Water-Data Report 2013

08475000 Rio Grande near Brownsville, TX

Lower Rio Grande Basin
Lower Rio Grande Subbasin

LOCATION.--Lat 25°52′35″, long 97°27′15″ referenced to North American Datum of 1927, Cameron County, TX, Hydrologic Unit 13090002, 900 feet above International Boundary and Water Commission gaging station, 1,000 ft downstream from El Jardin pumping plant on earthen dam, 6.8 mi below International Bridge between Brownsville and Matamoros, Tamaulipas, Mexico and 48.8 mi above the Gulf of Mexico.

DRAINAGE AREA.--176,333 mi², United States and Mexico.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Jan. 1932, Mar. 1943 to Feb. 1944, Feb. 1966 to current year.
BIOCHEMICAL DATA: Oct. 1974 to current year.
PESTICIDE DATA: May 1975 to May 1982, Oct. 1995 to current year.
SEDIMENT DATA: Feb. 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Mar. 1943 to Feb. 1944, Apr. 1967 to Sept. 1983.
WATER TEMPERATURE: Oct. 1966 to Sept. 1983.
SUSPENDED SEDIMENT DISCHARGE: Feb. 1966 to Sept. 1983.

REMARKS.--The flow is controlled largely by releases from Falcon Reservoir. Instantaneous discharges and gage heights published in the table were provided by the International Boundary and Water Commission (IBWC). Some records listed in the "Period of Record" for water quality may not be available electronically.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,130 microsiemens/cm, May 29, 1972; minimum daily, 337 microsiemens/cm, Sept. 3, 1967.
WATER TEMPERATURE: Maximum daily, 35.0°C, on several days during summer months of 1982 and 1983; minimum daily, 8.0°C, Jan. 10, 1967.
SEDIMENT CONCENTRATION: Maximum daily mean, 6,000 mg/L, Feb. 28, 1983; minimum daily mean, 4.0 mg/L, Apr. 26, 1970, Aug. 16, 18, 24, 27, 1977.
SEDIMENT LOADS: Maximum daily, 181,000 tons, Feb. 28, 1983; minimum daily, 0.12 tons, Aug. 26, 1983.

08475000 Rio Grande near Brownsville, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 1 of 7

[$CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Tempera-ture, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per cm (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per cm (61726)	Discharge, instanta-neous, ft^3/s (00061)
10-16-2012	**1400**	Surface water	Regular	758	--	0.079	0.057	339
11-13-2012	**1500**	Surface water	Regular	768	--	.078	.056	309
12-18-2012	**0900**	Surface water	Regular	763	--	.077	.055	285
02-12-2013	**0900**	Surface water	Regular	759	--	.072	.051	255
04-23-2013	***0800***	*QC sample - Artificial*	*Blank*	--	--	--	--	--
04-23-2013	**0900**	Surface water	Regular	760	--	.087	.068	113
06-13-2013	**0900**	Surface water	Regular	763	26.4	.090	.067	138
07-09-2013	**0800**	Surface water	Replicate	767	25.9	--	--	197
07-09-2013	***0801***	*QC sample - Surface water*	*Replicate*	*767*	*25.9*	--	--	*197*
07-23-2013	**0800**	Surface water	Regular	765	27.2	.078	.056	346
08-06-2013	**0800**	Surface water	Regular	765	26.1	.085	.062	138
08-20-2013	**0800**	Surface water	Regular	768	24.6	.080	.057	194
09-04-2013	**0800**	Surface water	Regular	763	26.5	.081	.058	209
09-17-2013	**1400**	Surface water	Regular	762	27.9	.100	.073	664

