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VIA FEDERAL EXPRESS

May 2, 2012

Ms. Florene Davidson
Commission Clerk
Oil Conservation Commission
New Mexico Department of Energy
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Case No. 14784; Proposed Modification of the New Mexico Oil and Gas Association, Attachment A, posted 4/16/2012 to the Application of the New Mexico Oil and Gas Association for Amendment of Certain Provisions of Title 19, Chapter 15, Part 17 of the New Mexico Administrative Code Concerning Pits, Closed-Loop Systems, Below Grade Tanks, Sumps, and Other Alternative Methods Related to the Foregoing Matters, Statewide.

Dear Ms. Davidson:

Enclosed are the comments of R360 Environmental Solutions, Inc. on the above-mentioned amendment, Attachment A, posted on April 16, 2012, to the New Mexico Oil and Gas Association's petition for rulemaking. On behalf of R360 Environmental Solutions, Inc., we ask that these comments be considered by the Commission in connection with its response to the New Mexico Oil and Gas Association's modifications to its original rulemaking petition. Please do not hesitate to contact me if you have any questions regarding this matter.

Sincerely,

Larry Nettles

Larry W. Nettles
Attorney for R360 Environmental Solutions, Inc.

COMMENTS ON NEW MEXICO OIL AND GAS ASSOCIATION'S AND THE INDEPENDENT PETROLEUM ASSOCIATON OF NEW MEXICO'S PROPOSED AMENDMENTS by R360 ENVIRONMENTAL SOLUTIONS, INC.

R360 Environmental Solutions, Inc. ("R360") respectfully submits the following comments concerning the modifications to the proposed amendments to Title 19, Chapter 15, Part 17 (the "Pit Rule") of the New Mexico Administrative Code ("NMAC") proposed by the New Mexico Oil and Gas Association ("NMOGA") in Case No. 14784 on April 16, 2012. R360 owns two oil and gas exploration and production ("E&P") waste treatment and disposal facilities in Lea County, New Mexico and provides various E&P waste recycling and disposal services.

1. References to closed-loop systems should not be deleted.

NMOGA's modifications to its proposed amendments still eliminates most references to closed-loop systems from the Pit Rule. R360 understands the applicants' rationale for this proposed change is that the Pit Rule should be focused only on pits. This simplistic argument ignores the original intended scope of the Pit Rule. The original and current title of Part 17, "Pits, Closed-Loop Systems, Below Grade Tanks, and Sumps," demonstrates that this rule was not intended to apply only to pits, but to more broadly cover the handling, storage and disposal of E&P waste from oil and gas operations. Closed-loop systems are an appropriate, efficient and widely used alternative method for the handling of E&P waste and the Pit Rule should accordingly provide standards and permitting procedures for them.

Closed-loop systems employ a suite of solids control equipment to minimize drilling fluid dilution and provide for the economic handling of drilling wastes. In a closed-loop drilling fluid system, the reserve pit is replaced with a series of storage tanks that separate liquids and solids. Equipment to separate out solids (*e.g.*, screen shakers, hydrocyclones, centrifuges) and collection equipment (*e.g.*, vacuum trucks, shale barges) minimize the amount of drilling waste muds and cuttings that require disposal, and maximize the amount of drilling fluid recycled and reused in the drilling process.[1] The wastes created are typically transferred off-site for disposal at injection wells or oilfield waste disposal facilities.

The New Mexico Oil and Gas Act directs the New Mexico Oil Conservation Commission ("NMOCC") to regulate the disposition of non-domestic wastes resulting from the exploration, development, and production of storage of crude oil or natural gas in manner that protects the public health and the environment.[2] Typical reserve pits involve risks such

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[1] Lisa Sumi, *Pit Pollution – Backgrounder on the Issues, With a New Mexico Case Study*, Oil and Gas Accountability Project, 14 (May 2004), *available at* http://www.earthworksaction.org/files/publications/PitReport.pdf?pubs/PitReport.pdf.

