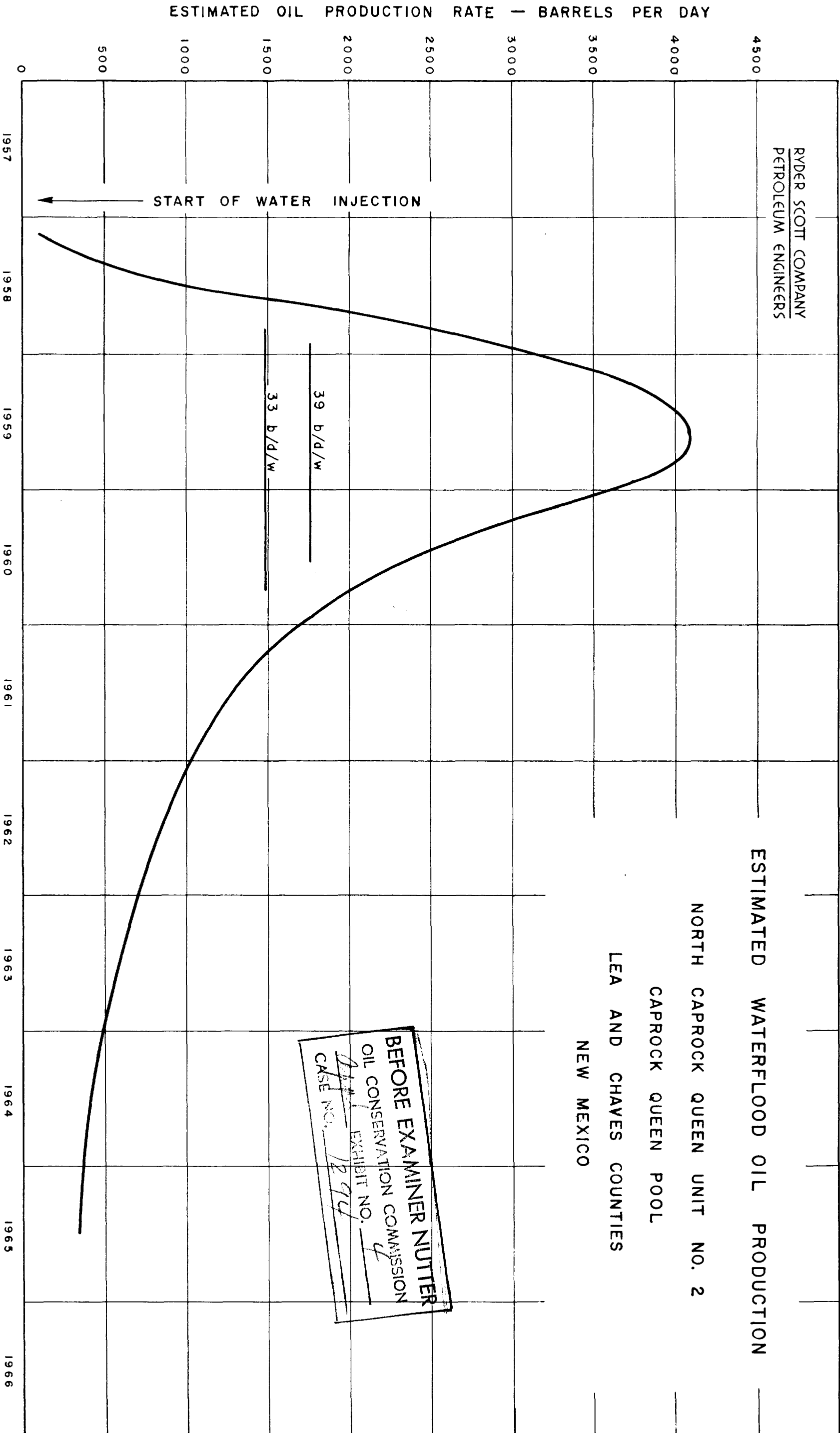
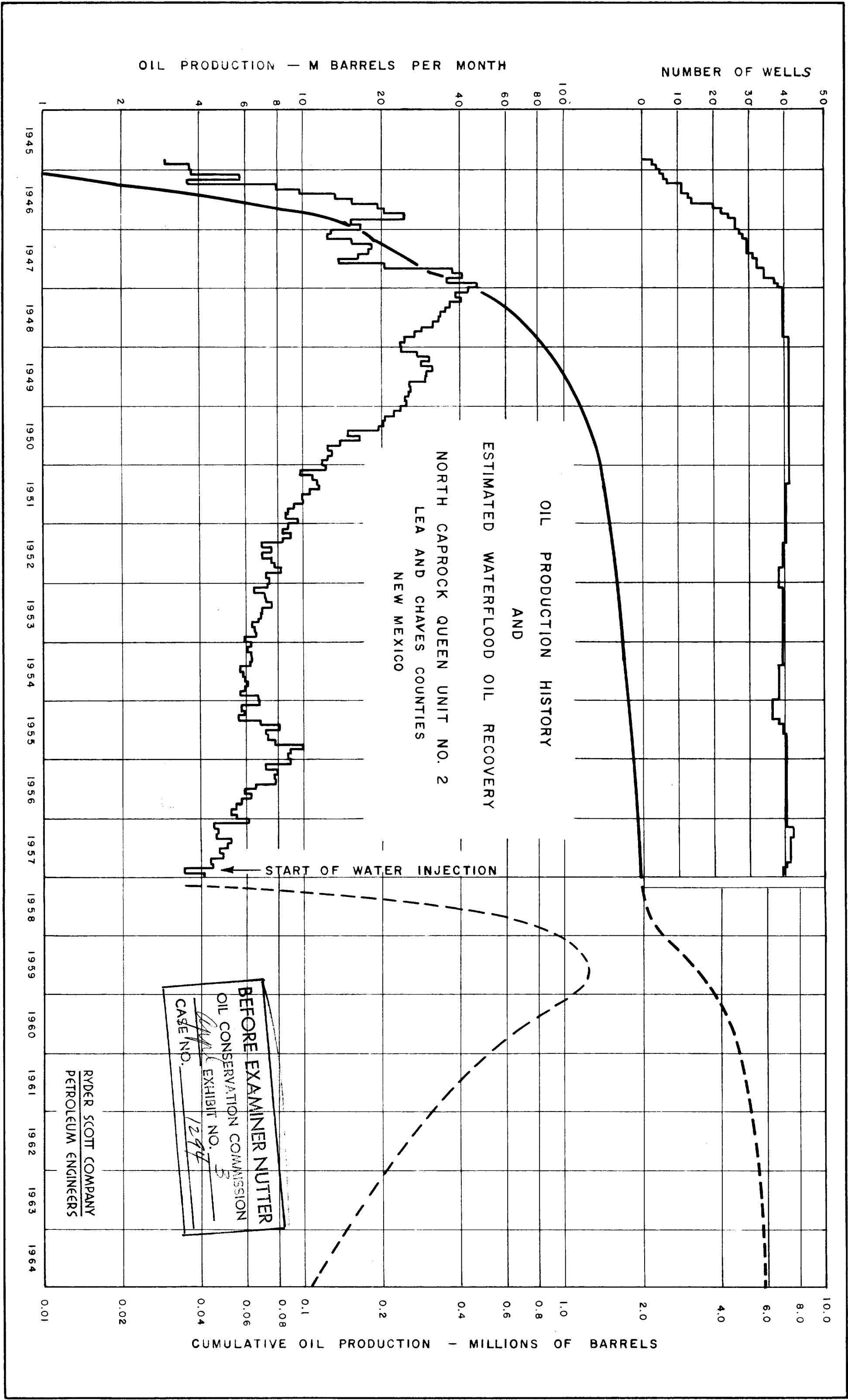




BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 1294



BEFORE EXAMINER NUTTER

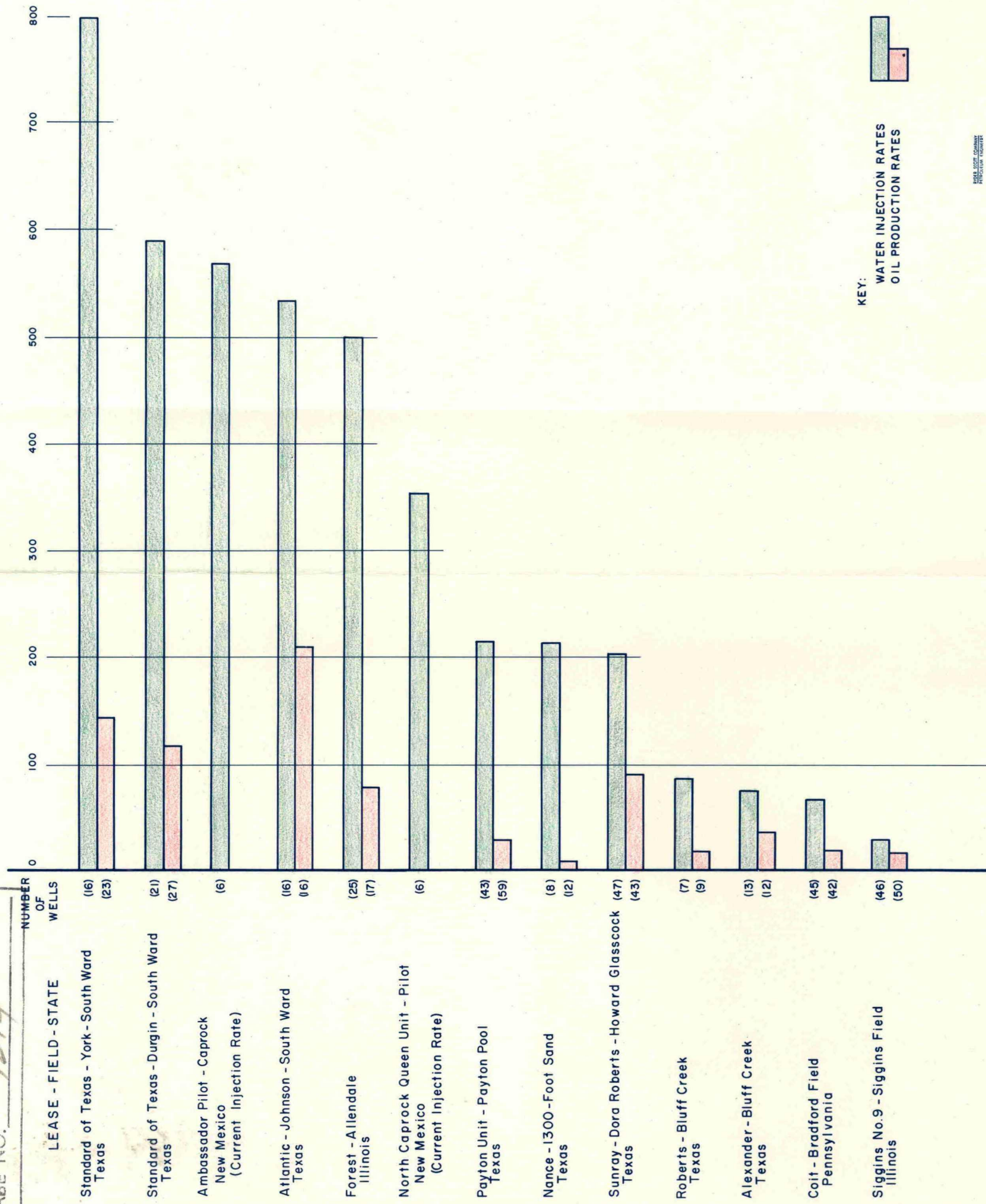
OIL CONSERVATION COMMISSION

EXHIBIT NO. 5

CASE NO. 1294

TYPICAL WATERFLOODS

AVERAGE DATA AT TIME OF PEAK OIL PRODUCTION

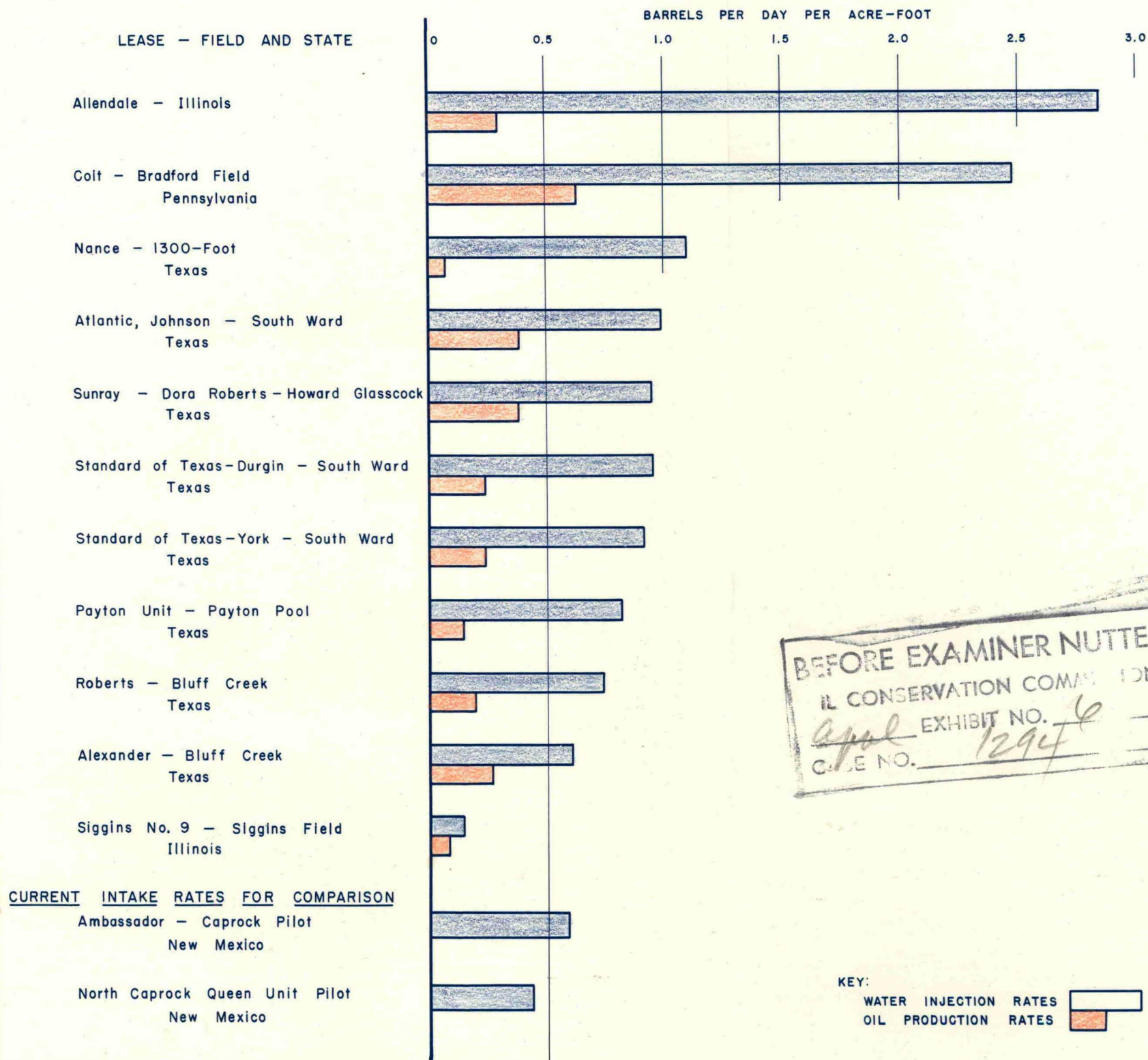


KEY:
WATER INJECTION RATES
OIL PRODUCTION RATES

WATER INJECTION RATES
OIL PRODUCTION RATES

TYPICAL WATERFLOODS

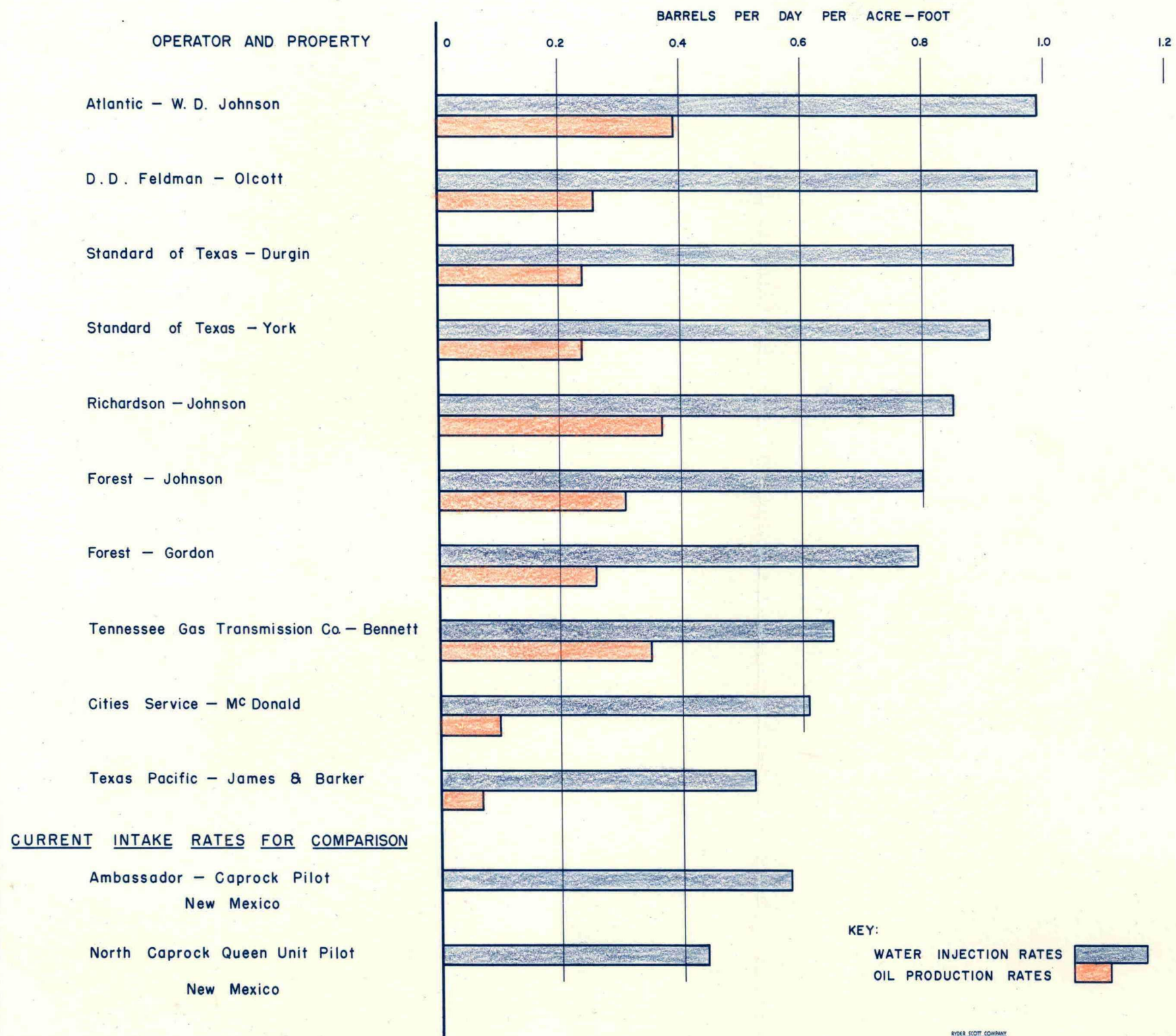
AVERAGE DATA AT TIME OF PEAK OIL PRODUCTION



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 1294

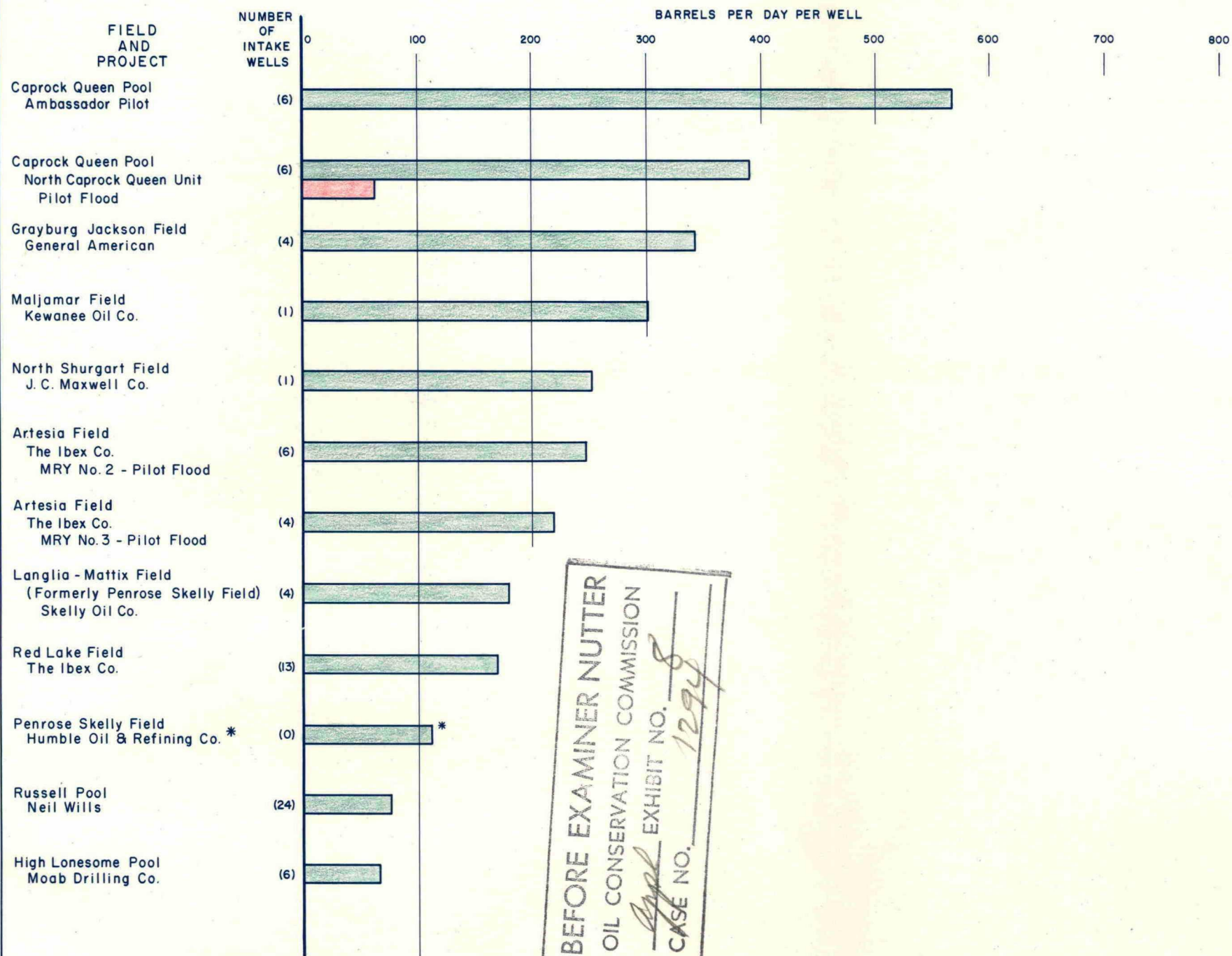
WATERFLOODS IN SOUTH WARD FIELD, TEXAS

AVERAGE DATA AT TIME OF PEAK OIL PRODUCTION



CURRENT WATER INJECTION RATES NEW MEXICO WATERFLOODS

AVERAGE DATA FOR 4 MONTHS — NOVEMBER, DECEMBER, 1957, JANUARY AND FEBRUARY, 1958



