9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

West Branch Creek

Date 2/8/98 19..... Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated 2/8/98 for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... 10 feet mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, sand

Flow Smooth steady Weather cloudy

Other ..... Air 16.4°F@ .....

Gage ..... Water 11.7°F@ .....

..... Record removed ..... Intake flushed U .....

Observer .....

Control PH meter not working - no rain gauge available

Remarks .....

G. H. of zero flow ..... ft.

USAV2-00003494

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	5.5	0	0				0				
	7.0	1.5	.35				.50				
	8.5	1.5	.55				1.05				
	10.0	1.5	.60				1.20				
	11.5		.65				1.70				
	13.0		.65				1.75				
	14.5		.65				1.80				
	16.0		.65				2.00				
	17.5		.60				2.00				
	19.0		.60				2.05				
	20.5		.45				1.80				
	22.0		.50				1.90				
	23.5		.50				2.00				
	25.0		.55				1.75				
⊙	26.5		.60				1.40				
	28.0		.80				1.40				
	29.5		1.00				1.30				
	31.0		1.30				1.30				
	32.0	1.0	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

West Fork Cache Creek

Date January 20, 1998 Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated 1/20/98 for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... 20 feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth / cobble

Flow Smooth steady Weather Partly Cloudy

Other ..... Air 18.9°F @ 13°C

Gage ..... Water .....°F @ .....

..... Record removed ..... Intake flushed .....

Observer .....

Control .....

Remarks .....

G. H. of zero flow ..... ft.

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	5.0	0	0				0				
	6.5	1.5	.30				.60				
	8.0	1.5	.50				.70				
	9.5	1.5	.55				1.25				
	11.0		.55				1.35				
	12.5		.55				1.45				
	14.0		.65				1.70				
	15.5		.60				1.90				
	17.0		.55				2.05				
	18.5		.45				1.80				
	20.0		.50				1.70				
	21.5		.60				1.95				
	23.0		.60				1.90				
	24.5		.60				1.60				
⊙	26.0		.65				1.50				
	27.5		.85				.90				
	29.0		1.05				1.00				
	30.5		1.30				.90				
	31.0		0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....
West Arawaya Creek

Date 1/9/98 19..... Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated 1/9/98 for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... 200 feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow Smooth, steady Weather Sunny, clear

Other ..... Air .....°F@ .....

Gage ..... Water .....°F@ .....

..... Record removed ..... Intake flushed .....

Observer .....

.....

Control .....

.....

Remarks .....

.....

.....

G. H. of zero flow ..... ft.

USAV2-00003498

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	7.0	0	0				0				
	8.5	1.5	.50				.90				
	10.0	1.5	.40				1.00				
	11.5	1.5	.45				1.25				
	13.0		.50				1.20				
	14.5		.60				1.55				
	16.0		.55				1.60				
	17.5		.70				1.50				
	19.0		.70				2.00				
	20.5		.65				2.00				
	22.0		.65				1.95				
	23.5		.60				1.80				
	25.0		.50				1.80				
	26.5		.35				1.20				
	28.0		.40				1.00				
	29.5		.60				1.00				
	31.0		.70				1.00				
	32.5	1.5	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. .....
West Hualapai Creek
Date 12/28/97, 19..... Party Sue Morgan
Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....
Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated 12/28/97 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side
bridge ..... feet, mile, above, below
gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....
Flow Smooth, steady Weather Sunny, clear, cold
Other ..... Air 12.0°F@ .....
Gage ..... Water 9.8°F@ .....
..... Record removed ..... Intake flushed U .....
Observer .....
.....
Control .....
.....
Remarks .....
.....
.....
G. H. of zero flow ..... ft.

USAV2-00003500

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	4.5	0	0				0				
	6.0	1.5	.30				.90				
	7.5	1.5	.35				.95				
	9.0	1.5	.45				1.25				
	10.5		.50				1.40				
	12.0		.55				1.25				
	13.5		.55				1.60				
	15.0		.50				1.60				
	16.5		.60				1.65				
	18.0		.55				1.85				
	19.5		.50				1.90				
	21.0		.55				2.00				
	22.5		.55				2.00				
	24.0		.50				1.80				
	25.5		.50				1.25				
	27.0		.50				1.10				
	28.5		.90				.95				
	30.0	1.5	1.30				1.00				
	31.5	1.5	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. .....
West Arawaipa Creek
Date December 13, 1997 Party Sue Morgan
Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....
Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated 12/13/97 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side
bridge ..... feet, mile, above, below
gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, deep on one side
Flow Smooth steady Weather Sunny, clear, cold
Other ..... Air 16.5°C@ .....
Gage ..... Water 9.9°C@ .....
..... Record removed ..... Intake flushed .....
Observer .....
.....
Control .....
.....
Remarks Electrol pH Meters accurat
.....
.....
G. H. of zero flow ..... ft.

USAV2-00003502

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	5.0	0	0				0				
	6.5	1.5	.30				.75				
	8.0	1.5	.35				.90				
	9.5	1.5	.40				1.25				
	11.0	1.5	.45				1.30				
	12.5		.55				1.50				
	14.0		.55				1.70				
	15.5		.55				1.65				
	17.0		.60				1.90				
	18.5		.60				2.00				
	20.0		.50				1.60				
	21.5		.55				2.10				
	23.0		.60				1.70				
	24.5		.55				1.70				
	26.0		.55				1.65				
	27.5		.70				1.20				
	29.0		1.00				1.10				
	30.5		1.40				2.05				
	31.5	0	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....
West Arawaipa Creek

Date October 31, 1997 Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated 10/31/97 for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, a few rocks

Flow Smooth, steady Weather Sunny, clear

Other ..... Air 25.4°F@ .....

Gage ..... Water 16.9°F@ .....

..... Record removed ..... Intake flushed U .....

Observer .....

Control .....

Remarks .....

G. H. of zero flow ..... ft.

USAV2-00003504

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	5.0	0	0				0				
	6.5	1.5	.30				.70				
	8.0	1.5	.40				.90				
	9.5	1.5	.65				.85				
	11.0		.90				1.00				
	12.5		.50				2.10				
	14.0		.45				1.85				
	15.5		.40				1.60				
	17.0		.35				1.70				
	18.5		.30				1.35				
	20.0		.20				.90				
	21.5		.20				.60				
	23.0		.25				.90				
	24.5		.40				1.25				
⊙	26.0		.50				1.65				
	27.5		.75				1.40				
	29.0		1.10				1.60				
	30.5		1.20				1.45				
	31.5	0	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-b
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. .....
West Arawaipa Creek
Date 9/7/92, 19..... Party Sue Morgan
Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....
Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated 9/7/92 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side
bridge ..... 100 feet mile, above, below
gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, sand
Flow Smooth, steady Weather Sunny, clear
Other ..... Air 32.0°F@ .....
Gage ..... Water 7.9°F@ .....
..... Record removed ..... Intake flushed U .....
Observer .....
.....
Control PH 81 Electro 420
.....
Remarks .....
.....
.....
G. H. of zero flow ..... ft.