[2] N.M. Stat. Ann. § 70-2-12(21).

as leakage through overflow, personal injury, wildlife impact, and area exposure.[3] The costs associated with pits include excavation, lining, increased location size, and either burying or the removal of solid waste.[4]

Closed-loop systems significantly reduce or eliminate many of these risks and costs.[5] From May 22 to June 1, 2007, the New Mexico Oil Conservation Division's ("NMOCD") staff collected samples from 21 drilling/reserve pits, 2 production pits, and 2 closed-loop tanks.[6] The NMOCD found toxic levels of lead, arsenic, chromium, mercury, benzene, toluene, and dozens of other harmful chemicals in the areas surrounding pits.[7] The self-contained nature of closed-loop systems reduce or eliminate the possibility of soil contamination.[8] Thus, closed-loop systems reduce the risk of soil and water contamination from E&P wastes and guard against many of the toxic pollutants the NMOCD sampling connected to traditional reserve pits. NMOCD's current rules and the applicant's modified proposal state that the objective of the Pit Rule is to regulate waste methods used in connection with oil and gas operations for the protection of public health, welfare and the environment.[9] The use of closed-loop systems furthers this objective, and references to closed-loop systems should remain included throughout the Pit Rule.

Furthermore, NMOGA still has not supplied any information justifying why closed-loop systems should not be included in the Pit Rule or proposed a new section to include requirements for closed-loop systems. Eliminating nearly all the references to and the requirements for closed-loop systems would be "an unreasoned action without proper consideration or disregard of the facts and circumstances,"[10] and would therefore be an arbitrary and capricious act under New Mexico law. A comparison between closed-loop systems and typical reserve pits demonstrates that closed-loop systems are not only more protective of the public health and the environment, but also cost less than typical reserve pits over the long term.[11] An analysis of New Mexico's use of closed-loop drilling systems prior to the Pit Rule's adoption found that even before the systems were widely deployed within

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[3] Dan Arthur and David Conrue, *Technologies Reduce Pad Size, Waste*, The American Oil & Gas Reporter, 3 (Aug. 2010).

[4] *Id.*

[5] *Id.*

[6] New Mexico Oil Conserv. Div., *Analytical Results of OCD's Pit Sampling Program* (2007), *available at* http://www.emnrd.state.nm.us/ocd/environmental.htm.

[7] *Id.*

[8] Lisa Sumi, *Pit Pollution – Backgrounder on the Issues, With a New Mexico Case Study*, Oil and Gas Accountability Project, 12 (May 2004), *available at* http://www.earthworksaction.org/files/publications/PitReport.pdf?pubs/PitReport.pdf.

[9] 19.15.17.6 NMAC.

[10] *Paule v. Santa Fe County Bd. of County Comm'rs*, 117 P.3d 240, 249 (N.M. 2005) (defining "arbitrary and capricious" in the context of improper agency actions).

[11] *See* Railroad Comm'n of Texas, *Waste Minimization Case Histories – Closed Loop Drilling Systems*, http://www.rrc.state.tx.us/environmental/environsupport/wastemin/wasteminchdrillingops.php (finding that one operator saved $10,000 per well through the use of closed-loop drilling systems).

the state, a closed-loop system provided cost savings of 45% when compared to reserve pits.[12] The analysis also found that burying waste onsite cost 24% more than using a closed-loop drilling system.[13] The savings associated with closed-loop systems are likely even greater after six years of industry experience with these systems. The current rules for closed-loop systems provide technical standards in order to ensure efficient and environmentally sound handling of E&P waste. Neither the facts nor the circumstances surrounding the use of closed-loop systems at drilling sites warrant deleting the current rule's references to and standards for closed-loop systems.

These systems have a place in any rule that regulates the handling of E&P waste. The Bureau of Land Management ("BLM") of the Department of the Interior lists closed-loop drilling systems as a Best Management Practice ("BMP") for oil and gas drilling operations.[14] Many oil and gas companies voluntarily employ closed-loop systems as part of their standard operating procedures in the Marcellus Shale.[15] Many operators in western states also choose to employ closed-loop systems. For example, sources estimate that 79% of operators voluntarily employed closed-loop systems in Colorado in 2011.[16] The growing prevalence of closed-loop drilling operations provides further support that references to these systems belong in a rule governing the management of E&P waste.

Retaining the references to closed-loop systems imposes no new costs on operators. Whatever costs are associated with the current references to closed-loop systems have already been absorbed by operators. At present, these systems are already employed at many, if not almost all, oil and gas drilling operations in New Mexico. There does not appear any good reason to delete any of the sections of the Pit Rule that reference closed-loop systems since the facts and circumstances surrounding these systems show that they are a benefit, rather than a hindrance, to oil and gas drilling.

