The Sunray DX - Ervin V. Henke No. 1 is located in NE SE Section 14, T. 142 N., R. 85 W., Oliver County, North Dakota. Elevation: 2193 K.B., 2183 G.L.

The well was spudded on November 19, 1962, drilled to a total depth of 8,000 feet and plugged and abandoned on December 13, 1962.

Cores: None

Drill Stem Tests:
DST. 1 - 7762-7834 (straddle test) Tool open 1 1/4 hours with fair to strong blow throughout test. Recovered 90 feet of salt water cut mud, 90 feet of mud cut salt water and 885 feet of salt water. IHP 4105#, ISIP (30 minutes) 3385#, IFP 95#, FFP 515#, FSIP (30 minutes) 3030#, FHP 4105#.

Casing Record:
Set 9 5/8" at 673 feet with 350 sacks of cement.

Plugging Record:

<table>
<thead>
<tr>
<th>Plug Set</th>
<th>Sacks Cement</th>
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</thead>
<tbody>
<tr>
<td>7738-7650</td>
<td>25 sacks</td>
</tr>
<tr>
<td>6363-6275</td>
<td>25 sacks</td>
</tr>
<tr>
<td>5000-4912</td>
<td>25 sacks</td>
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<tr>
<td>4024-3936</td>
<td>25 sacks</td>
</tr>
<tr>
<td>673-605</td>
<td>25 sacks</td>
</tr>
<tr>
<td>28-0</td>
<td>10 sacks</td>
</tr>
</tbody>
</table>

Drilling mud between cement plugs.

Logs:
Gamma Ray-Laterolog
Sonic
Microlaterolog with caliper

The formation tops were determined from samples and logs and corrected to log tops. Not all formation tops are called in the following list. Color names are those used in the Rock Color Chart of the National Research Council.

FORMATION TOPS

Cretaceous System
Pierre 1360
Niobrara 2852
Greenhorn 3328
Mowry 3704
Fall River-Lakota 4027
Jurassic System 4230
Triassic System  
Spearfish 5092
Pennsylvanian System  
Minnelusa 5163  
Tyler 5725
Mississippian System  
Kibbey 5928  
Madison 6052  
Ratcliffe interval 6197  
Frobisher-Alida interval 6405  
Tilston 6715  
Bakken 7554
Devonian System  
Three Forks 7568  
Birdbear 7738  
Duperow 7815

