9-275 c
(July 1935)

RECORDED

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES BRANCH

DISCHARGE MEASUREMENT NOTES

Meas. No. 210

Checked by NBT

Date 9-12-42

Brazos R. at Richmond, Tex.

Date Apr. 28, 1942 Party W.H. Goines

Width 445 Area 12,900 Vel. 5.57 G. H. 29.18 Disch. 71,900

Method 2-8 No. secs. 25 G. H. change +0.13 in 1.8 hrs. Susp. 100 c 1.0

Method coef. As Noted Hor. angle coef. 1.00 Meter No. 1951 Susp. coef. 1.00

GAGE READINGS Tape

Time	CWT	Recorder	Inside	Outside
8:00		29.07	29.05	28.94± 0.03
9:00	Start		(29.12)	
10:45	Finish		(29.25)	
12:05 p.m.		29.37	29.35	29.30± 0.05
U.S.	W.B.	W.W.	Gage	
7:45	~~Finish~~			29.14
12:00				29.40
Weighted M. G. H.			29.18	
G. H. correction				
Correct M. G. H.				

Date rated Sept. 18, 1940 Used rating for rod Rod susp. Meter 1.0 ft. above bottom of wt. Tags checked — Spin before meas. ok after ok Meas. plots — % diff. from — rating Wading, cable, ice, boat, upstr., downstr., side bridge 270 feet, mile, above, below gage, and — Chain, wire, found 58.58, changed to no at — Correct length 58.57 Levels obtained —

Measurement rated ~~excellent (2%)~~, good (5%), fair (8%), ~~poor (over 8%)~~, based on following conditions: Cross section Uniform See sheet 7

Flow Fairly smooth Weather Favorable

Other large drift from Sta 75 to 120 made soundings impossible.

Gage ok - Wound clock

Record removed No Intake flushed No

Observer —

Control Channel

Remarks Rising ~~0.02~~ 0.07 ft/hr.

Sheet No. 1 of 7 sheets. G. H. of zero flow — ft.

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* Dist to W.S.

9-275
January 1935

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

✓ 320 to RE

Date 4-28-42, 19 ___ **DISCHARGE MEASUREMENT NOTES**

Brazos River, at Richmond, Tex.

Dist. from initial point	Angle coefficient	Depth (dist to W.S.)	Depth of observation	Revolutions	Time in seconds	Velocity At point	Velocity Mean in vertical	Velocity Mean in section	Area	Mean depth	Width	Discharge
REW ~~417~~		0					0					
✓		✓	✓			✓		1.06	30		7	~~3~~ 2 30
60 ~~440~~	30	8.6	1.7	50	40	2.79	2.12					
			6.9	30	46	1.46		3.44	230		15	790
75 ~~425~~		21.7	5	50	21	5.30	4.77					
								~~5.79~~ 5.80	350		15	2030
90 ~~410~~	USE C=.90	25.1	5	75	22	7.58	~~6.87~~ 6.82					
								~~6.35~~ 6.4	420		15	2670
105 ~~395~~		31.2	5	50	17	6.54	5.89					
								5.89	500		15	2940
120 ~~380~~		35.2	5	100	34	6.54	5.89					
		* 33.5						5.97	690		20	4120
140 ~~360~~	25	35.4	7.1	150	51	6.54	6.05					
9:20 am			28.3	75	30	5.56		6.24	640		20	4000
160 ~~340~~	24	30.4 ~~34.5~~	6.9	150	47	7.10	6.42					
			27.6	150	58	5.75		~~6.36~~ 6.8	610		20	~~3800~~ 3890
180 ~~320~~	23	30.6 35.7	7.1	150	48	6.95	~~6.30~~ 6.5					
			28.6	150	58	5.75		~~6.74~~ 6.6	610		20	~~4110~~ 4020
200 ~~300~~	22	30.4 31.1	6.2	150	45	7.41	7.18					
			24.9	150	48	6.95		6.95	610		20	~~4230~~ 4040
220 ~~280~~	22	30.2 30.7	6.1	150	46	7.25	6.72					
			24.6	150	54	6.18		6.72	630		20	4230
240 ~~260~~	21	32.7 33.2	6.6	150	46	7.25	6.72					
			26.6	150	54	6.18		6.62	660		20	4370
9:40												

No. 2 of 7 Sheets. Comp. by WHG Chk. by

* See sheet 5 & 7

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I.P. For soundings at right A-Frame Sta Nos revised

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WATER RESOURCES BRANCH

Date 4-28-42, 19 ___ **DISCHARGE MEASUREMENT NOTES**
* To W.S.

