

REPORT NO. 710/24

THIRD REPORT OF TESTS

on

COMPOSITE ARMOR PLATES

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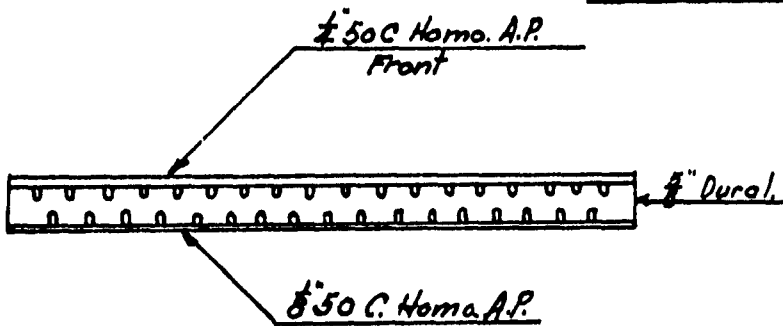
by

D. J. Martin
1st. Lt., Ord. Dept.

1934

PLATE NO. C - 5

DATE 5-18-34



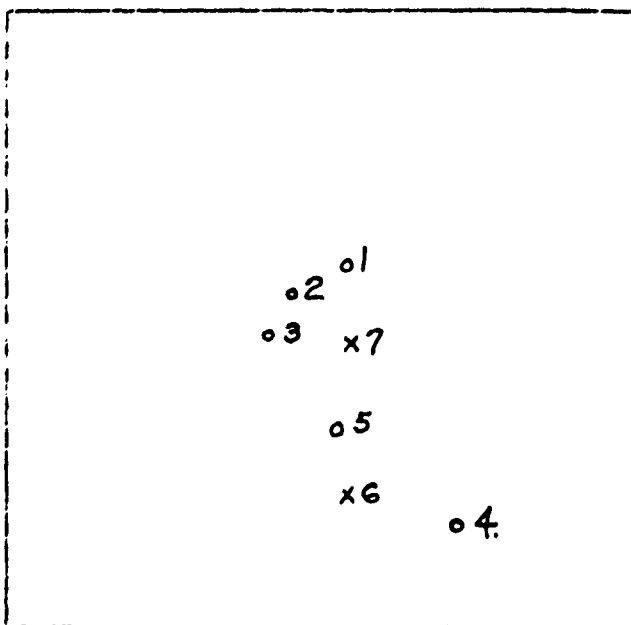
Total Wt. of Plate -
23 lbs. per sq. ft.
Grooves - 3/16" wide by
1/4" deep on 5/8" centers.
Grooves staggered on back
of Dural, 1/4" over from
B of opposite groove on
front side.

After Rounds 1 and 2 were fired at the plate 5/32" washers were put between the front 1/4" Homo. A. P. plate and the 5/8" Grooved dural plate. The effect of the space seemed to increase the turning of the cores. The Rounds 6 and 7 marked X were fired at the rear of the plate. The results of this plate caused the test of another which is in this report known as plate C-7. Very satisfactory in turning bullet cores, also crushing and cracking.

Armor Plate - Heated in standard manner by Henry Disston & Sons Co. Oil Quench 1600°F - draw 1100°F - Brinell 400 to 430.

