37 | 6.3000 | 1.8405 |
| 4 | 4 (SW-22) | 38 | 5.0000 | 1.6094 |
| 4 | 4 (SW-22) | 39 | 5.3000 | 1.6677 |
| 4 | 4 (SW-22) | 40 | 4.3500 | 1.4702 |
| 4 | 4 (SW-22) | 41 | 3.3000 | 1.1939 |
| 4 | 4 (SW-22) | 42 | 4.5000 | 1.5041 |
| 4 | 4 (SW-22) | 43 | 5.6000 | 1.7228 |
| 4 | 4 (SW-22) | 44 | 4.2500 | 1.4469 |
| 4 | 4 (SW-22) | 45 | 4.0000 | 1.3863 |
| 4 | 4 (SW-22) | 46 | 5.8500 | 1.7664 |

| | | | | |
|---|---|---|---|---|
| 4 | 4 (SW-22) | 47 | 3.3500 | 1.2090 |
| 4 | 4 (SW-22) | 48 | 3.9500 | 1.3737 |
| 4 | 4 (SW-22) | 49 | 5.9500 | 1.7834 |
| 4 | 4 (SW-22) | 50 | 4.3000 | 1.4586 |
| 4 | 4 (SW-22) | 51 | 4.3000 | 1.4586 |
| 4 | 4 (SW-22) | 52 | 3.2000 | 1.1632 |
| 4 | 4 (SW-22) | 53 | 5.0000 | 1.6094 |
| 5 | 5 (SW-23) | 1 | 6.2500 | 1.8326 |
| 5 | 5 (SW-23) | 2 | 7.0000 | 1.9459 |
| 5 | 5 (SW-23) | 3 | 6.5500 | 1.8795 |
| 5 | 5 (SW-23) | 4 | 7.1500 | 1.9671 |
| 5 | 5 (SW-23) | 5 | 6.0500 | 1.8001 |
| 5 | 5 (SW-23) | 6 | 6.3500 | 1.8485 |
| 5 | 5 (SW-23) | 7 | 5.3500 | 1.6771 |
| 5 | 5 (SW-23) | 8 | 7.0000 | 1.9459 |
| 5 | 5 (SW-23) | 9 | 6.0000 | 1.7918 |
| 5 | 5 (SW-23) | 10 | 5.0000 | 1.6094 |
| 5 | 5 (SW-23) | 11 | 5.0500 | 1.6194 |
| 5 | 5 (SW-23) | 12 | 5.3000 | 1.6677 |
| 5 | 5 (SW-23) | 13 | 5.3500 | 1.6771 |
| 5 | 5 (SW-23) | 14 | 4.4500 | 1.4929 |
| 5 | 5 (SW-23) | 15 | 4.9500 | 1.5994 |
| 5 | 5 (SW-23) | 16 | 4.2000 | 1.4351 |
| 5 | 5 (SW-23) | 17 | 6.2500 | 1.8326 |
| 5 | 5 (SW-23) | 18 | 4.3500 | 1.4702 |
| 5 | 5 (SW-23) | 19 | 5.5000 | 1.7047 |
| 5 | 5 (SW-23) | 20 | 5.0000 | 1.6094 |
| 5 | 5 (SW-23) | 21 | 6.0500 | 1.8001 |
| 5 | 5 (SW-23) | 22 | 7.3500 | 1.9947 |
| 5 | 5 (SW-23) | 23 | 6.8500 | 1.9242 |
| 5 | 5 (SW-23) | 24 | 5.6000 | 1.7228 |
| 5 | 5 (SW-23) | 25 | 5.0000 | 1.6094 |
| 5 | 5 (SW-23) | 26 | 5.2000 | 1.6487 |
| 5 | 5 (SW-23) | 27 | 6.3500 | 1.8485 |
| 5 | 5 (SW-23) | 28 | 4.3500 | 1.4702 |
| 5 | 5 (SW-23) | 29 | 6.9000 | 1.9315 |
| 5 | 5 (SW-23) | 30 | 7.0500 | 1.9530 |
| 5 | 5 (SW-23) | 31 | 4.9500 | 1.5994 |
| 5 | 5 (SW-23) | 32 | 4.3500 | 1.4702 |
| 5 | 5 (SW-23) | 33 | 4.3000 | 1.4586 |
| 5 | 5 (SW-23) | 34 | 5.0000 | 1.6094 |
| 5 | 5 (SW-23) | 35 | 4.2000 | 1.4351 |
| 5 | 5 (SW-23) | 36 | 4.3000 | 1.4586 |
| 5 | 5 (SW-23) | 37 | 3.8500 | 1.3481 |
| 5 | 5 (SW-23) | 38 | 6.5000 | 1.8718 |
| 5 | 5 (SW-23) | 39 | 5.8000 | 1.7579 |
| 5 | 5 (SW-23) | 40 | 5.7000 | 1.7405 |
| 5 | 5 (SW-23) | 41 | 5.0000 | 1.6094 |
| 5 | 5 (SW-23) | 42 | 5.1000 | 1.6292 |
| 5 | 5 (SW-23) | 43 | 5.4000 | 1.6864 |
| 5 | 5 (SW-23) | 44 | 6.3500 | 1.8485 |
| 6 | 6 (SW-24) | 1 | 6.0500 | 1.8001 |
| 6 | 6 (SW-24) | 2 | 7.1500 | 1.9671 |
| 6 | 6 (SW-24) | 3 | 7.0000 | 1.9459 |
| 6 | 6 (SW-24) | 4 | 6.0000 | 1.7918 |
| 6 | 6 (SW-24) | 5 | 5.8000 | 1.7579 |
| 6 | 6 (SW-24) | 6 | 6.2500 | 1.8326 |
| 6 | 6 (SW-24) | 7 | 5.0000 | 1.6094 |
| 6 | 6 (SW-24) | 8 | 7.0000 | 1.9459 |
| 6 | 6 (SW-24) | 9 | 5.3500 | 1.6771 |

| | | | | |
|---|---|---|---|---|
| 6 | 6 (SW-24) | 10 | 5.8000 | 1.7579 |
| 6 | 6 (SW-24) | 11 | 6.4500 | 1.8641 |
| 6 | 6 (SW-24) | 12 | 6.1500 | 1.8165 |
| 6 | 6 (SW-24) | 13 | 4.8000 | 1.5686 |
| 6 | 6 (SW-24) | 14 | 7.4500 | 2.0082 |
| 6 | 6 (SW-24) | 15 | 5.3000 | 1.6677 |
| 6 | 6 (SW-24) | 16 | 5.5000 | 1.7047 |
| 6 | 6 (SW-24) | 17 | 4.3500 | 1.4702 |
| 6 | 6 (SW-24) | 18 | 5.0000 | 1.6094 |
| 6 | 6 (SW-24) | 19 | 4.5000 | 1.5041 |
| 6 | 6 (SW-24) | 20 | 5.0000 | 1.6094 |
| 6 | 6 (SW-24) | 21 | 5.0000 | 1.6094 |
| 6 | 6 (SW-24) | 22 | 4.2500 | 1.4469 |
| 6 | 6 (SW-24) | 23 | 4.8000 | 1.5686 |
| 6 | 6 (SW-24) | 24 | 5.1500 | 1.6390 |
| 6 | 6 (SW-24) | 25 | 4.3500 | 1.4702 |
| 6 | 6 (SW-24) | 26 | 4.1500 | 1.4231 |
| 6 | 6 (SW-24) | 27 | 3.8500 | 1.3481 |
| 6 | 6 (SW-24) | 28 | 4.2000 | 1.4351 |
| 6 | 6 (SW-24) | 29 | 4.4500 | 1.4929 |
| 6 | 6 (SW-24) | 30 | 4.0000 | 1.3863 |
| 6 | 6 (SW-24) | 31 | 4.0500 | 1.3987 |
| 6 | 6 (SW-24) | 32 | 4.2500 | 1.4469 |
| 6 | 6 (SW-24) | 33 | 5.0000 | 1.6094 |
| 6 | 6 (SW-24) | 34 | 3.9000 | 1.3610 |
| 6 | 6 (SW-24) | 35 | 6.0000 | 1.7918 |
| 6 | 6 (SW-24) | 36 | 5.0000 | 1.6094 |
| 6 | 6 (SW-24) | 37 | 6.0000 | 1.7918 |
| 6 | 6 (SW-24) | 38 | 4.1000 | 1.4110 |
| 6 | 6 (SW-24) | 39 | 4.3000 | 1.4586 |
| 6 | 6 (SW-24) | 40 | 4.5500 | 1.5151 |
| 6 | 6 (SW-24) | 41 | 4.1000 | 1.4110 |
| 6 | 6 (SW-24) | 42 | 4.3500 | 1.4702 |
| 6 | 6 (SW-24) | 43 | 4.9000 | 1.5892 |
| 6 | 6 (SW-24) | 44 | 4.1000 | 1.4110 |
| 6 | 6 (SW-24) | 45 | 6.9500 | 1.9387 |
| 6 | 6 (SW-24) | 46 | 5.2500 | 1.6582 |
| 6 | 6 (SW-24) | 47 | 5.0000 | 1.6094 |
| 6 | 6 (SW-24) | 48 | 5.3500 | 1.6771 |

AMHERST SEDIMENT-HYALLELA LENGTH
File: ashl.1 Transform: NATURAL LOG(Y)

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

| GRP | IDENTIFICATION | N | MIN | MAX | MEAN |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 49 | 1.322 | 1.995 | 1.709 |
| 2 | 2 (SW-19) | 37 | 1.335 | 2.015 | 1.610 |
| 3 | 3 (SW-21) | 37 | 1.194 | 1.967 | 1.613 |
| 4 | 4 (SW-22) | 53 | 1.163 | 2.054 | 1.610 |
| 5 | 5 (SW-23) | 44 | 1.348 | 1.995 | 1.701 |
| 6 | 6 (SW-24) | 48 | 1.348 | 2.008 | 1.623 |

AMHERST SEDIMENT-HYALLELA LENGTH
File: ashl.1 Transform: NATURAL LOG(Y)

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

| GRP | IDENTIFICATION | VARIANCE | SD | SEM |
|---|---|---|---|---|
| 1 | LAB CONTROL | 0.045 | 0.213 | 0.030 |
| 2 | 2 (SW-19) | 0.027 | 0.164 | 0.027 |
| 3 | 3 (SW-21) | 0.045 | 0.213 | 0.035 |
| 4 | 4 (SW-22) | 0.054 | 0.232 | 0.032 |
| 5 | 5 (SW-23) | 0.030 | 0.174 | 0.026 |
| 6 | 6 (SW-24) | 0.033 | 0.182 | 0.026 |

AMHERST SEDIMENT-HYALLELA LENGTH
File: ashl.1 Transform: NATURAL LOG(Y)

ANOVA TABLE

| SOURCE | DF | SS | MS | F |
|---|---|---|---|---|
| Between | 5 | 0.509 | 0.102 | 2.550 |
| Within (Error) | 262 | 10.422 | 0.040 | |
| Total | 267 | 10.931 | | |

Critical F value = 2.29 (0.05,5,120)
Since F > Critical F REJECT Ho:All groups equal

AMHERST SEDIMENT-HYALLELA LENGTH
File: ashl.1 Transform: NATURAL LOG(Y)

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | TRANSFORMED MEAN | MEAN CALCULATED IN ORIGINAL UNITS | T STAT | SIG |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 1.709 | 5.641 | | |
| 2 | 2 (SW-19) | 1.610 | 5.069 | 2.266 | |
| 3 | 3 (SW-21) | 1.613 | 5.126 | 2.203 | |
| 4 | 4 (SW-22) | 1.610 | 5.137 | 2.490 | * |
| 5 | 5 (SW-23) | 1.701 | 5.559 | 0.187 | |
| 6 | 6 (SW-24) | 1.623 | 5.151 | 2.115 | |

Bonferroni T table value = 2.36 (1 Tailed Value, P=0.05, df=120,5)

AMHERST SEDIMENT-HYALLELA LENGTH
File: ashl.1 Transform: NATURAL LOG(Y)

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | NUM OF REPS | Minimum Sig Diff (IN ORIG. UNITS) | % of CONTROL | DIFFERENCE FROM CONTROL |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 49 | | | |
| 2 | 2 (SW-19) | 37 | 0.539 | 9.6 | 0.572 |
| 3 | 3 (SW-21) | 37 | 0.539 | 9.6 | 0.515 |
| 4 | 4 (SW-22) | 53 | 0.493 | 8.7 | 0.504 |
| 5 | 5 (SW-23) | 44 | 0.515 | 9.1 | 0.082 |
| 6 | 6 (SW-24) | 48 | 0.504 | 8.9 | 0.490 |