* PROJECT ABANDONED AUG. 31, 1956
INJECTION RATES ARE AVERAGE OF
JAN., FEB., MAR. AND APR., 1956

BYRON SCOTT COMPANY
PETROLEUM ENGINEERS

KEY:
WATER INJECTION RATES
OIL PRODUCTION RATES



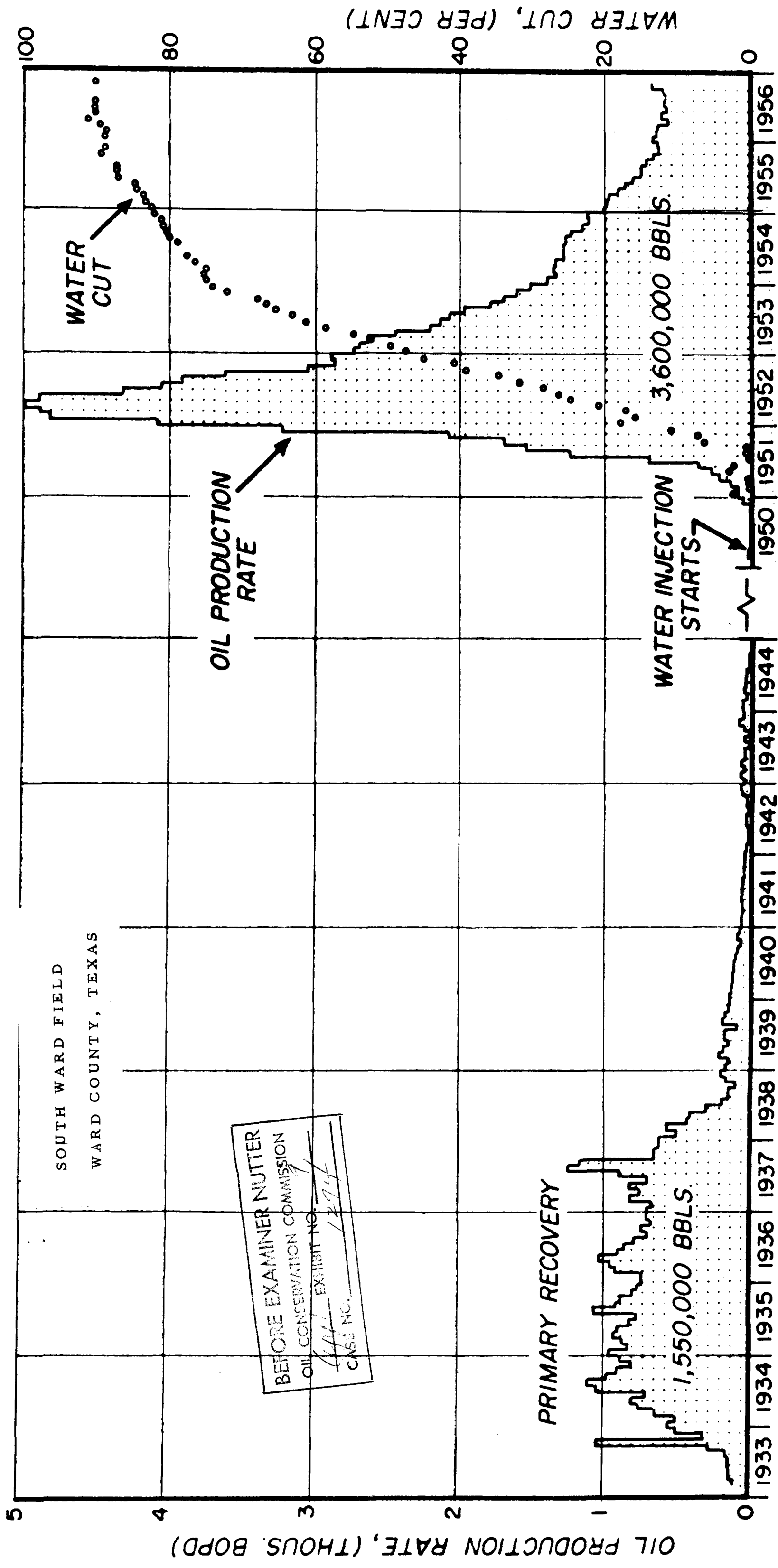
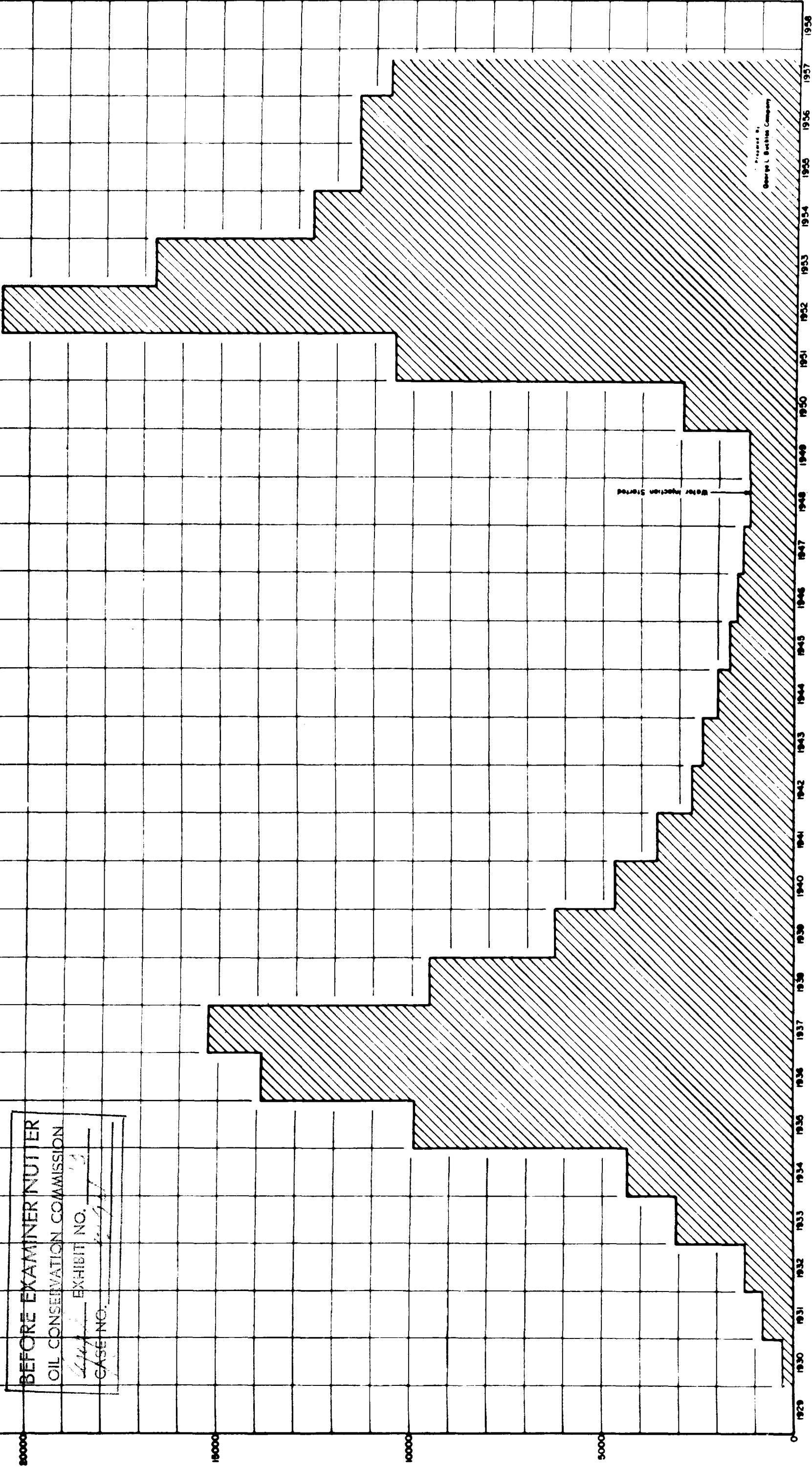


FIG. 4—W. D. JOHNSON LEASE PERFORMANCE HISTORY, PRIMARY AND SECONDARY PRODUCING LIFE.

SOUTH WARD FIELD
RAILROAD COMMISSION DISTRICT 8
WARD COUNTY, TEXAS
DISCOVERED: SEPT., 1929

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 447-1
CASE NO. 2997

AVERAGE DAILY OIL PRODUCTION BY YEARS—BARRELS



Presented by
George L. Bucklin Company

AVERAGE DAILY OIL PRODUCTION DURING PRIMARY AND WATER FLOOD DEVELOPMENT

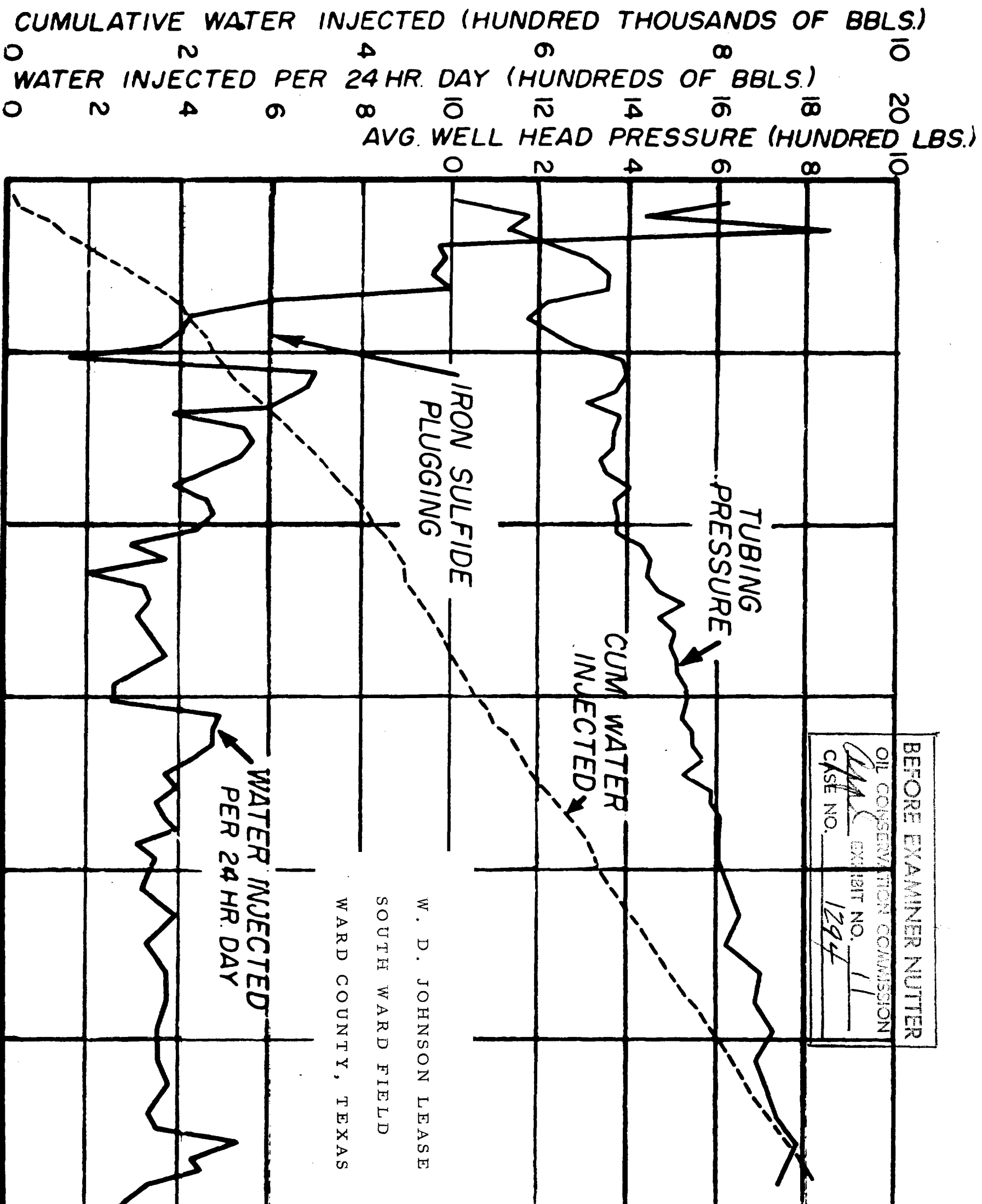
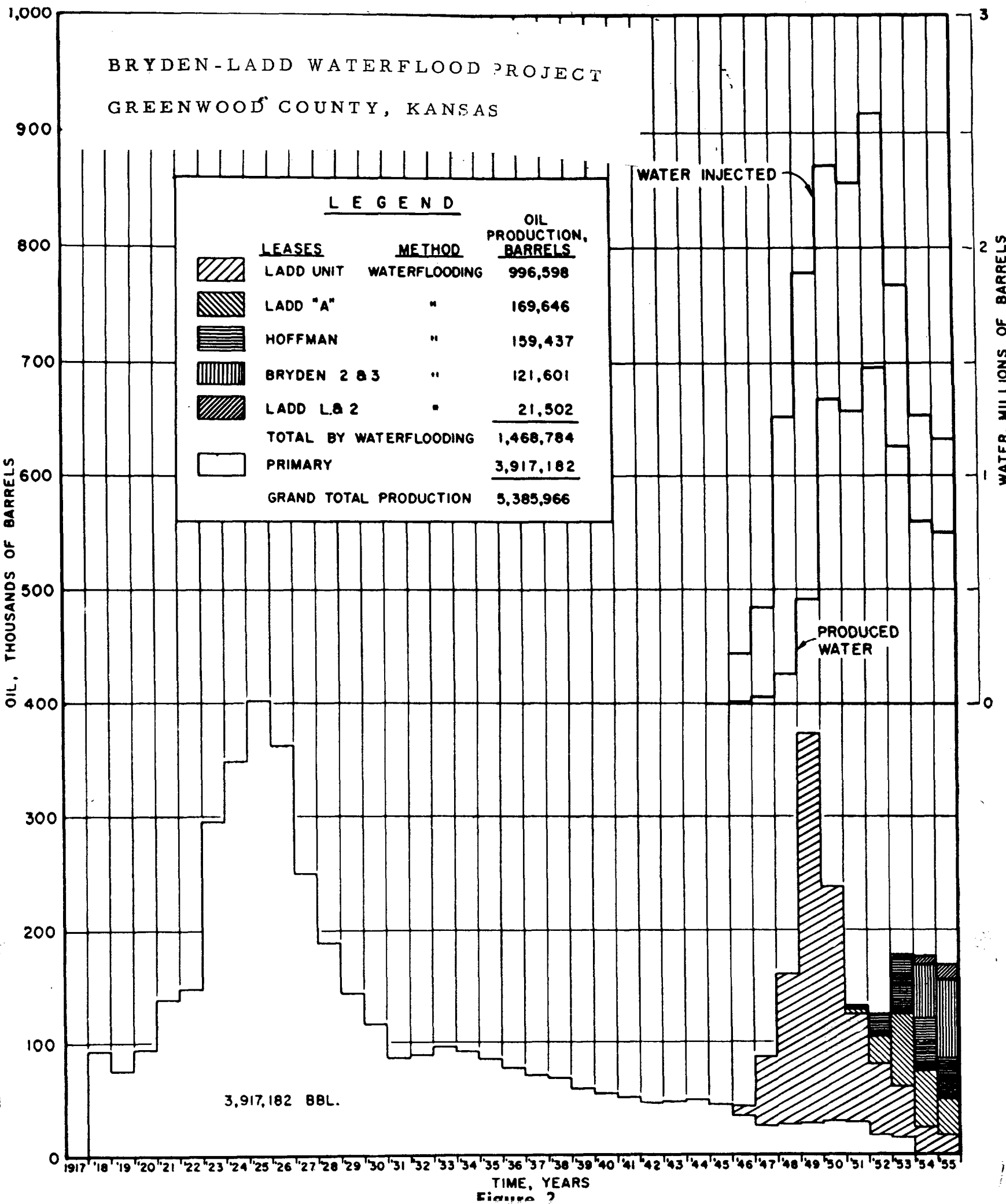


