

Company Oil Properties Co., Inc. Lease & Well No. Graber #1
 Elevation -- Formation Kansas City Effective Pay ----- Ft. Ticket No. 5580
 Date 1/28/80 Sec. 4 Twp. 27S Range 6W County Kingman State Kansas
 Test Approved by Robert C. Armstrong Western Representative Dave Sloan

Formation Test No. 1 Interval Tested from 3365 ft. to 3375 ft. Total Depth 3375 ft.
 Packer Depth 3360 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 3365 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3368 ft. Recorder Number 6246 Cap. 5200
 Bottom Recorder Depth (Outside) 3371 ft. Recorder Number 2604 Cap. 4150
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor D. R. Lauck Drlg. #1 Drill Collar Length 310 I. D. 2.2 in.
 Mud Type starch Viscosity 36 Weight Pipe Length - I. D. - in.
 Weight 9.7 Water Loss 15.4 cc. Drill Pipe Length 3035 I. D. 3.8 in.
 Chlorides 23,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.
 Jars: Make -- Serial Number -- Anchor Length 10 ft. Size 5 1/2 OD in.
 Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Weak blow dying twenty-five minutes on initial flow period. Weak blow dying twenty minutes on final flow period.

Recovered 60 ft. of mud cut water chlorides 56,000 ppm
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of

Remarks:

Time Set Packer(s) 6:00 ~~AM~~ P.M. Time Started Off Bottom 8:00 ~~AM~~ P.M. Maximum Temperature 110°
 Initial Hydrostatic Pressure (A) 1746 P.S.I.
 Initial Flow Period Minutes 30 (B) 13 P.S.I. to (C) 29 P.S.I.
 Initial Closed In Period Minutes 30 (D) 976 P.S.I.
 Final Flow Period Minutes 30 (E) 52 P.S.I. to (F) 57 P.S.I.
 Final Closed In Period Minutes 30 (G) 838 P.S.I.
 Final Hydrostatic Pressure (H) 1674 P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 1/28/80 Test Ticket No. 5580
 Recorder No. 6246 Capacity 5200 Location 3368 Ft.
 Clock No. ----- Elevation ----- Well Temperature 110 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1746	P.S.I.	6:00P	M
B First Initial Flow Pressure	13	P.S.I.	30 Mins.	30 Mins.
C First Final Flow Pressure	29	P.S.I.	30 Mins.	30 Mins.
D Initial Closed-in Pressure	976	P.S.I.	30 Mins.	30 Mins.
E Second Initial Flow Pressure	52	P.S.I.	30 Mins.	30 Mins.
F Second Final Flow Pressure	57	P.S.I.		
G Final Closed-in Pressure	838	P.S.I.		
H Final Hydrostatic Mud	1674	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure
 Breakdown: 6 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Initial Shut-In
 Breakdown: 10 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Second Flow Pressure
 Breakdown: 6 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

