GEOLOGICAL REPORT

PAULEY PETROLEUM, INC. NO. 1 GOVERNMENT GRIFFITH

SE¼NW¼, Section 4, T 9 N., R 56 W.

WELD COUNTY, COLORADO

DVR	
FJP	
HHM	✓
JAM	✓
JJD	✓
GCH	✓
CGM	

File

Well:	No. 1 Government Griffith
Location:	SE¼NW¼ Section 4, T 9 N., R 56 W Weld County, Colorado
Operator:	Pauley Petroleum, Inc.
Contractor:	Exeter Drilling Company Rig #14 Denver, Colorado
Elevations:	5334' K.B., ~~5326'~~ 4526' G.L.
Casing:	4 Jts. 8-5/8", set at 197' K.B. with 180 sacks reg. cement.
Well History:	1-11-75 Spud. Set surface casing. 1-12-75 Drilling at 264' 1-13-75 Drilling at 2943' 1-14-75 Drilling at 4807' 1-15-75 Drilling at 5770' 1-16-75 Drilling at 5937' 1-17-75 Logging at 6039' 1-18-75 Running DST #3; P & A
Cores:	None
Drill Stem Tests:	DST #1 Straddle test run after logging. Log T.D. of 6039' used. Test interval 5883' to 5894', Tool open 15", shut in 30", open 120", shut in 120". Bottom packer failed, recovered 379' slightly water cut mud, 1277' muddy water. Resistivity of the water 1.6 ohms at 70° F. equivalent to 3800 PPM chloride ion. Tool opened with a fair blow (5" in water bucket), remained fair throughout preflow period. Opened with a weak blow in the second flow period and increased after 25" to a good blow and remained good throughout test. Bottom hole sampler contained 2000 cc water, Resistivity of 1.6 ohms at 60° F., 4300 PPM chloride ion.

Initial hydrostatic pressure	3169#
Final hydrostatic pressure	3103#
Initial Flow	134# to 218#
Final Flow	218# to 721#
Initial Shut in Pressure	1837#
Final Shut in Pressure	1388#

DST #2, 5883' to 5894', straddle test, tool open 15", shut in 30", open 120", shut in 120". Recovered 6' mud. Tool opened with weak blow and died after 30" of the second flow period.

Initial Hydrostatic Pressure	3411#
Final Hydrostatic Pressure	3375#
Initial Flow	56# - 56#
Final Flow	37# - 74#
Initial Shut in Pressure	79#
Final Shut in Pressure	93#

DST #3 Straddle test. Test interval 5898' to 5915', Tool open 15", shut in 30", open 90", shut in 60". Recovered 330' slightly gas cut muddy water, 7' mud. Bottom hole sampler contained 1950 cc muddy water with a slight scum of oil, and .2 cubic feet of gas. Resistivity of the water 2.2 ohms at 50° F. equivalent to 3700 PPM chloride ion. Tool opened with a fair blow, increasing to a good blow in 5" and remained good throughout the test.

Initial Hydrostatic Pressure	3211#
Final Hydrostatic Pressure	2975#
Initial Flow	183# - 315#
Final Flow	278# - 370#
Initial Shut in Pressure	1707#
Final Shut in Pressure	1453#

Logs: Schlumberger Induction-Electrical Log; Compensated Formation Density Log Gamma-Gamma.

Log Formation Tops:

Formation	Electric Log	Subsea
Sussex	3048	(+1286)
Niobrara	4998	
Carlile	5324	
Greenhorn	5496	
Bentonite	5691	
"D" Sand	5799	(-1265)
"J" Sand	5881	(-1347)
T.D.	6039 Log	
	6041 Driller	

Mud: On the morning of January 16, 1975, the mud had the following properties:

Weight	9.8 #/gal.
Viscosity	47 API Funnel
Water Loss	5.2 cc 30"
Filter Cake	2/32

Bit Record:

No.	Size	Make	Type	Depth Out	Feet	Hours
1	7-7/8"	Smith	DTJ	2918	2718	20-3/4
2	7-7/8"	Reed	Y12J	4207	1289	12-3/4
3	7-7/8"	Smith	DTJ	5421	1214	20-1/4
4	7-7/8"	Sec.	S3J	5878	457	12-3/4
5	7-7/8"	HTC	OW4J	5918	40	8-3/4
6	7-7/8"	HTC	OD4J	6005	87	12
7	7-7/8"	Sec.	S4T	6041	36	2-1/2

Deviation Surveys:

Depth	Degrees from Vertical
2918	1
4207	2-1/2
5421	1
6041	1

Sample Description: Log depths used:

5750-5799' Shale, black.

5799-5802' Sandstone, very fine grained, gray to buff, silty, clay filled, very low porosity, wet, no shows, no fluorescence.

5802-5806' Shale, black.

5806-5817' Sandstone, very fine grained, gray to buff, silty, siliceous, specks black heavy minerals, very faint yellow fluorescence in 10%, very faint ether cut fluorescence (ring on spot tray), mostly wet, no shows, no fluorescence.

5817-5860' Shale, black; shale, tan, siliceous, hard; pyrite.

5860-5881' Siltstone, gray; shale, black.

5881-5894' Sandstone, white, fine grained, siliceous, very low porosity, light tan oil stain in part, uniform bright yellow fluorescence in 70%, good ether cut fluorescence.

5894-5902' Sandstone, very fine grained, gray, silty, clay filled and siliceous, very low porosity, hard, 60% with fluorescence and ether cut fluorescence.

5902-5906' Shale, black.

5906-5923' Sandstone, fine grained, white, subround, clean, very slight clay matrix, well sorted, very friable, excellent porosity, bright yellow fluorescence in 70%, very light tan oil stain, good ether cut fluorescence.

5923-5944' Sandstone, as above, wet, no shows, no fluorescence.

5944-5967' Sandstone, very fine grained, light tan, clay filled, silty in part, very low porosity, friable, wet, no shows, no fluorescence.

5967-6039' Shale, black; shale, tan; siltstone, gray.

Samples are on file with American Stratigraphic in Denver, Colorado.

Discussion: A pit of mud (from 50 to 75 bbls.) was lost during the drilling of the hole at 5927'. Circulation was regained by mixing hulls,and no further lost circulation was experienced. Thus mud may account for the abnormally high initial shut in pressures on drill stem tests nos. 1 and 2, as well as the lack of fluid recovery on drill stem test no. 3, although the formation was very tight in the samples and on the log throughout the test interval of drill stem test no. 3. Good oil shows were encountered in the J-1 sand interval from 5881' to 5894', and in the massive "J" sand from 5906' to 5923'. The J-1 is too tight to give up fluid on drill stem test, and the shows in the massive "J" are apparently wet.

Permission to plug this well was given by Doug Rogers of the Colorado Oil and Gas Commission, and by the Federal Government in Salt Lake City from Mr. Guynn, who required that a cement plug be set from 4900' to 5000' to isolate the Niobrara from the Pierre, and a plug from 5600' to 5700' to isolate the "D" and "J" sands from the Greenhorn and Timpas, and a plug from 150' to 225', and a plug from 30' to the surface, with a marker welded on the top of the surface pipe. These instructions were relayed to Mr. Conour of the Exeter Drilling Company.

Jack D Gray