USAV2-00003506

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for ref. angle or	Area	Discharge
	6.0	0	0				0				
	7.5	1.5	.80				.50				
	9.0	1.5	.85				1.95				
	10.5	1.5	.20				1.85				
	12.0	1.5	.30				1.10				
	13.5		.25				1.40				
	15.0		.30				1.55				
	16.5		.30				1.20				
	18.0		.40				1.80				
	19.5		.40				1.85				
	21.0		.50				2.00				
	22.5		.60				2.30				
	24.0		.50				2.00				
	25.5		.50				2.50				
⊙	27.0		.50				2.35				
	28.5		.35				1.50				
	30.0		.20				.85				
	31.5		.20				.30				
	33.0	1.5	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-b
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

West Arawaipa

Date August 23, 1997 Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side

bridge ..... feet, mile, above, below

gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, sand

Flow ..... Weather Sunny, clear, a few thin clouds

Other ..... Air 30.7°C @ .....

Gage ..... Water 25.8°C @ .....

..... Record removed ..... Intake flushed .....

Observer .....

Control PH 8.4 Electro 390

Remarks .....

G. H. of zero flow ..... ft.

USAV2-00003508

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	8.5	0	0				0				
	10.0	1.5	.20				.40				
	11.5	1.5	.30				.70				
	13.0	1.5	.45				.75				
	14.5		.45				1.10				
	16.0		.25				1.45				
	17.5		.60				1.50				
	19.0		.50				1.45				
	20.5		.60				1.65				
	22.0		.50				1.75				
	23.5		.50				1.20				
	25.0		.50				1.65				
	26.5		.60				1.50				
	28.0		.80				1.10				
⊙	29.5		.85				.40				
	30.5	1.0	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .71

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. .....
West Arawaipa Creek
Date August 5, 1997 Party Sue Morgan
Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....
Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.35	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated 8/5/97 for rod, other
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side
bridge ..... 20 feet, mile, above, below
gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble
Flow Smooth, steady Weather Mostly clear, high thin cloud
Other ..... Air 25.8 °F@
Gage ..... Water 22.9 °F@
..... Record removed ..... Intake flushed U .....
Observer .....
Control PH 8.2 Electro 370
Remarks Creek still flowing just a tad high and still very silty from several flooding occurrences over the last 4 days
G. H. of zero flow ..... ft.

USAV2-00003510

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	6.0	0	0				0				
	7.5	1.5	.30				.50				
	9.0	1.5	.35				1.20				
	10.5	1.5	.40				1.90				
	12.0		.45				1.55				
	13.5		.45				1.25				
	15.0		.45				1.90				
	16.5		.55				1.80				
	18.0		.50				2.00				
	19.5		.65				2.15				
	21.0		.65				2.05				
	22.5		.60				2.00				
	24.0		.55				2.10				
	25.5		.50				1.70				
⊙	27.0		.50				1.25				
	28.5		.65				1.45				
	30.0		.85				1.60				
	31.5		.80				1.00				
	32.5	1.0	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. .....
West Arawaipa Creek
Date July 12, 1992 Party Sue Morgan
Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....
Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.25	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated 7/12/92 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... 20 feet, mile, above, below gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble
Flow Smooth steady Weather Sunny, clear
Other ..... Air 28.7°C F@ .....
Gage ..... Water 23.6°C F@ .....
..... Record removed ..... Intake flushed U .....
Observer .....
Control Electra 390
Remarks .....
G. H. of zero flow ..... ft.

USAV2-00003512

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	3.5	0	0				0				
	5.0	1.5	.10				0				
	6.5	1.5	.10					.10			
	8.0	1.5	.30					.80			
	9.5		.30					.70			
	11.0		.30					.90			
	12.5		.30					1.20			
	14.0		.35					1.10			
	15.5		.40					1.35			
	17.0		.45					1.45			
	18.5		.50				1.70				
	20.0		.55				1.45				
	21.5		.50				1.55				
	23.0		.40				1.40				
	24.5		.50				1.25				
	26.0		.40				1.15				
	27.5		.60				1.00				
	29.0		.80				.90				
	30.5		.70				.15				
	32.0	0	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-3
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. .....
West Arawan Creek
Date June 20, 1977 Party Sue Morgan
Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....
Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.24	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated 6/20/97 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side
bridge ..... 20 feet, mile, above, below
gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, a few rocks
Flow Smooth, steady Weather Hot, sunny, clear
Other ..... Air 29.2°F@ .....
Gage ..... Water 24.16°F@ .....
..... Record removed ..... Intake flushed U .....
Observer .....
Control 380-Electroconductivity
Remarks .....
G. H. of zero flow ..... ft.

USAV2-00003514

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	6.0	0	0				0				
	7.5	1.5	.20				.30				
	9.0	1.5	.25				.60				
	10.5	1.5	.35				.90				
	12.0	1.5	.30				1.30				
	13.5		.35				1.30				
	15.0		.40				1.25				
	16.5		.40				1.50				
	18.0		.50				1.60				
	19.5		.55				1.85				
	21.0		.50				1.85				
	22.5		.45				1.80				
	24.0		.45				1.50				
	25.5		.45				1.55				
⊙	27.0		.45				1.25				
	28.5		.65				1.00				
	30.0		.75				1.00				
	31.5		.80				.50				
	32.0	.5	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. .....

Date June 10, 1997 Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.25	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated 6/10/97 for rod, other.
Meter ..... ~~above~~ below bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... 20 feet, mile, above, below gage and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section smooth cobble, a few rocks

Flow smooth, calm, steady Weather sunny, clear

Other ..... Air 27.9 °F@

Gage ..... Water 23.6 °F@

..... Record removed ..... Intake flushed U L .....

Observer .....

Control Electro 380

Remarks .....