0-30 Claystone, light gray, lignite.
30-120 Claystone, light gray to medium light gray; siltstone, very light gray to light gray, some carbonaceous shale and lignite.
150-180 Lignite.
180-210 Claystone, light gray to medium light gray; lignite.
210-240 Sandstone, light gray, very fine to fine grained, clayey.
240-300 Siltstone, light gray to medium light gray, clayey, sandy; claystone, light gray.
300-330 Limestone, medium light gray, fine grained argillaceous.
330-360 Sandstone, light gray, very fine to fine grained, clayey; some limestone as above.
360-390 Claystone, light gray to medium light gray; lignite.
390-450 Sandstone, light gray, very fine to medium grained, clayey; claystone, light gray.
450-480 Limestone, medium light gray, fine grained, argillaceous; claystone, light gray.
480-600 Claystone, light gray to medium gray, silty.
600-660 Sandstone, light gray, very fine to medium grained, clayey; claystone, light gray to medium gray.
700-820 Claystone, light gray to medium gray, silty.
850-970 Shale, light gray to medium gray, slightly bentonitic.
970-1000 Shale, as above; sandstone, medium light gray, very fine to fine grained, argillaceous.
1000-1180 Shale, as above.
1180-1300 Shale, medium gray, silty; lignite.
1300-1600 Shale, medium gray, silty.
1600-1840 Shale, medium gray, slightly bentonitic, lumpy to platy.
1840-2590 Shale, medium gray, lumpy, compact to platy, compact.
2590-2650 Shale, as above; traces of bentonite, very light gray.
2650-2820 Shale, medium gray, compact, lumpy to platy.
2820-3340 Shale, medium dark gray to medium gray, platy to lumpy, compact.
3820-4010 Shale, medium dark gray to dark gray, platy, compact in part; fissile in part.
4010-4050 Shale, dark gray, platy, compact; traces of sandstone, very fine to fine grained, subangular grains.
4050-4080 Siltstone, light gray, clayey; sandstone, very light gray, fine to very fine grained, silty, argillaceous.
4080-4110 Sandstone, as above, some pyritic cement, some iron oxide cement; shale, medium gray.
4110-4120 Shale, light brownish gray to light olive gray and medium gray; traces of sandstone, as above.
4120-4180 Shale, medium gray; some light olive gray shale.
4180-4210 Sand, fine to coarse, loose, rounded to angular colorless quartz grains; much shale, as above.
4210-4230 Sand, as above; some shale, brownish gray, carbonaceous, shale, medium gray and medium light gray.
4230-4260 Shale, medium gray and light olive gray; a little sandstone, white, fine to very fine grained, calcareous.
4260-4270 Shale, olive gray (5Y4/1) to light brownish gray, platy, brittle.
4270-4310 Shale, olive gray (5Y4/1) to medium dark gray, platy, brittle.
4310-4400 Shale, as above; some sandstone, very light gray, very fine to fine grained, slightly calcareous (pyritic from 4330-40).
4400-4420 Shale, medium gray to light brownish gray, micaceous, lumpy to platy; a little sandstone, as above.
4420-4470 Sandstone, light brownish gray, light olive gray, traces of greenish gray; some sandstone, as above.
4470-4490 Sandstone, grayish orange pink, fine to very fine grained, calcareous; some shale, light greenish gray and olive gray, platy, brittle.
4490-4580 Limestone, very light gray to white, fine to very fine grained, calcareous; shale as above.
4580-4600 Shale, greenish gray and olive gray, platy, calcareous.
4600-4620 Shale, as above; sandstone, very light gray, very fine to fine grained, calcareous.
4620-4640 Shale, medium dark gray, platy; also shale and sandstone, as above.
4640-4690 Shale, medium dark gray, light olive gray, greenish gray and light brown, platy.
4690-4730 Limestone, very light gray to white, fine grained, sandy, grading to a limy sandstone.
4730-4790 Shale, dark greenish gray (5GY4/1) to olive gray, platy, brittle, calcareous.
4790-4830 Sandstone, very light gray, fine grained, calcareous; sandstone, as above.
4830-4840 Sandstone, very light gray, fine grained, calcareous; some limestone, as above.
4840-4850 Limestone, very light gray, fine grained, sandy, silty; shale, pale reddish brown, light greenish gray and olive gray.
4850-4880 Limestone, very light gray to white, very finely crystalline.
4880-4910 Limestone, very light gray to white, very finely crystalline.
4910-4920 Limestone, very light gray to white, very finely crystalline.
4920-4980 Limestone, very light gray to white, very finely crystalline.
4930-4940 Limestone, very light gray to white, very finely crystalline.
4940-4980 Limestone, very light gray to white, very finely crystalline.
4980-5000 Limestone, very light gray to white, very finely crystalline.
5000-5030 Limestone, moderate reddish orange, calcareous; some anhydrite, white.
