

Company Gemini Oil Company Lease & Well No. Swander #2
Elevation - Formation Top Indian Cave Effective Pay - Ft. Ticket No. 8564
Date 11-23-80 Sec. 20 Twp. 28S Range 9W County Kingman State Kansas
Test Approved by R G Siemens Western Representative Stuart Stover
Formation Test No. 1 Interval Tested from 2380 ft. to 2415 ft. Total Depth 2415 ft.
Packer Depth 2375 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Packer Depth 2380 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -
Top Recorder Depth (Inside) 2385 ft. Recorder Number 11018 Cap. 4425
Bottom Recorder Depth (Outside) 2388 ft. Recorder Number 11019 Cap. 4500
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
Drilling Contractor H-30 Rig #3 Drill Collar Length 240 I. D. 2 1/4 in.
Mud Type - Viscosity - Weight Pipe Length - I. D. - in.
Weight - Water Loss - cc. Drill Pipe Length 2119 I. D. 4.0 in.
Chlorides - P.P.M. Test Tool Length 21 ft. Tool Size 3 1/2 in.
Jars: Make - Serial Number - Anchor Length 35 ft. Size 4 1/2 in.
Did Well Flow? - Reversed Out - Surface Choke Size 1/2 in. Bottom Choke Size 1/2 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: Good blow off bottom of bucket. Gas to surface in forty minutes on final flow period.
Not measureable.

Recovered 70 ft. of gas cut mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s)	<u>1:30</u>	~~A.M.~~ P.M.	Time Started Off Bottom	<u>5:15</u>	A.M. ~~P.M.~~	Maximum Temperature	<u>-</u>
Initial Hydrostatic Pressure			(A)	<u>1238</u>	P.S.I.		
Initial Flow Period	Minutes	<u>30</u>	(B)	<u>73</u>	P.S.I. to (C)	<u>56</u>	P.S.I.
Initial Closed In Period	Minutes	<u>33</u>	(D)	<u>582</u>	P.S.I.		
Final Flow Period	Minutes	<u>55</u>	(E)	<u>73</u>	P.S.I. to (F)	<u>64</u>	P.S.I.
Final Closed In Period	Minutes	<u>84</u>	(G)	<u>913</u>	P.S.I.		
Final Hydrostatic Pressure			(H)	<u>1176</u>	P.S.I.		

WESTERN TESTING CO., INC.

Pressure Data

11/23/80

8564

Date 11/23/80

Test Ticket No. 2385

Recorder No. 11018

Capacity 4425

Location 2385 Ft.

Clock No. ---

Elevation ----

Well Temperature -- °F

Point	Pressure	
A Initial Hydrostatic Mud	1238	P.S.I.
B First Initial Flow Pressure	73	P.S.I.
C First Final Flow Pressure	56	P.S.I.
D Initial Closed-in Pressure	582	P.S.I.
E Second Initial Flow Pressure	73	P.S.I.
F Second Final Flow Pressure	64	P.S.I.
G Final Closed-in Pressure	913	P.S.I.
H Final Hydrostatic Mud	1176	P.S.I.

Open Tool
First Flow Pressure
Initial Closed-in Pressure
Second Flow Pressure
Final Closed-in Pressure

Time Given	Time Computed
1:30P	M
30	30
45	33
60	55
90	84

PRESSURE BREAKDOWN

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

Initial Shut-In
Breakdown: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

Second Flow Pressure
Breakdown: 11 Inc.
of 5 mins. and a
final inc. of 0 Min.

