



STATE OF NEW MEXICO
 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
 OIL CONSERVATION DIVISION



BRUCE KING
 GOVERNOR

April 22, 1993

POST OFFICE BOX 2088
 STATE LAND OFFICE BUILDING
 SANTA FE, NEW MEXICO 87504
 (505) 827-5800

ANITA LOCKWOOD
 CABINET SECRETARY

Yates Petroleum Corporation
 105 South Fourth Street
 Artesia, NM 88210

SWD-402
 PDEV0020900402

Attention: Carolyn Bulovas Yates

RE: Injection Pressure Increase Hoover ADR State No. 1 Waterflood Project Lea County, New Mexico

Dear Ms. Yates:

Reference is made to your request dated April 6, 1993 to increase the surface injection pressure on the Hoover ADR State Well No. 1. This request is based on step rate tests conducted on this well on March 19, 1993. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following well:

Well and Location	Maximum Injection Surface Pressure
Hoover ADR State Well No. 1 1650' FSL & 990' FEL Unit I, Section 1, Township 17 South, Range 33 East	950 PSIG
This well is located in Lea County, New Mexico.	

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

William J. LeMay
 Director

WJL/BES/amg

cc: Oil Conservation Division - Hobbs
 D. Catanach
 File: SWD-402

NO WAITING PERIOD

COMPANY: YATES PETROLEUM CORPORATION
ADDRESS: 105 SOUTH FOURTH STREET
CITY, STATE, ZIP: ARTESIA, New Mexico 88210
ATTENTION: CAROLYN BULOVA YATES

Re: Injection Pressure Increase
HOOVER ADR STATE No. 1

LEA County, New Mexico

Dear Sir:

Reference is made to your request dated APRIL 6, 1993, to increase the surface injection pressure on ~~THE HOOVER ADR~~ STATE No. 1 ^{this}. This request is based on step rate tests conducted on ~~these~~ wells MARCH 19, 1993. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following wells:

Well & Location

Maximum Injection Surface Pressure

HOOVER ADR STATE No. 1
1650' F84 & 990' F82
"I" 1-175-33E

950 PSIG

~~_____~~
~~_____~~
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~~_____~~

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

xc: T. GALLEGOS D. CATANACH FILE- SWD-402 OCD- Hess

MARTIN YATES, III
1912 - 1985
FRANK W. YATES
1936 - 1986



105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

APR 7 AM 9 01

N/R
S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
PRESIDENT
PEYTON YATES
EXECUTIVE VICE PRESIDENT
RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY
TREASURER

April 6, 1993

Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico
87504-2088

ATTENTION: Dave Catanach

Dear Sir:

Yates Petroleum ran a step rate injection test on the Hoover ADR State #1 on March 19, 1993. The results indicate that the allowable injection pressure could be raised to 950 psi without exceeding the formation fracture pressure. We respectfully request that 950 psi be the allowable injection pressure on the Hoover ADR State #1.

The raw data from this step rate test can be found in Attachment 1. This is the pressure versus rate data recorded by the Western Company during the test. The flow rate is reflected by the top rate scale. This chart was annotated by the Western Company individual as the test was run. He noted that the well was at zero pressure before injecting any fluid. He also noted when the hole was loaded, each time the rate was increased, and when shut down occurred. A fifteen minute fall off test was conducted after shut down. The total number of barrels injected was noted every five minutes and the point at which they were noted is shown by the black hatch marks to the right of the pressure chart. The actual numbers recorded can be found in Attachment 2.

Attachment 2 is a table of the raw data obtained from the step rate injection test. The elapsed time, tubing pressure, calculated injection rate and total injected fluids are noted. This data was plotted on a pressure versus rate graph (see Attachment 3). From this graph, it is clear that there is a clean break at about 1010 psi. Two good data points occur below the currently allowed 750 psi point and six data points after the break. This meets with the State's requirements for this type of test.

Dave Catanach
April 6, 1993
page 2

Yates Petroleum requests that the allowable injection pressure on the Hoover ADR State #1 be increased to 950 psi from 750 psi based on this step rate injection test. This would be 60 psi below the estimated fracture pressure.

If you have any questions about the interpretation of this data or how the test was run, please contact me at the above address or call either 505-748-1471 or 505-622-6992. Thank you for your attention.