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

| INTERVAL | <-1.5 | -1.5 to <-0.5 | -0.5 to 0.5 | >0.5 to 1.5 | >1.5 |
|---|---|---|---|---|---|
| EXPECTED | 0.804 | 2.904 | 4.584 | 2.904 | 0.804 |
| OBSERVED | 0 | 6 | 0 | 6 | 0 |

Calculated Chi-Square goodness of fit test statistic = 12.7934
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

---

Calculated B statistic = 6.42
Table Chi-square value = 15.09 (alpha = 0.01)
Table Chi-square value = 11.07 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.00
Used for Chi-square table value ==> df (#groups-1) = 5

---

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: AMHERST SEDIMENT HYALLELA-REPRODUCTION
FILE: ASHR.1
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 6

| GRP | IDENTIFICATION | REP | VALUE | TRANS VALUE |
|---|---|---|---|---|
| 1 | LAB CONTROL | 1 | 35.0000 | 35.0000 |
| 1 | LAB CONTROL | 2 | 32.0000 | 32.0000 |
| 2 | 2 (SW-19) | 1 | 21.0000 | 21.0000 |
| 2 | 2 (SW-19) | 2 | 22.0000 | 22.0000 |
| 3 | 3 (SW-21) | 1 | 16.0000 | 16.0000 |
| 3 | 3 (SW-21) | 2 | 14.0000 | 14.0000 |
| 4 | 4 (SW-22) | 1 | 42.0000 | 42.0000 |
| 4 | 4 (SW-22) | 2 | 46.0000 | 46.0000 |
| 5 | 5 (SW-23) | 1 | 26.0000 | 26.0000 |
| 5 | 5 (SW-23) | 2 | 25.0000 | 25.0000 |
| 6 | 6 (SW-24) | 1 | 25.0000 | 25.0000 |
| 6 | 6 (SW-24) | 2 | 37.0000 | 37.0000 |

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

| GRP | IDENTIFICATION | N | MIN | MAX | MEAN |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 2 | 32.000 | 35.000 | 33.500 |
| 2 | 2 (SW-19) | 2 | 21.000 | 22.000 | 21.500 |
| 3 | 3 (SW-21) | 2 | 14.000 | 16.000 | 15.000 |
| 4 | 4 (SW-22) | 2 | 42.000 | 46.000 | 44.000 |
| 5 | 5 (SW-23) | 2 | 25.000 | 26.000 | 25.500 |
| 6 | 6 (SW-24) | 2 | 25.000 | 37.000 | 31.000 |

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

| GRP | IDENTIFICATION | VARIANCE | SD | SEM |
|---|---|---|---|---|
| 1 | LAB CONTROL | 4.500 | 2.121 | 1.500 |
| 2 | 2 (SW-19) | 0.500 | 0.707 | 0.500 |
| 3 | 3 (SW-21) | 2.000 | 1.414 | 1.000 |
| 4 | 4 (SW-22) | 8.000 | 2.828 | 2.000 |
| 5 | 5 (SW-23) | 0.500 | 0.707 | 0.500 |
| 6 | 6 (SW-24) | 72.000 | 8.485 | 6.000 |

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

ANOVA TABLE

| SOURCE | DF | SS | MS | F |
|---|---|---|---|---|
| Between | 5 | 1023.417 | 204.683 | 14.036 |
| Within (Error) | 6 | 87.500 | 14.583 | |
| Total | 11 | 1110.917 | | |

Critical F value = 4.39 (0.05,5,6)
Since F > Critical F REJECT Ho:All groups equal

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | TRANSFORMED MEAN | MEAN CALCULATED IN ORIGINAL UNITS | T STAT | SIG |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 33.500 | 33.500 | | |
| 2 | 2 (SW-19) | 21.500 | 21.500 | 3.142 | * |
| 3 | 3 (SW-21) | 15.000 | 15.000 | 4.844 | * |
| 4 | 4 (SW-22) | 44.000 | 44.000 | -2.750 | |
| 5 | 5 (SW-23) | 25.500 | 25.500 | 2.095 | |
| 6 | 6 (SW-24) | 31.000 | 31.000 | 0.655 | |

Dunnett table value = 2.83 (1 Tailed Value, P=0.05, df=6,5)

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 2 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | NUM OF REPS | Minimum Sig Diff (IN ORIG. UNITS) | % of CONTROL | DIFFERENCE FROM CONTROL |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 2 | | | |
| 2 | 2 (SW-19) | 2 | 10.807 | 32.3 | 12.000 |
| 3 | 3 (SW-21) | 2 | 10.807 | 32.3 | 18.500 |
| 4 | 4 (SW-22) | 2 | 10.807 | 32.3 | -10.500 |
| 5 | 5 (SW-23) | 2 | 10.807 | 32.3 | 8.000 |
| 6 | 6 (SW-24) | 2 | 10.807 | 32.3 | 2.500 |

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

ANOVA TABLE

| SOURCE | DF | SS | MS | F |
|---|---|---|---|---|
| Between | 5 | 1023.417 | 204.683 | 14.036 |
| Within (Error) | 6 | 87.500 | 14.583 | |
| Total | 11 | 1110.917 | | |

Critical F value = 4.39 (0.05,5,6)
Since F > Critical F REJECT Ho:All groups equal

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | TRANSFORMED MEAN | MEAN CALCULATED IN ORIGINAL UNITS | T STAT | SIG |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 33.500 | 33.500 | | |
| 2 | 2 (SW-19) | 21.500 | 21.500 | 3.142 | |
| 3 | 3 (SW-21) | 15.000 | 15.000 | 4.844 | * |
| 4 | 4 (SW-22) | 44.000 | 44.000 | -2.750 | |
| 5 | 5 (SW-23) | 25.500 | 25.500 | 2.095 | |
| 6 | 6 (SW-24) | 31.000 | 31.000 | 0.655 | |

Bonferroni T table value = 3.14 (1 Tailed Value, P=0.05, df=6,5)

AMHERST SEDIMENT HYALLELA-REPRODUCTION
File: ASHR.1 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

| GROUP | IDENTIFICATION | NUM OF REPS | Minimum Sig Diff (IN ORIG. UNITS) | % of CONTROL | DIFFERENCE FROM CONTROL |
|---|---|---|---|---|---|
| 1 | LAB CONTROL | 2 | | | |
| 2 | 2 (SW-19) | 2 | 12.002 | 35.8 | 12.000 |
| 3 | 3 (SW-21) | 2 | 12.002 | 35.8 | 18.500 |
| 4 | 4 (SW-22) | 2 | 12.002 | 35.8 | -10.500 |
| 5 | 5 (SW-23) | 2 | 12.002 | 35.8 | 8.000 |
| 6 | 6 (SW-24) | 2 | 12.002 | 35.8 | 2.500 |

# APPENDIX C5

Sediment Bioassay: Raw Data

ESE Bioassay Department
St. Louis, Missouri

Page: 1
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 7-3mm Juveniles
Treatment Level: LC
Replicate: A
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 8.1 | 8.2 | 658 | 116 | 84 | 1.0 | Sediment-26ha clear |
| 10/13/91 | 1213 | MAH | 20.6 | 7.9 | 9.3 | — | — | — | — | NONE # (below) |
| 10/17/91 | 1127 | MAH | 20.2 | 7.9 | 8.2 | 635 | 109 | 160 | 1.5 | NONE # (below) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.8 | 8.2 | — | — | — | — | none # (below) |
| 10/24/91 | 1038 | LAV | 20.6 | 7.9 | 8.6 | 617 | 102 | 184 | 1.0 | none # (below) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.8 | 9.0 | — | — | — | — | none # (below) |
| 10/31/91 | 1015 | LAV MAH | 20.5 | 7.9 | 9.0 | 620 | 114 | 126 | 1.0 | none # (below) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 7.10 | 16 | 6.50 | 31 | 1.00 | 46 | 1.00 | 61 | 0.85 |
| 2 | 7.35 | 17 | 7.00 | 32 | 1.00 | 47 | 1.35 | 62 | 0.70 |
| 3 | 7.05 | 18 | 4.80 | 33 | 1.35 | 48 | 0.60 | 63 | 1.35 |
| 4 | 7.25 | 19 | 4.15 | 34 | 1.00 | 49 | 1.75 | 64 | 1.00 |
| 5 | 6.75 | 20 | 3.95 | 35 | 1.95 | 50 | 1.25 | 65 | 0.55 |
| 6 | 6.35 | 21 | 5.75 | 36 | 1.50 | 51 | 1.55 | | |
| 7 | 5.85 | 22 | 6.05 | 37 | 1.15 | 52 | 1.20 | | |
| 8 | 6.05 | 23 | 3.75 | 38 | 1.00 | 53 | 0.85 | | |
| 9 | 7.15 | 24 | 4.80 | 39 | 0.55 | 54 | 0.55 | | |
| 10 | 6.85 | 25 | 4.15 | 40 | 0.75 | 55 | 1.00 | | |
| 11 | 4.80 | 26 | | 41 | 1.15 | 56 | 1.25 | | |
| 12 | 4.00 | 27 | | 42 | 2.00 | 57 | 1.35 | | |
| 13 | 4.35 | 28 | | 43 | 1.50 | 58 | 0.60 | | |
| 14 | 5.05 | 29 | | 44 | 0.70 | 59 | 0.75 | | |
| 15 | 6.35 | 30 | | 45 | 1.05 | 60 | 1.05 | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

① Entry error MAH 10/10/91

# NONE = observations were made and nothing out of the ordinary was noticed.

ESE Bioassay Department
St. Louis, Missouri

Page: 2
ESE QA Form No.: SC-007
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 551-5422

Species: H yallela azteca
No. Exposed: 30
Age or Life Stage: 2-3 mm Juveniles
Treatment Level: LC
Replicate: A B
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 8.1 | 8.2 | 659 | 116 | 84 | 1.0 | 2 HMG tank 26 ml clear |
| 10/13/91 | 1213 | MAH/SH | 20.6 | 7.9 | 9.2 | — | — | — | — | NONE # (pg. 1) |
| 10/17/91 | 1127 | ~~SH~~ / MAH | 20.2 | 7.9 | 8.8 | 628 | 109 | 100 (1) 113 | 1.5 | NONE # (pg. 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.3 | 8.3 | — | — | — | — | NONE # (below) |
| 10/24/91 | 1038 | LAV | 20.6 | 7.9 | 8.4 | 620 | 102 | 154 | 1.0 | none # (below) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.8 | 8.8 | — | — | — | — | none # (pg 1) |
| 10/31/91 | 1013 | LAV MAH | 20.5 | 7.9 | 9.0 | 611 | 114 | 126 | 1.0 | none # (pg 1) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.05 | 16 | 4.05 | 31 | 2.00 | 46 | 1.05 | 61 | 0.55 |
| 2 | 3.75 | 17 | 5.05 | 32 | 1.35 | 47 | 0.85 | 62 | 0.75 |
| 3 | 6.35 | 18 | 5.15 | 33 | 1.50 | 48 | 0.95 | | |
| 4 | 6.85 | 19 | 4.40 | 34 | 1.00 | 49 | 1.50 | | |
| 5 | 7.05 | 20 | 4.20 | 35 | 1.05 | 50 | 1.05 | | |
| 6 | 7.00 | 21 | 7.00 | 36 | 0.85 | 51 | 0.70 | | |
| 7 | 5.85 | 22 | 5.35 | 37 | 0.55 | 52 | 1.00 | | |
| 8 | 6.50 | 23 | 4.80 | 38 | 0.70 | 53 | 1.85 | | |
| 9 | 6.00 | 24 | 6.50 | 39 | 1.00 | 54 | 1.05 | | |
| 10 | 6.15 | 25 | | 40 | 0.75 | 55 | 0.85 | | |
| 11 | 6.25 | 26 | | 41 | 1.05 | 56 | 0.75 | | |
| 12 | 5.75 | 27 | | 42 | 2.00 | 57 | 0.55 | | |
| 13 | 4.85 | 28 | | 43 | 1.75 | 58 | 1.25 | | |
| 14 | 5.05 | 29 | | 44 | 1.85 | 59 | 1.10 | | |
| 15 | 3.75 | 30 | | 45 | 0.75 | 60 | 1.00 | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

