

The Appellate argument concerning the Oral Exceptions was referred to **Patricia D. MacGuigan**, Oil and Gas Appellate Referee ("Referee"), on the 13th day of April, 2015. After considering the arguments of counsel and the record contained within this Cause, the Referee finds as follows:

STATEMENT OF THE CASE

FALCONHEAD TAKES EXCEPTION to the ALJ's recommendation that Cobalt be granted a permit to operate a commercial disposal well in Section 24, T7S, R1W, Love County, Oklahoma, as requested in Cause PD 201400129.

Cobalt made a request for administrative approval to develop a commercial disposal well in the NE4 NW4 NW4 of Section 24, T7S, R1W, Love County, Oklahoma. The Cobalt application was opposed by Falconhead and Turner School District and Luther and Doris Malone. The protestants are concerned about the effect the location of the disposal well may have to their property. Cobalt maintains they have followed the rules of the Oklahoma Corporation Commission and should be granted an order to operate the commercial disposal well in Section 24.

Falconhead is a golf community of more than 350 homes about two miles from the site of the proposed disposal well. The community is dependent on six water wells. Turner School District have four water wells next to Falconhead. Protestants assert that they have felt earthquakes at this location within the last few years and are quite concerned about the potential for contamination of their water supply. Falconhead is situated over two aquifers, the Antlers Aquifer, a major bedrock aquifer and the Red River Aquifer, a major alluvial/terrace aquifer, as designated by the Oklahoma Water Resources Board ("OWRB"). The two aquifers underlying Falconhead and the surrounding hydrogeologic basin have been classified as "very high" in the vulnerability class by the OWRB. The Protestants assert that the proposed injection well lies within the recharge area of the two aquifers as well as the Walnut Creek drainage basin and a environmentally sensitive and protected wetlands area.

FALCONHEAD TAKES THE POSITION:

- 1) The ALJ Report is contrary to the evidence, contrary to law and if adopted, will result in injustice.
- 2) The application of an unwritten "yellow" or "red" light traffic light system is arbitrary, capricious, and unreasonable. The failure to follow the unwritten "yellow" or "red" light traffic light system is arbitrary, capricious, and unreasonable.

3) Cobalt's own evidence in support of the application is contradictory. Assumptions of Cobalt's own witnesses are not supported by evidence and are contradictory.

4) The UIC division failed to properly investigate or review the facts underlying the Cobalt application. Evidence presented at the hearing indicated that UIC had evidence of earthquakes in the area which were consistent with a 5.0 earthquake on the Richter magnitude or Modified Mercalli values. Despite UIC having evidence of earthquakes in the area which were consistent with a 5.0 earthquake on the Richter magnitude or Modified Mercalli values, a proper investigation of the Cobalt application was not made.

5) The seismic activity maps presented in support of the Cobalt application depicted the seismic activity prior to August 4, 2014 and did not account for the recent earthquakes, nor the seismic activity which caused the shutdown of Love County Disposal Well #1.

6) Limiting application of the unwritten "traffic light" system to a two mile area is arbitrary and capricious. The unitization of an unwritten "traffic light" system to the application fails to provide adequate notice to Protestants and is arbitrary and capricious.

7) Evidence presented by UIC indicated knowledge that maps presented showed the intersection of two faults where the proposed Cobalt disposal well is to be located but no further investigation was made. Evidence presented by UIC indicated they did not know the depth of the faults nor how far up the faults come and these are used in the permitting process. The UIC division presented evidence that in reviewing the Cobalt application that maps received from the Oklahoma Geological Survey showed faults at the location of the proposed well site and that the "faults that have not been vetted." The UIC division presented evidence that it did not know if the two intersecting faults shown in the evidence were stress faults or not. UIC presented evidence that if a well is within two miles of a stress fault as delineated by the Oklahoma Geological Society, then under the unwritten traffic light system, the UIC would request a hearing. In this case, the UIC did not request a hearing.

8) The UIC division failed to require an evidentiary hearing on the Cobalt application in contravention to an unwritten policy and is arbitrary and capricious.

9) Evidence at the hearing adduced that the proposed well location lies above the Antlers Aquifer and Red River Aquifer. In its review the UIC division was not aware that the Antlers and Red River Aquifers were the sole source of water for a public water system that serves the Falconhead development or residents outside of Falconhead. The recommendation of the ALJ based upon

the evidence fails to properly protect the Antlers Aquifer and Red River Aquifer, which is the sole source of potable water for Falconhead and other residents in the area of the proposed well.

