

**DIAMOND TESTING**

P.O. Box 157

**HOISINGTON, KANSAS 67544**

(620) 653-7550 • (800) 542-7313

Company Vess Oil Corporation Lease & Well No. Younger "B" No. 1  
 Elevation 1962 KB Formation Toronto/Lansing "A"-"F" Effective Pay \_\_\_\_\_ Ft. Ticket No. 2875  
 Date 8-6-12 Sec. 12 Twp. 10S Range 17W County Rooks State Kansas  
 Test Approved By Roger L. Martin Diamond Representative Roger D. Friedly

Formation Test No. 1 Interval Tested from 3,084 ft. to 3,228 ft. Total Depth 3,228 ft.  
 Packer Depth 3,079 ft. Size 6 3/4 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.  
 Packer Depth 3,084 ft. Size 6 3/4 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.  
 Depth of Selective Zone Set \_\_\_\_\_ ft.

Top Recorder Depth (Inside) 3,216 ft. Recorder Number 0062 Cap. 5,000 psi.  
 Bottom Recorder Depth (Outside) 3,225 ft. Recorder Number 11033 Cap. 5,150 psi.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ psi.

Drilling Contractor L. D. Drilling, Inc. - Rig 1 Drill Collar Length \_\_\_\_\_ ft I.D. \_\_\_\_\_ in.  
 Mud Type Chemical Viscosity 48 Weight Pipe Length \_\_\_\_\_ ft I.D. \_\_\_\_\_ in.  
 Weight 8.8 Water Loss 6.4 cc. Drill Pipe Length 3,057 ft I.D. 3 1/4 in.  
 Chlorides 1,500 P.P.M. Test Tool Length 27 ft Tool Size 3 1/2-IF in.  
 Jars: Make Sterling Serial Number 5 Anchor Length 17' perf. w/127' drill pipe Size 4 1/2-FH in.  
 Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.  
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Weak, 1/2 in. blow increasing. Off bottom of bucket in 10 1/4 mins. No blow back during shut-in.  
 2nd Open: Weak, surface blow increasing. Off bottom of bucket in 16 3/4 mins. No blow back during shut-in.

Recovered 58 ft. of slightly oil cut mud = .595080 bbls. (Grind out: 1%-oil; 99%-mud)  
 Recovered 189 ft. of gas & oil cut watery mud = 1.939140 bbls. (Grind out: 5%-gas; 15%-oil; 31%-water; 49%-mud)  
 Recovered 189 ft. of gas & oil cut muddy water = 1.939140 bbls. (Grind out: 8%-gas; 11%-oil; 45%-water; 36%-mud) Chlorides: 41,000 Ppm PH: 7.0 RW: .16 @ 69°  
 Recovered 436 ft. of TOTAL FLUID = 4.473360 bbls.  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Remarks Tool Sample Grind Out: 2%-gas; 4%-oil; 69%-water; 25%-mud

Time Set Packer(s) 2:07 A.M. Time Started off Bottom 5:07 A.M. Maximum Temperature 103°  
 Initial Hydrostatic Pressure.....(A) 1512 P.S.I.  
 Initial Flow Period.....Minutes 30 (B) 94 P.S.I. to (C) 191 P.S.I.  
 Initial Closed In Period.....Minutes 45 (D) 603 P.S.I.  
 Final Flow Period.....Minutes 45 (E) 197 P.S.I. to (F) 282 P.S.I.  
 Final Closed In Period.....Minutes 60 (G) 598 P.S.I.  
 Final Hydrostatic Pressure.....(H) 1513 P.S.I.



**DIAMOND TESTING**  
**ROGER D. FRIEDLY - TESTER**  
**CELL 620-793-2043**

Company Name VESS OIL CORP  
 Contact BILL HORIGAN  
 Well Name YOUNGER B #1  
 Unique Well ID DST #1 TOR/LANS A-F 3084-3228  
 Surface Location SEC 12-10S-17W-ROOKS-KS  
 Field WILDCAT

**Test Information**

Job Number  
 Test Unit NO. 5  
 Representative JAKE FAHRENBRUCH  
 Well Operator VESS OIL CORP  
 Report Date 2012/08/06  
 Prepared By JAKE FAHRENBRUCH  
 Qualified By ROGER MARTIN

Test Type CONVENTIONAL  
 Formation DST #1 TOR/LANS (A-F) 3084-3228  
 Test Purpose Initial Test  
 Well Fluid Type 06 Water  
 H2S

Start Test Date 2012/08/06 Start Test Time 00:12:00  
 Final Test Date 2012/08/06 Final Test Time 07:19:00

**Remarks**

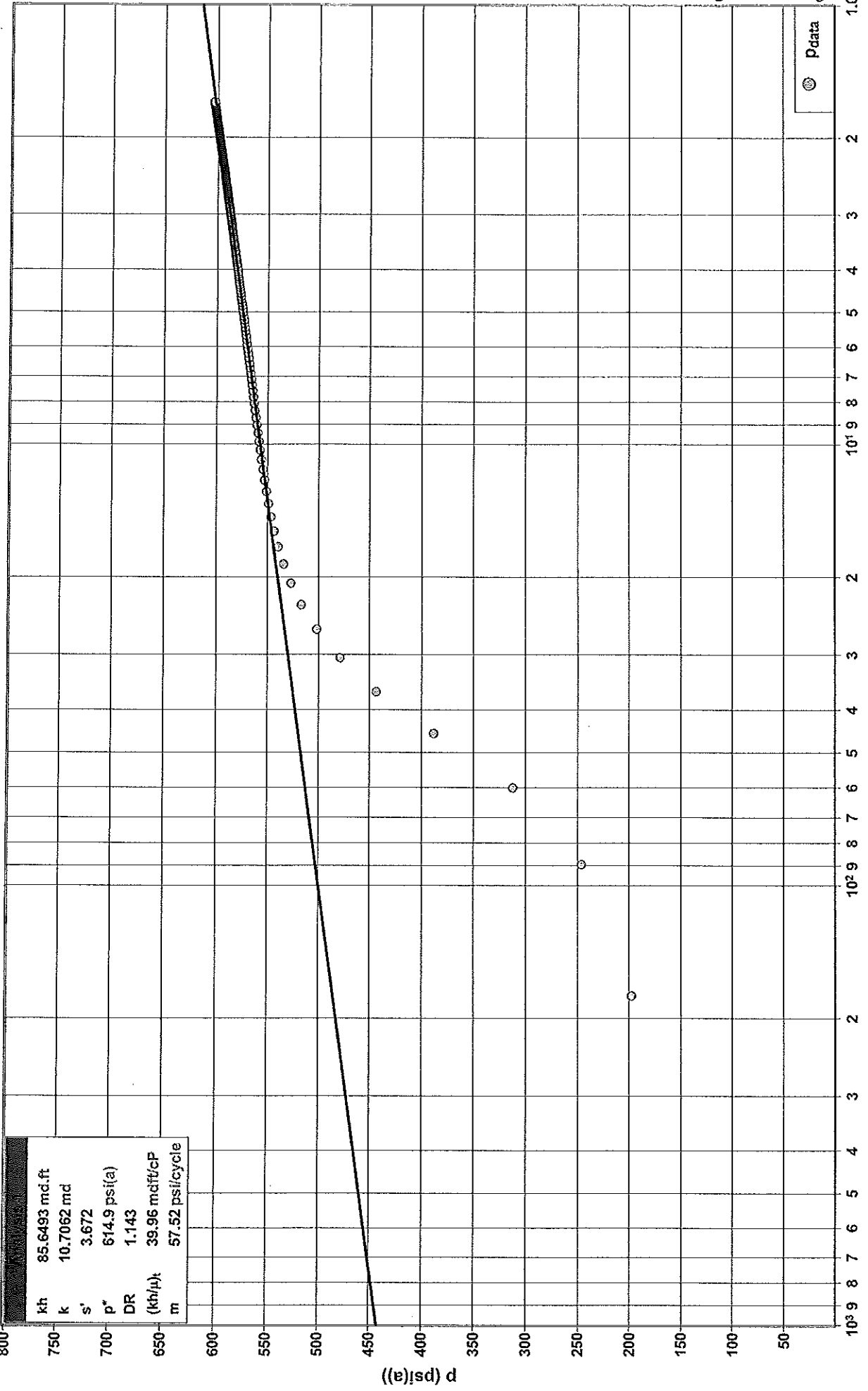
RECOVERED: 58' SLTOCM 1% OIL, 98% MUD  
 189' G&OWM 5% GAS, 15% OIL, 31% WTR, 49% MUD  
 189' G&OCMW 8% GAS, 11% OIL, 45% WTR, 36% MUD  
 436' TOTAL FLUID

TOOL SAMPLE: 2% GAS, 4% OIL, 69% WTR, 36% MUD

CHLORIDES 41,000 Ppm  
 PH 7.0  
 RW .16 @ 69 deg.

