9-275 c
(July 1935)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES BRANCH

RECORDED

DISCHARGE MEASUREMENT NOTES

Meas. No. 181

Checked by TCB

Date 1-12-1942

Brazos River at Richmond, Texas.

Date Dec. 4, 1940 Party W.C. Dodd

Width 469 Area ~~15,900~~ 16,800 Vel. 5.47 G. H. 36.389 Disch. ~~87,200~~ 91,800

Method 2-5-8 No. secs. 23 G. H. change -.178 in 1.4 hrs. Susp. 100 E 9.75

Method coef. 1.00 ~~0.90~~ Hor. angle coef. none Meter No. 1830 Susp. coef. 1.00

GAGE READINGS				
Time		Recorder	Inside	Outside
10:15 am		36.52	36.56	36.54
10:55 am	Start		(36.47)	
12:20 pm	Finish		36.30	
12:40 pm		36.24	36.26	36.24
Weighted M. G. H.			36.389	
G. H. correction				
Correct M. G. H.				

Date rated 7-28-39 Used rating for rod ____ susp. Meter 1.0 ft. above bottom of wt. Tags checked ____

Spin before meas. O.K. after O.K.

Meas. plots ____ % diff. from ____ rating

~~Wading~~, cable, ~~ice, boat, upstr., downstr., side bridge~~ 270 feet, mile, above, below gage, ~~and~~ ____

Chain, wire, found ____, changed to ____ at ____

Correct length ____

Levels obtained ____

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

Flow fairly uniform Weather favorable.

Other wind medium upstr.

Gage O.K.

Record removed No Intake flushed NO

~~Observer~~ note: for red soundings see x-section in yellow attached to meas. made 11-27-40. For 'C' for S.V. sections

Control see note page 1 meas. dated 11-27-40.

Remarks rate of change of stage: -.12'/hr

WWG = 36.67 10:10 am

WWG 36.40 at 12:35 pm

Sheet No. 1 of ____ sheets. G. H. of zero flow ____ ft.

G1313-740-2m

80 • 75 •

9-275
January 1935

85 •

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

Date 12/4/, 1940 DISCHARGE MEASUREMENT NOTES

Brazos River, at Richmond, Tex

90 •

Dist. from initial point	Angle coefficient	Depth	Depth of observation	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	VELOCITY Mean in section	Area	Mean depth	Width	Discharge
REW				start	10	55						
41		0	—	—	—	—	0					
								1.64	76.0	4.00	19	125.
60	⊥	8.0	1.60	80	53½	3.32	3.27					
			6.40	80	55	3.22		3.86	358.	17.90	20	1380
80	⊥	27.8	5.56	150	63½	5.22	4.44					
			22.24	100	60½	3.66		5.13	644 660.	33.0	20	3390 00
100	⊥	36.6 ~~38.2~~	7.64	150	52	6.37	5.82					~~4805~~
			30.56	150	63	5.26		5.58	806		20	4490 500
120	⊥	44.0	1.00	150	(90) 56		5.33 5.92	446				
								5.17	888		20	4590
140	⊥	44.8	1.00	150	(90) 59½		5.01 ~~5.57~~					
								5.22	874		20	4540 60
160	⊥	46.6 42.6	1.00	150	(90) 55		5.42 ~~6.02~~					
								5.48	900 ~~836~~		20	4580 930
180	⊥	49.0 41.0	1.00	150	(90) 54		5.53 6.14		418			
								5.80	960 ~~810~~		20	4700 5570
200	⊥	48.6 40.0	1.00	150	(90) 49		6.08 ~~6.76~~					
								6.39	936 ~~796~~		20	5790 980
220	⊥	45.6 39.6	1.00	150	(90) 44½		6.70 ~~7.44~~	5112				
								6.69	886 ~~786~~		20	5250 930
240	⊥	43.6 39.0	1.00	200	(90) 59½		6.68 ~~7.42~~					
								6.62	872 ~~778~~		20	5140 770
260	⊥	43.6 38.8	1.00	200	(90) 60½		6.57 ~~7.30~~					
								6.84	866 ~~768~~		20	5360 920

10:50 AM D = 6 19 AM

No. 2 of _____ Sheets. Comp. by B.L. 7/2 Chk. by TCB

75 :

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January 1935

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WATER RESOURCES BRANCH

Wind Med up str.