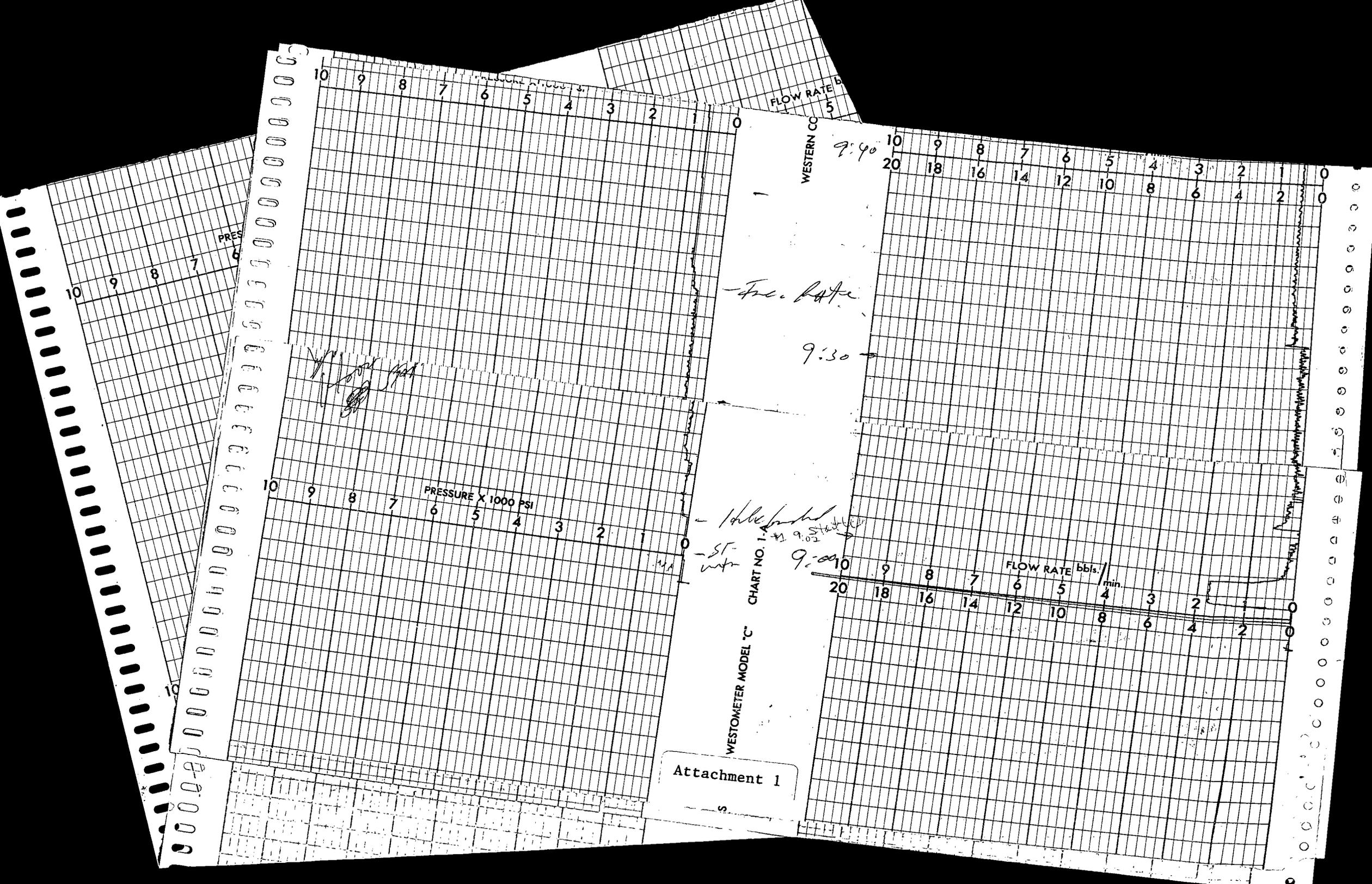
Sincerely,



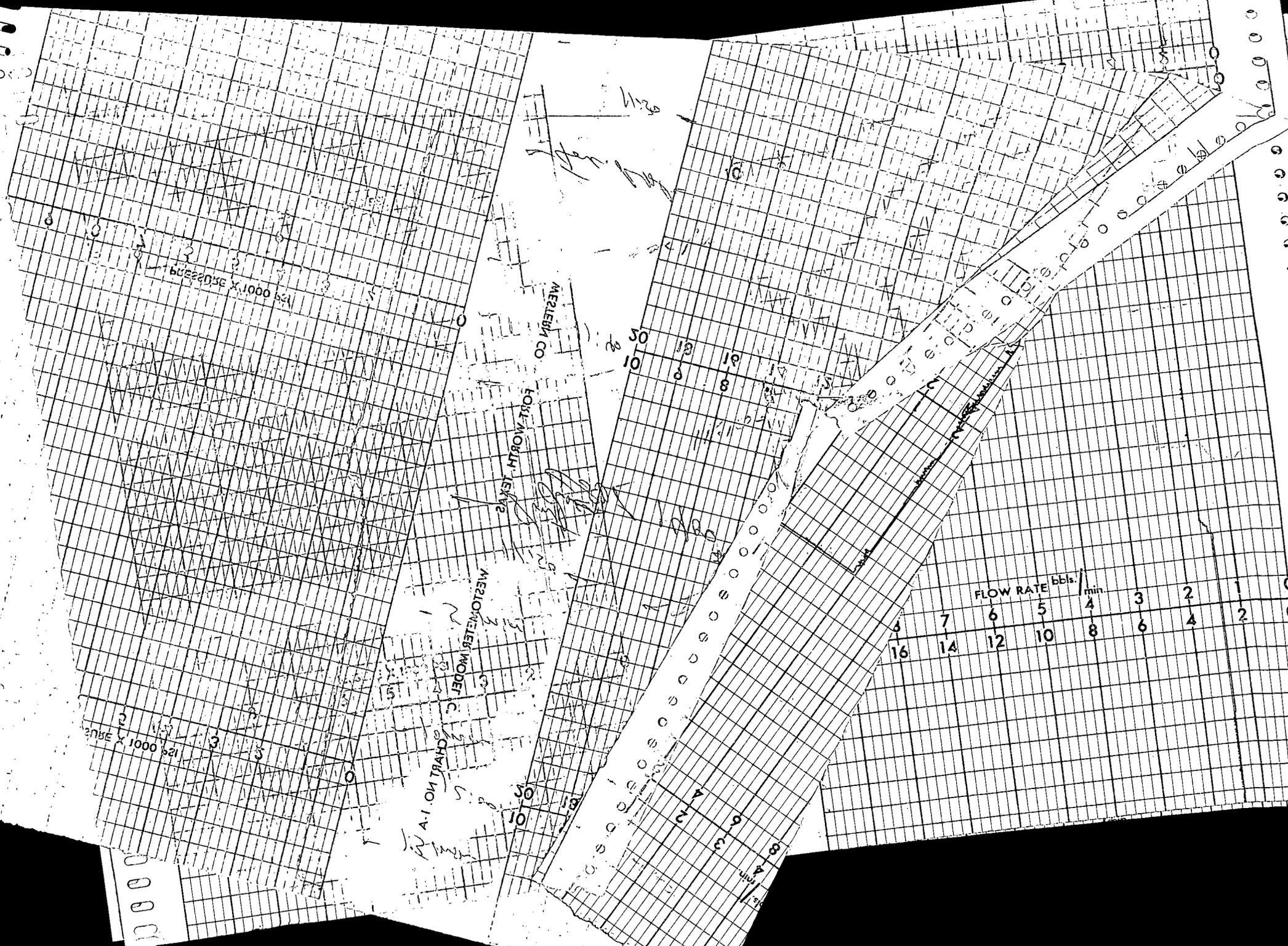
Carolyn Bulovas Yates
Petroleum Engineer

Attachments

xc: OCD-Hobbs, New Mexico
Dave Boneau
John Dehler
Mike Slater
well file



Attachment 1



MESEBIA CO.
FORT NORTH TEXAS
MESEBIA WELDER MODELS

MESEBIA CO.