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[12] Dorsey Rogers, Dee Smith, Gary Fout and Will Marchbanks, *Closed-Loop Drilling Systems: A Viable Alternative to Reserve Waste Pits* (Dec. 2006), http://www.worldoil.com/December-2006-Closed-loop-drilling-system-A-viable-alternative-to-reserve-waste-pits.html.

[13] *Id.*

[14] Bureau of Land Mgmt., *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development: The Gold Book* (4th ed. 2007) 17, *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy/oil_and_gas.Par.18714.File.dat/OILgas.pdf.

[15] *See* Andrew Maykuth, *Closed-loop Systems: Innovative Way to Dispose of Marcellus Drilling Debris*, PHILADELPHIA INQUIRER (Feb. 13, 2011), http://articles.philly.com/2011-02-13/business/28532329_1_marcellus-shale-drilling-high-pressure-injection (citing Anadarko Petroleum's decision to voluntarily use closed-loop systems in its Marcellus operations). *See also* ExxonMobil, *Hydraulic Fracturing*, http://www.exxonmobil.com/Corporate/energy_production_hf.aspx (last visited Apr. 23, 2012) (stating that ExxonMobil also voluntarily choose to use closed-loop systems in its Marcellus operations).

[16] David Neslin, Director, Colorado Oil & Gas Conservation Commission, *Written Answers to Follow-Up Questions from the Senate Committee on the Environment and Public Works*, Submitted May 17, 2011 at 2, *available at* http://cogcc.state.co.us/Announcements/Hot_Topics/Hydraulic_Fracturing/EnviroPublicWorksQA.pdf.

For these reasons, R360 requests that the NMOCC retain paragraph 19.15.17.9.B(3) NMAC, requiring that plans for closed-loop systems be included in permit applications, as well as the design and construction standards for closed-loop systems in paragraph 19.15.17.11.H NMAC, and decline to adopt NMOGA's modified amendments that eliminate the words "closed-loop systems" from the Pit Rule.

2. The six month time limit for storing liquids in temporary pits should not be eliminated.

NMOGA's modifications retain the previously proposed change to the definition of "temporary pit" in paragraph 19.15.17.7.O NMAC. This proposed change would allow oil and gas well operators to store liquids in temporary pits for up to 12 months, instead of the time limit of 6 months found in the current definition. R360 respectfully reiterates its previous comments that the NMOCC should decline to adopt this proposed change.

The current definition of "temporary pit" reflects the outcome of a two-year public process by a Pit Rule task force consisting of representatives from the oil and gas industry, environmental groups, municipalities, the cattle growers industry, and NMOCD staff.[17] Four public outreach meetings and 18 days of public hearings were held during the process.[18] The current rule explicitly limits the time period for holding liquids in temporary pits because of concerns relating to leaks and contamination from temporary pits. During the hearings for the original Pit Rule, the NMOCD's own staff testified about instances of temporary pit liner failure, tears, and contamination found beneath temporary pits.[19] When it originally adopted the Pit Rule, the NMOCC explicitly found that protection of the environment went beyond the protection of freshwater sources and included soil stability and productivity.[20] The longer that E&P waste and other fluids are allowed to remain in temporary pits, the greater the likelihood of liner failure and/or groundwater/soil contamination. The applicants' proposal unnecessarily increases the threat of contamination from temporary pits.

Any action which increases the likelihood of contamination from pits conflicts with both the objective of the Pit Rule and the Oil and Gas Act. As noted above in Comment 1, the Oil and Gas Act empowers the NMOCC to regulate E&P waste to protect the public health and the environment.[21] Furthermore, The New Mexico Constitution includes an environmental protection provision, providing that:

> The protection of the state's beautiful and healthful environment is ... of fundamental importance to the public interest, health, safety, and the general welfare. The legislature shall provide for control of pollution and control of despoilment of the air, water, and other natural resources of this

[17] New Mexico Oil Conserv. Div., *Pit Rule Guidance*, 1 (December 2010), http://www.emnrd.state.nm.us/ocd/documents/201012-16DraftOCDPitRuleGuidanceDocument.pdf

[18] *Id.*

[19] New Mexico Oil and Gas Comm'n Order No. R-12939, 3 (May 9, 2008).

[20] *Id.* at 4.

[21] N.M. Stat. Ann. § 70-2-12(21).

