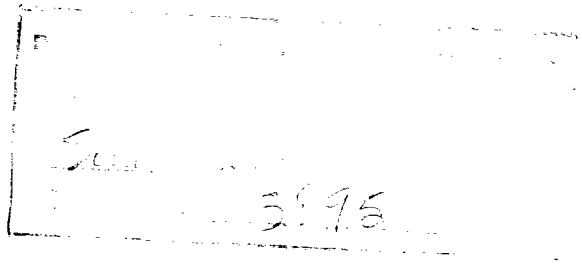
SUN OIL COMPANY
NEW MEXICO "H" STATE LEASE
CHAVES COUNTY, NEW MEXICO

EXHIBIT FOR WATER INJECTION
FOR
PARTIAL PRESSURE MAINTENANCE



Sun Oil Company
Southwest Division

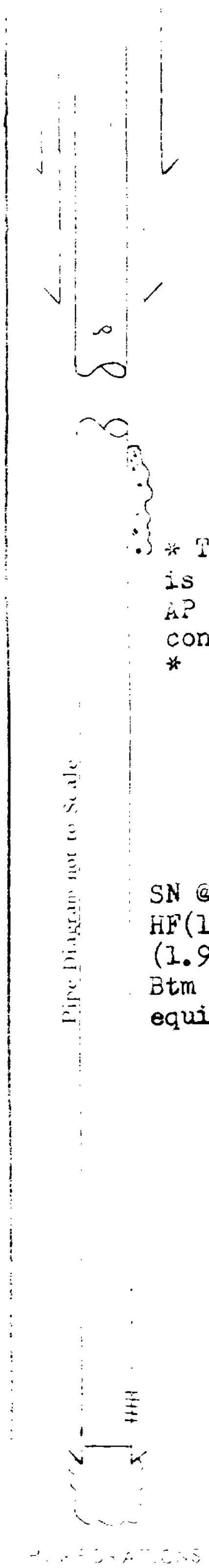
October 16, 1968

CONTENTS

Form 04-202 (1/66)
Printed in USA
Well Diagram Ticket No. 3A Sun Oil Company Prepared by jla 5/23/67

WELL NAME: State of New Mexico A-13

DOWN HOLE SUMMARY



Csg. Seat 454'
Size 8-5/8"
Ran & cmtd 4/29/67
(Cmt circu.)

Csg. Seat None
Size

(Milnesand(San Andres) top @ 3386', btm @ 3450')

Single shot pfs #1 @ 3421', 23', 25', 27', 29', 31', 33', 35', 38' & 39' w/ 1 jet shot @ ea. interval (By Lane Wells Densilog meas.) Lane Wells pf w/ 3½" OD Seleckone NCF 2 csg gun, 11 grams powder w/ RA charges.

Pot Test: Date: 5/21/67, 24 hrs P 9 BO, 27 BW, 1½" chk, pmpg 9 SPM x 44" LS, GOR TSTM, grav. of oil 26.8 Deg. API

Top of Cement behind Oil String
Actual 2517'(Temp Surv.)
Calc.

* Top 2021' of this tbg is internally coated w/ AP coating for paraffin control

* Tbg. Btm. 3476'
Size 2" #2 cond.
Wt. 4.70#
Grade J SS
Thd. 8 R EUE
Date Run 5/15/67

SN @ 3444.93(1-25/32" ID) HF(1.09' lg) PN @ 3446.02' (1.99" ID) 3.09' lg(WCN) Btm of tbg bull nosed, equip. w/ rods & DH pump