① Entered wrong 10-17-91 BAK

ESE Bioassay Department
St. Louis, Missouri

Page: 3
ESE QA Form No.: 32-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 0491-5422 -0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: LC
Replicate: A
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$** | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 8.1 | 8.3 | 650 | 116 | 84 | 1.0 | Settling time 26 hrs Clear |
| 10/13/91 | 1213 | MAH | 20.6 | 7.8 | 8.0 | — | — | — | — | None #/pan |
| 10/17/91 | 1127 | DJH MAH | 20.2 | 7.8 | 7.0 | 628 | 109 | 160 | 1.5 | None #/pan |
| 10/20/91 | 1311 | MAH | 21.0 | 7.9 | 8.6 | — | — | — | — | none #/pan (below) |
| 10/24/91 | 1039 | LAV | 20.6 | 8.0 | 8.4 | 670 | 102 | 154 | 1.0 | none #/pan (below) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) |
|---|---|---|---|---|---|
| 1 | 20.90 | 0.0440 | 16 | 21.05 | 0.0405 |
| 2 | 17.60 | 0.0410 | 17 | 21.25 | 0.0415 |
| 3 | 18.50 | 0.0436 | 18 | 21.40 | 0.0407 |
| 4 | 18.55 | 0.0437 | 19 | 17.45 | 0.0305 |
| 5 | 19.50 | 0.0481 | 20 | 16.35 | 0.0224 |
| 6 | 19.35 | 0.0416 | 21 | 18.30 | 0.0270 |
| 7 | 17.40 | 0.0359 | 22 | 18.50 | 0.0285 |
| 8 | 16.35 | 0.0335 | 23 | 19.80 | 0.0310 |
| 9 | 19.10 | 0.0420 | 24 | 16.75 | 0.0259 |
| 10 | 22.15 | 0.0472 | 25 | | |
| 11 | 22.20 | 0.0480 | 26 | | |
| 12 | 16.85 | 0.0383 | 27 | | |
| 13 | 15.30 | 0.0296 | 28 | | |
| 14 | 21.15 | 0.0413 | 29 | | |
| 15 | 18.1 | 0.0330 | 30 | | |

* µhms/cm.
† mg/L as $CaCO_3$
** mg/L as N.

ESE Bioassay Department
St. Louis, Missouri

Page: 4
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 451-5422-0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 (2nd Instar)
Treatment Level: LC
Replicate: B
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 8.1 | 8.3 | 657 | 116 | 54 | 1.0 | Setting fine - 25 mm clear |
| 10/13/91 | 1213 | MAH | 20.6 | 7.8 | 8.2 | — | — | — | — | None #(g) |
| 10/17/91 | 1127 | DSH MAH | 20.7 | 7.7 | 7.6 | 654 | 109 | 160 | 1.5 | None #(g) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.3 | 3.2 | — | — | — | — | none* (below) |
| 10/24/91 | 1038 | LAV | 20.6 | 7.9 | 7.7 | 650 | 102 | 134 | 1.0 | none* (below) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) |
|---|---|---|---|---|---|
| 1 | 22.10 | 0.0405 | 16 | 22.1 | 0.0420 |
| 2 | 23.15 | 0.0490 | 17 | 16.50 | 0.0280 |
| 3 | 21.25 | 0.0455 | 18 | 16.35 | 0.0224 |
| 4 | 21.0 | 0.0423 | 19 | 21.10 | 0.0420 |
| 5 | 15.3 | 0.0223 | 20 | 21.00 | 0.0370 |
| 6 | 21.65 | 0.0461 | 21 | 20.30 | 0.0415 |
| 7 | 21.15 | 0.0435 | 22 | 18.00 | 0.0335 |
| 8 | 21.50 | 0.0418 | 23 | 19.85 | 0.0347 |
| 9 | 23.45 | 0.0499 | 24 | 21.00 | 0.0402 |
| 10 | 16.90 | 0.0345 | 25 | 21.25 | 0.0450 |
| 11 | 19.10 | 0.0312 | 26 | 20.40 | 0.0335 |
| 12 | 14.70 | 0.0157 | 27 | 19.35 | 0.0360 |
| 13 | 17.40 | 0.0229 | 28 | | |
| 14 | 16.20 | 0.0232 | 29 | | |
| 15 | 20.55 | 0.0382 | 30 | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

ESE Bioassay Department
St. Louis, Missouri

Page: 5
ESE QA Form No.: JK-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3mm (Juveniles)
Treatment Level: 1
Replicate: A
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 7.2 | 8.2 | 581 | 93 | 52 | 1.0 | Settling time - 44 hrs. Cloudy |
| 10/13/91 | 1213 | MAH | 20.5 | 7.7 | 8.6 | — | — | — | — | NONE # pg. 1 |
| 10/17/91 | 1127 | DSH MAH | 20.2 | 7.6 | 7.8 | 512 | 86 | 113 | 3.0 (1) ~~30.1~~ | NONE # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.8 | 8.8 | — | — | — | — | none # (below) pg 1 |
| 10/24/91 | 1038 | LAV MAH | 20.6 | 7.9 | 8.3 | 542 | 94.3 (2) 106 | 106.3 (3) 94 | 1.0 | none # (below) pg 1 |
| 102791 | 1111 | MAH | 20.6 | 7.7 | 8.3 | — | — | — | — | none # (pg 1) |
| 10/31/91 | 1015 | LAV MAH | 20.5 | 7.6 | 8.3 | 549 | 66 | 110 | 1.0 | none # (pg 1) |
| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | | | |
| 1 | | 16 | | 31 | | 46 | | | | |
| 2 | | 17 | | 32 | | 47 | | | | |
| 3 | | 18 | | 33 | | 48 | | | | |
| 4 | | 19 | | 34 | | 49 | no organisms | | | |
| 5 | | 20 | | 35 | | 50 | | | | |
| 6 | | 21 | | 36 | | 51 | | | | |
| 7 | | 22 | | 37 | | 52 | | | | |
| 8 | | 23 | | 38 | | 53 | | | | |
| 9 | | 24 | | 39 | | 54 | | | | |
| 10 | | 25 | | 40 | | 55 | | | | |
| 11 | | 26 | | 41 | | 56 | | | | |
| 12 | | 27 | | 42 | | 57 | | | | |
| 13 | | 28 | | 43 | | 58 | | | | |
| 14 | | 29 | | 44 | | 59 | | | | |
| 15 | | 30 | | 45 | | 60 | | | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

(1) Entry Error DSH 10/17/91
(2) Entry Error MAH 10/24/91
(3) Entry Error MAH 10/24/91

ESE Bioassay Department
St. Louis, Missouri

Page: 6
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3mm Juveniles
Treatment Level: 1
Replicate: B
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$** | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 7.2 | 7.9 | 574 | 98 | 52 | 1.0 | Sediment-water Cloudy |
| 10/13/91 | 1213 | MAH | 20.6 | 7.6 | 8.1 | — | — | — | — | None # (pg 1) |
| 10/17/91 | 12 | DAH MAH | 20.2 | 7.6 | 7.0 | 550 | 86 | 113 | 3.00 | None # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.8 | 8.7 | — | — | — | — | None # (pg 1) |
| 10/24/91 | 10.38 | LAU MAH | 20.6 | 7.9 | 8.5 | 539 | 94 (86) | 94 (106) | 1.0 | None # (pg 1) |
| 10/27/91 | 11 11 | MAH | 20.6 | 7.7 | 8.8 | — | — | — | — | None # (pg 1) |
| 10/31/91 | 1013 | LAU MAH | 20.5 | 7.7 | 8.9 | 546 | 66 | 110 | 1.0 | None # (pg 1) |
| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | | | |
| 1 | | 16 | | 31 | | 46 | | | | |
| 2 | | 17 | | 32 | | 47 | | | | |
| 3 | | 18 | | 33 | | 48 | | | | |
| 4 | | 19 | | 34 | | 49 | | | | |
| 5 | | 20 | | 35 | | 50 | | | | |
| 6 | | 21 | | 36 | | 51 | | | | |
| 7 | | 22 | | 37 | | 52 | | no organisms | | |
| 8 | | 23 | | 38 | | 53 | | | | |
| 9 | | 24 | | 39 | | 54 | | | | |
| 10 | | 25 | | 40 | | 55 | | | | |
| 11 | | 26 | | 41 | | 56 | | | | |
| 12 | | 27 | | 42 | | 57 | | | | |
| 13 | | 28 | | 43 | | 58 | | | | |
| 14 | | 29 | | 44 | | 59 | | | | |
| 15 | | 30 | | 45 | | 60 | | | | |

* µhms/cm.
† mg/L as $CaCO_3$
** mg/L as N.

① Entry Error DSH 10/17/91

Entry Error MAH 10/24/91

ESE Bioassay Department
St. Louis, Missouri

Page: 7
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Ambrosst
Test Substance: Sediments
Project No.: 491-5422 -0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: 1
Replicate: A
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | NH₃‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 7.2 | 7.4 | 579 | 93 | 52 | [illegible] | Sediment [illegible] cloudy 43 hours |
| 10/13/91 | 1213 | MAH | 20.6 | 7.6 | 8.1 | — | — | — | — | NAVE #/pg 11 |
| 10/17/91 | 1127 | DSH MAH | 20.2 | [illegible] | 6.7 | 571 | 86 | 113 | 3.0 (1) | NAVE #/pg 11 |
| 10/20/91 | 1311 | MAH | 21.0 | 7.9 | 8.3 | [illegible] | [illegible] | [illegible] | — | none #/pg 1 |
| 10/24/91 | 1038 | LAV MAH | 20.6 | 7.8 | 7.6 | ~~564~~ (1) | 96 (2) | 96 (2) | 1.0 | none #/pg 1 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) | | | | | |
| 1 | | | 16 | | | | | | | |
| 2 | | | 17 | | | | | | | |
| 3 | | | 18 | | | | | | | |
| 4 | | | 19 | | | | | | | |
| 5 | | | 20 | | | no organisms | | | | |
| 6 | | | 21 | | | | | | | |
| 7 | | | 22 | | | | | | | |
| 8 | | | 23 | | | | | | | |
| 9 | | | 24 | | | | | | | |
| 10 | | | 25 | | | | | | | |
| 11 | | | 26 | | | | | | | |
| 12 | | | 27 | | | | | | | |
| 13 | | | 28 | | | | | | | |
| 14 | | | 29 | | | | | | | |
| 15 | | | 30 | | | | | | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

(1) Entry Error DSH 10/17/91
(1) Entry Error LAV 10/24/91
(2) Entry Error MAH 10/24/91

ESE Bioassay Department
St. Louis, Missouri

Page: 8
ESE QA Form No.: S2-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422 -0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: 1
Replicate: B
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$= | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 7.2 | 8.4 | 582 | 98 | 52 | 1.0 | Sediments - 43 cloudy water |
| 10/13/91 | 1213 | MAH | 20.6 | 7.6 | 8.5 | — | — | — | — | NONE #/pg 1 |
| 10/17/91 | 1127 | DEH MAH | 20.2 | 7.5 | 7.2 | 574 | 86 | 113 | ~~2.0~~ 3.0 | NONE #/(pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.6 | 7.3 | — | — | — | — | none #/(pg 1) |
| 10/24/91 | 1038 | LAV/MAH | 20.6 | 7.8 | 6.8 | 568 | ~~98~~ | ~~94~~ | 1.0 | none #/(pg 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) | | | | | |
| 1 | | | 16 | | | | | | | |
| 2 | | | 17 | | | | | | | |
| 3 | | | 18 | | | | | | | |
| 4 | | | 19 | | | | | | | |
| 5 | | | 20 | | | NO ORGANISMS | | | | |
| 6 | | | 21 | | | | | | | |
| 7 | | | 22 | | | | | | | |
| 8 | | | 23 | | | | | | | |
| 9 | | | 24 | | | | | | | |
| 10 | | | 25 | | | | | | | |
| 11 | | | 26 | | | | | | | |
| 12 | | | 27 | | | | | | | |
| 13 | | | 28 | | | | | | | |
| 14 | | | 29 | | | | | | | |
| 15 | | | 30 | | | | | | | |

* µhms/cm. ① Entry Error ② Entry Error MAH 10-24-91
† mg/L as $CaCO_3$ DEH 10/17/91
= mg/L as N.

