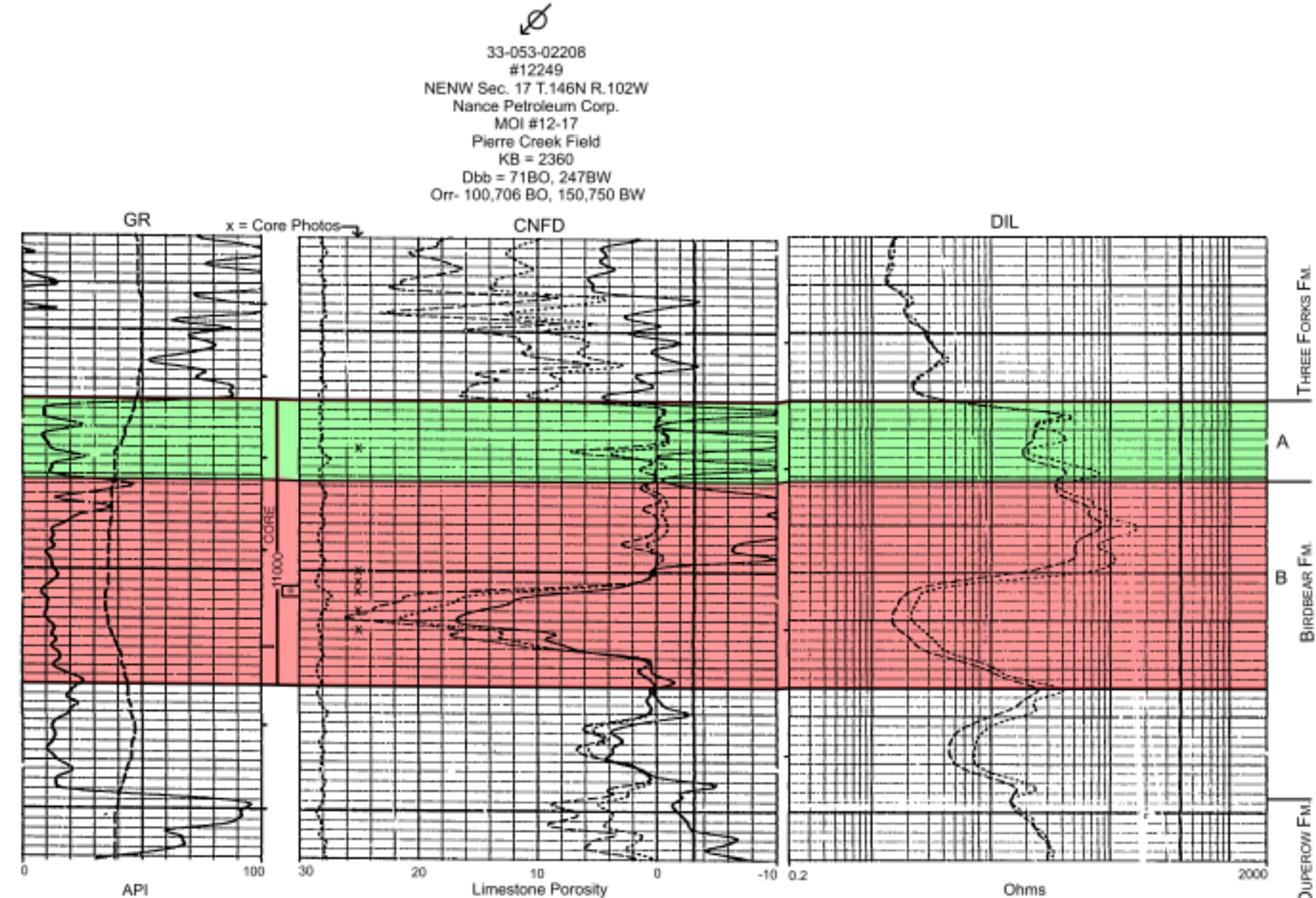


CORE PHOTOS PAY ZONE

Birdbear Representative Log



Birdbear Formation - 'A' porosity zone
 Well Core: File # 12249; API: 33-053-02208
 NENW Sec. 17 - T146N - R102W
 Core Photo - Log Depth: 10,977.9 - 10,078.5 feet
 Dolomitic limestone overlain by anhydrite; mudstone to wackestone texture (mud to mud dominated with less than 50% grains); laminated to thin bedded dolomitized limestone; bladed mosaic anhydrite interpreted to be deposited subaqueously
 Porosity appears to result from dolomitization of limestone; fine grained intercrystalline dolomite porosity. Core plug porosity 6.5%

