



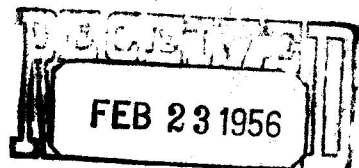
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**H. E. ZOLLER, JR.**

PETROLEUM GEOLOGIST  
CALIFORNIA BUILDING

DENVER, COLORADO

Final Report  
February 13, 1956



OIL & GAS  
CONSERVATION COMMISSION

Chandler & Musgrove  
# 1 Pieper  
Commenced: 2/7/56  
Completed: 2/12/56  
Elevation: 4481.7 G.L.  
4489 K.B.

Washington County, Colorado  
Center of SE 34  
Section 17-2N-51W  
Casing: 8 5/8" @ 143 ft. K.B.  
Total Depth: 4609 Schlumberger  
4612 Driller

Samples were examined on the above well from 3350' to total depth. A Schlumberger E. S. log was run from the base of the surface pipe to total depth and a micro-log was run from 4250' to total depth. Driller's measurements were found to be three feet lower than those recorded by Schlumberger. The following are electric log formation tops. (Note: All measurements are taken from Kelly bushings.)

Niobrara	3446'	(+1043)
Ft. Hays	3864'	(+ 625)
Carlile	3924'	(+ 565)
Greenhorn	4072'	(+ 417)
"D" Sand	4347'	(+ 142)
"J" Sand	4418'	(+ 71)
Skull Creek	4566'	(- 77)

"D" Sand

One core was taken in the "D" Sand as follows:

Core # 1 4350-4397 (Schlumberger measurement) recover 41'

4350-55	Sandstone dark grey very fine grain, very silty, hard no odor stain or fluorescence, no permeability.
4355-65	Sandstone grey, very fine grain friable glauconitic hard with 50% black carbonaceous shale partings interbedded, no show, no permeability, trace of 1" wet low permeability, sand stringers visible on core surface.
4365-69	Same as above increase to 65% sand.
4369-73	Shale dark grey silty, bentonitic in part.
4373-80	Sandstone grey fine grain friable hard grading from clean to silty throughout, with 40% black carbonaceous micro-shale partings interbedded throughout, no odor, stain or fluorescence, no-low permeability.
4380-83	Sandstone grey, fine grain friable clean hard with trace black carbonaceous micro-shale partings and inclusions, core surface vugular, no odor, stain, taste or fluorescence, fair porosity and permeability, appears water bearing.

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4383-84 Same as above, increase to 40% shale.  
 4384-91 Shale dark grey very silty hard.  
 4391-97 This part of core lost and appears from the electric log to be shale.

"D" Sand Core Analysis (depths corrected to Schlumberger)

Depth	Horiz. Perm.	Vert. Perm.	Per.	Satur	Oil
4379-80	77.2	37.5	17.2	86.5	0.0
4380-81	31.2	12.5	16.2	69.8	0.0

"D" Sand Coring Time

4350-51	25	4360-61	10	4370-71	23	4380-81	18	4390-91	24
52	16	62	9	72	26	82	14	92	30
53	15	63	10	73	18	83	10	93	37
54	18	64	14	74	8	84	24	94	41
55	16	65	12	75	9	85	18	95	30
56	14	66	7	76	8	86	16	96	44
57	13	67	8	77	11	87	17	97	47
58	15	68	6	78	8	88	23		
59	14	69	15	79	11	89	21		
60	10	70	24	80	17	90	24		

No drill stem tests were taken in the "D" Sand.

"J" Sand

One core was taken in the "J" Sand as follows:

Core # 2 4415-65 (Schlumberger measurement) full recovery.  
 4415-20 Shale dark grey fissile-silty.  
 4419-26 Sandstone grey very fine grain friable argillaceous, fossiliferous with 20% black carbonaceous micro-shale partings and inclusions, no show, no-low permeability and porosity.  
 4426-26½ Shale dark grey fissile bentonitic.  
 4426½-28 Sandstone, same as 4419-26.  
 4428-42 Sandstone white-light grey fine grain well sorted, very friable glauconitic with slight trace black carbonaceous micro-shale partings, no odor, stain or fluorescence, good porosity and permeability, vugular core surface, appears water bearing.  
 4442-58 Sandstone grey very fine grain friable argillaceous with 30% black carbonaceous micro-shale partings and inclusions interbedded, no show, no-low porosity and permeability.

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(Core # 2 continued)

4458-65 Sandstone white-light gray fine grain friable well sorted with 10% black carbonaceous micro-shale partings, interbedded, no odor, stain or fluorescence, sulfur odor and taste, fair porosity and permeability, appears water bearing.

#### "J" Sand Coring Time

4415-16	57	4425-26	3	4435-36	11	4445-46	5	4455-56	9
16-17	30	26-27	14	36-37	14	46-47	5	56-57	12
17-18	40	27-28	5	37-38	11	47-48	6	57-58	11
18-19	28	28-29	14	38-39	18	48-49	7	58-59	16
19-20	13	29-30	11	39-40	20	49-50	6	59-60	13
20-21	6	30-31	11	40-41	19	50-51	6	60-61	14
21-22	3	31-32	14	41-42	18	51-52	7	61-62	18
22-23	3	32-33	14	42-43	8	52-53	6	62-63	11
23-24	4	33-34	17	43-44	6	53-54	6	63-64	12
24-25	6	34-35	11	44-45	5	54-55	7	64-65	12

No drill stem tests were taken in the "J" Sand.