ESE Bioassay Department
St. Louis, Missouri

Page: 9
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3 mm Juveniles
Treatment Level: 2
Replicate: A
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$** | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1220 | MAH | 20.6 | 7.0 | 8.1 | 582 | 88 | 172 | 2.5 | Settling Aid - 45 hrs cloudy 10 mins |
| 10/13/91 | 1213 | MAH | 20.6 | 7.7 | 8.3 | — | — | — | — | NONE # (pg 1) |
| 10/17/91 | 1127 | DSH MAH | 20.2 | 7.5 | 7.7 | 517 | 118 | 98 | 4.00 ~~23.5~~ | NONE # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.6 | 8.1 | — | — | — | — | none # (pg 1) |
| 10/24/91 | 1038 | LAV MAH | 20.6 | 7.7 | 7.8 | 534 | 132 | 112 | 3.0 | none # (pg 1) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.7 | 8.3 | — | — | — | — | none # (pg 1) |
| 10/31/91 | 1010 | LAV MAH | 20.5 | 7.7 | 8.5 | 498 | 126 | 118 | 4.0 | none # (pg 1) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|
| 1 | 5.35 | 16 | 5.20 | 31 | 1.35 | 46 | 1.25 |
| 2 | 5.20 | 17 | 5.00 | 32 | 1.90 | 47 | 0.95 |
| 3 | 7.50 | 18 | 4.85 | 33 | 1.30 | 48 | 1.05 |
| 4 | 6.00 | 19 | 4.25 | 34 | 1.00 | 49 | .65 |
| 5 | 4.00 | 20 | | 35 | 1.00 | 50 | 80 |
| 6 | 4.15 | 21 | | 36 | 1.75 | 51 | 70 |
| 7 | 3.80 | 22 | | 37 | 0.85 | 52 | |
| 8 | 5.00 | 23 | | 38 | 0.95 | 53 | |
| 9 | 5.25 | 24 | | 39 | 0.55 | 54 | |
| 10 | 4.35 | 25 | | 40 | 0.85 | 55 | |
| 11 | 4.85 | 26 | | 41 | 0.75 | 56 | |
| 12 | 3.90 | 27 | | 42 | 1.00 | 57 | |
| 13 | 4.10 | 28 | | 43 | 1.05 | 58 | |
| 14 | 4.75 | 29 | | 44 | 0.95 | 59 | |
| 15 | 5.10 | 30 | | 45 | 0.55 | 60 | |

* µhms/cm.
† mg/L as $CaCO_3$
** mg/L as N.

① Entry Error DSH 10/17/91

② Entry Error DSH MAH

ESE Bioassay Department
St. Louis, Missouri

Page: 10
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3 mm Juveniles
Treatment Level: 2
Replicate: B
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$** | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 7.0 | 8.3 | 584 | 99 | 172 | 2.5 | settling more - 45hrs cloudy 10 mins |
| 10/13/91 | 1213 | MAH | 20.6 | 7.6 | 8.6 | — | — | — | — | NONE #/pg 1 |
| 10/17/91 | 1127 | [illegible] | 20.2 | 7.5 | 8.1 | 534 | 118 | 98 | 2.50 | NONE #/pg 1 |
| 10/20/91 | 1311 | MAH | 21.0 | 7.6 | 7.4 | — | — | — | — | none #(pg 1) |
| 10/24/91 | 1038 | LAV/MAH | 20.6 | 7.7 | 7.2 | 522 | 132 | 112 | 3.0 | none #(pg 1) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.8 | 8.8 | — | — | — | — | none #(pg 1) |
| 10/31/91 | 1015 | LAV MAH | 20.5 | 7.8 | 8.5 | 488 | 136 | 118 | 4.0 | none #(pg 1) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|
| 1 | 6.30 | 16 | 5.25 | 31 | 1.00 | 46 | 0.85 |
| 2 | 6.00 | 17 | 4.35 | 32 | 0.70 | 47 | 1.05 |
| 3 | 5.20 | 18 | 6.50 | 33 | 1.10 | 48 | 0.95 |
| 4 | 6.10 | 19 | | 34 | 1.35 | 49 | 1.05 |
| 5 | 5.00 | 20 | | 35 | 1.00 | 50 | 1.10 |
| 6 | 5.30 | 21 | | 36 | 0.85 | 51 | 0.85 |
| 7 | 4.35 | 22 | | 37 | 0.55 | 52 | 0.60 |
| 8 | 4.00 | 23 | | 38 | 0.70 | 53 | |
| 9 | 5.00 | 24 | | 39 | 1.05 | 54 | |
| 10 | 5.00 | 25 | | 40 | 0.95 | 55 | |
| 11 | 5.10 | 26 | | 41 | 0.85 | 56 | |
| 12 | 5.00 | 27 | | 42 | 1.85 | 57 | |
| 13 | 5.35 | 28 | | 43 | 1.05 | 58 | |
| 14 | 7.10 | 29 | | 44 | 0.60 | 59 | |
| 15 | 4.15 | 30 | | 45 | 0.70 | 60 | |

* µhms/cm.
† mg/L as $CaCO_3$
** mg/L as N.

DEPTH ERROR
DSH 10/17/91

ESE Bioassay Department
St. Louis, Missouri

Page: 11
ESE QA Form No.: SC-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar
Treatment Level: 2
Replicate: 4
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 7.0 | 7.2 | 574 | 88 | 172 | 2.5 | Settlingtime #2 hrs cloudy 10mgl |
| 10/13/91 | 1213 | MAH | 20.6 | 7.7 | 8.7 | — | — | — | — | NONE #/pg.1) |
| 10/17/91 | 1127 | MAH | 20.2 | 7.6 | 7.2 | 533 | 118 | 98 | 0.40 | NONE #/pg.1) |
| 10/20/91 | 1211 | MAH | 21.0 | 7.4 | 8.3 | — | — | — | — | none #/pg.1) |
| 10/24/91 | 1035 | MAH/MAH | 20.6 | 7.6 | 2.5 | 527 | 122 | 112 | 3.0 | none #(pg.1) |
| | | | | | | | | | | |
| | | | | | | | | | | |
| (1) organism | length mm | organism | length mm | weight g | weight g | | | | | |
| 1 | 26.10 | 16 | 14.0 | 0.0566 | 0.0125 | | | | | |
| 2 | 19.9 | 17 | 17.0 | 0.0435 | 0.0298 | | | | | |
| 3 | 17.5 | 18 | 16.2 | 0.0347 | 0.0251 | | | | | |
| 4 | 25.3 | 19 | 16.9 | 0.0504 | 0.0275 | | | | | |
| 5 | 17.3 | 20 | | 0.0399 | | | | | | |
| 6 | 17.0 | 21 | | 0.0347 | | | | | | |
| 7 | 23.6 | 22 | | 0.0517 | | | | | | |
| 8 | 17.9 | 23 | | 0.0356 | | | | | | |
| 9 | 18.7 | 24 | | 0.0380 | | | | | | |
| 10 | 13.8 | 25 | | 0.0251 | | | | | | |
| 11 | 13.4 | 26 | | 0.0199 | | | | | | |
| 12 | 18.2 | 27 | | 0.0337 | | | | | | |
| 13 | 12.4 | 28 | | 0.0145 | | | | | | |
| 14 | 15.0 | 29 | | 0.0209 | | | | | | |
| 15 | 15.2 | 30 | | 0.0211 | | | | | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

(1) Entry Error RA 10/17/91

(2) Entry Error 10/24/91

ESE Bioassay Department
St. Louis, Missouri

Page: 12
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422 - 0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: 2
Replicate: B
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$** | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 7.0 | 4.2 | 587 | 33 | 152 | 3.5 | Settling time 4 hrs cloudy 15 min |
| 10/17/91 | 1213 | MAH | 20.6 | 7.7 | 8.8 | — | — | — | — | NONE # (pg 1) |
| 10/24/91 | 1127 | DSH MAH | 20.2 | 7.3 | 8.8 | 565 | 118 | 98 | 0.40 0.35 | NONE # (pg 1) |
| 10/30/91 | 1311 | MAH | 21.0 | 4.3 | 2.3 | — | — | — | — | Sample cloudy and smells bad |
| 10/24/91 | 1038 | LAV MAH | 20.6 | 7.7 | 7.5 | 544 | 132 | 112 | 3.0 | none # (pg 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Organism | Length/mm | Organism | Length/mm | Weight (g) | Weight (g) | | | | | |
| 1 | 20.30 | 16 | 13.75 | 0.0393 | 0.0144 | | | | | |
| 2 | 19.60 | 17 | 16.10 | 0.0876 | 0.0210 | | | | | |
| 3 | 21.10 | 18 | 13.60 | 0.0422 | 0.0135 | | | | | |
| 4 | 21.50 | 19 | 25.05 | 0.0415 | 0.0585 | | | | | |
| 5 | 18.30 | 20 | 16.75 | 0.0353 | 0.0292 | | | | | |
| 6 | 20.30 | 21 | 19.30 | 0.0366 | 0.0392 | | | | | |
| 7 | 19.20 | 22 | 20.90 | 0.0358 | 0.0410 | | | | | |
| 8 | 24.70 | 23 | 16.50 | 0.0575 | 0.0269 | | | | | |
| 9 | 25.20 | 24 | 16.55 | 0.0589 | 0.0244 | | | | | |
| 10 | 22.20 | 25 | 19.30 | 0.0496 | 0.0357 | | | | | |
| 11 | 16.60 | 26 | 17.15 | 0.0288 | 0.0322 | | | | | |
| 12 | 14.50 | 27 | 13.60 | 0.0185 | 0.0176 | | | | | |
| 13 | 20.55 | 28 | | 0.0256 | | | | | | |
| 14 | 16.75 | 29 | | 0.0254 | | | | | | |
| 15 | 14.80 | 30 | | 0.0122 | | | | | | |

* µhms/cm.
† mg/L as $CaCO_3$
** mg/L as N.

① Entry Error DSH 10/17/91

② Entry Error DSH 10/31/91

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10/10/91

ESE Bioassay Department
St. Louis, Missouri

Page: 13
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3 mm Juveniles
Treatment Level: 3
Replicate: A
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 9/12/91 | 1200 | MAH/[illegible] | 20.6 | 6.8 | 7.8 | 670 | 116 | 96 | 91 ① | settling time - 42 hrs Cloudy 25 mm |
| 9/13/91 | 1213 | MAH/[illegible] | 20.6 | 7.6 | 8.6 | — | — | — | — | NONE# (pg 1) |
| 10/17/91 | 1127 | [illegible] | 20.2 | 7.2 | 7.3 | 627 | 60 | 140 | 132 | NONE# (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.6 | 8.5 | — | — | — | — | none# (pg 1) |
| 10/24/91 | 1038 | LAU/MAH | 20.6 | 7.6 | 8.0 | 631 | 108 | 146 | 14.0 | none# (pg 1) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.6 | 8.6 | — | — | — | — | none# (pg 1) |
| 10/31/91 | 1015 | LAU/MAH | 20.0 | 7.6 | 8.7 | 614 | 102 | 148 | 14.0 | none# (pg 1) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length |
|---|---|---|---|---|---|---|---|
| 1 | 7.15 | 16 | 3.35 | 31 | 1.00 | 46 | 0.65 |
| 2 | 7.0 | 17 | 3.80 | 32 | 1.10 | 47 | |
| 3 | 6.30 | 18 | 4.15 | 33 | 1.00 | 48 | |
| 4 | 4.50 | 19 | 6.50 | 34 | 0.25 | 49 | |
| 5 | 4.15 | 20 | 6.00 | 35 | 1.85 | 50 | |
| 6 | 5.05 | 21 | 5.85 | 36 | 1.15 | 51 | |
| 7 | 3.40 | 22 | | 37 | 0.95 | 52 | |
| 8 | 5.15 | 23 | | 38 | 1.00 | 53 | |
| 9 | 4.50 | 24 | | 39 | 1.00 | 54 | |
| 10 | 5.0 | 25 | | 40 | 1.00 | 55 | |
| 11 | 6.45 | 26 | | 41 | .55 | 56 | |
| 12 | 6.35 | 27 | | 42 | .75 | 57 | |
| 13 | 4.25 | 28 | | 43 | .95 | 58 | |
| 14 | 3.80 | 29 | | 44 | 1.25 | 59 | |
| 15 | 5.15 | 30 | | 45 | 1.10 | 60 | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