FORT NORTH TEXAS

MESEBIA WELDER MODELS

MESEBIA WELDER MODELS

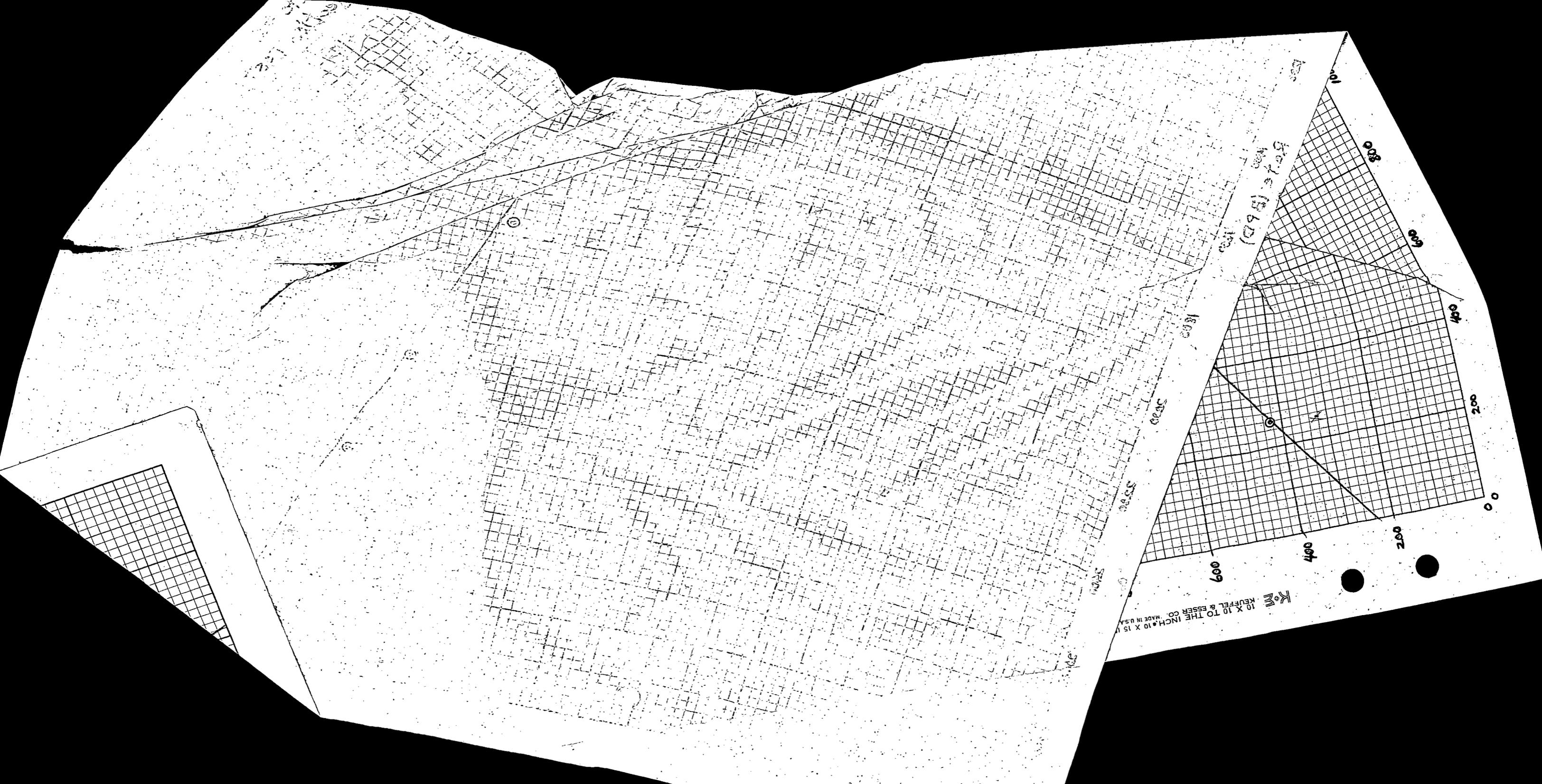
FLOW RATE bbls./min

16	14	12	10	8	6	4	2	0
7	6	5	4	3	2	1	0	0

Hoover ADR State#1				
Step Rate Injection Test				
19-Mar-93				
Remarks	Time	Tubing Pressure psig	Injection Rate BPD	Total BBLS (2 bbls to load)
#1	9:02	185		02.0
	9:07	300	316.8	03.1
	9:12	300	201.6	03.8
	9:17	325	<u>230.4</u> 249.6	04.6
#2	9:22	425	230.4	05.4
	9:27	425	288.0	06.4
	9:32	425	<u>259.2</u> 259.2	07.3
#3	9:37	610	576.0	09.3
	9:42	625	748.8	11.9
	9:47	675	<u>547.2</u> 624.0	13.8
#4	9:52	800	777.6	16.5
	9:57	810	921.6	19.7
	10:02	800	<u>691.2</u> 796.8	22.1
#5	10:07	950	1065.6	25.8
	10:12	975	1008.0	29.3
	10:17	975	<u>979.2</u> 1017.6	32.7
#6	10:22	1010	1296.0	37.2
	10:27	1050	1411.2	42.1
	10:32	1075	<u>1296.0</u> 1334.4	46.6
#7	10:37	1175	1612.8	52.2
	10:42	1175	1756.8	58.3
	10:47	1200	<u>1497.6</u> 1622.4	63.5
#8	10:52	1220	2217.6	71.2
	10:57	1275	1987.2	78.1
	11:02	1275	<u>1699.2</u> 1968.0	84.0

Attachment 2 (cont'd)

