

**STATE OF NEW MEXICO**  
**ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT**  
**OIL CONSERVATION DIVISION**

**APPLICATION OF THE INDEPENDENT PETROLEUM ASSOCIATION OF NEW MEXICO FOR AMENDMENT OF CERTAIN PROVISIONS OF TITLE 19, CHAPTER 15 OF THE NEW MEXICO ADMINISTRATIVE CODE CONCERNING PITS, CLOSED-LOOP SYSTEMS, BELOW GRADE TANKS AND SUMPS AND OTHER ALTERNATIVE METHODS RELATED TO THE FOREGOING MATERS, STATEWIDE.**

**CASE NO. 14785**

**THE INDEPENDENT PETROLEUM ASSOCIATIONS'**  
**PROPOSED FINDINGS OF FACT**

Pursuant to the request of the Oil Conservation Commission (Commission) the Independent Petroleum Association of New Mexico (IPANM) hereby files its proposed Findings of Fact in the above captioned case:

**PRELIMINARY MATTERS:**

1. On September 30, 2011, the New Mexico Oil and Gas Association (NMOGA) filed an application for rulemaking with the Oil Conservation Commission for an order amending the provisions of Title 19, Chapter 15, Part 17 of the New Mexico Administrative Code to eliminate the permitting, design, construction and operational requirements for closed loop systems; to revise the siting, design, construction operation, closure and site reclamation requirements for temporary pits, to adopt the definition of low chloride drilling fluids; to revise rules governing the testing and removal of below grade tanks; to review rules for variances and exceptions; to remove regulatory obstacles to the transfer of properties.

2. On November 29, 2011 the Independent Petroleum Association of New Mexico (IPANM) filed an application for rulemaking for an order amending the provisions of Title 19, Chapter 15, Part 17 of the New Mexico Administrative Code to eliminate the registration, design and operational reporting requirements for closed loop systems, to change siting, testing, hauling and closure requirements for earthen pits used in drilling operations, to allow for variance and exceptions provisions when necessary and to require permit by rule as a means to require timely response to an application by an operator. IPANM's petition was identical to that filed by NMOGA on September 30<sup>th</sup>. However, IPANM also petitioned the Commission for a conforming amendment to 19.15.39 NMAC so that the provisions of 19.15.17 NMAC would apply to all geographic locations of New Mexico.

3. On December 16, 2011, the Commission filed a notice of hearing ordering that the NMOGA case number 18784 and IPANM case number 18785 would be a joint hearing to commence on January 27, 2012.

4. On January 19, 2012 the Commission granted a joint request for continuance from NMOGA, IPANM and the Oil and Gas Accountability Project to April 16 – 20, 2012. The Commission also severed IPANM's request for conforming amendments to Rule 39 from the Rule 17 matters.

5. On April 16, 2012, the New Mexico Oil and Gas Association (NMOGA) filed amendments to its petitions filed on September 30, 2011 and January 6, 2012.

6. The Oil Conservation Commission provided a public notice of joint hearings for Case No. 18784 and Case No. 18785 on December 16, 2011; April 2, 2012; May 29, 2012 and July 16, 2012.

7. Hearings were held before the Oil Conservation Commission, consisting of Commissioners Bailey, Balch and Bloom, on May 14 – 18; June 20 – 22<sup>nd</sup>, June 27<sup>th</sup> and August 28 - 29, 2012.

8. Public hearing and notice having been provided as required by the Oil and Gas Act, NMSA Section 70-2-6 and 19.15.3 NMAC, this Commission has jurisdiction over this matter and the parties thereto.

9. The Oil Conservation Division appeared and presented testimony in support of the IPANM and NMOGA petitions and proposed that the use of closed loop systems needed to be reported; that burial in place of an earthen pit needed to be surveyed by a licensed surveyor and filed with the county clerk in a notice of deed; that protection of livestock was necessary as it was part of the environment and the Division's failure to respond in a timely manner to a permit application constituted a denial of the application .

10. The Oil and Gas Accountability Project appeared and presented testimony on the economics of using a closed loop system. OGAP also presented rebuttal testimony to that presented by IPANM on the matter of modeling and the use of liners in earthen pits.

11. The Citizens for Clean Air and Water (CCAW) appeared through Dr. Don Neeper, a Board member of CCAW, and presented testimony.

12. The State Land Office appeared through counsel and actively cross examined nearly every witness.

13. The Sierra Club appeared through counsel but did not cross examine any witnesses or present any testimony.

14. Jalapeno Corporation and Nearburg Producing Company appeared through counsel in support of the IPANM petition but did not present testimony.