Final Shut-In
Breakdown: 28 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>73</u>	<u>0</u>	<u>56</u>	<u>0</u>	<u>73</u>	<u>0</u>	<u>64</u>
P 2 <u>5</u>	<u>58</u>	<u>3</u>	<u>69</u>	<u>5</u>	<u>64</u>	<u>3</u>	<u>289</u>
P 3 <u>10</u>	<u>52</u>	<u>6</u>	<u>122</u>	<u>10</u>	<u>59</u>	<u>6</u>	<u>509</u>
P 4 <u>15</u>	<u>51</u>	<u>9</u>	<u>180</u>	<u>15</u>	<u>59</u>	<u>9</u>	<u>646</u>
P 5 <u>20</u>	<u>51</u>	<u>12</u>	<u>247</u>	<u>20</u>	<u>59</u>	<u>12</u>	<u>730</u>
P 6 <u>25</u>	<u>51</u>	<u>15</u>	<u>333</u>	<u>25</u>	<u>59</u>	<u>15</u>	<u>785</u>
P 7 <u>30</u>	<u>56</u>	<u>18</u>	<u>407</u>	<u>30</u>	<u>59</u>	<u>18</u>	<u>821</u>
P 8		<u>21</u>	<u>464</u>	<u>35</u>	<u>60</u>	<u>21</u>	<u>845</u>
P 9		<u>24</u>	<u>504</u>	<u>40</u>	<u>61</u>	<u>24</u>	<u>865</u>
P 10		<u>27</u>	<u>533</u>	<u>45</u>	<u>62</u>	<u>27</u>	<u>878</u>
P 11		<u>30</u>	<u>562</u>	<u>50</u>	<u>63</u>	<u>30</u>	<u>887</u>
P 12		<u>33</u>	<u>582</u>	<u>55</u>	<u>64</u>	<u>33</u>	<u>892</u>
P 13						<u>36</u>	<u>896</u>
P 14						<u>39</u>	<u>898</u>
P 15						<u>42</u>	<u>903</u>
P 16						<u>45</u>	<u>904</u>
P 17						<u>48</u>	<u>905</u>
P 18						<u>51</u>	<u>906</u>
P 19						<u>54</u>	<u>907</u>
P 20						<u>57</u>	<u>908</u>
						<u>60</u>	<u>909</u>

WESTERN TESTING CO., INC.

Pressure Data

11/23/80

8564

Date 11/23/80

Test Ticket No. 8564

Recorder No. 11018

Capacity 4425

Location 2385 Ft.

Clock No. --- Elevation ----

Well Temperature -- °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1238 P.S.I.	Open Tool	1:30P M	
B First Initial Flow Pressure	73 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	56 P.S.I.	Initial Closed-in Pressure	45 Mins.	33 Mins.
D Initial Closed-in Pressure	582 P.S.I.	Second Flow Pressure	60 Mins.	55 Mins.
E Second Initial Flow Pressure	73 P.S.I.	Final Closed-in Pressure	90 Mins.	84 Mins.
F Second Final Flow Pressure	64 P.S.I.			
G Final Closed-in Pressure	913 P.S.I.			
H Final Hydrostatic Mud	1176 P.S.I.			

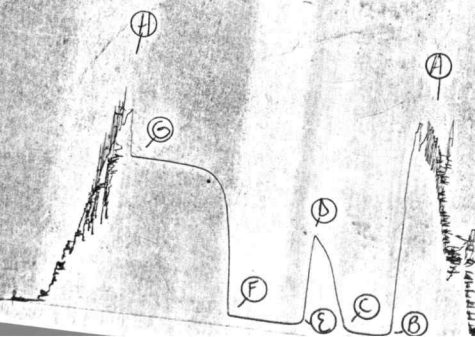
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>11</u> Inc.		Breakdown: <u>11</u> Inc.		Breakdown: <u>28</u> Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1						63	910
P 2						66	911
P 3						69	912
P 4						72	912
P 5						75	913
P 6						78	913
P 7						81	913
P 8						84	913
P 9							
P10							
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

