PROPOSITION 112 IMPACTS ON COLORADO

BY DR. WILL FLECKENSTEIN AND DR. JENNIFER MISKIMINS
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Proposition 112 is a critical change in how oil and gas is regulated in Colorado, and many claims are being made about the impact. Our role as faculty members at Mines is not to advocate but to educate and to ensure that the debate on the subject is factual and honest, and to help interpret the gray areas. We both have read Dr. Maniloff’s note1 on the impacts of Proposition 112. This note contains a map that has been seized by some proponents of Proposition 112 as evidence that the oil industry is misleading the public that much more of the state would be open to development than claimed by opponents, and therefore the impact would not be a devastating economic blow to both the oil industry and the state’s economy. We find that this claim is not true.

Dr. Maniloff’s map includes the subsurface areas that could be accessed, and he states that “42% of the non-federal subsurface would be accessible”. However, we find this to be a misleading statement, and other similar statements in the press as well2. Regardless of how far you can horizontally drill, the subsurface still can’t be accessed in the most important areas, since you still have to have a surface area to drill from. Additionally, there is a technical and efficient limit as to how far horizontal wells can actually be drilled. The surface access is the key. Below are the two maps in question, side by side. On the left is the map from Dr. Maniloff’s note, on the right is the map from the COGCC GIS-Based Impact Assessment of July 2, 2018. Although these appear to be different in content, for the purposes of Proposition 112, they are identical in impact.

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1 Maniloff, Peter, "A NOTE ON THE IMPACTS OF PROPOSITION 112", Payne Institute Commentary Series: Viewpoint, October 2018
2 Webb, Dennis, Analysis: Prop 112 not a ban, but huge impact, Grand Junction Sentinel, October 17, 2018
The area of most interest in this discussion is the area called the Denver Julesburg (DJ) Basin, and more specifically the western part of the DJ Basin that has been found most productive for horizontal development with the best potential for oil production. This area stretches roughly from the north suburbs of Denver up to the Wyoming border, eastward to Weld County, and west to the Front Range. If you look at the two maps, one shows a white area (left map), the other a green area (right map), right along the Front Range, in exactly the same position as the “sweet spot”. Dr. Maniloff noted this: “the sweet spot of the Denver Julesburg basin largely coincides with the densely populated areas which would be generally inaccessible under Prop 112.” The differences in the maps occur as you move to the east – there are lots of areas in Eastern Colorado that could be drilled that are green on Dr. Maniloff’s map, however, as I heard Governor Hickenlooper once say at an SPE meeting as Mayor of Denver: "You have to drill where the oil and gas is". As faculty that have both personally drilled and completed wells in our careers, understand the associated technologies, and taught students to do the same, we wholeheartedly agree with the Governor’s statement and note that much of the oil and gas development potential is in that area which would be banned, not in the areas that Dr. Maniloff indicates would be left for development after the impact of Prop 112.

One of the problems many people have is they just don’t understand what a horizontal well that is “fractured” looks like. This diagram below shows what a horizontal well looks like that has been fracture stimulated. The horizontal can easily be done in this area that is two miles long, but you still have to start from the surface, somewhere. The drilling engineers can move that surface location some distance from the “perfect” surface location, but the surface access has to be close to where the horizontal well starts. It is that lack of surface access, regardless of the length of horizontal well, that will cause Colorado’s oil production to quickly drop, along with associated revenues.
Dr. Maniloff had made the following statement that cuts to the heart of the controversy: “I think the key takeaway from this analysis is that the ultimate impact of Prop 112 on the oil industry would be much less than a total ban or 85 percent reduction”. To understand the industry’s understanding of the number of drilling locations that would be lost, we reached out to a large operator and asked how they would be affected. The reply I received was: “We’ve ran multiple GIS analysis in house and they all line up very closely with COGCC analysis from July (~95% of our inventory becomes inaccessible).”

To understand the impact of Proposition 112’s ban and resultant decline in oil revenue on Colorado’s economy, we would look at another non-partisan analysis. For example, a study done by Colorado State Land Board titled “Fact Sheet: Impact of Proposition 112 on Colorado School Funding from State Trust Lands”³ calculates that Proposition 112 will eliminate $230.3 million of funding for Colorado’s schools from state trust lands over a three-year period. School funding from trust lands will be reduced by 60%. We have seen many other similar calculations. Since K-12 funding is mandated at certain levels, if local funding is low, state tax revenue is used to backfill and provide the student funding our children deserve. However, this state tax revenue then can’t be spent to support other non-mandatory areas of the state budget like

³ Fact Sheet: Impact of Proposition 112 on Colorado School Funding from State Trust Lands, Colorado State Land Board, September 13, 2018
higher education, and the students we teach, as well as those at other Colorado universities, may see higher tuition bills as the result of the passage of Proposition 112.

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ABOUT THE AUTHORS

Dr. William Fleckenstein, PE (CA #1666) is an adjunct faculty member at the Colorado School of Mines, where he served as Interim Petroleum Engineering Department Head from 2012-2014, and currently serves as the EREP Director of Strategic Relations and Enterprises at Mines. He holds BSc, ME, and PhD degrees in petroleum engineering and has 30 years’ experience as roustabout, roughneck, drilling engineer drilling representative, area engineer and as a consulting engineer both domestically and internationally, with direct experience on over 200 wells and involvement in horizontal wells and stimulations since 1990. Dr. Fleckenstein was a co-PI on a comprehensive three-year study funded by the US National Science Foundation examining the impacts of nearly 18,000 wells drilled in the Wattenberg Field in Colorado and was named a Distinguished Lecturer by the SPE in 2017-2018 on the subject of aquifer protection. Dr. Fleckenstein has numerous publications and holds three patents in the areas of aquifer protection, multi-stage fracture stimulation and downhole rotational technologies.

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