**THE EVIDENCE:**

IPANM filed several exhibits with its prehearing statement and the following Exhibits 1 – 18 were admitted into evidence: IPANM Exhibits 5 - 14 Tr. 1387

Exhibit 5 - Resume of Tom Mullins

Exhibit 6 - Slide ppt presentation by Tom Mullins

Exhibit 7 - HELP model run 3-5-12

Ex. 8 - MultiMed Model run 3-5-12

Ex. 9 - MultiMed Model Manual

Ex. 10 - HELP Model Manual

Ex. 11 - HELP Engineering Manual

Ex. 12 - Climatological DATA

Ex. 13 - Non Aqueous Phase Liquid Mobility Limits in Soils

Ex. 14 - USGS Fact Sheets

Exhibit 16 Tr. 1408 - Mullins Rebuttal Modeling

IPANM Exhibit 15, 17 Tr. 1702

Ex. 15 - Rig Counts in NMSE Counties and Texas 2007-2011

Ex. 17 - Scott Rebuttal Economic testimony

IPANM Exhibit 18 Tr. 2021

Ex. 18 - Mullins additional rebuttal Modeling

**IPANM's Closing statement:**

The Independent Petroleum Association of New Mexico is non-profit organization that serves as the voice of the independent oil and gas producers of New Mexico. Our member companies directly employ nearly 26,000 New Mexicans. We raise our families in New Mexico and we pride ourselves in being strong leaders in our communities. IPANM has asked for changes to Rule 17, more commonly known as 'the Pit Rule' because since the implementation of the Rule in 2007 and again in 2009, we have seen a significant drop in production and a significant increase in the cost to operate in New Mexico, without similar increases in Texas or Colorado. IPANM presented testimony that member companies of IPANM are generally small companies with minimal staff, often wearing multiple hats. The independent operators have tight budgets and investors and even tighter timeframes. This means they are sensitive to increased costs and increased regulatory burdens. The IPANM case showed that the existing Pit Rule is costly, difficult to understand and subjects operators to speculation and subjective interpretation by regulators and operators themselves.

Generally, IPANM had three goals with the revision of Rule 17, first, we sought to simplify the rule with clarification of definitions and elimination of subjective standards; second, IPANM sought to eliminate requirements for registration or permitting of closed loop systems, including clarification the notification of use of closed loop systems should be required for drilling operations only; third, IPANM sought to eliminate the testing and hauling requirements for wells with depths to groundwater greater than 100 feet.

When presenting the economics of the Pit Rule, IPANM felt it was relevant to highlight the importance of energy production to the State of New Mexico. IPANM witnesses testified that New Mexico is the eight largest crude oil producer and the seventh largest natural gas producer. (Tr. 1336). Looking at production by Congressional district, the second congressional district in south east New Mexico is the fifth largest producer in the nation of crude oil while the third congressional district is thirty-fourth in production of oil but is the third largest producing district in the country. (Tr. 1337-8). Mr. Scott testified about the impacts of the existing Pit Rule to his operations at Lynx Petroleum. (See IPANM Exhibit 17). He noted that the requirements of permitting all systems using tanks on location as ‘closed loop systems’ regardless of the true use of the equipment or destination of cuttings resulted in unnecessary regulatory burdens and significant costs upwards of \$200,000 for a single well location. Mr. Scott noted that in his personal experience, it was easier to obtain a permit simply because the operator used closed loop systems instead of earthen reserve pits regardless of safety issues (Tr. 1647, 1651, 1661). Scott also stated that although the geology and climate were nearly identical in Texas, that the ‘Texas boys were doing substantially better’ on their AFEs (authorities for expenditures). (Tr. 1651).

The IPANM case included testimony on the macro-economic impacts of the Pit Rule. In IPANM exhibit 15, Mr. Scott pointed out for the Commission that over the last five years there has been, in effect, a Texan oil and gas drilling boom because of high oil prices but that New Mexico has not participated in the boom because our rig count is roughly the same as it was in 2008 (Tr. 1647). Traditionally, Texas had two rigs for every rig running in New Mexico but starting in 2006, the ratio has increased to 5.5 rigs

running in Texas for every rig in New Mexico. (Tr. 1654). At a cost of \$3000 per day for the use of closed loop systems with 70 rigs running, that's \$210,000 a day or \$73 million per year cost to industry operating on the New Mexico side of the boarder. (Tr. 1662) Thus, the IPANM testimony presented a strong economic need and rationale for changing the existing Pit Rule.