G. H. of zero flow ..... ft.

USAV2-00003516

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for inst. angle or	Area	Discharge
	6.5	0	0				0				
	8.0	1.5	.20				.50				
	9.5	1.5	.25				.65				
	11.0	1.5	.30				.95				
	12.5	1.5	.30				1.40				
	14.0		.35				1.40				
	15.5		.50				1.45				
	17.0		.40				1.50				
	18.5		.50				1.75				
	20.0		.50				1.70				
	21.5		.50				1.90				
	23.0		.45				2.00				
	24.5		.45				1.60				
	26.0		.35				1.50				
⊙	27.5		.40				1.25				
	29.0		.70				1.20				
	30.5		.80				1.00				
	32.0	1.5	.20				.20				
	32.5	.5	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

Date May [redacted] 30 19 97 Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.25	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated 5/[redacted]/97 for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge .....15..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, a few rocks

Flow Smooth steady Weather Sunny, clear

Other ..... Air 27.5 °F@ .....

Gage ..... Water 23.0 °F@ .....

..... Record removed ..... Intake flushed U .....

Observer .....

Control Electro 370 pH 8.7

Remarks It's getting hot out here!

G. H. of zero flow ..... ft.

USAV2-00003518

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	6.0	0	0				0				
	7.5	1.5	.20				.40				
	9.0	1.5	.20				.45				
	10.5	1.5	.30				1.00				
	12.0	1.5	.30				1.25				
	13.5		.35				1.40				
	15.0		.40				1.35				
	16.5		.40				1.40				
	18.0		.45				1.70				
	19.5		.50				1.60				
	21.0		.50				1.60				
	22.5		.50				2.00				
	24.0		.45				1.45				
	25.5		.45				1.30				
	27.0		.45				1.20				
	28.5		.60				.90				
	30.0		.80				1.20				
	32.0	2.0	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. .....
West Arauaipa Creek
Date May 18, 1997 Party Sue Morgan
Width 6 Area ..... Vel. ..... G. H. ..... Disch. .....
Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated 5/18/97 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side
bridge ..... 5 feet, mile, above, below
gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Mostly smooth cobble, a few rocks on one side
Flow Smooth, steady Weather Sunny mostly, humid
Other ..... Air 27.4 °F@ .....
Gage ..... Water 24.0 °F@ .....
..... Record removed ..... Intake flushed U .....
Observer .....
.....
Control PH 8.6 Electro 350
.....
Remarks Heavy rains in area last night, no flooding, but ground saturated
.....
G. H. of zero flow ..... ft.

USAV2-00003520

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	5.0	0	0				0				
	6.5	1.5	.30				.90				
	8.0	1.5	.45				1.30				
	9.5	1.5	.45				1.05				
	11.0		.50				1.20				
	12.5		.45				1.20				
	14.0		.45				1.30				
	15.5		.40				1.40				
	17.0		.40				1.50				
	18.5		.45				1.55				
	20.0		.45				1.25				
	21.5		.45				1.60				
	23.0		.35				1.50				
	24.5		.50				1.35				
⊙	26.0		.65				1.55				
	27.5		.75				1.65				
	29.0	1.5	.65				1.15				
	29.5	.5	0				0				

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

West Aravaipa Creek

Date March 10, 1997 Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			[redacted]	
			1.39	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... 5 feet mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, a few rocks

Flow ..... Weather Sunny, p. cloudy, warm

Other ..... Air 30.4 °F @ C

Gage ..... Water 18.5 °F @ C

..... Record removed ..... Intake flushed U .....

Observer .....

Control Electra 360 pH Meter dysfunctional somewhat pH 7.6

Remarks Flood about 1 week ago - water seems a little higher - recharged - than previous month

G. H. of zero flow ..... ft.

USAV2-00003522

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	4.0	0	0				0			0	0
	5.0	1.0	.40				.25			.400	.100
	6.0	1.0	.30				.90			.300	.270
	7.0	1.0	.40				1.15			.400	.460
	8.0	1.0	.40				.60			.400	.240
	9.0		.60				1.25			.600	.750
	10.0		.60				1.25			.600	.750
	11.0		.55				1.20			.550	.660
	12.0		.55				1.55			.550	.853
	13.0		.55				1.95			.550	1.07
	14.0		.60				2.00			.600	1.20
	15.0		.55				2.10			.550	1.16
	16.0		.60				2.00			.600	1.20
	17.0		.55				1.80			.550	.990
	18.0		.60				2.30			.600	1.38
	19.0		.65				2.50			.650	1.63
	20.0		.60				2.35			.600	1.41
	21.0		.60				2.40			.600	1.44
	22.0		.60				2.20			.600	1.32
	23.0		.60				2.30			.600	1.38
	24.0		.60				2.25			.600	1.35
	25.0		.70				2.00			.700	1.40
	26.0		.90				1.80			.900	1.62
	27.0		1.00				1.95			1.00	1.95
	28.0		.75				2.30			.750	1.73
	29.0		.80				1.45			.800	1.16
	30.0	1.0	0				0			0	
											27.47

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

West Arawaipa Creek

Date February 8, 1997 Party Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.25	
Wrighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated 2/8/97 for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side

bridge ..... 5 feet, mile, above, below

gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth steady

Flow ..... Weather Overcast

Other ..... Air 21.2 °F@ .....

Gage ..... Water 13.7 °F@ .....

..... Record removed ..... Intake flushed U .....

Observer .....

Control Electro 370 pH-meter not working

Remarks Creek has become more channelized lately in places

G. H. of zero flow ..... ft.

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	11.0	0	0				0			0	0
	12.0	1.0	.50				.50			.500	.250
	13.0	1.0	.70				.60			.700	.420
	14.0	1.0	.65				1.10			.650	.715
	15.0	1.0	.65				1.10			.650	.715
	16.0		.65				1.60			.650	1.04
	17.0		.70				1.80			.700	1.26
	18.0		.75				2.00			.750	1.50
	19.0		.80				2.40			.800	1.92
	20.0		.80				2.40			.800	1.92
	21.0		.85				2.40			.850	2.04
	22.0		.85				2.30			.850	1.96
	23.0		.80				2.35			.800	1.88
	24.0		.80				2.30			.800	1.84
	25.0		.70				1.90			.700	1.33
	26.0		.55				1.30			.550	.715
	27.0		.50				1.00			.500	.500
	28.0		.60				.90			.600	.540
	29.0		.60				1.45			.600	.870
	30.0		.60				1.80			.600	1.08
	31.0		.50				1.45			.500	.725
	32.0		.60				1.00			.600	.600
	33.0	1.0	0				0			0	
											23.84

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

West Arawaipa Creek

Date January 18, 1997 Party Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.24	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... 100 feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth, swift

Flow ..... Weather Sunny, clear

Other ..... Air 20.9°F@ .....