**DST #1 INITIAL SHUT-IN**  
Radial

VESS OIL CORP  
YOUNGER 'B' #1  
DST #1 TORJ/LANS 'A-F' 3,084' - 3,228



kh	85.6493 md.ft
k	10.7062 md
s'	3.672
p*	614.9 psi(a)
DR	1.143
(kh/μ)k	39.96 mdft/cP
m	57.52 psi/cycle

((e)|sd) d

Superposition Radial Time (ΣΔt) (h)

● P data

# Oil Well Test - Buildup

## Radial Flow Analysis

### Analysis Results

Flow Capacity (kh)	85.6 md.ft	Total Skin (s')	3.784
Effective Permeability (k)	8.5649 md	Skin Due to Damage (s <sub>d</sub> )	3.784
Effective Gas Permeability (k <sub>g</sub> )	md	Skin Due To Inclination (s <sub>inc</sub> )	
Effective Oil Permeability (k <sub>o</sub> )	8.5649 md	Skin Due To Partial Penetration (s <sub>pp</sub> )	
Effective Water Permeability (k <sub>w</sub> )	md	Pressure Drop Due to Total Skin (Δp <sub>skin</sub> )	189.1 psi(a)
Total Fluid Rate (in situ) ((qβ) <sub>i</sub> )	14.1 rbbl/d	Damage Ratio (DR)	1.148
Total Mobility ((k/μ) <sub>i</sub> )	4.00 md/cP	Flow Efficiency (FE)	0.871
Total Transmissivity ((kh/μ) <sub>i</sub> )	39.96 mdf/cP		
Semi-Log Slope (m)	57.52 psi/cycle		

### Reservoir Parameters

Net Pay (h)	10.000 ft
Total Porosity (φ <sub>t</sub> )	8.00 %
Gas Saturation (S <sub>g</sub> )	0.00 %
Oil Saturation (S <sub>o</sub> )	80.00 %
Water Saturation (S <sub>w</sub> )	20.00 %
Formation Compressibility (c <sub>f</sub> )	5.3341e-06 1/psi
Total Compressibility (c <sub>t</sub> )	1.3803e-05 1/psi
Wellbore Radius (r <sub>w</sub> )	0.300 ft

### Pressures

Extrapolated Pressure (p <sup>*</sup> )	614.9 psi(a)
Final Flowing Pressure (p <sub>wfo</sub> )	191.9 psi(a)
Final Measured Pressure (p <sub>last</sub> )	0.3 psi(a)

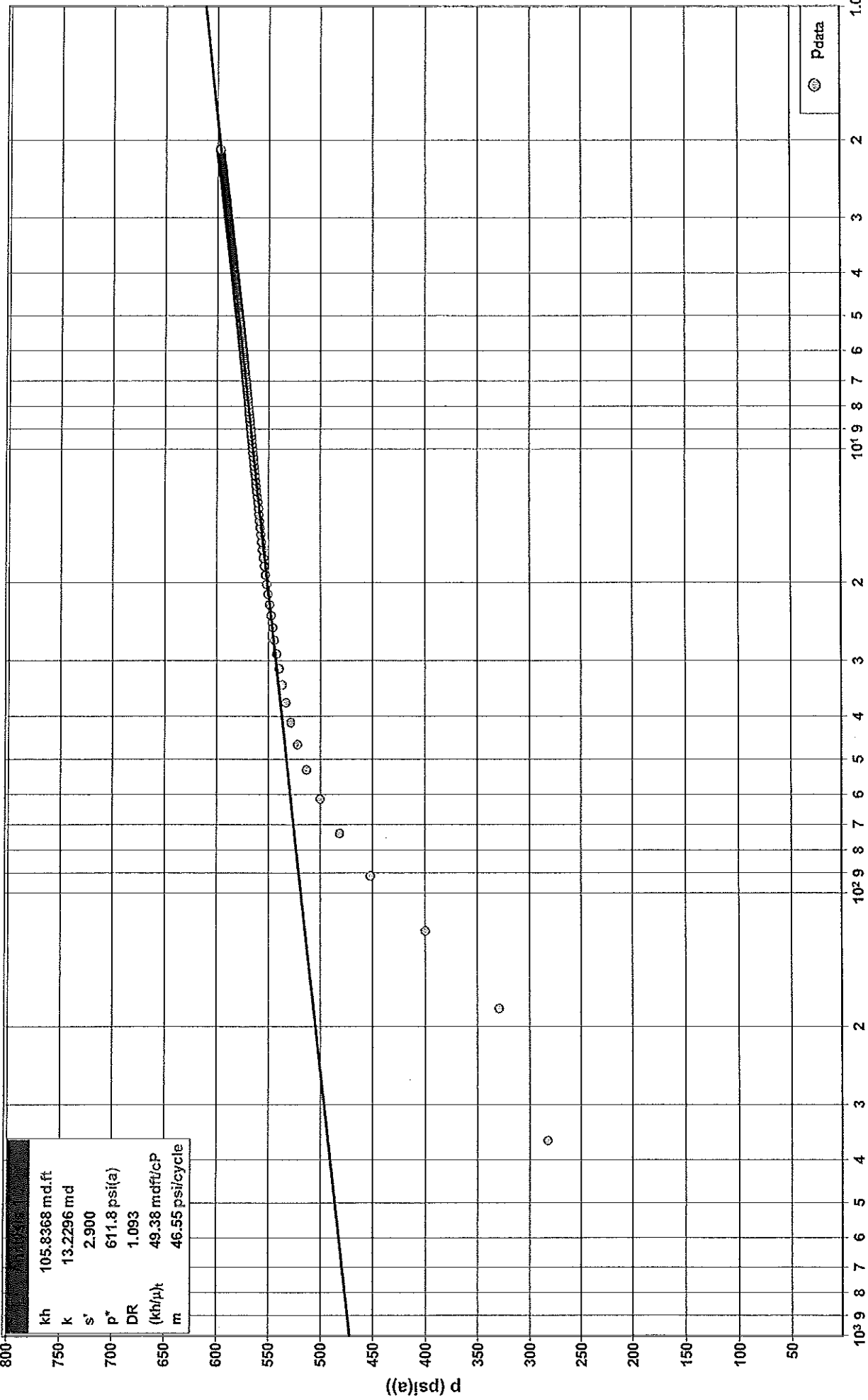
### Fluid Properties

Reservoir Temperature (T <sub>resv</sub> )	103.0 °F
Reservoir Pressure (p <sub>resv</sub> )	1658.3 psi(a)
Oil Gravity (γ <sub>o</sub> )	34.0 °API
Oil Viscosity (μ <sub>o</sub> )	2.1435 cP
Oil Compressibility (c <sub>o</sub> )	9.8285e-06 1/psi
Oil Formation Volume Factor (B <sub>o</sub> )	1.178
Solution Gas Ratio (R <sub>s</sub> )	325.9 scf/bbl
Oil Correlation	Vasquez and Beggs
Oil Viscosity Correlation	Beggs & Robinson

### Production and Times

Corrected Time (t <sub>c</sub> )	0.49 h
Total Cumulative Production Oil (Cum <sub>oil</sub> )	0.00 Mbbl
Final Oil Rate (q <sub>o final</sub> )	12.0 bbl/d

VESSEL CORP  
 YOUNGER 'B' #1  
 DST #1 TOR./LANS 'A-F' 3.084' - 3.228  
 Radial



kh	105.8368 md.ft
k	13.2296 md
s'	2.900
p'	611.8 psia
DR	1.093
(kh/μt)	49.38 mdft/cP
m	46.55 psi/cycle

Superposition Radial Time (ΣΔt) (h)

⊙ Pdata

p (psi)