ARMOR PLATE COMPOSITION

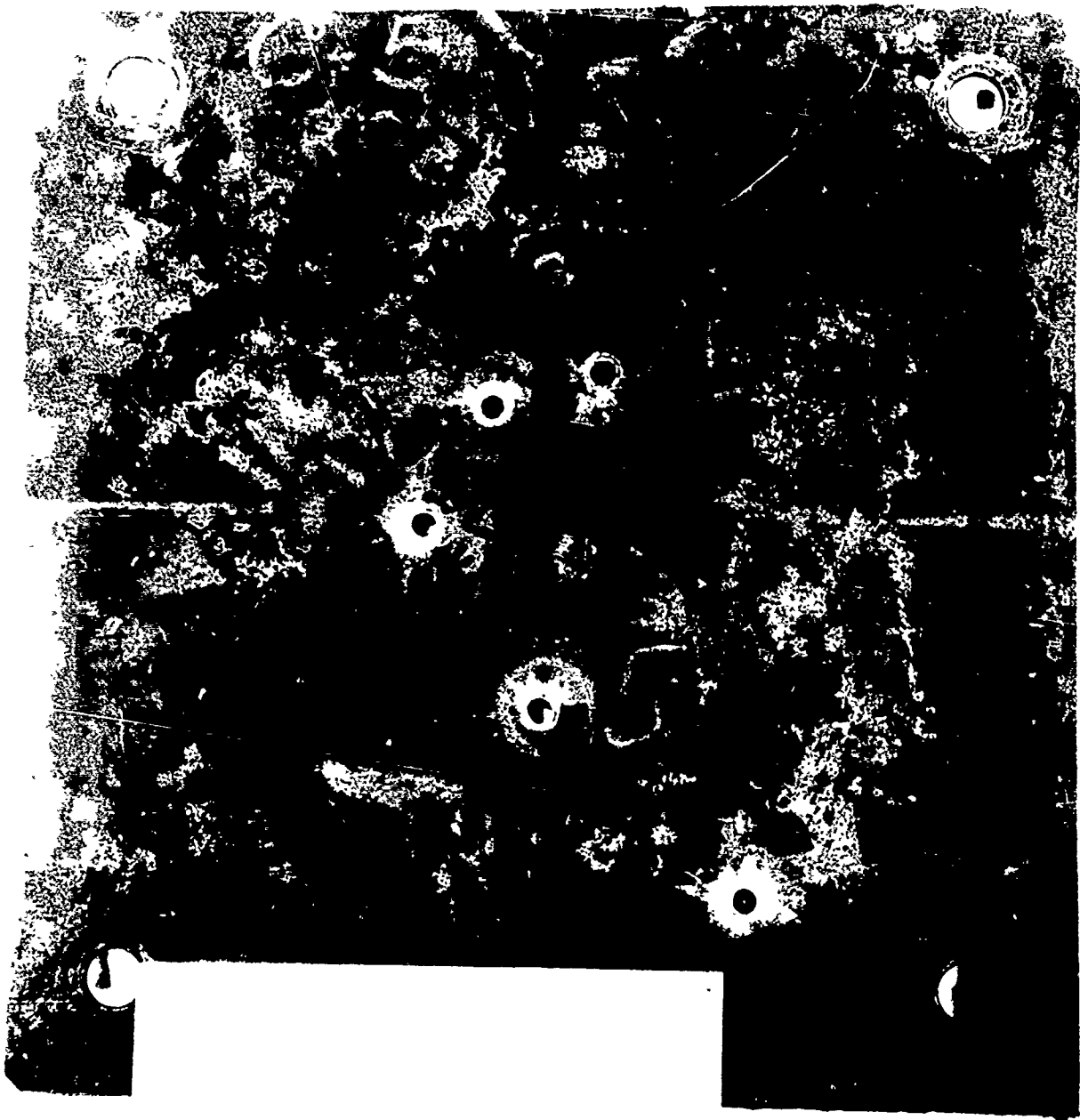
C.	Mn.	P.	S.	Si.	Cr.	Mo.	Va.
.45/.55	.40/.60	..03	<.03	.15/.25	1.10/1.30	.60/.80	.20/.30