Birdbear Formation - 'B' porosity zone
 Well Core: File # 12249; API: 33-053-02208
 NENW Sec. 17 - T146N - R102W
 Core Photo - Log Depth: 11,005.8 - 11,006.5 feet
 Dolomitic limestone; wackestone texture (mud dominated with less than 50% grains); laminar stromatoporoids and brachiopod skeletal fragments; disturbed bedding interpreted as bioturbation; interpreted to be subaqueous
 Porosity appears to result from dolomitization of limestone; fine grained intercrystalline dolomite porosity resulting from dolomite replacement of calcite. Neutron cross-plot porosity 17%



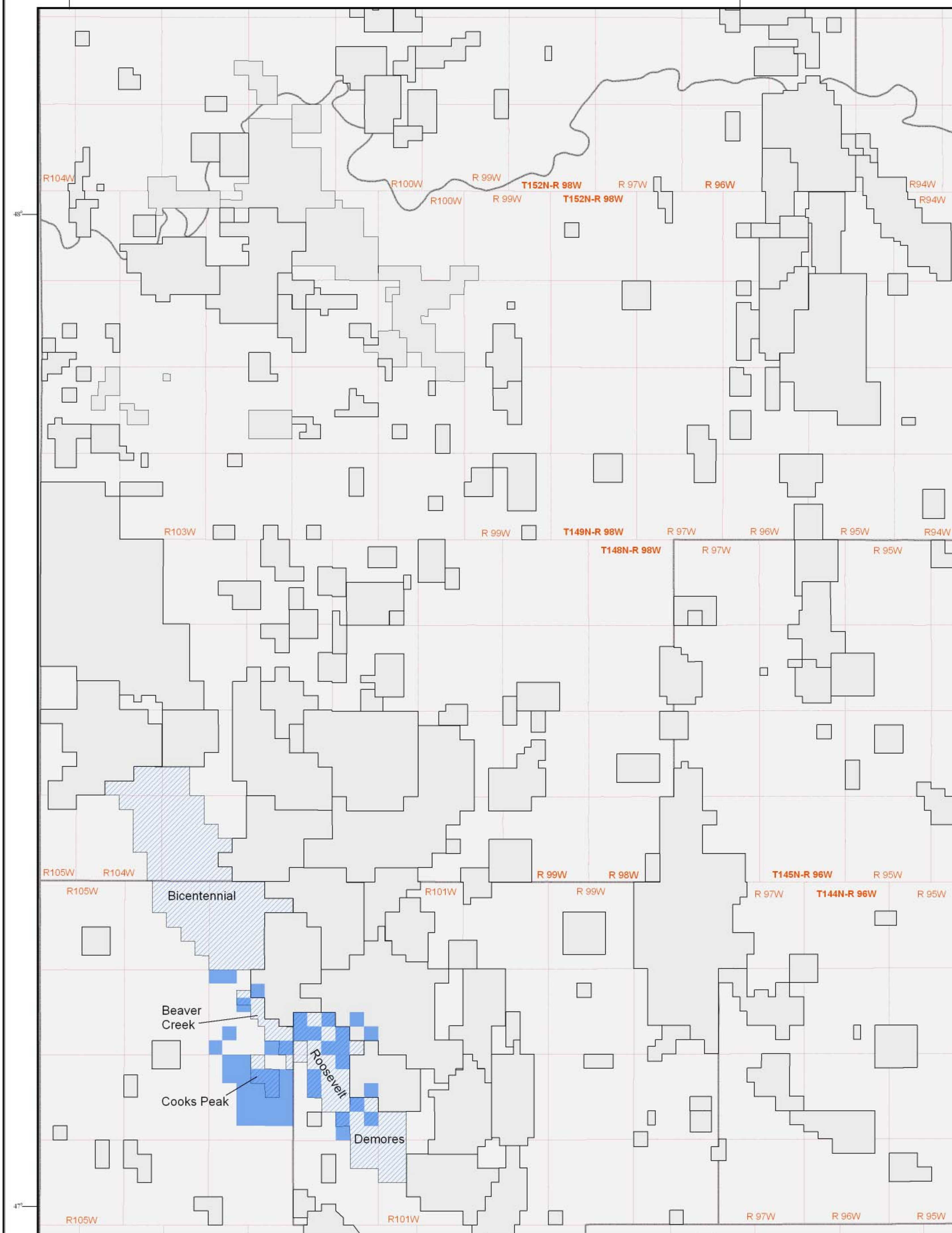
Birdbear Formation - 'A' porosity zone
 Well Core: File # 12249; API: 33-053-02208
 NENW Sec. 17 - T146N - R102W
 Core Photo - Log Depth: 10,978.6 - 10,078.5 feet
 Dolomitic limestone; mudstone to wackestone texture (mud to mud dominated with less than 50% grains); thin bedded dolomitized limestone
 Porosity appears to result from dolomitization of limestone; fine grained intercrystalline dolomite porosity. Neutron cross-plot-porosity 5.5%