> state, consistent with the use and development of these resources for the maximum benefit of the people.[22]

Thus, various constitutional and statutory provisions are in place to govern oil and gas development and to protect the air, water, and general environmental quality in New Mexico. The NMOCC must keep these provisions in mind as it scrutinizes NMOGA's amended proposed changes to the Pit Rule.

Although rules, regulations and standards enacted by an agency are presumptively valid, such actions will only be upheld if they are reasonably consistent with the agency's authorizing statutes. [23] The current six month limit for liquids in temporary pits is designed to minimize the potential for contamination from E&P waste from temporary pits and reflects a deliberative, well thought-out decision-making process. Raising the limit for holding liquids from 6 to 12 months increases the risk of environmental contamination from E&P waste without justification. This would not be reasonably consistent with the specific provisions of the Oil and Gas Act or the New Mexico Constitution's more general environmental protection statement.

New Mexico is not alone in requiring strict time limits for the removal of E&P waste in certain types of pits. The North Dakota Industrial Commission, Oil and Gas Division ("NDOCD"), recently promulgated rules very similar to the Pit Rule. Effective April 1, 2012 oil and gas operators in North Dakota are required to remove the contents of any earthen pits or open receptacles within 72 hours of operations ceasing at a well and to dispose of those contents at a state-authorized facility.[24] The pit must be reclaimed within 30 days of operations ceasing at the well.[25] The Director of the NDOCD may grant an extension of no more than year provided that the operator shows good reason for the extension.[26] Similar restrictions apply to the contents of drilling pits.[27]

Although aimed at slightly different issues, North Dakota's rules highlight the importance of removing pit contents as quickly as possible so as to avoid any potential pollution or contamination concerns. If operations at a well cease within a relatively short period of time, the North Dakota rules impose stricter requirements than the time restriction applied to temporary pits in New Mexico. Additionally, North Dakota's rules apply to all pit contents, not just liquids.[28] Compared with other states' time limits on the contents of pits, New Mexico's current rules are not exceptionally stringent. New Mexico's current rules represent a balance that considers the needs of operators and carefully weighs them against

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[22] N.M. Const. art. XX, § 21.

[23] *N.M. Mining Ass'n v. N.M. Water Quality Control Comm'n*, 150 P.3d 991, 995 (N.M. Ct. App. 2006).

[24] N.D. Cent. Cd. § 42-02-03-19.3 (2012).

[25] *Id.*

[26] *Id.*

[27] *See Id.* at § 43-02-03-19.4 (2012).

[28] *Id.* at § 42-02-03-19.3 (2012).

the concerns raised during the Pit Rule's original hearing and in the studies supporting the rule.

The current 6 month limit on storing liquids in temporary pits provides clear environmental benefits. There is nothing to suggest that the costs of compliance with this requirement are unduly burdensome on operators. The risks associated with leaks and contamination justify limiting how long liquids may be stored in temporary pits. The current rule provides operators with sufficient time to allow for the evaporation of liquids in temporary pits. The costs associated with the 6 month limit on storing liquids in temporary pits are minimal when compared to its benefits. What little information R360 has regarding the motivation for this change suggests that there are more appropriate methods available in the current Pit Rule to address concerns related to storing liquids in temporary pits. Operators have the option to apply for a variance or an exception if they believe that 6 months is insufficient time to allow for the evaporation of liquids in a temporary pit.

R360 understands that the motivation behind this proposed change relates to weather conditions and their effects on the handling of E&P waste. Weather conditions in New Mexico certainly should be considered and may justify allowing the storage of liquids in temporary pits for longer than 6 months in some areas under certain circumstances. A blanket 12-month limit, however, is not appropriate for the entire state. The existing rule provides a procedure for requesting variances. Weather conditions that require special consideration should be handled with a request for a variance or exception to the rule to allow for an extension of time for the pit to dry. For those reasons, R360 requests that the NMOCC reject NMOGA's modified amendments to 19.15.17.7.O NMAC and retain the current definition of temporary pits.

3. The term "onsite" should not be removed from standards for onsite burial trenches.

NMOGA's modifications to its proposed amendments still deletes the word "onsite" from the requirements of 19.15.17.11.J NMAC for Onsite Burial Trenches. Deleting this word has the potential to expand the environmental impact of oil and gas operations and may encourage operators to locate burial trenches farther away from oil and gas wells. The farther a burial trench is located from the well that produces the E&P waste, the greater the cost of moving the waste and the greater the likelihood of spills (if transported by truck) or leaks (if transported by pumps or pipes). Any action that increases the likelihood of such contamination is not reasonably consistent with the Oil and Gas Act's charge to the NMOCC to regulate the disposition of oil and gas wastes in a manner that protects the public health and the environment.