① Entry error 1234 10/10/91

ESE Bioassay Department
St. Louis, Missouri

Page: 14
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3 mm Juveniles
Treatment Level: 3
Replicate: B
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ (1) | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1300 | MAH | 20.6 | 6.8 | 8.1 | 673 | 116 | 96 | 21.0 | Sediments - 42hr Cloudy 35 hrs |
| 10/13/91 | 1213 | MAH | 20.6 | 7.6 | 8.6 | — | — | — | — | None # (pg/l) |
| 10/17/91 | 1127 | MAH | 20.2 | 7.7 | 7.8 | 602 | 60 | 140 | 13.2 | None # (pg/l) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.6 | 8.4 | — | — | — | — | none # (pg/l) |
| 10/24/91 | 1034 | LAV MAH | 20.6 | 7.6 | 8.1 | 594 | 108 | 146 | 14.0 | none # (pg/l) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.5 | 8.2 | — | — | — | — | none # (pg/l) |
| 10/31/91 | 1015 | LAV MAH | 20.5 | 7.6 | 8.0 | 577 | 52 | 148 | 14.0 | none # (pg/l) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|
| 1 | 7.15 | 16 | 4.80 | 31 | 0.95 | 46 | |
| 2 | 4.50 | 17 | | 32 | 1.00 | 47 | |
| 3 | 6.05 | 18 | | 33 | 1.00 | 48 | |
| 4 | 6.00 | 19 | | 34 | 1.10 | 49 | |
| 5 | 6.35 | 20 | | 35 | 1.20 | 50 | |
| 6 | 4.40 | 21 | | 36 | 0.55 | 51 | |
| 7 | 5.40 | 22 | | 37 | 0.75 | 52 | |
| 8 | 5.00 | 23 | | 38 | 0.85 | 53 | |
| 9 | 5.00 | 24 | | 39 | 1.85 | 54 | |
| 10 | 5.00 | 25 | | 40 | 1.05 | 55 | |
| 11 | 5.10 | 26 | | 41 | 1.00 | 56 | |
| 12 | 5.05 | 27 | | 42 | 1.10 | 57 | |
| 13 | 4.55 | 28 | | 43 | 1.00 | 58 | |
| 14 | 4.15 | 29 | | 44 | 0.85 | 59 | |
| 15 | 3.30 | 30 | | 45 | X | 60 | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

(1) Entry Error
BSA 10/30/91

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10/10/91

ESE Bioassay Department
St. Louis, Missouri

Page: 15
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 451-5422 -0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: 3
Replicate: A
Exposure Period: 14 Days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH/[illegible] | 20.6 | 6.8 | 7.7 | 664 | 1110 | 96 | 9.0 ① | settling time - 4 hrs, cloudy, 25 min |
| 10/13/91 | 1213 | MAH/[illegible] | 20.6 | 7.7 | 8.6 | — | — | — | — | NONE (pg. 1) |
| 10/17/91 | 1127 | DSH MAH | 20.2 | 7.8 | 7.7 | 632 | 60 | 140 | 13.2 | NONE (pg. 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.7 | 8.0 | — | — | — | — | NONE (pg. 1) |
| 10/24/91 | 1038 | LW/MAH | 20.6 | 7.5 | 2.5 | 584 | 108 | 146 | 14.0 | NONE (pg. 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | length (mm) | weight (g) | Organism | length (mm) | weight (g) |
|---|---|---|---|---|---|
| 1 | 21.10 | 0.0457 | 16 | 17.80 | 0.0315 |
| 2 | 19.30 | 0.0345 | 17 | 20.55 | 0.0427 |
| 3 | 18.75 | 0.0343 | 18 | 14.70 | 0.0194 |
| 4 | 20.20 | 0.0476 | 19 | 16.10 | 0.0238 |
| 5 | 18.60 | 0.0369 | 20 | 13.65 | 0.0199 |
| 6 | 16.75 | 0.0285 | 21 | 24.20 | 0.0487 |
| 7 | 19.65 | 0.0396 | 22 | 23.60 | 0.0465 |
| 8 | 17.45 | 0.0315 | 23 | 24.20 | 0.0432 |
| 9 | 13.60 | 0.0139 | 24 | 24.4 | 0.0422 |
| 10 | 25.50 | 0.0507 | 25 | 21.8 | 0.0418 |
| 11 | 18.10 | 0.0385 | 26 | 16.50 | 0.0274 |
| 12 | 22.65 | 0.0415 | 27 | 18.65 | 0.0366 |
| 13 | 25.70 | 0.0486 | 28 | 14.30 | 0.0101 |
| 14 | 16.50 | 0.0112 | 29 | X | X |
| 15 | 18.10 | 0.0314 | 30 | X | X |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

① Entry Error DSH 10/10/91

ESE Bioassay Department
St. Louis, Missouri

Page: 16
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Ambient
Test Substance: Sediments
Project No.: 451-5422 -0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar
Treatment Level: 3
Replicate: B
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$= | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH/[illegible] | 20.6 | 6.8 | 4.3 | 564 | 116 | 96 | 9.10 ① | settling time - 4 hr cloudy 25 hrs |
| 10/13/91 | 1213 | MAH/[illegible] | 20.6 | 7.7 | 9.3 | — | — | — | — | none # (pg 1) |
| 10/17/91 | 1127 | MAH | 20.2 | 7.6 | 7.4 | 631 | 60 | 140 | 13.2 | none # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.6 | 6.9 | — | — | — | — | none # (pg 1) |
| 10/24/91 | 1038 | LJ/MAH | 20.6 | 7.5 | 5.6 | 584 | 108 | 146 | 14.0 | none # (pg 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | length (mm) | weight (g) | Organism | length (mm) | weight g |
|---|---|---|---|---|---|
| 1 | 25.00 | .0512 | 16 | 20.05 | 0.0458 |
| 2 | 18.10 | 0.0357 | 17 | 16.75 | 0.0222 |
| 3 | 23.00 | 0.0445 | 18 | 19.30 | 0.0343 |
| 4 | 19.00 | 0.0380 | 19 | 18.60 | 0.0335 |
| 5 | 25.70 | 0.0544 | 20 | 18.10 | 0.0276 |
| 6 | 25.70 | 0.0601 | 21 | 14.80 | 0.0192 |
| 7 | 24.20 | 0.0510 | 22 | 17.70 | 0.0269 |
| 8 | 22.00 | 0.0406 | 23 | 23.80 | 0.0469 |
| 9 | 16.50 | 0.0282 | 24 | 17.15 | 0.0266 |
| 10 | 20.90 | 0.0309 | 25 | 16.1 | 0.0185 |
| 11 | 23.80 | 0.0493 | 26 | 13.6 | 0.0068 |
| 12 | 20.55 | 0.0383 | 27 | X | X |
| 13 | 18.60 | 0.0276 | 28 | X | X |
| 14 | 21.00 | 0.0444 | 29 | X | X |
| 15 | 25.60 | 0.0553 | 30 | X | X |

* µhms/cm.
† mg/L as $CaCO_3$
= mg/L as N.

① Entry Error
DSH 14/10/91

ESE Bioassay Department
St. Louis, Missouri

Page: 17
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediment
Project No.: 491 - 5422 -0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3mm Juveniles
Treatment Level: 4
Replicate: A
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$= | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH/ | 20.6 | 6.9 | 4.9 | 592 | 150 | 104 | 14.5 | Settling time - 41 hrs Gravity 50 mm |
| 10/13/91 | 1213 | MAH | 20.6 | 7.8 | 8.5 | — | — | — | — | NONE # (pg 11) |
| 10/17/91 | 1127 | LBH MAH | 20.7 | 7.7 | 8.3 | 575 | 120 | 50 | 10.5 | NONE # (pg 11) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.4 | 4.5 | — | — | — | — | NONE # (pg 1) |
| 10/24/91 | 1038 | LAV MAH | 20.6 | 7.4 | 4.5 | 562 | 126 | 64 | 10.0 | NONE # (pg 1) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.7 | 8.7 | — | — | — | — | NONE # (pg 1) |
| 10/31/91 | 1015 | LAV MAH | 20.5 | 7.7 | 8.1 | 536 | 102 | 124 | 11.0 | NONE # (pg 1) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 4.15 | 16 | 5.40 | 31 | 1.20 | 46 | 1.35 | 61 | 0.70 |
| 2 | 6.65 | 17 | 5.00 | 32 | 1.10 | 47 | 1.40 | 62 | 0.75 |
| 3 | 7.25 | 18 | 5.10 | 33 | 1.00 | 48 | 1.00 | 63 | 0.80 |
| 4 | 6.25 | 19 | 5.05 | 34 | 1.00 | 49 | 1.00 | 64 | 0.65 |
| 5 | 6.00 | 20 | 4.50 | 35 | 1.10 | 50 | 1.00 | 65 | 0.60 |
| 6 | 5.30 | 21 | 5.00 | 36 | 1.15 | 51 | 1.00 | 66 | 0.55 |
| 7 | 4.05 | 22 | 4.55 | 37 | 1.05 | 52 | 1.40 | 67 | 0.55 |
| 8 | 5.80 | 23 | 4.15 | 38 | 1.25 | 53 | 0.85 | 68 | 0.90 |
| 9 | 5.00 | 24 | 3.70 | 39 | 1.05 | 54 | 0.95 | 69 | 0.80 |
| 10 | 7.20 | 25 | 3.80 | 40 | 1.00 | 55 | 0.55 | 70 | 0.85 |
| 11 | 6.35 | 26 | 3.80 | 41 | 1.00 | 56 | 0.55 | 71 | 1.15 |
| 12 | 4.40 | 27 | 4.00 | 42 | 1.30 | 57 | 0.60 | 72 | 1.05 |
| 13 | 4.00 | 28 | | 43 | 1.00 | 58 | 0.75 | | |
| 14 | 5.00 | 29 | | 44 | 1.00 | 59 | 0.85 | | |
| 15 | 7.00 | 30 | | 45 | 1.20 | 60 | 0.65 | | |

* µhms/cm.
† mg/L as $CaCO_3$
= mg/L as N.

D Kathy Ferrop
10/31/91

ESE Bioassay Department
St. Louis, Missouri

Page: 18
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3 mm Juveniles
Treatment Level: 4
Replicate: B
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$** | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 6.9 | 6.9 | 604 | 150 | 104 | 14.5 | settling mix - 4 hrs, cloudy - 30 mins |
| 10/13/91 | 1213 | MAH | 20.6 | 7.8 | 8.8 | — | — | — | — | none # (pg 1) |
| 10/17/91 | 1127 | MAH | 20.2 | 7.7 | 8.0 | 576 | 120 | 50 | 10.5 | none # (pg 1) |
| 10/20/91 | 1211 | MAH | 21.0 | 7.3 | 4.6 | — | — | — | — | none # (pg 1) |
| 10/24/91 | 1038 | LAV/MAH | 20.6 | 7.4 | 5.4 | 566 | 126 | 64 | 10.0 | none # (pg 1) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.7 | 8.7 | — | — | — | — | none # (pg 1) |
| 10/31/91 | 1015 | LAV/MAH | 20.5 | 7.8 | 8.7 | 544 | 102 | 124 | 11.0 | none # (pg 1) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 7.80 | 16 | 5.60 | 31 | 1.00 | 46 | 1.00 | 61 | 1.35 |
| 2 | 7.10 | 17 | 4.25 | 32 | 1.00 | 47 | 0.55 | 62 | 1.00 |
| 3 | 7.80 | 18 | 4.00 | 33 | 1.20 | 48 | 1.20 | 63 | 1.00 |
| 4 | 6.25 | 19 | 5.85 | 34 | 1.35 | 49 | 0.70 | 64 | 1.95 |
| 5 | 4.10 | 20 | 3.35 | 35 | 1.00 | 50 | 1.85 | 65 | 1.30 |
| 6 | 5.00 | 21 | 3.95 | 36 | 1.95 | 51 | 1.20 | 66 | 0.55 |
| 7 | 4.15 | 22 | 5.95 | 37 | 1.85 | 52 | 1.00 | 67 | 0.80 |
| 8 | 7.00 | 23 | 4.30 | 38 | 1.00 | 53 | 0.60 | 68 | 1.75 |
| 9 | 6.35 | 24 | 4.30 | 39 | 1.50 | 54 | 1.55 | 69 | 0.55 |
| 10 | 6.30 | 25 | 3.20 | 40 | 1.00 | 55 | 1.15 | 70 | 0.60 |
| 11 | 5.00 | 26 | 5.00 | 41 | 1.15 | 56 | 1.00 | 71 | 0.70 |
| 12 | 5.30 | 27 | | 42 | 1.00 | 57 | 1.20 | 72 | 0.95 |
| 13 | 4.35 | 28 | | 43 | 0.50 | 58 | 1.35 | 73 | 0.85 |
| 14 | 3.30 | 29 | | 44 | 1.15 | 59 | 1.25 | 74 | 0.80 |
| 15 | 4.50 | 30 | | 45 | 1.15 | 60 | 1.00 | 75 | 0.70 |
| | | | | | | | | 76 | 0.55 |

* µhms/cm.
† mg/L as $CaCO_3$
** mg/L as N.

