

**BEFORE THE CORPORATION COMMISSION
OF THE STATE OF OKLAHOMA**

FILED

MAR 04 2011

APPLICANT: **DUNCAN OIL PROPERTIES,
INC. AND WALTER DUNCAN
OIL, A LIMITED
PARTNERSHIP**)

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CORPORATION COMMISSION
OF OKLAHOMA**

RELIEF SOUGHT: **WELL LOCATION EXCEPTION**)

**CAUSE CD NO.
201002135**

LEGAL DESCRIPTION: **SECTION 4, TOWNSHIP 15
NORTH, RANGE 20 WEST,
CUSTER COUNTY, OKLAHOMA**)

APPLICANT: **DUNCAN OIL PROPERTIES,
INC. AND WALTER DUNCAN
OIL, A LIMITED
PARTNERSHIP TEXT**)

RELIEF SOUGHT: **INCREASED WELL DENSITY**)

**CAUSE CD NO.
201002136**

LEGAL DESCRIPTION: **SECTION 4, TOWNSHIP 15
NORTH, RANGE 20 WEST,
CUSTER COUNTY, OKLAHOMA**)

REPORT OF THE OIL AND GAS APPELLATE REFEREE

These Causes came on for hearing before **Michael Norris**, Administrative Law Judge for the Corporation Commission of the State of Oklahoma, on the 23rd and 24th day of September, 2010, at 8:30 a.m. in the Commission's Courtroom, Jim Thorpe Building, Oklahoma City, Oklahoma, pursuant to notice given as required by law and the rules of the Commission for the purpose of taking testimony and reporting to the Commission.

APPEARANCES: **J. Fred Gist**, attorney, appeared on behalf of applicant, Duncan Oil Properties, Inc. and Walter Duncan Oil, a Limited

Partnership ("Duncan"); **Charles L. Helm**, attorney, appeared on behalf of JMA Energy Company, L.L.C., IBEX Resources Company, L.L.C. and Ranger Resources, L.L.C. (collectively "JMA"); **Emily Smith**, attorney, appeared on behalf of Chesapeake Operating Inc. and Chesapeake Exploration Limited Partnership ("Chesapeake"); and **Jim Hamilton**, Assistant General Counsel for the Conservation Division, filed notice of appearance.

The Administrative Law Judge ("ALJ") filed his Report of the Administrative Law Judge on the 13th day of December, 2010, to which Exceptions were timely filed and proper notice given of the setting of the Exceptions.

The Appellate argument concerning the Oral Exceptions were referred to **Patricia D. MacGuigan**, Oil and Gas Appellate Referee ("Referee"), on the 31st day of January, 2011. After considering the arguments of counsel and the record contained within these Causes, the Referee finds as follows:

STATEMENT OF THE CASE

JMA APPEALS the ALJ's recommendation to grant Duncan's applications for increased well density and well location exception. The parties are disputing the necessity of the increased density and the affect this location exception will have on the offset. Duncan is seeking the authorization to drill, complete and produce an additional well in the Cleveland common source of supply. This well is a horizontal well at an off pattern location. Duncan used data and interpretations that are divergent from past mapping methodology. JMA also deviated from past methodology but in the opposite direction. Both parties offered extensive testimony to substantiate their positions on the most accurate method of depicting productive Cleveland Sand.

Evidence was also presented concerning the offset wells and the effect an additional well may have. Duncan acknowledged some affect on the well in this unit from the offset well. Duncan believes that the current well had an increase of water from the fracturing operations on the offset well. Duncan stated the additional water diminished after a few days . JMA indicated that their study shows more significant influence and that they believe another well in this unit will allow drainage across the unit boundary. Evidence was also submitted concerning the topographic considerations involved in the need for this location exception. The staked surface location is 776 feet FWL and 244 feet FNL of Section 9, T15N, R20W, Custer County. The proposed bottomhole location in the northern part of Section 4, T15N, R20W, Custer County is no closer than 680 feet FWL and no closer than 200 feet FNL of Section 4.