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
260 / 320	21	33.2 / 33.7	6.7	150	47	7.10	6.53					0340 / ~~4280~~
			27.0	150	54	5.96		6.58	660		20	
280 / 340	20	32.5 / 33.0	6.6	150	47	7.10	6.64					
			26.4	150	54	6.18		6.72	640		20	4300
300 / 360	20	31.8 / 32.1	6.4	150	48	6.95	6.81					
			25.7	150	50	6.67		6.61	640		20	4230
320 / 380	20	32.5 / 33.0	6.6	150	52	6.41	6.41					
			26.4	150	52	6.41		6.12	670		20	4100
340 / 400	21	34.1 / 34.8	6.9	150	54	6.18	5.82					
10:10			27.9	150	61	5.47		5.64	700		20	3950
360 / 420	21	36.3 / 37.1	7.4	150	57	5.85	5.46					
Per Recorder above			29.7	100	44	5.06		5.35	730		20	3910
380 / 440	22	36.3 / 37.1	7.4	100	43	5.17	5.24					
			29.7	100	42	5.30		4.68	700		20	3280
400 / 460	23	33.8 / 35.4	7.1	100	52	4.28	4.12					
			28.3	100	56	3.97		3.74	670		20	2500
420 / 480	24	33.1 / 33.2	6.6	80	55	3.24	3.36					
			26.6	80	51	3.49		3.20	630		20	2020
Neg. data 440 / 500	-	29.7	5.9	60	42	3.18	3.04					
			23.8	60	46	2.91		3.01	400		15	1200
455 / 45		23.2	4.6	50	44	2.53	2.98					
			18.6	80	52	3.43		2.11	290		15	610
470 / 30		15.3	3.1	30	41	1.63	1.24					
			12.2	15	40	.84		.62	130		10	80

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GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

Date 4-28-42, 19 ___ DISCHARGE MEASUREMENT NOTES

* dist to w.s.

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
480 ~~20~~		11.0	2.2	Eddy			0					
			8.8	r =	0			0	~~700~~ 99		18	—
498 ~~2~~		0					0					
REW												
									12,940 39			~~31,860~~ 71,950
Sta Nos in error. Revise												
		Check obs. depth from sta 180 (Revise to REW										
180 ~~220~~		~~37.5~~	30.6	*								
160 ~~240~~		~~38.7~~	30.4									
140 ~~260~~		~~36.1~~	33.3									
120 ~~280~~												
105 ~~295~~				Too much drift large trees								
90 ~~310~~												
70 ~~330~~												
~~345~~		~~18.0~~	17.6									
60 ~~340~~												

