#30179

WELL LOG

Feet		Feet	Description
0	to	65	Clay, till sand
65	to	68	Hard shale and limestone
68	to	72	Gray limestone
72	to	170	Brown-gray limestone-sandstone
170	to	180	Dark gray-brown limestone
180	to	185	Gray-brown limestone-chert
185	to	210	Sandstone chert
210	to	230	Gray limestone chert - trace shale
230	to	370	Gray-brown limestone - chert - shale
370	to	485	Dark Gray shale - limestone
485	to	540	Blue shale Gray limestone
540	to	670	Gray limestone - Blue shale
670	to	750	Gray limestone - trace chert
750	to	875	Gray-brown limestone - chert
875	to	955	Brown limestone - chert - trace green shale
955	to	1100	Gray limestone chert green maroon shale
1100	to	1445	Gray limestone chert - shale
1445	to	1625	Dark brown gray limestone - trace shale
1625	to	1650	Sandstone- shale - limestone
1650	to	1800	Light gray and dark gray limestone - Dolomite
1800	to	1850	Brown limestone chert
1850	to	1950	Gray and white limestone - trace green shale
1950	to	1980	Dark gray limestone trace
1980	to	1995	Light gray limestone trace chert
1995	to	2095	Light and dark limestone and traces chert
2095	to	2150	Sandstone - limestone
2150	to	2175	Light-gray lime - broken chert
2175	to	2205	Brown-gray Dolomite
2205	to		Total Depth

#30179

Layne-Western Company, Inc.

Drillers Log-

→ Philip Harris — Pella Iowa City Well. DATE 7-17-89

0-75- 22" CASing

75-115- Brown-gray limestone-Sandstone

115-170 - SAme Above ——

170-180 DARK GRAY-Brown limestone

180-185 GRAY-BROWN Limestone-Chert

185-210 Sandstone Chert

210-230 - GRAY Limestone-CHERT-TRACE SHALE

230-370- GRAY-Brown limestone-CHERT SHALE

370-485- D gray Shale-Limestone

485-540- Blue SHALE-GRAY-Buff Limestone

540-670 GRAY Limestone-Blue SHALE

670-750 GRAY Limestone-TRACES Chert

750-875 GRAY-BROWN Limestone-CHERT

875-955 BROWN Limestone CHERT-TRACES GREEN SHALE

955-1100 GRAY Limeston CHERT-Green-Purple Shale

1100-1445 GRAY Limestone-Chert-SHALE

1445-1625 D Brown-gray ~~limestone~~ (grn SHALE TRACES)

1625-1650 Sandstone-Shale-~~limestone~~

1650-1770 Light DARK gray ~~limestone~~ Dolomite

St. Peter

Note: Penetration RATE from 1570-1625 APP 5 ft per hr.

Penetration RATES:

1625-1630- ~~15~~ 15 min.

1630-1635- 7 min

1635-1640- 6 min

1640-1645- 14 min

1645-1650- 7 min

1650-1655 22 min

Penetration Avg-1655-1750 7.5 to 10 Per hour.

* Philip Harris - driller
515-232-3563

Called AMES 1:30 PM 7-17-89
& w/top Prairie du Chien (BB)

LW-331A

W # 30179

Pella Iowa

Driller
Philip Hanks

1760-1850
Brown Buff limestone Rock chert
1850-1950 - Gray Buff limestone Green Shale Traces
1950 - 1980 - Dark gray limestone - Green-Gray Shale
1980 1995 Light Gray limestone Chert Traces
1995-2005 Dark gray limestone
2005-2095 L gray limestone
2095-2150 - Sandstone limestone
2150-2205 - Brown Gry dolomite

~72' of 17" surface csg
16" OD csg to 1734'
TD 2205'

Loc. NW NW SW sec 10 76N-18W

Drilling completed 8-16-89
BB picked tops on raw samples for
St Peter and Jordan