DUNCAN TAKES THE POSITION:

- (1) The ALJ's Report is contrary to the law and to the evidence in these causes.
- (2) The ALJ erred in concluding the evidence presented by Duncan was reasonable concerning the proposed location exception.
- (3) The ALJ erred in concluding there were valid topographic considerations as well as the prevention of waste and protection of correlative rights from offset wells in considering the location exception.
- (4) The ALJ erred in concluding that the theories, facts, experience and explanations given by Duncan established credible evidence to recommend approval for increased density.
- (5) The ALJ erred in giving probative value to the use of a "gross" Cleveland Sand map for volumetric analysis.
- (6) The ALJ erred in failing to conclude that the use of a "gross" Cleveland map for volumetrics would over estimate the volume of recoverable reserves.
- (7) The ALJ erred in failing to conclude the need to use a "net" porosity analysis in doing volumetrics for the Cleveland.
- (8) The ALJ erred in recommending density development be allowed in the W/2 of Section 4, T15N, R20W, Custer County, Oklahoma, when the evidence suggests the existing two Cleveland producers will produce more gas than underlies the west half of Section 4.
- (9) The ALJ erred in failing to consider the adverse impact of placing an additional well between the existing Lomas #1-4(H) well located in the W/2 of Section 4 and the offset Lomas Harrel #1-5(H) well located in the E/2 of Section 5, T15N, R20W, Custer County, Oklahoma.
- (10) JMA respectfully requests the Commission deny the requested location exception and deny the requested increased density or limit the increased density to the E/2 of Section 4, T15N, R20W, Custer County, Oklahoma.

THE ALJ FOUND:

- (1) The applications of Duncan in Causes CD Nos. 201002135 and 201002136 should be recommended.

(2) The ALJ believed the increased density application was a good example of the expression that great minds can differ. Duncan's witness believed that the best method of mapping the Cleveland Sand is a gross map. JMA's witness had determined that a 12% porosity map is better. Both parties elicited very good arguments and data to support their positions.

(3) Both Duncan's engineers gave very cogent reasons and information to substantiate their engineering conclusions. The evolution of technology in oil and gas has consisted of new ideas, refinement of previous techniques and developing previously unheard of theories that has kept this industry at the forefront of American business. Such action, for example, has generated horizontal drilling which allows a more efficient way to develop the complex Cleveland Sand. Finding oil and gas depends on utilizing proven methods as well as initiating new ones. One company may find that refinement of previous proven methods are successful and another may decide a newer and different approach is the way to proceed. Neither company is wrong. The parties in these causes have been successful in finding and producing hydrocarbons. If a company utilizes methods that succeed they should not be denied because their choices are different from their competitors. The theories, facts, experience and explanations given by Duncan are convincing and established credible evidence to recommend approval for increased density. The evidence submitted by Duncan concerning the location exception was reasonable. There were valid topographical considerations as well as the prevention of waste and protection of correlative rights from offset wells. Thus, these applications should be approved.

POSITIONS OF THE PARTIES

JMA

1) **Charles Helm**, attorney, appearing on behalf of JMA, stated this case concerns a requested location exception and increased density in Custer County. The matter came on for hearing on two separate days and the ALJ recommended the granting of each of the applications. JMA is requesting the ALJ's recommendation be reversed and the two applications be denied. JMA also requests the Court to consider their exceptions that were originally filed in this cause and the amended exceptions. The amended exceptions are identical to the original exceptions, however for one additional paragraph. The paragraph states the ALJ erred in granting the proposed location exception without discussion of the applicant's amended location for the proposed horizontal lateral.