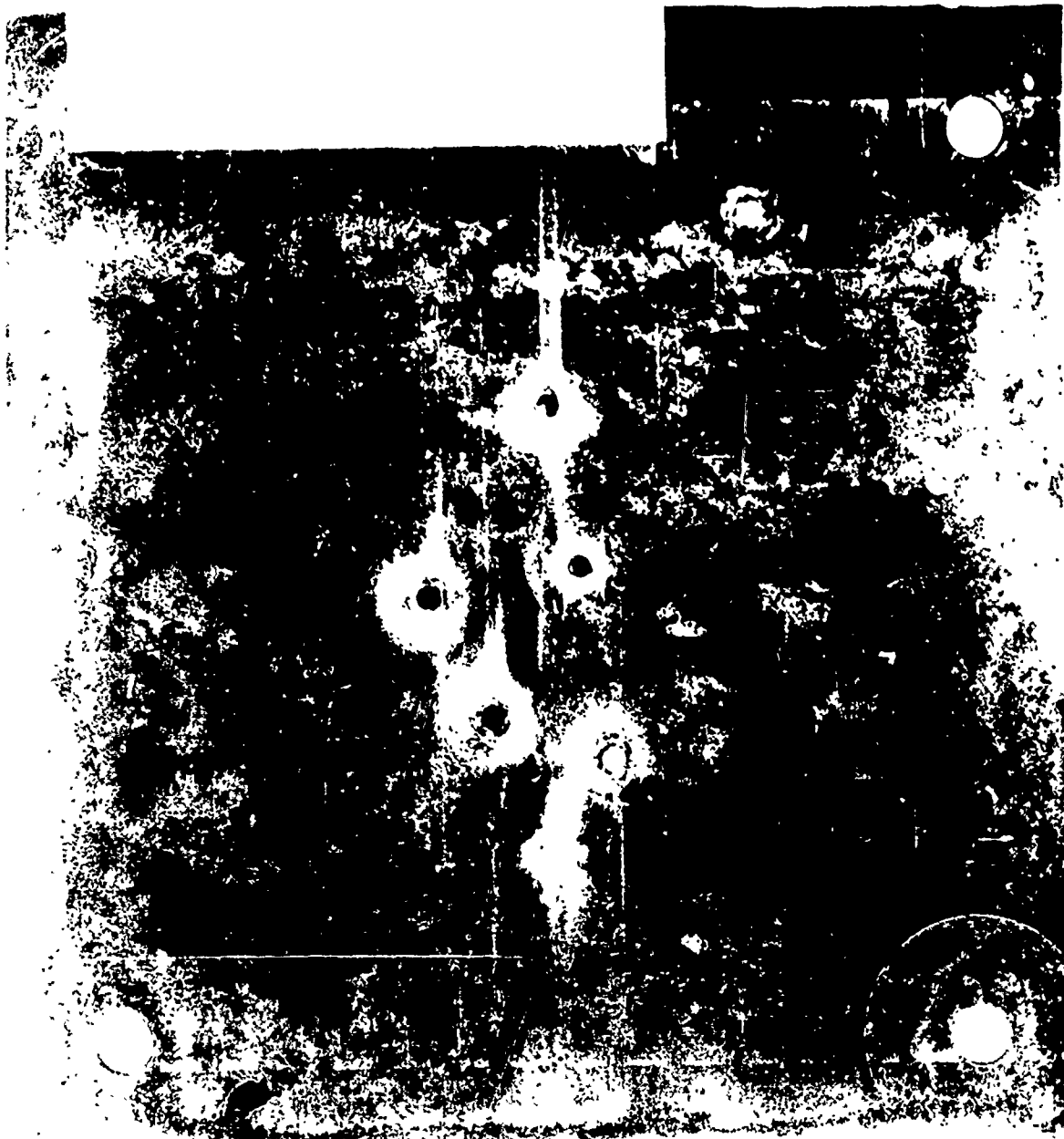


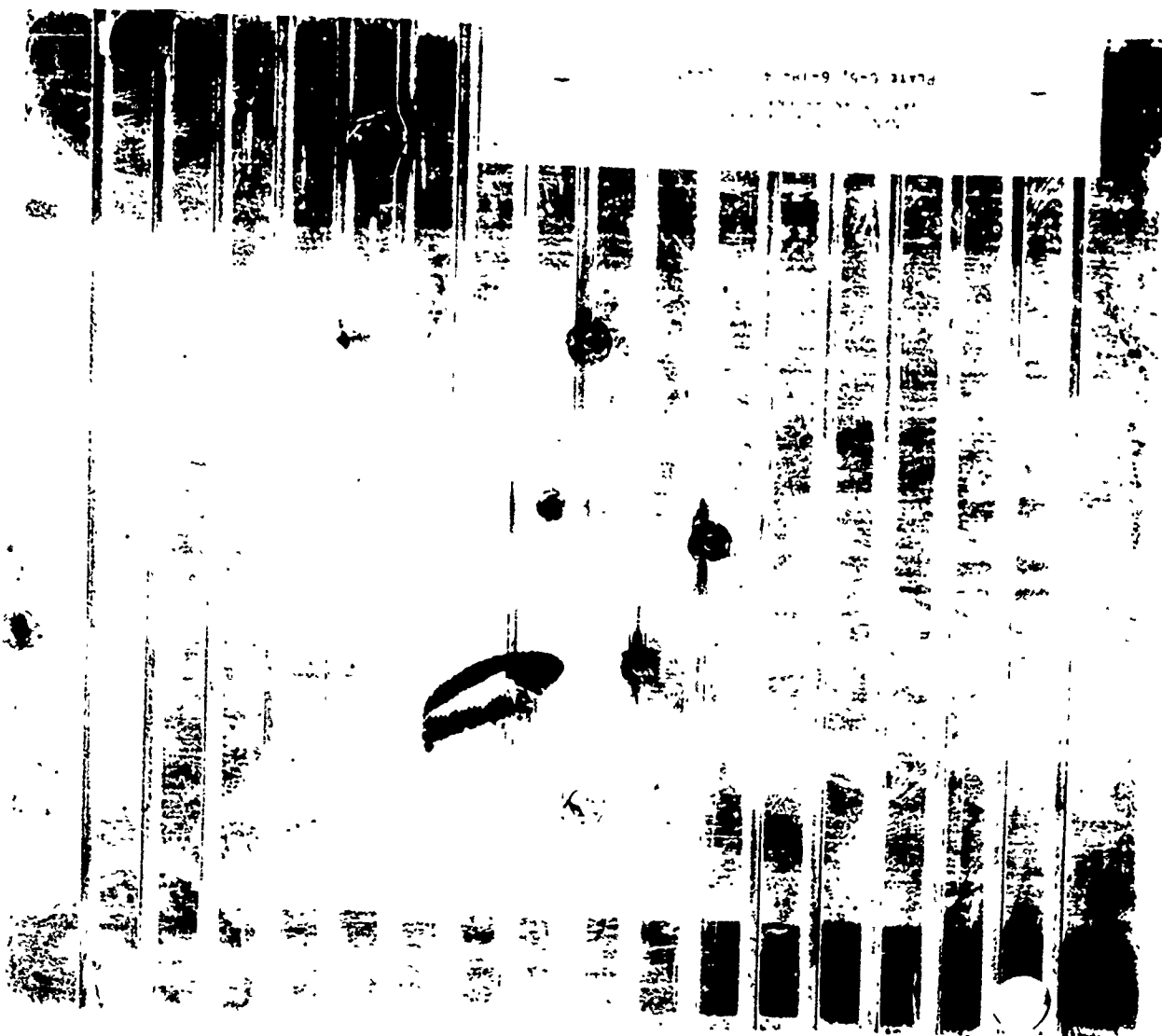
ROUND NO.	STRIKING VELOCITY	REMARKS
1	2488 f.s.	No pen.
2	"	"
3	"	"
4	"	"
5	"	"
6	"	Penetrated
7	"	"