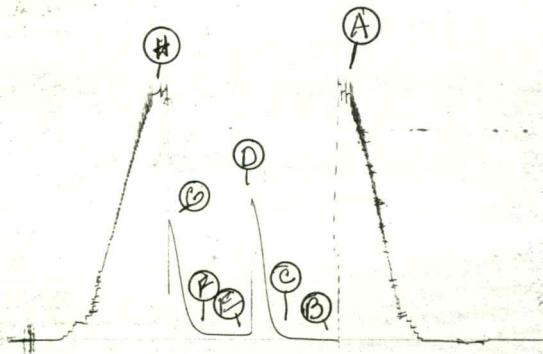
Final Shut-In
 Breakdown: 10 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>13</u>	<u>0</u>	<u>29</u>	<u>0</u>	<u>52</u>	<u>0</u>	<u>57</u>
P 2 <u>5</u>	<u>20</u>	<u>3</u>	<u>36</u>	<u>5</u>	<u>52</u>	<u>3</u>	<u>57</u>
P 3 <u>10</u>	<u>21</u>	<u>6</u>	<u>45</u>	<u>10</u>	<u>52</u>	<u>6</u>	<u>63</u>
P 4 <u>15</u>	<u>24</u>	<u>9</u>	<u>63</u>	<u>15</u>	<u>52</u>	<u>9</u>	<u>79</u>
P 5 <u>20</u>	<u>26</u>	<u>12</u>	<u>94</u>	<u>20</u>	<u>53</u>	<u>12</u>	<u>105</u>
P 6 <u>25</u>	<u>27</u>	<u>15</u>	<u>173</u>	<u>25</u>	<u>55</u>	<u>15</u>	<u>154</u>
P 7 <u>30</u>	<u>29</u>	<u>18</u>	<u>306</u>	<u>30</u>	<u>57</u>	<u>18</u>	<u>238</u>
P 8		<u>21</u>	<u>516</u>			<u>21</u>	<u>366</u>
P 9		<u>24</u>	<u>717</u>			<u>24</u>	<u>537</u>
P10		<u>27</u>	<u>872</u>			<u>27</u>	<u>686</u>
P11		<u>30</u>	<u>976</u>			<u>30</u>	<u>838</u>
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

6246

OIL PROPERTIES
GRABER #1
OST 1

TKT #5580
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Company Oil Properties Co., Inc. Lease & Well No. Graber #1
 Elevation ----- Formation Mississippi Effective Pay --- Ft. Ticket No. 5581
 Date 1/30/80 Sec. 4 Twp 27S Range 6W County Kingman State Kansas
 Test Approved by Robert C. Armstrong Western Representative Dave Sloan

Formation Test No. 2 Interval Tested from 3711 ft. to 3728 ft. Total Depth 3728 ft.
 Packer Depth 3706 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 3711 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3720 ft. Recorder Number 2604 Cap. 4150
 Bottom Recorder Depth (Outside) 3723 ft. Recorder Number 6246 Cap. 5200
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor D. R. Lauck Drilling Rig #1 Drill Collar Length 310 I. D. 2.2 in.
 Mud Type starch Viscosity 37 Weight Pipe Length - I. D. - in.
 Weight 9.8 Water Loss 12.8 cc. Drill Pipe Length 3381 I. D. 3.8 in.
 Chlorides 24,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.
 Jars: Make -- Serial Number --- Anchor Length 17 ft. Size 5 1/2 OD in.
 Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Strong. Gas to surface eight minutes on initial flow period. See attached sheet for gas measurements.

Recovered 30 ft. of gas cut mud
 Recovered 240 ft. of gas and water cut mud
 Recovered 70 ft. of gas and mud cut water chlorides 82,000 ppm
 Recovered ft. of
 Recovered ft. of

Remarks:

Time Set Packer(s) 4:45 ~~P.M.~~ ^{A.M.} Time Started Off Bottom 7:45 ~~P.M.~~ ^{A.M.} Maximum Temperature 118°
 Initial Hydrostatic Pressure (A) 1901 P.S.I.
 Initial Flow Period Minutes 45 (B) 57 P.S.I. to (C) 65 P.S.I.
 Initial Closed In Period Minutes 45 (D) 1268 P.S.I.
 Final Flow Period Minutes 45 (E) 82 P.S.I. to (F) 82 P.S.I.
 Final Closed In Period Minutes 45 (G) 1240 P.S.I.
 Final Hydrostatic Pressure (H) 1886 P.S.I.