2) The unit involved is a 640-acre drilling and spacing unit for the Cleveland and the spacing is conventional, not horizontal. Under the conventional spacing, there's only one well permitted to produce from the Cleveland, unless there's an exception. The permitted well should be located no closer than 1320 feet from the unit boundary. Over the last 10 years, the Cleveland has been the source of development in and around Section 4. Duncan and JMA have drilled many wells in the last 10 years in the Cleveland development. The predominate development for the Cleveland has been vertical wells drilled in various sections and increased density has been sought on a number of occasions to drill multiple wells in the various units.

3) In 2000, Duncan drilled and completed a vertical Cleveland well in the NW/4 of Section 4, the Peck #1-4 well. Approximately nine years later, Duncan filed an application for a proposed horizontal well to be drilled in the W/2 of Section 4. This resulted in a location exception authorizing the drilling of the Lomas #1-4(H) well. JMA noted the geologic witness prepared an isopach map and labeled it as net Cleveland sand with a porosity cutoff of eight percent. The application showed the proposed horizontal well was to be drilled in the W/2 of Section 4. The Lomas #1-4(H) well was completed in the Cleveland and began producing around April 2010. In May 2010, Duncan filed the present applications, applications for increased density and a location exception for a second horizontal well. In the present case they are proposing the second horizontal well in the W/2 of Section 4, so that the second proposed horizontal well would encroach on the north, south and now west boundary of Section 4. Thus, it would also encroach upon the east boundary of Section 5, where JMA owns approximately 45 percent working interest.

4) JMA opposed both applications and presented evidence. JMA's expert witnesses presented evidence showing initially that if traditional mapping and volumetric analysis is used, the Lomas #1-4(H) well will recover all of the recoverable gas in the W/2 of Section 4. JMA also presented evidence that recent fracture stimulation in the Cleveland common source of supply in horizontal wells has shown the existing wells can be adversely impacted. The proposed Duncan location for the second horizontal well in the W/2 of Section 4 can have an adverse impact on the Lomas #1-5(H). Both Duncan's and JMA's engineers expressed concern over the adverse impact that fracture stimulation can have on existing wells and both presented evidence that showed the fracture stimulation had approximately 2500 feet in an east-west direction involving Sections 4 and 5.

5) JMA believes the ALJ erred by failing to discuss and consider the evidence associated with the adverse impact concerning the east-west fracturing and the impact that fracturing can have on offsetting wells and units. Further, JMA argues the ALJ erred in failing to discuss or consider the conflicting volumetric evidence presented. JMA argues this case is a classic

example of the two conflicting volumetric analyses and two conflicting results. JMA's volumetric analysis was done covering two areas, Section 4, 640-acre section and the volume of reserves that might underlie the W/2 of Section 4. The reason for that analysis was the original Cleveland well drilled by Duncan for the vertical Peck #1-4 were in the W/2, the Lomas #1-4(H) horizontal well was drilled in the W/2, and now the second horizontal proposed well is also in the W/2. JMA's volumetrics suggest in the 640-acre tract there's approximately 2578 MMCF or 2.5 BCF of recoverable gas. Duncan's volumetrics indicate 6127 MMCF or 6.1 BCF of recoverable gas in Section 4. This significant difference will become important when considering whether or not to grant the increased density.

6) Both experts believe that if you take the Peck #1-4 production before it was plugged and add it to the estimated production from the newly drilled Lomas #1-4(H) well, those two wells combined will produce approximately 2.2 BCF. The volumetric analysis that JMA did shows the density wouldn't be warranted because the two existing wells operated by Duncan will recover the volume of gas. JMA states the critical difference in the differing volumetric results comes from mapping techniques used by the geologist. Two maps were used in this case by two different geologists. JMA draws attention to an isopach, a porosity map, which is the traditional mapping technique used when doing volumetric analysis.

7) JMA states the Duncan map is not a traditional method map, it's an interval/gross map. Duncan's engineer testified that he had to try to tinker and make adjustments to make a volumetric formula work. Therefore, he made adjustments and assumptions so the volumetrics would fit the use of a gross map for volumetrics. JMA's experts had the opportunity to express opinions about how a gross map wouldn't be proper for volumetrics. If using a gross map, there will be added reserves in places there's not really reserves. JMA states the results from the gross map are wrong, the actual results of the Peck #1-4 well show this. By comparison, when looking at the porosity map, JMA shows the Peck #1-4 well had a thin porosity development at about 15 feet, which is consistent with poor production.