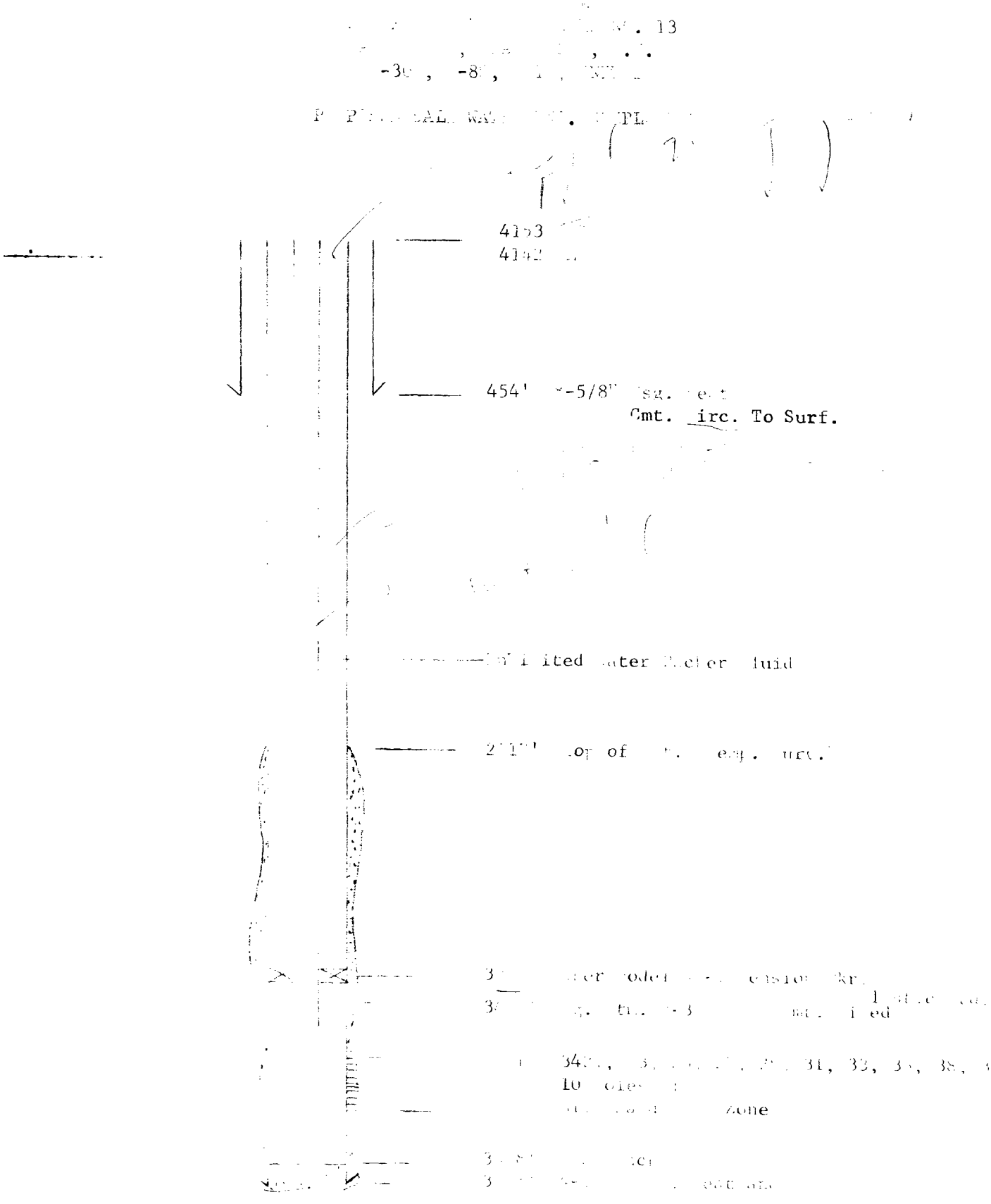
Fluid above
Packer

Top of Plug in Csg. 3556' by Lane Wells GR log meas., FC @ 3578'
Pkr. Depth
Length
Kind
Tbg. Stop
Kind

Csg. Seat 3598'
Size 4½"
T.D. 3598'
Reached TD, 5/3/67
Ran & cmtd 5/3/67

PERFORATIONS

Case 3895



ILLEGIBLE

Form 9-85 Rev.-3 (7/57)
Printed in USA

WATER ANALYSIS REPORT

Production Service Laboratory

SUN OIL COMPANY Southwest DIVISION

Analysis No. 16056
File AW 4426
Date 1-30-68
McBee Card P

SAMPLE INFORMATION

OPERATOR Sun Oil Company
LEASE & WELL NO. New Mexico "H" State
LOCATION
FORMATION
DEPTH: From To ; T.D.
METHOD OF COLLECTING SAMPLE Wellhead
DESCRIPTION OF SAMPLE Clear H_2O, blk. ppt, H_2S odor
TREATMENT
PRODUCTION BOPD BWPD MMCFPD

AREA Odessa
FIELD Cato
COUNTY Chaves
STATE New Mexico
COLLECTED BY W. D. Stout
DATE COLLECTED 1-5-68
DATE RECEIVED 1-12-68
DATE ANALYZED 1-24-68
ANALYZED BY JB
APPROVED BY

ANALYSIS

MAJOR CONSTITUENTS, ppm		OTHER TESTS	
Sodium (By Difference)	53,705	Total iron (as Fe)	N.D. ppm
		Mixed Oxides (in solution)	Present ppm
Calcium	19,185	Organic Acids (as Propionic)	ppm
		Silica	ppm
Magnesium	5,890	Fluoride	ppm
		Loss on ignition	ppm
Sulfate	490		
Chloride	133,400	Sample #16401	
Carbonate	0		
Bicarbonate	270		
		Resistivity .052 Ohm-m. @75°F.	
		Specific Gravity 1.174	
		Carbonate Stability:	
TOTAL	212,940	Total Solids By Evaporation ppm	pH 6.65

CALCULATED COMBINATIONS	
COMPOUND	ppm
Na_2SO_4	
NaCl	
Na_2CO_3	
$NaHCO_3$	
$CaSO_4$	
$CaCl_2$	
$CaCO_3$	
$Ca(HCO_3)_2$	
$MgSO_4$	
$MgCl_2$	
$MgCO_3$	
$Mg(HCO_3)_2$	
TOTAL	

CALCULATED HARDNESS ppm as $CaCO_3$

Reported By:
James Brannan

REMARKS:

Probably normal formation water.