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* See sheet 5

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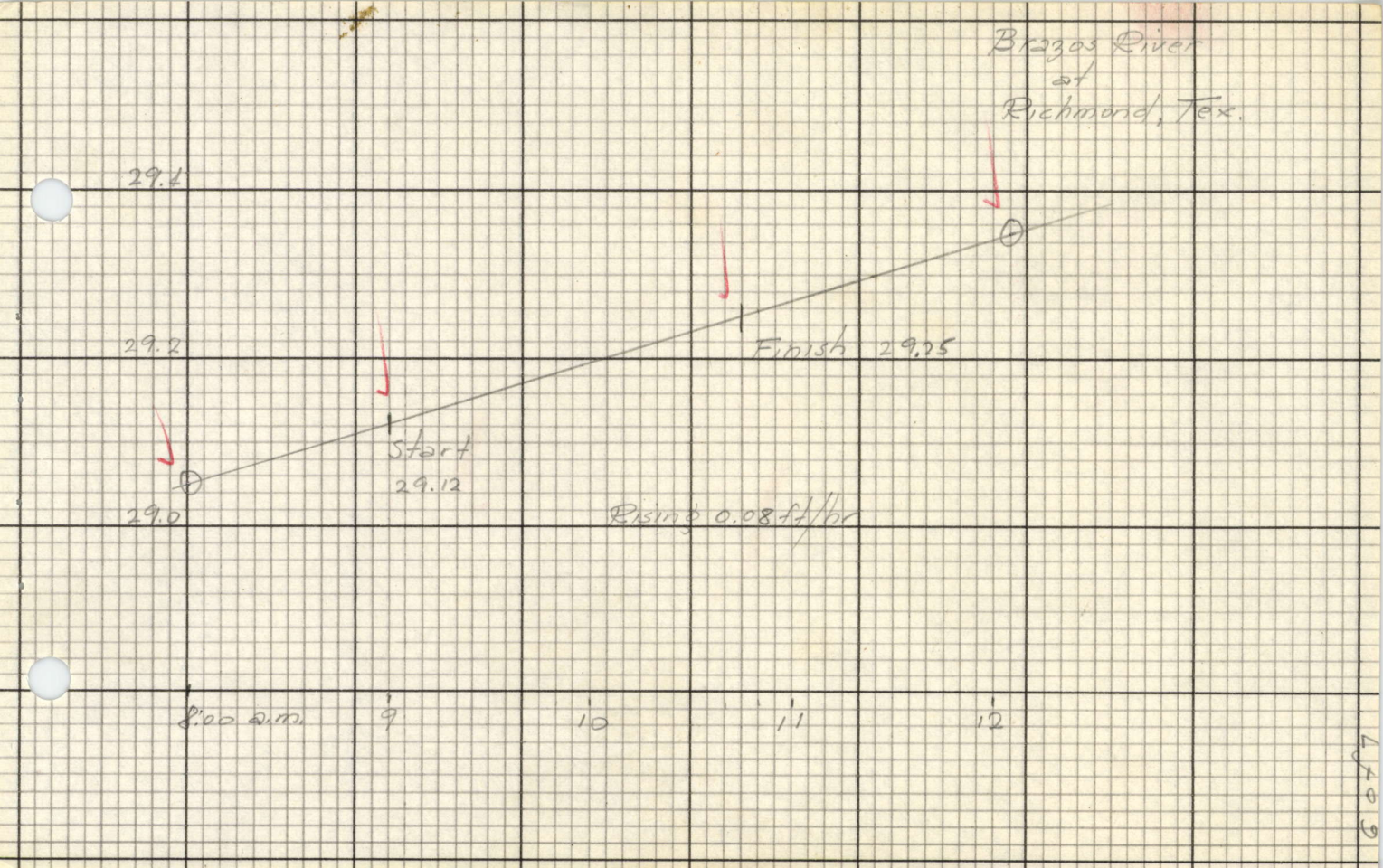
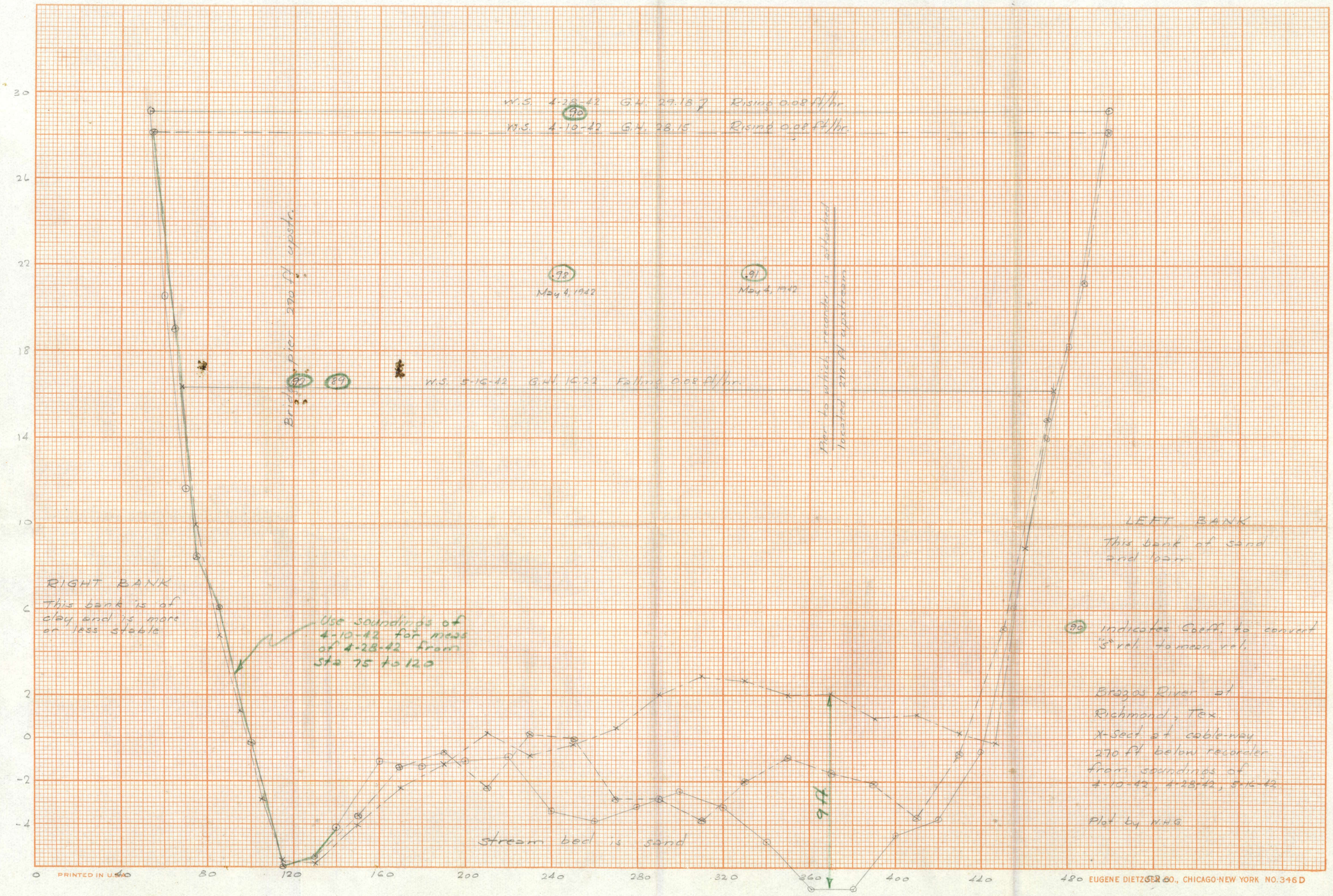
Date 4-28-42, 19 ___ DISCHARGE MEASUREMENT NOTES