8) JMA suggests there's no reasonable basis that Duncan's volumetrics are accurate. The analysis adds all the volume of the reservoir in areas that don't produce, or if they produce, they produce marginally. JMA also states that Duncan used a net map, not a gross map, when it proposed the Lomas #1-4(H) well, which was recently drilled. What happens if you use the gross mapping and then try to do volumetric on the gross analysis, it increases. Therefore, using the gross map caused a huge overestimation of what the reservoir actually would be underlying Section 4.

9) JMA also discussed the proximity of the wells and the fracture lengths that were discovered. JMA states the ALJ failed to address the concerns of both engineers about the east-west fracturing, based on stimulation that had occurred. After Duncan drilled the Lomas #1-4(H) well, Chesapeake drilled the Lomas #1-5(H) horizontal well. When that well was about to be fracture stimulated, Duncan chose to shut in their well and try to avoid damage from stimulation until it was over. After the well was reopened the Duncan expert engineer believed the fracture water had migrated from the Chesapeake well in the E/2 of Section 5 to the Lomas #1-4(H) well. The expert believed this caused a loss in productivity and could have an affect on another horizontal well. JMA's expert engineer also expressed concern about Duncan's presently proposed second horizontal lateral. The evidence shows the wells would be 2,600 feet apart and suggests there can be an adverse impact and loss of production.

10) JMA believes that the ALJ failed to look at the surface location and it's distance from the west line and simply recommended the granting of the location exception. JMA requests consideration of the ALJ's conclusion that somehow a proposed location exception would be valid for topographic reasons. JMA thought the ALJ was confused by the topographic evidence. JMA believes the location was modified because of alleged topographic concerns, but states there's no evidence that supports this concern.

11) JMA states the ALJ implied they should be given a location exception because they couldn't drill at a legal location. JMA states the evidence shows one can drill at a legal, but states they want to drill closer to create topographic issues by going south and west closer than 1320.

12) JMA requests the density application be denied. The use of the gross map in trying to determine recoverable gas coupled with the volumetric formula is inappropriate. JMA requests that if the density application were granted, it would be limited to the E/2 of Section 4.

DUNCAN

1) **Fred Gist**, attorney, appearing on behalf of Duncan, stated JMA is the only protestor in this dispute. Chesapeake, the operator of the Lomas #1-5(H) is not protesting Duncan's applications. JMA owns 45% interest in Section 5 in the new Chesapeake Lomas #1-5(H) well and 0% in Section 4. Duncan states JMA's motive is to keep out competition. JMA wants to prevent the

owners in Section 4 from developing their interest so JMA can maintain their current advantage.

2) Duncan states another well is needed to recover the reserves and to protect the owners in Section 4 from potentially adverse drainage. Duncan states that traditional techniques don't work. Duncan states the ALJ was correct when he said the old analytical methods don't work when evaluating tight formations for horizontal drilling with the new completion and fracturing techniques. All of the witnesses agreed there's no direct correlation between thickness of feet of pay and productivity. Duncan states everyone agrees the Cleveland is a tight sand with low porosity and permeability. Now, individuals are using horizontal techniques and getting large initial potentials. The Chesapeake well is producing 500 BO per day and 9 MMCFG per day.

