## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948 to current year.

PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: July 1949 to September 1969.
SPECIFIC CONDUCTANCE: October 1947 to March 1988.
WATER TEMPERATURE: October 1947 to March 1988.
SEDIMENT DATA: October 1947 to September 1968, October 1992 to September 1995.

REMARKS.--Data was collected in cooperation with the Southern Nevada Water Authority to characterize the hydraulics and water quality of the Virgin River Basin and to establish information on chemical loading into Lake Mead. Streamflow is not completely homogenous chemically from bank to bank. Flow adjacent to north (right) bank is generally more dilute than average, particularly at times of low streamflow; monthly data collected during June 1975-September 1976 indicate that specific conductance off north bank was 93 to 100 percent of streamwide average (range of discharge, 60-230 $ft^3/s$). Water temperature characteristically shows little or no variation from bank to bank. Detailed sampling information for period since June 1975 is available from U.S. Geological Survey, Carson City, Nevada.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 4,650 microsiemens, cm, August 21, 1966; minimum, 615 microsiemens, cm, May 27, 28, 30, 31, 1983.
WATER TEMPERATURE: Maximum, 33.5°C, July 7, 1953; minimum, 2.0°C January 4, 1949, January 4, 1950, January 4, 5, 1971.

### WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

| Date | Time | Sample type | Instantaneous discharge, cfs (00061) | UV absorbance, 254 nm, wat flt units /cm (50624) | UV absorbance, 280 nm, wat flt units /cm (61726) | Barometric pressure, mm Hg (00025) | Dissolved oxygen, mg/L (00300) | Dissolved oxygen, percent of saturation (00301) | pH, water, unfltrd field, std units (00400) | Specif. conductance, wat unf uS/cm 25 degC (00095) | Temperature, air, deg C (00020) | Temperature, water, deg C (00010) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | |
| 24... | 1200 | Environmental | 132 | .032 | .024 | 717 | 9.9 | 95 | 7.7 | 3,070 | 11.5 | 10.5 |
| MAR | | | | | | | | | | | | |
| 02... | 1000 | Environmental | 213 | .058 | .044 | 707 | 8.8 | 91 | 7.5 | 2,900 | 15.5 | 12.8 |
| JUN | | | | | | | | | | | | |
| 15... | 0900 | Environmental | 56 | .016 | .012 | 708 | 7.5 | 93 | 7.2 | 3,220 | 24.0 | 21.5 |
| SEP | | | | | | | | | | | | |
| 08... | 0930 | Environmental | 68 | .031 | .024 | 715 | 9.0 | 112 | 7.6 | 3,390 | 30.0 | 22.5 |

| Date | Calcium water, fltrd, mg/L (00915) | Magnesium, water, fltrd, mg/L (00925) | Potassium, water, fltrd, mg/L (00935) | Sodium, water, fltrd, mg/L (00930) | Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801) | Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086) | Bicarbonate, wat flt incrm. titr., field, mg/L (00453) | Chloride, water, fltrd, mg/L (00940) | Fluoride, water, fltrd, mg/L (00950) | Silica, water, fltrd, mg/L (00955) | Sulfate water, fltrd, mg/L (00945) | Residue on evap. at 180degC wat flt mg/L (70300) | Ammonia + org-N, water, fltrd, mg/L as N (00623) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | 275 | 85.5 | 25.7 | 307 | 258 | 277 | 335 | 406 | .9 | 21.9 | 805 | 2,200 | .17 |
| MAR | | | | | | | | | | | | | |
| 02... | 254 | 77.0 | 22.9 | 306 | 280 | 267 | 323 | 393 | .8 | 20.1 | 789 | 2,170 | .21 |
| JUN | | | | | | | | | | | | | |
| 15... | 356 | 111 | 28.5 | 277 | 239 | 276 | 331 | 357 | 1.1 | 15.1 | 968 | 2,380 | E.09 |
| SEP | | | | | | | | | | | | | |
| 08... | 313 | 99.8 | 27.9 | 280 | 238 | 255 | 310 | 400 | 1.1 | 15.7 | 1,030 | 2,500 | .15 |