Gage ..... Water 12.5°F@ .....

..... Record removed ..... Intake flushed U .....

Observer .....

.....

Control .....

.....

Remarks PH & Electro meters not working right - numbers jumping around - changed batteries but still not working right

G. H. of zero flow ..... ft.

Sunday - Canyon
ALW#78 Hau Peter 1p x 1d Phoenix

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	10.0	0	0				0				
	11.0	1.0	.50				.50			.500	.250
	12.0	1.0	.65				.50			.650	.325
	13.0	1.0	.80				1.10			.800	.880
	14.0		.75				1.25			.750	.938
	15.0		.70				1.70			.700	1.19
	16.0		.70				2.20			.700	1.54
	17.0		.75				2.25			.750	1.69
	18.0		.80				2.45			.800	1.96
	19.0		.90				2.95			.900	2.66
	20.0		.90				2.50			.900	2.25
	21.0		.80				2.60			.800	2.08
	22.0		.75				2.85			.750	2.14
	23.0		.75				2.15			.750	1.61
	24.0		.65				1.70			.650	1.11
	25.0		.50				1.60			.500	.800
	26.0		.50				.90			.500	.450
	27.0		.60				1.00			.600	.600
	28.0		.80				1.95			.800	1.56
	29.0		.75				1.60			.750	1.20
	30.0		.55				1.00			.550	.550
	31.0		.75				.60			.750	.450
	32.0	1.0	0				0			0	0
											26.24
											CFS

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-D
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. .....

Date 12/8/96, 19..... Party Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.20	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... 8 feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, sand

Flow Smooth steady Weather Sunny, clear, windy

Other ..... Air .....°F@ 24.0 C

Gage ..... Water .....°F@ 12.9 C

..... Record removed ..... Intake flushed U L .....

Observer .....

Control .....

Remarks PH 7.5 Electro 370

G. H. of zero flow ..... ft.

PH Meter seems to be working o.k. again

USAV2-00003528

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	9.0	0	0				0			0	0
	10.0	1.0	.60				.40			.600	.240
	11.0		.60				1.25			.600	.750
	12.0		.65				1.35			.650	.877
	13.0		.60				1.75			.600	1.05
	14.0		.65				1.80			.650	1.17
	15.0		.65				2.05			.650	1.33
	16.0		.65				1.90			.650	1.23
	17.0		.70				1.90			.700	1.33
	18.0		.60				1.90			.600	1.14
	19.0		.60				1.70			.600	1.02
	20.0		.50				1.50			.500	.750
	21.0		.50				1.60			.500	.800
	22.0		.50				1.45			.500	.725
⊙	23.0		.50				1.25			.500	.625
	24.0		.70				1.00			.700	.700
	25.0		.80				1.50			.800	1.200
	26.0		.80				1.65			.800	1.32
	27.0		.90				2.00			.900	1.80
	28.0		.55				1.90			.550	1.04
	29.0		.60				1.40			.600	.840
	30.0		0				0			0	0
											19.95

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. .....

Date 11/30/96, 19..... Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.20	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated 11/30/96 for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... 8 feet mile, above below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble

Flow Smooth, steady Weather Sunny, clear

Other ..... Air .....°F@ 16.9 C

Gage ..... Water .....°F@ 12.0 C

..... Record removed ..... Intake flushed U L .....

Observer ..... Time 1500

Control .....

Remarks Electro 350
PH - PH meter malfunctioning - numbers skip around constantly - won't stop - need to replace

G. H. of zero flow ..... ft.

USAV2-00003530

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	9.0	0	0				0			0	0
	10.0	1.0	.65				1.00			.650	.650
	11.0	1.0	.65				1.40			.650	.910
	12.0	1.0	.60				1.40			.600	.840
	13.0		.65				1.90			.650	1.23
	14.0		.70				2.00			.700	1.40
	15.0		.70				1.70			.700	1.19
	16.0		.70				2.05			.700	1.43
	17.0		.65				2.10			.650	1.36
	18.0		.60				1.75			.600	1.05
	19.0		.60				1.85			.600	1.11
	20.0		.50				1.65			.500	.825
	21.0		.45				1.60			.450	.720
	22.0		.50				1.45			.500	.725
	23.0		.55				1.40			.550	.770
	24.0		.65				1.45			.650	.942
	25.0		.50				1.70			.500	.850
	26.0		.85				1.80			.850	1.53
	27.0		.85				2.00			.850	1.70
	28.0		.55				1.80			.550	.990
	29.0		.70				1.25			.700	.875
	30.0	1.0	0				0			0	0
											21.11

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

Date 11/15/96....., 19..... Party Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather .....

Other ..... Air .....°F@ .....

Gage ..... Water .....°F@ .....

..... Record removed ..... Intake flushed U .....

Observer .....

.....

Control .....

.....

Remarks .....

.....

.....

G. H. of zero flow ..... ft.

USAV2-00003532

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	10.0	0	0				0			0	0
	11.0	1.0	.60				1.15			.600	.690
	12.0	1.0	.60				1.50			.600	.900
	13.0	1.0	.60				1.60			.600	.960
	14.0		.70				1.70			.700	1.19
	15.0		.65				2.10			.650	1.36
	16.0		.60				1.50			.600	.900
	17.0		.65				1.95			.650	1.26
	18.0		.70				1.95			.700	1.36
	19.0		.60				1.85			.600	1.11
	20.0		.50				1.40			.500	.700
	21.0		.50				1.50			.500	.750
	22.0		.45				1.50			.450	.675
	23.0		.50				1.40			.500	.700
	24.0		.70				1.20			.700	.840
	25.0		.80				1.35			.800	1.08
	26.0		.80				1.75			.800	1.40
	27.0		.90				1.80			.900	1.62
	28.0		.60				1.75			.600	1.05
	29.0		.60				1.50			.600	.900
	30.0		.70				.80			.700	.560
	31.0	0	0				0			0	0
											20.01

.0 .10 .20 .30 .40 .50 .60 .70 .75

9-275-F
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....

Comp. by .....

Checked by .....

Sta. No. .....

Date 10/1/96, 19..... Party Sue Morgan

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
			1.20	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... 5 feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, sand

Flow Smooth, steady Weather Sunny, partly cloudy

Other ..... Air 18.2 °F @ .....