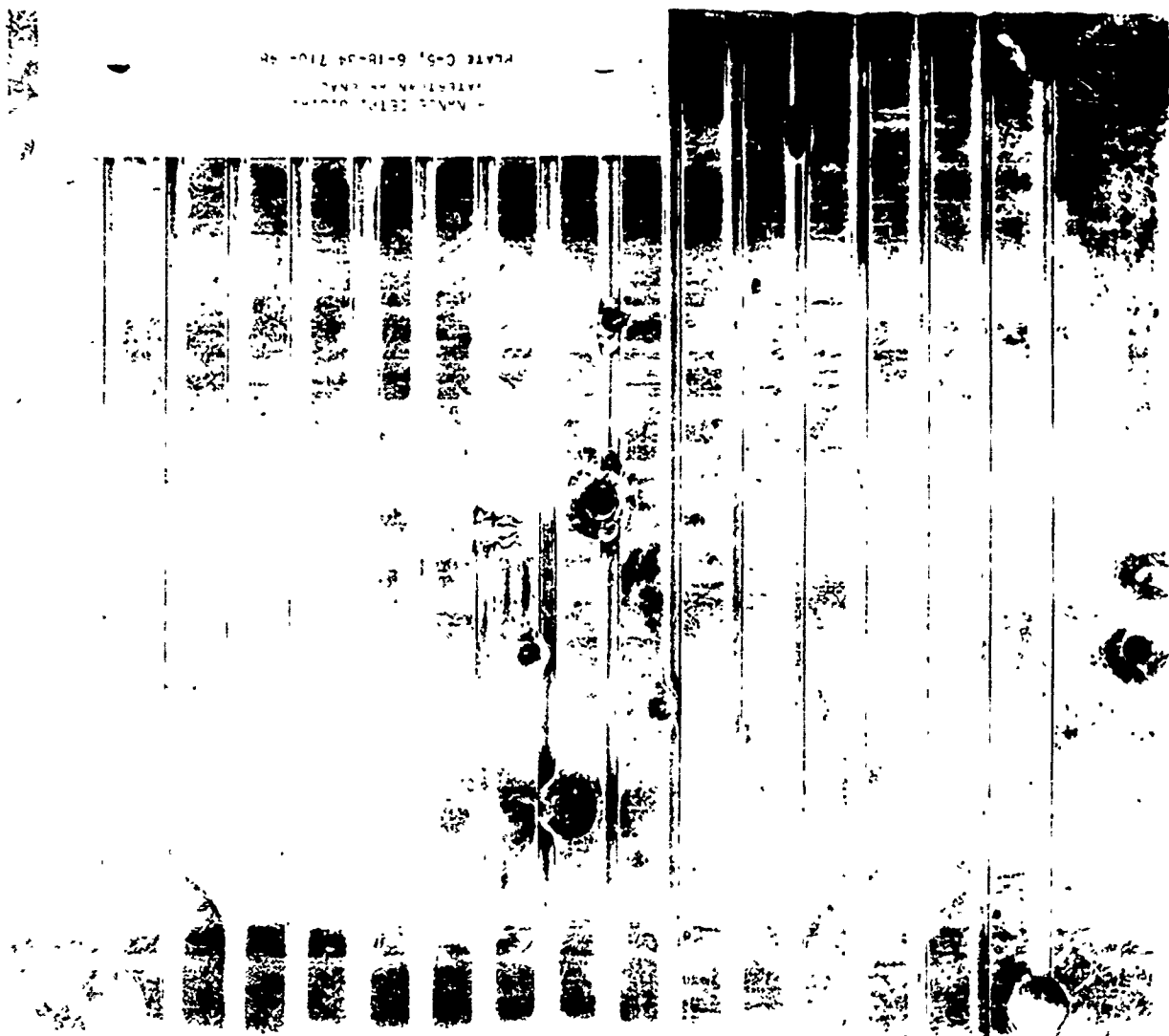
PLATE NORMAL, 100 YD. RANGE, .30 CAL. M1922 A.P. BULLETS,
MAIN BARREL UNLESS NOTED OTHERWISE.

