WELL DATA SHEET

Lease E. SMITH Well No. 19-3

Location 810' FSL & 1980' FEL SEC. 19-31S-40W County MORTON State KANSAS

K. B. Elev. 3332'
G. L. Elev. 3321' CHF
Distance "H" 11'

Date Completed 1-13-84
Formation (s) KINSLER (UPPER MORROW)

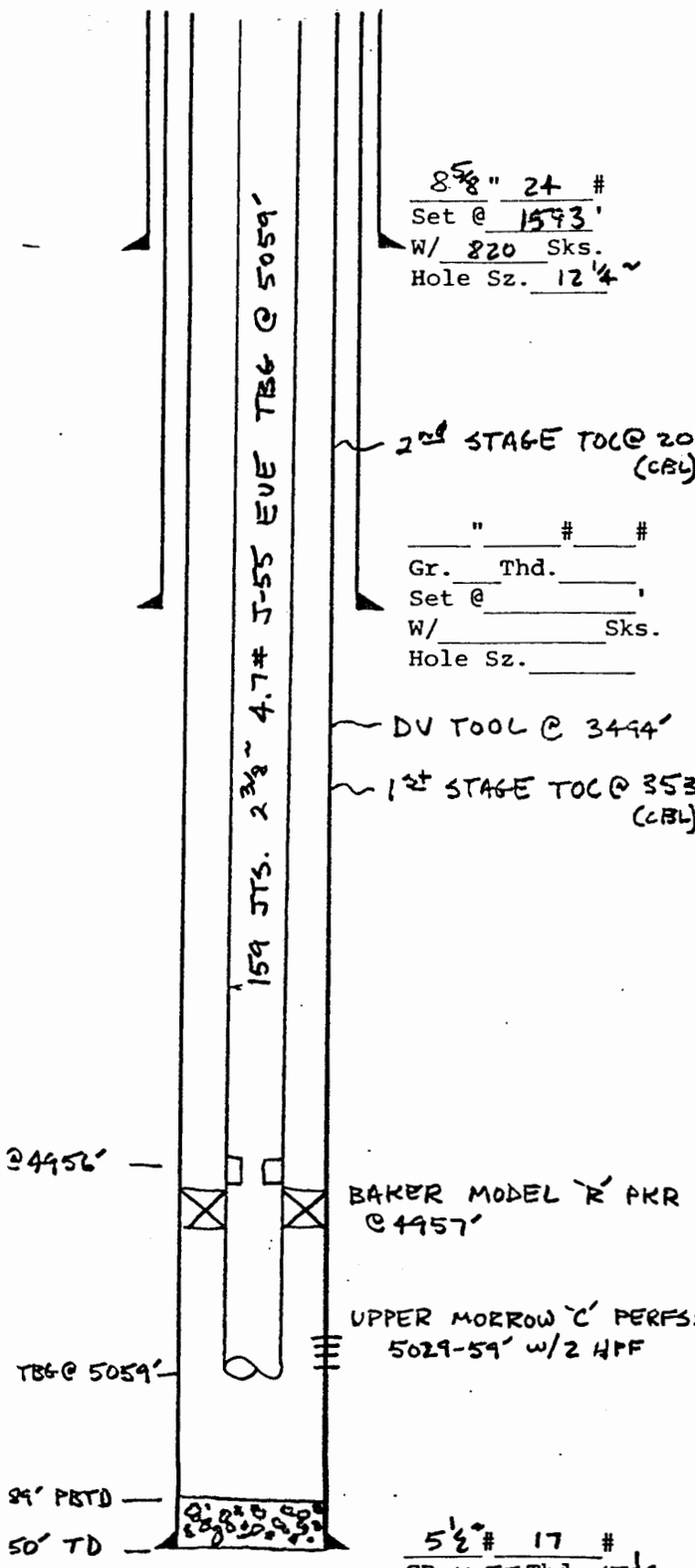
Initial Production Oil 386 B/D
Pump ( ) Flow (X) Water 0 B/D
Other Gas 725 MCF/D
200 PSI FTP 786 PSIA BHP
Initial Treatments PERF UPPER MORROW 'C' @ 5029-57' W/2 HPF; WELL KICKED OFF AFTER 3 SWAB RUNS FLOWING 14 BOPH @ 230# FTP