10) The location of a salt water disposal ("SWD") well on, and at the intersection, of two faults, lying over two major Oklahoma aquifers is not warranted and is in contravention of the policy of the State of Oklahoma and the Oklahoma Corporation Commission to protect the waters of the State.

11) The failure to give notice to all Protestants as required by law and the rules of the Oklahoma Corporation Commission is arbitrary and capricious.

THE ALJ FOUND:

1) After taking into consideration all the facts, circumstances, testimony, and evidence presented in this cause, the ALJ recommends the application in PD 201400129 be granted as requested by Cobalt, subject to further action by the Commission, should conditions relating to seismic activity warrant such action or other actions deemed by the Commission necessary to protect the health, safety, environment, or welfare of the residents of the State Of Oklahoma, including but not limited to prohibiting the use of this well for disposal. Cobalt has complied with the Commission's rules regarding disposal wells as to the protection of the treatable waters, notice, and construction of the disposal facility to prevent surface pollution. The evidence did indicate there is a fault near the site of the proposed well. However, the uncontroverted evidence showed this fault did not extend into the proposed disposal formation, and thus it is not expected to cause seismic events. Commission staff presented no objection to the proposed disposal well based on seismic events. The evidence indicated there have been no cluster of seismic events within two miles of the proposed location, thus the well site was not within the "yellow" or "red" light traffic light system.

POSITIONS OF THE PARTIES

FALCONHEAD

1) **Darryl F. Roberts**, attorney, appeared on behalf of Falconhead, stated the evidence presented to the ALJ showed the proposed SWD well location lies at the intersection of two existing faults (see Exhibit 8).

2) Falconhead notes the proposed site also lies within two of six major aquifers in the State of Oklahoma--the Red River Alluvial aquifer and the Antlers aquifer.

3) Falconhead notes the OCC discussed the unwritten traffic light system rules which was a two-mile radius at the time of the hearing. Falconhead notes these traffic light rules were unpublished, thus making it impossible for any outsider to be informed how these rules would be applied to a SWD well application. Falconhead believes the Cobalt SWD well applications is in the area of the traffic light system.

4) Falconhead points out that outside parties have no way of knowing the criteria UIC utilizes in determining whether a SWD well application is within the traffic light system. Falconhead is unaware of the criteria Cobalt, as an applicant, had to meet, in order for the traffic light system to be applied to its proposed SWD well.

5) Falconhead notes that the OCC UIC department under certain circumstances will participate and require a hearing in some SWD well applications. Falconhead believes the UIC hearing normally is triggered by a proposed SWD site lying on identified stress faults per the Oklahoma Geological Society ("OGS").

6) Falconhead notes that Exhibit 8, the earthquake/fault map, contains information from the OGS yet UIC was unaware of the fault depths involved herein. Falconhead notes the testimony herein showed the faults had not been vetted. Because of this, Falconhead thinks the UIC department was unaware of these two intersecting faults being deemed stress faults, i.e. adequate enough to trigger an UIC hearing on this disposal well application. Falconhead concurs that for a UIC hearing to have been requested herein, the well would have to be within two miles of a known stress fault per the OGS records.

7) Falconhead notes that Love County sits south of the Arbuckle Basin and south of the Criner Hills, an area known as the Marietta Syncline with distinct geological areas. Falconhead notes the Criner Hills is a heavily faulted area, and an extension of the Meers fault. Falconhead notes in the Fall of 2014 there were many quakes in this area that ultimately shut down a SWD well after only 17 days of operation, i.e. the LCD #1 well. Falconhead notes that Exhibit 9 mentions the swarm of quakes, which included a 5.0 quake. Falconhead believes despite the nearby 5.0 quake close to this proposed SWD well, prior to Cobalt's filed application herein, that UIC should have made an investigation. Falconhead believes the ALJ failed to consider the area faulting in his recommendations.

8) Falconhead notes since the merit hearing and the Report of the ALJ, the OCC has modified the 2-mile radius rule to an expanded area of interest to 10 kilometer radius area as it relates to SWD wells and quake intensity/swarms. Falconhead notes this expanded area of interest was published in the March 26, 2015 Daily Oklahoma newspaper. Falconhead

believes since this proposed SWD well lies over two major aquifers it was both arbitrary and capricious for UIC to not have requested a hearing.