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
			Corrections to observed depth.									
Sta	Dist to W.S.	Draft	Vert ∡	Obs. D	Air Corr.	W-L D	Water Corr.	Corr. D.				
140	25	8	18°	35.4	1.3	34.1	.6	33.5				
160	24	10	23°	34.5	1.7	32.8	.9	31.9	30.4	use, see below		
180	23	–	24°	35.7	2.1	33.6	1.0	32.6	30.6			
200	22	–	12°	31.1	.5	30.6	.2	30.4				
220	22	–	10°	30.7	.3	30.4	.2	30.2				
240	21	–	10°	33.2	.3	32.9	.2	32.7				
260	21	–	10	33.7	.3	33.4	.2	33.2				
280	20	–	10°	33.0	.3	32.7	.2	32.5				
300	20	–	8°	32.1	.2	31.9	.1	31.8				
320	20	–	10°	33.0	.3	32.7	.2	32.5				
340	21	–	12°	34.8	.5	34.3	.2	34.1				
360	21	–	12°	37.1	.5	36.6	.3	36.3				
380	22	–	12°	37.1	.5	36.6	.3	36.3				
400	23	–	10°	35.4	.4	35.0	.2	34.8				
420	24	–	6°	33.2	.1	33.1	–	33.1				
						These soundings were made as a check and are believed to be more accurate than those above.						
180	(23)	8'	19°	32.5	1.3	31.2	.6	30.6				
160	(24)	10'	23°	33.2	2.0	31.2	.8	30.4				
140	(25)	10'	22°	36.1	2.0	34.1	.8	33.3				
70	(30)	4'	8°	18.0	.3	17.7	.1	17.6				

No. 5 of 7 Sheets. Comp. by WAG Chk. by


Brazos River
at
Richmond, Tex.
29.4
29.2
29.0
Finish 29.25
Start
29.12
Rising 0.08 ft/hr
8:00 a.m.
9
10
11
12



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