3) Duncan stated the gas industry took a huge leap forward in the last two years to develop the Cleveland wells. The switch to a gross map was because it's believed to be a better tool for evaluating the Cleveland for the purpose of drilling horizontal wells. Further, the conventional map is inadequate. The gross map is appropriate because the lower porosity rock is contributing hydrocarbons. Mr. Campbell, the engineer for Duncan, stated that when using a gross map adjustments must be made. He stated that if you use a gross map it will include portions of the reservoir that have less or lower porosity than you would have on the net map. Mr. Campbell took the gross map and calculated acre feet, then adjusted it because the key thing is the recovery factors because permeability is the key here not feet of pay. Therefore, the traditional way doesn't apply here because it's clear there's reservoir rock in the Cleveland that's contributing, even though its porosity is less than 12%. Testimony shows that without another well, 4 BCFG minimum will be left unrecovered.

4) Duncan states the ALJ was correct when he found the Duncan approach was more modern and credible when dealing with horizontal drilling in tight gas reservoirs. Ms. Kinney, who testified for JMA, applied a conservative porosity cutoff. She admits in her testimony that she struggled to find correlation between feet of porosity and producibility. Duncan believes she went in the wrong direction.

5) JMA attempts to make the reservoir look small and use the traditional technique that doesn't apply at all to horizontal drilling with the new fracturing technique. Duncan states the JMA engineer still leaves about 344 million unrecovered by existing wells. Therefore, there should be another well. Duncan argues there's no evidence that the Lomas #1-4(H) well is only going to recover from the W/2 of Section 4. Some of those reserves must come from the E/2 of Section 4 because the Lomas #1-4(H) is 2000 feet from the line. However, the ALJ correctly noted the traditional approach is inapplicable.

6) Duncan is concerned about where the zone is, how long the lateral could be. The Kauk #1-34 vertical well in Section 34 has produced 3.5 times the amount that the Peck #1-4 vertical well did and is still producing. This is an example of a thin well that's better than a thick well. Duncan points out the Kauk #1-34 well is at zero contour Cleveland interval. Therefore, the rock with less than 12% must be contributing hydrocarbons to that wellbore. It's not correct to exclude the lesser porosity rock. There's a need to be more inclusive with horizontal evaluation, not eliminating what's clearly productive rock. Therefore, the traditional analysis is flawed because using the 12% porosity cutoff doesn't make sense. Duncan describes the technique used by his client as new and effective considering the circumstances.

7) The ALJ was correct when he granted the location exception. All witnesses want the lateral as long as possible. However, there's a pond in the SW/4 of Section 4 and in order to keep the length of the lateral, they couldn't drill there. The evidence was that the surface location had been staked at 244 feet FNL and 776 FWL of Section 9.

8) Mr. Campbell's testimony is correct, in that the Chesapeake Lomas #1-5(H) well is producing at a peak rate double the gas of the Lomas #1-4(H) well. Duncan believes an additional well is needed to protect the rights of the owners in Section 4. Duncan states their proposed well would be basically a mirror to the Chesapeake well. It would be put in the best location geologically and topographically.

9) Duncan states Mr. Davis used a higher porosity figure, then used an 83% recovery factor. Duncan states if Mr. Campbell would have used that amount there would have been an even greater amount of gas there. Duncan states the ALJ recognizes the technological advances that are being put to work in this case.

10) Duncan again reiterates the importance of having the net porosity mapped. There's no linear connection between productivity and porosity. Duncan points out the technique used by their client is the new way to drill which requires a new way to analyze these types of reservoirs. The traditional way is no longer applicable because this case doesn't involve traditional development.

JMA

1) JMA states the Duncan engineer indicated there's nothing to prevent this proposed second well exception of Duncan's from having an adverse impact on the existing Chesapeake Lomas #1-5(H) well in Section 5. JMA

states that Duncan was choking down their well at the time Chesapeake's well was producing at a high rate. Duncan chose to artificially restrict its production to the rate they got.

2) Further, no one asked Duncan to build a surface location in the SW/4. There was nothing moving back to the east that's a surface obstruction. JMA states if you drill 1320 feet from Section 9 into Section 4, there is no pond issue. The only time it becomes an issue is if you build a surface location in the SW/4 which is illegal because it's closer than 1320. There's nothing topographically that suggests a need to move this location. JMA suggests the topographic issues have nothing to do with the drilling of the lateral.