Workovers

Present Production Oil B/D
Pump ( ) Flow ( ) Water B/D
Other Gas MCF/D

Present Producing Equipment

Proposed Work



Total Depth 5550' 5489' PBTD

Prepared by SIDDENS Date 2-7-84

LEASE & WELL NO. E. SMITH #19-3

DWL-633-A

RICE / SMITH #19-3 FI
GOT THIS FROM RUST
I THOUGHT IT WAS
MORE DETAILED

DOWELL DOWELL DIVISION OF DOW CHEMICAL U.S.A.

LABORATORY REPORT

J. M. Huber
Morton County, Kansas

Submitted by: Ray Scott
Amarillo Sales

TYPE OF SAMPLE: Cores

DESCRIPTION: Smith 19-3
Formation: Morrow

DATE: 02/13/84

LAB LOCATION: Okla City

LAB NO. 8739

S. NO.

AUTHOR:

Acid Solubility Tests

The solubility of the samples was determined by the gravimetric method. This method determines the maximum solubility of the sample in excess acid. The difference between the 15X and mud acid solubilities represents the approximate silicate content in the sample.

Sample Depth (feet)	Percent Soluble in 15X	Mud Acid
5030 - 31	3.4	11.1
5032 - 33	29.3	38.6
5035 - 36	12.8	--
5038 - 39	6.0	--
5042 - 43	8.7	15.8
5049 - 50	14.0	--
5054 - 55	5.3	12.3
5062 - 63	18.6	--

DISTRIBUTION:

[redacted]
1cc - Max Oliver, OKC
1cc - David Bell, OKC
1cc - Ron Browning, OKC
1cc - Oklahoma City Lab
[illegible]

X-Ray Diffraction

The following compounds were identified by x-ray diffraction. The amount of each compound was estimated and found to be:

Sample Depth (feet)	Major (25-100%)	Minor (10-30%)	Low (Less Than 15%)
5030 - 31	Quartz	--	Kaolinite &/or Chlorite, Feldspar
5032 - 33	Quartz	Siderite	Dolomite, Kaolinite &/or Chlorite (low)
5035 - 36	Quartz	Dolomite	Kaolinite &/or Chlorite, Feldspar (low)
5038 - 39	Quartz	--	Dolomite, Feldspar, Kaolinite &/or Chlorite
5042 - 43	Quartz	--	Dolomite, Feldspar, Kaolinite &/or Chlorite

Flow Tests

Tests were conducted on representative core plugs to determine the effects of possible treating fluids. A base permeability was determined on the clean, dry core plugs using a non damaging fluid. One core was then treated with 2% potassium chloride solution and the other with 5% hydrochloric acid. The final permeabilities were measured and the percent reduction was determined.

Sample Depth (feet)	Treating Fluid	Initial Permeability (md)	Final Permeability (md)	Percent Reduction
5038 - 39	2% KCl	.056	.021	62.5%
5042 - 43	5% HCl	.15	.014	90.7%

X-Ray Diffraction

The following compounds were identified by x-ray diffraction. The amount of each compound was estimated and found to be:

Sample Depth (feet)	Major (25-100%)	Minor (10-30%)	Low (Less Than 15%)
5049 - 50	Quartz	Dolomite	Feldspar, Kaolinite &/or Chlorite
5054 - 55	Quartz	--	Feldspar, Kaolinite &/or Chlorite, Dolomite (low)
5062 - 63	Quartz	Dolomite	Feldspar, Kaolinite &/or Chlorite

Formation Hardness

Hardness measurements were made by placing a 1/16 inch diameter spherical tip on a water wet section of core. An increasing load was applied and the depth of penetration was recorded. Dowell uses a hardness classification system employing various ranges of hardness each characterized by a typical modulus of elasticity. The reported values are an average of a number of readings.

