9-278-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. .....
Wigg

Date 1/4, 1991. Party West Atravaipa

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
1420			94	
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~~ 120 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 slightly turbid ..... Weather Overcast

Other ..... Air 61 °F @ 1420

Gage ..... Water 54 °F @ 1425

..... Record removed No ..... Intake flushed U .....

Observer .....

Control .....

Remarks .....

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

USAV2-0000335

Angle coef. Meas.	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
SE	25										
	24		.45				1.0				.45
	23		1.0				1.6				1.6
	22		1.15				1.9				2.185
	21		1.1				2.2				2.42
	20		1.18				2.2				2.596
	19		1.1				2.6				2.86
	18		1.0				2.5				2.5
	17		~~1.0~~ .98				2.3				2.254
	16		.90				2.4				2.16
	15		.80				2.3				1.84
	14		.80				2.2				1.76
	13		.70				2.3				1.61
	12		.70				2.1				1.47
0	11		.65				2.05				1.3325
	10		.58				1.8				1.044
	9		.60				1.7				1.02
	8		.50				1.65				.825
	7		.50				1.6				.8
	6		.45				1.5				.675
	5		.45				1.4				.63
	4		.40				1.1				.44
	3		.61				.55				.3355
SE	2										
											32.807

.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

Date 1/5, 1991 Party JW, gg

Width 27 Area 14.66 Vel. ..... G. H. .16-.17 Disch. 25.8945

Method ..... No. secs. ..... G. H. change 0 in 833 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1200			.16-.17	
1250			.16-.17	
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 110 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 sand, silt and fine gravel; even

Flow good dist. smooth Weather 1/3 cloudy, breezy

Other ..... Air 57 °F @ 1243

Gage OK Water 54 °F @ 1245

..... Record removed NO Intake flushed U

Observer .....

Control .....

Remarks pH 8.5 cu 330 at 1245

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

USAV2-00003358

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
	5	.5	0				0				
	6	1	.25				.15			.25	.0375
	7	1	.25				.80			.25	.20
	8	1	.25				.75			.25	.1875
	9	1	.27				.90			.27	.243
	10	1	.29				1.1			.29	.319
	11	1	.27				1.1			.27	.297
	12	1	.32				1.4			.32	.448
	13	1	.37				1.4			.37	.518
	14	1	.39				1.4			.39	.546
	15	1	.43				1.35			.43	.5805
	16	1	.50				1.5			.50	.75
	17	1	.50				1.55			.50	.775
	18	1	.55				1.6			.55	.88
⊙	19	1	.60				1.95			.60	1.17
	20	1	.65				2.05			.65	1.3325
	21	1	.70				2.1			.70	1.47
	22	1	.80				2.2			.80	1.76
	23	1	.80				2.4			.80	1.92
	24	1	.90				2.5			.90	2.25
	25	1	.98				2.5			.98	2.45
	26	1	1.0				2.4			1.0	2.4
	27	1	.95				2.0			.95	1.9
	28	1	.81				1.8			.81	1.458
	29	1	.75				1.65			.75	1.2375
	30	1	.63				1.0			.63	.63
	31	1	.45				.30			.45	.135
	32	.5	0				0				
		27								14.66	25.8945

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

9-275-B
(May 1951)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

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

Sta. No. .....
West Aravaipa

Date 1/21, 1991 Party Wigg

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
1136			.94	
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~~ 110 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 clear Weather 1/5 cloudy, slight breeze

Other ..... Air 54 °F@ 1200

Gage ..... Water 50 °F@ 1200

..... Record removed NO Intake flushed U

Observer .....

Control .....

Remarks .....

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

USAV2-0000336

Point	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity At point	Velocity Mean in vertical	Angle for hor. angle or	Area	Discharge
SE	27										
	26		.78				1.2				.936
	25		.80				1.5				1.2
	24		.90				1.9				1.71
	23		.87				2.1				1.827
	22		.83				2.0				1.66
	21		.81				2.05				1.6605
	20		.78				2.0				1.56
	19		.75				1.95				1.4625
	18		.70				1.75				1.225
	17		.60				1.7				1.02
	16		.55				1.6				.88
	15		.45				1.6				.72
	14		.40				1.55				.62
⊙	13		.38				1.4				.532
	12		.35				1.3				.455
	11		.35				1.3				.455
	10		.30				1.3				.39
	9		.31				1.3				.403
	8		.35				1.1				.385
	7		.45				1.3				.585
	6		.58				1.3				.754
	5										
	4										20.44

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

USAV2-00003361

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 Aravaipa

Date 2/1, 19 91 Party Wigg

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
0930			.91	
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 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 .....

Flow Clear ..... Weather Breezy, 1/2 cloudy

Other ..... Air 13 °C @ 1000

Gage ..... Water 9 °C @ 1000

..... Record removed No Intake flushed U

Observer .....

Control .....

Remarks .....

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

USAV2-0000336

Angle coefficient	Distance 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
	33										
	32		.55				.7				.385
	31		.43				.85				.3655
	30		.38				.9				.342
	29		.35				.95				.3325
	28		.38				1.1				.418
	27		.40				1.4				.56
	26		.43				1.8				.774
	25		.46				1.9				.874
	24		.40				2.0				.8
	23		.40				2.0				.8
	22		.42				2.0				.84
	21		.45				1.9				.855
	20		.40				1.8				.72
⊙	19		.45				1.65				.7425
	18		.43				1.6				.688
	17		.50				1.5				.75
	16		.50				1.6				.8
	15		.50				1.55				.775
	14		.53				1.7				.901
	13		.55				1.8				.99
	12		.47				1.8				.846
	11		.55				1.85				1.0175
	10		.50				1.7				.85
	9		.50				1.65				.825
	8		.50				1.7				.85
	7		.80				1.4				1.12
	6		.85				1.5				1.275
	5										
											20.496
	0	.10	.20	.30	.40	.50		.60	.70	.75	

USAV2-00003363

9-278-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

Date 2/18, 1991 Party Wigg

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
1420			1.57	
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~~ 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 .....

Flow turbid Weather Overcast

Other ..... Air 54 °F @ 1445

Gage ..... Water 52 °F @ 1445

..... Record removed Yes Intake flushed U

Observer .....

Control .....

Remarks .....