The IPANM petition also proposes changes to Rule 17 that are protective of public health and the environment and affords reasonable protection of fresh water designated by the State Engineer. However, the statutorily granted authorities in the Oil and Gas Act must be balanced against operator's concerns that include regulatory burdens and costs creating a waste of the natural resource. In this regard, it is important for the Commission to adhere to its responsibilities to prevent waste, protection correlative rights, protection public health and the environment and protect freshwater sources a designated by the State Engineer. Thus, while important, "protection of livestock is not within the statutory provisions of the Oil Conservation Division". (Tr. 1429). Concerns about public safety and proof that alternatives proposed by operators to fencing requirements, variance and exceptions requests provide equal or better protections improperly expand the authority of the Division beyond the scope of the Oil and Gas Act.

In order to present science to the Commission in support of the IPANM petition, the IPANM Board and technical committees believed that presenting computer modeling and specifically utilizing the same models that the Division had prepared and the Commission had reviewed and supported in its 2007 and 2009 findings for Rule 17 was necessary. Mr. Mullins testified at length about the specifics of his modeling parameters

including the variability of climate, elevation, soil types, saturation, migration of chlorides, salt bulges, infiltration rates, top soil covers, vadose zone thicknesses, depths to ground water, dilution factors and contamination of groundwater. Using the Hydrologic evaluation of landfill performance (HELP) model and the Multimedia Exposure Assessment (MultiMed) model, Mr. Mullins conducted several model runs to ensure he understood all the variables used by the Oil Conservation Division in 2007 and 2009. (Tr. 1326, 1333, 1335, 1348, 1355, 1356, 1438, 1445, 1458, 1586). The rationale for building upon the 2007 and 2009 modeling was because at the conclusion of the 2009 hearing, this Commission determined that the modeling presented by the OCD staff was demonstrated the standards prescribed in Rule 17 were protective of the environment. (Finding 61 page 10, Order R-12939 Case No. 14015 citing Tr. 378, 379, 755 and 756 of 2007 hearing record). Since the IPANM petition amends the existing Rule 17, we felt it was important to understand and build upon the modeling previously completed by the Division.

As noted, IPANM had three general goals in amending Rule 17, to meet these goals, IPANM highlighted several specific concerns in our case. First, we wanted to discuss the nature of what exactly a closed loop system was used for and why a clarification of the definition was necessary. Through our witnesses, we discussed how an exact definition of a closed loop system is, is next to impossible since each location has a different system based on need. Thus, basing a regulatory standard on 'established engineering design' created a subjective criterion that would not be applied fairly or consistently, particularly with small operators (Tr. 1400). We also discussed how having tanks on location for workovers should not be regulated under this rule. (Tr. 1401).

Second, IPANM was concerned with testing requirements when completing burial onsite and depth to ground water is greater than 100 feet. Mr. Mullins completed modeling for Southeast NM for Carlsbad, Roswell, Artesia, Maljamar and Hobbs using both the HELP and MultiMed models and most of the same variables relied upon by the OCD in the 2007 and 2009 hearings (Tr. 1367, 1372, 1375, 1382, 1443, 1477, 1517; IPANM Exhibit 6, page 9). The modeling outputs indicated that it would take between 4,500 to 12,800 years to reach the receptor at 100 feet away (Tr. 1374). With a base salt concentration in ground water, adding the maximum chloride concentrations for each location would not exceed the established WQCC groundwater drinking standards of 250 mg/l chlorides in any instance (Tr. 1374, 1456). (See, 20.6.2.3103(B)(1) - standards for domestic water supply for groundwater with 10,000 TDS or less).

Similarly, Mr. Mullins completed modeling for Carlsbad and Aztec with a 25 foot to groundwater depth and a low chloride focus (Exhibit 16 ) (There is an error in the transcript at page 1368 referring to Mr. Mullins Rebuttal modeling as Exhibit 17. However, it was admitted into evidence properly as exhibit 16 at Tr. 1408)). His modeling used both the HELP and MultiMed Models and identical factors as previously used other than the depth to groundwater and the amount of chlorides in the leachate (Tr. 1368, 1402). For Carlsbad, NM, it would take approximately 950 years to travel down 25 feet and move laterally 100 feet to the receptor and the maximum chloride would be reached at 1350 years at a concentration reading of 2.3 milligrams per liter (tr. 1406). For Aztec, NM, Mr. Mullins stated that he “couldn’t make the contaminant move using Aztec climatological data, so he had to assume a higher infiltration rate” (Tr. 1404). However, because the concentration of the contaminant would be so small that when it

arrived at the receptor, 100 feet away, it would not be detectable (tr. 1406). Mr. Mullins also conducted modeling to establish concentration levels below the pit at a receptor 3 feet away when impact to groundwater occurs (See Exhibit 18; Tr. 2016). In Carlsbad, NM, Mr. Mullins' modeling demonstrated that with an infiltration rate of 1.53 millimeters per year it would take 775 years to reach the receptor three feet away and 1,120 years to reach maximum chloride concentrations of 13.3 mg/l (Tr. 2018, 2019). By comparison, it would take 143.7 times longer for the contaminant to move in Aztec resulting in a .0107 infiltration rate, 111,367 years to reach the 25 foot depth and 3 foot lateral receptor (Tr. 2018). The maximum concentration of chlorides in Aztec 111,367 years later would be .0006 mg/l chloride (Tr. 2019).

