

**BERNARD W. LOUNSBURY**  
CONSULTING GEOLOGIST  
VICKERS-KSB&T BUILDING  
WICHITA, KANSAS 67202

July 5, 1973



Patton Oil Co.  
Continental Nat'l. Bank Bldg.  
3333 So. Bannock  
Englewood, Colorado

Re: Patton Oil Co.  
#1 Newsom  
Center E/2 SE  
Section 11-26S-18W  
Edwards County, Kansas

Gentlemen:

The following is a sample analysis report of the above captioned well. Samples were saved from the surface to 4580', total depth. The well was under geological supervision from 2000' to total depth.

COMMENCED: 6-10-73  
ROTARY RELEASED: 6-27-73  
CONTRACTOR: Red Tiger Drilling Co. - Rig #3  
ELEVATIONS: 2166' K.B.  
2163' D.F.  
2161' G.L.  
CASING RECORD: 8 5/8" @ 303' w/225 sx.  
5 1/2" @ 4578' w/175 sx.

<u>FORMATION</u>	<u>DEPTH</u>	<u>SEA LEVEL DATUM</u>
Herington	2355'	-189'
Krider	2379'	-213'
Winfield	2408'	-242'
Towanda	2474'	-308'
Ft. Riley	2527'	-361'
Wreford	2627'	-461'
Council Grove	2683'	-517'
Cottonwood	2856'	-690'
Wabaunsee	3151'	-985'
Wabaunsee Sand	3218'	-1052'

<u>FORMATION</u>	<u>DEPTH</u>	<u>SEA LEVEL DATUM</u>
Stotler	3287'	-1121'
Elmont	3338'	-1172'
Topeka	3482'	-1316'
Heebner	3872'	-1706'
Toronto	3881'	-1715'
Douglas Shale	3902'	-1736'
Brown Lime	3999'	-1833'
Lansing-Kansas City	4007'	-1841'
Base Kansas City	4320'	-2154'
Conglomerate	4510'	-2344'
Kinderhook Sand	4528'	-2362'
Rotary Total Depth	4580'	-2414'

All measurements from rotary bushing elevation.

### DRILL STEM TESTS

#1	2350'-85'	60-30-60-30. Recovered 150' watery mud. ICIP 338#, FOIP 485#, IF 91#, FF 100#.																				
#2	2421'-90'	60-30-60-30. Recovered 650' salt-water. ICIP 686#, FOIP 677#, IF 82#, FF 357#.																				
#3	2840'-73'	30-30-30-30. Gas to surface 40 minutes. Too small to measure. Recovered 1080' saltwater. ICIP 869#, FOIP 869#, IF 109#, FF 412#.																				
#4	3210'-50'	60-30-30-30. Recovered 550' gas cut saltwater. ICIP 1013#, FOIP 1002#, IF 55#, FF 312#.																				
#5	3487'-3510'	60-30-30-30. Recovered 240' gas cut water. ICIP 1153#, FOIP 1153#, IF 65#, FF 119#.																				
#6	4146'-60'	60-30-30-30. Recovered 270' salt-water. ICIP 1363#, FOIP 1354#, IF 35#, FF 155#.																				
#7	4500'-45'	60-30-60-30. Gas to surface 14 minutes. First Opening: <table border="1" style="margin-left: 40px;"> <tbody> <tr> <td>Ga</td> <td>16,000</td> <td>ofg</td> <td>20</td> <td>minutes</td> </tr> <tr> <td>"</td> <td>18,800</td> <td>"</td> <td>30</td> <td>"</td> </tr> <tr> <td>"</td> <td>18,800</td> <td>"</td> <td>40</td> <td>"</td> </tr> <tr> <td>"</td> <td>18,800</td> <td>"</td> <td>60</td> <td>"</td> </tr> </tbody> </table>	Ga	16,000	ofg	20	minutes	"	18,800	"	30	"	"	18,800	"	40	"	"	18,800	"	60	"
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"	18,800	"	30	"																		
"	18,800	"	40	"																		
"	18,800	"	60	"																		

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## Second Opening:

Ga	64,000	c/g	immediately
"	25,100	"	10 minutes
"	18,800	"	20 "
"	16,700	"	30 "
"	16,700	"	40 "
"	16,700	"	50 "
"	16,700	"	60 "

Recovered 270' gas cut mud.  
 ICIP 602#, FCIP 580#, IF 100#, FF 156#.

#8	4545'-55'	30-30-30-30. Recovered 15' mud. ICIP 33#, FCIP 22#, IF 22#, FF 22#.
#9	4555'-80'	Misrun
#10	4545'-80'	Misrun
#11	4500'-80'	60-90-60-90. Recovered 900' drilling mud, 360' gas cut thin drilling mud & 300' slightly muddy gas cut water. ICIP 1628#, FCIP 1344#, IF 695#, FF 824#.