Sample Depth (feet)	Hardness Classification	Modulus of Elasticity (10^6psi)	Poisson's Ratio
5030 - 31	Hard	9.5	.25
5032 - 33	Very Hard	13.0	.29
5038 - 39	Hard	9.5	.25
5042 - 43	Soft	2.3	.13
5049 - 50	Soft	2.3	.13
5054 - 55	Soft	2.3	.13
5062 - 63	Soft	2.3	.13

Air Permeability

These measurements were made on clean, dry, horizontal core plugs.

Sample Depth (feet)	Permeability to Air (md)
5030 - 31	12.5
5032 - 33	0.21
5035 - 36	22.3
5038 - 39	37.6
5042 - 43	81.9
5049 - 50	17.7
5054 - 55	12.3
5062 - 63	10.7

Kay K. Bjornen jm
Kay K. Bjornen
Regional Chemist

jm

PANTECHS LABORATORIES

☐ P. O. BOX 2439 TEL. 806 669-6821 PAMPA, TEXAS 79066-2439
☐ P. O. BOX 3246 TEL. 806 797-4325 LUBBOCK, TEXAS 79452-3246

SAMPLE DATA

CUSTOMER..... J. M. HUBER CORPORATION

STATION NO.... --
OPERATOR..... J. M. HUBER CORPORATION
LEASE..... E SMITH 19-2,3,5
PLANT..... --
SAMPLE OF..... --
PRESSURE..... 33#
TEMPERATURE... --
ATM.TEMP..... --
SAMPLE DATE... 7-13-89
TESTER..... --
SAMPLED BY.... HUBER
ANALYSIS DATE. 7-17-89

SAMPLE CYL.NO. PL-1775

ANALYSIS RESULTS

COMPONENT		MOL %	GPM,*
NITROGEN	N2	4.11	
CARBON D.	CO2	0.52	
METHANE	C1	48.83	
ETHANE	C2	19.37	5.196
PROPANE	C3	18.54	5.180
I-BUTANE	iC4	2.32	0.781
N-BUTANE	nC4	4.32	1.406
I-PENTANE	iC5	0.76	0.292
N-PENTANE	nC5	0.87	0.333
HEXANES+	C6+	0.36	0.162

GASOLINE CONTENT (GPM), *

PENTANES & HEAVIER....	0.787
BUTANES & HEAVIER.....	2.974
PROPANE & HEAVIER.....	8.154
ETHANE & HEAVIER.....	13.350
26 # GASOLINE.....	1.115

HEATING VALUE,** (GROSS BTU/CF)

WATER VAP.SAT.....	1597
DRY GAS BASIS.....	1625

SPECIFIC GRAVITY

CALC.,WATER SAT.....	0.997
CALC.,DRY BASIS.....	1.003

DISTRIBUTION:

J. M. HUBER CORPORATION

3-7120 I-40 WEST, AMARILLO, TX 79106
MR. PAUL WALKER

1-P. O. BOX 888, SPEARMAN,. TX 79108
MR. JERRY TROUT

1-P. O. BOX 2381, BORGER, TX 79007
MR. DOUG REED

*, 14.65 PSIA & 60 F
**, 14.65 PSIA & 60 F

REMARKS:

HIGH PLAINS
WIRELINE SERVICES, INC.

P.O. Box 981
Perryton, Texas 79070
Phone 806-435-7195

HUBER
Mid-Continent Division
Oil & Gas Division

SUBSURFACE PRESSURE SURVEY

Company J.M. Huber Corporation Test Date April 2, 1987
Lease E. SMITH 19-3 Well No. Field Kinsler
Section 19 Block T31S Survey R40W County Morton State Kansas
Producing Formation Upper Morrow Measurements Are From KB @ 11'
Elevation
Shut-In Time 29.5 Hrs.
Shut-In Tubing Pressure 257#
Shut-In Casing Pressure --
Tubing Size 2 3/8" Set at 5059'
Packer Set at 4957'
Perforations 5029' - 5059'
Top of Oil 4700' Approx.
Top of Water None Approx.
Temperature at 5044 ft 130 F.
Date of Last Test July 29, 1987
Shut-In Time, Last Test 24 Hrs.
Pressure at Datum, Last Test 543.8