The IPANM case also required clarification of a few issues; an exception for air drilling and cavitation needed to be added in Section 19.15.17.10(A); removal of the liner under the four foot cover of top soil was requested (Tr. 1319, 1371, 1376, 1396, 1407, 1423, 1573); the testing of discolored soils and reporting would be only as required under the spill rule (tr. 199, 1424, 1505, 1574, 1837); and removal of the OCD recommendation to file a notice of deed with a county clerk when conducting on-site burial (Tr. 1511, 1847).

In the portion of the NMOGA petition that asks for variances and exceptions, IPANM is concerned about the inherent subjective nature of approvals with the recommended framework. First, for a variance request, there is significant disagreement as to the operator's offer of proof to obtain the variance (Tr. 1429, 1683). Mr. Brandon Powell, witness for the OCD testified that the operator must demonstrate equal or better protection of human health, environment, livestock, safety etc. (Tr. 1850). Mr. Fanning

was unable to answer the standard of proof necessary to obtain the variance (Tr. 396). In addition to the statutory concerns (see below) with OCD enforcement of livestock and public safety provisions, IPANM is concerned about the notification to surface owners if a variance request is pushed to hearing.

Finally, the provision for automatic approval or denial of an application based on timely response by the OCD is a provision that IPANM sought in order to have agency accountability and certainty in the process. The IPANM proposal seeks automatic approval by the agency if there is no action within a 60 day period, however, the OCD is seeking automatic denial if there is no action by the agency within that same time period. The 'denial by neglect' provision is extremely penalizing for small operators who would need to hire lawyers to determine why an application is denied (tr. 1679, 1680). Small operators would be at a disadvantage because they would not know which variance requests had been agreed upon with other operators (Tr. 1680). Mr. Scott also testified that if an operator takes the time to file out an application, the OCD owes him an evaluation of that application in a timely manner and if they are unwilling or unable to provide that timely evaluation, then the permit should be approved (Tr. 1701).

In conclusion, we appreciate the time and concentration the Commission obviously had when listening to the testimony presented by IPANM in this case. We are confident that you will adhere to your statutory duties to balance the standard of 'prevention of waste as a natural resource' with the responsibilities to protect public health and the environment and that you will accept the recommendations made jointly by NMOGA and additionally by IPANM.

**Statutory authority of the OCD does not include protections of waters not**

**designated by the State Engineer, livestock or public safety**

Under the Oil and Gas Act, the Oil Conservation Commission's primary authority and statutory mandate is to prevent waste and protect correlative rights. §70-20-2 NMSA. *See also, Continental Oil Company v. Oil Conservation Comm'n*, 70 N.M. 310, 319 (NM 1962)(the prevention of waste is the OCD's primary duty and paramount power). In addition, the Oil and Gas Act allows the OCC and the OCD, concurrently, "to make rules, regulations and orders for the purpose and with respect to the subject matters" stated in subsection 70-2-12(B)(1-22) NMSA 1978. Specifically, 70-2-12(B)(15) grants the Division the authority "to regulate the disposition of water produced or used in connection with the drilling for or producing of oil or gas or both and to direct the surface or subsurface disposal of the water, including disposition by use in drilling for or production of oil or gas, in road construction or maintenance or other construction, in the generation of electricity or in other industrial processes, *in a manner that will afford reasonable protection against contamination of fresh water supplies designated by the state engineer*" emphasis added.

