

**BEFORE THE OIL CONSERVATION DIVISION
STATE OF NEW MEXICO**

**APPLICATION FOR INJECTION/SWD
WELLS IN EDDY COUNTY, NM
BY DELAWARE ENERGY LLC**

Case Nos.: 16259, 16,260, and 16,261

CLOSING STATEMENTS

Comes now Jim Davis and Barbara Davis, and Alisa Ogdon, Protestants in the above referenced matter, and hereby tender their Closing Statements to the Hearing Examiner from the Hearing of November 13, 2018, and would argue:

The proposed Salt Water Disposal Wells proposed by the Applicant, and protested by these Protestants, are in the proximity of the Black River located in Eddy County, New Mexico. Based upon the maps and testimony, it was established that the three wells at issue (after dismissal of the Kodiak) are within the drainage area of the Black River. This would subject the Black River the potential for contamination in the event of run off making it into the River.

Evidence was presented of run off from other wells, and testimony was presented showing the potential for run off, the past flooding of the Black River, and the natural drainage of the three (3) remaining sites into the Black River.

The testimony clearly presented that the Black River is the primary habitat of the Texas Horn Shell Mussel, which has been placed on the endangered species list by the Federal Government. The testimony established that the Mussel is highly susceptible to contaminated water, and therefore one of the few remaining habitats of the Mussel is a reach of the Black River, adjacent to those areas currently proposed by Delaware for the drilling of salt water disposal wells.

The chemistry of the produced water is highly contaminating and much more so than simply a very high degree of salinity. The produced water will also contain hydrocarbons which would be destructive of the animal and aquatic life in the Black River, including the Texas Horn Shell Mussel, a protected species. The exact nature of the contaminants contained in the water to be injected is unknown, as the last analysis of produced water is now over ten (10) years old, and was from earlier wells which were most probably not horizontal wells.

The testimony also elicited from the Applicant's witnesses is that the area involved is a karst area, which typically has a high degree of transmissivity. There was testimony that one could actually see the water moving in the well bore because of the high permeability's in areas of this limestone type area.

In working up the Applications, the Applicant employed a geologist Kevin Schepel, who also has done work in hydrology and potential metric surface mapping. Although he had an expertise in these matters, Mr. Schepel did not do any studies to determine the drainage of the aquifer, or the speed with which water flows through the aquifer into Black River. He testified that other studies would have to be conducted in order to determine how the water drained. He also testified that in assessing public health and public safety, the way the water flows would be important especially considering the endangered species living in it. This was not done. Where the water ended up would be important, but no studies were done by the Applicant. He also testified that he was not privy to any of the recent 3D seismic, which would pick up more information than the old information on faulting in the area.

All of the wells are in proximity to the Black River, after the dismissal of the Kodiak Well. Most of these wells are closer than one (1) mile of the River, but all are in areas which would drain to the River.

Some of the wells are also closer than allowed within the general guidelines of the OCD. The Bear Trap overlaps one-quarter mile with the Ruehle SWD#1. Spacing of salt water disposal wells would be a good idea since pressuring formations may be problematic if the wells are in close proximity.

Applicant's witnesses testified that some of the water would be trucked into the various wells, though Delaware was planning to use lines, running across the surface, to convey most of the produced water to the injection wells. Truck traffic on Black River Village Road and John D. Forehand Road has greatly increased, and currently presents a traffic problem for the traveling public as well as the potential for trucks overturning, which could cause a produced water spill. The Black River Village Road is largely in disrepair, though part of that road is being worked on currently. Produced water through pipe systems would require pressuring the pipe in order to keep water moving to its proposed destination. Obviously a break in the pipeline, under pressure, would be another source of produced water finding its way into either the Black River or the aquifers which supply the river, the Protestants' residential wells, and possible water sources used for drinking water in the area.

The Applicant testified that they will be doing continuous checks to determine whether or not there is any leakage from their pressured injection. The testimony was that this was to be a continuous operation, which could be immediately shut down. In order enforce the Applicant's promises, to the extent any Application is allowed, the Commission should set strict requirements

that there be ongoing pressure testing. The rules call for pressure testing every three years, but considering the delicate ecological balance in the Black River, a continuous monitoring of the pressure in these salt water disposal wells needs to be done. Since the Applicant has testified this will be done, Protestants would urge that in addition to other requirements, as discussed later, the Commission impose a strict reporting of the pressure testing of the casing to be performed not less than monthly, and preferable weekly. Considering the severe repercussions any leakage could have, it would be essential that these wells be closely monitored.

The testimony was that the truck traffic on Black River Village and John D. Forehan roads are extreme, the roads are in disrepair, and dangers exist with trucking of produced waters to these salt water disposal wells. Testimony also was that there are numerous low water crossings, whereby the trucks are required to cross the River. Evidence was presented of an accident actually occurring at one of these low water crossings, which luckily did not result in an escape of produced water into Black River. In the event that the truck load of produced water was deposited in Black River, the repercussions on the endangered species living in the River would probably be very serious.

Even though that the Wells proposed by the Applicant are outside of Zone B (which only allows very limited commercial activity since this is in the 100 Year Flood Plain for Black River) some of the wells are just outside of Zone B. Considering the run off potential, any contaminate spilling onto the ground or leaking could also very well impact the River. Pipelines, especially those which would have to cross Black River to a salt water disposal well, would also present serious potential problems to the River and the endangered species. Any leakage in the pipeline could result in immediate and irreparable harm.

Protestants believe that the public safety and would be severely compromised by the drilling, equipping and using of the proposed Salt Water Disposal Well in such proximity to Black River, and the drilling through the highly transmissivity of the karst formations, through which the underground waters adjacent to the River move. The public safety and welfare would also be adversely affected by increased truck traffic, over the already dense truck traffic and the pipelines flowing through to the wells crossing properties and lands, and the Black River, all of which would be detrimentally affected by any leakage or spills. The public safety and welfare would also be adversely affected by any leakage or spill from the proposed wells.

Protestants would urge the Commission to deny these three (3) Applications as set forth above. In the event any Applications are granted, Protestants would urge that additional qualifications and requirements would be imposed on Applicant, including:

- A. Weekly pressure tests of all casing in the salt water disposal wells;
- B. All areas where truck traffic would unload produced water to the salt water disposal wells be concreted or sealed in such a way that spilled water would not find its way into the acquirer;
- C. Impervious berms be constructed around each of the salt water disposal wells with the only access through the berm into the well area by entry on the uphill side of the location;
- D. No pipelines be allowed to cross the Black River to the locations of the disposal wells; and,
- E. Comply with the "Best Management Practices" being put together by the State Land Office.

RESPECTFULLY SUBMITTED,

Marion J. Craig III,
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/s/Marion J. Craig III

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Certificate of Service

Copies of this Statement have been sent to counsel for Applicant and the Oil Conservation Division Office this 7th day of December, 2018.

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