5.6.25 FORT PECK ASSINIBOINE AND SIOUX TRIBES ENERGY OVERVIEW

OIL AND GAS PRODUCTION

Oil production began on the Reservation with a major discovery in the East Poplar Oilfield by Murphy Oil in 1951. Since that time, another 9 oilfields have been developed across the Reservation as well exploration of the Bakken shale. To date, the Bakken has not been a proven formation on the Reservation, and conventional oil production is the major extraction process.

Although this legacy production has provided economic benefits, the age, production processes and economics of these fields pose challenges for the Fort Peck Tribes going forward.

Oil Production Recovery

Estimates from production companies on the Reservation estimate that 90% of oil remains in place in the East Poplar Oilfield Unit. The unit formation is the Charles C, a highly fractionated formation pressured by a natural water drive. Efforts for secondary recovery, such as nitrogen flooding, have been initiated, however these projects are capital intensive and have not proven effective in increasing production enough to offset investments. Company representatives have asked to partner with the Tribes' oil and gas company to seek financing or grant funding for enhanced recovery initiatives. The economic viability of these legacy fields remains challenging under current secondary recovery options.

Groundwater Protection Efforts

Since 1996, the Tribes have been involved in delineation and remediation of a large groundwater contamination plume which has contaminated 5 billion gallons of shallow groundwater. The USGS has partnered with the Tribes, Bureau of Indian Affairs and the US Environmental Protection Agency to determine the sources, size, and effective remediation of the plume. An aerial survey was used to determine the effectiveness of the remediation efforts taken by the operators in the plume area and also to determine the natural attenuation of an older plume in the north end of the field. The survey indicated that several temporarily abandoned wells had localized plumes around the well heads. Wells which showed these higher levels of salinity were then inspected for annular leaks at the wellhead. The operator has been involved in addressing these problem wells.

Orphaned Well Program

The Tribes have been active in securing funding for the plugging of abandoned properties. Previously, the Tribes have worked with the State of Montana to plug these wells using the State's Reclamation Grant fund. Based on that work, the Tribes had a comprehensive inventory of abandoned wells and were able to secure funding from the Department of Interior for \$2,000,000 for the plugging of these wells. We are anticipating starting this summer.

Ancillary Opportunities

Although not directly tied to an energy initiative, a company has done some evaluation for helium in existing oil wells. The initial indications in a few of the wells tested show helium volumes which may be economic if consistent across the reservoir, however, evaluation is ongoing.

A geothermal resource exists in the East Poplar Unit. Water temperatures in the East Poplar Unit typically range from 190°f-220°f. The resource has been studied since the 70's but no economical use has been designed.

The other interest is in the production water chemical constituents. Lithium, a chemical used in batteries, is found in the produced water in the East Poplar Oilfield which is routinely injected into disposal wells. Although in the early stages of exploration, the project may hold some potential in the long term.

ALTERNATIVE ENERGY

Fort Peck Indian Reservation has long been hampered by the lack of electrical transmission. Although the Reservation is large and has wind and solar potential, transmission access remains located close to the southern border along the Highway 2 corridor, effectively blanking out large scale electrical energy production in the remaining 90% of the land base. Expansion of the electrical grid in north eastern Montana is not planned for the future. Electric companies the area include Western Area Power Administration, 2 Rural Co-ops – NorVal and Sheridan, and Montana Dakota Utilities.

The Tribes have received a DOE grant for passive solar installation at the new Thundering Buffalo Wellness Center which was completed in 2021.

In summary, oil production remains one of the driving economic engines on the Reservation. However, without new discovery, our aging oilfields need innovative recovery methods for the long term viability of oil and gas operations for economic as well as resource conservation. A potential exists for other resources from which can be gained from the existing infrastructure but depend on thriving oil and gas production. Finally, the Reservation's size is an asset but also a challenge to alternative energy options.