3) JMA suggests this is not an unconventional reservoir. JMA argues that when Duncan realized they couldn't justify an additional well with mapping that they've provided to the Commission, they created a new methodology to try to support the requested relief.

CONCLUSIONS

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

1) The Referee finds that the ALJ's recommendation to grant Duncan's increased density application at an off pattern location for a horizontal well with a surface location of 776 feet FWL and 244 feet FNL of Section 9 with the bottomhole location being no closer than 680 feet FWL and no closer than 200 feet FNL of Section 4 is supported by the weight of the evidence and free of reversible error. The ALJ found that Duncan made a prima facie case establishing the need for the Duncan increased density well at the off pattern location. The ALJ is the trier of fact. It is the ALJ's duty as the trier of fact to observe the demeanor of the witnesses, assess their credibility, and assign the appropriate weight to their opinions. *Grison Oil Corp. v. Corporation Commission*, 99 P.2d 134 (Okl. 1940).

2) Deference is given to a Judge's opportunity to view the witnesses firsthand. In *Williams v. Volkswagen Aktungesllschaft, et al.*, 226 Cal. Rpter. 306 (1986 California) the Court held:

Common sense dictates the rule. It is the trial judge who is at the best vantage point to surveil the grenades, the darts, the slings and arrows of outrageous forensic conduct, rather than the reviewer who, with the delayed, deliberate detachment of a

coroner, examines the cold body of the record only after the warm life of trial has expired and its rattlings have ceased.

3) When it comes to applying weight to an expert opinion it is clear that the Commission must follow procedure set forth in *Haymaker v. Oklahoma Corp. Com'n*, 731 P.2d 1008 (Ok1.App. 1986) wherein the Court stated:

...Proper appraisal of the expert testimony requires observance of the following benchmark principle approved in *Downs v. Longfellow Corp.*, 351 P.2d 999 (Okl. 1960):

The reasons given in support of the opinions [of an expert witness] rather than the abstract opinions are of importance, and the opinion is of no greater value than the reasons given in its support. If no rational basis for the opinion appears, or if the facts from which the opinion was derived do not justify it, the opinion is of no probative force, and it does not constitute evidence sufficient to...sustain a finding or verdict.

4) The ALJ set forth a report that extensively sets forth the facts, circumstances, testimony and evidence presented before him. In addition, the Referee has reviewed the transcript of the proceeding. It is clear that the ALJ considered the evidence presented within the causes, reviewed the basis of the expert opinions and determined that more weight should be placed upon the opinions of the Duncan experts than that of JMA experts which resulted in the granting of the increased density application and the corresponding location exception application.

5) What the ALJ had before him was a true battle of the experts. From a review of the record in the causes, it is clear that both parties presented experts in geology and engineering that are held in high esteem by their colleagues, have considerable education in their respected fields, and have significant experience in their professions. Each of the experts had firm convictions and remained firm under cross examination.

6) With regard to the use by Duncan of a "gross" Cleveland map for volumetrics instead of a "net" porosity analysis, the evidence reflected that

Duncan's geologist had utilized gross Cleveland Sand exhibits in other horizontal well hearings. The Duncan geologist utilized a gamma ray curve, a gross gamma ray portion of the Cleveland productive sand. He found the top of the Cleveland interval to be at 9,962 feet with the base of the Cleveland interval at 10,022 feet. The porosity that develops would cover that entire 9,962 to 10,022 feet. Duncan's geologist Exhibit #3 gross map illustrates 58 foot interval. It is the entire interval that he saw on the log of the Peck #1-4 well. There are new well logs, new well data on the new Lomas #1-4(H) well in Section 4 which caused the Duncan geologist to change the way he contoured his map. The Lomas #1-4(H) well had 20 feet of gross and 16 feet of net. Because of the results of these Cleveland horizontal wells in the area it changed the Duncan geologist's opinion as to how to best analyze the Cleveland reservoir. The well performance of the horizontal wells reflects the minimal porosity that is contributing hydrocarbons. We have now production history of these wells that are performing very well. Thus, the conventional mapping technique was inadequate. You cannot explain why these wells are so strong based on the old methodology.