| Date | Ammonia + org-N, water, unfltrd mg/L as N (00625) | Ammonia water, fltrd, mg/L as N (00608) | Nitrite + nitrate water fltrd, mg/L as N (00631) | Nitrite water, fltrd, mg/L as N (00613) | Particulate nitrogen, susp, water, mg/L (49570) | Orthophosphate, water, fltrd, mg/L as P (00671) | Phosphorus, water, fltrd, mg/L (00666) | Phosphorus, water, unfltrd mg/L (00665) | Total carbon, suspnd sedimnt total, mg/L (00694) | Inorganic carbon, suspnd sedimnt total, mg/L (00688) | Organic carbon, suspnd sedimnt total, mg/L (00689) | Organic carbon, water, fltrd, mg/L (00681) | E coli, m-TEC MF, water, col/ 100 mL (31633) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | .40 | <.04 | 1.49 | <.008 | .19 | .15 | .18 | .29 | 4.1 | .1 | 3.9 | 1.5 | E31 |
| MAR | | | | | | | | | | | | | |
| 02... | .95 | E.02 | 1.59 | .008 | .89 | .06 | .08 | .41 | 22.9 | 3.5 | 19.4 | 2.1 | E7 |
| JUN | | | | | | | | | | | | | |
| 15... | .13 | <.04 | .10 | <.008 | .08 | <.02 | <.04 | <.04 | .7 | <.1 | .7 | 1.4 | -- |
| SEP | | | | | | | | | | | | | |
| 08... | .27 | <.04 | .13 | .012 | .23 | <.02 | <.04 | E.04 | 2.2 | <.1 | 2.2 | 1.7 | -- |

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

| Date | Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625) | Fecal strep-tococci KF MF, col/ 100 mL (31673) | Arsenic water, fltrd, ug/L (01000) | Boron, water, fltrd, ug/L (01020) | Iron, water, fltrd, ug/L (01046) | Lithium water, fltrd, ug/L (01130) | Selen-ium, water, fltrd, ug/L (01145) | Stront-ium, water, fltrd, ug/L (01080) | Vanad-ium, water, fltrd, ug/L (01085) | [a]2,4,5-T surrog, water, fltrd, percent recovry (99958) | 2,4-D methyl ester, water, fltrd, ug/L (50470) | 2,4-D water, fltrd, ug/L (39732) | 2,4-DB water, fltrd 0.7u GF ug/L (38746) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | 92 | 246 | 10.7 | 896 | <19 | 348 | 1.4 | 3,510 | 2.1 | 97.9 | <.009 | E.01 | <.02 |
| MAR | | | | | | | | | | | | | |
| 02... | 120 | 414 | 10.2 | 721 | E5 | 296 | 2.4 | 3,160 | 4.3 | E142 | <.009 | .02 | <.02 |
| JUN | | | | | | | | | | | | | |
| 15... | -- | -- | 8.1 | 853 | E18 | 383 | 2.4 | 3,930 | 2.1 | 89.1 | <.009 | <.02 | <.02 |
| SEP | | | | | | | | | | | | | |
| 08... | -- | -- | 7.8 | 963 | <19 | 409 | 2.9 | 4,060 | 1.7 | 86.5 | <.009 | <.02 | <.02 |

| Date | 2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660) | CIAT, water, fltrd, ug/L (04040) | CEAT, water, fltrd, ug/L (04038) | OIET, water, fltrd, ug/L (50355) | 3-Hydroxy carbo-furan, wat flt 0.7u GF ug/L (49308) | 3-Keto-carbo-furan, water, fltrd, ug/L (50295) | Aceto-chlor, water, fltrd, ug/L (49260) | Aci-fluor-fen, water, fltrd 0.7u GF ug/L (49315) | Ala-chlor, water, fltrd, ug/L (46342) | Aldi-carb sulfone water, fltrd 0.7u GF ug/L (49313) | Aldi-carb sulf-oxide, wat flt 0.7u GF ug/L (49314) | Aldi-carb, water, fltrd 0.7u GF ug/L (49312) | alpha-HCH, water, fltrd, ug/L (34253) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | <.006 | <.006 | <.04 | <.008 | <.006 | <2 | <.006 | <.007 | <.005 | <.02 | <.008 | <.04 | <.005 |
| MAR | | | | | | | | | | | | | |
| 02... | <.006 | <.006 | <.04 | <.008 | <.006 | <2 | <.006 | <.007 | <.005 | <.02 | <.008 | <.04 | <.005 |
| JUN | | | | | | | | | | | | | |
| 15... | <.006 | <.006 | <.01 | <.008 | <.006 | <.014 | <.006 | <.007 | <.005 | <.02 | <.008 | <.04 | <.005 |
| SEP | | | | | | | | | | | | | |
| 08... | <.006 | <.006 | <.01 | <.008 | <.006 | <.014 | <.006 | <.007 | <.005 | <.02 | <.008 | <.04 | <.005 |