9) Falconhead believes the OCC failed to apply the unwritten traffic light system requirements to this SWD well application. Falconhead also believes it is arbitrary and capricious to have a set of unwritten requirements and then fail to follow these unwritten rules. Falconhead thinks if the UIC had gotten involved herein, the ALJ would have had a different result.

10) Falconhead notes the March 26th newspaper article mentioned the expanded area of interest from past 2-miles to a 10-kilometer radius area. Falconhead believes the OCC should re-look at this SWD well application with the newer 10-kilometer rule in place. Falconhead asserts the OCC needs to revisit this SWD application and apply the updated traffic light system rules hereto.

COBALT

1) **Russell J. Walker**, attorney, appeared on behalf of Cobalt, stated Falconhead kept referring to Exhibit 8 as having two faults near the proposed SWD well.

2) Cobalt asserts that Falconhead's belief here is error as there is only one identified OGS fault shown on Exhibit 8. Cobalt's witness admitted there were two lines shown depicting faults on Exhibit 8, running NW to SE, however, one line was only an add on line showing an interpretation of where it would go, based on well control and Cobalt's analysis of the various depths. Cobalt notes this interpretation fault line was not the same as the stress fault shown by OGS. Cobalt's witness went out and did the necessary work in an attempt to determine where the fault would be at subsurface.

3) Cobalt notes Falconhead gets its water from two Oklahoma aquifers. Cobalt further notes that prior to quakes being an issue, the main goal of the OCC was the protection of fresh and treatable water with regard to a well's construction.

4) Cobalt notes its proposed SWD well will be designed to protect the fresh and treatable water. Cobalt notes that Exhibit 17 shows a proposed down-hole construction of a well, including such as the base of the fresh water at 580, which would require Cobalt to have pipe set at 630 to the surface, a long string to surface, with the disposal interval ranging from 1900 to 3470 feet. Cobalt asserts the proposed SWD well will be properly constructed to

protect the fresh water. Cobalt's well complies with all OCC standards. Cobalt has agreed to build three monitor water wells on the west side. Cobalt has further agreed to audit those water wells annually for 20 potential toxin/contaminants. Cobalt is going beyond what is required of an operator to protect the fresh and treatable water.

5) Cobalt notes in May 2011, the head of the EPA testified in Congress that they knew of no contamination from a properly constructed SWD well harming fresh and treatable water.

6) Cobalt notes that Falconhead presented no evidence of its own. Cobalt notes the OCC was using an OGS map which showed no quakes higher than 3.4. Cobalt notes the LCD #1 well was not shut in when a nearby 3.4 quake recently occurred in Love County. Cobalt notes the OCC had issued the LCD #1 well criteria to continue when after 7-10 days of the SWD well's operation the quake occurred. Cobalt notes the LCD #1 well chose not to continue operating its SWD well. Cobalt notes the Poteet well has the same nearby fault, with disposal at 6875 feet but the top of the fault being 9000 feet and no quakes higher than 2.0 in the area.

7) Cobalt notes the Falconhead claims do not comport with the evidence introduced nor do they match with what is known about SWD wells in general. Cobalt believes this proposed SWD well is well designed with little chance of induced seismicity

8) Cobalt owns the 65 acres on which this proposed SWD well is to be built. Cobalt notes that notice was properly given to offset operators and surface owners, with some protests from numerous nonowners who reside in Falconhead. Cobalt notes Mr. King's former clients are still subject to the agreement with Cobalt. Cobalt notes Falconhead claims it was not notified; however, Cobalt notes the Protestants herein were the offsetting land owners who have been settled with, and the other Protestants are the residents of Falconhead.

9) Cobalt notes the well's proposed injection depth is 1900 to 3400 feet in very porous and permeable Pennsylvanian-age rock. Cobalt notes the traffic light system was designed by Stanford University. Cobalt notes OCC gave this proposed SWD well application a green light due to both the depth and that quakes over 2.0 had not occurred. Cobalt finds no reason for concern about its proposed SWD well and its relationship to nearby faults. Cobalt notes the OCC was unconcerned herein about induced seismicity.

10) Cobalt does admit that its witness, Mr. Goode, did believe it was possible that induced seismicity from SWD might sometimes cause quakes, yet in this location, Mr. Goode was not concerned about this possibility. Cobalt notes there is little chance the injected water would migrate into the existing

stress fault, hence, OCC gave the application a green traffic light. Cobalt believes the ALJ should be affirmed in his recommendation.