"Fresh water supplied designated by the state engineer are water supplies to be anything with less than 10,000 milligrams TDS" (Tr. Bailey 759). In addition, the Water Quality Control Commission, of which the OCD is a constituent agency, limits its regulation of ground water to that which has less than 10,000 mg/l TDS. *See 74-6-2(K)(4) NMSA 1978; see also 20.6.2.3101* "Purpose: to control discharges onto or below the surface of the ground to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS. ...". Note that the WQCC has the responsibility of administering its regulations (as in 20.6.2 et al.) to constituent

agencies as to assure adequate coverage and prevent duplication of effort. 74-6-4(F) NMSA 1978. Thus, the OCD does not have the statutory authority to exceed the standards set by the WQCC or the authority to force the regulation of waters exceeding the 10,000 mg/l TDS standard. To this point, IPANM would request that in each instance of Rule 17 where the protection of freshwater is required, that clarification language be added such as “freshwater sources as designated by the Office of the State Engineer”. This will require amending the following: 19.15.17.7(F) Division approved facility; 19.15.17.11(A), (D)(4), (F)(2), (G)(4) (H)(1), and (J)(2); 19.15.17.12(A)(1); 19.15.17.13(F)(1)(b); 19.15.17.14(A) and (B); 19.15.17.15(B)(2) and (C)(3); 19.15.17.16(C) and (E). Alternatively, a definition of freshwater could be added to 19.15.17.7 clearly indicating that fresh waters are defined as sources designated by the State Engineer with have less than 10,000 mg/l TDS.

The regulatory authority of the Oil Conservation Division and concurrently, the Commission, is further defined in the Oil and Gas Act, 70-2-12(21) wherein the OCD is given the authority “to regulate the disposition of nondomestic wastes resulting from the exploration, development, production or storage of crude oil or natural gas *to protect public health and the environment.*” It is important to note that protection of wildlife, livestock, and public safety are not statutory mandates granted to the OCD. In fact, a word search of the Oil and Gas Act will result in zero hits for the word ‘wildlife’ or ‘livestock’. The word ‘safety’ comes up in the Pipeline Safety Act, (70-3 NMSA 1978), nine times and in the LPG and CNG Act, (70-5 NMSA 1978) three times. As noted by Mr. Fanning, a former Game and Fish Officer, if there is a complaint about an animal hurt on the range, this does not come under OCD jurisdiction (Tr. 377). Similarly, Mr.

Fanning, a main author for the NMOGA petition, was not aware of the authority given under the Oil and Gas Act to the OCD to protect public safety (Tr. 377). IPANM disagrees with OCD witness Ed Martin's argument that the safety of humans is directly associated with their health and livestock is part of the environment as justification for expansion of OCD authority (Tr. 1889, 1921). Just as motor vehicle regulation or air quality regulations might have impacts on human health or safety, regulation of those matter is not within the statutory authority of the OCD and should not be included in an operator's demonstration of protection of human health and the environment to obtain a permit, a variance or exception to Rule 17. Finally, additional jurisdictional conflicts could arise if a federal agency is the surface owner and an operator who had previously obtained approval to drill through that agency now has to ask for a formal variance to that APD (Tr. 1430). Moreover, other than Mr. Fanning's statement that the additional protections of livestock were added to the NMOGA petition at the request of the Cattlegrowers Association, there is no evidence to support the need for expansion of OCD's statutory authority (Tr. 366, 375). IPANM would respectfully request that all references to wildlife, livestock and human safety as standards of protection required to either obtain a permit, variance or exception to Rule 17 be deleted. (Tr. 376, 1429; 1432; 1683; 1851).

Moreover, as a matter of law, "the actions of the Commission must be consistent with and within the scope of its statutory authority and the order is supported by substantial evidence" *Fasken v. Oil Conservation Commission*, 87 N.M. 292, 294, 532 P.2d 588, 590 (N.M. 1975), citing *Grace v. Oil Conservation Comm'n*, 87 N.M. 205, 531 P.2d 939 (NM 1975). *Fasken* further states, "in cases where the sufficiency of the

Commission's findings is at issue or their substantial support is questioned,... the following must appear: A. Findings of ultimate facts which are material to the issues; B. Sufficient findings to disclose the reasoning of the Commission in reaching its ultimate finding; C. such findings must have substantial support in the record." *Id.* In the case at hand, the ultimate findings should not include expansion of standards beyond prevention of waste and protection of correlative rights followed by protection of fresh waters as designated by the State Engineer, human health and the environment. *See also, Rio Grande Chapter of the Sierra Club. v. N.M. Mining Comm'n*, 2003-NMSC-005, 133 N.M. 97, 61 P.3d 806, *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43, 77 L. Ed. 2d 443, 103 S. Ct. 2856 (1983); *Snyder Ranches, Inc. v. Oil Conservation Comm'n*, 110 N.M. 637, 639, 798 P.2d 587, 589 (1990); *Hobbs Gas Co. v. N.M. Serv. Comm'n*, 115 N.M. 678, 680, 858 P.2d 54, 56 (1993); *Tenneco Oil Co. v. New Mexico Water Quality Control Comm'n*, 107 N.M. 469, 474, 760 P.2d 161, 166.