FIG. 3—TYPICAL INJECTION WELL PERFORMANCE DATA.



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 12
CASE NO. 1296

ANNUAL OIL PRODUCTION-MILLIONS BBLs.

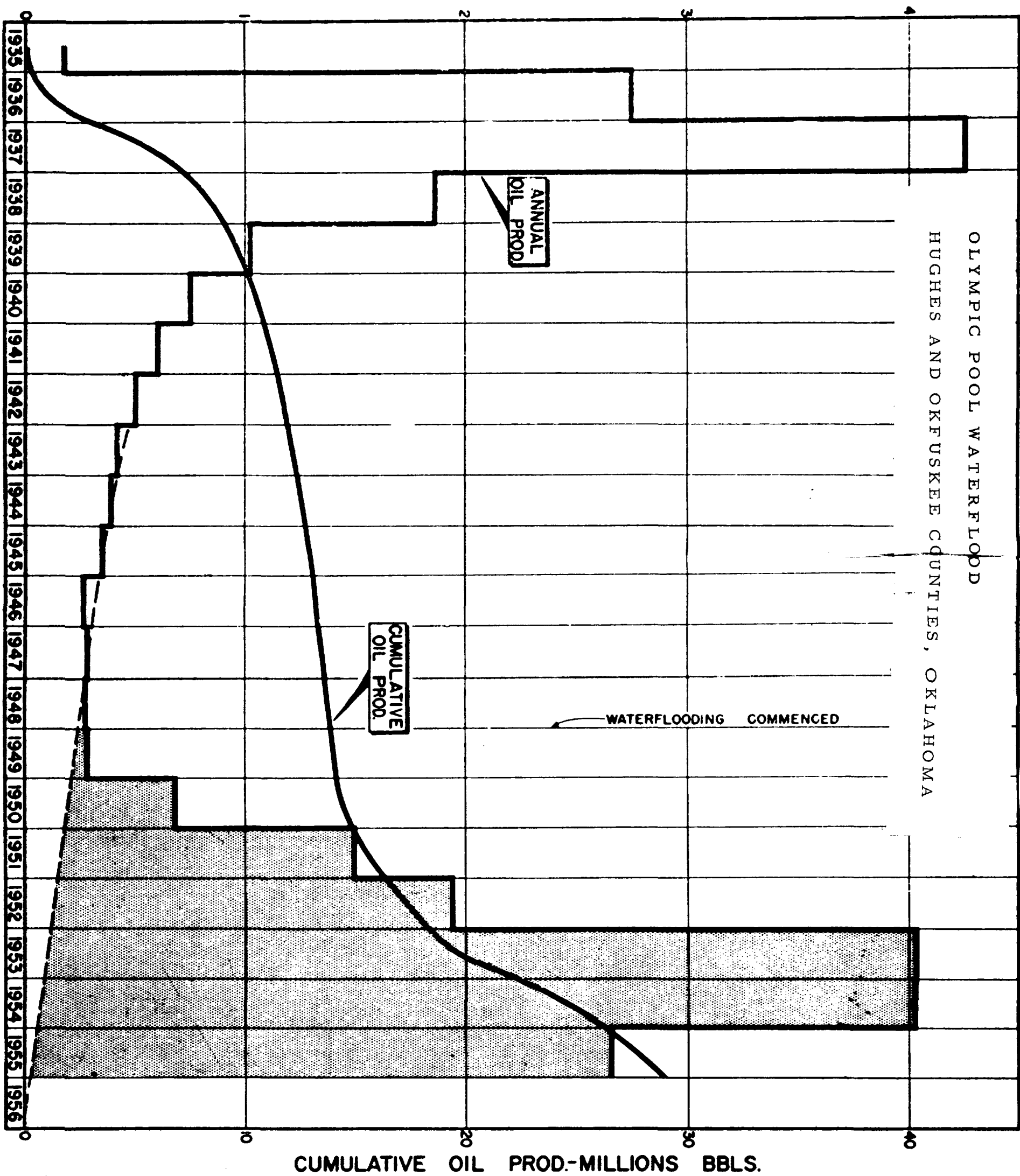


Fig. 4—Primary and secondary production history of entire pool.

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 14

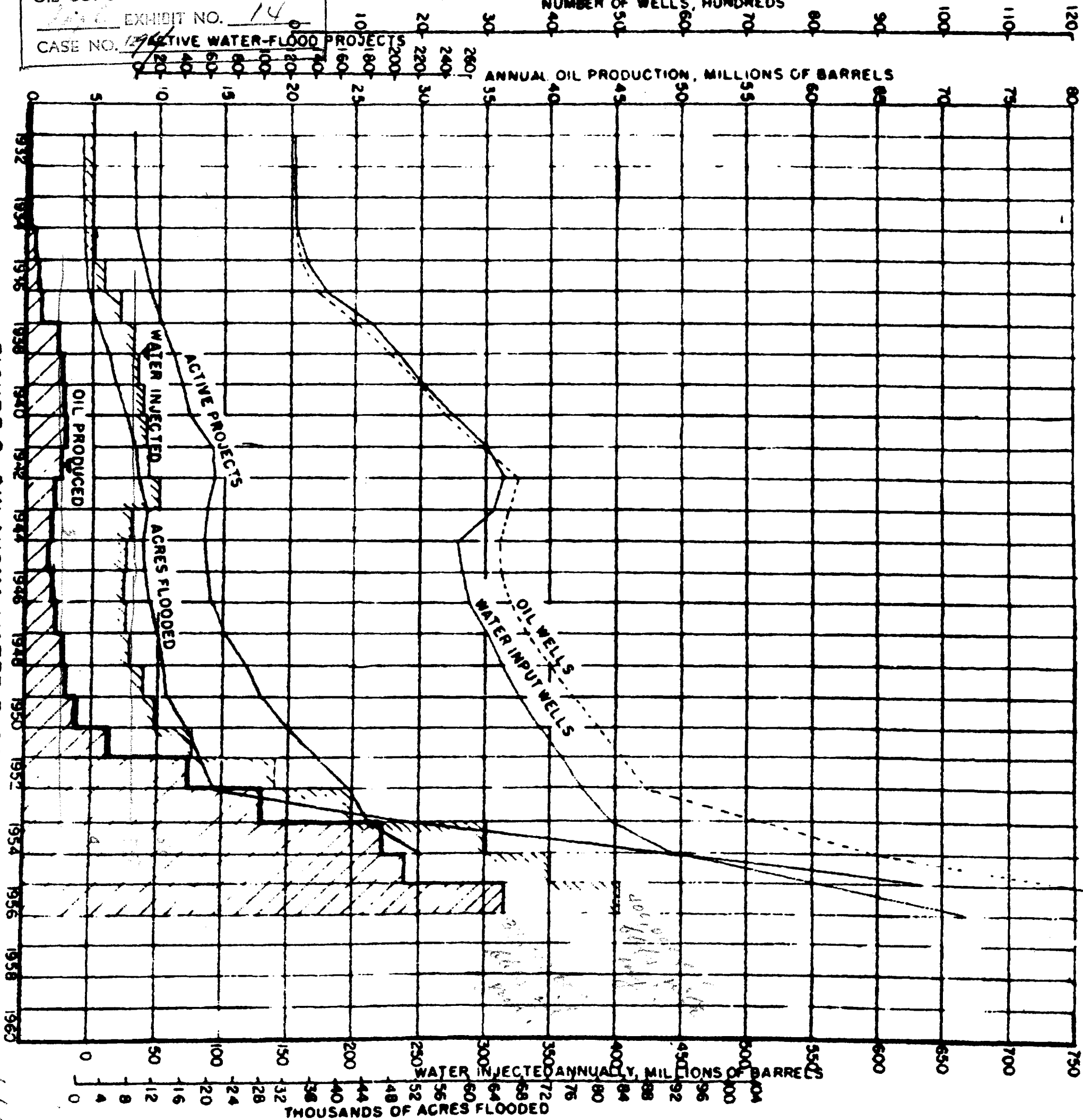
CASE NO. 12

ACTIVE WATER-FLOOD PROJECTS

NUMBER OF WELLS, HUNDREDS

ANNUAL OIL PRODUCTION, MILLIONS OF BARRELS

FIGURE 2 OKLAHOMA WATER FLOODS



BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
 EXHIBIT NO. 15
 CASE NO. 1294