# Oil Well Test - Buildup

## Radial Flow Analysis

### Analysis Results

Flow Capacity (kh)	106 md.ft	Total Skin (s')	3.011
Effective Permeability (k)	10.5837 md	Skin Due to Damage (s <sub>d</sub> )	3.011
Effective Gas Permeability (k <sub>g</sub> )	md	Skin Due To Inclination (s <sub>inc</sub> )	
Effective Oil Permeability (k <sub>o</sub> )	10.5837 md	Skin Due To Partial Penetration (s <sub>pp</sub> )	
Effective Water Permeability (k <sub>w</sub> )	md	Pressure Drop Due to Total Skin (Δp <sub>skin</sub> )	121.8 psi(a)
Total Fluid Rate (in situ) ((qβ) <sub>i</sub> )	14.1 rbbl/d	Damage Ratio (DR)	1.097
Total Mobility ((k/μ) <sub>i</sub> )	4.94 md/cP	Flow Efficiency (FE)	0.911
Total Transmissivity ((kh/μ) <sub>i</sub> )	49.38 mdft/cP		
Semi-Log Slope (m)	46.55 psi/cycle		

### Reservoir Parameters

Net Pay (h)	10.000 ft
Total Porosity (φ <sub>t</sub> )	8.00 %
Gas Saturation (S <sub>g</sub> )	0.00 %
Oil Saturation (S <sub>o</sub> )	80.00 %
Water Saturation (S <sub>w</sub> )	20.00 %
Formation Compressibility (c <sub>f</sub> )	5.3341e-06 1/psi
Total Compressibility (c <sub>t</sub> )	1.3803e-05 1/psi
Wellbore Radius (r <sub>w</sub> )	0.300 ft

### Pressures

Extrapolated Pressure (p*)	611.8 psi(a)
Final Flowing Pressure (p <sub>wfo</sub> )	282.1 psi(a)
Final Measured Pressure (p <sub>last</sub> )	0.3 psi(a)

### Fluid Properties

Reservoir Temperature (T <sub>resv</sub> )	103.0 °F
Reservoir Pressure (p <sub>resv</sub> )	1658.3 psi(a)
Oil Gravity (γ <sub>o</sub> )	34.0 °API
Oil Viscosity (μ <sub>o</sub> )	2.1435 cP
Oil Compressibility (c <sub>o</sub> )	9.8285e-06 1/psi
Oil Formation Volume Factor (B <sub>o</sub> )	1.178
Solution Gas Ratio (R <sub>s</sub> )	325.9 scf/bbl
Oil Correlation	Vasquez and Beggs
Oil Viscosity Correlation	Beggs & Robinson

### Production and Times

Corrected Time (t <sub>c</sub> )	1.25 h
Total Cumulative Production Oil (Cum <sub>oil</sub> )	0.00 Mbbbl
Final Oil Rate (q <sub>o final</sub> )	12.0 bbl/d

DST #1 TOR./LANS 'A-F' 3,084' - 3,228'

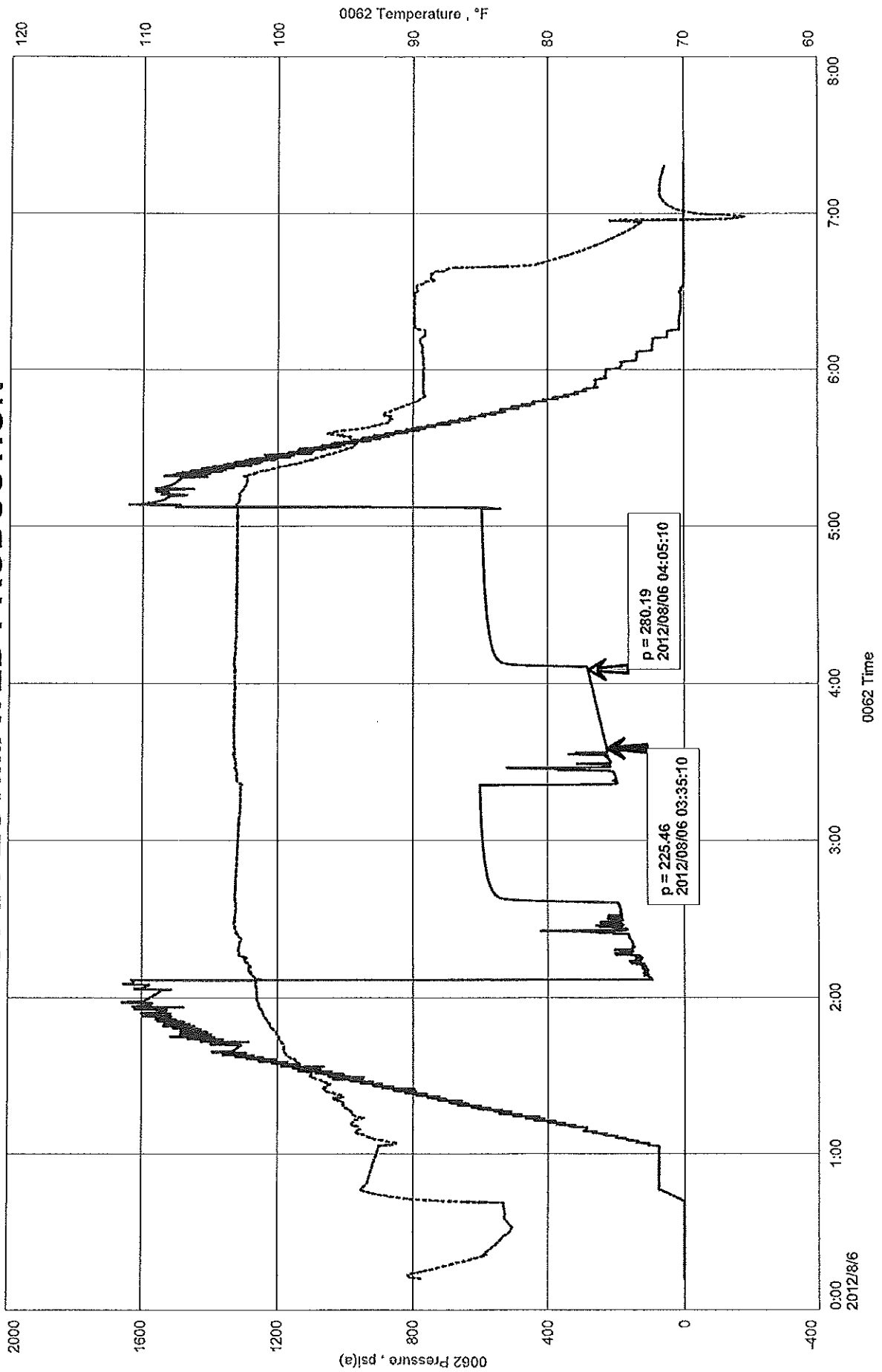
VESS OIL CORP.  
YOUNGER 'B' #1

<u>DESCRIPTION</u>	<u>SECOND</u>	<u>FIRST</u>	<u>PRESSURE</u>	<u>DRILL-</u>	<u>FLUID</u>	<u>TIME</u>	<u>TOTAL</u>	<u>DAILY</u>	<u>AVERAGE</u>	<u>ESTIMATED</u>
FINAL FLOW	<u>READING</u>	<u>READING</u>	<u>CHANGE</u>	<u>PIPE</u>	<u>GRADIENT</u>	<u>CHANGE</u>	<u>TIME</u>	<u>PRODUCTION</u>	<u>PERCENTAGE</u>	<u>DAILY</u>
	280	225	55	<u>SIZE-ID</u>	0.359	30	1440	104	<u>OIL</u>	<u>PRODUCTION</u>
				0.0142					11.40%	12

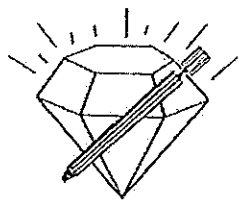
YOUNGER B #1  
Formation: DST #1 TOR/LANS (A-F) 3084-3228

VESS OIL CORP  
DST #1 TOR/LANS A-F 3084-3228  
Start Test Date: 2012/08/06  
Final Test Date: 2012/08/06

# DST #1 ESTIMATED PRODUCTION







# DIAMOND TESTING

P.O. Box 157

**HOISINGTON, KANSAS 67544**

(620) 653-7550 • (800) 542-7313

Company Vess Oil Corporation Lease & Well No. Younger "B" No. 1  
 Elevation 1962 KB Formation Lansing "G" Effective Pay \_\_\_\_\_ Ft. Ticket No. 2876  
 Date 8-6-12 Sec. 12 Twp. 10S Range 17W County Rooks State Kansas  
 Test Approved By Roger L. Martin Diamond Representative Roger D. Friedly

Formation Test No. 2 Interval Tested from 3,228 ft. to 3,240 ft. Total Depth 3,240 ft.  
 Packer Depth 3,223 ft. Size 6 3/4 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.  
 Packer Depth 3,228 ft. Size 6 3/4 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.  
 Depth of Selective Zone Set \_\_\_\_\_ ft.