7) Duncan's engineer expanded on the reason for the use of the gross map instead of a net porosity map. If you use a net map for the Cleveland, your average porosity would only include those feet on the map which is the higher porosity portion of the reservoir. If you use a gross map you are going to include portions of the reservoir that have less or lower porosity than would be on the net map. So you have to lower your average porosity to be consistent with and reflect the reservoir characteristics that you are including in your acre feet calculations. When we have these thicker channels as the Cleveland, there is no question it is very complex reservoir of channels and streams in this entire section meandering back and forth with different levels of energy of depositional environment. You have shale streaks, you have high permeability streaks, you have modest permeability streaks and you have some very low permeability streaks. It is lenticular, both vertically and horizontally. On a horizontal basis you have these channels meandering back and forth and they change over geologic time. A year ago Duncan was using only net maps for horizontal wells but what the engineer found was that he could not find a meaningful correlation between productivity and the map itself. So Duncan went to a gross map and reduced the average reservoir characteristics to reflect the lower quality sand, because it clearly is contributing to the productivity of the horizontal wells and therefore has to be included in the analysis. The engineer felt that using a gross map was more appropriate than using a net map in horizontal development of the Cleveland. A net map would be too conservative when you drill horizontally. In a horizontal well you get the increased cross sectional areal flow which includes the more marginal reservoirs and you can have commercial wells. Therefore a gross map is the only way to handle these complex, low-permeability, dirty sands.

8) Duncan's engineer presented Exhibit #5 which was the drainage area calculations. Exhibit #5 identified how much gas will be recovered from existing wells and then the difference is how much is available to be recovered by subsequent wells. Duncan's engineer calculated the Peck #1-4 well with a drainage area of 4 acres and the Lomas #1-4 (H) well with a drainage area of 125 acres.

9) The Duncan engineer again emphasized that a gross map was used by Duncan in the last three or four horizontal wells where he has provided volumetrics to the Commission for Duncan. Duncan does not feel that the net map showed any correlation between the net map and productivity. The whole purpose of the map is trying to identify where the production is and where it is coming from. He doesn't believe there is any correlation between performance and a net map. The net map describes the quality of reservoir necessary to have a chance of making a vertical well. The gross map includes more reservoir of lesser quality that could be used by a horizontal well.

10) JMA's geologist prepared a net isopach Cleveland map using a 12% porosity cutoff. The testimony was that JMA does not believe the 8% maps that have been generated in the past were effective as there were difficulties concerning the pay numbers and how good the well may be. There's never going to be an exact correlation between feet of pay on a map and exactly what a well makes but the JMA geologist felt that 12% is a better fit than the 8% even though the pay numbers sometimes do not have a direct correlation with how good the well is.

11) The ALJ had before him a *battle of the experts*. The Referee believes that Duncan satisfied its burden of persuasion and its burden of production by the weight of the evidence. In administrative hearings, the applicant seeking relief has two burdens: the burden of persuasion (that if the evidence is evenly balanced, the party that bears the burden of persuasion must lose); and the burden of production (a party's obligation to come forth with evidence to support its claim). *Director, Office of Workers' Compensation Program, Department of Labor v. Maher Terminals, Inc.*, 512 U.S. 267, 272, 275 (U.S. 1994).

12) The Referee finds that this appeal comes down to the fact that the expert opinions presented by JMA and Duncan were in direct conflict. It is the duty of the ALJ to assign the weight to the expert opinion presented before him.