5030-5040 Shale, pale reddish brown, lumpy to platy, calcareous.
5040-5110  Shale, as above; some siltstone, moderate reddish orange, calcareous; some anhydrite.
5110-5130  Siltstone, moderate reddish orange, slightly calcareous.
5130-5140  Siltstone, moderate reddish orange, sandy, very slightly calcareous.
5140-5155  Sandstone, moderate reddish orange, very fine to fine grained, silty, slightly calcareous; some loose, medium rounded, frosted quartz grains.
5155-5165  Dolomite, very light gray to light pinkish gray, very finely crystalline.
5165-5180  Dolomite, as above; some chert, pinkish gray and white.
5180-5205  Sandstone, pinkish gray, fine to very fine grained, slightly calcareous; dolomite, as above.
5205-5210  Dolomite, very light gray, finely crystalline.
5210-5220  Dolomite, pinkish gray, fine grained, limy.
5220-5230  Sandstone, very light gray to pinkish gray, very fine to fine grained, calcareous.
5230-5240  Dolomite, pinkish gray, fine grained, sandy; sandstone, as above.
5240-5280  Sandstone, pinkish gray, very fine to fine grained, calcareous.
5280-5290  Sandstone, as above; some dolomite, pinkish gray, finely crystalline.
5290-5300  Dolomite, grayish pink, finely crystalline; sandy in part; sandstone as above.
5300-5320  Dolomite, very light gray, fine grained; some dolomite as above.
5320-5330  Dolomite, pale red, fine to medium grained, silty; dolomite, very light gray to grayish pink, fine grained.
5330-5340  Dolomite, as above; sandstone, very light gray, very fine to fine grained, calcareous.
5340-5345  Sandstone, grayish pink, very fine to fine grained, calcareous.
5345-5350  Dolomite, pale red, fine grained.
5350-5355  Dolomite, very light gray to pinkish gray, fine grained.
5355-5365  Sandstone, grayish pink, very fine to fine grained, calcareous.
5365-5395  Dolomite, pinkish gray to pale red, fine grained; some sandstone, as above; shale, moderate reddish brown, lumpy to platy.
5395-5415  Sandstone, grayish pink, very fine to fine grained, calcareous.
5415-5435  Dolomite, pinkish gray, fine grained.
5435-5440  Shale, variegated, olive gray, greenish gray, splintery, brittle, slightly calcareous.
5440-5445  Sandstone, grayish pink to very light gray, very fine to fine grained, calcareous; shale, as above.
5445-5470  Shale, variegated, splintery, brittle, calcareous.
5470-5480  Sandstone, grayish pink, very fine to fine grained, calcareous; some shale, as above.
5480-5505  Shale, variegated, olive gray, greenish gray, very pale brown, pale red, splintery, brittle.
5505-5520  Shale, mostly greenish gray (5GY6/1) some variegated, splintery, slightly calcareous.
5520-5525  Sandstone, very light gray to pinkish gray, very fine to fine grained, slightly calcareous; shale, variegated, splintery.
5525-5545  Dolomite, pinkish gray, fine grained; sandstone, as above.
5545-5560  Dolomite, light gray, fine grained, limy; shale, variegated, calcareous.
5560-5605  Shale, as above.
5605-5615  Limestone, very light gray, finely crystalline; shale as above.
5615-5620 Shale, variegated, pale red, purplish gray, greenish gray, olive gray, splintery, slightly calcareous.
5620-5635 Limestone, very light gray to white, finely crystalline; shale, as above.
5635-5645 Dolomite, very light gray, finely crystalline; limestone, pinkish gray, finely crystalline.
5645-5670 Limestone, very light gray to yellowish and pinkish gray, finely crystalline.
5670-5675 Limestone, as above; shale, variegated, splintery, platy, slightly calcareous.
5675-5680 Shale, as above.
5680-5705 Limestone, very light gray to light yellowish gray, finely crystalline; shale, as above.
5705-5710 Shale, moderate red, pale red, platy, slightly calcareous.
5710-5725 Limestone, very light gray, finely crystalline, some red and yellow staining; shale, as above.
5725-5750 Shale, as above and dusky yellow.
5750-5755 Shale, dark gray to grayish black, carbonaceous, traces of coal, a few ostracods.
5755-5770 Shale, as above and variegated shale.
5770-5790 Sandstone, colorless to pinkish gray, fine to medium rounded, weakly cemented grains, calcareous.
5790-5795 Shale, dark gray; some coal.
5795-5805 Sandstone, very light gray and pinkish gray, very fine to fine grained; shale, variegated.
5805-5815 Shale, dusky yellow, lumpy to platy; sandstone, very light gray, very fine to fine grained.
5815-5820 Shale, grayish red, brownish gray, olive gray, lumpy.
5820-5830 Shale, medium gray, lumpy.
5830-5835 Shale, as above; a little coal.
5835-5865 Shale, medium gray, brownish gray, lumpy, waxy.
5865-5890 Shale, as above and various shades of red and reddish brown, generally lumpy to platy.
5890-5930 Shale, brownish gray, lumpy to platy and medium gray, lumpy.