Top Recorder Depth (Inside) 3,229 ft. Recorder Number 0062 Cap. 5,000 psi.  
 Bottom Recorder Depth (Outside) 3,237 ft. Recorder Number 11033 Cap. 5,150 psi.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ psi.

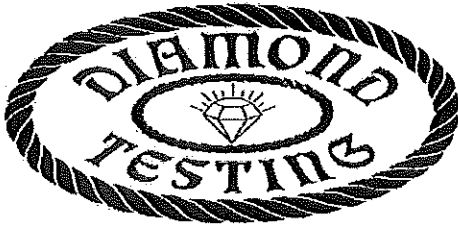
Drilling Contractor L. D. Drilling, Inc. - Rig 1 Drill Collar Length \_\_\_\_\_ ft. I.D. \_\_\_\_\_ in.  
 Mud Type Chemical Viscosity 62 Weight Pipe Length \_\_\_\_\_ ft. I.D. \_\_\_\_\_ in.  
 Weight 9.0 Water Loss 6.4 cc. Drill Pipe Length 3,201 ft. I.D. 3 1/4 in.  
 Chlorides 1,700 P.P.M. Test Tool Length 27 ft. Tool Size 3 1/2-IF in.  
 Jars: Make Sterling Serial Number 5 Anchor Length 12 ft. Size 4 1/2-FH in.  
 Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.  
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Weak, 1/8 in. blow increasing. Off bottom of bucket in 24 3/4 mins. No blow back during shut-in.

2nd Open: Weak, surface blow increasing. Off bottom of bucket in 29 3/4 mins. No blow back during shut-in.

Recovered 8 ft. of slightly oil cut muddy water = .082080 bbls. (Grind out: 2%-oil; 79%-water; 19%-mud)  
 Recovered 126 ft. of muddy water w/a scum of oil = 1.292760 bbls. (Grind out: 83%-water; 17%-mud)  
 Recovered 126 ft. of salt water = 1.292760 bbls. (Grind out: 100%-water) Chlorides: 66,500 Ppm PH: 7.0 RW: .09 @ 94°  
 Recovered 260 ft. of TOTAL FLUID = 2.667600 bbls.  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Remarks Tool Sample Grind Out: 100%-water with oil specks

Time Set Packer(s) 3:17 P.M. Time Started off Bottom 6:17 P.M. Maximum Temperature 103°  
 Initial Hydrostatic Pressure.....(A) 1515 P.S.I.  
 Initial Flow Period.....Minutes 30 (B) 17 P.S.I. to (C) 69 P.S.I.  
 Initial Closed In Period.....Minutes 45 (D) 610 P.S.I.  
 Final Flow Period.....Minutes 45 (E) 70 P.S.I. to (F) 141 P.S.I.  
 Final Closed In Period.....Minutes 60 (G) 608 P.S.I.  
 Final Hydrostatic Pressure.....(H) 1515 P.S.I.



**DIAMOND TESTING**  
**ROGER D. FRIEDLY - TESTER**  
**CELL 620-793-2043**

Company Name VESS OIL CORP  
Contact BILL HORIGAN  
Well Name YOUNGER B #1  
Unique Well ID DST #2 LANSING G 3228-3240  
Surface Location SEC 12-10S-17W-ROOKS CO-KS  
Field WILDCAT

**Test Information**

Job Number NO. 5  
Test Unit  
Representative JAKE FAHRENBRUCH  
Well Operator VESS OIL CORP  
Report Date 2012/08/06  
Prepared By JAKE FAHRENBRUCH  
Qualified By ROGER MARTIN

Test Type CONVENTIONAL  
Formation DST #2 LANSING G 3228-3240  
Test Purpose Initial Test  
Well Fluid Type 06 Water  
H2S

Start Test Date 2012/08/06 Start Test Time 13:41:00  
Final Test Date 2012/08/06 Final Test Time 20:29:00

**Remarks**

RECOVERED: 8' SLTOCMW 2% OIL, 79% WTR, 19% MUD  
126' MW 83% WTR, 17% MUD, SCUM OF OIL  
126' SW 100% WTR  
260' TOTAL FLUID

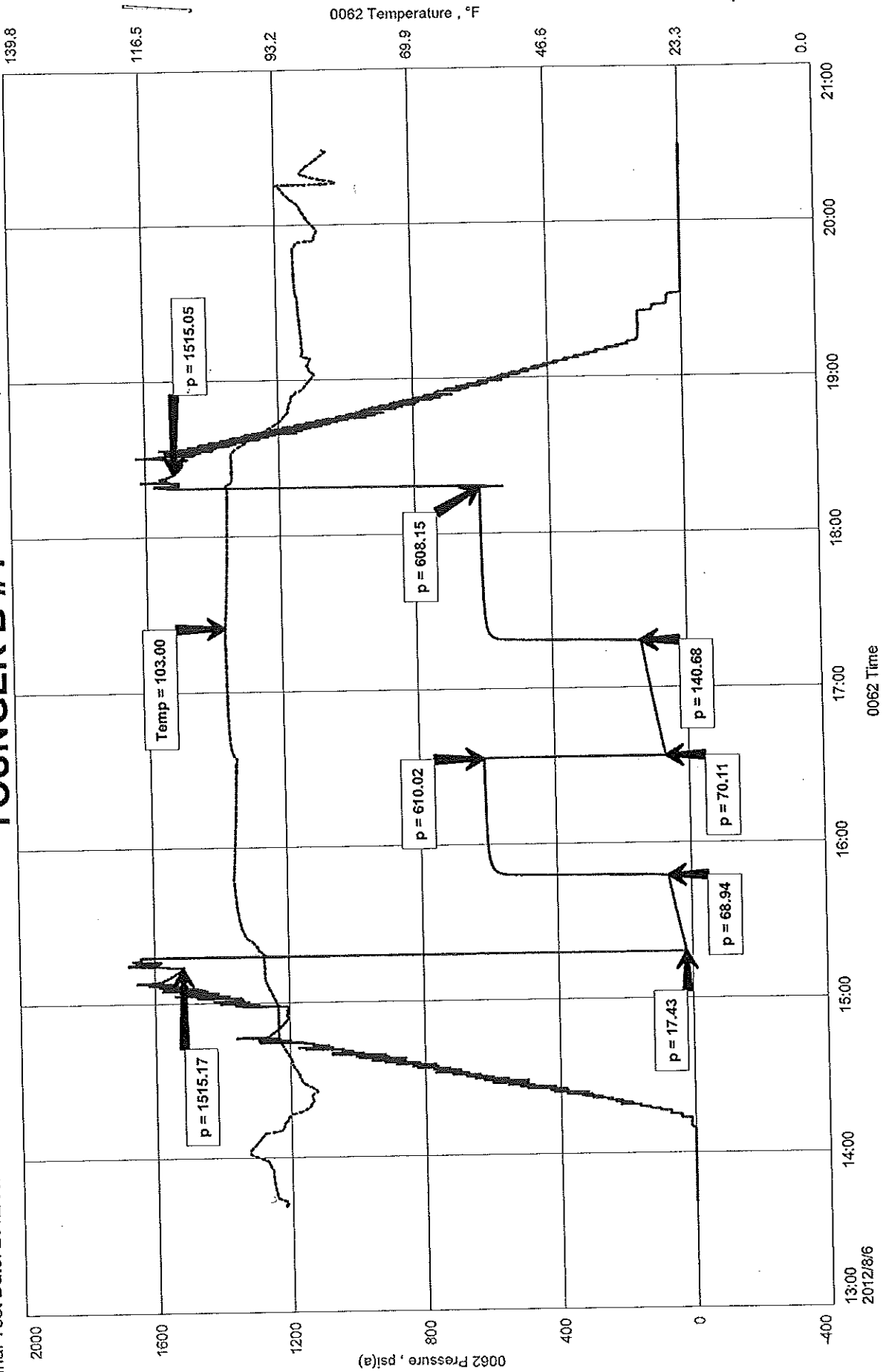
TOOL SAMPLE: 100% WTR-OIL SPECKS

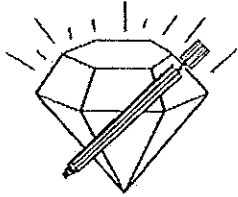
CHLORIDES 66,500 Ppm  
PH 7.0  
RW .09 @ 94 deg