Hoover ADR State#1				
Step Rate Injection Test				
19-Mar-93				
Remarks	Time	Tubing Pressure psig	Injection Rate BPD	Total BBLs (2 bbls to load)
#9	11:07	1375	2390.4	92.3
	11:12	1375	2160.0	99.8
	11:17	1390	<u>2304.0</u>	107.8
			2284.8	
#10	11:22	1420	2476.8	116.4
	11:27	1450	2620.8	125.5
	11:32	1450	<u>2448.0</u>	134.0
			2515.2	
#11	11:37	1525	2880.0	144.0
	11:42	1575	2822.4	153.8
	11:47	1600	<u>3024.0</u>	164.0
			2908.8	

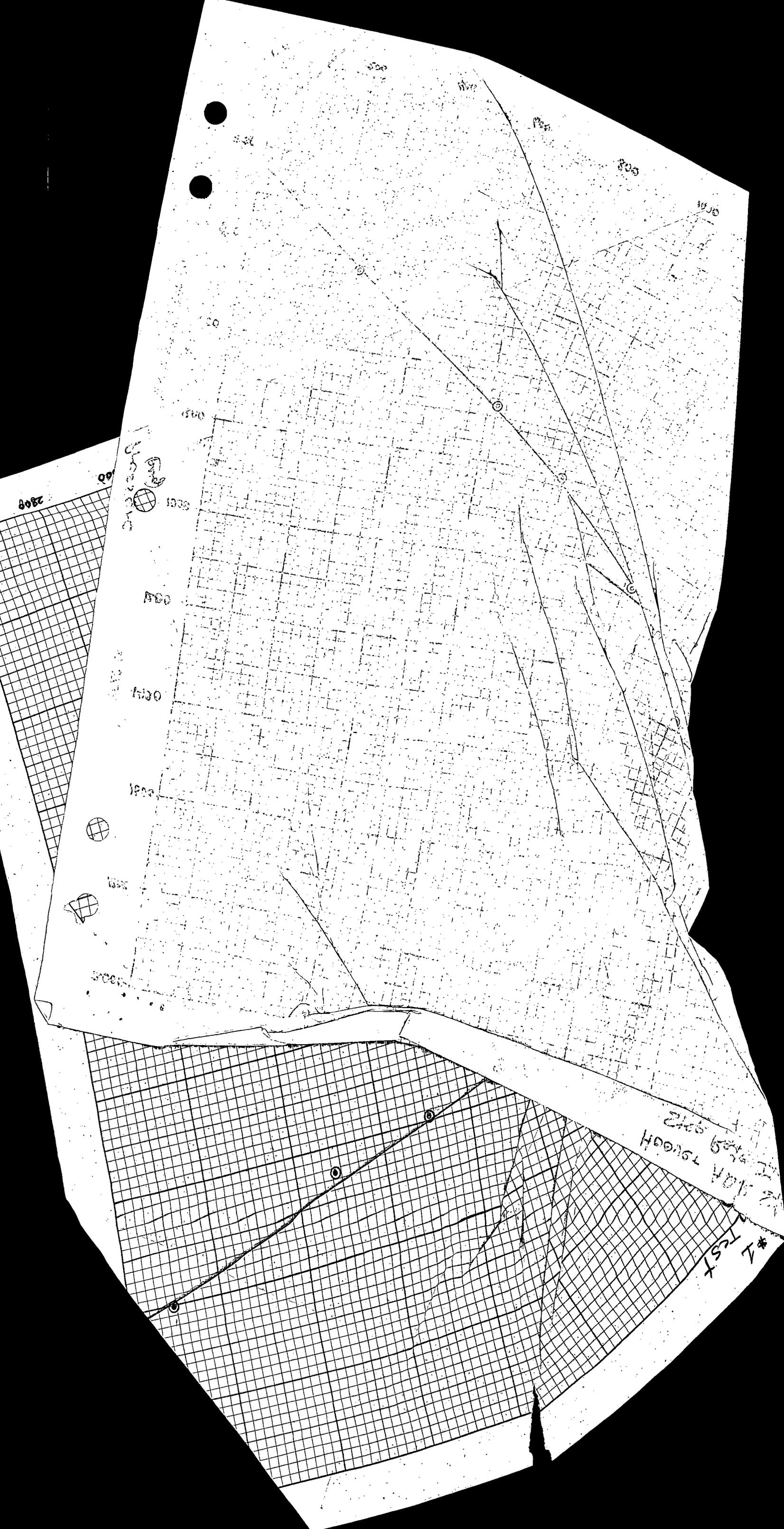


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Handwritten text, possibly a label or note, located on the left side of the graph paper.

2* TEST
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