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REPRODUCED AT GOVERNMENT EXPENSE

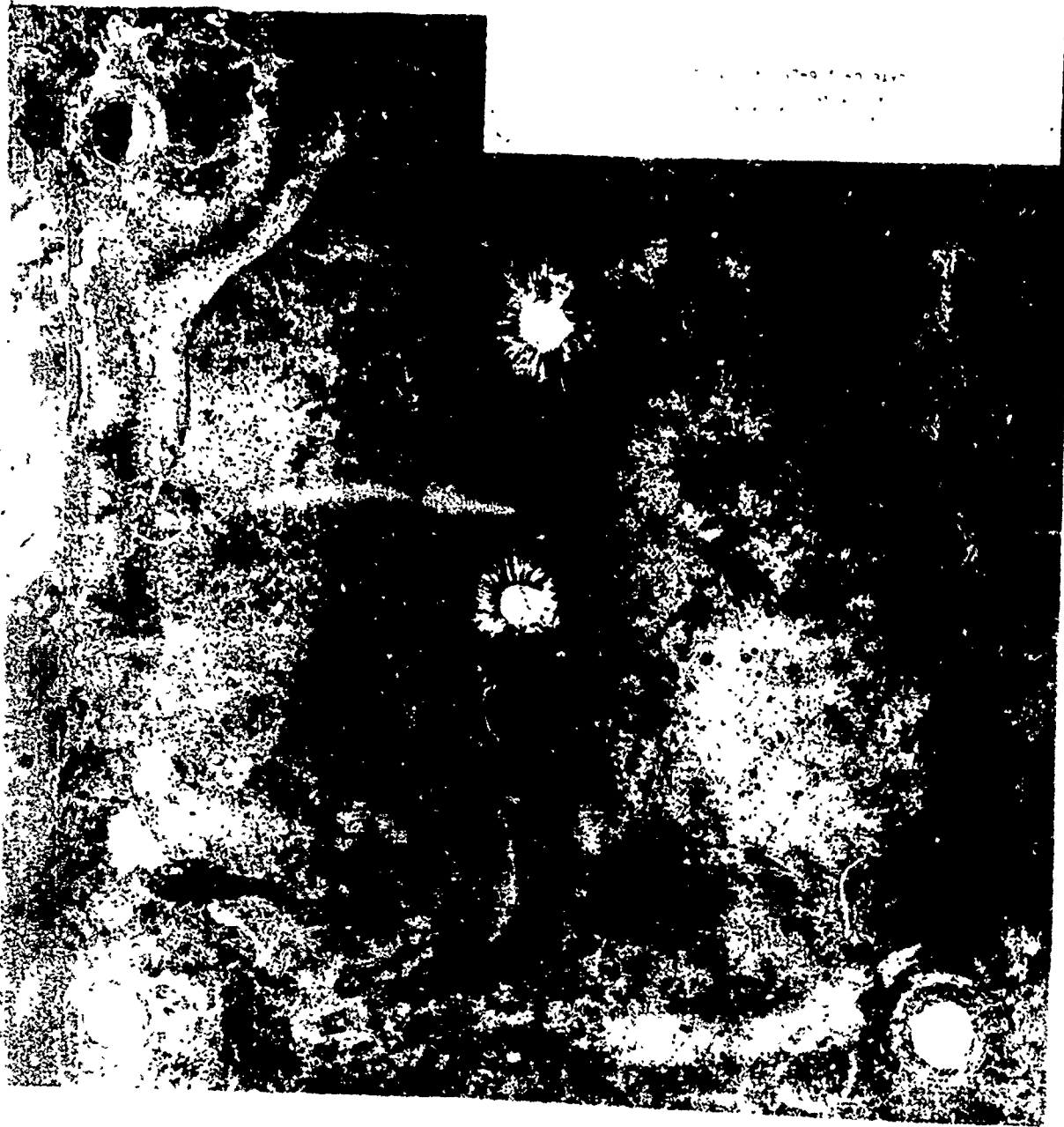
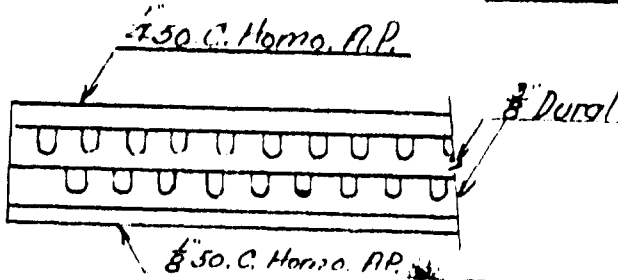


PLATE NO.

