

### Appendix 3

Upper Part of the Lithologic Subsurface Log from the Goldsmith & Perkins No. 1 Herman Smith Well, CSW¼SW¼SE¼ sec. 15, T. 3 S., R. 1 E., Carter County, Oklahoma. Elevation, 946 ft. Descriptions from cuttings. Explanation of symbols in Appendix 1.

Depth (ft)	Unit Thickness (ft)	Unit No.	Lithology	Description of Units
100				1. No samples.
				<b>SPRINGER FORMATION</b>
				<i>UNNAMED SHALE MEMBER</i>
200	390	1		2. Shale, medium dark gray (N4), silty, noncalcareous, minor moderate red (5R4/6) ironstone at 440 ft.
				<i>LAKE ARDMORE MEMBER</i>
300				3. Shale and siltstone, medium dark gray (N4), ~50% each.
				4. Siltstone, medium dark gray (N4), finely laminated, minor moderate red (5R4/6) ironstone at 470 ft.
				<i>UNNAMED SHALE MEMBER</i>
400	60	2		5. Shale, medium dark gray (N4), silty, noncalcareous.
	10	3		6. Shale, medium dark gray (N4), silty, noncalcareous, with moderate brown (5YR4/4) ironstone.
	40	4		<i>OVERBROOK MEMBER</i>
500				7. Sandstone, light gray (N7), very fine grained, well sorted, subrounded, good porosity.
600	190	5		8. Sandstone, light gray (N7) to very light gray (N8), very fine grained, well sorted, subrounded good porosity.
700				9. Sandstone, very light gray (N8) from 870 to 880 ft, very fine grained; interbedded with medium dark gray (N4) silty shale; includes minor black (N1), carbonized plant fragments; sandstone is medium gray (N5), with minor grayish red (5R4/2) component from 850 to 870 ft.
800	120	6		10. Shale, medium dark gray (N4), silty, noncalcareous; includes some medium gray (N5) very fine grained sandstone from 880 to 890 ft.
	10	7		11. Sandstone, medium gray (N5) and grayish red (5R4/2), with medium dark gray (N4) silty shale.
	20	8		12. Shale, medium gray (N5), silty, with minor medium light gray (N6), very fine grained sandstone.
900	30	9		13. Sandstone, siltstone, and shale, medium gray (N5), thinly laminated.
	20	10		
	10	11		
	30	12		
	30	13		
1,000		14		

Depth (ft)	Unit Thickness (ft)	Unit No.	Lithology	Description of Units
1100	320	14		<i>UNNAMED SHALE MEMBER</i>
1200				14. Shale, medium gray (N5), silty, noncalcareous, with minor moderate red (5R4/6) ironstone.
1300				
1400				
1500	570	15		15. Shale, medium gray (N5), silty, noncalcareous, with abundant moderate red (5R4/6) ironstone.
1600				<i>ROD CLUB MEMBER</i>
1700				16. Shale, medium gray (N5), silty, with ~20% medium light gray (N6), very fine grained sandstone and siltstone.
				17. Sandstone, medium light gray (N6) to very light gray (N8); interlaminated with medium dark gray (N4) siltstone and shale; includes black (N1), carbonized plant fragments and some grayish red (10R4/2) ironstone.
1800				18. Shale, medium dark gray (N4), silty, with grayish red (10R4/2) ironstone, and 20–30% very light gray (N8), very fine grained sandstone.
				19. Shale, medium gray (N5), silty, noncalcareous, with minor grayish red (10R4/2) ironstone.
1900	10	16		20. Sandstone, very light gray (N8), very fine grained, well sorted, well rounded, quartzose; includes black (N1), carbonized plant fragments; mixed with minor shale and ironstone.
	30	17		
	40	18		
	30	19		
	10	20		
2,000	30	21		21. Shale, medium gray (N5), silty, with minor grayish red (10R4/2) ironstone and ~15% very light gray (N8), very fine grained, "clean" sandstone.