RESPONSE OF FALCONHEAD

- 1) Falconhead notes the Criner Hills fault area lies just to the north of the proposed SWD well. Falconhead still believes that Exhibit 8 shows two existing faults.
- 2) Falconhead is not an individual protester, but a corporate entity. Falconhead is aware that parties who have filed proper protests pursuant to Commission rules, have received notices of court hearings.
- 3) Falconhead notes when OCC saw a fault, as herein, that UIC should have required a hearing, yet UIC held no investigation. Falconhead notes the OCC testified per Exhibit 9 that one had to go to Levels 5-6 to find quake damage enough to trigger a UIC hearing. Falconhead believes though that under the unwritten traffic light rules, that a UIC investigation was necessary.
- 4) Falconhead agrees the quakes occurring in the 2-mile area of the proposed SWD well were considered by the Court. However, Falconhead believes the newer 10-kilometer area recent expansion now in effect, should be applied to Cobalt's SWD well application.

CONCLUSIONS

The Referee finds the Report of the Administrative Law Judge should be affirmed.

- 1) The Referee finds the ALJ's recommendation to grant the Cobalt application, "subject to further action by the Commission, should conditions relating to seismic activity warrant such action or other actions deemed by the Commission necessary to protect the health, safety, environment or welfare of the residents of the State of Oklahoma, including but not limited to prohibiting the use of this well for disposal," is supported by the weight of the evidence, by law and free of reversible error.
- 2) 52 O.S. Section 139(A) provides:

The Corporation Commission is vested with exclusive jurisdiction, power and authority, and it shall be its duty, to make and enforce such rules and orders governing and regulating the handling, storage and disposition of salt water, mineral brines, waste oil and other deleterious substances produced from or obtained or used in connection with the drilling, development, producing, and operating of oil and gas wells and brine wells within the state as are reasonable and necessary for the purpose of preventing the pollution of the surface and subsurface waters of the state, and to otherwise carry out the purpose of this act.

- 3) Another law affecting the disposal of salt water is contained in 29 O.S. Section 7-401(A) which states:

Except as otherwise provided in this section, no person may deposit, place, throw or permit to be deposited, placed or thrown, any lime, dynamite or other explosive, poison, drug, sawdust, salt water, crude oil or any other deleterious, noxious or toxic substance in any waters of this state, or in any place where such substances may run or may be washed into such waters.

- 4) The alternative that has been used for years by oil companies is to dispose of the salt water produced by their wells underground which is done by gathering the salt water and piping it to a well through which it is then injected into subterranean stratum.

- 5) The issue presented before the Commission in the present case is whether the commercial disposal of salt water underground through the proposed commercial disposal well Cobalt Marietta #1 in the manner contemplated by Cobalt would cause, or is reasonably likely to cause, any pollution of surface or subsurface waters or any damage to any oil and gas bearing stratum. *Appeal of Cummings and McIntyre*, 319 P.2d 602 (Okla. 1957). Furthermore, the Oklahoma Corporation Commission recently has instituted a proactive approach to the issue of seismic activity in Oklahoma. Oklahoma has been and is a seismically active state. The primary area of interest of researchers regarding the strong recent earthquakes in Oklahoma has been injection wells used for waste water disposal relating to oil and natural gas exploration and production activity. The Oklahoma Corporation Commission is committed to doing everything possible to further this vitally important work and continue to incorporate applicable verifiable data in its ongoing response to this issue of seismic activity in Oklahoma.

6) The weight of the evidence established that the manner and method proposed by Cobalt to operate a commercial disposal well is such that the well will comply with and exceed the Commission rules for disposal of salt water and is not reasonably likely to cause pollution of surface or subsurface waters or any damage to the productive formations in the area. The ALJ is the finder of fact and it is the ALJ's duty to observe the demeanor of the witnesses, assess their credibility and assign the appropriate weight to their opinions. *Application of Choctaw Express Company*, 253 P.2d 822 (Okl. 1953); *Palmer Oil Corporation v. Phillips Petroleum Company*, 231 P.2d 997 (Okl. 1951).

7) The ALJ found that the Cobalt experts, Mr. Charles Lord, a petroleum geologist and the Program Manager of Underground Injection Control for the Oklahoma Corporation Commission and Mr. Oscar Goode, an oil and gas expert on the subject of petroleum engineering and geology, had sufficient rational basis in support of their expert opinions. *Haymaker v. Oklahoma Corporation Commission*, 731 P.2d 1008 (Okl.Civ.App. 1986).

8) Cobalt's experts also addressed the concerns expressed by Falconhead concerning the seismic activity producing earthquakes in the area.