Depth	Time	Pressure	Δ P	Δ D	Gradient
0'	1:30 P	255.9	---	---	---
2000'	1:37	289.9	34.0	2000	.017
4000'	1:44	320.7	30.8	2000	.015
4744'	1:50	338.2	17.5	744	.024
4844'	1:53	364.0	25.8	100	.258
4944'	1:56	387.9	23.9	100	.239
5044'	1:59 P	414.6	26.7	100	.267

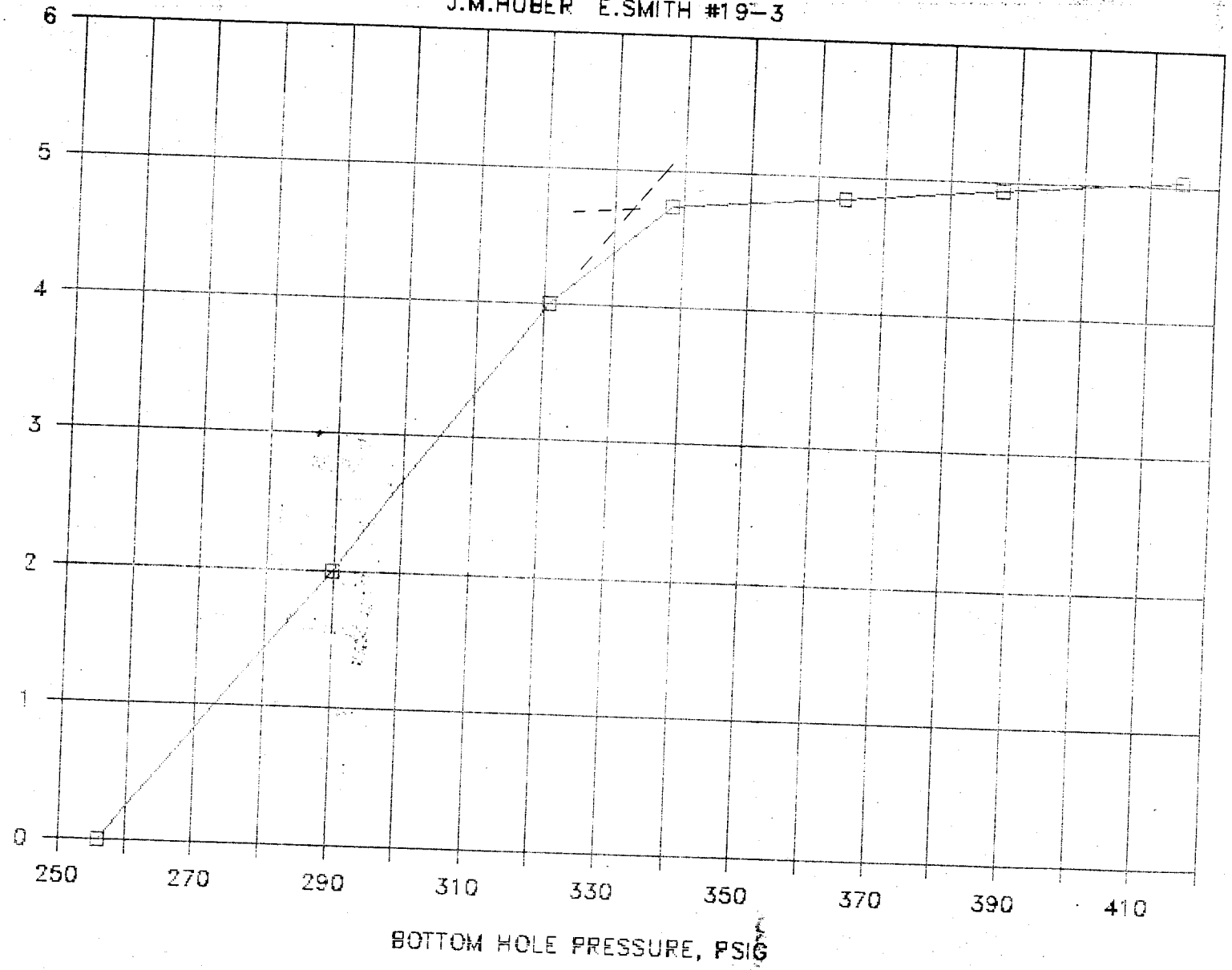
INSTRUMENT DATA
Element RPG-3
No. 57101 Range 0-2000 psi
Clock Amerada
No. A-21894 Range 3 Hrs.
Calibration Date January 4, 1987