#### THE IPANM PETITION: SECTION BY SECTION REVIEW

##### 19.15.17.7 Definitions:

19.15.17.7 (C) "Closed loop systems" Closed loop systems, "means a system that uses above ground steel tanks for the management of drilling fluids". IPANM deleted the words "workover" before the word "fluids" so that in section 19.15.17.9 only notification of the use of closed loop systems used for drilling operations would be required. (Mullins Tr. 1334; 1401; 1468, 1469; 1530; Scott 1649; 1650). As noted by Mr. Mullins, the intent of the Pit Rule regulation concerns management of solids, or drill cuttings. Mr. Scott defined a closed loop system as "solids removal equipment that is in addition to the

normal drilling equipment that would be utilized to dewater the solids on locations and remove them from location to a central facility ... [therefore] closed loop systems are part of the drilling operation. (Tr. 1640). Existing Rule 17 essentially required the use of closed loop systems which cost an operator between \$105,000 to \$200,000 more than on-site burial (Ganter, Tr. 65; West Largo Tr. 1789). Mr. Scott noted that the mechanical closed loop systems can vary between \$1500 per day to about \$5000 per day and that is a function of the sophistication required in your solids removal and it is a function of how far you are transporting those solids to the central disposal facility. (Tr. 1648)

When the OCD starts regulating workover activity, it leads to increased filing and regulatory hurdles to basically perform a pump change (Tr. 1401; Tr. 1649). Due to current regulators requiring the filing of a form to set a frac tank, Mr. Scott testified that since operations left nothing on location after the workover, that the required closed loop paperwork was excessive “administrative overkill” (Tr. 1649). To improve the administrative function of the rule, an operator could file a C-103 and check off the box as intending to complete a workover operation. (Tr. 1957)

Mr. Martin for the OCD agreed that “this Pit Rule doesn’t pertain to workovers” (Martin Tr. 1917) and would not have a problem with taking the word ‘workover’ out of the definition if the operator is using a tank and not a full closed loop system with a shale shaker etc. (Martin Tr. 1918).

19.15.17.7 E. “Continuously flowing watercourse” IPANM supports the proposed definition for Continuously flowing watercourse as recommended by NMOGA. The rationale behind the change in this definition was testified to by Mr. Gantner. “This became a problem because in various district offices, they were taking any real or any kind of surface depression, whether it be a wash or dry wash that never saw water”. (Tr.

61.) Thus, NMOGA recommended actual delineation as a solid blue line on a USGS quadrangle map to prevent siting. Tr. 88. This was characterized as the ‘common person’s definition’ (Tr. 135) even as it is clearly defined on a USGS map (Tr. 537). IPANM specifically asked for certainty in the definition which would be referencing the USGS map and excluding ephemeral washes, arroyos and similar depressions that do not have water the majority of days of the year. (Mullins Tr. 1408 - 9). Note that IPANM does not support the OCD siting distances for both significant and continuous watercourses which would be subject to multiple interpretations. (Tr. 1409 – 10)

19.15.17.7(I) “Ground water” as proposed by IPANM is the definition used by the Water Quality Control Commission (Tr. 1411) except for the word “continuous” (Tr. 1412). See 20.2.6.7 (Water quality Control Commission Definition for “ground water” means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply); IPANM’s concern is there have been different terms used for water resources, such as perched water (Tr. 1416). The intent is to say that ground water is a usable amount of water (Tr. 1411). In addition, Mr. Mullins testified that with the determination of depth to groundwater, it is the depth that the water is encountered when penetrating the formation (Tr. 1416), not the level that it rises within a water well. (Tr. 1414)

19.15.17.7(L) “Low Chlorides” concept of drilling fluids was proposed by NMOGA and supported by IPANM. The intent in the distinguishing between low chlorides and high chlorides was to have a ‘risk based rule’ (Tr. 1412). When operators in the NW use a base fluid system that is nearly fresh water, 10,000 TDS being that level, that the 15,000 standard on the liquid state poses a very low risk to contamination of

ground water sources. (Tr. 1412). So IPANM tired to have the regulation focus where the concerns should be, on the higher chloride levels (Tr. 1413).

19.15.17.7(Q) “Temporary Pit” definition is expanded by IPANM to “hold liquids and solids” and will be “closed in less than one year from the spud date”. (Tr. 373; 1402)

19.15.17.7(T) “Wetlands” definition was added by IPANM to highlight the last sentence proposed as “this definition does not include constructed wetlands used for wastewater purposes” (Tr. 1410). The IPANM concern revolved around building of a retention pond and avoiding a classification as a wetland (Tr. 1411).