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

USAV2-0000336

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity At point	Velocity Mean in vertical	Adjustment for hor. angle or	Area	Discharge
	34		1.35				1.1				1.375
	3		1.1				1.5				1.65
	2		1.0				2.5				2.5
	1		1.0				3.0				3.0
	30		1.0				3.3				3.3
	9		1				3.1				3.1
	8		1				3.7				3.7
	7		1				3.3				3.3
	6		1				3.6				3.6
	5		1				3.8				3.8
	4		1				3.9				3.9
	3		1				4.1				4.1
	2		1				3.6				3.6
⊙	1		1				3.5				3.5
	20		1.1				3.7				4.07
	9		1.1				3.3				3.63
	8		1.1				3.5				3.85
	7		1.15				3.7				4.255
	6		1.2				3.8				4.56
	5		1.2				4.0				4.8
	4		1.2				3.9				4.68
	3		1.2				3.8				4.56
	2		1.2				3.0				3.6
	1		1.2				2.8				3.36
	10		1.15				2.4				2.76
	9		1.35				1.8				2.43
	8		1.3				1.2				1.56
	7		1.5				.80				1.2
	6										
											93.74

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

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 Aravaipa

Date 3/7 ....., 1991 Party Wigg, Whetteth

Width 34 Area 16.47 Vel. ..... G. H. .55 Disch. 37.526

Method ..... No. secs. ..... G. H. change 0 in 1/2 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1530			.55	
1605			.55	
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.~~, ~~ride~~ ~~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 sand and gravel bottom

Flow ~~Clear~~ ..... Weather Breezy, Clear

Other ..... Air 61 °F @ 1530

Gage new cable, new ladder - (flood damage) Water 59 °F @ 1530

..... Record removed Yes Intake flushed U

Observer .....

Control .....

Remarks .....

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

USAV2-0000336

	Dist from initial point	Width	Depth				VELOCITY At point	VELOCITY Mean in vertical	Adjusted for bac. angle	Area	Discharge
SE	3	0.5	0							0	0
	4	1	.22				.3			.22	.066
	5	1	.25				.4			.25	.1
	6	1	.23				.7			.23	.161
	7	1	.3				.25			.3	.075
	8	1	.35				1.5			.35	.525
	9	1	.38				1.5			.38	.57
	10	1	.40				2.0			.40	.8
	11	1	.40				2.15			.40	.86
	12	1	.50				2.15			.50	1.075
	13	1	.45				2.2			.45	.99
	14	1	.50				1.9			.50	.95
	15	1	.51				2.2			.51	1.122
	16	1	.51				2.3			.51	1.173
⊙	17	1	.50				2.6			.50	1.3
	18	1	.50				2.4			.50	1.2
	19	1	.50				2.3			.50	1.15
	20	1	.50				2.3			.50	1.15
	21	1	.50				2.4			.50	1.2
	22	1	.52				2.45			.52	1.274
	23	1	.55				2.6			.55	1.43
	24	1	.60				2.7			.60	1.62
	25	1	.60				2.7			.60	1.62
	26	1	.60				2.7			.60	1.62
	27	1	.70				2.6			.70	1.82
	28	1	.65				2.9			.65	1.885
	29	1	.60				2.7			.60	1.62
	30	1	.60				3.0			.60	1.8
	31	1	.60				2.8			.60	1.68
	32	1	.60				2.7			.60	1.62
	33	1	.55				2.3			.55	1.265
	34	1	.55				2.4			.55	1.32

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

USAV2-00003367

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 Aravaipa

Date 3/7, 1991 Party .....

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 .....

Observer .....

.....

Control .....

.....

Remarks .....

.....

.....

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

USAV2-0000336

Angle coef.	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
	35	1	.60				2.3			.60	1.38
	36	1	.65				1.7			.65	1.105
SE	37	.5	0							0	0
		34								16.47	37.526

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

USAV2-00003369

9-278-1
(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 Atrava.pa

Date 3/16, 19.. Party Wigg

Width 36.5 Area 17.68 Vel. G. H. .48 Disch. 27.0195

Method .6 No. secs. 36 G. H. change 0 in .66 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1240		1.47	.48	
1320		1.47	.48	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter MarshMcBirney

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 110 (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 sand and gravel bottom

Flow ..... Weather clear, breezy

Other ..... Air 65 °F@ 1320

Gage OK ..... Water 57 °F@ 1320

..... Record removed NO Intake flushed U

Observer .....

Control .....

Remarks pH 8.1 CU 270 - 1330 hrs

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

USAV2-0000337

Angle of drift	Dist from initial point	Width	Depth	Observation depth	Rev. ale time	Time in seconds	Velocity: At point	Velocity: Mean in vertical	Adjusted for hor. angle of	Area	Discharge
	2.5		0							0	0
	3.5	1	.25				.10			.25	.025
	4.5	1	.41				.50				.205
	5.5	1	.52				1.0				.52
	6.5	1	.50				1.1				.55
	7.5	1	.55				1.3				.715
	8.5	1	.52				1.6				.832
	9.5	1	.42				1.5				.63
	10.5	1	.43				1.75				.7525
	11.5	1	.42				1.5				.63
	12.5	1	.40				1.8				.72
	13.5	1	.40				1.65				.66
	14.5	1	.40				1.8				.72
	15.5	1	.38				1.9				.722
⊙	16.5	1	.38				1.8				.684
	17.5	1	.35				1.9				.665
	18.5	1	.30				1.7				.51
	19.5	1	.27				1.7				.459
	20.5	1	.30				1.75				.525
	21.5	1	.40				1.8				.72
	22.5	1	.60				1.9				1.14
	23.5	1	.67				2.0				1.34
	24.5	1	.73				2.4				1.752
	25.5	1	.80				2.3				1.84
	26.5	1	.70				2.2				1.54
	27.5	1	.75				2.0				1.5
	28.5	1	.70				2.1				1.47
	29.5	1	.70				2.3				1.61
	30.5	1	.61				1.8				1.098
	31.5	1	.50				1.5				.75
	32.5	1	.35				1.1				.385
	33.5	1	.30				.80				.24

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

USAV2-00003371

9-278-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 Arava-pa

Date 3/16, 1971 Party .....

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 .....

Observer .....

.....

Control .....

.....

Remarks .....

.....

.....

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

Vertical point	Width	Depth	Revolutions	Time in seconds	At point	Mean in vertical	Area	Discharge
34.5	1	.68			.3			.204
35.5	1	.89			.4			.356
36.5	1	1.1			.5			.55
37.0		0						
	36.5							27.0195

USAV2-00003373

9-275-E
(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

Date 4/7 1991 Party Wigg

Width 3.2 Area 18.72 Vel. ..... G. H. .37 Disch. 38.7215

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

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0900		36-38	.37	
0940			.37	
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 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 sand, gravel, few cobbles

Flow smooth Weather 1/3 cloudy

Other ..... Air 21.70 °F @ 0940

Gage ..... Water 15.59 °F @ 0940

..... Record removed Yes Intake flushed U

Observer .....