NUMBER OF WELLS, HUNDREDS
 ACTIVE WATER-FLOOD PROJECTS
 ANNUAL OIL PRODUCTION, MILLIONS OF BARRELS

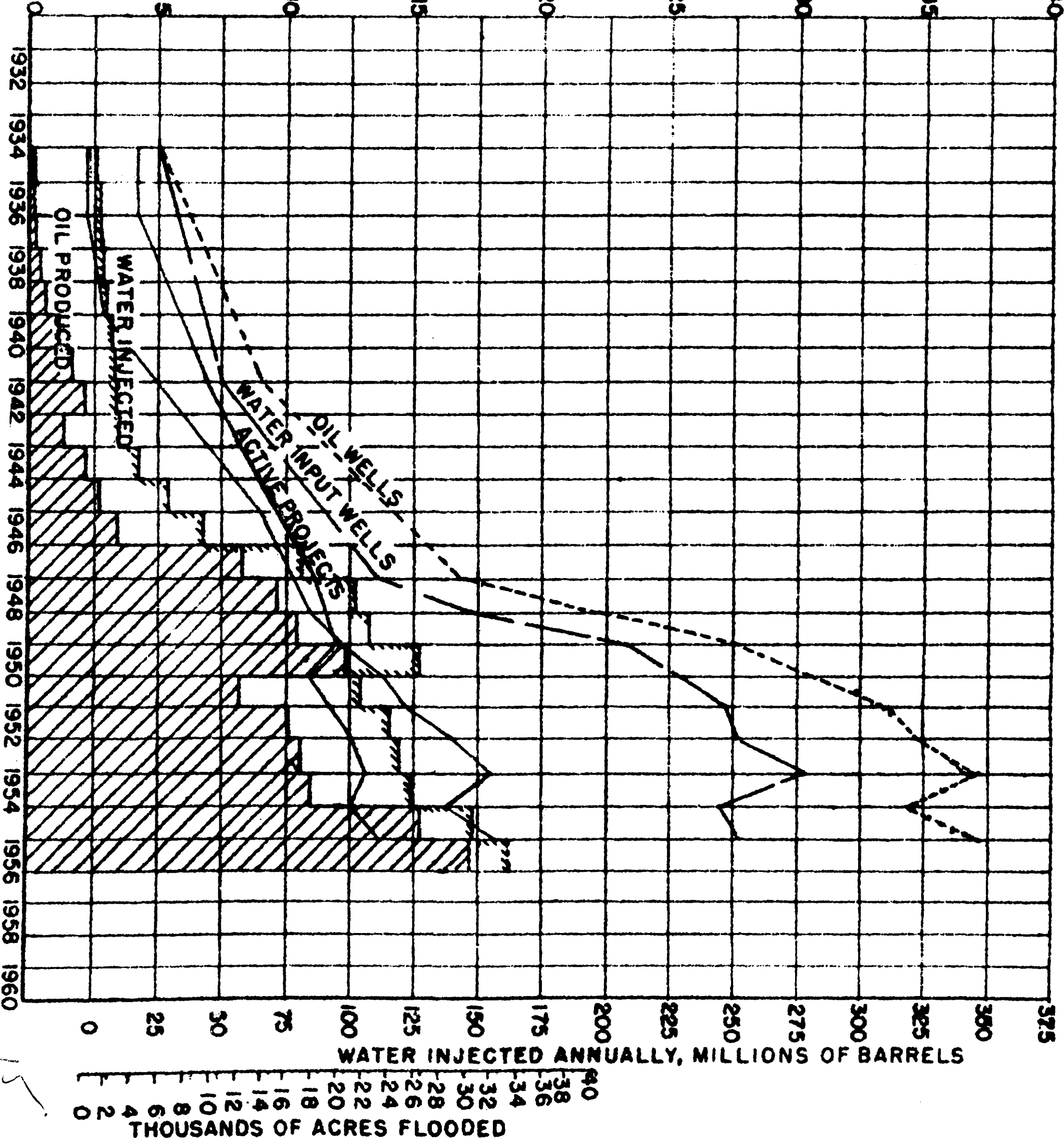


FIGURE 3 KANSAS WATER FLOODS

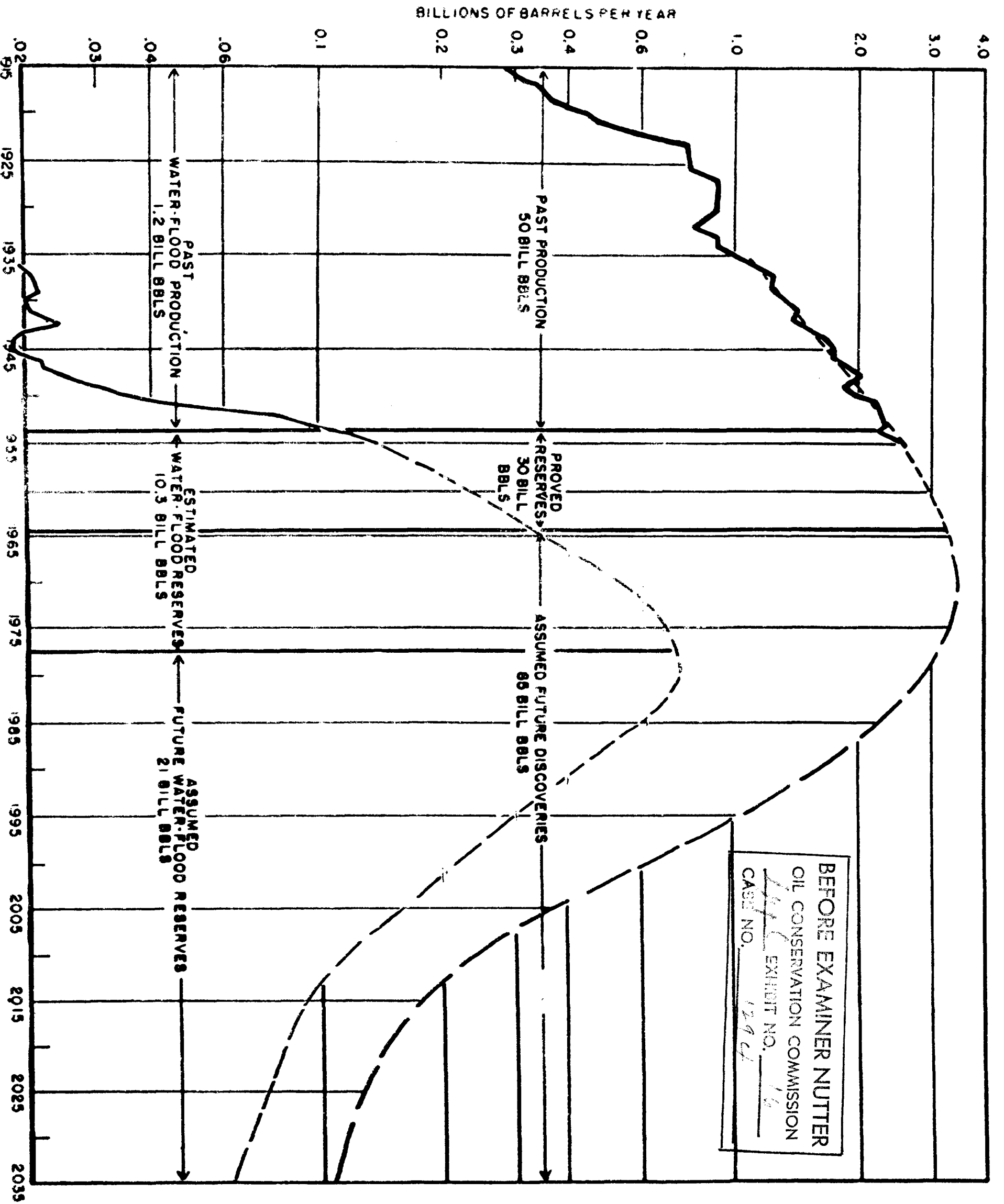


Figure 2

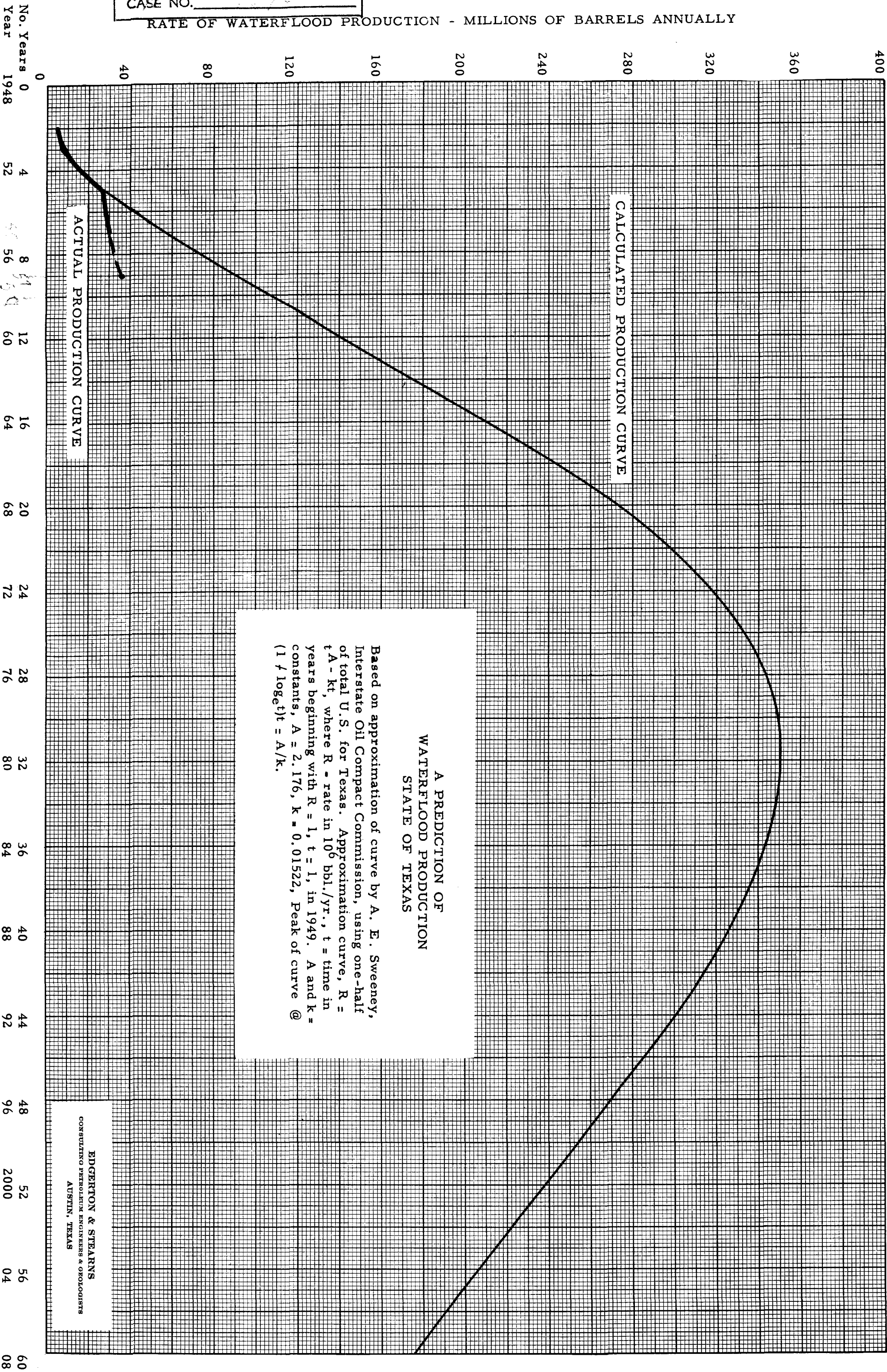
BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 107

CASE NO. 1574

RATE OF WATERFLOOD PRODUCTION - MILLIONS OF BARRELS ANNUALLY



A PREDICTION OF
WATERFLOOD PRODUCTION
STATE OF TEXAS

Based on approximation of curve by A. E. Sweeney, Interstate Oil Compact Commission, using one-half of total U.S. for Texas. Approximation curve, $R = t A - kt$, where R = rate in 10^6 bbl./yr., t = time in years beginning with $R = 1$, $t = 1$, in 1949. A and k = constants, $A = 2.176$, $k = 0.01522$, Peak of curve @ $(1 \neq \log_e t) = A/k$.