YOUNGER B #1  
Formation: DST #2 LANSING G 3228-3240

VESS OIL CORP  
DST #2 LANSING G 3228-3240  
Start Test Date: 2012/08/06  
Final Test Date: 2012/08/06

# YOUNGER B #1





# DIAMOND TESTING

P.O. Box 157

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**HOISINGTON, KANSAS 67544**

(620) 653-7550 • (800) 542-7313

Company Vess Oil Corporation Lease & Well No. Younger "B" No. 1  
 Elevation 1962 KB Formation Kansas City "H"/Pleasanton Effective Pay \_\_\_\_\_ Ft. Ticket No. 2877  
 Date 8-7-12 Sec. 12 Twp. 10S Range 17W County Rooks State Kansas  
 Test Approved By Roger L. Martin Diamond Representative Roger D. Friedly

Formation Test No. 3 Interval Tested from 3,253 ft. to 3,400 ft. Total Depth 3,400 ft.  
 Packer Depth 3,248 ft. Size 6 3/4 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.  
 Packer Depth 3,253 ft. Size 6 3/4 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.  
 Depth of Selective Zone Set \_\_\_\_\_ ft.

Top Recorder Depth (Inside) 3,386 ft. Recorder Number 0062 Cap. 5,000 psi.  
 Bottom Recorder Depth (Outside) 3,397 ft. Recorder Number 11033 Cap. 5,150 psi.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ psi.

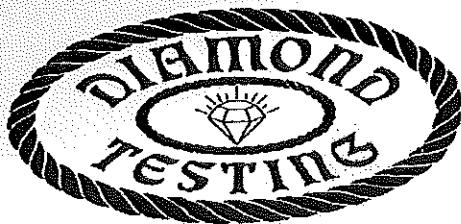
Drilling Contractor L. D. Drilling, Inc. - Rig 1 Drill Collar Length \_\_\_\_\_ ft I.D. \_\_\_\_\_ in.  
 Mud Type Chemical Viscosity 49 Weight Pipe Length \_\_\_\_\_ ft I.D. \_\_\_\_\_ in.  
 Weight 9.2 Water Loss 6.4 cc. Drill Pipe Length 3,226 ft I.D. 3 1/4 in.  
 Chlorides 1,700 P.P.M. Test Tool Length 27 ft Tool Size 3 1/2-IF in.  
 Jars: Make Sterling Serial Number 5 Anchor Length 20' perf. w/127' drill pipe Size 4 1/2-FH in.  
 Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.  
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Weak, 1/8 in. blow increasing to 1 1/4 in. in bucket. No blow back during shut-in.  
 2nd Open: Weak, surface blow. Died after 10 mins. No blow back during shut-in.

Recovered 25 ft. of drilling mud = .256500 bbls. (Grind out: 100%-mud)  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Remarks Tool Sample Grind Out: 100%-drilling, mud

Time Set Packer(s) 2:11 P.M. Time Started off Bottom 5:11 P.M. Maximum Temperature 103°  
 Initial Hydrostatic Pressure.....(A) 1625 P.S.I.  
 Initial Flow Period.....Minutes 30 (B) 89 P.S.I. to (C) 99 P.S.I.  
 Initial Closed In Period.....Minutes 45 (D) 725 P.S.I.  
 Final Flow Period.....Minutes 45 (E) 94 P.S.I. to (F) 99 P.S.I.  
 Final Closed In Period.....Minutes 60 (G) 650 P.S.I.  
 Final Hydrostatic Pressure.....(H) 1623 P.S.I.



**DIAMOND TESTING  
ROGER D. FRIEDLY - TESTER  
CELL 620-793-2043**

Company Name VESS OIL CORP  
Contact BILL HORIGAN  
Well Name YOUNGER 'B' #1  
Unique Well ID DST #3 KC 'H' - PLEAS. 3253-3400  
Surface Location SEC 12-10S-17W-ROOKS CO.-KS  
Field WILDCAT

**Test Information**

Job Number  
Test Unit NO. 5  
Representative JAKE FAHRENBRUCH  
Well Operator VESS OIL CORP  
Report Date 2012/08/07  
Prepared By JAKE FAHRENBRUCH  
Qualified By ROGER MARTIN

Test Type CONVENTIONAL  
Formation DST #3 KC 'H' - PLEAS. 3253-3400  
Test Purpose Initial Test  
Well Fluid Type 01 Oil  
H2S

Start Test Date 2012/08/07 Start Test Time 12:06:00  
Final Test Date 2012/08/07 Final Test Time 19:20:00

**Remarks**

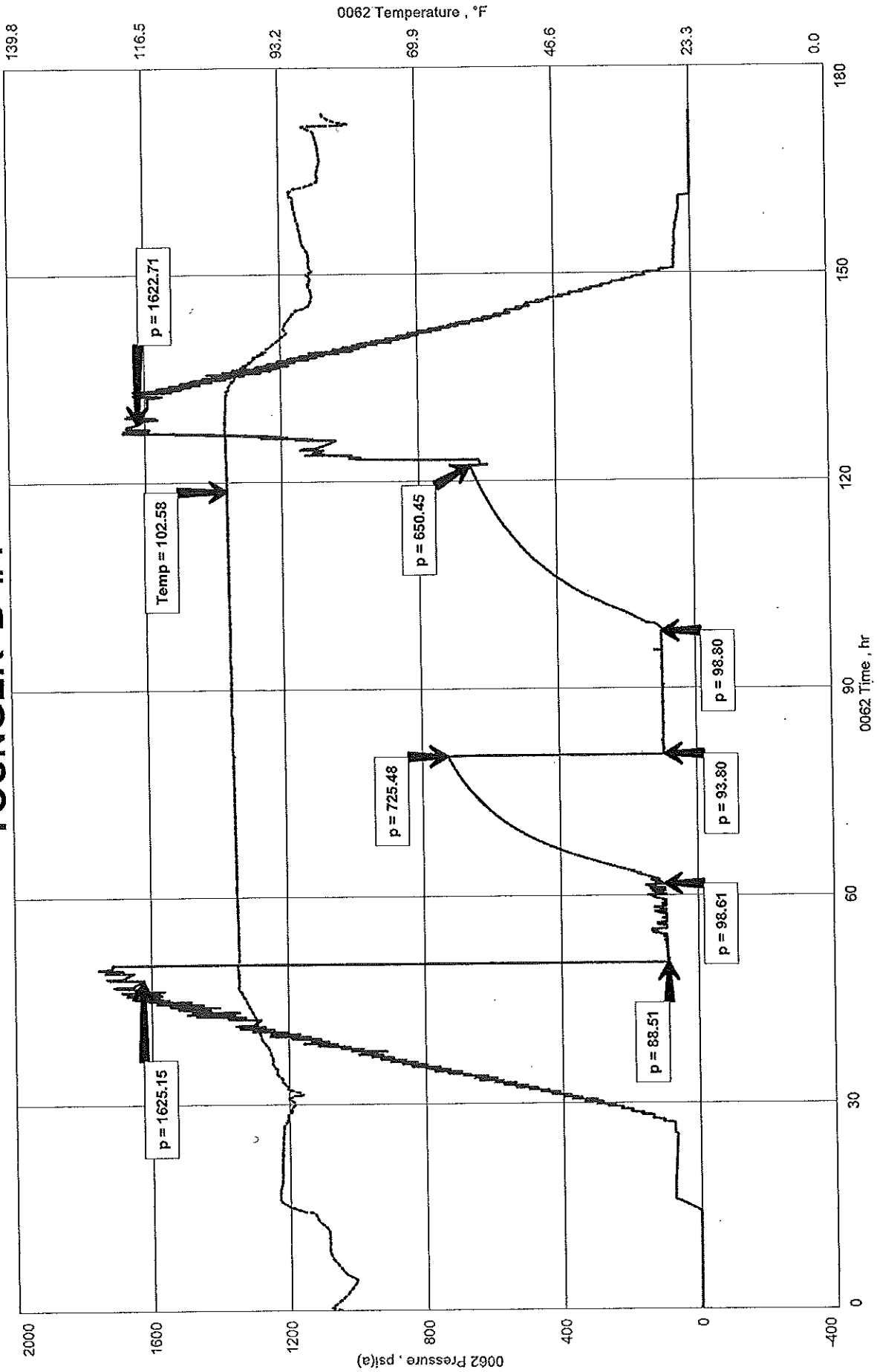
RECOVERED: 25' DRILLING MUD 100%MUD

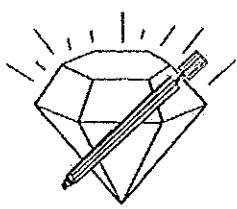
TOOL SAMPLE: 100% DRILLING MUD

YOUNGER 'B' #1  
Formation: DST #3 KC 'H' - PLEAS. 3253-3400

VESS OIL CORP  
DST #3 KC 'H' - PLEAS. 3253-3400  
Start Test Date: 2012/08/07  
Final Test Date: 2012/08/07