When it originally adopted the Pit Rule, the NMOCC explicitly determined that dispersed burial sites increases the number of sites where groundwater contamination may occur.[29] The NMOCC also determined that dispersed burial sites increase the number of sites that require regulatory oversight and make it more difficult to determine the source of

[29] New Mexico Oil and Gas Comm'n Order No. R-12939, 12 (May 9, 2008).

any contamination.[30] An unintended consequence of the proposed change is that it will increase the regulatory oversight burden on the NMOCD. The NMOCD agreed with this comment in its own proposed modifications to NMOGA's proposal posted on January 9, 2012.[31] The NMOCD's modifications kept the term "onsite" in reference to burial trenches.[32] The NMOCC should take into account the feasibility of administering the applicant's proposed amendments when considering any modifications to the current Pit Rule. If the NMOCD cannot properly administer NMOGA's proposed changes, there is a greater risk of noncompliance and an increased likelihood that contamination or pollution could occur.

Allowing offsite burial trenches provides too much potential for neglect and increases the risk of contamination. Onsite burial trenches will receive more attention than offsite trenches due to the presence of the operator's personnel. Compliance and contamination concerns can be more easily addressed if burial trenches are restricted to the same area as drilling operations. Offsite burial trenches have the potential to spread an operator's resources too thin and pose a greater to risk groundwater.

Onsite burial ensures a single area for both NMOCD and operators to focus their compliance efforts. This minimizes the regulatory burdens on all parties. Based on all these reasons, the applicants' proposal in this area does not properly consider the facts and circumstances. R360 suggests keeping the word "onsite" throughout 19.15.17.11.J NMAC and defining it in 19.15.17.7 NMAC to mean: "within the boundaries of the lease and/or development plan where in exploration and production waste continues to be under the control and management of the operator/producer." R360 also suggests that the size restriction of 10 acre-feet should be added to 19.15.17.11.F NMACC in order to remain consistent with the requirements for temporary and permanent pits in 19.15.17.11.F(10).

4. The proposed maximum chloride concentration for "low chloride drilling fluids" should be substantially lower.

NMOGA's modifications continue to include relaxed siting requirements for pits containing "low chloride drilling fluids." The applicant defines "low chloride drilling fluids" as fluid that contains less than 15,000 mg/liter of chlorides." By reference, Texas defines low chloride drilling fluids as drilling fluids with a chloride concentration of 3,000 mg/l or less[33] and requires that reserve pits containing drilling fluids with a chloride concentration in excess of 6,100 mg/l be dewatered within 30 days and backfilled and compacted within one year of cessation of drilling operations.[34]

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[30] *Id.*

[31] *See* New Mexico Oil Conserv. Div., *Rules* – Proposed Modifications of the Oil Conservation Division to Case Nos. 14784 and 14785 – Exhibit A (Jan. 9, 2012), http://www.emnrd.state.nm.us/ocd/Rules.htm.

[32] *Id.* at 19.15.17.11.J.

[33] 16 Tex. Admin. Code. §3.8(d)(3)(C).

[34] 16 Tex. Admin. Code. §3.8(d)(4)(G)(i)(II).

Wyoming also uses 3,000 ppm[35] as a limit for chlorides in drilling muds. Wyoming rules state that "to protect shallow groundwater, drilling muds with chlorides in excess of 3,000 ppm of those containing hydrocarbons cannot be used in drilling operations until after the surface casing has been set."[36] Colorado actually imposes stricter requirements on drilling pits containing fluids with chloride concentrations in excess of 15,000 ppm (a unit of measure roughly equivalent to mg/L).[37] R360's research did not locate any oil and gas producing state that allows for relaxed regulatory requirements for such high-chloride content drilling fluids. Neither the facts nor the circumstances justify adopting the applicant's proposed change in this area.