CORING RECORD

None

ELECTRICAL SURVEY

None.

HERRINGTON

2355'-66'

Gray, mottled, sucrose dolomitic-limestone with carbonaceous material in poor porosity. 32 unit gas kick. This interval was covered in DST #1, recovered 150' watery mud.

KRIDER

2379'-90'

Gray, finely crystalline, fossiliferous limestone with fair fossil porosity but no shows. 23 unit gas kick. This interval was also tested by DST #1, recovered 150' watery mud.

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WINFIELD

2429'-40'

Gray, finely crystalline, fossiliferous limestone with fair to good fossil and vug porosity. No visible shows. 15 unit kick. This interval was covered by DST #2, recovered 650' saltwater.

TOWANDA

2497'-82'

Cream, finely crystalline to sucrose, cherty limestone. No visible shows. The Towanda was also tested by DST #2, recovered 650' saltwater.

COTTONWOOD

2856'-62'

Gray, sucrose dolomite with tan discoloration. No odor. No free oil. Occasional gas bubble in wet samples. 50 unit gas kick. The Cottonwood was tested by DST #3; gas to the surface in 40 minutes. The amount of gas was too small to measure, recovered 1080' saltwater.

WABAUNSEE SAND

3218'-33'

Gray-green, fine grained, micaceous, quartz sandstone. No visible shows. 15 unit gas kick. This interval was tested by DST #4, recovered 550' gas out saltwater.

TOPEKA

3498'-3506'

Cream, finely crystalline, fossiliferous, sub-oolitic and sub-oolicastic limestone. Trace of light saturation. Fair fossil and vug porosity. No odor. No free oil. 25 unit gas kick. This zone was tested by DST #5, recovered 240' gas out water.

POROUS ZONES IN THE LANSING-KANSAS CITY

4011'-20'

Cream, finely crystalline to dense, slightly fossiliferous limestone. No porosity. No visible shows.

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- 4085'-93' Cream, finely crystalline to chalky, oolitic limestone with oolitic chert. Fair to poor vug porosity. No visible shows.
- 4147'-56' Cream, finely crystalline, oolitic and oolitic limestone with good oolitic porosity. Odor. No free oil. 28 unit gas kick. No visible shows. This zone was tested by DST #6, recovered 270' saltwater.
- 4191'-4219' Cream, finely crystalline oolitic and oolitic limestone with good oolitic porosity but no visible shows.
- 4240'-54' Cream, finely crystalline oolitic and oolitic limestone with good oolitic porosity. No visible shows.

KINDERHOOK SAND

The Kinderhook Sand was called at 4528' (-2362'). This is 2' higher than the dry hole, 300 feet north; 136' higher than a dry hole 1/3 mile northwest; 39' higher than a Mississippi Gas producer 1 mile east; 18' higher than a dry hole 1 mile southeast; 1' lower than a dry hole 1/2 mile southwest and 232' higher than a dry hole 1 mile west.

4528'-45' Gray, fine grained, angular, well sorted, quartz sandstone. Tight but with some fair intergranular and fracture porosity. Odor. Free oil. The upper 17' of the Kinderhook Sand was tested by DST #7, gas to surface 14 minutes.

First Opening:

Ga	16,000	cf g	in	20	minutes
"	18,800	"	"	30	"
"	18,800	"	"	40	"
"	18,800	"	"	60	"

Second Opening:

Ga	64,000	"	immediately
"	25,100	"	in 10 minutes
"	18,800	"	" 20 "
"	16,700	"	" 30 "
"	16,700	"	" 40 "
"	16,700	"	" 50 "
"	16,700	"	" 60 "

Recovered 270' gas cut mud.

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4545'-70' Gray, fine grained, angular, well sorted quartzitic sandstone. Odor. Shows as above. The upper 10' of this interval was tested by DST #8, recovered 15' mud.

4570'-80' Gray, fine grained, angular, well sorted quartz sandstone with a trace of white to gray, smooth, sharp, opaque chert. Trace of gilsonite stain. Odor. Free oil in sandstone. No free oil in cherts. This interval was tested by DST #11, recovered 900' drilling mud, 360' gas cut thin drilling mud and 300' slightly muddy gas cut water.

REMARKS:

It was recommended that casing be set at 4578', for further testing of the Kinderhook Sand.

Additional development in the immediate area may provide information indicating the Cottonwood also warrants further testing before the #1 Newsom is abandoned.

Sincerely,

  
Bernard W. Lounsbury

BWL:ml

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