| Date | [a]alpha-HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065) | Atra-zine, water, fltrd, ug/L (39632) | Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686) | [a]Barban, surrog, Sched. 2060/ 9060, wat flt pct rcv (90640) | Bendio-carb, water, fltrd, ug/L (50299) | Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673) | Benomyl water, fltrd, ug/L (50300) | Bensul-furon, water, fltrd, ug/L (61693) | Ben-tazon, water, fltrd 0.7u GF ug/L (38711) | Broma-cil, water, fltrd, ug/L (04029) | Brom-oxynil, water, fltrd 0.7u GF ug/L (49311) | Butyl-ate, water, fltrd, ug/L (04028) | Caf-feine, water, fltrd, ug/L (50305) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | 77.7 | <.007 | <.050 | 82.4 | <.03 | <.010 | <.004 | <.02 | <.01 | <.03 | <.02 | <.004 | <.0096 |
| MAR | | | | | | | | | | | | | |
| 02... | 105 | <.007 | <.050 | 117 | <.03 | <.010 | <.004 | <.02 | <.01 | <.03 | <.02 | <.004 | <.0096 |
| JUN | | | | | | | | | | | | | |
| 15... | 99.5 | <.007 | <.050 | 89.8 | <.03 | <.010 | <.004 | <.02 | <.01 | <.03 | <.02 | <.004 | <.0096 |
| SEP | | | | | | | | | | | | | |
| 08... | 87.4 | <.007 | <.050 | 89.0 | <.03 | <.010 | <.004 | <.02 | <.01 | <.03 | <.02 | <.004 | <.0096 |

| Date | [a]Caf-feine-13C, surrog, wat flt percent recovry (99959) | Car-baryl, water, fltrd 0.7u GF ug/L (49310) | Car-baryl, water, fltrd 0.7u GF ug/L (82680) | Carbo-furan, water, fltrd 0.7u GF ug/L (49309) | Carbo-furan, water, fltrd 0.7u GF ug/L (82674) | Chlor-amben methyl ester, water, fltrd, ug/L (61188) | Chlori-muron, water, fltrd, ug/L (50306) | Chloro-di-amino-s-tri-azine, wat flt ug/L (04039) | Chloro-thalo-nil, water, fltrd 0.7u GF ug/L (49306) | Chlor-pyrifos water, fltrd, ug/L (38933) | cis-Per-methrin water fltrd 0.7u GF ug/L (82687) | Clopyr-alid, water, fltrd 0.7u GF ug/L (49305) | Cyana-zine, water, fltrd, ug/L (04041) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | 83.7 | <.03 | <.041 | <.006 | <.020 | <.02 | <.010 | <.01 | <.04 | <.005 | <.006 | <.01 | <.018 |
| MAR | | | | | | | | | | | | | |
| 02... | 130 | <.03 | <.041 | <.006 | <.020 | <.02 | <.010 | <.01 | <.04 | <.005 | <.006 | <.01 | <.018 |
| JUN | | | | | | | | | | | | | |
| 15... | 99.0 | <.03 | <.041 | <.006 | <.020 | <.02 | <.010 | <.04 | <.04 | <.005 | <.006 | <.01 | <.018 |
| SEP | | | | | | | | | | | | | |
| 08... | 90.5 | <.03 | <.041 | <.006 | <.020 | <.02 | <.010 | <.04 | <.04 | <.005 | <.006 | <.01 | <.018 |

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

| Date | Cyclo-ate, water, fltrd, ug/L (04031) | Dacthal mono-acid, water, fltrd 0.7u GF ug/L (49304) | DCPA, water fltrd 0.7u GF ug/L (82682) | Desulf-inyl fipro-nil, water, fltrd, ug/L (62170) | Diazi-non, water, fltrd, ug/L (39572) | [a]Diazi-non-d10 surrog. wat flt 0.7u GF percent recovry (91063) | Dicamba water fltrd 0.7u GF ug/L (38442) | Di-chlor-prop, water, fltrd 0.7u GF ug/L (49302) | Diel-drin, water, fltrd, ug/L (39381) | Dinoseb water, fltrd 0.7u GF ug/L (49301) | Diphen-amid, water, fltrd, ug/L (04033) | Disul-foton, water, fltrd 0.7u GF ug/L (82677) | Diuron, water, fltrd 0.7u GF ug/L (49300) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | <.01 | <.01 | <.003 | <.012 | <.005 | 88.5 | <.01 | <.01 | <.009 | <.01 | <.03 | <.02 | <.01 |
| MAR | | | | | | | | | | | | | |
| 02... | <.01 | <.01 | .003 | <.012 | <.005 | 139 | <.05 | <.01 | <.009 | <.01 | <.03 | <.02 | E.01 |
| JUN | | | | | | | | | | | | | |
| 15... | <.01 | <.01 | <.003 | <.012 | <.005 | 114 | <.01 | <.01 | <.009 | <.01 | <.03 | <.02 | <.01 |
| SEP | | | | | | | | | | | | | |
| 08... | <.01 | <.01 | <.003 | <.012 | E.005 | 90.2 | <.01 | <.01 | <.009 | <.01 | <.03 | <.02 | <.01 |