Control stream banks

Remarks pH 8.2 CU 240

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

USAV2-000033

Initial point	Width	Depth	Depth of flow	Revolutions	In seconds	At meter	Meter in vertical	Length of	Area	Discharge	
3	.5	0				0					
4	1	.39				.2			.39	.078	.14
5	1	.40				.65			.40	.26	
6	1	.30				.75			.30	.225	
7	1	.29				.75			.29	.2175	.09
8	1	.38				1.05			.38	.399	.02
9	1	.40				1.2			.40	.48	.04
10	1	.43				1.35			.43	.5805	
11	1	.48				1.55			.48	.744	.06
12	1	.48				1.7			.48	.816	.07
13	1	.53				1.85			.53	.9805	.09
14	1	.58				1.75			.58	1.015	.09
15	1	.60				2.05			.60	1.23	
16	1	.60				2.0			.60	1.2	
17	1	.62				1.95			.62	1.209	1.06
18	1	.70				2.1			.70	1.47	
19	1	.70				2.2			.70	1.54	
20	1	.76				2.5			.76	1.9	.09
21	1	.80				2.6			.80	2.08	.08
22	1	.87				2.8			.87	2.436	.07
23	1	.89				3.0			.89	2.67	.06
24	1	.90				3.0			.90	2.7	
25	1	.88				3.2			.88	2.816	.04
26	1	.80				2.5			.80	2.0	.03
27	1	.70				2.6			.70	1.82	.04
28	1	.69				2.5			.69	1.725	
29	1	.65				2.4			.65	1.56	
30	1	.60				2.4			.60	1.44	.04
31	1	.60				2.0			.60	1.2	
32	1	.50				1.7			.50	.85	
33	1	.60				1.0			.60	.6	.04
34	1	.60				.8			.60	.48	
0	.10	.20	.30	.40		.50		.60	.70	.78	
SE	35	.5	0			0					
		32							18.72	38.7215	

9-275-P
(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

Date 4/21, 1991 Party Wigg

Width 31 Area 14.7 Vel. ..... G. H. .24-.25 Disch. 24.825

Method .6 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0920		.25	.24-.25	
1000		.25	.24	
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 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 sand, gravel, few cobbles

Flow smooth Weather clear

Other ..... Air 20 68 °F@ 1000

Gage ..... Water 15 59 °F@ 1000

..... Record removed No Intake flushed U

Observer .....

Control stream banks

Remarks cu 270 pH 8.2 at 1000

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

USAV2-000033

	from initial point	Width	Depth		Revolutions	Time in seconds	At point	Mean in vertical		Area	Discharge	
	3	.5	0				0					
	4	1	.18				.1			.18	.018	.18
	5	1	.18				.05			.18	.009	
	6	1	.18				.1			.18	.018	
	7	1	.21				.5			.21	.105	.19
	8	1	.28				.6			.28	.168	.22
	9	1	.30				.8			.30	.24	.14
	10	1	.30				.95			.30	.285	
	11	1	.30				1.0			.30	.3	.06
	12	1	.40				1.3			.40	.52	.17
	13	1	.45				1.3			.45	.585	.11
	14	1	.48				1.45			.48	.696	.09
	15	1	.51				1.5			.51	.765	
	16	1	.55				1.5			.55	.825	
0	17	1	.60				1.6			.60	.96	1.04
	18	1	.60				1.9			.60	1.14	
	19	1	.61				1.9			.61	1.159	
	20	1	.70				2.2			.70	1.54	.09
	21	1	.70				2.2			.70	1.54	.08
	22	1	.80				2.6			.80	2.08	.17
	23	1	.75				2.3			.75	1.725	.14
	24	1	.75				2.3			.75	1.725	
	25	1	.70				2.2			.70	1.54	.14
	26	1	.70				1.95			.70	1.365	.12
	27	1	.60				2.05			.60	1.23	.09
	28	1	.57				2.0			.57	1.14	
	29	1	.50				1.9			.50	.95	
	30	1	.49				1.5			.49	.735	.04
	31	1	.31				1.5			.31	.465	
	32	1	.49				1.15			.49	.5635	
	33	1	.51				.85			.51	.4335	.00
	34	.5	0				0					
	0	.10	.20	.30		.40	.50		.60	.70	.18	
			31							14.7	24.825	

9-27A-P
(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

Date 5/5, 1991 Party Wigg

Width 24 Area 12.64 Vel. ..... G. H. .24-.25 Disch. 28.0101

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

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0840			.24-.25	
0920			.24-.25	
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 70 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 sand, gravel, few cobbles

Flow smooth Weather clear, breezy

Other ..... Air 20 68 °F@ 0925

Gage ..... Water 15 59 °F@ 0925

..... Record removed NA Intake flushed u

Observer .....

Control stream banks

Remarks pH 8.2 cu 250

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

1 3/4
3 1/2

USAV2-000033

11	.5	0				0				
12	1	.21				.85			.21	.1701
13	1	.20				1.35			.20	.27
14	1	.18				1.4			.18	.252
15	1	.37				1.6			.37	.592
16	1	.41				1.8			.41	.738
17	1	.41				1.9			.41	.779
18	1	.43				1.7			.43	.731
19	1	.50				1.9			.50	.95
20	1	.52				2.1			.52	1.092
21	1	.48				2.2			.48	1.056
22	1	.58				2.1			.58	1.218
23	1	.55				2.2			.55	1.21
24	1	.60				2.5			.60	1.5
25	1	.50				2.5			.50	1.25
26	1	.65				2.5			.65	1.625
27	1	.68				2.3			.68	1.564
28	1	.78				2.7			.78	2.106
29	1	.87				2.7			.87	2.349
30	1	.85				2.6			.85	2.21
31	1	.80				2.4			.80	1.92
32	1	.73				2.2			.73	1.606
33	1	.69				2.3			.69	1.587
34	1	.65				1.9			.65	1.235
35	.5	0				0			—	—
36	24								12.64	28.0101
37										
38										
39										

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

9-278-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 Aravaipa

Date 5/9, 1991 Party Wigg

Width 30 Area 13.24 Vel. ..... G. H. .20 Disch. 23.285

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

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0910			.20	
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 110 (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 sand, gravel a few cobbles

Flow Smooth Weather Clear

Other ..... Air 75 °F@ 0945

Gage ..... Water 64 °F@ 0950

..... Record removed NO Intake flushed U

Observer .....