08475000 Rio Grande near Brownsville, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 2 of 7

[$CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Dissolved oxygen, water, unfiltered, mg/L (00300)	pH, water, unfiltered, field, standard units (00400)	pH, water, unfiltered, laboratory, standard units (00403)	Specific conductance, water, unfiltered, laboratory, µS/cm at 25°C (90095)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Turbidity, water, unfiltered, monochrome near infrared LED light, 780-900 nm, detection angle 90 +/- 2.5 degrees, FNU (63680)
10-16-2012	**1400**	7.6	8.0	8.3	1,440	1,460	28.7	26	--
11-13-2012	**1500**	8.4	8.0	8.2	1,290	1,270	21.6	40	--
12-18-2012	**0900**	8.2	8.1	7.9	1,380	1,370	20.8	48	50
02-12-2013	**0900**	8.0	8.2	8.3	1,370	1,390	23.7	35	45
04-23-2013	***0800***	--	--	*E 6.4*	*< 5*	--	--	--	--
04-23-2013	**0900**	7.6	8.2	8.2	1,190	1,190	24.4	31	--
06-13-2013	**0900**	7.0	8.0	8.0	1,540	1,570	29.7	40	--
07-09-2013	**0800**	6.6	8.0	8.1	1,080	1,100	29.4	42	38
07-09-2013	***0801***	*6.6*	*8.0*	*8.0*	*1,090*	*1,100*	*29.4*	*43*	*38*
07-23-2013	**0800**	6.6	7.9	8.3	1,100	1,130	30.1	36	25
08-06-2013	**0800**	6.4	8.1	7.9	1,280	1,270	30.8	34	32
08-20-2013	**0800**	7.0	7.9	8.2	1,040	1,060	31.0	32	--
09-04-2013	**0800**	7.0	8.0	8.2	1,080	1,100	30.7	32	--
09-17-2013	**1400**	6.4	7.9	8.1	1,010	1,010	28.4	42	--

08475000 Rio Grande near Brownsville, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 3 of 7

[$CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Gage height, ft (00065)	Type of quality assurance data associated with sample (99111)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Calcium, water, filtered, mg/L (00915)	Magne-sium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as $CaCO_3$ (29801)
10-16-2012	**1400**	3.60	No assoc QA data	944	93.7	33.3	6.44	169	140
11-13-2012	**1500**	3.87	No assoc QA data	840	82.8	29.5	6.16	161	125
12-18-2012	**0900**	3.49	Spike sample	869	84.5	29.4	6.35	157	135
02-12-2013	**0900**	3.15	No assoc QA data	877	83.0	29.3	6.12	149	139
04-23-2013	***0800***	--	*Blank*	--	*< .022*	*< .011*	*< .004*	*< .06*	--
04-23-2013	**0900**	2.23	Blank	766	60.6	19.9	4.09	101	134
06-13-2013	**0900**	2.38	Blank	988	86.8	29.8	6.24	169	122
07-09-2013	**0800**	2.78	Replicate sample	681	69.9	22.9	5.43	108	112
07-09-2013	***0801***	*2.78*	*Replicate sample*	*676*	*69.5*	*22.8*	*5.43*	*111*	*112*
07-23-2013	**0800**	3.75	No assoc QA data	712	72.8	23.9	5.71	118	120
08-06-2013	**0800**	2.37	No assoc QA data	795	74.8	27.5	5.64	144	106
08-20-2013	**0800**	2.62	No assoc QA data	660	66.6	21.9	5.80	105	110
09-04-2013	**0800**	2.91	No assoc QA data	690	72.5	23.5	5.98	113	112
09-17-2013	**1400**	5.63	No assoc QA data	634	66.5	19.7	5.67	101	107

08475000 Rio Grande near Brownsville, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 4 of 7

[$CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as $CaCO_3$ (39086)	Bicarbonate, water, filtered, inflection-point, incremental titration method, field, mg/L (00453)	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Carbonate, water, filtered, inflection-point incremental titration method, field, mg/L (00452)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO_2 (00955)
10-16-2012	**1400**	136	163	3.71	1	199	0.67	< .03	14.5
11-13-2012	**1500**	120	144	5.51	1	182	.62	< .03	12.3
12-18-2012	**0900**	132	159	4.79	< 1	190	.66	< .03	13.3
02-12-2013	**0900**	127	152	5.75	1	186	.66	< .03	9.40
04-23-2013	***0800***	--	--	--	--	*< .20*	--	--	*< .018*
04-23-2013	**0900**	126	151	4.77	1	148	--	.03	8.88
06-13-2013	**0900**	116	140	5.59	< 1	227	.66	.04	12.5
07-09-2013	**0800**	112	136	5.13	< 1	132	.69	< .03	10.9
07-09-2013	***0801***	*115*	*139*	--	*< 1*	*132*	*.68*	--	*10.8*
07-23-2013	**0800**	120	145	4.37	1	144	.71	.04	11.9
08-06-2013	**0800**	102	123	5.33	< 1	158	.62	< .03	12.9
08-20-2013	**0800**	106	128	2.46	< 1	131	.63	.04	8.83
09-04-2013	**0800**	110	132	5.84	1	140	.63	< .03	9.60
09-17-2013	**1400**	101	122	3.73	< 1	133	.46	< .03	11.7