Gage ..... Water 14.7 °F @ .....

..... Record removed ..... Intake flushed .....

Observer .....

Control .....

Remarks Electro 370 pH 7.9 ?

G. H. of zero flow ..... ft.

USAV2-00003534

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	9.0	0	0				0			0	0
	10.0	1.0	.50				.60			.500	.300
	11.0	1.0	.60				.95			.600	.570
	12.0		.60				.90			.600	.540
	13.0		.60				1.25			.600	.750
	14.0		.65				1.45			.650	.942
	15.0		.65				1.60			.650	1.04
	16.0		.60				1.25			.600	.750
	17.0		.65				1.50			.650	.975
	18.0		.60				1.50			.600	.900
	19.0		.55				1.40			.550	.770
	20.0		.50				1.30			.500	.650
	21.0		.45				1.10			.450	.495
	22.0		.45				1.10			.450	.495
⊙	23.0		.50				1.00			.500	.500
	24.0		.65				1.10			.650	.715
	25.0		.70				1.15			.700	.805
	26.0		.85				1.25			.850	1.06
	27.0		.90				1.50			.900	1.35
	28.0		.45				1.35			.450	.607
	29.0		.70				.80			.700	.560
	0	.50	0				0			0	0
											14.8

.0 .10 .20 .30 .40 .50 .60 .70 .75

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor: Morgan
Date: 10/11/92

Stream: West Arrowpa

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.70	

Gage

Type of meter: Marsh McBirney
Date rated: 10/11/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... 10 feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section: Smooth sand, a few rocks
Flow: Smooth, steady Weather: Partly cloudy
Other .....

Specific	pH	Time	TEMPERATURE °C	
360	6.7	1430	A 27.4	W 20.7

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS_____

Fecal Coliform	Volumes	Count	Comments
Time In_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time In_____	blank		
Time out_____			

Comments: Stream slightly silty from road work in Klondyke - east trail head road

USAV2-00003536

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	9.0	0	0				0				
	10.0	1.0	.50				.80			.500	.400
	11.0	1.0	.55				1.30			.550	.715
	12.0	1.0	.55				1.35			.550	.742
	13.0		.55				1.55			.550	.852
	14.0		.60				1.70			.600	1.02
	15.0		.60				1.75			.600	1.05
	16.0		.60				1.90			.600	1.14
	17.0		.55				1.65			.550	.908
	18.0		.55				1.55			.550	.853
	19.0		.50				1.50			.500	.750
	20.0		.40				1.30			.400	.520
	21.0		.40				1.30			.400	.520
	22.0		.45				1.20			.450	.540
	23.0		.40				1.25			.400	.500
	24.0		.65				1.10			.650	.715
	25.0		.75				1.40			.750	1.05
	26.0		.80				1.35			.800	1.08
	27.0		.90				1.80			.900	1.62
	28.0		.50				1.50			.500	.750
	29.0		.85				1.10			.850	.935
	30.0		0				0				16.67

.0 .10 .20 .30 .40 .50 .60 .70 .78

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morgan
Date 9/22/96

Stream West Arawaipa

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.15	

age

Type of meter Marsh McBirney
Date rated 9/22/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ....20.... feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Rocky, gravel
Flow Smooth, steady Weather Sunny, clear
Other .....

Specific	pH	Time	TEMPERATURE °C	
390			A 28.6	W 23.1

NO

BACTERIA. Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments Creek flowing slightly silty today even though it was clear yesterday and no known flooding - Roadwork / Irrigation? Up stream

USAV2-00003538

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	5.0	0	0				0				
	6.5	1.5	.55				1.35			.825	1.11
	8.0	1.5	.60				1.50			.900	1.35
	9.5	1.5	.45				1.60			.675	1.08
	11.0		.45				1.50			.675	1.01
	12.5		.50				1.45			.750	1.09
	14.0		.45				1.45			.675	.979
	15.5		.45				1.90			.675	1.28
	17.0		.45				1.90			.675	1.28
	18.5		.40				1.60			.600	.960
	20.0		.45				1.90			.675	1.28
	21.5		.35				1.75			.525	.919
	23.0		.30				1.40			.450	.630
	24.5		.30				1.25			.450	.562
	26.0		.65				1.10			.975	1.07
	27.5		1.00				1.65			1.50	2.47
	29.0		.60				1.00			.900	.900
	30.5	1.5	0				0				17.97

.0 .10 .20 .30 .40 .50 .60 .70 .78

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

I. Surveyor Morgan
Date 9/8/96

Stream West Arawarpa

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.40	

Type of meter Marsh McBirney
Date rated 9/8/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... 50 feet, mile, above, below gage, and .....

Gage

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section smooth cobble / sand
Flow smooth steady Weather sunny, clear
Other Creek still silty from recent flooding

Specific	pH	Time	TEMPERATURE °C	
410	6.5		A 24.6	W 21.8

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS_____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments

USAV2-00003540

Angle of bank	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
(3.5)	~~3.0~~	0	0				0			0	0
	~~5.0~~	1.5	.20				.55			.30	.165
	6.5	1.5	.30				1.20			.45	.540
	8.0	1.5	.35				1.35			.525	.709
	9.5		.35				1.45			.508	.737
	11.0		.40				1.50			.600	.900
	12.5		.35				1.70			.525	.893
	14.0		.45				1.85			~~.675~~	1.16
	15.5		.55				1.80			.825	1.49
	17.0		.50				1.80			.750	1.35
	18.5		.55				2.00			.825	1.65
	20.0		.50				1.75			.750	1.31
	21.5		.65				1.75			.975	1.71
	23.0		.60				2.05			.900	1.85
⊙	24.5		.70				2.00			1.05	2.10
	26.0		.70				1.70			1.05	1.79
	27.5		.60				1.10			.900	.99
	29.0		.45				.70			.625	.44
	~~31.0~~	2.0	0				0			0	0
											19.78 CFS

.0 .10 .20 .30 .40 .50 .60 .70 .75

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

T. Surveyor: Morgan
Date: 7/21/96

Stream: West Aravaipa

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.39	

Gage

Type of meter: Marsh McBirney
Date rated: 7/21/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... 100 feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section: Smooth gravel, cobble, a few rocks.
Flow: Smooth, steady, silty. Weather: Sunny, clear, hot.
Other .....

Specific	pH	Time	TEMPERATURE °C	
400	7.6	1300	A 33.6	W 30.3

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments: Stream flowing silty - roadwork upstream.