Control stream banks - natural control, unstabe during high discharge

Remarks pH 8.3 cu 270

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

USAV2-0000338

	From initial point	Width	Depth			In sec-onds	At point	Mean in vertical			Discharge	
SE	6	.5	0				0					
	7	1	.28				.05			.28	.014	.14
	8	1	.18				.40			.18	.018	
	9	1	.18				.40			.18	.072	
	10	1	.18				.5			.18	.09	.06
	11	1	.20				.65			.20	.13	.02
	12	1	.22				.8			.22	.176	.04
	13	1	.25				1.0			.25	.25	
	14	1	.30				1.2			.30	.36	.06
	15	1	.35				1.1			.35	.385	.07
	16	1	.35				1.4			.35	.49	.11
	17	1	.40				1.45			.40	.58	.09
	18	1	.40				1.5			.40	.60	
	19	1	.49				1.6			.49	.784	
	20	1	.53				1.75			.53	.9275	1.00
	21	1	.60				2.0			.60	1.2	
	22	1	.65				2.2			.65	1.43	
	23	1	.70				2.3			.70	1.61	.09
	24	1	.72				2.3			.72	1.656	.08
	25	1	.71				3.0			.71	2.13	.07
	26	1	.70				2.8			.70	1.96	.06
	27	1	.70				2.7			.70	1.89	
	28	1	.65				2.4			.65	1.56	.04
	29	1	.60				2.2			.60	1.32	.02
	30	1	.57				2.2			.57	1.254	.00
	31	1	.50				1.9			.50	.95	
	32	1	.43				1.45			.43	.6235	
	33	1	.50				.9			.50	.45	.05
	34	1	.50				.35			.50	.175	
	35	1	.40				.5			.40	.2	
	36	.5	0				0					.00
		30								13.24	23.285	

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

9-278-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 Atavapa

Date 6/2 19 91 Party Wigg

Width 32 Area 14.61 Vel. ..... G. H. .21-.22 Disch. 23.361

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

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0935			.21-.22	
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 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 sand, silt, gravel, few cobbles - in motion

Flow smooth Weather 1/3 cloudy

Other ..... Air 31 70 °F@ 1020

Gage ..... Water 14 66 °F@ 1025

..... Record removed No Intake flushed U .....

Observer .....

Control stream banks

Remarks pH 8.3, cu 270

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

USAV2-0000338

SE	Y	S	O				O				
	5	1	.3				.1			.3	.03
	6	1	.22				.1			.22	.022
	7	1	.18				.05			.18	.009
	8	1	.20				.5			.20	.1
	9	1	.20				.6			.20	.12
	10	1	.25				.75			.25	.1875
	11	1	.25				.85			.25	.2125
	12	1	.30				1.05			.30	.315
	13	1	.39				1.2			.39	.468
	14	1	.39				1.4			.39	.546
	15	1	.41				1.55			.41	.6355
	16	1	.43				1.5			.43	.645
	17	1	.48				1.65			.48	.792
O	18	1	.50				1.6			.50	.8
	19	1	.55				1.85			.55	1.0175
	20	1	.60				1.9			.60	1.14
	21	1	.65				2.1			.65	1.365
	22	1	.70				2.4			.70	1.68
	23	1	.77				2.2			.77	1.694
	24	1	.75				2.3			.75	1.725
	25	1	.80				2.2			.80	1.76
	26	1	.60				2.2			.60	1.32
	27	1	.60				1.9			.60	1.14
	28	1	.55				1.9			.55	1.045
	29	1	.51				1.7			.51	.867
	30	1	.51				1.8			.51	.918
	31	1	.50				1.8			.50	.9
	32	1	.49				1.3			.49	.637
	33	1	.49				1.0			.49	.49
	34	1	.52				1.0			.52	.52
	35	1	.52				.5			.52	.26
	36	.5	0								
	32									14.61	23.361

USAV2-00003383

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

Date 6/16, 19 91 Party W.gg

Width 34 Area 12.15 Vel. ..... G. H. .25-.26 Disch. 22.774

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

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0915			.25-.26	
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 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 Sand, silt and fine gravel

Flow Smooth Weather clear

Other ..... Air 28 82 °F@ 1000

Gage ..... Water 22 72 °F@ 1000

..... Record removed No Intake flushed U

Observer .....

Control Stream banks

Remarks pH 8.3 CO 270

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

USAV2-0000338

	Distance	Depth							Area	Discharge	
5	.5	0									
6	1	.4				.05			.4	.02	.16
7	1	.35				.50			.35	.175	
8	1	.29				.50			.29	.145	
9	1	.25				1.05			.25	.2625	.09
10	1	.27				1.3			.27	.351	.12
11	1	.30				1.6			.30	.48	.14
12	1	.35				1.8			.35	.63	
13	1	.40				1.9			.40	.76	.16
14	1	.45				1.95			.45	.8775	.17
15	1	.40				2.3			.40	.92	.19
16	1	.38				2.3			.38	.874	.19
17	1	.40				2.2			.40	.88	
18	1	.40				2.2			.40	.88	
19	1	.40				2.35			.40	.94	1.00
20	1	.40				2.4			.40	.96	
21	1	.40				2.5			.40	1.00	
22	1	.43				2.6			.43	1.118	.19
23	1	.50				2.7			.50	1.35	.16
24	1	.49				2.7			.49	1.323	.17
25	1	.55				2.3			.55	1.265	.14
26	1	.62				2.3			.62	1.38	
27	1	.50				2.35			.50	1.175	.14
28	1	.49				2.3			.49	1.127	.12
29	1	.41				1.9			.41	.779	.10
30	1	.40				1.8			.40	.72	
31	1	.39				1.6			.39	.624	
32	1	.33				1.6			.33	.528	.11
33	1	.30				1.5			.30	.45	
34	1	.30				1.2			.30	.36	
35	1	.30				.9			.30	.27	.09
36	1	.30				.5			.30	.15	
37	.5	0									
	32								12.15	22.774	

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 Aravaipa

Date 6/30, 19 91 Party Wigg

Width 23 Area 7.39 Vel. ..... G. H. 21.22 Disch. 14.901

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

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1110			21.22	
1150			21.22	
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 40 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 fine sand, silt and gravel

Flow Smooth Weather Clear

Other ..... Air 34 93 °F@ 1145

Gage ..... Water 26 72 °F@ 1155

..... Record removed NO Intake flushed U

Observer .....