Remarks:
Check T.D. at Not Requested

Operator Ron Sloan

HIGH PLAINS WIRELINE SERVICES,INC.

J.M.HUBER E.SMITH #19-3



STATE OF KANSAS - CORPORATION COMMISSION
PRODUCTION TEST & GOR REPORT

Conservation Division — Form C-5 Revised

TYPE TEST: ~~Initial~~ Annual ~~Workover~~ ~~Reclassification~~ TEST DATE: 7-23-92

Company	Lease	Well No.
J. M. Huber Corporation	Smith	19-3

County	Location	Section	Township	Range	Acres
Morton	810' FSL & 1980' FEL	19	31S	40W	80

Field	Reservoir	Pipeline Connection
Kinsler (U. Morrow)	Morrow	~~Colony Natural Gas~~ ANGI

Completion Date	Type Completion(Describe)	Plug Back T.D.	Packer Set At
1-13-84	Single (Oil)	5489'	

Production Method:	Type Fluid Production	API Gravity of Liquid/Oil
~~Flowing~~ Pumping ~~Gas Lift~~	Oil & Gas & SW	42.3

Casing Size	Weight	I.D.	Set At	Perforations	To
5-1/2"	17	4.892	5544'	5029'	5059'

Tubing Size	Weight	I.D.	Set At	Perforations	To
2-3/8"	4.7	1.995	5124'		

Pretest: Starting Date	Time	Ending Date	Time	Duration Hrs.

Test: Starting Date	Time	Ending Date	Time	Duration Hrs.
7-22-92	9:30 AM	7-23-92	9:30 AM	24

OIL PRODUCTION OBSERVED DATA

Producing Wellhead Pressure — Separator Pressure — Choke Size

Casing: 25 psi Tubing:

Bbls./In.	Tank		Starting Gauge			Ending Gauge			Net Prod. Bbls.	
	Size	Number	Feet	Inches	Barrels	Feet	Inches	Barrels	Water	Oil
Pretest:										
Test:										
Test:	480	1143	6	6	129.6	7	0	140.0	0	10.4

GAS PRODUCTION OBSERVED DATA

Orifice Meter Connections — Orifice Meter Range

Pipe Taps: Flange Taps: ✓ Differential: 50 Static Pressure: 600

Measuring Device	Run-Prover-Tester Size	Orifice Size	Meter-Prover-Tester Pressure In.Water	In.Merc.	Psig or (Pd)	Diff. Press. (hw) or (hd)	Gravity Gas (Gg)	Flowing Temp. (t)
Orifice Meter	4	1.500			17.0	0.605	.827	60
Critical Flow Prover								
Orifice Well Tester								

GAS FLOW RATE CALCULATIONS (R)

Coeff. MCFD (Fb)(Fp)(OWTC)	Meter-Prover Press.(Psia)(Pm)	Extension √hw x Pm	Gravity Factor (Fg)	Flowing Temp. Factor (Ft)	Deviation Factor (Fpv)	Chart Factor(Fd)
11.12	31.4	4.358	1.100	1.000		

Gas Prod. MCFD Flow Rate (R): 53 — Oil Prod. Bbls./Day: 10.4 — Gas/Oil Ratio (GOR) = 5096 Cubic Ft. per Bbl.

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 23 day of July 1992

Jerry Grant — James P Kapp — Jerry Grant

For ~~Offset~~ Operator — For State — For Company

Form C-5 (5/88)