USAV2-00003542

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	7.5	0	0				0				
	9.0	1.5	.25				.70			.375	.262
	10.5	1.5	.25				.95			.375	.356
	12.0	1.5	.30				1.40			.450	.630
	13.5	1.5	.30				1.40			.450	.630
	15.0	1.5	.30				1.20			.450	.540
	16.5		.30				1.45			.450	.653
	18.0		.35				1.50			.525	.787
	19.5		.45				1.55			.675	1.05
	21.0		.50				1.85			.750	1.39
	22.5		.45				1.60			.675	1.08
	24.0		.40				1.65			.600	.990
	25.5		.50				1.90			.750	1.43
	27.0		.45				1.95			.675	1.32
⊙	28.5		.55				1.75			.825	1.44
	30.0		.60				2.00			.900	1.80
	31.5		.65				1.75			.975	1.71
	33.0		.55				1.80			.825	1.49
	34.5		.50				1.30			.750	.975
	36.0		.35				.25			.525	.131
	38.0	2.00	0				0				18.67

.0 .10 .20 .30 .40 .50 .60 .70 .75

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morgan
Date 7/20/96

Stream

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.45	

Gage

Type of meter Marsh McBirney
Date rated ..... for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble
Flow Smooth, steady Weather Mostly sunny, clouds forming
Other .....

Specific	pH	Time	TEMPERATURE °C	
410	6.7	1000	^ 29.0	* 26.2

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time In_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time In_____	blank		
Time out_____			

Creek is getting silty to flood starting just after finishing stream water

Comments Changed batteries in the Marsh McBirney meter today
There has been some recent minor flooding with the creek rising about 6" several times over the last week or two

USAV2-00003544

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	8.5	0	0				0				
	10.0	1.5	.35				.85			.42	.357
	11.5	1.5	.40				1.15			.60	.690
	13.0	1.5	.35				1.50			.42	.630
	14.5		.40				1.50			.60	.900
	16.0		.40				1.25			.60	.750
	17.5		.40				1.80			.60	1.08
	19.0		.50				2.00			.75	1.50
	20.5		.45				2.00			.675	1.35
	22.0		.45				2.10			.675	1.42
	23.5		.50				2.15			.75	1.61
	25.0		.50				1.65			.75	1.24
	26.5		.55				1.80			.825	1.57
	28.0		.50				1.70			.75	1.28
	29.5		.55				1.75			.825	1.44
	31.0		.55				2.00			.825	1.65
	32.5		.65				2.15			.975	2.10
	34.0		.70				1.90			1.05	1.99
	35.5		.70				1.75			1.05	1.84
	37.0		.50				1.65			.75	1.24
	38.5		.45				.50			.675	.334
	40.0	1.5	0				0			0	0
											24.97 CFS

.0 .10 .20 .30 .40 .50 .60 .70 .78

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morg
Date 5/27/96

Stream West Arawaya Creek

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.30	

Gage

Type of meter Marsh McBirney
Date rated 5/27/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge 40 feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth gravel
Flow Smooth, steady Weather Sunny, clear
Other .....

Specific	pH	Time	TEMPERATURE °C	
390	8.9	1630	A 30.4	W 23.8

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments

USAV2-00003546

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	7.0	0	0				0			0	0
	8.5	1.5	.30				1.00			.450	.450
	10.0	1.5	.35				.85			.525	.446
	11.5		.35				1.30			.525	.683
	13.0		.30				1.20			.450	.540
	14.5		.30				1.40			.450	.630
	16.0		.35				1.15			.525	.604
	17.5		.35				1.15			.525	.604
	19.0		.35				1.35			.525	.709
	20.5		.35				1.45			.525	.761
	22.0		.40				1.20			.600	.720
	23.5		.40				1.30			.600	.780
	25.0		.40				1.30			.600	.780
	26.5		.45				1.20			.675	.810
	28.0		.50				1.50			.750	1.125
	29.5		.50				1.55			.750	1.163
	31.0		.50				1.65			.750	1.238
	32.5		.60				1.50			.900	1.35
	34.0		.50				1.00			.750	.750
	36.0	2.0	0				0			0	0
											14.14

.0 .10 .20 .30 .40 .50 .60 .70 .78

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

S. Surveyor: Morgan
Date: 6/16/96

Stream: West Aravaipa

Flow cfs: EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.30	

Gage

Type of meter .....
Date rated ..... for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, moss along edges
Flow Smooth, steady Weather Sunny, clear, a few clou
Other .....

Specific	pH	Time	TEMPERATURE °C	
390	8.5	1000	A 29.4	W 23.4

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments Reports of bear cub sighted near boundary a few days ago.
Humid.

USAV2-00003548

Angle coef. Remt	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	8.0	0	0				0				
	9.5	1.5	.30				.75			.450	.338
	11.0	1.5	.35				.95			.525	.499
	12.5	1.5	.35				1.50			.525	.788
	14.0		.35				1.10			.525	.578
	15.5		.30				1.20			.450	.540
	17.0		.35				1.15			.525	.604
	18.5		.40				1.30			.600	.780
	20.0		.30				1.40			.450	.630
	21.5		.40				.95			.600	.570
	23.0		.45				1.40			.675	.945
	24.5		.40				1.00			.400	.400
	26.0		.45				1.15			.518	.596
	27.5		.45				1.25			.563	.704
⊙	29.0		.55				1.40			.454	.636
	30.5		.50				1.25			.750	.938
	32.0		.50				1.50			.750	1.125
	33.5		.60				1.60			.900	1.44
	35.0		.45				1.10			.675	.743
	36.5		.40				.50			.600	.300
	38.0	1.5	0				0			0	0
											13.15

.0 .10 .20 .30 .40 .50 .60 .70 .78

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morgan
Date 8/11/96

Stream West Arawaja

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.25	

Gage

Type of meter Marsh McBirney
Date rated 8/11/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... 50 feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cable
Flow Smooth / Steady Weather Sunny clear
Other Stream still slightly silty from recent flooding otherwise ~~about~~ about normal