Control Stream banks

Remarks pH 8.5 cu 270 1155hr.

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

sand

USAV2-0000338

SE	26	0.5	0				0			0	
	25	1	.20				.9			.2	.18
	24	1	.20				.45			.2	.096
	23	1	.20				1.2			.2	.24
	22	1	.30				1.7			.3	.51
	21	1	.30				1.6			.3	.48
	20	1	.35				2.0			.35	.70
	19	1	.35				1.75			.35	.6125
	18	1	.35				1.85			.35	.6475
	17	1	.33				1.7			.33	.561
	16	1	.35				2.0			.35	.70
	15	1	.30				2.0			.3	.60
0	14	1	.31				2.1			.31	.651
	13	1	.38				2.1			.38	.798
	12	1	.40				1.9			.4	.76
	11	1	.43				2.3			.43	.989
	10	1	.43				2.75			.43	1.1825
	9	1	.45				2.8			.45	1.26
	8	1	.48				2.4			.4	.96
	7	1	.47				2.7			.47	1.269
	6	1	.40				2.5			.4	1
	5	1	.28				2.2			.28	.616
	4	1	.21				.45			.21	.0945
	3	.5	0				0				
		23								7.39	14.901

0 .10 .20 .30 .40 .50 .60 .70 .80

9-275-1
(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

Date 7/21 ....., 19 91 Party Wigg

Width 30 Area 11.45 Vel. ..... G. H. .34-.35 Disch. 25.2215

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

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0948			.34-.35	
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 110 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 fine sand, silt and gravel in motion

Flow smooth Weather clear

Other Air 84 °F @ 1031

Gage Water 77 °F @ 1035

Record removed Yes Intake flushed U

Observer .....

Control stream banks

Remarks pH 8.3 cu 270 - 1035 hr

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

USAV2-0000338

Point	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
SE	1	.5	0							0	0
	2	1	.23				.35			.23	.105
	3	1	.25				1.4			.25	.7
	4	1	.25				1.75			.25	.875
	5	1	.20				1.8			.20	.36
	6	1	.20				1.75			.20	.35
	7	1	.21				1.65			.21	.3465
	8	1	.20				1.8			.20	.36
	9	1	.20				1.7			.20	.34
	10	1	.20				1.6			.20	.32
	11	1	.25				1.4			.25	.35
	12	1	.30				1.5			.30	.45
	13	1	.35				1.1			.35	.385
	14	1	.60				2.0			.60	1.2
	15	1	.50				2.1			.50	1.05
	16	1	.50				2.0			.50	1.0
	17	1	.50				2.4			.50	1.2
	18	1	.41				2.8			.41	1.148
	19	1	.40				2.6			.40	1.04
	20	1	.40				2.85			.40	1.14
	21	1	.50				2.9			.50	1.45
	22	1	.52				3.0			.52	1.56
	23	1	.50				2.7			.50	1.45
	24	1	.50				3.0			.50	1.5
	25	1	.50				2.6			.50	1.3
	26	1	.60				2.3			.60	1.38
	27	1	.65				2.2			.65	1.43
	28	1	.60				2.1			.60	1.26
	29	1	.55				1.85			.55	1.02
	30	1	.38				.40			.38	.152
	31	.5	0							0	0
										11.45	25.2215

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

USAV2-00003389

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 8/4, 1991 Party W.J.G.

Width 29 Area 12.46 Vel. ..... G. H. 30-31 Disch. 28.7695

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

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0920			30-31	
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 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 sand + gravel - in motion

Flow smooth Weather 1/3 cloudy

Other ..... Air 79 °F @ 1020

Gage ..... Water 60 °F @ 1020

..... Record removed NO Intake flushed U

Observer .....

Control stream banks

Remarks pH 8.3 cu 270

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

USAV2-0000339

From initial point	Width	Depth	At point	Area	Discharge
33	.5	0	0		
32	1	.18	.8	.18	.144
31	1	.20	.9	.20	.18
30	1	.20	1.55	.20	.31
29	1	.28	1.6	.28	.448
28	1	.30	2.0	.30	.60
27	1	.37	2.0	.37	.74
26	1	.40	2.1	.40	.84
25	1	.40	2.0	.40	.80
24	1	.49	2.3	.49	1.127
23	1	.49	2.3	.49	1.127
22	1	.50	2.7	.50	1.35
21	1	.49	2.25	.49	1.1025
20	1	.40	2.3	.40	.92
19	1	.45	2.3	.45	1.035
18	1	.53	2.35	.53	1.2455
17	1	.55	2.2	.55	1.21
16	1	.60	2.2	.60	1.32
15	1	.70	2.5	.70	1.75
14	1	.61	2.8	.61	1.708
13	1	.75	3.15	.75	2.3625
12	1	.70	2.95	.70	2.065
11	1	.60	2.8	.60	1.68
10	1	.50	3.1	.50	1.55
9	1	.50	2.7	.50	1.85
8	1	.38	1.9	.38	.722
7	1	.39	1.2	.39	.468
6	1	.30	.35	.30	.1.05
5	1	.20	.05	.20	.01
4	.5	0	0		
3	29			12.46	28.7695

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

USAV2-00003391

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

Date 8/17 1971 Party W.G.G.

Width 27 Area 13.07 Vel. ..... G. H. 22-.24 Disch. 27.9

Method ..... No. secs. ..... G. H. change 0 in .83 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0945		1.16-1.2	.22-.24	
0935		1.16-1.2	.22-.24	
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 110 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 Sand, fine gravel and silt, even

Flow smooth, greatest flow Weather 1/5 cloudy

Other ok East ~~bank~~ half of stream Air 86 °F@ 1035

Gage OK Water 77 °F@ 1045

..... Record removed 110 Intake flushed

Observer .....