COPIES TO:

Messrs. F. A. Lawrence
L. F. Ellison
E. L. Kownslar, Attn.
C. J. Merryman
J. E. Edison, Attn:
P. E. Happel
P. W. Meek
C. A. Tips

SUN OIL COMPANY
CATO, SAN ANDRES FIELD
SAN ANDRES RESERVOIR
CHAVES COUNTY, NEW MEXICO
NEW MEXICO "H" STATE LEASE

FIRST COMPLETION ON LEASE: New Mexico "H" State Well No. 1

COMPLETION DATE: February, 1967

INITIAL TEST ON NO. 1 WELL: 18 hours on 48/64" choke, flwd 120 B.O., 12 B.L.W., TP 100# C.P. (PKR), GOR (too small to measure).
Well was perforated @ 3297', 3310', 3315'
@ 3300', 3305', 3312', 3314', 3321', 3325'
@ 3274', 77', 80', 83', 85', 86', 91', 94'
3297', 3302'
Well was W.O. 7-30-67 to 8-11-68.
Before W.W. well in 24 hours pumped 15 B.O., 2 B.W.
Added perfs 3350', 55', 57', 72', 75', 77', 79', 82', 87'
Acidized w/100 gal. 15% HCL and 4000 gals. 28% HCL.
After wellwork, well No. 1 in 24 hours pumped 64 B.O., 11 B.L.W., GOR 415/1.

SUN OIL COMPANY
NEW MEXICO "H" STATE LEASE
CHAVES COUNTY, NEW MEXICO

Estimated Reservoir Pressure = 950 psi
Oil Gravity = 25° API
Gas Gravity = .7
Reservoir Temperature = 96° F

From "Correlation of Bottom Hole Sample Data"
Guy Borden, Jr. and Michael J. Rzasa
Journal Petroleum Technology, Dec., 1950

Solution GOR = 150/1
F.V.F. = 1.062

Reservoir Voidage Based on August, 1968 Production

Oil Produced = 20838 Bbls X 1.062 F.V.F. = 22130 Res. Bbls.
Gas Produced = [10402 MCF - (20838 X .150 MCF)] 2.5 = 18190 Res. Bbls.
Water = 3059 Res. Bbls.
Month Total = 43379 Res. Bbls.

SUN OIL COMPANY
PRODUCTION DATA
NEW MEXICO "H" STATE LEASE

		No. Wells	Oil, BBLS	Gas, MCF	Water, BBLS
1967	Feb.	3	2,201	-	-
	Mar.	8	9,730	1,252	112
	Apr.	12	15,586	1,938	722
	May	16	21,045	3,851	1,147
	June	16	21,744	3,985	2,096
	July	16	20,871	5,614	3,381
	Aug.	16	17,100	4,542	2,385
	Sept.	16	16,426	4,356	2,547
	Oct.	16	21,993	5,802	3,025
	Nov.	16	31,066	8,584	3,030
	Dec.	16	30,202	8,341	3,313
Cum. Jan. 1, 1968			207,964	48,265	21,758
1968	Jan.	16	25,155	6,676	2,846
	Feb.	16	24,277	6,470	2,782
	Mar.	16	26,033	6,954	3,317
	Apr.	16	23,667	6,282	3,082
	May	16	25,327	6,753	3,377
	June	16	21,739	5,790	1,740
	July	16	20,795	8,100	1,487
	Aug.	16	20,838	10,402*	3,059
Cum. Sept. 1, 1968			395,795	105,692	43,448

*Gas to Cities Service effective 8-1-68.

Form 0-1292 (1/66)
Printed in USA

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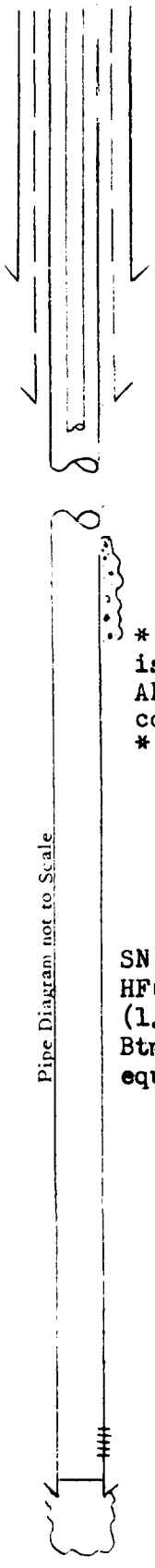

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Tbg. Stop @
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