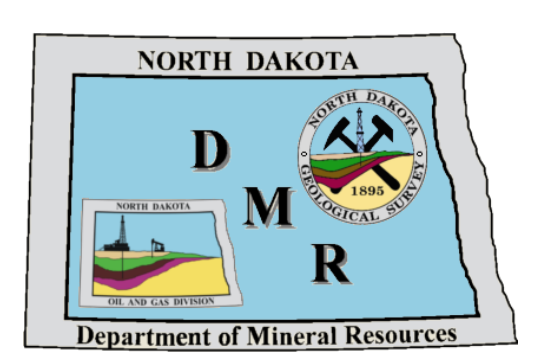


INDEX MAP OF GROUND-WATER WELL LOCATIONS IN NORTH DAKOTA INVESTIGATED FOR SHALLOW NATURAL GAS OCCURRENCE



Fred J. Anderson
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DISCUSSION

This map presents the locations of ground-water wells that were investigated as a part of reconnaissance-style shallow gas field screening studies conducted over the course of the 2006 to 2013 field seasons across North Dakota by the North Dakota Geological Survey (NDGS). Field testing for shallow natural gas occurrences was conducted at each well using a Photovac MicroFID portable Flame-Ionization Detector (FID) calibrated to methane in air. A total of 9,390 groundwater observation wells were investigated over the course of the 2006 to 2010 field seasons. A total of 4,325 wells were tested by FID field screening methods, which returned 905 instrument responses consistent with a methane shallow natural gas show, while 3,420 wells showed no response. During the course of the investigation 3,289 wells were not found at their reported locations and were presumed abandoned or destroyed through disuse. 3,375 well locations were not visited over the course of the project due to unfavorable site conditions, such as time or access constraints, or lack of specific well site information. Also included on this index map are the locations of private groundwater wells with anecdotally reported gas occurrences that were investigated and tested during the 2012 and 2013 field seasons.

REFERENCES

Anderson, F.J., Gudimovich, C.R., Hall, R.N., Ries, A.J., Christensen, A.R., and Bebeck, B.J.: 2010. Shallow Gas Field Screening in North Dakota: Field Data Report for Selected Counties. North Dakota Geological Survey, Geologic Investigations, No. 131, 103 p.
Anderson, F.J., Gudimovich, C.R., Hall, R.N., Ries, A.J., Christensen, A.R., and Bebeck, B.J.: 2010. Locations of FID Shallow Gas Occurrences in North Dakota. North Dakota Geological Survey, Geologic Investigations, No. 128, 1,500,000 scale map.
Anderson, F.J.: 2009. Shallow Gas Field Screening in North Dakota: Field Data Report for Selected Counties. North Dakota Geological Survey, Geologic Investigations, No. 74, 64 p.

EXPLANATION

- Well location with an FID detected shallow natural gas occurrence.
- Well location with no FID response.
- Well location not visited.
- Historical well location.
- No existing well found at well site location visited. Well presumed abandoned or destroyed.
- ★ Private well with an anecdotal reported gas show.
- ★ Private well with an anecdotal reported gas show confirmed by FID field testing.
- - - Extent of Coal Bearing Strata in the Subsurface.

MISC SYMBOLS

- Water
- Waterway
- County Boundary
- Township Boundary
- Highways
- ▨ City/Town Boundaries
- City/Town Sites