EDGERTON & STEARNS
CONSULTING PETROLEUM ENGINEERS & GEOLOGISTS
AUSTIN, TEXAS

<i>Allocation</i>	
DAILY PRODUCTION	123,335
% OF TOTAL DAILY PROD.	45.6
	8221
	3.0
	14,019
	5.2
	6158
	2.3
	6710
	2.5
	25,630
	9.5
	14,683
	5.4
	32,713
	12.1
	30,743
	11.4
	8228
	3.0

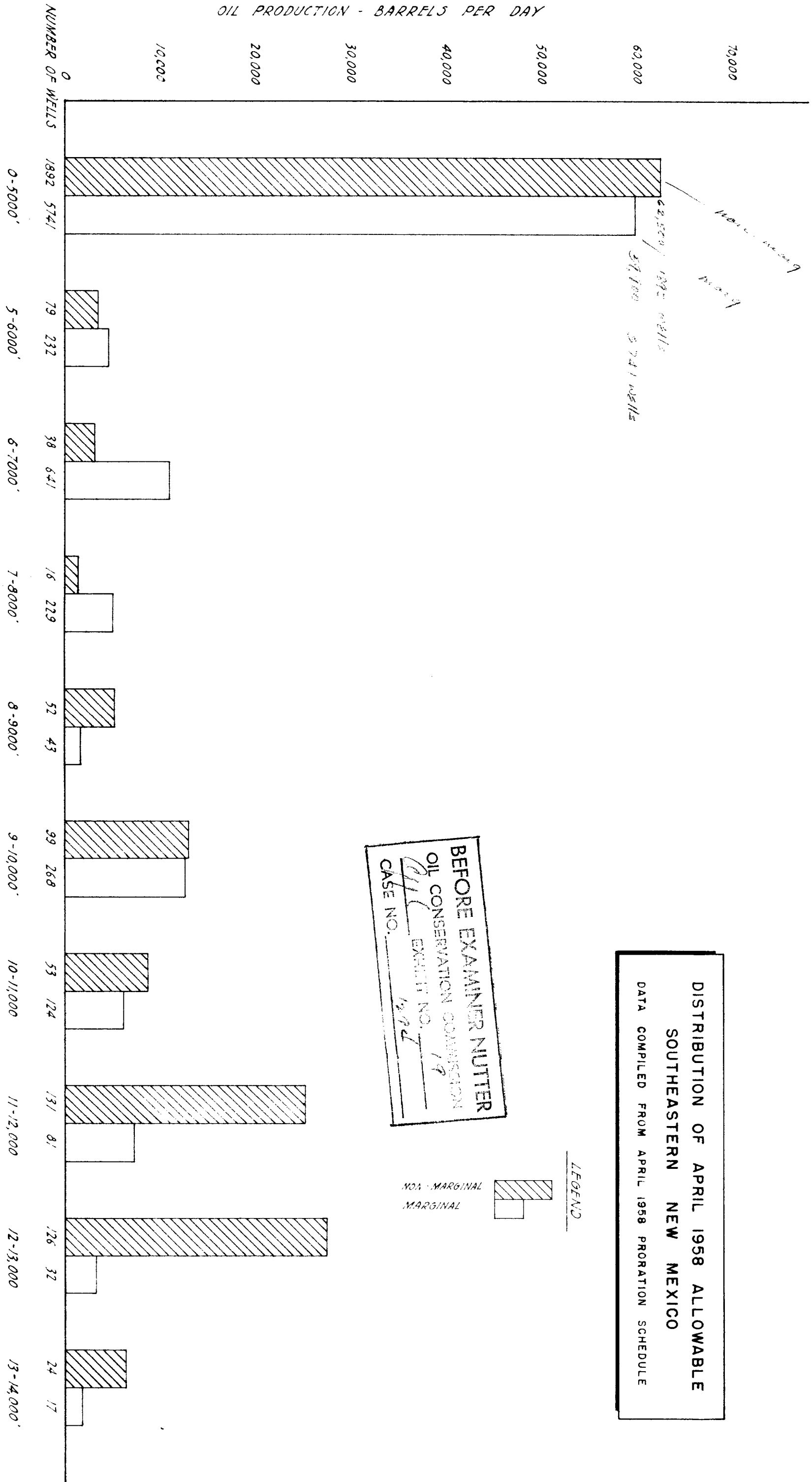
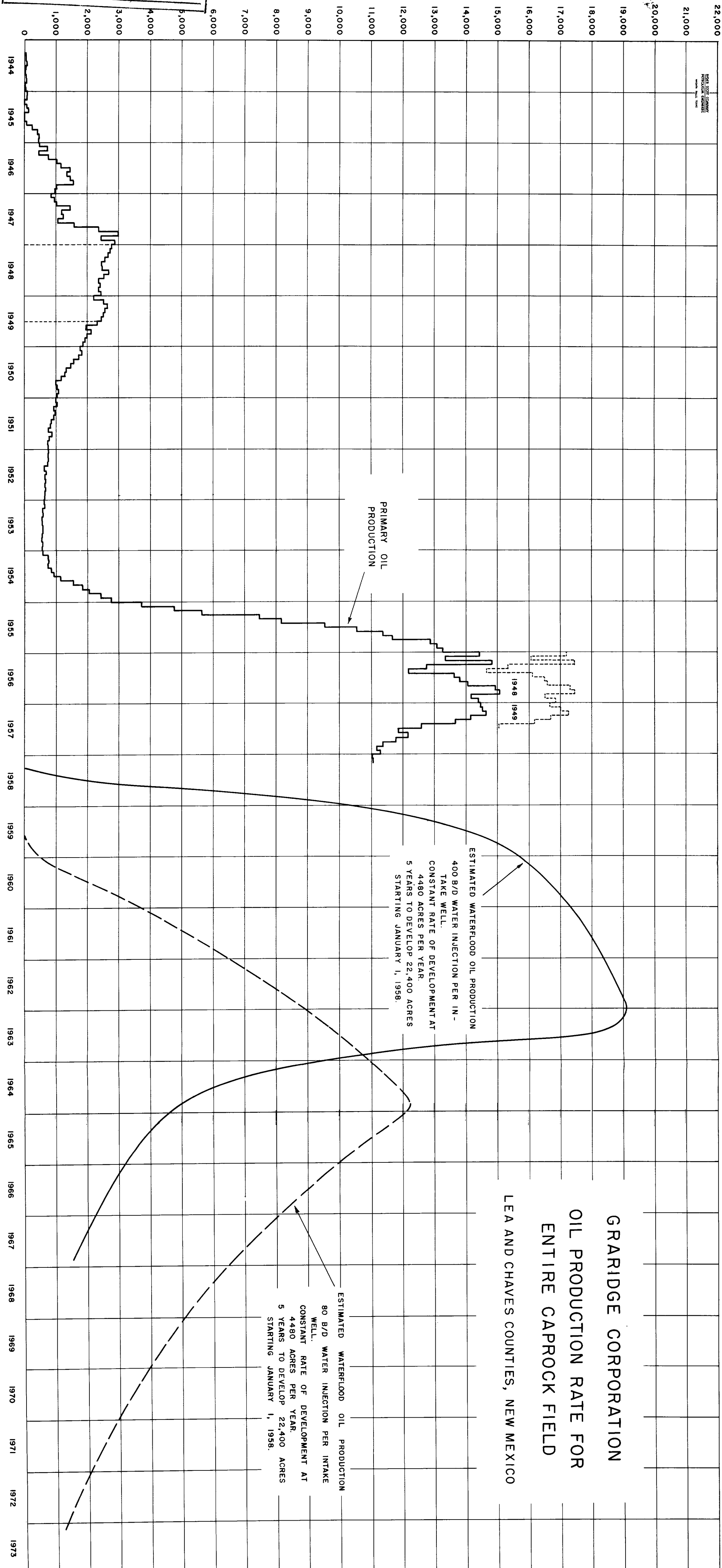


EXHIBIT NO. _____

W.E. STILES ENGINEERING
TULSA, OKLAHOMA

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 81
CASE NO. 214

OIL PRODUCTION RATE — BARRELS PER DAY



Radioactivity Log

COMPANY: AMBASSADOR OIL CORP.

WELL: STATE "E" NO. 1

FIELD: CAPROCK QUEENS

LOCATION: SEC. 1, T-13-S, R-31-E

COUNTY: CHAVES

STATE: NEW MEXICO

COMPANY: AMBASSADOR OIL CORP.

WELL: STATE "E" NO. 1

FIELD: CAPROCK QUEENS

LOCATION: SE 1/4 OF SW 1/4 OF SEC. 1,
T-13-S, R-31-E

COUNTY: CHAVES STATE: N. MEX.

Well Location

LOG ZERO GROUND LEVEL ELEV. 4407
DRLG. ZERO GROUND LEVEL ELEV. 4407
PERM. DATUM GROUND LEVEL ELEV. 4407

TYPE OF LOG	GAMMA RAY	n/NEUTRON		
RUN NO.	ONE-OW	ONE-OW		
DATE	4-11-57	4-11-57		
TOTAL DEPTH (DRILLER) S LINE	3052	3052		
EFFECTIVE DEPTH (DRILLER)	3045	3045		
TOP OF LOGGED INTERVAL	SURFACE	SURFACE		
BOTTOM OF LOGGED INTERVAL	3029	3011		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL		2988		
MAXIMUM RECORDED TEMP.				
SOURCE STRENGTH & TYPE		SI0A3		
SOURCE SPACING — IN.		13.5		
LENGTH OF MEAS. DEVICE — IN.	4	4		
O.D. OF INSTRUMENT — IN.	3 5/8	3 5/8		
TIME CONSTANT — SECONDS	2.0-0.9	2.0-0.9		
LOGGING SPEED FT./MIN.	30-60	30-60		
STATISTICAL VARIATION — IN.	RECORDED	RECORDED		
SENSITIVITY REFERENCE	C933	D368		
DETECTOR CLASS	SCINT.	SCINT.		
DETECTOR TYPE	D401	D6N1		
RECORDED BY	SCHLOTTERBACK			
WITNESSED BY	MCCRACKEN	MCCRACKEN		

WELL RECORD

RUN	BIT SIZE	CASING	WT.—LB.	FROM WELL RECORD	FROM LOG
ONE	10 3/4	8 5/8	28	SURFACE TO 298	SURFACE TO 304
ONE	7 3/8	5 1/2	15.5	SURFACE TO 2993	SURFACE TO 2986
ONE	4 7/8			2993 TO 3045	2986 TO 3043
				TO	TO
				TO	TO

Radioactivity Log

COMPANY: AMBASSADOR OIL COMPANY WELL: STATE "H" NO. 2 FIELD: CAPROCK QUEENS LOCATION: SEC. 12, T-13-S, R-31-E COUNTY: CHAVES STATE: NEW MEXICO	COMPANY: AMBASSADOR OIL COMPANY		Well Location
	WELL: STATE "H" NO. 2		
	FIELD: CAPROCK QUEENS		
	LOCATION: NE 1/4 OF NE 1/4 SEC. 12, T-13-S, R-31-E		
	COUNTY: CHAVES STATE: N MEX.		
LOG ZERO: GROUND LEVEL		ELEV. 4386	
DRLG. ZERO: GROUND LEVEL		ELEV. 4386	
PERM. DATUM: GROUND LEVEL		ELEV. 4386	

TYPE OF LOG	GAMMA RAY	N/NEUTRON		
RUN NO.	ONE-ON	ONE-ON		
DATE	3-25-57	3-25-57		
TOTAL DEPTH (DRILLER)	3042	3042		
EFFECTIVE DEPTH (DRILLER)	3042	3042		
TOP OF LOGGED INTERVAL	SURFACE	SURFACE		
BOTTOM OF LOGGED INTERVAL	3035.5	3035.5		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL		2993		
MAXIMUM RECORDED TEMP.				
SOURCE STRENGTH & TYPE		910A3		
SOURCE SPACING — IN.		13.75		
LENGTH OF MEAS. DEVICE — IN.	4	4		
O.D. OF INSTRUMENT — IN.	3 5/8	3 5/8		
TIME CONSTANT — SECONDS	2.0-0.9	2.0-0.9		
LOGGING SPEED FT./MIN.	30-60	30-60		
STATISTICAL VARIATION — IN.	RECORDED	RECORDED		
SENSITIVITY REFERENCE	C933	D368		
DETECTOR CLASS	SCINT.	SCINT.		
DETECTOR TYPE	D61	D6H1		
RECORDED BY	SCHLOTTERBACK			
WITNESSED BY	MCCRACKEN	MCCRACKEN		

WELL RECORD					
RUN	BIT SIZE	CASING	WT.—LB.	FROM WELL RECORD	FROM LOG
ONE	10 3/4	8 5/8		SURFACE TO 298	SURFACE TO 307
ONE	7 7/8	5 1/2		SURFACE TO 2981	SURFACE TO 2982
ONE	4 7/8			2981 TO 3042	2982 TO 3037.5
				TO	TO
				TO	TO

Radioactivity Log

COMPANY: AMBASSADOR OIL CORP.