GAS FLOW REPORT

Date 1/30/80 Ticket 5581 Company Oil Properties Company, Inc.
 Well Name and No. Graber #1 Dst No. 2 Interval Tested 3711'-3728'
 County Kingman State Kansas Sec. 4 Twp. 27S Rg. 6W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
	15 min.	10" of water	1" orifice			81,800 CFPD
	25 min.	12" of water	1" orifice			82,800 CFPD
	35 min.	14" of water	1" orifice			97,300 CFPD
	45 min.	14" of water	1" orifice			97,300 CFPD

SECOND FLOW						
	10 min.	20" of water	1" orifice			115,000 CFPD
	20 min.	20" of water	1" orifice			115,000 CFPD
	30 min.	18" of water	1" orifice			110,000 CFPD
	40 min.	18" of water	1" orifice			110,000 CFPD
	45 min.	18" of water	1" orifice			110,000 CFPD

GAS BOTTLE

Serial No. ----- Date Bottle Filled ----- Date to be Invoiced 1/30/80

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of \$75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1 1/2% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Oil Properties Company, Inc.
 Authorized by Robert C. Armstrong

WESTERN TESTING CO., INC.
Pressure Data

Date 1/30/80 Test Ticket No. 5581
 Recorder No. 2604 Capacity 4150 Location 3720 Ft.
 Clock No. ----- Elevation ----- Well Temperature 118 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1901</u> P.S.I.	Open Tool	<u>4:45A</u> M	
B First Initial Flow Pressure	<u>57</u> P.S.I.	First Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
C First Final Flow Pressure	<u>65</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>1268</u> P.S.I.	Second Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
E Second Initial Flow Pressure	<u>82</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>82</u> P.S.I.			
G Final Closed-in Pressure	<u>1240</u> P.S.I.			
H Final Hydrostatic Mud	<u>1886</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
 Breakdown: 9 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Initial Shut-In
 Breakdown: 15 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Second Flow Pressure
 Breakdown: 12 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

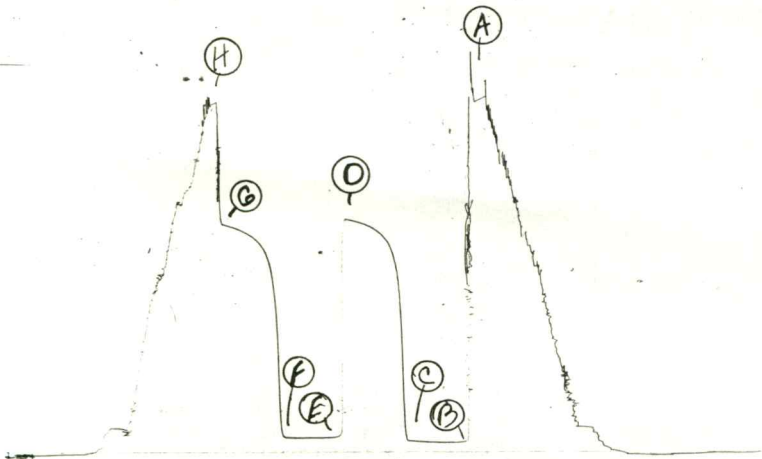
Final Shut-In
 Breakdown: 15 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>57</u>	<u>0</u>	<u>65</u>	<u>0</u>	<u>82</u>	<u>0</u>	<u>82</u>
P 2 <u>5</u>	<u>57</u>	<u>3</u>	<u>205</u>	<u>5</u>	<u>82</u>	<u>3</u>	<u>177</u>
P 3 <u>10</u>	<u>54</u>	<u>6</u>	<u>544</u>	<u>10</u>	<u>82</u>	<u>6</u>	<u>544</u>
P 4 <u>15</u>	<u>54</u>	<u>9</u>	<u>836</u>	<u>15</u>	<u>82</u>	<u>9</u>	<u>851</u>
P 5 <u>20</u>	<u>54</u>	<u>12</u>	<u>1033</u>	<u>20</u>	<u>82</u>	<u>12</u>	<u>998</u>
P 6 <u>25</u>	<u>57</u>	<u>15</u>	<u>1111</u>	<u>25</u>	<u>82</u>	<u>15</u>	<u>1073</u>
P 7 <u>30</u>	<u>59</u>	<u>18</u>	<u>1153</u>	<u>30</u>	<u>82</u>	<u>18</u>	<u>1121</u>
P 8 <u>35</u>	<u>61</u>	<u>21</u>	<u>1182</u>	<u>35</u>	<u>82</u>	<u>21</u>	<u>1148</u>
P 9 <u>40</u>	<u>63</u>	<u>24</u>	<u>1201</u>	<u>40</u>	<u>82</u>	<u>24</u>	<u>1167</u>
P10 <u>45</u>	<u>65</u>	<u>27</u>	<u>1215</u>	<u>45</u>	<u>82</u>	<u>27</u>	<u>1182</u>
P11		<u>30</u>	<u>1231</u>			<u>30</u>	<u>1196</u>
P12		<u>33</u>	<u>1239</u>			<u>33</u>	<u>1205</u>
P13		<u>36</u>	<u>1247</u>			<u>36</u>	<u>1214</u>
P14		<u>39</u>	<u>1254</u>			<u>39</u>	<u>1222</u>
P15		<u>42</u>	<u>1261</u>			<u>42</u>	<u>1231</u>
P16		<u>45</u>	<u>1268</u>			<u>45</u>	<u>1240</u>
P17							
P18							
P19							
P20							