13) The Supreme Court addressed this issue concerning the assignment of weight to expert testimony in direct conflict in *Palmer Oil Corp. v. Phillips Petroleum Company*, 231 P.2d 997 (Okla. 1951):

The question of the faults in the area and the effect thereof had previously been before the Commission a number of times, and the study and hearings thereon had culminated in orders wherein the Commission found that the whole of the Medrano sand as then developed was in fact one common source of supply. At the hearing herein the testimony adduced was chiefly that of petroleum engineers and geologists who testified on the basis of both personal surveys made and of an interpretation of the accumulated data in the hands of the Commission. The testimony of these experts was in direct conflict but that of each was positive upon the issue. Under the circumstances the objection is necessarily addressed to only the weight of the evidence. Under the holding of this court and that of courts generally, *Chicago, R.I. & P. Ry. Co. v. Pruitt*, 67 Okl. 219, 170 P. 1143; 22 C.J. 728, sec. 823, 32 C.J.S., Evidence, §567, p. 378, the weight to be given opinion evidence is, within the bounds of reason, entirely for the determination of the jury or of the court, when trying an issue of fact, it taking into consideration the intelligence and experience of the witness and the degree of attention he gave to the matter. The rule should have peculiar force herein whereby the terms of the Act the Commission is recognized as having peculiar power in weighing the evidence. Since the evidence before the Commission was competent and sufficient if believed, to sustain the order we must, and do, hold that the order is sustained by the evidence and that the contention is without merit. *Ft. Smith & W. Ry. Co. v. State*, 25 Okl. 866, 108 P. 407; *Bromide Crushed Rock Co. v. Dolese Bros. Co.*, 121 Okl. 40, 247 P. 74.

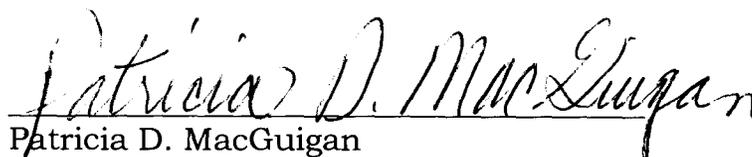
14) Therefore, based upon the preceding rationale, the Referee recommends that the Report of the ALJ be affirmed. The Referee would recommend that the location exception be granted to Duncan as testified to. The testimony reflects that the location exception is warranted and will prevent waste and effect conservation of oil and gas. See *Simpson v. Stanolind Oil and Gas Company*, C.A. 10 Okla. 1954, 210 F.2d 640. The *Simpson* case states that the primary purpose of prohibiting the drilling of a well into a common source of supply at a location other than that fixed by a spacing order is to prevent waste and affect conservation of oil and gas. In addition, the location exception as proposed by Duncan with the surface location being 244 feet FNL

and 776 feet FWL of Section 9 with a bottomhole location being no closer than 680 feet FWL and no closer than 200 feet FNL of Section 4 is a mirror location to the Chesapeake Lomas #1-5(H) well in Section 5 and will protect the owners in Section 4 from potentially adverse drainage. As stated by Professor Kuntz in his treatise of Oil and Gas, at Section 4.7:

At an early date, it was observed that proprietors have "coequal" or correlative rights to extract oil and gas from a common source of supply and that such right may be protected by legislation designed to secure a "just distribution" of the oil or gas and to prevent one proprietor from taking an "undue proportion". Whatever was meant by such early observation, it is now clear that what is sometimes referred to as the correlative right to a fair share of oil or gas from a common source of supply does not mean that each owner is entitled to a proportionate share of the substances, but it means that owners have a right to a fair opportunity to extract oil or gas.

It must be remembered that the owners in Section 4 and Section 5 have the right to produce and extract oil and gas from the Cleveland reservoir even though it may come from beneath the lands of others under the Law of Capture as modified .

RESPECTFULLY SUBMITTED THIS 4th day of March, 2011.


Patricia D. MacGuigan
OIL & GAS APPELLATE REFEREE

PM:ac

xc: Commissioner Murphy
Commissioner Cloud
Commissioner Anthony
Jim Hamilton
ALJ Michael Norris
J. Fred Gist
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