

ASPEN DRILLING CO.

No. 1 Owen

S/2 N/2 NE/4 Sec. 21-T24S-R13W  
Stafford County, Kansas .

CORE DESCRIPTION - *Preliminary by:*  
(Based on examination of core chips under binocular microscope) *R.D. Dougherty*

Core #1 1966-2002 (Rotary Measurements)  
1968-2004 (Electric Log Measurement)  
Cored 36 ft. - Recovered 36 ft.

- 1966 - (Top 3" of Core)  
Shale; dark gray, slightly dolomitic, thin bedded.
- 1967 Shale; gray - thin bedded, dolomitic.
- 1968 Shale; gray to dark gray, thin bedded, dolomitic, slightly pyritic with thin interbedded limestone; white, fine crystalline, dolomitic, slightly pyritic.
- 1969 Top Towanda. Interbedded shale, dark gray, waxy and limestone - light gray, very fine crystalline, dense, dolomitic, no visible porosity, both with large anhydrite nodules.
- 1969 - 1970 Limestone; white, very fine grain, chalky, dolomitic, slightly shaley, dense, no visible porosity.
- 1970 3/4 Shale; gray, calcareous, very thin bedded(laminae) interbedded with very thin laminaes of anhydrite also with rounded nodules of anhydrite.
- 1972 1/2 Limestone; dark gray, very fine grain, pellet sand, shaley, no visible porosity.
- 1974 Limestone; dark gray, very fine grain, pelletal, slightly shaley, dolomitic, no visible porosity.
- 1975 Limestone; light gray to dark gray, very fine grain, dense to very fine grain - fine grain, slightly chalky, siliceous, cherty with light gray to dark gray opaque chert with small spicales scattered spotty carbonaceous material in granular limestone, trace bleeding gas under microscope, poor visible intergranular porosity.

- 1975 1/2 Limestone; light gray, very fine grain-fine grain, scattered spots and granules of black carbonaceous material, slightly cherty with gray chert nodules, very fine, poor to fair intergranular porosity.
- 1976 1/2 Limestone; gray, very fine grain-fine grain, spotted with black carbonaceous material, fossiliferous in part, scattered anhydrite nodules. Very fine poor-fair intergranular porosity.
- 1977 Shale; (thin bed of shale at 1977) Black.
- 1978 Limestone; light gray, very fine grain, lime mud, platy.
- 1978 1/2 Top of chip: Shale, light gray.  
Bottom of chip: Limestone; light gray, fine grain to medium grain, fragmental slightly fossiliferous, some clay residue some dense lime nodules. Fair intergranular porosity.
- 1979 1/2 Dolomite; gray, fine grain silicalcareous anhydritic with medium grains of anhydrite in matrix, spotted black carbonaceous material, fair intergranular porosity. Fine clay insoluble residue.
- 1980 1/2 Limestone; light gray, very fine grain, lime mud, dolomitic, scattered spots black carbonaceous material, fine clay insoluble residue, no visible porosity.
- 1982 Limestone; light gray, very fine grain, lime mud, dolomitic, scattered spots of black carbonaceous material, fine clay insoluble residue, no visible porosity.
- 1983 Limestone; dark gray, very fine grain, lime mud, speckled with black carbonaceous material, shaley with fine dark gray clay insoluble residue. No visible porosity.
- 1984 1/2 Limestone; dark gray, very fine grain to fine grain, spotted with black carbonaceous material, dark gray fine clay insoluble residue.
- 1985 1/2 & 1986 Limestone; gray to dark gray, very fine grain to fine grain, slightly dolomitic, slightly anhydritic with small nodules, uniformly spotted with black carbonaceous material, silty insoluble residue, fair-fine intergranular and small fine pinpoint porosity.
- 1987 1/4 & 1988 Limestone; as above, slightly dolomitic, scattered anhydrite nodules, fossiliferous in part with small fossils and "fossil ghosts".
- 1990 Limestone; as above (increase in carbonaceous material).

- 1991 1/2 & 1992 Limestone; as above.
- 1993 Limestone; as above.
- 1994 Limestone; as above.
- 1995 Limestone; gray to dark gray, very fine grain to fine grain, slightly dolomitic, scattered spotted black carbonaceous material, slightly anhydritic, slightly shaley with very fine clay insoluble residue, poor to fair intergranular and small fine pinpoint porosity.
- 1996 Limestone; as above.
- 1997 Limestone; as above, very thinly bedded with dark carbonaceous material in limestone matrix, porosity as above.
- 1998 Limestone; as above, with a few small fragments of red shale.
- 1999 Limestone; as above, with fairly abundant very small fossils.
- 2000 Limestone; as above.
- 2001 Limestone; as above.
- 2001 1/2 Limestone; gray to dark gray, as above.
- 2002 (Chip from bottom 1" of core)  
Limestone; tan, very fine grain to fine grain, decreasing insoluble residue to trace, decreases in carbonaceous material, poor to fair fine intergranular and small pinpoint porosity.