#### **19.15.17.8 Permit or Registration required**

IPANM supports all the changes proposed by NMOGA in this section. In addition, removing the requirement to permit or register closed loop systems is supported by IPANM witnesses Mullins and Scott. (Tr. 340; 1399)

#### **19.15.17.9 Permit Application and Registration**

19.15.17.9(A) IPANM agrees with NMOGA that an operator should use the appropriate form (C-101 or C-103) to notify the appropriate division office of the operator’s intent to use a closed loop system.(Tr. 1398, 1399). However, this notification is limited to informing the OCD that cuttings would be left in place or taken off location. (Tr. 1401) IPANM also maintains that the OCD does not need to know the number of tanks and extra equipment on location (Tr. 1398, 1399). IPANM would delete any reference that closed loop systems must “use appropriate engineering principles and practices and follow applicable manufacturers’ requirements or the equivalent thereof”.

Tom Mullins testified about the difficulty of allowing a regulator to make the subjective determination (Tr. 1400) of whether a closed loop system meets ‘appropriate engineering principles’. The “focus of the regulator and their attention should be to the disposition of the drill cuttings. It should not be flow process through that and defining what each criteria piece is because its’ different. Its so different every single time... you don’t want to set a standard that one operator may Cadillac it and another operator may not and they achieve the same goals with the same protections to public health and the environment. (Tr. 1498). Similarly, Mr. Scott pointed out that all equipment on location must be ‘appropriately engineered” but we do not have any regulations with regard to horsepower into the rotary table, horsepower into the mud pumps etc.” (Tr. 1645). The closed loop system is “mechanical equipment placed on location to perform a function and d the proof of the pudding is whether it works or not. If the solids are coming out, then it’s appropriately engineered”. (Tr. 1646). Scott also noted that ‘depending on the depth of the well and the sophistication required with regards to solids removal, the [closed loop] applications could be somewhat different [depending on the well location] (Tr. 1647). Finally, Scott stated that if he were drilling on a location with a possible underbalance situation that he would prefer to use a reserve pit instead of the closed loop mechanical equipment because of the higher drilled solid percentages impacting the penetration rates (Tr. 1648).

#### **19.15.17.10 Siting Requirements**

19.15.17.10(A)(1)(a) - IPANM requests the addition of the language “or for underbalanced drilling, workover or completion operations” to be added after “coal bed methane well”. This language is added by IPANM to accommodate the necessity for air

drilling in some instances in New Mexico. Mullins testified that air drilling does not have the level of liquids of concern and thus would have no potential groundwater impacts (Tr. 1395; 1422, 1496).

This provision of the NMOGA and IPANM proposal also changes the minimum depth to groundwater for the siting of a temporary pit from 50 feet to 25 feet from the bottom of the pit. Mr. Mullins prepared Exhibit 16 as a rebuttal exhibit to address the issue of 25 foot to groundwater (Tr. 1402). Based on his extensive modeling, Mr. Mullins came to the conclusion that with four feet of soil cover, burial in place in a pit with a distance of 25 foot to ground water from the bottom of the pit, of cuttings where low chloride drilling fluids were used, is protective of human health and the environment (Tr. 1407). In addition, at the request of the Commission, Mr. Mullins prepared Exhibit 18 to look at the concentrations of chlorides directly underneath the pits or one meter or three foot lateral distance of 25 feet (Tr. 2018). Mr. Mullins testified that directly beneath the pit, it would take 775 years in Carlsbad NM, for chlorides to move from the bottom of the pit through the vadose zone and reach groundwater at 25 foot. It would take an additional 150 years to move the lateral distance of 100 feet. (Tr. 2019). It would take 1120 years to reach the maximum chloride level of greater than 250 mg/kg and 1350 years to reach maximum levels at the 100 foot lateral level. (Tr. 2020). In Aztec, the time period would be 111,367 years when the concentration levels of chloride would be .0006 mg/l (Tr. 2018, 2020).

#### **19.15.17.11 Design and construction**

19.15.17.11(D)(4): In approving an alternative standard to fencing requirements, the Division is limited by the Statutory authority granted to it by the Legislature. See arguments above.

19.15.17.11(J) Multi-well fluid management pits: IPANM strongly supports the concept of Multiwell fluid management pits. Mr. Scott testified that “the issue of multi-well fluid pits is as critical and perhaps more critical than the issue of drilling (Tr. 1673). Since Southeast NM is oil development, horizontal technology and multi-stage fracture stimulation had increased the water requirements by an order of magnitude (Tr. 1674- 5). The ability to store, manage and as important as anything else, recycle less than perfect water utilizing it for frac jobs, is going to become more and more important (Tr. 1675, 1699).