#### Summary

Structurally, measuring from the "D" Sand datum, the Chandler and Musgrove # 1 Pieper is seven feet lower than the Halbert and Jennings # 1 Pieper, a "D" Sand gas well, located one mile Northwest and is fifty-five feet lower than the Diabole Drilling Company # 1 Schman located one and a half miles East. The lower bench of the "D" Sand that is gas productive in the Halbert and Jennings well "thinned-up" from a total of thirty-five feet in the gas well to three feet in this test and was water bearing due to the low structural position. The first bench of the "J" Sand that had indicated to be a possible productive zone in this immediate area was "shaled out" and the second bench, although containing good sand development again was too low structurally to be productive. Therefore in conclusion the

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(Summary continued)

# 1 Pieper was a failure due mainly to low structural position and lack of sand development in the upper section of the "L" and "J" Sands.

The samples and core chips taken on this test have been placed on file in the American Stratigraphic Company, Denver, Colorado.

Respectfully submitted,



H. E. ZOLLER, JR.

BIT RECORD

Chandler & Musgrove  
# 1 Ploper

February 13th, 1956

<u>Run No.</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Serial</u>	<u>Depth</u>		<u>Feet</u>	<u>Hours</u>
					<u>From</u>	<u>To</u>		
1	6 3/4"	HTC	OSC-3	26018	143	3259	3116	16
2	6 3/4"	HTC	OSC-3	27510	3259	4353	1094	134
3	6 3/4"	HTC	OWC	28273	4383	4540	157	144
4	6 3/4"	HTC	OWC	28621	4540	4612	72	7
Coreing								
1	5	P&S	Diamond	1474	4353	4400	47	
2	5	P&S	Diamond	1474	4418	4468	50	

# Drilling Time Log

Chandler & Musgrove  
# 1 Pieper

Date: February 13th, 1956

Depth	Interval	Time/Interval
3350-3400	5'	2,3,3,2,2,2,2,2,2,2
3400-3450	5'	2,2,2,2,1,2,2,1,3,3
3450-3500	5'	4,4,3,3,3,2,3,2,2,2
3500-3550	5'	2,2,2,2,2,3,2,3,2,2
3550-3600	5'	2,2,2,2,2,3,2,2,2,2
3600-3650	5'	2,3,2,2,2,3,3,3,3,3
3650-3700	5'	3,2,3,2,2,3,2,2,3,2
3700-3750	5'	2,3,2,3,3,3,2,2,3,2
3750-3800	5'	3,2,3,3,2,2,3,3,3,2
3800-3850	5'	2,2,3,2,3,2,3,3,2,2
3850-3900	5'	2,3,3,2,3,3,4,4,3,4
3900-3950	5'	3,3,2,3,2,3,2,3,2,3
3950-4000	5'	4,3,2,2,3,3,3,3,2,3
4000-4050	5'	2,3,2,2,3,3,2,3,3,3
4050-4100	5'	2,2,3,3,4,4,4,4,5,6
4100-4150	5'	8,7,5,5,4,3,4,3,3,4
4150-4200	5'	4,4,5,5,5,4,4,5,5,5
4200-4250	5'	6,6,7,7,5,4,4,3,3,3
4250-4300	5'	3,2,4,3,3,3,3,4,4,3
4300-4340	5'	4,3,4,4,4,4,4,4,3
4340-4350	1'	1,1,1,1,1,1,1,1,1
4350-4360	1'	1,1,1,25,16,15,18,16,14,13
4360-4370	1'	15,14,10,10,9,10,14,12,7,8
4370-4380	1'	6,5,24,23,26,18,8,9,8,11
4380-4390	1'	8,11,17,18,14,10,24,18,16,17
4390-4400	1'	23,21,24,24,30,37,41,30,44,47
4400-4410	1'	1,1,1,1,1,1,1,1,2,2,1
4410-4420	1'	2,4,5,3,4,4,4,3,57,30
4420-4430	1'	40,28,13,6,3,3,4,6,3,14
4430-4440	1'	5,14,11,11,14,14,17,11,11,14
4440-4450	1'	11,18,20,19,18,8,6,5,5,5
4450-4460	1'	6,7,6,6,7,6,6,7,9,12
4460-4470	1'	11,16,13,14,18,11,12,12,3,3
4470-4480	1'	5,5,4,4,2,4,9,5,6,8
4480-4490	1'	4,9,5,6,7,6,5,7,6,7
4490-4500	1'	2,2,4,5,2,2,3,3,5,5
4500-4510	1'	5,5,4,5,5,4,3,5,7,7
4510-4520	1'	6,7,5,6,6,3,6,6,4,5
4520-4530	1'	6,7,6,7,6,3,9,5,6,12
4530-4540	1'	10,8,9,6,9,7,14,9,11,19
4540-4550	1'	2,2,3,4,2,2,4,4,4,3
4550-4560	1'	5,7,10,4,11,4,3,4,4,4
4560-4570	1'	6,3,5,5,5,5,5,6,7,9,5
4570-4580	1'	6,7,10,7,8,8,8,6,7,7
4580-4590	1'	7,6,6,5,6,6,7,7,7,5
4590-4600	1'	5,7,6,5,5,6,5,6,6,7