Specific	pH	Time	TEMPERATURE °C	
400	5.4 ??	1200	A 30.0	W 28.0

D.O

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments

USAV2-00003550

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	9.5	0	0				0			0	0
	11.0	1.5	2.25				.70			.375	.263
	12.5	1.5	.25				.80			.375	.300
	14.0	1.5	.30				1.25			.450	.563
	15.5		.30				1.25			.450	.563
	17.0		.35				1.25			.525	.656
	18.5		.35				1.35			.525	.709
	20.0		.35				1.25			.525	.656
	21.5		.50				1.75			.750	1.31
	23.0		.45				1.70			.675	1.15
	24.5		.50				1.65			.750	1.24
	26.0		.50				1.80			.750	1.35
	27.5		.50				1.60			.750	1.20
	29.0		.50				1.70			.750	1.28
0	30.5		.50				2.10			750	1.58
	32.0		.65				1.70			.975	1.66
	33.5		.65				1.85			.975	1.80
	35.0		.55				1.35			.825	1.11
	36.5		.45				.90			.675	.608
	38.0	1.5	0				0			0	
											17.998

.0 .10 .20 .30 .40 .50 .60 .70 .75

USAV2-0000355I

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morgan
Date 8/29/96

Stream West Arawaipa

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.21	

Gage

Type of meter Marsh McBirney
Date rated 8/29/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... 50 feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, gravel
Flow Slightly swift Weather Sunny, clear
Other Stream still flooding slightly, mostly just silty

Specific	pH	Time	TEMPERATURE °C	
400	6.8	1000	A 26.0	B 23.7

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments The creek is flowing just a few inches higher than usual at the moment due to intermittent recent flooding, and is still slightly silty

USAV2-00003552

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	8.5	0	0				0				
	10.0	1.5	.25				.50			.375	.047
	11.5	1.5	.30				1.00			.45	.135
	13.0	1.5	.35				1.50			.525	.026
	14.5		.35				1.65			.525	.866
	16.0		.35				1.50			.525	.026
	17.5		.40				1.55			.600	.372
	19.0		.45				1.45			.675	.440
	20.5		.50				2.00			.750	2.25
	22.0		.60				2.00			.900	1.08
	23.5		.50				2.05			.750	1.54
	25.0		.55				2.20			.825	2.72
	26.5		.60				2.05			.900	1.85
	28.0		.55				1.75			.825	1.44
0	29.5		.50				1.95			.750	1.46
	31.0		.55				2.00			.825	1.65
	32.5		.65				2.00			.975	1.95
	34.0		.65				1.75			.975	1.71
	35.5		.55				1.20			.825	.990
	37.0		.40				.30			.600	.180
	38.5	1.5	0				0			0	
											20.73

.0 .10 .20 .30 .40 .50 .60 .70 .75

USAV2-00003553

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

Surveyor: Morgan
Date: 3/24/96

Stream: West Aravaipa Creek

Flow cfs: EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.40	

Gage

Type of meter: Marsh McBirney
Date rated: 3/24/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge .....50 feet mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section: Smooth cobble, a few rocks

Flow ..... Weather: Sunny/breezy

Other .....

Specific	pH	Time	TEMPERATURE °C	
380	8.9	1330	A 19.2	W 18.1

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments

USAV2-00003554

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	7.0	0	0				0			0	0
	8.5	1.5	.40				1.15			.600	.690
	10.0	1.5	.45				1.20			.675	.810
	11.5		.45				1.70			.675	1.148
	13.0		.45				1.65			.675	1.114
	14.5		.45				1.70			.675	1.148
	16.0		.50				1.65			.750	1.238
	17.5		.50				1.90			.750	1.425
	19.0		.50				1.80			.750	1.350
	20.5		.55				2.15			.825	1.774
	22.0		.50				2.10			.750	1.575
	23.5		.55				2.15			.825	1.774
	25.0		.55				1.80			.825	1.485
	26.5		.50				1.85			.750	1.388
	28.0		.55				1.70			.825	1.403
	29.5		.60				1.75			.900	1.575
	31.0		.75				2.00			1.125	2.25
	32.5		.80				2.30			1.200	2.76
	34.0		.65				2.00			.975	1.95
	35.5		.55				1.30			.825	1.073
	37.0		.35				.30			.525	.158
	38.0	1.0	0				0			0	0
											28.09 CFS

.0 .10 .20 .30 .40 .50 .60 .70 .78

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morga
Date 2-17-96

Stream West Aravaipa

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			4.45	

Gage

Type of meter Marsh McBirney
Date rated 2/17 for rod, other.
Meter ft. above bottom of weight.
Spin before meas. after
Meas. plots % diff. from rating
Wading, cable, ice, boat, upstr., downstr., side
bridge 30 feet mile, above, below
gage and

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble
Flow Smooth, steady Weather Hazy, few clouds
Other

Specific	pH	Time	TEMPERATURE °C	
380	8.9	1130	A 21.7	W 14.3

DO

BACTERIA Concentration/100ml FC____ FS____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in	blank		
Time out			

Fecal Strep	Volumes	Count	Comments
Time in	blank		
Time out			

Comments

Angle coef. Revmt	Dist. from initial point	Width	Depth	Observation Depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	6.0	0	0				0			0	0
	7.5	1.5	.45				1.00			.675	.675
	9.0	1.5	.40				1.35			.600	.810
	10.5	1.5	.50				1.95			.750	1.463
	12.0		.40				1.55			.600	.930
	13.5		.40				1.70			.600	1.02
	15.0		.40				1.65			.600	.990
	16.5		.45				2.00			.675	1.350
	18.0		.55				1.70			.825	1.403
	19.5		.50				1.90			.750	1.425
	21.0		.60				2.10			.900	1.89
	22.5		.60				1.70			.900	1.53
	24.0		.60				1.65			.900	1.485
	25.5		.60				2.10			.900	1.89
⊙	27.0		.50				1.75			.750	1.313
	28.5		.65				1.90			.975	1.853
	30.0		.75				2.40			1.125	2.70
	31.5		.80				2.15			1.200	2.58
	33.0		.75				2.15			1.125	2.419
	34.5		.50				1.70			.750	1.28
	36.0		.50				.70			.750	.525
	37.5	1.5	0				0			0	0
											29.53 CFS

.0 .10 .20 .30 .40 .50 .60 .70 .78

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morgan
Date 4/7/96

Stream West Aravaipa Creek

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside

Gage

Type of meter .....
Date rated ..... for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side
bridge ....20.... feet, mile, above, below
gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather ....Sunny, clear.....

Other .....