9) The evidence presented by Cobalt's witness, the petroleum engineer, Mr. Goode, was that the proposed salt water disposal well will be designed to protect the fresh and treatable water. Exhibit 17 shows a proposed downhole construction of the Cobalt Marietta SWD #1 well. The base of the fresh water is 580 feet which will require Cobalt to set the pipe at 630 feet to the surface. The disposal interval ranges from 1900 feet in the Cisco Sands to 3,470 feet in the Hoxbar Sands. There would be a 7-inch production casing with either 23 or 26 pound pipe. The evidence presented showed that the proposed SWD well would be constructed properly to protect the fresh water and complied with OCC standards. Cobalt has agreed to build three monitor water wells on the west side and Cobalt will audit these water wells annually for 20 potential toxin/contaminants. The weight of the evidence established that the manner and the method proposed by Cobalt concerning the proposed Cobalt Marietta SWD #1 well is such that the well will comply with and exceed the Commission rules for disposal of salt water and is not reasonably likely to cause pollution of surface or subsurface waters.

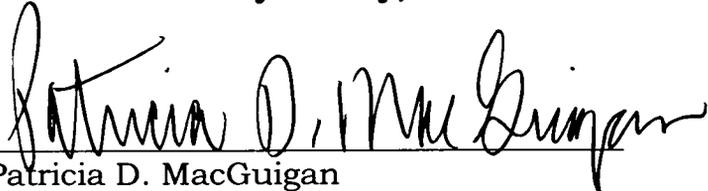
10) Mr. Goode testified that on Exhibit 8 there are two lines depicting faults running northwest to southeast very near the proposed disposal location. However, there is only one identified OGS fault shown on Exhibit 8. Mr. Goode admitted there were two lines shown depicting faults, however, one line was only an add-on line showing an interpretation of where Mr. Goode thought the fault should be placed based upon his analysis of the various depths. Mr. Goode testified that Exhibit 1 was the recent OCC position on seismicity concerning disposal wells that sets up a green light, yellow light, red light traffic system. Mr. Goode said in his opinion the proposed Cobalt Marietta

SWD #1 well is a green light well. In the present case Mr. Goode testified they have 7000 feet of sediment above any faulting. He testified that there was no way any of the materials were going to get to those basement faults. The proposed SWD well here would not induce seismicity, which means lubricating a fault's system so that it could move earlier than it would under normal circumstances.

11) Mr. Goode testified that the Exhibit 7 map showed the Roman SWD #2 well and LCD #1 well. The LCD #1 is the well that could have triggered a 3.4 magnitude earthquake in Love County. Mr. Goode testified he thought an earthquake occurred after they started disposal, about seven to ten days at 6,000 or 7,000 barrels a day. This well is next to the Criner Hills, which is an Arbuckle at the surface situation where you have actual basement faults showing at the surface. Mr. Goode testified that if you go a short distance south of that area, the Arbuckle is at 15,000 feet. Mr. Goode testified the fault near the location of the proposed Cobalt Marietta SWD #1 well was at 10,500 feet and the well would be disposing no deeper than about 3400 feet. There has been no seismic cluster within two miles of the proposed Cobalt well and any seismicity in the particular area is all less than a 2.0.

12) The Referee notes the concerns expressed by Falconhead in regard to the granting of this application. However, Falconhead did not present any witnesses or testimony. The Commission takes its responsibility concerning the prevention of pollution and protection of productive common sources of supply very seriously. The Commission is also concerned about the issue of seismic activity in Oklahoma as reflected in Exhibits 1 and 2 and therefore the Referee would affirm the ALJ's recommendation that the granting of this application is subject to further action by the Commission should conditions relating to seismicity activity warrant such action. Therefore, considering the facts and circumstances and the record before the Commission concerning the disposal facility requested by Cobalt, the Referee recommends that the Commission affirm the ALJ's Report and grant the application of Cobalt, "subject to further action by the Commission, should conditions relating to seismic activity warrant such action or other actions deemed by the Commission necessary to protect the health, safety, environment or welfare of the residents of the State of Oklahoma, including but not limited to prohibiting the use of this well for disposal."

RESPECTFULLY SUBMITTED THIS 8th day of May, 2015.


Patricia D. MacGuigan

OIL & GAS APPELLATE REFEREE

PM:ac

xc: Commissioner Anthony
Commissioner Murphy
Commissioner Hiett
James L. Myles
ALJ Michael E. Porter
Russell Walker
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Sally Shipley
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