Control Stream banks

Remarks pH 8.4 cu 250

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

USAV2-00003392

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	.80
	31	.5	0				0					
	30	1	.3				.6			.30	.18	.85
	29	1	.23				1.3			.23	.299	
	28	1	.28				1.3			.28	.364	
	27	1	.3				1.55			.30	.465	.90
	26	1	.35				1.8			.35	.63	.92
	25	1	.38				2.0			.38	.76	.94
	24	1	.40				2.2			.40	.88	
	23	1	.40				2.3			.40	.92	.96
	22	1	.40				2.2			.40	.88	.97
	21	1	.33				2.2			.33	.726	.95
	20	1	.25				1.6			.25	.4	.99
	19	1	.18				1.3			.18	.234	
	18	1	.20				1.6			.20	.32	
⊙	17	1	.20				1.6			.20	.32	1.00
	16	1	.30				1.5			.30	.45	
	15	1	.60				1.6			.60	.96	
	4	1	.90				2.6			.90	2.34	.99
	13	1	.93				2.6			.93	2.418	.98
	12	1	1.0				2.5			1.0	2.5	.97
	11	1	.98				3.1			.98	3.038	.96
	10	1	.95				2.6			.95	2.47	
	9	1	.83				2.75			.83	2.2825	.94
	8	1	.70				2.6			.70	1.82	.92
	7	1	.68				2.0			.68	1.36	.90
	6	1	.55				1.2			.55	.66	
	5	1	.45				.5			.45	.225	
	4	.5	0				0					.85
		27								13.07	27.9015	
												.80

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

USAV2-00003393

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

Date 9/11, 1991 Party Wigg

Width 25 Area 12.18 Vel. ..... G. H. .14-.15 Disch. 26.8245

Method ..... No. secs. ..... G. H. change 0 in .83 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1100		.15-.14	.17-.19	
1150		.15-.14		
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 110 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 sand & fine gravel

Flow good distribution, smooth Weather breezy 1/4 cloudy

Other ..... Air 88 °F@ 1145

Gage OK Water 78 °F@ 1147

..... Record removed No Intake flushed .....

Observer .....

Control stream banks

Remarks pH 8.6 Cu 270 @ 1145

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

USAV2-00003394

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	.80
	31	.5	0				0			0	0	
	30	1	.20				.8			.20	.16	.85
	29	1	.20				1.1			.20	.22	
	28	1	.21				1.1			.21	.231	
	27	1	.30				1.55			.30	.465	.90
	26	1	.35				1.65			.35	.5775	.92
	25	1	.42				1.9			.42	.798	.94
	24	1	.40				2.1			.40	.84	
	23	1	.45				2.2			.45	.99	.96
	22	1	.45				2.05			.45	.9925	.97
	21	1	.28				1.9			.28	.532	.98
	20	1	.28				2.05			.28	.574	.99
	19	1	.40				2.4			.40	.96	
	18	1	.43				2.0			.43	.86	
⊙	17	1	.49				1.9			.49	.931	1.00
	16	1	.60				2.3			.60	1.38	
	15	1	.78				2.4			.78	1.872	
	14	1	.80				2.7			.80	2.16	.99
	13	1	.90				2.5			.90	2.25	.98
	12	1	.90				3.2			.90	2.88	.97
	11	1	.85				3.0			.85	2.55	.96
	10	1	.85				2.8			.85	2.38	
	9	1	.69				2.1			.69	1.449	.94
	8	1	.60				1.2			.60	.72	.92
	7	1	.35				.15			.35	.0525	.90
	6	.5	0				0			0	0	
	5	25										
	4									12.18	26.8245	.86
	3											
												.80

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

USAV2-00003395

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

Date 9/8, 1991 Party Wigg

Width 25 Area 11.75 Vel. ..... G. H. .19-.21 Disch. 23.9825

Method ..... No. secs. ..... G. H. change 0 in 1/2 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1042		.20-.22	.19-.21	
1115			.19-.21	
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 110 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 fine gravel & sand

Flow good distribution, smooth Weather 1/4 cloudy, light breeze

Other ..... Air 84 °F@ 1110

Gage OK ..... Water 73 °F@ 1112

..... Record removed NO Intake flushed U

Observer .....

Control stream banks

Remarks pH 8.6 cu 250 @ 1110

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

USAV2-0000339

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	.80
	33	.5	0				0			0	0	
	32	1	.18				.2			.18	.036	.85
	31	1	.18				.4			.18	.072	
	30	1	.20				1.2			.20	.24	
	29	1	.21				1.5			.21	.315	.90
	28	1	.35				1.7			.35	.595	.92
	27	1	.35				1.8			.35	.63	.94
	26	1	.40				2.1			.40	.84	
	25	1	.43				2.05			.43	.8815	.96
	24	1	.45				2.2			.45	.99	.97
	23	1	.35				2.1			.35	.735	.99
	22	1	.29				1.9			.29	.551	.99
	21	1	.35				2.0			.35	.70	
	20	1	.37				2.0			.37	.74	
⊙	19	1	.30				1.6			.30	.48	1.00
	18	1	.58				2.0			.58	1.16	
	17	1	.65				2.5			.65	1.625	
	16	1	.70				2.65			.70	1.855	.99
	15	1	.78				2.4			.78	1.872	.98
	14	1	.80				2.75			.80	2.2	.97
	13	1	.80				2.8			.80	2.24	.96
	12	1	.82				2.6			.82	2.132	
	11	1	.90				2.4			.90	2.16	.94
	10	1	.80				1.9			.80	1.52	.92
	9	1	.51				.30			.51	.153	.90
	8	.5	0				0			0	0	
		25								11.75	23.9825	.91

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

USAV2-00003397

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 Arayaipa

Date 9/21, 19 91 Party Wigg

Width 24 Area 11.22 Vel. ..... G. H. .20-.21 Disch. 23.6885

Method ..... No. secs. ..... G. H. change 0 in .7 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1205			.20-.21	
1246			.20-.21	
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 110 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 sand & fine gravel

Flow smooth, good distrib. Weather 1/8 cloudy, light breeze

Other ..... Air 80 °F@ 1240

Gage ok Water 75 °F@ 1245

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

Observer .....