# YOUNGER 'B' #1





# DIAMOND TESTING

P.O. Box 157

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**HOISINGTON, KANSAS 67544**

(620) 653-7550 • (800) 542-7313

Company Vess Oil Corporation Lease & Well No. Younger "B" No. 1  
 Elevation 1962 KB Formation Arbuckle Effective Pay \_\_\_\_\_ Ft. Ticket No. 2878  
 Date 8-8-12 Sec. 12 Twp. 10S Range 17W County Rooks State Kansas  
 Test Approved By Roger L. Martin Diamond Representative Roger D. Friedly

Formation Test No. 4 Interval Tested from 3,367 ft. to 3,507 ft. Total Depth 3,507 ft.  
 Packer Depth 3,362 ft. Size 6 3/4 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.  
 Packer Depth 3,367 ft. Size 6 3/4 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.  
 Depth of Selective Zone Set \_\_\_\_\_ ft.

Top Recorder Depth (Inside) 3,468 ft. Recorder Number 0062 Cap. 5,000 psi.  
 Bottom Recorder Depth (Outside) 3,504 ft. Recorder Number 11033 Cap. 5,150 psi.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ psi.

Drilling Contractor L. D. Drilling, Inc. - Rig 1 Drill Collar Length \_\_\_\_\_ ft. I.D. \_\_\_\_\_ in.  
 Mud Type Chemical Viscosity 56 Weight Pipe Length \_\_\_\_\_ ft. I.D. \_\_\_\_\_ in.  
 Weight 9.3 Water Loss 6.4 cc. Drill Pipe Length 3,340 ft. I.D. 3 1/4 in.  
 Chlorides 1,700 P.P.M. Test Tool Length 27 ft. Tool Size 3 1/2-IF in.  
 Jars: Make Sterling Serial Number 5 Anchor Length 45' perf. w/95' drill pipe Size 4 1/2-FH in.  
 Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.  
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

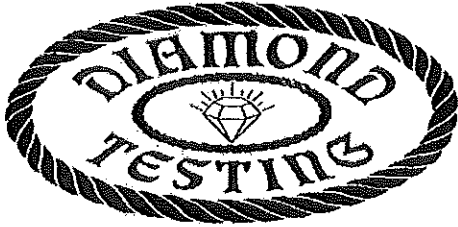
Blow; 1st Open: Weak, 1/2 in. blow increasing. Off bottom of bucket in 22 mins. No blow back during shut-in.

2nd Open: Weak, surface blow in 1 1/2 mins. increasing. Off bottom of bucket in 33 1/4 mins. No blow back during shut-in.

Recovered 98 ft. of oil cut watery mud = 1.005480 bbls. (Grind out: 2%-oil; 4%-water; 94%-mud)  
 Recovered 189 ft. of gas & oil cut watery mud = 1.939140 bbls. (Grind out: 2%-gas; 7%-oil; 37%-water; 54%-mud) Chlorides: 14,000 Ppm PH: 7.0 RW: .36 @ 82°  
 Recovered 287 ft. of TOTAL FLUID = 2.944620 bbls.  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Remarks Tool Sample Grind Out: 8%-gas; 10%-oil; 30%-water; 52%-mud

Time Set Packer(s) 6:40 P.M. Time Started off Bottom 9:40 P.M. Maximum Temperature 105°  
 Initial Hydrostatic Pressure.....(A) 1707 P.S.I.  
 Initial Flow Period.....Minutes 30 (B) 87 P.S.I. to (C) 136 P.S.I.  
 Initial Closed In Period.....Minutes 45 (D) 1060 P.S.I.  
 Final Flow Period.....Minutes 45 (E) 144 P.S.I. to (F) 208 P.S.I.  
 Final Closed In Period.....Minutes 60 (G) 1064 P.S.I.  
 Final Hydrostatic Pressure.....(H) 1671 P.S.I.



**DIAMOND TESTING  
ROGER D. FRIEDLY - TESTER  
CELL 620-793-2043**

Company Name VESS OIL CORP  
Contact BILL HORIGAN  
Well Name YOUNGER 'B' #1  
Unique Well ID DST #4 ARBUCKLE 3367-3507  
Surface Location SEC 12-10S-17W-ROOKS CO.-KS  
Field WILDCAT

**Test Information**

Job Number  
Test Unit NO. 5  
Representative JAKE FAHRENBRUCH  
Well Operator VESS OIL CORP  
Report Date 2012/08/09  
Test Type CONVENTIONAL Prepared By JAKE FAHRENBRUCH  
Formation DST #4 ARBUCKLE 3367-3507 Qualified By ROGER MARTIN  
Test Purpose Initial Test  
Well Fluid Type 01 Oil  
H2S

Start Test Date 2012/08/08 Start Test Time 16:16:00  
Final Test Date 2012/08/08 Final Test Time 23:55:00

**Remarks**

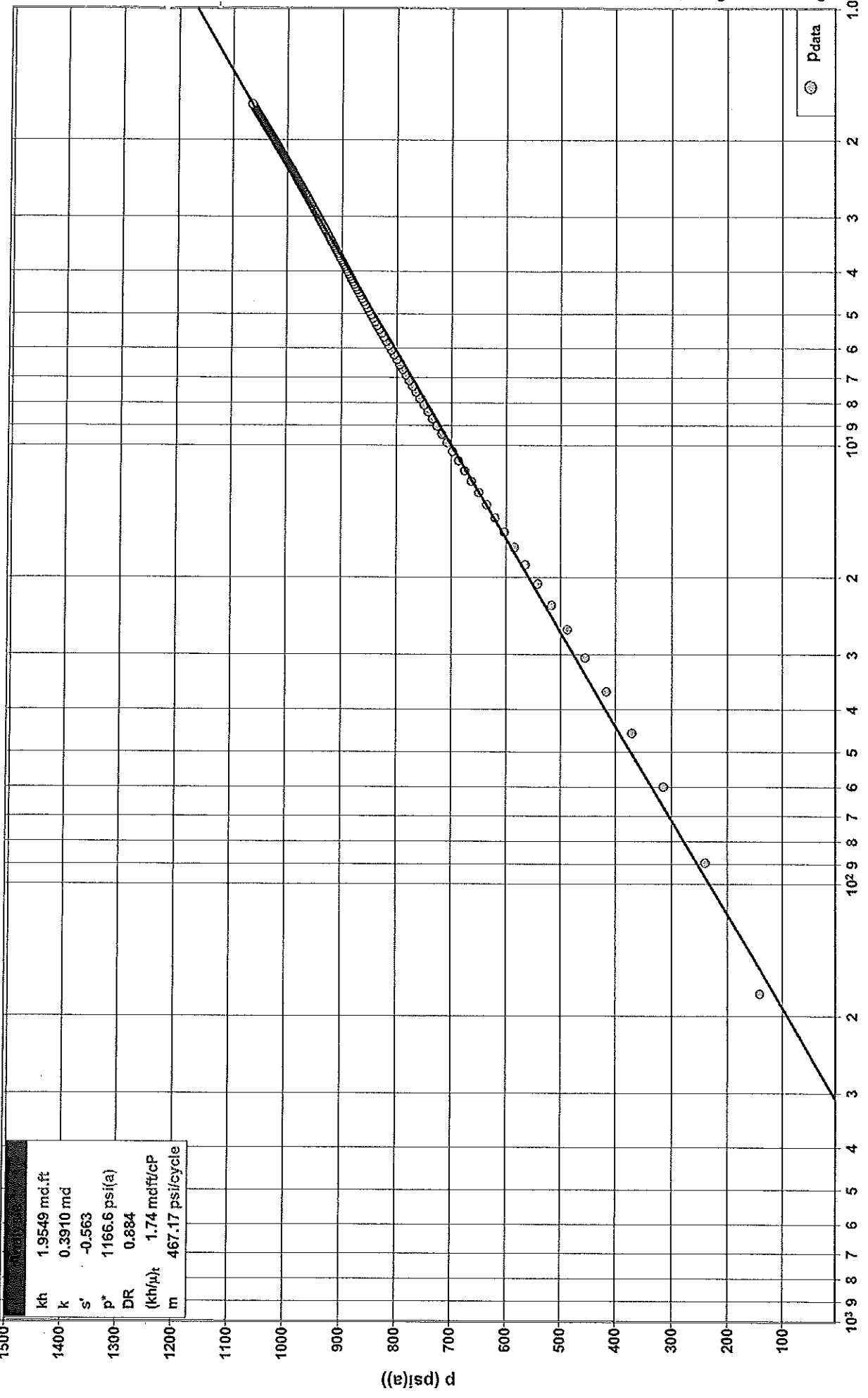
RECOVERED: 98' OCWM 2% OIL, 4% WTR, 94% MUD  
189' G&OCWM 2% GAS, 7% OIL, 37% WTR, 54% MUD  
287' TOTAL FLUID