TKT # 8564

11018-8564

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Company Gemini Oil Company Lease & Well No. Swander #2
 Elevation ----- Formation Indian Cave Effective Pay - Ft. Ticket No. 8565
 Date 11/24/80 Sec. 20 Twp. 28S Range 9W County Kingman State Kansas
 Test Approved by A. G. Siemens Western Representative Stuart Stover
 Formation Test No. 2 Interval Tested from 2380 ft. to 2440 ft. Total Depth 2440 ft.
 Packer Depth 2375 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 2380 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 2385 ft. Recorder Number 11018 Cap. 4425
 Bottom Recorder Depth (Outside) 2388 ft. Recorder Number 11019 Cap. 4500
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor H-30 Drlg. Rig #3 Drill Collar Length 240 I. D. 2 1/4 in.
 Mud Type chemical Viscosity 43 Weight Pipe Length - I. D. - in.
 Weight 9.3 Water Loss 52.4 cc. Drill Pipe Length 2119 I. D. 4.0 in.
 Chlorides 31,000 P.P.M. Test Tool Length 21 ft. Tool Size 3 1/2 in.
 Jars: Make -- Serial Number - Anchor Length 60 ft. Size 4 1/2 in.
 Did Well Flow? - Reversed Out - Surface Choke Size 1/2 in. Bottom Choke Size 1/2 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: Strong blow. Gas to surface at beginning of second flow. See attached sheet
for gas measurements.

Recovered 120 ft. of gas cut mud
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of
 Remarks:

READ OUTSIDE CHART

Time Set Packer(s) 2:15 A.M. P.M. Time Started Off Bottom 5:30 A.M. P.M. Maximum Temperature -
 Initial Hydrostatic Pressure (A) 1240 P.S.I.
 Initial Flow Period Minutes 30 (B) 75 P.S.I. to (C) 54 P.S.I.
 Initial Closed In Period Minutes 78 (D) 921 P.S.I.
 Final Flow Period Minutes 60 (E) 86 P.S.I. to (F) 63 P.S.I.
 Final Closed In Period Minutes 69 (G) 916 P.S.I.
 Final Hydrostatic Pressure (H) 1222 P.S.I.

GAS FLOW REPORT

Date 11-24-80 Ticket 8565 Company Gemini Oil Company
 Well Name and No. Swander #2 Dst No. 2 Interval Tested 2380' - 2440'
 County Kingman State Kansas Sec. 20 Twp. 28S Rg. 9W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Meria 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
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PRE FLOW

SECOND FLOW

10 min.	1.0 PSIG	1/4" orifice		8,950 C.F.P.D.
20 min.	2.0 PSIG	1/4" orifice		12,700 C.F.P.D.
30 min.	2.5 PSIG	1/4" orifice		14,300 C.F.P.D.
40 min.	2.5 PSIG	1/4" orifice		14,300 C.F.P.D.
50 min.	2.5 PSIG	1/4" orifice		14,300 C.F.P.D.
60 min.	2.5 PSIG	1/4" orifice		14,300 C.F.P.D.

GAS BOTTLE

Serial No. - Date Bottle Filled - Date to be Invoiced -

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 1½% 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 Gemini Oil Company
 Authorized by A.G. Siemens

WESTERN TESTING CO., INC.