WELL: STATE "M" NO. 1

FIELD: CAPROCK QUEENS

LOCATION: SEC. 12, T-13-S, R-31-E

COUNTY: CHAVES

STATE: NEW MEXICO

COMPANY: AMBASSADOR OIL CORP.

WELL: STATE "M" NO. 1

FIELD: CAPROCK QUEENS

LOCATION: SE OF NW OF SEC. 12, T-13-S, R-31-E

COUNTY: CHAVES STATE: N. MEX.

Well Location

LOG ZERO	GROUND LEVEL	ELEV. 4400
DRLG. ZERO	GROUND LEVEL	ELEV. 4400
PERM. DATUM	GROUND LEVEL	ELEV. 4400

TYPE OF LOG	GAMMA RAY	N/NEUTRON	
RUN NO.	ONE-OW	ONE-OW	
DATE	4-30-57	4-30-57	
TOTAL DEPTH (DRILLER) S LINE	3051	3051	
EFFECTIVE DEPTH (DRILLER)	3051	3051	
TOP OF LOGGED INTERVAL	SURFACE	SURFACE	
BOTTOM OF LOGGED INTERVAL	3049	3049	
TYPE OF FLUID IN HOLE	WATER	WATER	
FLUID LEVEL		2962	
MAXIMUM RECORDED TEMP.			
SOURCE STRENGTH & TYPE		S10A3	
SOURCE SPACING — IN.		13.5	
LENGTH OF MEAS. DEVICE — IN.	4	4	
O.D. OF INSTRUMENT — IN.	3 5/8	3 5/8	
TIME CONSTANT — SECONDS	2.0-0.9	2.0-0.9	
LOGGING SPEED FT./MIN.	30-60	30-60	
STATISTICAL VARIATION — IN.	RECORDED	RECORDED	
SENSITIVITY REFERENCE	C933	D368	
DETECTOR CLASS	SCINT.	SCINT.	
DETECTOR TYPE	D4G1	D6N1	
RECORDED BY	DUCKWORTH	DUCKWORTH	
WITNESSED BY	MCCRACKEN	MCCRACKEN	

WELL RECORD

RUN	BIT SIZE	CASING	WT.—LB.	FROM WELL RECORD	FROM LOG
				TO	TO
				TO	TO
				TO	TO
				TO	TO
				TO	TO

Radioactivity Log

COMPANY: AMBASSADOR OIL CORP.

WELL: STATE "J" NO. 2

FIELD: CAPROCK QUEENS

LOCATION: SEC. 12, T-13-S, R-31-E

COUNTY: CHAVES

STATE: NEW MEXICO

COMPANY: AMBASSADOR OIL CORP.

WELL: STATE "J" NO. 2

FIELD: CAPROCK QUEENS

LOCATION: NW 1/4 OF NE 1/4 OF SEC. 12,
T-13-S, R-31-E

COUNTY: CHAVES STATE: N. MEX.

Well Location

LOG ZERO GROUND LEVEL ELEV. 4405
DRLG. ZERO GROUND LEVEL ELEV. 4405
PERM. DATUM TOP 7" CASING ELEV. 4405

TYPE OF LOG	GAMMA RAY	N/NEUTRON		
RUN NO.	ONE-OW	ONE-OW		
DATE	2-28-57	2-28-57		
TOTAL DEPTH (DRILLER)	3065	3065		
EFFECTIVE DEPTH (DRILLER)	3065	3065		
TOP OF LOGGED INTERVAL	SURFACE	SURFACE		
BOTTOM OF LOGGED INTERVAL	3058	3058		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL		3030		
MAXIMUM RECORDED TEMP.				
SOURCE STRENGTH & TYPE		S10A3		
SOURCE SPACING—IN.		13.5		
LENGTH OF MEAS. DEVICE—IN.	4	4		
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8		
TIME CONSTANT—SECONDS	2.0-0.9	2.0-0.9		
LOGGING SPEED FT./MIN.	30-60	30-60		
STATISTICAL VARIATION—IN.	RECORDED	RECORDED		
SENSITIVITY REFERENCE	C933	D368		
DETECTOR CLASS	SCINT.	SCINT.		
DETECTOR TYPE	D4G1	D6N1		
RECORDED BY	DUCKWORTH	DUCKWORTH		
WITNESSED BY	MACCRACKEN	MACCRACKEN		

WELL RECORD

RUN	BIT SIZE	CASING	WT.—LB.	FROM WELL RECORD	FROM LOG
ONE	10 3/4	8 5/8		SURFACE TO 295	SURFACE TO
ONE	7 7/8	5 1/2	15.5	SURFACE TO 2989	SURFACE TO 2982
ONE	4 3/4			2989 TO 3065	2982 TO 3060
				TO	TO
				TO	TO

LANE WELLS



CALIPER LOG

COMPANY: AMBASSADOR OIL CORP. WELL: STATE "M" NO. 1 FIELD: CAPROCK QUEENS LOCATION: SEC. 12, T-13-S, R-31-E COUNTY: CHAVES STATE: NEW MEXICO	COMPANY: AMBASSADOR OIL CORP.		Well Location
	WELL: STATE "M" NO. 1		
	FIELD: CAPROCK QUEENS		
	LOCATION: SE OF NW OF SEC. 12, T-13-S, R-31-E		
	COUNTY: CHAVES STATE: N. MEX.		
LOG ZERO. GROUND LEVEL		ELEV. 4400	
DRLG. ZERO. GROUND LEVEL		ELEV. 4400	
PERM. DATUM. GROUND LEVEL		ELEV. 4400	

TYPE OF LOG	CALIPER			
RUN NO.	ONE-OW			
DATE	4-30-57			
TOTAL DEPTH (DRILLER) S LINE	3051			
EFFECTIVE DEPTH (DRILLER)	3051			
TOP OF LOGGED INTERVAL	3012			
BOTTOM OF LOGGED INTERVAL	3050			
TYPE OF FLUID IN HOLE				
FLUID LEVEL				
MAXIMUM RECORDED TEMP.				
SOURCE STRENGTH & TYPE				
SOURCE SPACING — IN.				
LENGTH OF MEAS. DEVICE — IN.				
O.D. OF INSTRUMENT — IN.				
TIME CONSTANT — SECONDS				
LOGGING SPEED FT./MIN.	30			
STATISTICAL VARIATION — IN.				
SENSITIVITY REFERENCE				
RECORDED BY	DUCKWORTH			
WITNESSED BY	MCCRACKEN			

WELL RECORD

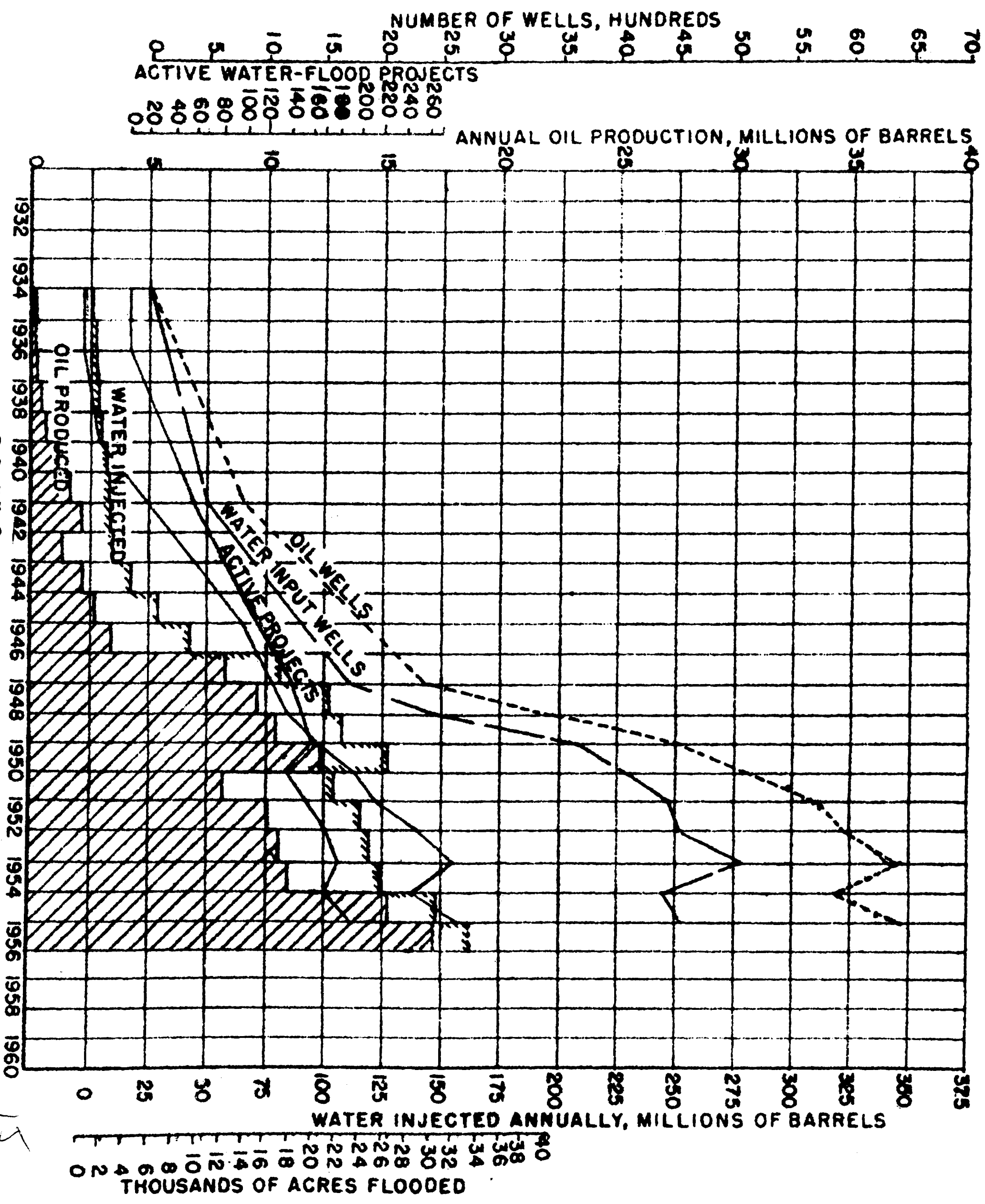
RUN	BIT SIZE	CASING	WT.—LB.	FROM WELL RECORD	FROM LOG
				TO	TO
				TO	TO
				TO	TO
				TO	TO
				TO	TO

COMPANY: AMBASSADOR OIL COMPANY WELL: STATE "H" NO. 2 FIELD: CAPROCK QUEENS LOCATION: SEC. 12, T-13-S, R-31-E COUNTY: CHAVES STATE: NEW MEXICO	COMPANY: AMBASSADOR OIL COMPANY		Well Location
	WELL: STATE "H" NO. 2		
	FIELD: CAPROCK QUEENS		
	LOCATION: NE 1/4 OF NE 1/4 OF SEC. 12, T-13-S, R-31-E		
	COUNTY: CHAVES STATE: N. MEX.		
LOG ZERO: GROUND LEVEL		ELEV. 4386	
DRLG. ZERO: GROUND LEVEL		ELEV. 4386	
PERM. DATUM: GROUND LEVEL		ELEV. 4386	

TYPE OF LOG	CALIPER			
RUN NO.	ONE-OW			
DATE	3-25-57			
TOTAL DEPTH (DRILLER)	3042			
EFFECTIVE DEPTH (DRILLER)	3042			
TOP OF LOGGED INTERVAL	2982			
BOTTOM OF LOGGED INTERVAL	3035.5			
TYPE OF FLUID IN HOLE	OIL			
FLUID LEVEL				
MAXIMUM RECORDED TEMP.				
SOURCE STRENGTH & TYPE				
SOURCE SPACING — IN.				
LENGTH OF MEAS. DEVICE — IN.	36			
O.D. OF INSTRUMENT — IN.	3 1/2			
TIME CONSTANT — SECONDS				
LOGGING SPEED FT./MIN.	20			
STATISTICAL VARIATION — IN.				
SENSITIVITY REFERENCE				
RECORDED BY	SCHLOTTERBACK			
WITNESSED BY	MCCRACKEN			