TOOL SAMPLE: 8% GAS, 10% OIL, 30% WTR, 52% MUD

CHLORIDES: 14,000 Ppm  
RW: .36 @ 82 Deg  
PH: 7.0



VESS OIL CORP  
 YOUNGER 'B' #1  
 DST #4 ARBUCKLE 3,367' - 3,507'  
 Radial



kh	1.9549 md.ft
k	0.3910 md
s'	-0.563
p*	1166.6 psi(a)
DR	0.884
(kh/μ)k	1.74 mdft/cP
m	467.17 psi/cycle

Superposition Radial Time (ΣΔt) (h)

⊙ Pdata

(e)psd p

## Oil Well Test - Buildup Radial Flow Analysis

### Analysis Results

Flow Capacity (kh)	1.95 md.ft	Total Skin (s')	-0.563
Effective Permeability (k)	0.3910 md	Skin Due to Damage (s <sub>d</sub> )	-0.563
Effective Gas Permeability (k <sub>g</sub> )	md	Skin Due To Inclination (S <sub>inc</sub> )	
Effective Oil Permeability (k <sub>o</sub> )	0.3910 md	Skin Due To Partial Penetration (S <sub>pp</sub> )	
Effective Water Permeability (k <sub>w</sub> )	md	Pressure Drop Due to Total Skin (Δp <sub>skin</sub> )	psi(a)
Total Fluid Rate (in situ) ((qβ) <sub>i</sub> )	5.0 rbbl/d	Damage Ratio (DR)	0.884
Total Mobility ((k/μ) <sub>i</sub> )	0.35 md/cP	Flow Efficiency (FE)	1.131
Total Transmissivity ((kh/μ) <sub>i</sub> )	1.74 mdft/cP		
Semi-Log Slope (m)	467.17 psi/cycle		

### Reservoir Parameters

Net Pay (h)	5.000 ft
Total Porosity (φ <sub>t</sub> )	15.00 %
Gas Saturation (S <sub>g</sub> )	0.00 %
Oil Saturation (S <sub>o</sub> )	80.00 %
Water Saturation (S <sub>w</sub> )	20.00 %
Formation Compressibility (c <sub>f</sub> )	4.1093e-06 1/psi
Total Compressibility (c <sub>t</sub> )	1.5023e-05 1/psi
Wellbore Radius (r <sub>w</sub> )	0.300 ft

### Pressures

Extrapolated Pressure (p*)	1166.6 psi(a)
Final Flowing Pressure (p <sub>wfo</sub> )	135.9 psi(a)
Final Measured Pressure (p <sub>last</sub> )	0.3 psi(a)

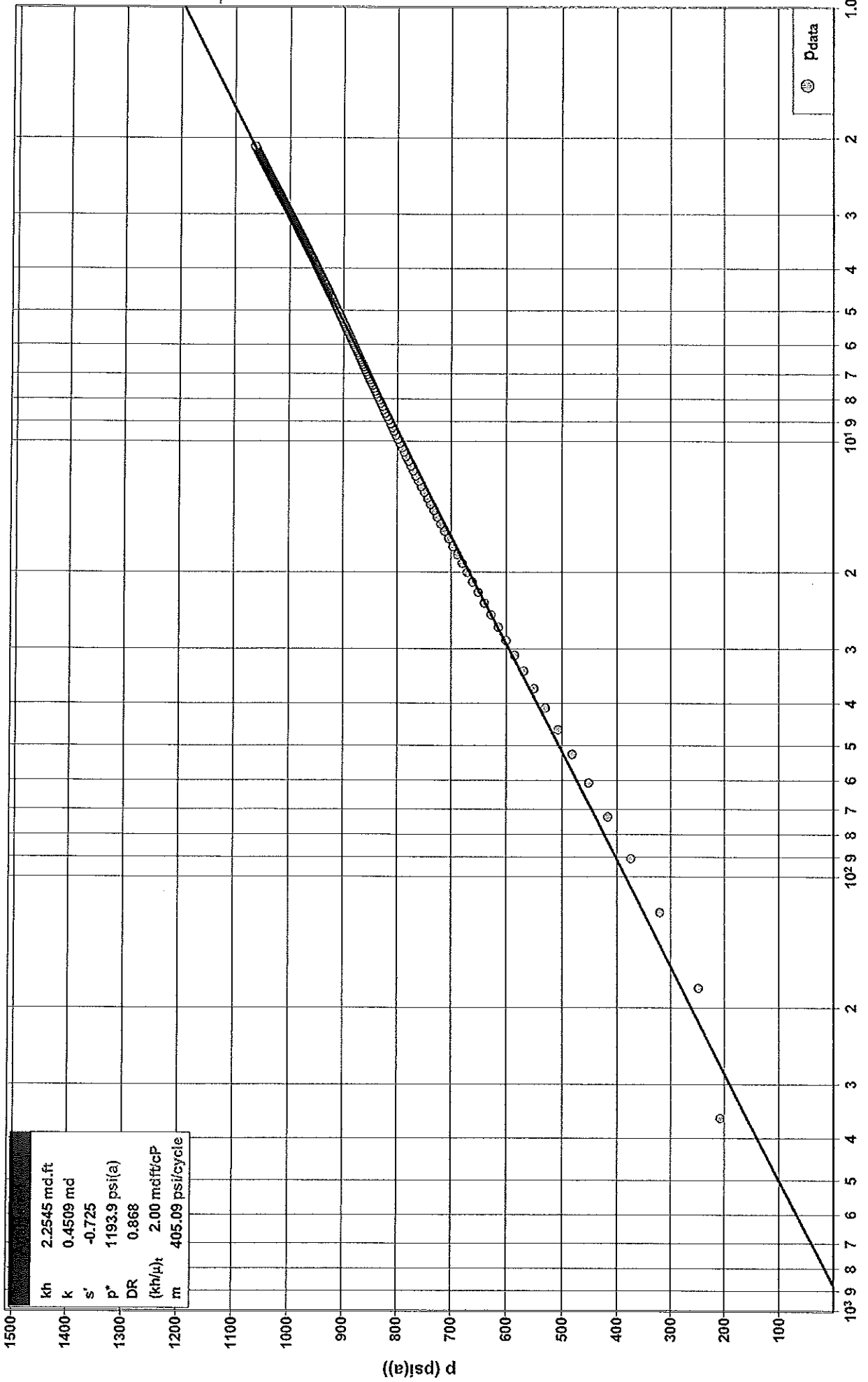
### Fluid Properties

Reservoir Temperature (T <sub>resv</sub> )	105.0 °F
Reservoir Pressure (p <sub>resv</sub> )	1879.9 psi(a)
Oil Gravity (γ <sub>o</sub> )	39.0 °API
Oil Viscosity (μ <sub>o</sub> )	1.1246 cP
Oil Compressibility (c <sub>o</sub> )	1.2891e-05 1/psi
Oil Formation Volume Factor (B <sub>o</sub> )	1.249
Solution Gas Ratio (R <sub>s</sub> )	465.1 scf/bbl
Oil Correlation	Vasquez and Beggs
Oil Viscosity Correlation	Beggs & Robinson

### Production and Times

Corrected Time (t <sub>c</sub> )	0.49 h
Total Cumulative Production Oil (Cum <sub>oil</sub> )	0.00 Mbbl
Final Oil Rate (q <sub>o final</sub> )	4.0 bbl/d