Entry Error
10/31/91

ESE Bioassay Department
St. Louis, Missouri

Page: 19
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422 -0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: 4
Replicate: A
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$** | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 6.9 | 4.7 | 660 | 150 | 104 | 14.5 | Sediment 40 ml. slightly sandy |
| 10/13/91 | 1213 | MAH | 20.6 | 7.8 | 8.0 | — | — | — | — | None # (pg 1) |
| 10/17/91 | 27 | MAH | 20.2 | 7.6 | 6.3 | 606 | 120 | 50 | 10.5 | None # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.3 | 2.2 | — | — | — | — | dark red smelly |
| 10/24/91 | 1038 | MAH | 20.6 | 7.5 | 5.6 | 575 | 126 | 64 | 10.0 | none # (pg 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) |
|---|---|---|---|---|---|
| 1 | 24.85 | 0.0521 | 16 | 27.50 | 0.0549 |
| 2 | 26.00 | 0.0576 | 17 | 25.85 | 0.0542 |
| 3 | 13.10 | 0.0077 | 18 | 19.00 | 0.0346 |
| 4 | 22.00 | 0.0377 | 19 | 17.80 | 0.0277 |
| 5 | 18.05 | 0.0325 | 20 | 25.80 | 0.0539 |
| 6 | 23.90 | 0.433 | 21 | 21.60 | 0.0461 |
| 7 | 27.20 | 0.470 | 22 | 11.65 | 0.0083 |
| 8 | 24.05 | 0.0399 | 23 | 20.00 | 0.0358 |
| 9 | 20.35 | 0.0376 | 24 | 21.60 | 0.0458 |
| 10 | 22.00 | 0.047 | 25 | 12.05 | 0.0096 |
| 11 | 26.00 | 0.0539 | 26 | | |
| 12 | 24.70 | 0.0470 | 27 | | |
| 13 | 19.40 | 0.0349 | 28 | | |
| 14 | 20.90 | 0.0347 | 29 | | |
| 15 | 23.60 | 0.0418 | 30 | | |

* µhms/cm.
† mg/L as $CaCO_3$
** mg/L as N.

ESE Bioassay Department
St. Louis, Missouri

Page: 20
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Ambrosi
Test Substance: Sediments
Project No.: 491-5922-010.2

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: 4
Replicate: B
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 6.9 | 8.4 | 660 | 150 | 104 | 14.5 | sediment - mud. cloudy 30 mins |
| 10/13/91 | 1213 | MAH | 20.6 | 7.8 | 8.5 | — | — | — | — | None # (pg 1) |
| 10/17/91 | 1127 | MAN | 20.2 | 7.6 | 7.6 | 599 | 120 | 50 | 10.5 | None # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.4 | 7.6 | — | — | — | — | none # (pg 1) |
| 10/24/91 | 1034 | LAV MAH | 20.6 | 7.5 | 7.0 | 534 | 126 | 64 | 10.0 | none # (pg 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) |
|---|---|---|---|---|---|
| 1 | 23.7 | 0.0504 | 16 | 20.35 | 0.0404 |
| 2 | 23.2 | 0.0506 | 17 | 15.90 | 0.0259 |
| 3 | 17.40 | 0.0318 | 18 | 19.70 | 0.0439 |
| 4 | 21.20 | 0.0462 | 19 | 22.00 | 0.0504 |
| 5 | 19.05 | 0.0451 | 20 | 23.20 | 0.0435 |
| 6 | 20.00 | 0.0430 | 21 | 20.70 | 0.0335 |
| 7 | 19.90 | 0.0406 | 22 | 21.35 | 0.0400 |
| 8 | 16.35 | 0.0251 | 23 | 20.40 | 0.0354 |
| 9 | 21.00 | 0.0351 | 24 | 19.50 | 0.0374 |
| 10 | 17.20 | 0.0237 | 25 | 14.00 | 0.0116 |
| 11 | 18.35 | 0.0316 | 26 | 17.60 | 0.0304 |
| 12 | 24.00 | 0.0449 | 27 | 22.80 | 0.0410 |
| 13 | 18.40 | 0.0363 | 28 | 24.10 | 0.0471 |
| 14 | 21.00 | 0.0461 | 29 | 22.20 | 0.0384 |
| 15 | 21.50 | 0.0498 | 30 | X | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

ESE Bioassay Department
St. Louis, Missouri

Page: 21
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3 mm Juveniles
Treatment Level: 5
Replicate: A
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | NH,** | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH/[illegible] | 20.6 | 6.8 | 8.3 | 601 | 76 | 64 | 4.5 | Settling fine - will be cloudy 10 mins |
| 10/13/91 | 1213 | MAH/[illegible] | 20.6 | 7.6 | 8.1 | — | — | — | — | NONE # (pg 1) |
| 10/17/91 | 1127 | [illegible] | 20.2 | 7.4 | 7.8 | 499 | 85 | 87 | 7.5 | NONE # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.4 | 8.6 | — | — | — | — | none # (pg 1) |
| 10/24/91 | 1038 | LAV/MAH | 20.6 | 7.3 | 3.6 | 480 | 30 | 86 | 8.0 | none # (pg 1) |
| 102791 | 1111 | MAH | 20.6 | 7.6 | 8.4 | — | — | — | — | none # (pg 1) |
| 10/31/91 | 1015 | LAV/MAH | 20.5 | 7.6 | 8.4 | 472 | 48 | 84 | 8.0 | none # (pg 1) |
| Organism | length (mm) | organism | length (mm) | organism | length (mm) | organism | length (mm) | | | |
| 1 | 6.25 | 16 | 4.20 | 31 | 2.00 | 46 | 0.55 | | | |
| 2 | 7.00 | 17 | 6.25 | 32 | 1.00 | 47 | 0.75 | | | |
| 3 | 6.55 | 18 | 4.35 | 33 | 1.00 | 48 | 0.85 | | | |
| 4 | 7.15 | 19 | 5.50 | 34 | 1.10 | 49 | 0.95 | | | |
| 5 | 6.05 | 20 | 5.00 | 35 | 1.15 | 50 | 0.60 | | | |
| 6 | 6.35 | 21 | 6.05 | 36 | 1.00 | 51 | 0.55 | | | |
| 7 | 5.35 | 22 | 7.25 | 37 | 0.80 | 52 | 0.85 | | | |
| 8 | 7.00 | 23 | 6.85 | 38 | 0.85 | 53 | 1.00 | | | |
| 9 | 6.00 | 24 | | 39 | 1.00 | 54 | 0.60 | | | |
| 10 | 5.00 | 25 | | 40 | 1.00 | 55 | 0.55 | | | |
| 11 | 5.05 | 26 | | 41 | 1.00 | 56 | 0.75 | | | |
| 12 | 5.30 | 27 | | 42 | 1.00 | 57 | | | | |
| 13 | 5.35 | 28 | | 43 | 1.10 | 58 | | | | |
| 14 | 4.45 | 29 | | 44 | 1.25 | 59 | | | | |
| 15 | 4.95 | 30 | | 45 | 1.00 | 60 | | | | |

* µhms/cm.
† mg/L as $CaCO_3$
** mg/L as N.

① Entry Error
10/31/91

ESE Bioassay Department
St. Louis, Missouri

Page: 22
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amhast
Test Substance: Sediments
Project No.: 491-5422-0102

Species: ~~Chironomus~~ Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3mm Juveniles
Treatment Level: 5
Replicate: B
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | NH₃‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 6.8 | 8.4 | 593 | 76 | 64 | 4.5 | Sediment - [illegible] |
| 10/13/91 | 1213 | MAH | 20.6 | 7.5 | 8.4 | — | — | — | — | NONE # (pg 1) |
| 10/17/91 | 1127 | MAH | 20.2 | 7.4 | 8.0 | 499 | 85 | 87 | 7.5 | NONE # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.4 | 8.5 | — | — | — | — | none # (pg 1) |
| 10/24/91 | 1038 | MAH | 20.6 | 7.4 | 8.1 | 483 | 30 | 86 | 8.0 | none # (pg 1) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.6 | 8.7 | — | — | — | — | none # (pg 1) |
| 10/31/91 | 1015 | MAH | 20.5 | 7.6 | 8.8 | 478 | 48 | 84 | 8.0 | none # (pg 1) |

| organism | length (mm) | organism | length (mm) | organism | length (mm) | organism | length (mm) |
|---|---|---|---|---|---|---|---|
| 1 | 5.60 | 16 | 5.80 | 31 | 1.20 | 46 | 0.75 |
| 2 | 5.00 | 17 | 5.70 | 32 | 1.00 | 47 | 0.80 |
| 3 | 5.20 | 18 | 5.00 | 33 | 1.15 | 48 | 0.55 |
| 4 | 6.35 | 19 | 5.10 | 34 | 1.00 | 49 | 0.55 |
| 5 | 4.35 | 20 | 5.40 | 35 | 1.30 | 50 | 0.60 |
| 6 | 6.90 | 21 | 6.35 | 36 | 1.00 | 51 | 0.65 |
| 7 | 7.05 | 22 | | 37 | 1.00 | 52 | 0.70 |
| 8 | 4.95 | 23 | | 38 | 1.00 | 53 | 0.75 |
| 9 | 4.35 | 24 | | 39 | 1.95 | 54 | 0.60 |
| 10 | 4.30 | 25 | | 40 | 1.00 | 55 | 0.65 |
| 11 | 5.00 | 26 | | 41 | 1.00 | 56 | |
| 12 | 4.20 | 27 | | 42 | 1.15 | 57 | |
| 13 | 4.30 | 28 | | 43 | 0.85 | 58 | |
| 14 | 3.85 | 29 | | 44 | 0.60 | 59 | |
| 15 | 6.50 | 30 | | 45 | 0.55 | 60 | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

ESE Bioassay Department
St. Louis, Missouri

Page: 22
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: (91-5421 -0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd instar)
Treatment Level: 5
Replicate: A
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | NH,‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 6.8 | 7.3 | 590 | 76 | 60 | 5 | Settlingtime - 40 hrs Clarity 10 cm |
| 10/13/91 | 1213 | MAH | 20.6 | 7.6 | 5.5 | – | – | – | – | NONE (pg 1) |
| 10/17/91 | 1157 | MAH | 20.2 | 7.4 | 8 | 500 | 85 | 87 | 7.5 | NONE (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.5 | 8.5 | – | – | – | – | none (pg 1) |
| 10/24/91 | 1038 | LAV/MAH | 20.6 | 7.4 | 8.2 | 439 | 80 | 86 | 8.0 | none (pg 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Organism | length (mm) | weight (g) | Organism | length (mm) | weight (g) | | | | | |
| 1 | 20.50 | 16 | 0.0398 | 17.30 | 0.0233 | | | | | |
| 2 | 23.20 | 17 | 0.0469 | 13.25 | 0.0141 | | | | | |
| 3 | 17.40 | 18 | 0.0295 | 15.65 | 0.0235 | | | | | |
| 4 | 16.60 | 19 | 0.0239 | 18.30 | 0.0299 | | | | | |
| 5 | 19.20 | 20 | 0.0340 | 15.50 | 0.0183 | | | | | |
| 6 | 16.60 | 21 | 0.0239 | 16.60 | 0.0278 | | | | | |
| 7 | 23.10 | 22 | 0.0439 | 15.60 | 0.0267 | | | | | |
| 8 | 21.20 | 23 | 0.0436 | 16.70 | 0.0251 | | | | | |
| 9 | 22.55 | 24 | 0.0447 | 19.8 | 0.0389 | | | | | |
| 10 | 18.20 | 25 | 0.0364 | 18.4 | 0.0347 | | | | | |
| 11 | 18.80 | 26 | 0.0336 | | | | | | | |
| 12 | 21.20 | 27 | 0.0434 | | | | | | | |
| 13 | 24.10 | 28 | 0.0561 | | | | | | | |
| 14 | 18.4 | 29 | 0.0364 | | | | | | | |
| 15 | 19.0 | 30 | 0.0375 | | | | | | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