WELL RECORD				
RUN	BIT SIZE	CASING WT.—LB.	FROM WELL RECORD	FROM LOG
ONE	10 3/4	8 5/8	SURFACE TO 298	SURFACE TO 307
ONE	7 7/8	5 1/2	SURFACE TO 2981	SURFACE TO 2982
ONE	4 7/8		2981 TO 3042	2982 TO 3037.5
			TO	TO
			TO	TO

FIGURE 3 KANSAS WATER FLOODS



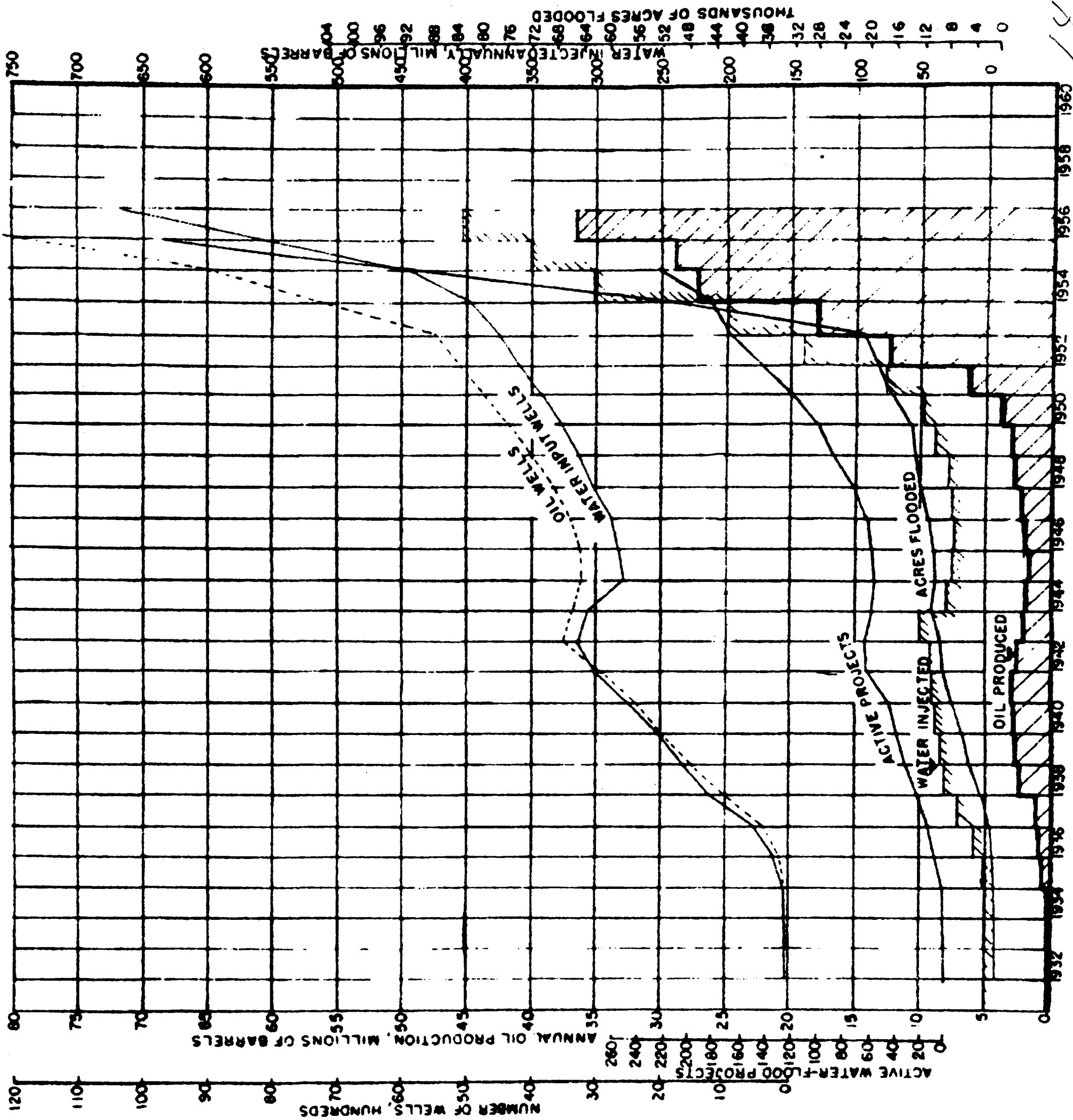
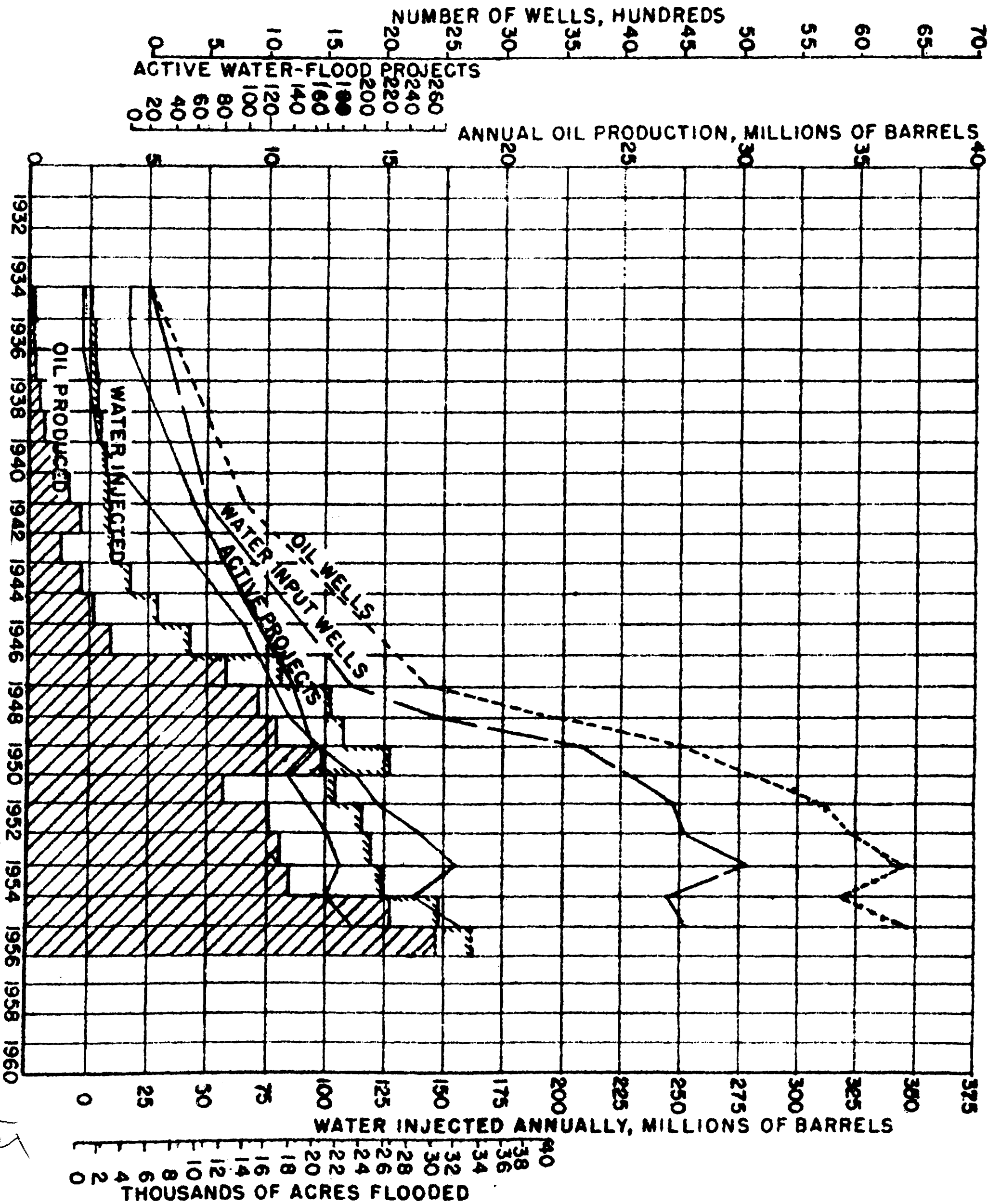


FIGURE 2 OKLAHOMA WATER FLOODS

FIGURE 3 KANSAS WATER FLOODS



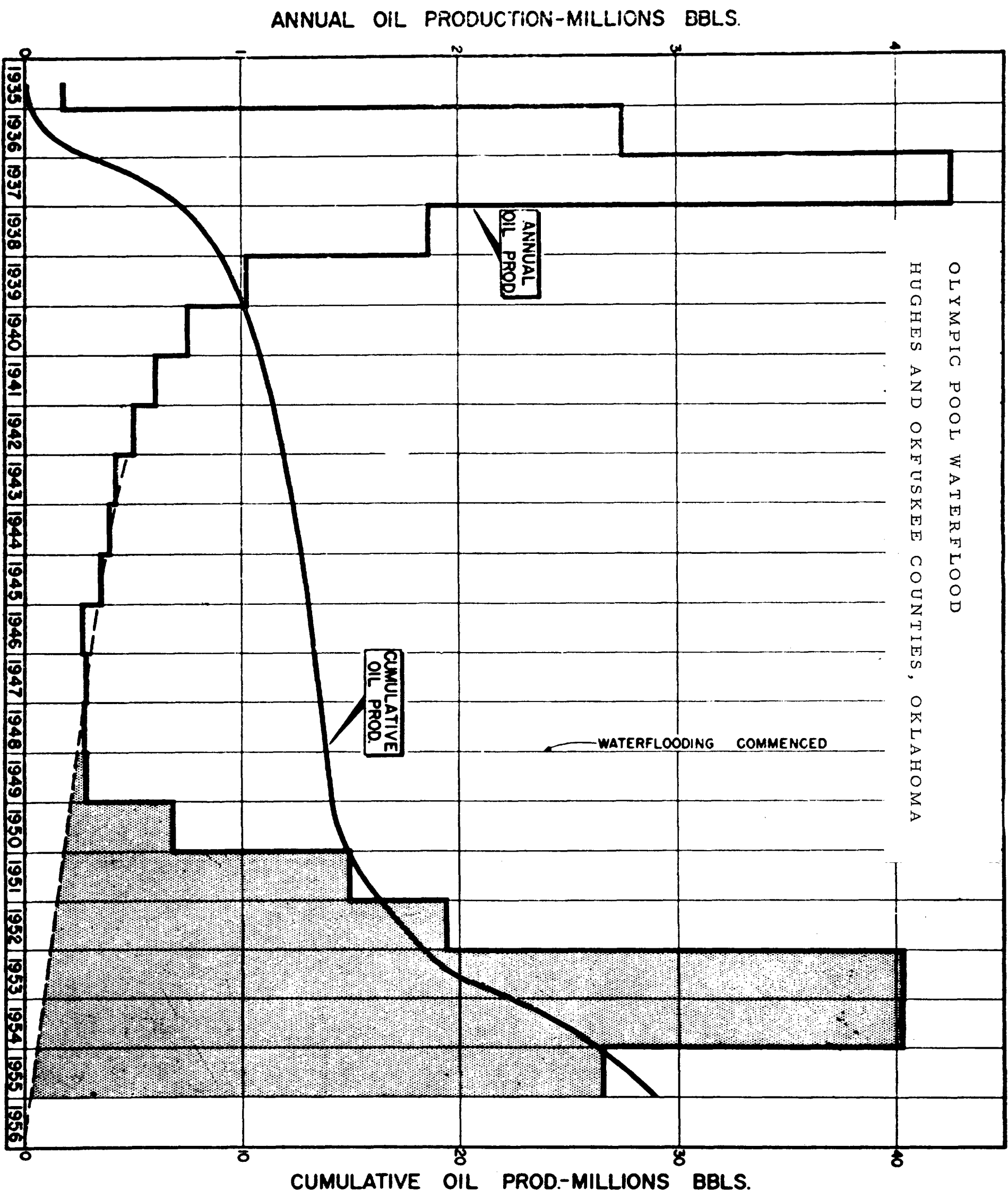


Fig. 4—Primary and secondary production history of entire pool.

13