Birdbear Formation - 'B' porosity zone
 Well Core: File # 12249; API: 33-053-02208
 NENW Sec. 17 - T146N - R102W
 Core Photo - Log Depth: 11,011.8 - 11,012.4 feet
 Dolomitic limestone; poorly fossiliferous wackestone texture (mud dominated with less than 50% grains); brachiopod skeletal fragments; disturbed bedding interpreted as bioturbation; interpreted to be subaqueous
 Porosity appears to result from dolomitization of limestone; fine grained intercrystalline dolomite porosity resulting from dolomite replacement of calcite. Minor cementation of some porosity by calcite or anhydrite. Core plug porosity 20.2%

Evolving Birdbear (Nisku) Play in North Dakota

2005

R. B. Burke



Explanation

- Birdbear approved drilling and spacing units
- Birdbear Fields
- Non-Producing Areas
- Other Fields

Scale 1:220,000



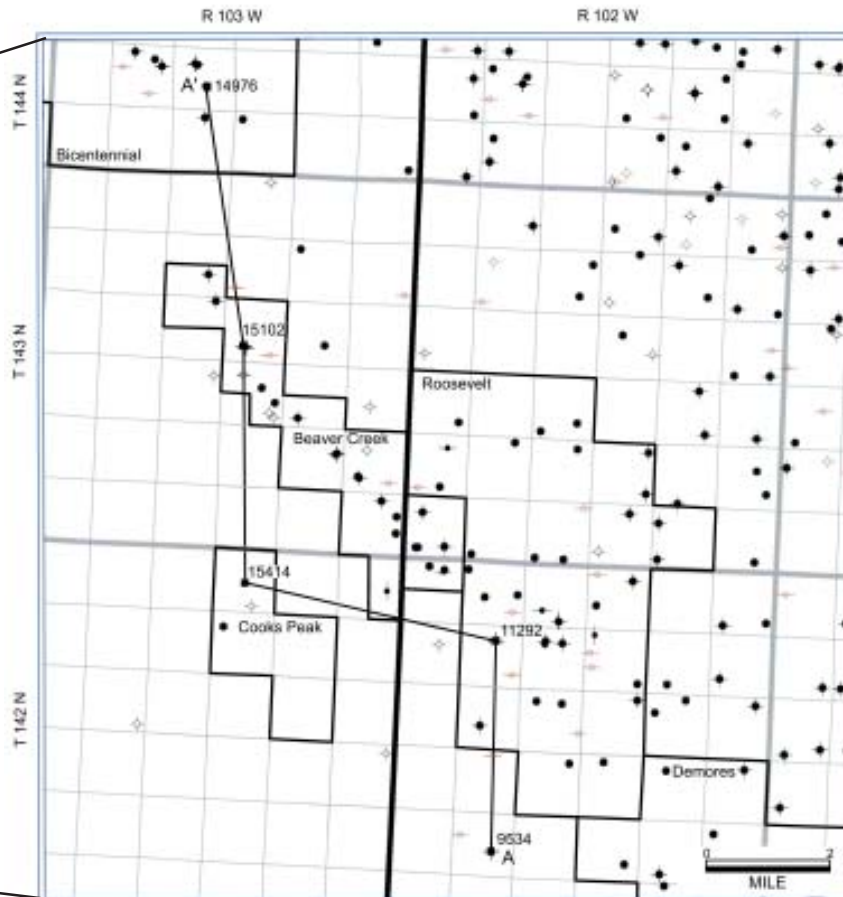
1927 North American Datum
 Mercator Projection



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Location of Cross Section



Birdbear Formation Cross Section