(1) Entry Error
10/31/91

ESE Bioassay Department
St. Louis, Missouri

Page: 24
ESE QA Form No.: SE-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: 5
Replicate: B
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | MAH | 20.6 | 6.8 | 8.6 | 599 | 76 | 64 | 4.5 | Settlement - 90% Clarity 10 min |
| 10/13/91 | 1213 | MAH | 20.6 | 7.6 | 7.8 | — | — | — | — | NONE (pgl) |
| 10/17/91 | 1127 | [illegible] | 20.2 | 7.3 | 5.3 | 500 | 85 | 87 | 7.5 | NONE (pgl) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.5 | 8.4 | — | — | — | — | none (pgl) |
| 10/24/91 | 1038 | MAH | 20.6 | 7.4 | 7.8 | 448 | 30 | 86 | 8.0 | none (pgl) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) |
|---|---|---|---|---|---|
| 1 | 18.20 | 0.0381 | 16 | 18.70 | 0.0316 |
| 2 | 19.30 | 0.0434 | 17 | 16.45 | 0.0262 |
| 3 | 19.00 | 0.0423 | 18 | 14.90 | 0.0205 |
| 4 | 18.85 | 0.0417 | 19 | 14.70 | 0.0216 |
| 5 | 17.30 | 0.0374 | 20 | 12.95 | 0.0162 |
| 6 | 24.20 | 0.0543 | 21 | 20.00 | 0.0423 |
| 7 | 20.05 | 0.0416 | 22 | 15.15 | 0.0174 |
| 8 | 20.90 | 0.0417 | 23 | 15.60 | 0.0284 |
| 9 | 23.55 | 0.0460 | 24 | | |
| 10 | 18.90 | 0.0377 | 25 | | |
| 11 | 18.95 | 0.0415 | 26 | | |
| 12 | 17.50 | 0.0359 | 27 | | |
| 13 | 22.15 | 0.0462 | 28 | | |
| 14 | 21.90 | 0.0446 | 29 | | |
| 15 | 17.4 | 0.0334 | 30 | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

ESE Bioassay Department
St. Louis, Missouri

Page: 27
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Hyalella azteca
No. Exposed: 30
Age or Life Stage: 2-3mm Juveniles
Treatment Level: 6
Replicate: A
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | NH₃‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 6.5 | 8.2 | 636 | 76 92 | 64 72 | 4.5 | settling time - 90 hr aeration 30 min |
| 10/13/91 | 1213 | MAH | 20.6 | 7.5 | 8.5 | — | — | — | — | none (pg1) |
| 10/17/91 | 1127 | MAH | 20.2 | 7.4 | 8.5 | 464 | 67 | 92 | 12.2 | none (pg1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.5 | 8.5 | — | — | — | — | none (pg1) |
| 10/24/91 | 1038 | LAV/MAH | 20.6 | 7.4 | 8.1 | 408 | 70 | 82 | 8.5 | none (pg1) |
| 10/27/91 | 1111 | MAH | 20.6 | 7.6 | 8.5 | — | — | — | — | none (pg1) |
| 10/31/91 | 1015 | LAV/MAH | 20.5 | 7.5 | 7.8 | 447 | 96 | 88 | 4.5 | none (pg1) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|
| 1 | 6.05 | 16 | 5.50 | 31 | 1.50 | 46 | 0.80 |
| 2 | 7.15 | 17 | 4.35 | 32 | 0.50 | 47 | 0.40 |
| 3 | 7.00 | 18 | 5.00 | 33 | 1.00 | 48 | 0.55 |
| 4 | 6.00 | 19 | 4.50 | 34 | 1.00 | 49 | 0.60 |
| 5 | 5.00 | 20 | 5.00 | 35 | 1.00 | 50 | 0.70 |
| 6 | 6.25 | 21 | 5.00 | 36 | 0.50 | 51 | 0.55 |
| 7 | 5.00 | 22 | 4.25 | 37 | 1.00 | 52 | 0.80 |
| 8 | 7.00 | 23 | | 38 | 0.50 | 53 | 0.75 |
| 9 | 5.35 | 24 | | 39 | 1.50 | 54 | 0.50 |
| 10 | 5.80 | 25 | | 40 | 1.25 | 55 | 0.75 |
| 11 | 6.45 | 26 | | 41 | 1.15 | 56 | |
| 12 | 6.15 | 27 | | 42 | 1.15 | 57 | |
| 13 | 7.30 | 28 | | 43 | 1.45 | 58 | |
| 14 | 7.45 | 29 | | 44 | 1.05 | 59 | |
| 15 | 5.30 | 30 | | 45 | 1.15 | 60 | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

(1) Entry error
MAH 10/17/91

ESE Bioassay Department
St. Louis, Missouri

Page: 26
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Ambest
Test Substance: Sediments
Project No.: 491-5422 -0102

Species: Hyallela azteca
No. Exposed: 30
Age or Life Stage: 2-3mm Juveniles
Treatment Level: 6
Replicate: B
Exposure Period: 21 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$‡ | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1200 | MAH | 20.6 | 6.5 | 8.3 | 642 | 92 | 72 | 11.0 ① | [illegible] |
| 10/10/91 | 1213 | MAH | 20.6 | 7.5 | 8.2 | — | — | — | — | NONE# (pg1) |
| 10/17/91 | 1127 | [illegible] | 20.2 | 7.4 | 8.4 | 485 | 67 | 92 | 12.2 | NONE# (pg1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.5 | 8.2 | — | — | — | — | none# (pg1) |
| 10/24/91 | 1038 | MAH | 20.6 | 7.4 | 7.5 | 413 | 40 | 82 | 8.5 | none# (pg1) |
| 10 27 91 | 1111 | MAH | 20.6 | 7.6 | 8.2 | — | — | — | — | none# (pg1) |
| 10/31/91 | 1015 | MAH | 20.5 | 7.6 | 8.1 | 445 | 96 | 88 | 7.5 | none# (pg1) |

| Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) | Organism | Length (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 4.00 | 16 | 4.10 | 31 | 1.00 | 46 | 0.85 | 61 | 0.60 |
| 2 | 5.15 | 17 | 4.30 | 32 | 1.00 | 47 | 0.90 | 62 | 0.65 |
| 3 | 4.35 | 18 | 4.55 | 33 | 1.00 | 48 | 0.75 | 63 | 0.60 |
| 4 | 4.15 | 19 | 4.10 | 34 | 1.00 | 49 | 1.00 | 64 | 0.75 |
| 5 | 3.85 | 20 | 4.35 | 35 | 1.00 | 50 | 1.00 | 65 | 0.85 |
| 6 | 4.20 | 21 | 4.90 | 36 | 1.00 | 51 | 0.55 | 66 | 1.00 |
| 7 | 4.45 | 22 | 4.10 | 37 | 1.00 | 52 | 1.00 | 67 | 0.50 |
| 8 | 4.00 | 23 | 6.95 | 38 | 1.15 | 53 | 0.90 | | |
| 9 | 4.05 | 24 | 5.25 | 39 | 1.50 | 54 | 0.55 | | |
| 10 | 4.25 | 25 | 5.00 | 40 | 1.00 | 55 | 0.55 | | |
| 11 | 5.00 | 26 | 5.35 | 41 | 1.00 | 56 | 0.60 | | |
| 12 | 3.90 | 27 | | 42 | 1.00 | 57 | 0.65 | | |
| 13 | 6.00 | 28 | | 43 | 1.00 | 58 | 0.75 | | |
| 14 | 5.00 | 29 | | 44 | 0.85 | 59 | 0.80 | | |
| 15 | 6.00 | 30 | | 45 | 1.50 | 60 | 0.85 | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

① Entry Error
10/10/91

ESE Bioassay Department
St. Louis, Missouri

Page: 27
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422 -0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd Instar)
Treatment Level: 6
Replicate: A
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | NH₃‡ (1) | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/8/91 | 1100 | MAH | 20.6 | 6.5 | 8.4 | 638 | 92 | 72 | 1.0 | Settling time - 39 hrs; Steady 30 mins |
| 10/13/91 | 1213 | MAH | 20.6 | 7.5 | 8.1 | — | — | — | — | None # (pg 1) |
| 10/17/91 | 1127 | DSH/MAH | 20.2 | 7.4 | 7.7 | 487 | 67 | 92 | 12.2 | None # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.5 | 7.4 | — | — | — | — | None # (pg 1) |
| 10/24/91 | 1038 | LAJ/MAH | 20.6 | 7.4 | 7.4 | 433 | 70 | 82 | 8.5 | None # (pg 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) |
|---|---|---|---|---|---|
| 1 | 20.8 | 0.0355 | 16 | 19.45 | 0.0335 |
| 2 | 21.30 | 0.0424 | 17 | 17.40 | 0.0314 |
| 3 | 18.00 | 0.0332 | 18 | 18.15 | 0.0248 |
| 4 | 21.60 | 0.0435 | 19 | 16.80 | 0.0187 |
| 5 | 21.50 | 0.0440 | 20 | 20.30 | 0.0395 |
| 6 | 19.60 | 0.0374 | 21 | 16.75 | 0.0236 |
| 7 | 18.00 | 0.0318 | 22 | 23.30 | 0.0490 |
| 8 | 22.30 | 0.0459 | 23 | 20.70 | 0.0385 |
| 9 | 20.00 | 0.0421 | 24 | 16.90 | 0.0219 |
| 10 | 8.50 | 0.0333 | 25 | 18.00 | 0.0350 |
| 11 | 19.15 | 0.0402 | 26 | 12.20 | 0.0128 |
| 12 | 20.50 | 0.0535 | 27 | 18.55 | 0.0303 |
| 13 | 16.75 | 0.0295 | 28 | 20.4 | 0.0429 |
| 14 | 17.50 | 0.0305 | 29 | X | X |
| 15 | 19.30 | 0.0312 | 30 | | |

* µhms/cm.
† mg/L as $CaCO_3$
‡ mg/L as N.

(1) Entry Error
MAH 10/10/91

ESE Bioassay Department
St. Louis, Missouri

Page: 29
ESE QA Form No.: SL-009
Effective: 10/91

Partial Life Cycle Chronic Toxicity Study

Sponsor: Amherst
Test Substance: Sediments
Project No.: 491-5422-0102

Species: Chironomus tentans
No. Exposed: 30
Age or Life Stage: 10-14 days (2nd instar)
Treatment Level: 6
Replicate: B
Exposure Period: 14 days

| Date | Time | Initials | Temp. (°C) | pH | D.O. (ppm) | Cond.* | Alk.† | Hard.† | $NH_3$= | Observations |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/10/91 | 1100 | ~~DSH~~ MAH | 20.6 | 6.5 | 8.6 | 643 | 92 | 72 | 11.0 | Settling time - 3 hr 30 min |
| 10/17/91 | 12.3 | ~~DSH~~ MAH | 20.6 | 7.5 | 8.4 | — | — | — | — | NONE # (pg 1) |
| 10/17/91 | 1137 | ~~DSH~~ MAH | 20.2 | 7.5 | 8.5 | 474 | 67 | 92 | 12.2 | NONE # (pg 1) |
| 10/20/91 | 1311 | MAH | 21.0 | 7.8 | 8.4 | — | — | — | — | no new # (pg 1) |
| 10/24/91 | 1038 | ~~DSH~~ MAH | 20.6 | 7.5 | 8.0 | 418 | 40 | 82 | 8.5 | none # (pg 1) |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Organism | Length (mm) | Weight (g) | Organism | Length (mm) | Weight (g) |
|---|---|---|---|---|---|
| 1 | 18.40 | 0.0323 | 16 | 12.50 | 0.0087 |
| 2 | 20.40 | 0.0435 | 17 | 18.70 | 0.0325 |
| 3 | 19.55 | 0.0344 | 18 | 21.50 | 0.0485 |
| 4 | 16.20 | 0.0237 | 19 | 19.25 | 0.0383 |
| 5 | 16.75 | 0.0243 | 20 | 17.50 | 0.0265 |
| 6 | 22.5 | 0.0478 | 21 | 16.80 | 0.0184 |
| 7 | 18.4 | 0.0318 | 22 | 12.85 | 0.0092 |
| 8 | 19.45 | 0.0375 | 23 | 14.90 | 0.0167 |
| 9 | 14.15 | 0.0146 | 24 | | |
| 10 | 18.00 | 0.0385 | 25 | | |
| 11 | 19.45 | 0.0431 | 26 | | |
| 12 | 16.30 | 0.0239 | 27 | | |
| 13 | 18.30 | 0.0317 | 28 | | |
| 14 | 15.70 | 0.0139 | 29 | | |
| 15 | 19.45 | 0.0275 | 30 | | |

* µhms/cm.
† mg/L as $CaCO_3$
= mg/L as N.