5930-5945 Sandstone, light gray, very fine to fine grained, calcareous.
5945-5960 Siltstone, very light gray, sandy, calcareous; sandstone, as above.
5960-6020 Siltstone, moderate orange pink to grayish pink, calcareous.
6020-6025 Dolomite, light gray, fine grained.
6025-6050 Siltstone, moderate orange pink, calcareous.
6050-6060 Dolomite, light gray, fine grained; siltstone, as above.
6060-6070 Anhydrite, white.
6070-6075 Limestone, light gray, fine grained; some anhydrite.
6075-6090 Limestone, light gray, oolitic with fine grained matrix.
6090-6120 Limestone, yellowish gray, fine grained.
6120-6130 Limestone, light gray, finely crystalline; anhydritic; white anhydrite.
6130-6135 Dolomite, light brownish gray, fine to medium grained, anhydritic, white.
6135-6145 Anhydrite, white; some dolomite, as above.
6145-6165 Limestone, light brownish gray, fine grained, granular.
6165-6185 Anhydrite, white.
6185-6205 Limestone, yellowish gray, finely crystalline.
6205-6210 Limestone, yellowish gray, fine grained, fragmental in part.
6210-6225 Limestone, light gray, finely crystalline, dense.
6225-6230 Anhydrite, white; limestone as above.
6230-6235 Anhydrite, yellowish gray, fine grained, fragmental to pelletaloidal;
some anhydrite.
6235-6260 Limestone, yellowish gray, oolitic to pelletaloidal; some anhydrite.
6255-6280 Limestone, light gray, finely crystalline, anhydritic.
6280-6295 Anhydrite, light gray.
6295-6315 Anhydrite, light gray and white; limestone, yellowish gray, fine
grained.
6315-6335 Limestone, yellowish brown, oolitic to pelletaloidal and finely
crystalline.
6335-6375 Anhydrite, light gray.
6375-6415 Limestone, yellowish brown, fine grained.
6415-6440 Limestone, yellowish brown, fine grained to finely crystalline.
6440-6445 Limestone, yellowish brown, finely crystalline to fine grained.
6450-6450 Limestone, light gray; limestone as above.
6450-6565 Anhydrite, light gray to white.
6565-6815 Limestone, yellowish brown, fine grained, fragmental.
6815-6825 Limestone, brownish gray, microsucrosic, dolomite; limestone as
above, traces of oolitic limestone 6795-6800.
6825-6885 Limestone, yellowish brown, fine grained, fragmental.
6885-6905 Limestone, very light gray to yellowish gray, finely crystalline,
fragmental, slightly argillaceous.
6905-6920 Limestone, light gray, finely crystalline, fragmental.
6920-6935 Limestone; as above; a little chert, light gray.
6935-7035 Limestone, light gray, fine grained, fragmental.
7035-7110 Limestone, light gray, fine grained, fragmental, slightly argillaceous,
fossiliferous.
7110-7145 Limestone, light gray, fine grained, fragmental, siliceous.
7145-7175 Limestone, light gray, fine grained, fragmental.
7175-7200 Limestone, light gray, fine grained, fragmental, slightly siliceous.
7200-7220 Limestone, light gray, pelletaloidal with a fine grained matrix.
7220-7250 Limestone, light gray, fine grained, fragmental, siliceous, some chert.
7250-7285 Limestone, light gray, fine grained, fragmental, very siliceous.
7285-7530 Limestone, medium light gray, finely crystalline, argillaceous, siliceous.
7530-7540 Limestone, medium light gray, finely crystalline, argillaceous.
7540-7560 Limestone, very light gray, finely crystalline, chalky.
7560-7565 Limestone, as above; shale, brownish black, slightly calcareous.
7565-7575 Shale, brownish black, platy to fissile.
7575-7590 Dolomite, grayish orange pink, fine to medium grained.
7590-7605 Dolomite, as above and shale, greenish gray, platy, calcareous.
7605-7615 Dolomite, grayish orange pink to moderate orange pink, fine grained.
7615-7640 Dolomite, as above; and shale, grayish red to pale reddish brown.
7640-7740 Shale, grayish red to pale reddish brown, very calcareous; some anhydrite, colorless to white.
7740-7745 Shale, moderate reddish brown, fissile, calcareous.
7745-7760 Limestone, grayish pink, fine to medium crystalline, slightly argillaceous; shale as above - poor samples.
7760-7765 Limestone, yellowish gray to light gray, fine to medium crystalline.
7765-7785 Limestone, yellowish brown, fine to medium grained, granular.
7785-7815 Limestone, yellowish brown, fine to medium grained, granular, dolomitic.
7825-7845 Poor samples - all dark gray shale.
7845-7855 Sample mostly dark gray shale; a few chips of limestone, light yellowish gray, finely crystalline.
7855-7945 Sample mostly dark gray shale; a few chips of dolomite, light brown, fine to medium grained, granular, limy; few limestone chips, as above.
7945-7975 Limestone, light gray to yellowish gray, fine grained to finely crystalline; much cavings.
7975-8000 Limestone, as above; some dolomite, light brownish gray, fine to medium grained, granular; much cavings.