| Date | EPTC, water, fltrd 0.7u GF ug/L (82668) | Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663) | Etho-prop, water, fltrd 0.7u GF ug/L (82672) | Fenuron water, fltrd 0.7u GF ug/L (49297) | Desulf-inyl-fipro-nil amide, wat flt ug/L (62169) | Fipro-nil sulfide water, fltrd, ug/L (62167) | Fipro-nil sulfone water, fltrd, ug/L (62168) | Fipro-nil, water, fltrd, ug/L (62166) | Flumet-sulam, water, fltrd, ug/L (61694) | Fluo-meturon water fltrd 0.7u GF ug/L (38811) | Fonofos water, fltrd, ug/L (04095) | Imaza-quin, water, fltrd, ug/L (50356) | Imaze-thapyr, water, fltrd, ug/L (50407) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | <.004 | <.009 | <.007 | <.03 | <.029 | <.013 | <.024 | <.016 | <.01 | <.03 | <.003 | <.02 | <.02 |
| MAR | | | | | | | | | | | | | |
| 02... | <.004 | <.009 | <.005 | <.03 | <.029 | <.013 | <.024 | <.016 | <.01 | <.03 | <.003 | <.02 | <.02 |
| JUN | | | | | | | | | | | | | |
| 15... | <.004 | <.009 | <.005 | <.03 | <.029 | <.013 | <.024 | <.016 | <.01 | <.03 | <.003 | <.02 | <.02 |
| SEP | | | | | | | | | | | | | |
| 08... | <.004 | <.009 | <.005 | <.03 | <.029 | <.013 | <.024 | <.016 | <.01 | <.03 | <.003 | <.02 | <.02 |

| Date | Imida-cloprid water, fltrd, ug/L (61695) | Lindane water, fltrd, ug/L (39341) | Linuron water fltrd 0.7u GF ug/L (38478) | Linuron water fltrd 0.7u GF ug/L (82666) | Mala-thion, water, fltrd, ug/L (39532) | MCPA, water, fltrd 0.7u GF ug/L (38482) | MCPB, water, fltrd 0.7u GF ug/L (38487) | Meta-laxyl, water, fltrd, ug/L (50359) | Methio-carb, water, fltrd 0.7u GF ug/L (38501) | Meth-omyl, water, fltrd 0.7u GF ug/L (49296) | Methyl para-thion, water, fltrd 0.7u GF ug/L (82667) | Metola-chlor, water, fltrd, ug/L (39415) | Metri-buzin, water, fltrd, ug/L (82630) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | <.007 | <.004 | <.01 | <.035 | <.027 | <.02 | <.01 | <.02 | <.008 | <.004 | <.015 | <.013 | <.006 |
| MAR | | | | | | | | | | | | | |
| 02... | <.007 | <.004 | <.01 | <.035 | E.013 | <.02 | <.01 | <.02 | <.008 | <.004 | <.015 | <.013 | <.006 |
| JUN | | | | | | | | | | | | | |
| 15... | <.007 | <.004 | <.01 | <.035 | <.027 | <.02 | <.01 | <.02 | <.008 | <.004 | <.015 | <.013 | <.006 |
| SEP | | | | | | | | | | | | | |
| 08... | <.007 | <.004 | <.01 | <.035 | <.027 | <.02 | <.01 | <.02 | <.008 | <.004 | <.015 | <.013 | <.006 |