Control stream banks

Remarks pH 8.6, cu 250 @1240

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

USAV2-00003398

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	.80
	30	.5	0				0			0	0	
	29	1	.18				.50			.18	.09	.85
	28		.20				.85			.20	.17	
	27	1	.25				1.2			.25	.30	
	26		.33				1.3			.33	.429	.90
	25		.33				1.5			.33	.495	.92
	24	1	3.5				1.5			.35	.525	.94
	23		4.0				1.9			.40	.76	
	22	1	4.0				1.95			.40	.78	.96
	21	1	.42				2.2			.42	.924	.97
	20		.45				2.5			.45	1.125	.99
	19		.41				2.2			.41	.902	.99
	18	1	.35				2.0			.35	.70	
	17	1	.30				1.8			.30	.54	
⊙	16	1	.60				1.7			.60	1.02	1.00
	15		.70				2.4			.70	1.68	
	14	1	.71				2.6			.71	1.846	
	13	1	.69				2.7			.69	1.863	.99
	12	1	.80				2.7			.80	2.16	
	11	1	.87				2.65			.87	2.3055	.98
	10		.70				2.4			.70	1.68	.97
	9		.63				2.3			.63	1.449	.96
	8	1	.70				2.2			.70	1.54	.94
	7	1	.45				.9			.45	.405	.92
	6	.5	0				0			0	0	.90
		24								11.22	23.6885	

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

USAV2-00003339

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 Aravaipa

Date 10/6 1991 Party Wigg

Width 25 Area 10.87 Vel. ..... G. H. .19-.20 Disch. 22.025

Method ..... No. secs. ..... G. H. change 0 in .7 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0930		1.16	.19-.20	
1012			.19-.20	
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 110 (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 fine gravel, sand, a few cobbles

Flow good distribution, smooth Weather clear

Other ..... Air 73 °F@ 1008

Gage OK ..... Water 62 °F@ 1015

..... Record removed NO Intake flushed U

Observer .....

Control stream banks

Remarks pH 8.5 CU 270

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

USAV2-00003400

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
	31	.5	0				0			0	0
	30	1	.18				.05			.18	.009
	29	1	.20				.15			.20	.030
	28	1	.20				.70			.20	.14
	27	1	.23				1.3			.23	.299
	26	1	.30				1.45			.30	.435
	25	1	.30				1.4			.30	.42
	24	1	.33				1.6			.33	.528
	23	1	.37				1.8			.37	.666
	22	1	.40				2.0			.40	.80
	21	1	.35				2.1			.35	.735
	20	1	.40				2.2			.40	.88
	19	1	.40				1.9			.40	.76
	18	1	.40				2.1			.40	.84
⊙	17	1	.65				1.8			.65	1.17
	16	1	.70				2.25			.70	1.575
	15	1	.87				2.5			.87	2.175
	14	1	.80				2.5			.80	2.00
	13	1	.50				3.0			.50	1.50
	12	1	.50				2.65			.50	1.325
	11	1	.65				2.3			.65	1.495
	10	1	.67				2.2			.67	1.474
	9	1	.58				2.2			.58	1.276
	8	1	.48				2.0			.48	.96
	7	1	.41				1.3			.41	.533
	6	.5	0				0			0	0
		25								10.87	22.025

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

9-275-P
(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

Date 10/20 1991 Party WJG

Width 25 Area 11.28 Vel. ..... G. H. .19-.21 Dis'h. 22.4335

Method ..... No. secs. ..... G. H. change 0 in .75 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0950		1.14-1.16	.19-.21	
1035			.19-.21	
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 110 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 fine gravel and sand

Flow good distrib., smooth Weather 1/3 cloudy

Other ..... Air 23.3 °F @ 1027

Gage OK Water 16.5 62 °F @ 1030

..... Record removed NO Intake flushed U

Observer .....

Control .....

Remarks Cu 250 pH 8.5 @ 1027

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

USAV2-00003402

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	.80
	8	.5	0				0					
	9	1	.18				.20			.18	.036	.85
	10	1	.19				.5			.19	.095	
	11	1	.27				1.0			.27	.27	.90
	12	1	.30				1.1			.30	.33	
	13	1	.30				1.3			.30	.39	.92
	14	1	.31				1.4			.31	.434	.94
	15	1	.33				1.45			.33	.4785	
	16	1	.38				1.7			.38	.646	.96
	17	1	.40				1.9			.40	.76	.97
	18	1	.40				2.2			.40	.88	.98
	19	1	.41				2.1			.41	.861	.99
	20	1	.40				2.0			.40	.80	
	21	1	.50				1.85			.50	.93	
⊙	22	1	.67				2.1			.67	1.407	1.00
	23	1	.69				2.4			.69	1.656	
	24	1	.71				2.5			.71	1.775	
	25	1	.75				2.65			.75	1.9875	.99
	26	1	.70				2.7			.70	1.89	.98
	27	1	.78				2.7			.78	2.106	.97
	28	1	.70				2.3			.70	1.61	.96
	29	1	.70				2.4			.70	1.68	
	30	1	.60				1.8			.60	1.08	.94
	31	1	.40				.75			.40	.30	.92
	32	1	.21				.15			.21	.0315	.90
	33	.5	0				0			—	—	
	34	—								11.28	22.4335	
	35	25										.84
	36											
												.84

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

USAV2-00003403

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

Date 11/3 1991 Party W 199

Width 26 Area 11.44 Vel. ..... G. H. ..... Duch. 24.1989

Method ..... No. secs. ..... G. H. change 0 in .72 hrs. Susp. .....

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

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 110 feet, mile, above, below gage, and .....

Check-bar, found .....

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

Correct .....

Levels obtained .....

GAGE READINGS				
Time		Recorder	Inside	Outside
1040		1.23	.25-.27	
1123		1.23	.25-.27	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

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

Flow good distrib., smooth Weather clear, light breeze

Other ..... Air 16 °F@ 1113

Gage OK Water 13 °F@ 1114

..... Record removed NO Intake flushed U

Observer .....

Control .....

Remarks pH 8.3 cu 240 @ 1114hr

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

USAV2-00003404

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
	5	.5	0				0				
	6	1	.18				.05			.18	.009
	7	1	.22				1.2			.22	.264
	8	1	.25				1.4			.25	.35
	9	1	.37				1.75			.37	.6475
	10	1	.40				1.8			.40	.72
	11	1	.40				2.2			.40	.88
	12	1	.40				2.05			.40	.82
	13	1	.40				1.95			.40	.78
	14	1	.40				2.2			.40	.88
	15	1	.45				2.3			.45	1.035
	16	1	.51				2.7			.51	1.377
	17	1	.50				2.7			.50	1.35
	18	1	.50				2.6			.50	1.3
0	19	1	.60				2.1			.60	1.26
	20	1	.60				2.1			.60	1.26
	21	1	.60				2.1			.60	1.26
	22	1	.65				2.3			.65	1.495
	23	1	.53				2.35			.53	1.2455
	24	1	.50				2.5			.50	1.25
	25	1	.45				2.1			.45	.945
	26	1	.50				1.9			.50	.95
	27	1	.70				2.3			.70	1.61
	28	1	.70				2.6			.70	1.82
	29	1	.42				1.5			.42	.63
	30	1	.21				.29			.21	.0609
	31	.5	0				0			—	—
	32	—								11.44	24.1989
	33	26									

.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 Havasupa

Date 11/16, 1991 Party Wigg

Width 27 Area 15.47 Vel. ..... G. H. .39-.41 Disch. 34.968

Method ..... No. secs. ..... G. H. change .02 in .83 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1330		1.34-1.37	.39-.41	
1420		1.34-1.37	.36-.40	
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 110 feet, mile, above, below gage, and 0

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 Sand & fine gravel moving downstream, even

Flow good dist., smooth Weather 1/3 cloudy

Other ..... Air 12 54 °F@ 1408

Gage ok, chart changed Water 14 57 °F@ 1411

..... Record removed Yes Intake flushed U

Observer .....