Specific	pH	Time	TEMPERATURE °C	
330	8.9	1430	A 22.3	W 12.2

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	5.0	0	0				0			0	0
	6.5	1.5	.30				.50			.45	.225
	8.0	1.5	.35				.70			.525	.368
	9.5	1.5	.60				1.25			.900	1.125
	11.0		.65				1.45			.975	1.414
	12.5		.65				2.10			.975	2.048
	14.0		.65				2.10			.975	2.048
	15.5		.60				2.60			.900	2.340
	17.0		.65				2.35			.975	2.291
	18.5		.60				2.25			.900	2.025
	20.0		.55				2.20			.825	1.815
	21.5		.60				2.45			.900	2.205
	23.0		.60				2.30			.900	2.070
	24.5		.50				2.15			.750	1.613
⊙	26.0		.50				2.50			.750	1.875
	27.5		.40				1.85			.600	1.110
	29.0		.35				1.75			.525	.919
	30.5		.35				1.35			.525	.709
	32.0		.35				1.10			.525	.578
	33.5		.75				1.40			1.125	1.575
	35.0		1.00				1.30			1.500	1.950
	36.5		.60				.40			.900	.360
	37.0		0				0			~~0~~	
										ES	30.166

.0 .10 .20 .30 .40 .50 .60 .70 .75

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

I. Surveyor Morgan
Date 1/20/96

Stream

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.75	

Gage

Type of meter Marsh McBirney
Date rated 1/20/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge 15 feet, mile, above, below gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Mostly smooth sand/cobble, some weeds
Flow Smooth Weather Sunny, clear, breezy, cool
Other .....

Specific	pH	Time	TEMPERATURE °C	
380	9.1	1300	A 17.2	W 12.5

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	5.6	0	0				0			0	0
	7.0	1.5	.20				.50			.300	.150
	8.5	1.5	.30				.70			.450	.315
	10.0	1.5	.45				1.30			.675	.878
	11.5		.65				1.60			.975	1.560
	13.0		.70				2.15			1.050	2.258
	14.5		.65				2.50			.975	2.438
	16.0		.65				2.10			.975	2.048
	17.5		.60				2.30			.900	2.070
	19.0		.55				2.35			.825	1.939
	20.5		.65				2.15			.975	2.096
	22.0		.60				2.50			.900	2.250
	23.5		.60				2.45			.900	2.205
	25.0		.50				2.30			.750	1.725
	26.5		.45				1.90			.675	1.283
	28.0		.50				2.10			.750	1.575
	29.5		.40				1.70			.600	1.020
	31.0		.30				1.45			.450	.653
	32.5		.30				1.30			.450	.585
	34.0		.65				1.30			.975	1.268
	35.5		.95				1.50			1.425	2.138
	37.0		.70				.45			1.050	.473
	38.5	1.5	0				0			0	0
										CFS	30.93

.0 .10 .20 .30 .40 .50 .60 .70 .75

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morgan
Date 2/4/96

Stream West Arawaipa

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.602	

Gage

Type of meter Marsh McBirney
Date rated 2/4/96 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... 15 feet mile, above, below gage and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Mostly smooth cobble, a few rocks
Flow Smooth, steady, slightly silty Weather sunny, breezy
Other .....

Specific	pH	Time	TEMPERATURE °C	
330	8.6	1530	A 21.7	W 14.2

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments 3-4' Flood levels on Friday 1/2 - (2 days ago) creek still flowing slightly greenish and silty

USAV2-00003562

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity At point	Velocity Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	3.5	0	0				0			0	0
	5.0	1.5	.25				1.80			.375	.300
	6.5	1.5	.40				1.20			.600	.720
	8.0	1.5	.35				1.55			.525	.814
	9.5		.55				2.00			.825	1.650
	11.0		.65				2.15			.975	2.096
	12.5		.55				1.85			.825	1.526
	14.0		.55				1.90			.825	1.568
	15.5		.30				1.50			.450	.675
	17.0		.25				1.45			.375	.544
	18.5		.30				1.40			.450	.630
	20.0		.45				1.85			.675	1.249
	21.5		.55				2.10			.825	1.733
	23.0		.75				2.35			1.125	2.644
	24.5		.80				2.85			1.200	3.420
	26.0		.90				3.00			1.350	4.050
	27.5		.95				3.00			1.425	4.275
	29.0		.85				2.55			1.275	3.251
	30.5		.90				3.00			1.350	4.050
	32.0		.80				2.30			1.200	2.760
	33.5		.90				2.35			1.350	3.173
	35.0		1.00				2.25			1.500	3.375
	37.5		.50				.20			.750	.150
	38.0	.5	0				0			0	0
										CFS	44.65

.0 .10 .20 .30 .40 .50 .60 .70 .78

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STREAM WATER ANALYSIS RECORD

1. Surveyor Morgan
Date 12/12/95

Stream West Aravaipa Creek

Flow cfs
EST MEAS

GAGE READINGS

Time		Recorder	Inside	Outside
			1.26	

Gage

Type of meter Marsh McBirney
Date rated 12/12/95 for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side
bridge ..... 20 feet, mile, above, below
gage, and .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section Smooth cobble, sand, a few small rocks
Flow Smooth, steady Weather Sunny, clear, breezy
Other .....

Specific	pH	Time	TEMPERATURE °C	
340	8.8	1430	A 24.1 C	W 14.1 C

DO

BACTERIA Concentration/100ml FC_____ FS_____ Ratio FC/FS_____

Fecal Coliform	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Fecal Strep	Volumes	Count	Comments
Time in_____	blank		
Time out_____			

Comments

River at--

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	6.0	0	0				0				
	7.5	1.5	.30				.65			.450	.293
	9.0	1.5	.35				.80			.525	.420
	10.5		.55				1.90			.825	1.568
	12.0		.65				1.80			.975	1.755
	13.5		.60				1.95			.900	1.755
	15.0		.65				2.30			.975	2.243
	16.5		.70				2.45			1.05	2.573
	18.0		.65				2.10			.975	2.048
	19.5		.55				2.05			.825	1.691
	21.0		.55				1.70			.825	1.403
	22.5		.55				2.20			.825	1.815
	24.0		.55				2.00			.825	1.650
	25.5		.50				2.10			.750	1.575
⊙	27.0		.45				2.25			.675	1.519
	28.5		.40				2.20			.600	1.320
	30.0		.35				2.00			.525	1.050
	31.5		.35				1.55			.525	.814
	33.0		.35				1.70			.525	.893
	34.5		.65				1.40			.975	1.365
	36.0		1.00				1.45			1.500	2.175
	37.5		.60				.45			.900	.405
	38.5	1.0	0				0			0	0
											30.33

.0 .10 .20 .30 .40 .50 .60 .70 .75