C-7

DATE 6-21-34



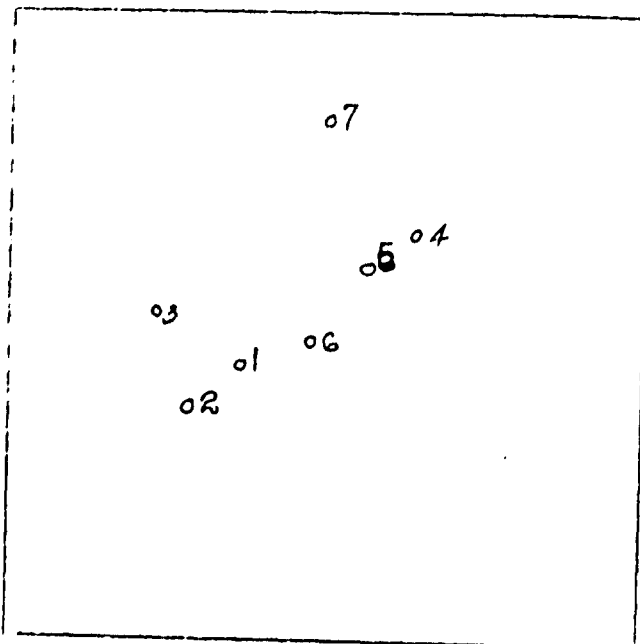
This composite plate was made of 1/4" A.P. 2-3/8" sheets of Dural groove & 1/8" A. P.,

The 1/4" A.P. being the front of the sample. The 1st round was fired at the plate as per sketch. Rds. 2, 3 & 4 fired at sample, after a 5/32" space was made between 1/4" A.P. & 1st sheet of Dural. Rds. 5, 6 & 7 fired at sample, after a 5/32" space was made between 1/8" A.P. & 2nd sheet of Dural, the 1st space was closed. Note on photo #710/53 the turning effect the groove Dural has on the core.

Armor Plate - Oil quench in standard manner by Watertown Arsenal. Oil quench 1600°F, draw, 1100°F, Brinell 400 to 430.

ARMOR PLATE COMPOSITION

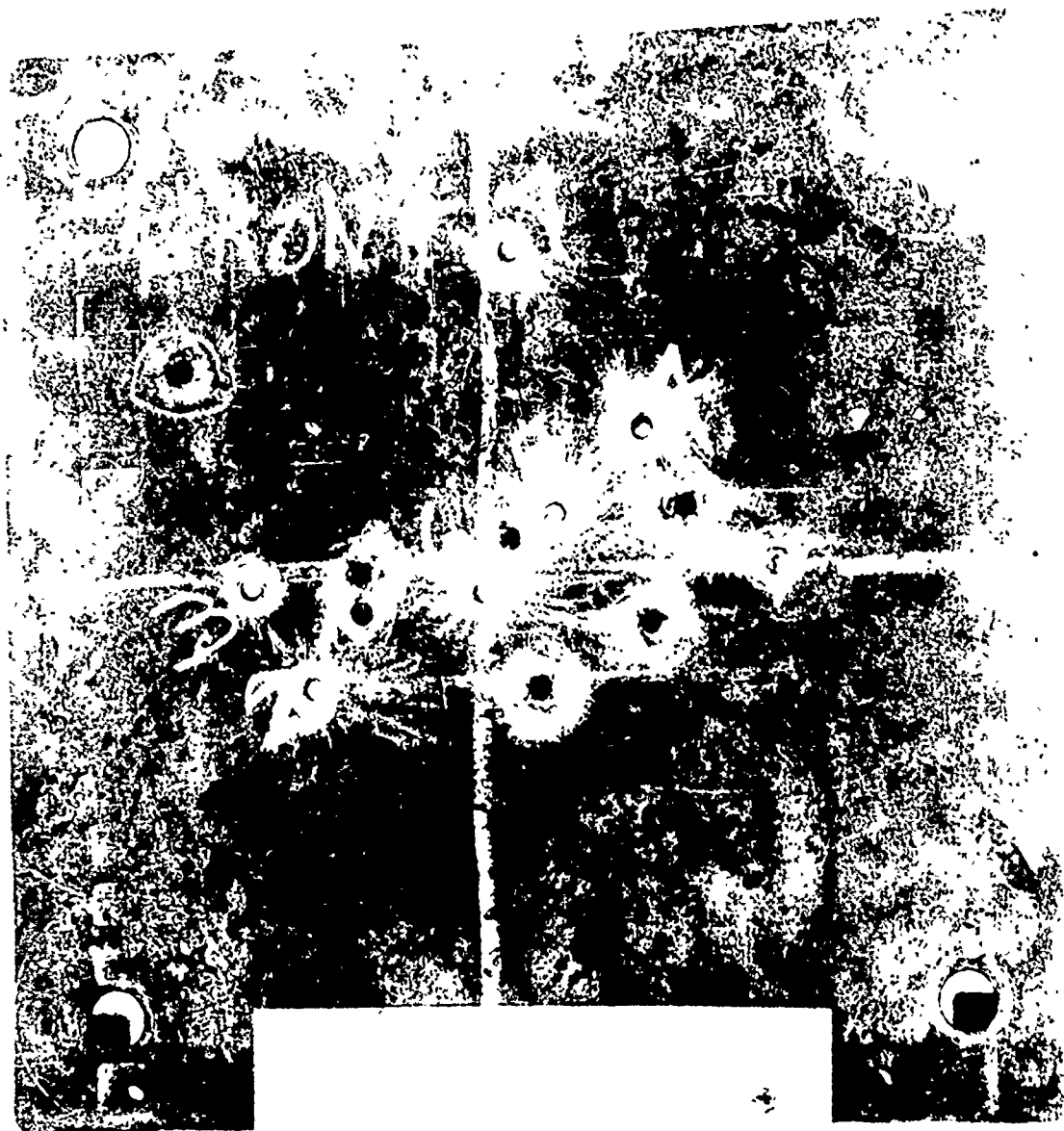
C.	Mn.	P.	S.	Si.	Cr.	Mo.	Va.
.45/.55	.40/.60	.03	<.03	.15/.25	1.10/1.30	.60/.80	.20/.30