26.4

Oil properties
GRABER #1 DST 2

TKL #5581
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Company Oil Properties Company, Inc. Lease & Well No. Graber #1
 Elevation ----- Formation Viola Effective Pay --- Ft. Ticket No. 5582
 Date 1/31/80 Sec. 4 Twp. 27S Range 6W County Kingman State Kansas
 Test Approved by Robert C. Armstrong Western Representative Dave Sloan

Formation Test No. 3 Interval Tested from 4071 ft. to 4084 ft. Total Depth 4084 ft.
 Packer Depth 4066 ft. Size 6 3/4 in. Packer Depth -- ft. Size - in.
 Packer Depth 4071 ft. Size 6 3/4 in. Packer Depth -- ft. Size - in.
 Depth of Selective Zone Set --

Top Recorder Depth (Inside) 4075 ft. Recorder Number 2604 Cap. 4150
 Bottom Recorder Depth (Outside) 4078 ft. Recorder Number 6246 Cap. 5200
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. --

Drilling Contractor D. R. Lauck Drilling Rig #1 Drill Collar Length 310 I. D. 2.2 in.
 Mud Type starch Viscosity 53 Weight Pipe Length -- I. D. - in.
 Weight 9.7 Water Loss 6.2 cc. Drill Pipe Length 3741 I. D. 3.8 in.
 Chlorides 21,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.
 Jars: Make -- Serial Number - Anchor Length 13 ft. Size 5 1/2 OD in.
 Did Well Flow? No Reversed Out Yes Surface Choke Size 3/4 in. Bottom Choke Size 2/4 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Strong throughout both flow periods.

Recovered 690 ft. of gas in pipe
 Recovered 330 ft. of gas and water cut oil (5% gas; 53% oil; 35% water; 7% mud)
 Recovered 420 ft. of gassy oil water
 Recovered 1140 ft. of water chlorides 36,000 ppm
 Recovered ft. of

Remarks:

Time Set Packer(s) 11:40 ~~AM~~ PM Time Started Off Bottom 2:40 ~~AM~~ PM Maximum Temperature 136°
 Initial Hydrostatic Pressure (A) 2118 P.S.I.
 Initial Flow Period Minutes 45 (B) 66 P.S.I. to (C) 497 P.S.I.
 Initial Closed In Period Minutes 45 (D) 1401 P.S.I.
 Final Flow Period Minutes 45 (E) 554 P.S.I. to (F) 836 P.S.I.
 Final Closed In Period Minutes 45 (G) 1401 P.S.I.
 Final Hydrostatic Pressure (H) 2111 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 1/31/80 Test Ticket No. 5582
 Recorder No. 2604 Capacity 4150 Location 4084 Ft.
 Clock No. ----- Elevation ----- Well Temperature 136 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2118</u> P.S.I.	Open Tool	<u>11:40P</u> M	
B First Initial Flow Pressure	<u>66</u> P.S.I.	First Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
C First Final Flow Pressure	<u>497</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>1401</u> P.S.I.	Second Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
E Second Initial Flow Pressure	<u>554</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>836</u> P.S.I.			
G Final Closed-in Pressure	<u>1401</u> P.S.I.			
H Final Hydrostatic Mud	<u>2111</u> P.S.I.			