Control stream banks

Remarks 280 cu, 8.5 pH @ 1410

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

USAV2-00003406

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 bar. angle or	Area	Discharge
	33	.5	0				0				
	32	1	.18				.15			.18	.027
	31	1	.31				1.5			.31	.465
	30	1	.40				2.1			.40	.84
	29	1	.40				1.9			.40	.76
	8	1	.40				2.0			.40	.80
	7	1	.40				1.95			.40	.78
	6	1	.40				2.1			.40	.84
	25	1	.40				2.3			.40	.92
	24	1	.40				2.45			.40	.98
	23	1	.40				2.4			.40	.96
	22	1	.40				2.6			.40	1.04
	21	1	.40				2.6			.40	1.04
	20	1	.49				2.5			.49	1.225
⊙	19	1	.53				2.65			.53	1.4045
	18	1	.60				2.7			.60	1.62
	17	1	.70				2.7			.70	1.89
	16	1	.73				2.75			.73	2.0075
	15	1	.82				2.8			.82	2.296
	14	1	.95				3.0			.95	2.85
	13	1	1.0				3.0			1.0	3.0
	12	1	1.05				2.9			1.05	3.045
	11	1	1.0				2.4			1.0	2.4
	10	1	.97				2.3			.97	2.231
	9	1	.81				1.5			.81	1.215
	8	1	.50				.55			.50	.275
	7	1	.38				.15			.38	.057
	6	.5	0				0			—	—
	5	—								15.47	34.968
	4	27									

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

USAV2-00003407

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

Date 12/1, 1991 Party W.J.G.

Width 2.7 Area 1.357 Vel. ..... G. H. .29-.31 Disch. 30.3485

Method ..... No. secs. ..... G. H. change .01 in .67 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
0953		1.24-1.27	.29-.31	
1033		1.25-1.28	.30-.31	
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 110 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 Sand & gravel, relatively even

Flow good distrib., smooth Weather Overcast, Breezy

Other ..... Air 41 °F @ 1030

Gage OK Water 50 °F @ 1033

..... Record removed NO Intake flushed .....

Observer .....

Control stream banks

Remarks pH 8.4, cu 300 @ 1030

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

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
	5	.5	0				0			0	
	6	1	.20				.35			.20	.07
	7	1	.35				1.0			.35	.35
	8	1	.30				1.4			.30	.42
	9	1	.27				1.5			.27	.405
	10	1	.28				1.4			.28	.392
	11	1	.25				1.45			.25	.3625
	12	1	.25				1.4			.25	.35
	13	1	.23				1.4			.23	.322
	14	1	.30				1.7			.30	.51
	15	1	.37				2.1			.37	.777
	16	1	.50				2.1			.50	1.05
	17	1	.50				2.2			.50	1.1
	18	1	.60				2.35			.60	1.41
0	19	1	.60				2.7			.60	1.62
	20	1	.67				2.65			.67	1.7755
	21	1	.75				2.75			.75	2.0625
	22	1	.82				2.75			.82	2.255
	23	1	.80				2.8			.80	2.24
	24	1	.88				3.0			.88	2.64
	25	1	.87				2.9			.87	2.523
	26	1	.80				2.7			.80	2.16
	27	1	.69				2.3			.69	1.587
	28	1	.70				2.3			.70	1.61
	29	1	.61				2.0			.61	1.22
	30	1	.50				1.5			.50	.75
	31	1	.43				.9			.43	.387
	32	.5	0				0			0	
	33										
	34	27								13.52	30.3485
	35										

.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

Date 12/15 1991 Party Wigg

Width 25 Area 13.53 V-1 ..... G. H. .25-.26 Disch. 25.09

Method ..... No. secs. ..... G. H. change 0 in .58 hrs. Susp. .....

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

GAGE READINGS				
Time		Recorder	Inside	Outside
1115		1.19-1.20	.25-.26	
1150		1.19-1.20	.25-.26	
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, opsite, downstr., side bridge 110 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 sand/gravel, relativly even

Flow good distrib, smooth Weather Clear, breezy

Other ..... Air 59 °F@ 1145

Gage OK Water 52 °F@ 1148

..... Record removed NO Intake flushed No

Observer .....

Control stream banks

Remarks pH 8.5 cu 320 @ 1145

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

USAV2-00003410

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	.5	0				0					
	7	1	.25				.9			25	.225	.16
	8	1	.23				1.0			.23	.23	
	9	1	.21				.9			.21	.189	
	10	1	.20				.8			.20	.16	.90
	11	1	.20				.9			.20	.18	.92
	12	1	.27				.85			.27	.2295	.94
	13	1	.20				1.0			.20	20	
	14	1	.33				1.2			.33	.396	.96
	15	1	.40				1.5			.40	.60	.97
	16	1	.49				1.75			.49	.8575	.99
	17	1	.50				1.9			.50	.95	.99
	18	1	.55				2.0			.55	1.1	
	19	1	.60				2.0			.60	1.2	
⊙	20	1	.70				1.95			.70	1.365	1.00
	21	1	.80				2.15			.80	1.72	
	22	1	.90				2.3			.90	2.07	
	23	1	.98				2.6			.98	2.548	.99
	24	1	1.0				2.8			1.0	2.8	.98
	25	1	.98				2.6			.98	2.548	.97
	26	1	1.0				2.0			1.0	2.0	.96
	27	1	1.0				2.0			1.0	2.0	
	28	1	.73				1.3			.73	.949	.94
	29	1	.60				.75			.60	.45	.92
	30	1	.41				.20			.41	.082	.90
	31	.5	0				0					
	32	—								13.53	25.049	
		25										.8
												.8

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

USAV2-00003411