Date 12/4/, 1940. DISCHARGE MEASUREMENT NOTES

Brazos River, at Richmond, Tex

90 •

Dist. from initial point	Angle coefficient	Depth	Depth of observation	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	VELOCITY Mean in section	Area	Mean depth	Width	Discharge
									9066			52,555
280	⊥	43.0 380	1.00	200	(96) 59½		7.12 ~~7.42~~					
								7.06	856 ~~770~~		20	6040 5430
300	⊥	42.0 39.0	1.00	200	(96) 60½		7.01 ~~7.30~~		539			
								7.00	848 ~~790~~		20	5940 5530
320	⊥	42.2 40.0	1.00	200	(98) 62		6.98 ~~7.12~~					
								7.02	844 ~~810~~		20	920 5690
340	⊥	42.2 41.0	1.00	200	1.00 62½		7.06					
								6.29	856 ~~830~~		20	380 5220
360	⊥	43.4 42.0	1.00	150	1.00 60		5.52					
								5.24	864 ~~850~~		20	530 4460
380	⊥	43.0 ~~44.0~~	8.80	150	62½	5.30	4.96					
			35.20	100	48	4.61		4.07	864 ~~868~~	43.7	20	20 3530
400	⊥	43.4	8.68	80	53	3.35	3.18					
			34.72	Drift		3.02		3.34	849	42.4	20	8 2640
420	⊥	41.5	9.30	100	63	3.52	3.50					
			33.20	80	51	3.48		3.56	795.	39.75	20	2830 3160.
440	⊥	38.0	7.60	100	60½	3.66	3.62					
			30.40	100	62	3.57		2.98	583.	29.15	20	1740.
460	⊥	20.3	4.06	70	57½	2.70	2.34					
			16.24	50	56	1.99		1.76	253.	12.65	20	445.
480		5.0	1.00	40	62	1.44	1.17					
			4.00	20	50	.90		.88	75.0	2.50	30	66
510		0	vel est ½ of sta		980		.58		16,753		469	87,246
LEW			End		12:20 pm				15,900			91 806

11.50 am D=0 D=4

No. 3 of _____ Sheets. Comp. by B.L. Chk. by TCR

75 •

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January 1935

UNITED STATES
DEPARTMENT OF THE INTERIOR
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WATER RESOURCES BRANCH

Date 12/4/, 1938 **DISCHARGE MEASUREMENT NOTES**

Brazos River, at Richmond, Tex.

Dist. from initial point	Angle coefficient	Depth	Depth of observation	Revolutions	Time in seconds	Velocity: At point	Velocity: Mean in vertical	Velocity: Mean in section	Area	Mean depth	Width	Discharge
		Soundings for scour										
		studies. Soundings made										
		without meter.										
		W.W.G = 36.17 at 2:10 p.m.										
		Start 2:05 pm										
28°		Water surface = 15.0 ft.										
180		45.0 ~~47.0~~										
		49.1										
28°		Water surface = 13.0 ft.										
280		38.6 ~~42.5~~										
20°		42.0 Water surface = 14.0 ft										
360		43.7										
				End 2:25 pm								

D = 8 ft
D = 7 ft
D = 5 ft

No. 4 of _____ Sheets. Comp. by B.L. Chk. by _____

9-275 d
(Sept., 1927)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

Date Dec. 4, 1940. No. of Meas.

SUPPLEMENTARY DISCHARGE MEASUREMENT NOTES

Brazos River at Richmond, Texas.

Enter on this form ample notes in regard to the following:

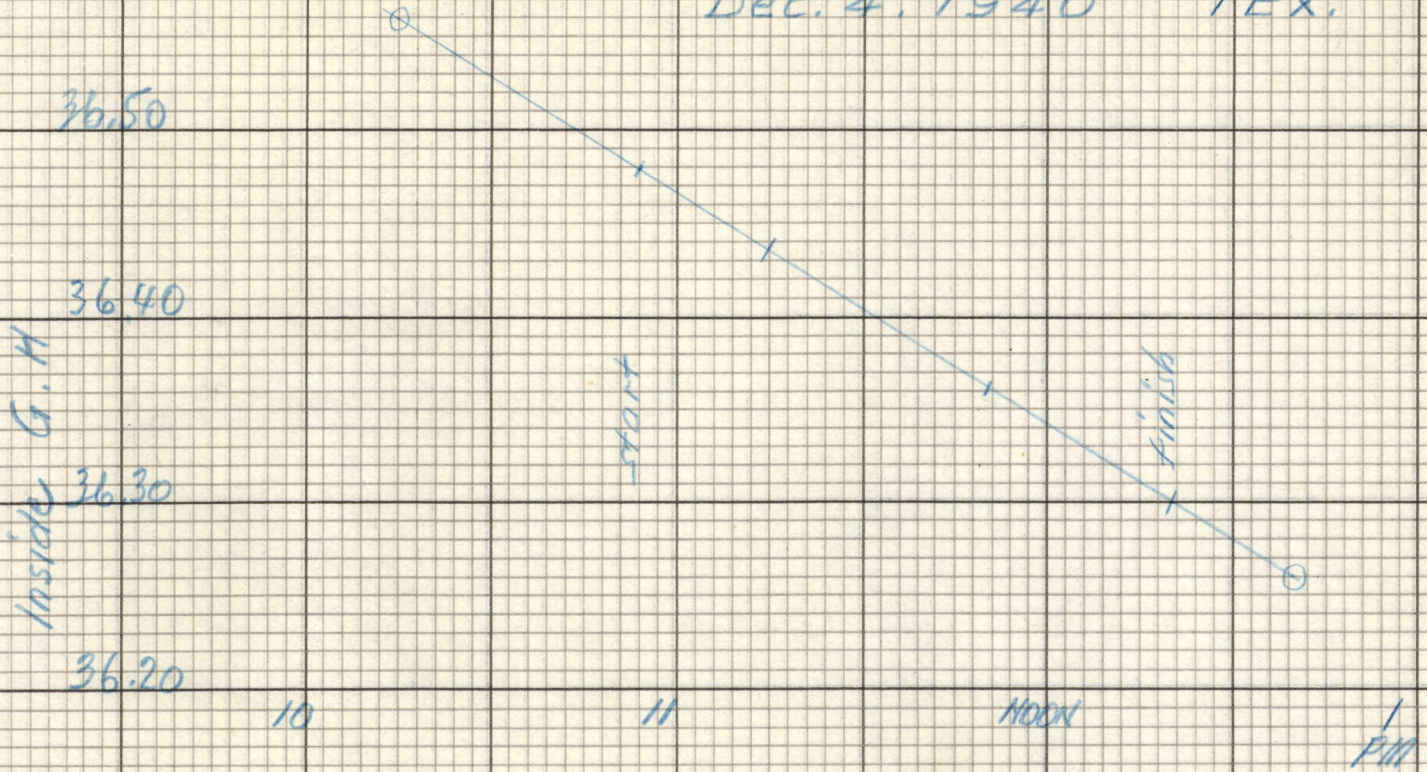
1. Accuracy of measurement; 2, gage; 3, observer; 4, bench marks; 5, gage-height corrections; 6, adjustments to total discharge; 7, station equipment; 8, channel, control, and point of zero flow; 9, rating, backwater; 10, diversions, regulation; 11, records; 12, cooperation.

over flow opening on left bank. There is no flow in any of the over flow openings at this stage except Oyster Creek. Estimate discharge of Oyster Creek from meas. made Nov. 30, 1940. Distance from R.P. on handrail to water surface 12/4/40 – 10.39 ft. Oyster Creek is .14 ft lower than Nov. 30, when meas. was made.

No. 5 of sheets

6—6226 U. S. GOVERNMENT PRINTING OFFICE

BRAZOS RIVER AT Richmond,
Dec. 4, 1940 TEX.



sheet 6

comp. T. C. B.

A-16

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

Date Dec. 4, 1940 No. of Meas.

SUPPLEMENTARY DISCHARGE MEASUREMENT NOTES

BRAZOS RIVER AT Richmond, Tex

WEIGHTED MEAN GAGE HEIGHT COMPUTATION

Inside G. H.

Gage Height	A Av. Gage Height		B Partial Discharge		Product A × B
36.476		X		=	
36.436	0.456	X	4 805	=	2 190
36.362	0.399	X	75 560	=	30 160
36.30	0.331	X	11 441	=	3 780
		X	91 806	=	36 130
		X		=	
		X		=	
		X		=	= 0.394
		X		=	36.00
		X		=	36.39
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	

Total Q = Inside

Weighted mean G. Ht. 36.39

No. 7 of sheets Comp. by TB Chk. by

G1323-740-2m

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