PRESSURE BREAKDOWN

Point Mins.	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.
	of <u>9</u> mins. and a		of <u>15</u> mins. and a		of <u>9</u> mins. and a		of <u>15</u> mins. and a	
	final inc. of <u>5</u> Min.		final inc. of <u>3</u> Min.		final inc. of <u>5</u> Min.		final inc. of <u>3</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	
P 1 <u>0</u>	<u>66</u>	<u>0</u>	<u>497</u>	<u>0</u>	<u>554</u>	<u>0</u>	<u>836</u>	
P 2 <u>5</u>	<u>109</u>	<u>3</u>	<u>1351</u>	<u>5</u>	<u>569</u>	<u>3</u>	<u>1357</u>	
P 3 <u>10</u>	<u>164</u>	<u>6</u>	<u>1374</u>	<u>10</u>	<u>598</u>	<u>6</u>	<u>1374</u>	
P 4 <u>15</u>	<u>224</u>	<u>9</u>	<u>1382</u>	<u>15</u>	<u>636</u>	<u>9</u>	<u>1382</u>	
P 5 <u>20</u>	<u>277</u>	<u>12</u>	<u>1387</u>	<u>20</u>	<u>673</u>	<u>12</u>	<u>1389</u>	
P 6 <u>25</u>	<u>326</u>	<u>15</u>	<u>1391</u>	<u>25</u>	<u>709</u>	<u>15</u>	<u>1393</u>	
P 7 <u>30</u>	<u>378</u>	<u>18</u>	<u>1392</u>	<u>30</u>	<u>740</u>	<u>18</u>	<u>1395</u>	
P 8 <u>35</u>	<u>423</u>	<u>21</u>	<u>1393</u>	<u>35</u>	<u>773</u>	<u>21</u>	<u>1397</u>	
P 9 <u>40</u>	<u>472</u>	<u>24</u>	<u>1394</u>	<u>40</u>	<u>805</u>	<u>24</u>	<u>1398</u>	
P10 <u>45</u>	<u>497</u>	<u>27</u>	<u>1395</u>	<u>45</u>	<u>836</u>	<u>27</u>	<u>1399</u>	
P11 _____	_____	<u>30</u>	<u>1396</u>	_____	_____	<u>30</u>	<u>1399</u>	
P12 _____	_____	<u>33</u>	<u>1397</u>	_____	_____	<u>33</u>	<u>1400</u>	
P13 _____	_____	<u>36</u>	<u>1398</u>	_____	_____	<u>36</u>	<u>1400</u>	
P14 _____	_____	<u>39</u>	<u>1399</u>	_____	_____	<u>39</u>	<u>1401</u>	
P15 _____	_____	<u>42</u>	<u>1400</u>	_____	_____	<u>42</u>	<u>1401</u>	
P16 _____	_____	<u>45</u>	<u>1401</u>	_____	_____	<u>45</u>	<u>1401</u>	
P17 _____	_____	_____	_____	_____	_____	_____	_____	
P18 _____	_____	_____	_____	_____	_____	_____	_____	
P19 _____	_____	_____	_____	_____	_____	_____	_____	
P20 _____	_____	_____	_____	_____	_____	_____	_____	

2604

oil Properties
GRABER #1
DST #3

TKL # 5582
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