Pressure Data

Date 11/24/80 Test Ticket No. 8565
 Recorder No. 11019 Capacity 4500 Location 2388 Ft.
 Clock No. - Elevation ---- Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1240	P.S.I.	2:15P	M
B First Initial Flow Pressure	75	P.S.I.	30	Mins. 30 Mins.
C First Final Flow Pressure	54	P.S.I.	45	Mins. 78 Mins.
D Initial Closed-in Pressure	921	P.S.I.	60	Mins. 60 Mins.
E Second Initial Flow Pressure	86	P.S.I.	60	Mins. 69 Mins.
F Second Final Flow Pressure	63	P.S.I.		
G Final Closed-in Pressure	916	P.S.I.		
H Final Hydrostatic Mud	1222	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>26</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>23</u> Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>75</u>	<u>0</u>	<u>54</u>	<u>0</u>	<u>86</u>	<u>0</u>	<u>63</u>
P 2 <u>5</u>	<u>59</u>	<u>3</u>	<u>303</u>	<u>5</u>	<u>63</u>	<u>3</u>	<u>339</u>
P 3 <u>10</u>	<u>56</u>	<u>6</u>	<u>509</u>	<u>10</u>	<u>61</u>	<u>6</u>	<u>543</u>
P 4 <u>15</u>	<u>54</u>	<u>9</u>	<u>669</u>	<u>15</u>	<u>61</u>	<u>9</u>	<u>676</u>
P 5 <u>20</u>	<u>54</u>	<u>12</u>	<u>757</u>	<u>20</u>	<u>61</u>	<u>12</u>	<u>752</u>
P 6 <u>25</u>	<u>54</u>	<u>15</u>	<u>813</u>	<u>25</u>	<u>61</u>	<u>15</u>	<u>804</u>
P 7 <u>30</u>	<u>54</u>	<u>18</u>	<u>849</u>	<u>30</u>	<u>61</u>	<u>18</u>	<u>831</u>
P 8		<u>21</u>	<u>869</u>	<u>35</u>	<u>62</u>	<u>21</u>	<u>851</u>
P 9		<u>24</u>	<u>885</u>	<u>40</u>	<u>62</u>	<u>24</u>	<u>865</u>
P10		<u>27</u>	<u>896</u>	<u>45</u>	<u>63</u>	<u>27</u>	<u>876</u>
P11		<u>30</u>	<u>903</u>	<u>50</u>	<u>63</u>	<u>30</u>	<u>885</u>
P12		<u>33</u>	<u>908</u>	<u>55</u>	<u>63</u>	<u>33</u>	<u>892</u>
P13		<u>36</u>	<u>911</u>	<u>60</u>	<u>63</u>	<u>36</u>	<u>896</u>
P14		<u>39</u>	<u>913</u>			<u>39</u>	<u>899</u>
P15		<u>42</u>	<u>916</u>			<u>42</u>	<u>904</u>
P16		<u>45</u>	<u>919</u>			<u>45</u>	<u>907</u>
P17		<u>48</u>	<u>919</u>			<u>48</u>	<u>909</u>
P18		<u>51</u>	<u>920</u>			<u>51</u>	<u>911</u>
P19		<u>54</u>	<u>920</u>			<u>54</u>	<u>912</u>
P20		<u>57</u>	<u>921</u>			<u>57</u>	<u>913</u>
		<u>60</u>	<u>921</u>			<u>60</u>	<u>914</u>

WESTERN TESTING CO., INC.

Pressure Data

Date 11/24/80

Recorder No. 11019

Capacity 4500

Test Ticket No. 8565

Clock No. - Elevation ---- Location 2388F

Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1240	P.S.I.	2:15P	M
B First Initial Flow Pressure	75	P.S.I.	30	Mins. 30 Mins
C First Final Flow Pressure	54	P.S.I.	45	Mins. 78 Mins
D Initial Closed-in Pressure	921	P.S.I.	60	Mins. 60 Mins
E Second Initial Flow Pressure	86	P.S.I.	60	Mins. 69 Mins
F Second Final Flow Pressure	63	P.S.I.		
G Final Closed-in Pressure	916	P.S.I.		
H Final Hydrostatic Mud	1222	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc.
of 5 mins. and a

Initial Shut-In
Breakdown: 26 Inc.
of 3 mins. and a

Second Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a

Final Shut-In
Breakdown: 23 Inc.
of 3 mins. and a

Point Mins.	final inc. of <u>0</u> Min. Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1		63	921			63	915
P 2		66	921			66	916
P 3		69	921			69	916
P 4		72	921				
P 5		75	921				
P 6		78	921				
P 7							
P 8							
P 9							
P10							
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

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