| Date | Metsul-furon, water, fltrd, ug/L (61697) | Moli-nate, water, fltrd 0.7u GF ug/L (82671) | N-(4-Chloro-phenyl) -N-' methyl-urea, ug/L (61692) | Naprop-amide, water, fltrd 0.7u GF ug/L (82684) | Neburon water, fltrd 0.7u GF ug/L (49294) | Nico-sul-furon, water, fltrd, ug/L (50364) | Norflur azon, water, fltrd 0.7u GF ug/L (49293) | Ory-zalin, water, fltrd 0.7u GF ug/L (49292) | Oxamyl, water, fltrd 0.7u GF ug/L (38866) | p,p-' DDE, water, fltrd, ug/L (34653) | Para-thion, water, fltrd, ug/L (39542) | Peb-ulate, water, fltrd 0.7u GF ug/L (82669) | Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | <.03 | <.003 | <.02 | <.007 | <.01 | <.01 | <.02 | <.02 | <.01 | <.003 | <.010 | <.004 | <.022 |
| MAR | | | | | | | | | | | | | |
| 02... | <.05 | <.003 | <.02 | <.007 | <.01 | <.01 | <.02 | <.02 | <.01 | <.003 | <.010 | <.004 | <.022 |
| JUN | | | | | | | | | | | | | |
| 15... | <.03 | <.003 | <.02 | <.007 | <.01 | <.01 | <.02 | <.02 | <.01 | <.003 | <.010 | <.004 | <.022 |
| SEP | | | | | | | | | | | | | |
| 08... | <.03 | <.003 | <.02 | <.007 | <.01 | <.01 | <.02 | <.02 | <.01 | <.003 | <.010 | <.004 | <.022 |

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

| Date | Phorate water fltrd 0.7u GF ug/L (82664) | Picloram, water, fltrd 0.7u GF ug/L (49291) | Prometon, water, fltrd, ug/L (04037) | Propyzamide, water, fltrd 0.7u GF ug/L (82676) | Propachlor, water, fltrd, ug/L (04024) | Propanil, water, fltrd 0.7u GF ug/L (82679) | Propargite, water, fltrd 0.7u GF ug/L (82685) | Propham water fltrd 0.7u GF ug/L (49236) | Propiconazole, water, fltrd, ug/L (50471) | Propoxur, water, fltrd 0.7u GF ug/L (38538) | Siduron water, fltrd, ug/L (38548) | Simazine, water, fltrd, ug/L (04035) | Sulfometruron, water, fltrd, ug/L (50337) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | | | |
| 24... | <.011 | <.02 | <.01 | <.004 | <.025 | <.011 | <.02 | <.010 | <.02 | <.008 | <.02 | <.005 | <.009 |
| MAR | | | | | | | | | | | | | |
| 02... | <.011 | <.02 | .01 | <.004 | <.025 | <.011 | <.02 | <.010 | <.02 | <.008 | <.02 | <.005 | <.009 |
| JUN | | | | | | | | | | | | | |
| 15... | <.011 | <.02 | .01 | <.004 | <.025 | <.011 | <.02 | <.010 | <.02 | <.008 | <.02 | E.004 | <.009 |
| SEP | | | | | | | | | | | | | |
| 08... | <.011 | <.02 | .01 | <.004 | <.025 | <.011 | <.02 | <.010 | <.02 | <.008 | <.02 | <.005 | <.009 |

| Date | Tebuthiuron water fltrd 0.7u GF ug/L (82670) | Terbacil, water, fltrd 0.7u GF ug/L (82665) | Terbacil, water, fltrd, ug/L (04032) | Terbufos, water, fltrd 0.7u GF ug/L (82675) | Thiobencarb water fltrd 0.7u GF ug/L (82681) | Triallate, water, fltrd 0.7u GF ug/L (82678) | Triclopyr, water, fltrd 0.7u GF ug/L (49235) | Trifluralin, water, fltrd 0.7u GF ug/L (82661) | Suspnd. sediment, sieve diametr percent <.063mm (70331) | Suspended sediment concentration mg/L (80154) | Suspended sediment discharge, tons/d (80155) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | |
| 24... | <.02 | <.034 | <.010 | <.02 | <.010 | <.002 | <.02 | <.009 | 48 | 426 | 152 |
| MAR | | | | | | | | | | | |
| 02... | .05 | <.034 | <.010 | <.02 | <.010 | <.002 | .09 | <.009 | 90 | 1,200 | 693 |
| JUN | | | | | | | | | | | |
| 15... | <.02 | <.034 | <.010 | <.02 | <.010 | <.002 | <.02 | <.009 | 51 | 20 | 3.0 |
| SEP | | | | | | | | | | | |
| 08... | <.02 | <.034 | <.010 | <.02 | <.010 | <.002 | <.02 | <.009 | 44 | 33 | 6.1 |

Remark codes used in this table:
< -- Less than
E -- Estimated value

[a] -- Listed values are recovery percentages for the indicated compounds. These compounds are added to the sample to determine the relative recovery of other organic compounds that are detected using the same analytical method.