#### **19.15.17.12 Operational Requirements**

19.15.17.12(A)(4): IPANM offers additional language to this section, “ If any pit liner’s integrity is compromised, or if any penetration of the liner occurs above the liquid’s surface, then the operator shall notify the division district office within 48 hours of the discover of with a verbal plan to initiate repair or the damage or replacement of the liner” This change is offered to clarify what an operator must do within the specified time period. As Jerry Fanning testified for NMOGA, initiation of repair as written in the NMOGA proposal is unclear since he believe that initiation of repair could be a phone call, an email or direct conversation with an OCD representative (Tr. 384). He also testified that if intiating repair was simply notification within the 48 hour time period that seeking a variance to obtain a different time period for repair was unnecessary (Tr. 385). By contrast, Mr. Mullins testified strongly that he wanted clarification in the regulation

so that expenditures were not added because of a minor tear in a liner above the line and suddenly [you] have to excavate the entire site and haul it off (Tr. 1391). Moreover, we need common sense application of the rule, we need to take a look at and understand that we are going to cut the liner off above the mud line portion ... [the] concern I have is we have a regulation that has the potential enforcement which becomes an abuse that doesn't offer any additional protection... (Tr. 1528).

19.15.17.12(D)(6) Visual inspection upon removal of a BGT: As drafted, IPANM is concerned that the language and standard in this section could be expanded to require operators to file a C-144 form upon visual inspection of a well pad and observation of a wet or discolored soils. Our concerns arose with OCD witness Powell's Exhibit 3, wherein he states under operational requirements, "if there is wet or discolored soils there is evidence of a spill and the Operator needs to proceed with 19.15.30 NMAC". This statement seems to imply that the upon observation of wet soils that an abatement plan is necessary immediately without the standards and reporting requirements provided for in Rule 29. This appears to be changing the requirements of the spill rule (Tr. 198, 338, 1396, 1425, 1532).

**19.15.17.13 Closure**

19.15.17.13(B)(5)(6)(8): IPANM recommends the addition of "if unconfined groundwater is 100 feet or less from the base of the disposal pit or trench". The extensive testimony of Tom Mullins supports the requirements proposed in this section. Indeed, while IPANM is proposing the very conservative standards that no testing is required when the depth of ground water is greater than 100 feet, the modeling

demonstrates protection even when the depth to groundwater is significantly less. (Tr. 597, 623, 689, 933, 1254, 1346, 1439, 1602, 1609).

19.15.17.13(D) - IPANM opposes the OCD recommended requirements for a licensed survey and filing of notice of deed with a county clerk as this is already in the well file and is duplication of paperwork. (Tr. 1511). IPANM opposes this provision and OCD's claim that if "we ever need to go out and re-find it, that is available" as a rationale for filing with a county clerk (Tr. 1838). Moreover, as testified by Mr. Powell, a notice of deed can not be filed on federal lands. Since an operator does not hold title to the property, the mechanics of filing the notice of deed are also unclear and IPANM questions Mr. Powell's assertion that the county clerks are accepting notices of deed from operators on private lands currently (Tr. 1846).

19.15.17.13(E)(5)(6)(8) Timing requirements for closure in the initial proposal by NMOGA are supported by IPANM. We do not support their verbal proposal during the hearing to remove these automatic extensions and require a request for a variance. Mr. Scott testified to a "strong preference for automatic extension rather than coming up here for a hearing process" (Tr. 1683, 1930, 1956).

#### **19.15.17.15 Exceptions and Variances**

As noted above, IPANM has serious concerns about expansion of the OCD authority to enforce regulations pertaining to the protection of livestock and human safety. There is also concern that small operators will be significantly disadvantaged by the subjective nature of obtaining variances with the district offices. There will be a significant impact on small operators who only permit one or two wells per year. In

addition, as proposed, an operator may have to request a variance several times over the course of the life of a well which will could result in significant lawyer fees (Tr.

**19.15.17.16 Permit approvals, conditions, denials, revocations, suspensions, modifications and transfers**

19.15.17.16 (A) IPANM supports NMOGA's request for timely response within 30 days of receipt of an administratively complete application. IPANM also supports NMOGA's position that if there is not a timely response to the application, that the application be administratively approved. (Tr. 367, 1678, 1679, 1895).

Thank you for the opportunity to comment on this very important issue.

Respectfully Submitted,

CHATHAM PARTNERS, INC.

By: \_\_\_\_\_

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