Temp Error
DSH 10/10/91

ESE Toxicology
St. Louis, Missouri
QA Form No: S-QA-3

C-ABSTD-S1/QAFRM020.1
01/27/89



SUBJECT: WATER ALKALINITY WORKSHEET

Sponsor: Ambient  Project No: 491-5422-6102

Test Substance: Sediments  Test Species: C. tentans H. azteca

| Date | Initials | Sample | Sample Volume (ml) | Initial Buret Reading (ml) | Final Buret Reading to pH 4.5 (ml) | Titrant Used (ml) | Alkalinity Mg/L as $CaCO_3$ |
|---|---|---|---|---|---|---|---|
| 10-9-91 | BSF | LC | 50ml | 0 | 5.8 | 5.8 | 116.0 |
| | | 1 | 50ml | 0 | 4.9 | 4.9 | 98.0 |
| | | 2 | 50ml | 0 | 4.4 | 4.4 | 88.0 |
| | | 3 | 50ml | 0 | 5.8 | 5.8 | 116.0 |
| | | 4 | 50ml | 0 | 7.5 | 7.5 | 150.0 |
| | | 5 | 50ml | 0 | 3.8 | 3.8 | 76.0 |
| | | 6 | 50ml | 0 | 4.6 | 4.6 | 92.0 |
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Calculation of Total Alkalinity (mg/l as $CaCO_3$)  Normality of $H_2SO_4$: 0.02N

$$\text{Total Alkalinity} = \frac{A \times N \times 50{,}000}{\text{ml Sample}}$$

where: A = ml of titrant used, and
N = normality of acid.

Hunter/ESE Toxicology
St. Louis
QA Form No: S-QA-4

C-ABSTD-S1/QAFRM021.1
01/26/89

PAGE: 30

SUBJECT: WATER HARDNESS WORKSHEET

Sponsor: Innopest

Project No.: 491-5422-0102

Test Substance: Sediments

Test Species: C. tentans / H. azteca

| Sample | Sample Volume (ml) | Initial Buret Reading (ml) | Final Buret Reading (ml) | Total Titrant Used (ml) | Hardness mg/L as $CaCO_3$ |
|---|---|---|---|---|---|
| LC | 50 | 0 | 4.2 | 4.2 | 84.0 |
| 1 | 50 | 0 | 2.6 | 2.6 | 52.0 |
| 2 | 50 | 0 | 8.6 | 8.6 | 172.0 |
| 3 | 25 | 0 | 2.4 | 2.4 | 96.0 |
| 4 | 12.5 | 0 | 1.3 | 1.3 | 104.0 |
| 5 | 12.5 | 0 | 0.8 | 0.8 | 69.0 |
| 6 | 12.5 | 0 | 0.9 | 0.9 | 72.0 |
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Molarity EDTA Titrant: 0.01

Calculation of Total Hardness (mg/l as $CaCO_3$)

$$\text{Total Hardness} = \frac{A \times B \times 1.000}{\text{ml Sample}}$$

A = mL of titrant used
B = mg $CaCO_3$ equivalent to 1.00 mL EDTA Titrant

100 mL x10 = Hardness
50 mL x20 =
25 mL x40 =
12.5 ml x80 =

(1) Entry error BCF 10-9-91

ESE Bioassay Department
Gainesville, Florida

Page: 31
ESE QA Form No.: 018
Effective: March 1985

SUBJECT: DAILY LOG

Please initial and date each entry: Alkalinity and Hardness

Sample #3: used 25 ml diluted to 100ml with DI water for visual clarity. BSF 10-9-91

Sample #4: used 12.5 ml of sample diluted to 100ml with DI water for visual clarity BSF 10-9-91

Sample #6: used 12.5 ml of sample diluted to 100ml with DI water for visual clarity. BSF 10-9-91

Sample #5: used 12.5 ml of sample diluted to 100ml with DI water for visual clarity. BSF 10-9-91

For Hardness Sample only

ESE Bioassay Department
Gainesville, Florida
St. Louis, Missouri

Page: 32
ESE QA Form No.: 018
Effective: March 1985

SUBJECT: DAILY LOG

Please initial and date each entry:

DSH 10/2/91 Sample characterizations:

Lab Control — 70% Coarse Sand, 30% Fine Sand.

#1 (SW-18) — 78% Detritus, 10% Silt, 12% fine sand

#2 (SW-19) — 65% Detritus, 20% Silt, 15% fine sand

#3 (SW-21) — 75% Detritus, 12% Silt, 13% fine sand

#4 (SW-22) — 63% Detritus, 25% Silt, 12% fine sand

#5 (SW-23) — 70% Detritus, 15% Silt, 15% fine sand

#6 (SW-24) — 72% Detritus, 18% Silt, 10% fine sand

Nitrogen quantities did not allow water. The afternoon Gamma free chamber was set up at 1515.
Sediments set in 25 glasses.
LC - 1200
#1 - 1600
#2 - 1650 Sediments well covered
#3 - 1735 overnight
#4 - 1810
#5 - 1850
#6 - 1930

ESE Bioassay Department
Gainesville, Florida
St. Louis, Missouri

Page: 33
ESE QA Form No.: 018
Effective: March 1985

SUBJECT: DAILY LOG

Please initial and date each entry:

~~10/9~~ 10/9/91 It was discovered that the overlying water placed in the lab control chambers was demineralized and not Moi-Hard reconstituted freshwater as utilized in the other chambers. This treatment was set up again with the same lot recon as utilized by other treatments. Set up at 1000 on 10/9/91.

Alkalinity, hardness, and ammonia values were measured utilizing titration methods for the alkalinity and hardness, and ion selective electrode for $NH_3$.

D.O. values were all below 40% of saturation. Set up airlines, siphons and aerate all jars with vacuuming until settle and let D.O. increase. Add organisms after 24 hrs. more.

10/10/91 D.O. set values acceptable, conductivity recorded as well. Temp. will be tracked in the lab. Left water bath on thermocouple channel No. 1. C. tentans added at 1100 and H. azteca added at 1120.

The water quality measurements above will be performed every 7 days. Additionally Temp. and DO will be recorded on each 3rd day. Temp. will be monitored and kept as part of the permanent lab record every 2 hours on Thermocouple Channel 1.

ESE Bioassay Department
Gainesville, Florida
St. Louis, Missouri



SUBJECT: DAILY LOG

Please initial and date each entry:

10/10/91 ~~ASH~~ Aeration delivered via a glass pipet tipped airline at the rate of 1 bubble per second. Pipets were submerged approximately 2 inches. Airline will be checked twice per day to insure continuous operation.

Feeding will be performed on observation days. C. tentans will be fed 1 ml of blended tetramin per replicate. H. azteca will be fed 0.2g of crushed catfish and maple leaves per replicate.

10/31/91 Two 1inch long sandbar willow (Salix exigua) found at test termination in Hyallela Azteca Container 1.

ESE Toxicology
St. Louis, Missouri
QA Form No: S-QA-3

C-ABSTD-S1/QAFRM020.1
01/27/89



SUBJECT: WATER ALKALINITY WORKSHEET

Sponsor: Amherst  Project No: 491 - 5422 - 0102

Test Substance: Sediments  Test Species: C. tentans + H. azteca

| Date | Initials | Sample | Sample Volume (ml) | Initial Buret Reading (ml) | Final Buret Reading to pH 4.5 (ml) | Titrant Used (ml) | Alkalinity Mg/L as $CaCO_3$ |
|---|---|---|---|---|---|---|---|
| 10/17/91 | BAK | LC | 50 | 0 | 5.45 | 5.45 | 109 |
| 10/17/91 | BAK | 1 | 50 | 0 | 4.3 | 4.3 | 86 |
| 10/17/91 | BAK | 2 | 50 | 0 | 5.9 | 5.9 | 118 |
| 10/17/91 | BAK | 3 | 50 | 0 | 3.0 | 3.0 | 60 |
| 10/17/91 | BAK | 4 | 50 | 0 | 6.0 | 6.0 | 120 |
| 10/17/91 | BAK | 5 | 50 | 0 | 4.25 | 4.25 | 85 |
| 10/17/91 | BAK | 6 | 50 | 0 | 3.35 | 3.35 | 67 |
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Calculation of Total Alkalinity (mg/l as $CaCO_3$)  Normality of $H_2SO_4$: 0.02N

$$\text{Total Alkalinity} = \frac{A \times N \times 50{,}000}{\text{ml Sample}}$$

where: A = ml of titrant used, and
N = normality of acid.

SUBJECT: WATER HARDNESS WORKSHEET

Sponsor: Inherst

Project No.: 491-5422-0102

Test Substance: Sediments

Test Species: C. Tentans + H. azteca

| Sample | Sample Volume (ml) | Initial Buret Reading (ml) | Final Buret Reading (ml) | Total Titrant Used (ml) | Hardness mg/L as $CaCO_3$ |
|---|---|---|---|---|---|
| LC | 50 | 0 | 8.0 | 8.0 | 160 |
| 1 | 50 | 0 | 5.65 | 5.65 | 113 |
| 2 | 50 | 0 | 4.9 | 4.9 | 98 |
| 3 | 50 | 0 | 7.0 | 7.0 | 140 |
| 4 | 100 | 0 | 5.0 | 5.0 | 50 |
| 5 | 50 | 0 | 4.35 | 4.35 | 87 |
| 6 | 50 | 0 | 4.6 | 4.6 | 92 |
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Molarity EDTA Titrant: 0.01

Calculation of Total Hardness (mg/l as $CaCO_3$)

$$\text{Total Hardness} = \frac{A \times B \times 1{,}000}{\text{ml Sample}}$$

100 mL x 10
50 mL x 20
25 mL x 40

A = mL of titrant used
B = mg $CaCO_3$ equivalent to 1.00 mL EDTA Titrant

ESE Toxicology
St. Louis, Missouri
QA Form No: S-QA-3

C-ABSTD-S1/QAFRM020.1
01/27/89



SUBJECT: WATER ALKALINITY WORKSHEET

Sponsor: Amherst Project No: 491-3422-0102

Test Substance: Sediment Test Species: C. tentans & H. Azteca

| Date | Initials | Sample | Sample Volume (ml) | Initial Buret Reading (ml) | Final Buret Reading to pH 4.5 (ml) | Titrant Used (ml) | Alkalinity Mg/L as $CaCO_3$ |
|---|---|---|---|---|---|---|---|
| 10/31/91 | LAV MAH | Lab control | 50 | 0 | 5.7 | 5.7 | 114 |
| 10/31/91 | LAV MAH | 1 | 50 | 0 | 3.3 | 3.3 | 66 |
| 10/31/91 | LAV MAH | 2 | 50 | 0 | 6.8 | 6.8 | 136 |
| 10/31/91 | LAV MAH | 3 | 50 | 0 | 2.6 | 2.6 | 52 |
| 10/31/91 | LAV MAH | 4 | 50 | 0 | 5.1 | 5.1 | 102 |
| 10/31/91 | LAV MAH | 5 | 50 | 0 | 2.4 | 2.4 | 48 |
| 10/31/91 | LAV MAH | 6 | 50 | 0 | 4.8 | 4.8 | 96 |
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Calculation of Total Alkalinity (mg/l as $CaCO_3$) Normality of $H_2SO_4$: 0.02N

$$\text{Total Alkalinity} = \frac{A \times N \times 50{,}000}{\text{ml Sample}}$$

where: A = ml of titrant used, and
N = normality of acid.

SUBJECT: WATER HARDNESS WORKSHEET

Sponsor: Amherst

Project No.: 491-3422-0102

Test Substance: Sediment

Test Species: C. tentans & H. Azteca

| Sample | Sample Volume (ml) | Initial Buret Reading (ml) | Final Buret Reading (ml) | Total Titrant Used (ml) | Hardness mg/L as $CaCO_3$ |
|---|---|---|---|---|---|
| Lab control | 50 | 0 | 6.3 | 6.3 | 126 |
| 1 | 50 | 0 | 5.5 | 5.5 | 110 |
| 2 | 50 | 0 | 5.9 | 5.9 | 118 |
| 3 | 50 | 0 | 7.4 | 7.4 | 148 |
| 4 | 25* | 0 | 3.1 | 3.1 | 124 |
| 5 | 50 | 0 | 4.2 | 4.2 | 84 |
| 6 | 50 | 0 | 4.4 | 4.4 | 88 |
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Molarity EDTA Titrant: 0.01

Calculation of Total Hardness (mg/l as $CaCO_3$)

$$\text{Total Hardness} = \frac{A \times B \times 1.000}{\text{ml Sample}}$$

A = mL of titrant used
B = mg $CaCO_3$ equivalent to 1.00 mL EDTA Titrant

*dilution 25:50 x 40