ROUND NO.	STRIKING VELOCITY	REMARKS
1	2488	Pricked back
2	"	Only one shows its nose.
3	"	
4	"	
5	"	Good - no penetrations
6	"	
7	"	

PLATE NORMAL, 100 YD. RANGE, .30 CAL. M1922 A.P. BULLETS, MANN BARREL UNLESS NOTED OTHERWISE.

Best Available Copy

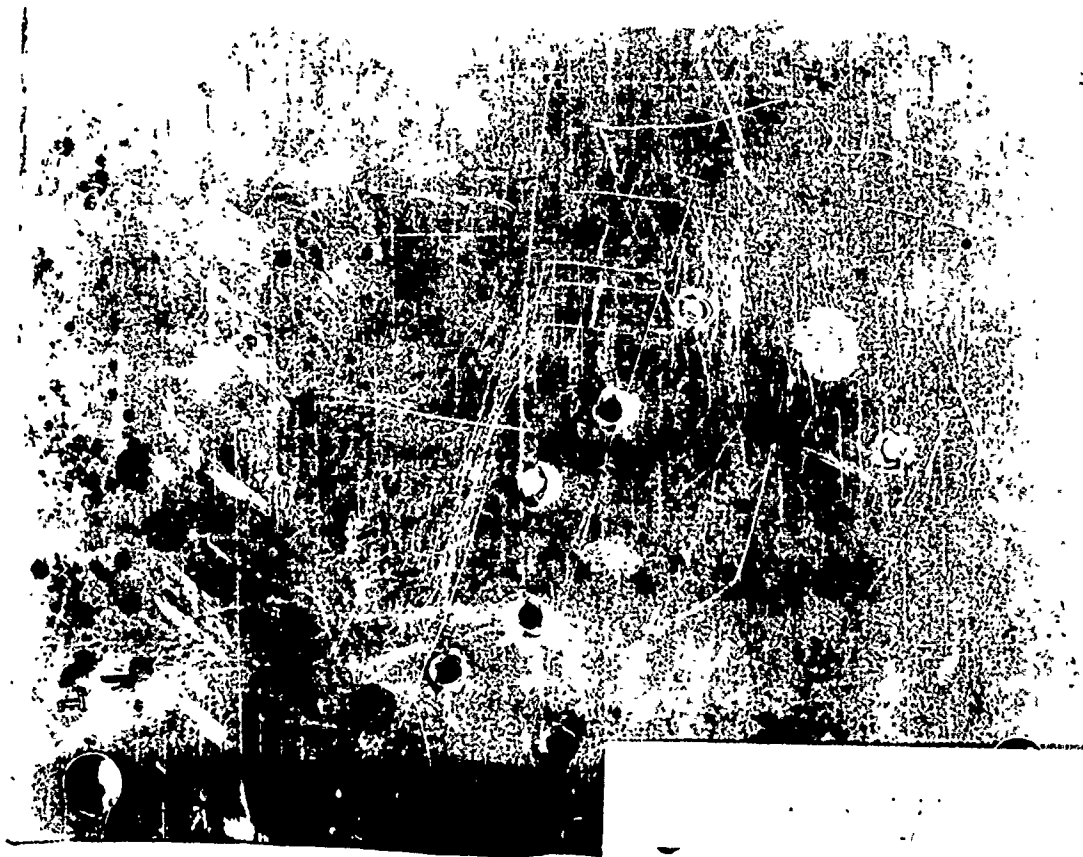


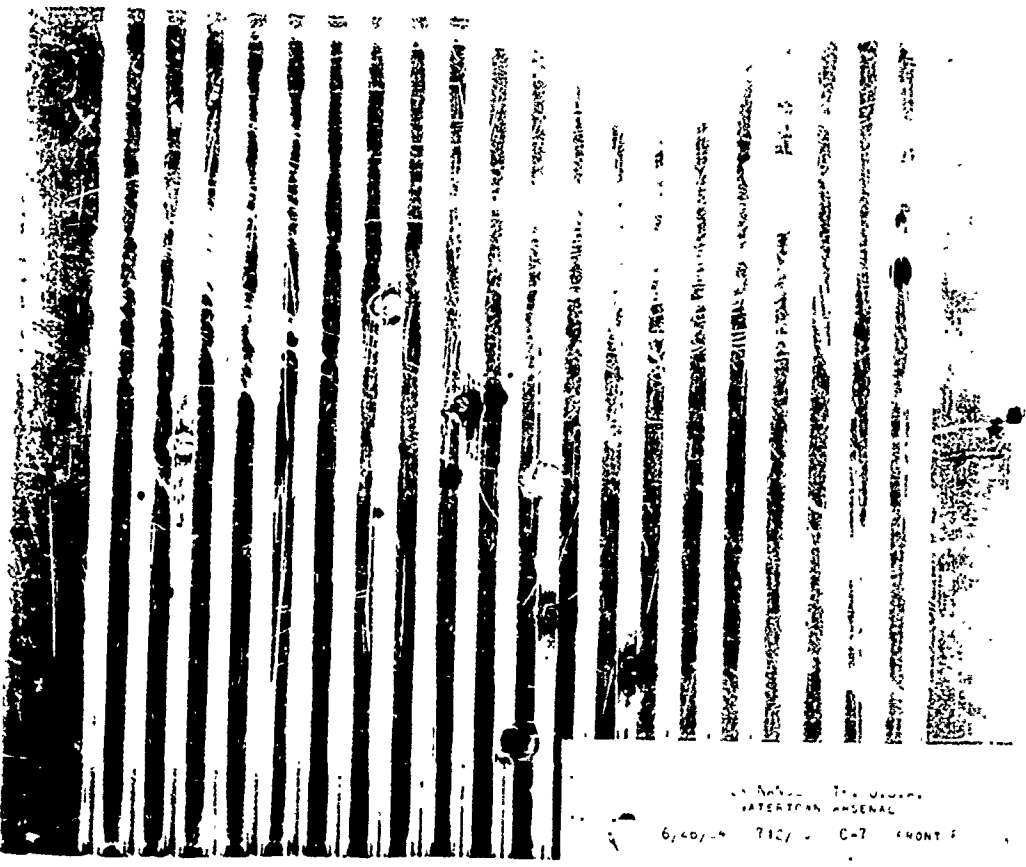


REPRODUCED AT GOVERNMENT EXPENSE



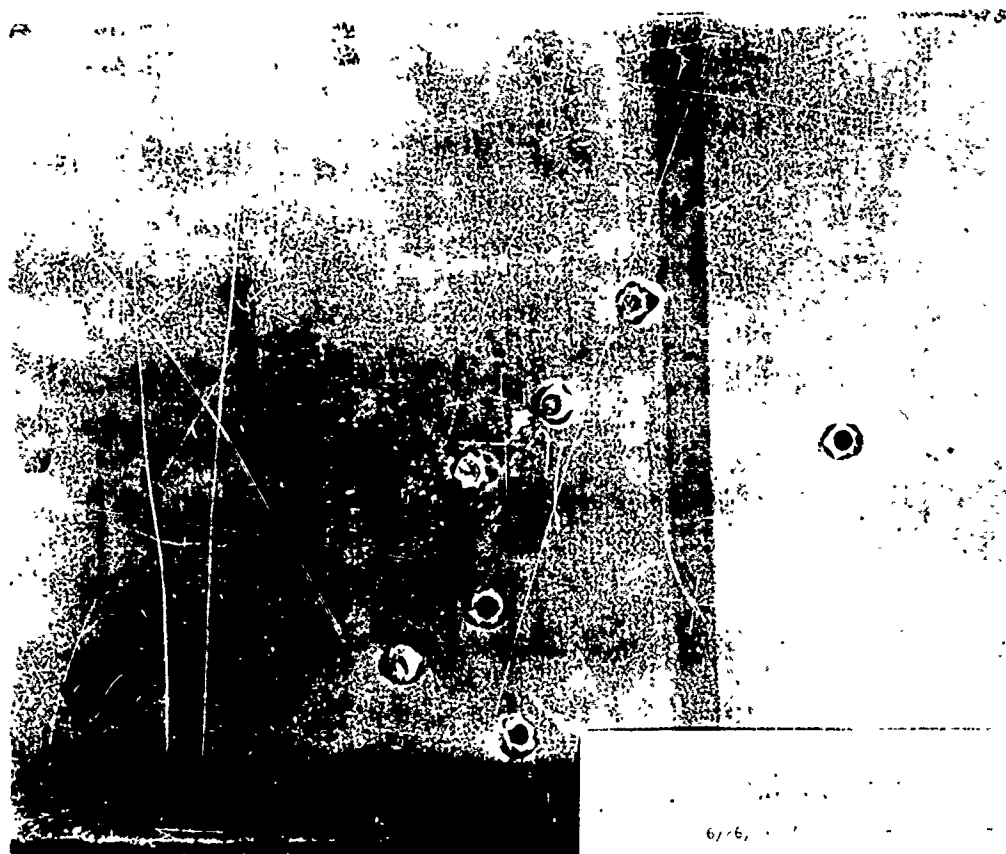
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AT RIVER THE GUN
WATERMAN ARSENAL

6,407-6 712/ C-7 FRONT 2



6/26