08475000 Rio Grande near Brownsville, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 5 of 7

[$CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)	Orthophos-phate, water, filtered, mg/L as P (00671)	Particulate nitrogen, suspended in water, mg/L (49570)	Phos-phorus, water, filtered, mg/L as P (00666)
10-16-2012	**1400**	291	0.38	1.1	< .010	< .040	0.001	0.015	0.558	< .02
11-13-2012	**1500**	279	.36	.70	< .010	< .040	< .001	.012	.712	.02
12-18-2012	**0900**	281	.40	1.1	.078	.374	.072	.052	.618	.04
02-12-2013	**0900**	316	.36	1.2	.012	.053	.009	.010	.906	< .02
04-23-2013	***0800***	*< .10*	--	--	*< .010*	*< .01*	*< .001*	*< .004*	--	--
04-23-2013	**0900**	260	.32	.86	< .010	< .040	< .001	.029	.703	.04
06-13-2013	**0900**	341	.39	1.4	.017	.074	.020	.009	.936	.02
07-09-2013	**0800**	226	.32	1.1	< .010	< .040	.002	.021	.689	.02
07-09-2013	***0801***	*226*	*.35*	*1.2*	*< .010*	*< .040*	*.002*	*.021*	--	*.03*
07-23-2013	**0800**	236	.35	1.1	< .010	< .040	< .001	.039	.609	.04
08-06-2013	**0800**	241	.35	1.2	< .010	< .040	< .001	.007	.795	< .02
08-20-2013	**0800**	229	.40	1.1	< .010	< .040	< .001	.006	.292	< .02
09-04-2013	**0800**	236	.38	1.1	.010	< .040	< .001	< .004	.830	< .02
09-17-2013	**1400**	191	.67	1.1	.287	.109	.014	.068	.419	.07

08475000 Rio Grande near Brownsville, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 6 of 7

[$CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, analytically determined, mg/L (62854)	Iron, water, filtered, µg/L (01046)	Lithium, water, filtered, µg/L (01130)	Strontium, water, filtered, µg/L (01080)	Vanadium, water, filtered, µg/L (01085)	Arsenic, water, filtered, µg/L (01000)	Boron, water, filtered, µg/L (01020)
10-16-2012	**1400**	0.13	--	< 4.0	42.0	2,010	5.0	3.6	316
11-13-2012	**1500**	.14	--	5.3	41.5	1,640	5.6	3.8	309
12-18-2012	**0900**	.19	--	7.2	44.4	1,600	5.3	3.6	336
02-12-2013	**0900**	.18	--	6.0	51.5	1,670	5.3	3.4	362
04-23-2013	***0800***	--	--	*< 4.0*	*< .22*	*< .20*	*< .08*	*< .04*	*< 3*
04-23-2013	**0900**	.14	--	5.7	36.0	1,090	5.6	3.3	192
06-13-2013	**0900**	.16	.40	4.5	44.3	1,660	5.6	4.0	418
07-09-2013	**0800**	.16	.32	5.4	34.9	1,290	6.7	3.8	229
07-09-2013	***0801***	*.16*	*.35*	*4.1*	*35.0*	*1,280*	*6.7*	*3.8*	*231*
07-23-2013	**0800**	.15	.36	9.3	38.1	1,350	8.0	4.4	241
08-06-2013	**0800**	.15	.33	< 4.0	40.1	1,420	6.3	3.7	286
08-20-2013	**0800**	.12	.35	< 4.0	35.0	1,250	5.6	3.4	221
09-04-2013	**0800**	.12	.30	< 4.0	34.8	1,270	6.2	3.9	233
09-17-2013	**1400**	.17	.81	9.9	28.0	1,070	5.4	4.2	245

08475000 Rio Grande near Brownsville, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 7 of 7

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Date	Sample start time	Selenium, water, filtered, µg/L (01145)	Organic carbon, suspended sediment, total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concen-tration, mg/L (80154)
10-16-2012	**1400**	0.46	3.71	4.64	99	29
11-13-2012	**1500**	.47	5.51	4.16	99	46
12-18-2012	**0900**	.48	4.78	2.93	100	90
02-12-2013	**0900**	.51	5.73	3.77	99	130
04-23-2013	***0800***	*< .03*	--	--	--	--
04-23-2013	**0900**	.36	4.74	4.16	99	73
06-13-2013	**0900**	.55	5.55	4.07	88	46
07-09-2013	**0800**	.52	5.13	3.74	98	80
07-09-2013	***0801***	*.48*	--	--	--	--
07-23-2013	**0800**	.53	4.33	3.59	76	95
08-06-2013	**0800**	.41	5.31	3.41	99	54
08-20-2013	**0800**	.54	2.41	3.87	99	50
09-04-2013	**0800**	.50	5.81	4.62	99	46
09-17-2013	**1400**	.42	3.73	5.03	96	67