**VESSEIL OIL CORP  
YOUNGER 'B' #1  
DST #4 ARBUCKLE 3,367' - 3,507'  
Radial**



kh	2.2545 md.ft
k	0.4509 md
s'	-0.725
p*	1193.9 psi(a)
DR	0.868
(kh/μ) <sub>t</sub>	2.00 mdft/cP
m	405.09 psi/cycle

Superposition Radial Time (ΣΔt) (h)

⊙ Pdata

## Oil Well Test - Buildup

### Radial Flow Analysis

#### Analysis Results

Flow Capacity (kh)	2.25 md.ft	Total Skin (s')	-0.725
Effective Permeability (k)	0.4509 md	Skin Due to Damage (s <sub>d</sub> )	-0.725
Effective Gas Permeability (k <sub>g</sub> )	md	Skin Due To Inclination (s <sub>inc</sub> )	
Effective Oil Permeability (k <sub>o</sub> )	0.4509 md	Skin Due To Partial Penetration (s <sub>pp</sub> )	
Effective Water Permeability (k <sub>w</sub> )	md	Pressure Drop Due to Total Skin (Δp <sub>skin</sub> )	psi(a)
Total Fluid Rate (in situ) ((qβ) <sub>t</sub> )	5.0 rbb/d	Damage Ratio (DR)	0.868
Total Mobility ((k/μ) <sub>t</sub> )	0.40 md/cP	Flow Efficiency (FE)	1.153
Total Transmissivity ((kh/μ) <sub>t</sub> )	2.00 mdf/cP		
Semi-Log Slope (m)	405.09 psi/cycle		

#### Reservoir Parameters

Net Pay (h)	5.000 ft
Total Porosity (φ <sub>t</sub> )	15.00 %
Gas Saturation (S <sub>g</sub> )	0.00 %
Oil Saturation (S <sub>o</sub> )	80.00 %
Water Saturation (S <sub>w</sub> )	20.00 %
Formation Compressibility (c <sub>f</sub> )	4.1093e-06 1/psi
Total Compressibility (c <sub>t</sub> )	1.5023e-05 1/psi
Wellbore Radius (r <sub>w</sub> )	0.300 ft

#### Pressures

Extrapolated Pressure (p*)	1193.9 psi(a)
Final Flowing Pressure (p <sub>wfo</sub> )	207.8 psi(a)
Final Measured Pressure (p <sub>last</sub> )	0.3 psi(a)

#### Fluid Properties

Reservoir Temperature (T <sub>resv</sub> )	105.0 °F
Reservoir Pressure (p <sub>resv</sub> )	1879.9 psi(a)
Oil Gravity (γ <sub>o</sub> )	39.0 °API
Oil Viscosity (μ <sub>o</sub> )	1.1246 cP
Oil Compressibility (c <sub>o</sub> )	1.2891e-05 1/psi
Oil Formation Volume Factor (B <sub>o</sub> )	1.249
Solution Gas Ratio (R <sub>s</sub> )	465.1 scf/bbl
Oil Correlation	Vasquez and Beggs
Oil Viscosity Correlation	Beggs & Robinson

#### Production and Times

Corrected Time (t <sub>c</sub> )	1.24 h
Total Cumulative Production Oil (Cum <sub>oil</sub> )	0.00 Mbbl
Final Oil Rate (q <sub>o final</sub> )	4.0 bbl/d

DST #4 ARBUCKLE 3,367' - 3,507

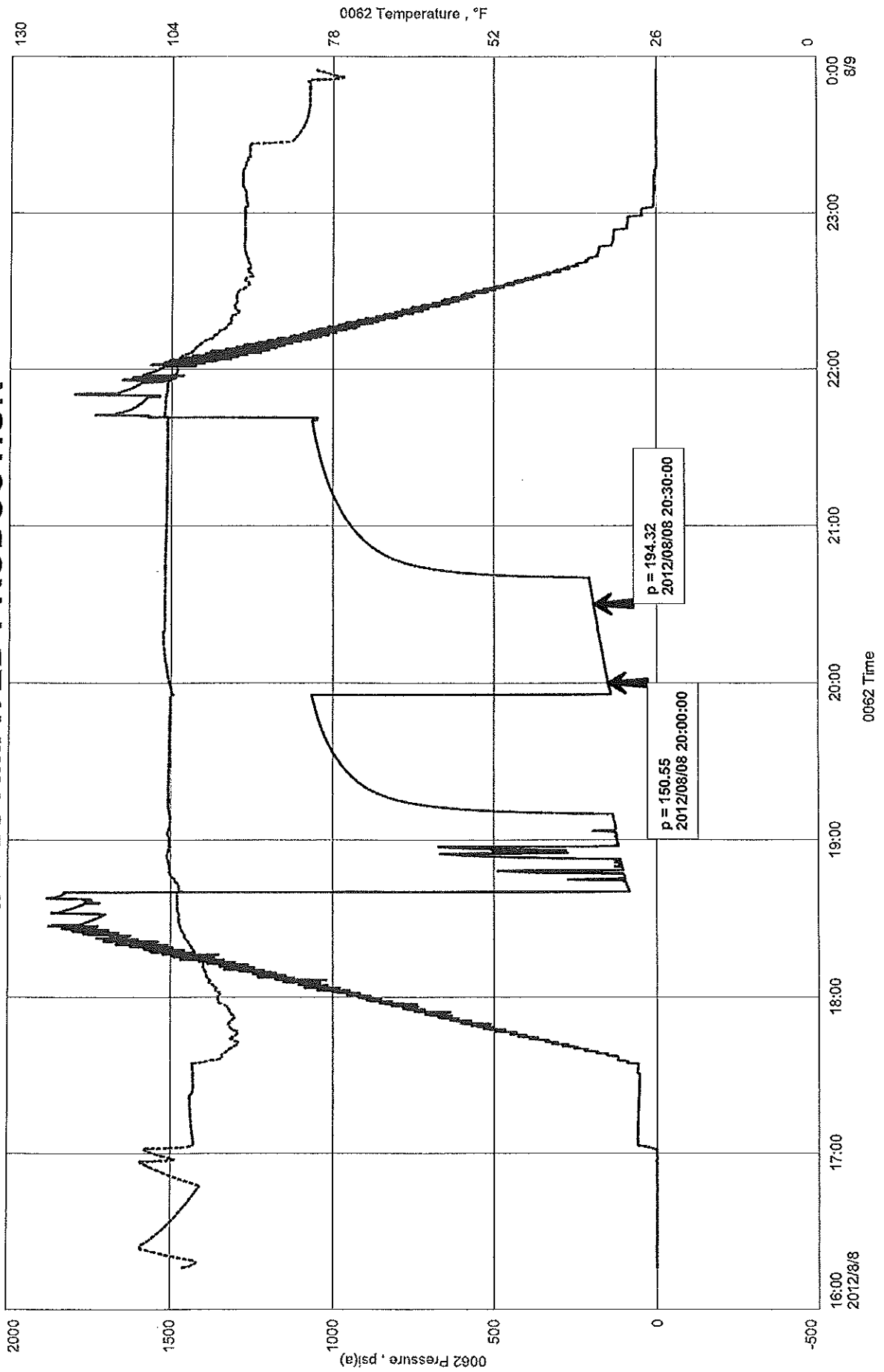
VESS OIL CORP.  
YOUNGER 'B' #1

<u>DESCRIPTION</u>	<u>SECOND</u>	<u>FIRST</u>	<u>PRESSURE</u>	<u>DRILL-</u>	<u>FLUID</u>	<u>TIME</u>	<u>TOTAL</u>	<u>DAILY</u>	<u>AVERAGE</u>	<u>ESTIMATED</u>
FINAL FLOW	<u>READING</u>	<u>READING</u>	<u>CHANGE</u>	<u>PIPE</u>	<u>GRADIENT</u>	<u>CHANGE</u>	<u>TIME</u>	<u>PRODUCTION</u>	<u>PERCENTAGE</u>	<u>DAILY</u>
	194	151	43	<u>SIZE-ID</u>	0.359	30	1440	82	OIL	<u>PRODUCTION</u>
				0.0142					5.00%	4

YOUNGER 'B' #1  
Formation: DST #4 ARBUCKLE 3367-3507

VESS OIL CORP  
DST #4 ARBUCKLE 3367-3507  
Start Test Date: 2012/08/08  
Final Test Date: 2012/08/08

# DST #4 ESTIMATED PRODUCTION



# YOUNGER 'B' #1