Leaching of chlorides from drilling fluid with a chloride concentration above 3,000 mg/l can negatively impact the soil and poses a potential threat to groundwater.[38] As noted above, the New Mexico Constitution and the Oil and Gas Act both contain environmental protection goals. Additionally, when it originally adopted the Pit Rule, the NMOCC found that "protection of the environment is not limited to protection of fresh water and prevention of human exposure to toxic agents, but also includes protection of soil stability and productivity, agriculture, wildlife, biodiversity and, in appropriate circumstances, the aesthetic quality of the physical environment."[39] Additionally, during the hearing adopting the original Pit Rule, the NMOCD, Industry Committee,[40] and environmental group experts all agreed that chlorides will eventually leach from temporary pits and burial trenches and reach groundwater.[41] Considering the recognized risk of leaks from pits, and the potential issues associated with chloride contamination, the facts and the circumstances do not warrant such a high level for "low chloride drilling fluids."

R360 believes that the proposed 15,000 mg/l limit is extraordinarily high and cannot be supported by science. The applicants' proposal selects an arbitrary number without any reasoned, technical, or scientific support. If the NMOCC decides to adopt the "low chloride drilling fluids" concept, R360 suggests that maximum chloride concentration should be substantially lower than 15,000 mg/L. R360 suggests that the chloride limit should be only slightly higher than 3,000 mg/L, which is currently the limit for waste buried in on-site trenches,[42] but in any case no more than 6,000 mg/L.

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[35] The measurement of 1 ppm is roughly equivalent to 1 mg/L

[36] 55-4 Wyo. Code R. § 1(z) (2010).

[37] Colorado Oil and Gas Conserv. Commission R. 904(a)(1) (2011) *available at* http://cogcc.state.co.us/RR_docs_new/rules/900Series.pdf.

[38] Tex. Railroad Comm'n, *Pollution Potential and Statewide Regulation*, Surface Waste Management Manual, *available at* http://www.rrc.state.tx.us/forms/publications/SurfaceWasteManagementManual/chapter3.php.

[39] New Mexico Oil and Gas Comm'n Order No. R-12939, 4 (May 9, 2008).

[40] The Industry Committee represented a group of oil and gas producers who operate wells in New Mexico during the hearing adopting the Pit Rule. *See id.* at 2.

[41] *Id.* at 12.

[42] *See* 19.15.17.13.F(3)(c) NMAC.

R360 also recommends that the applicants' term "low chloride drilling fluids" found in Proposed 19.15.17.7.I NMAC, be changed to "fresh water drilling fluids." For the sake of clarity, R360 recommends that the definition for "fresh water drilling fluids" explicitly state that "freshwater drilling fluids do not include hydrocarbon-based or synthetic/chemical-based drilling fluids." Hydrocarbon-based and synthetic/chemical-based drilling fluids should not be eligible for the proposed relaxed siting standards for low chloride drilling fluids, regardless of their chloride content, because they contain other chemical compounds that could be harmful to the environment.

5. Steel tanks should continue to be required for hydrocarbon-based drilling fluids.

NMOGA's modifications still remove the existing requirement that operators use steel tanks or other NMOCD-approved methods to contain hydrocarbon-based drilling fluids.[43] Hydrocarbon-based drilling fluids are more toxic than water- and synthetic-based drilling fluids.[44] The increased risks hydrocarbon-based drilling fluids pose warrant additional protections beyond those the Pit Rule provides for temporary pits. Steel tanks provide this additional protection. Removing the requirement that operators contain hydrocarbon-based drilling fluids in steel tanks increases the risk of contamination to groundwater and soils.

As previously mentioned, the Oil and Gas Act directs the NMOCC to regulate the disposition of non-domestic wastes resulting from the exploration, development, and production of storage of crude oil or natural gas in a manner that protects the public health and the environment. When it originally adopted the Pit Rule, the NMOCC found that steel tanks were necessary to prevent the release of hydrocarbons into the environment.[45] Sampling conducted by the NMOCD in 2007 in areas surrounding pits found toxic levels of lead, arsenic, chromium, mercury, benzene, toluene, and dozens of other harmful chemicals.[46] Between the mid-1980s and 2003, the New Mexico Environmental Bureau recorded nearly 7,000 cases connecting pits to soil and water contamination. Additionally, the NMOCD released data in 2005 showing that close to 400 incidents of groundwater contamination had been documented from oil and gas pits.[47] Hydrocarbon-based drilling fluids contain many of the types of toxic chemicals that the Pit Rule is designed to protect against. Reducing the protections the Pit Rule provides from the potential risks associated with discharges of hydrocarbon-based drilling fluids is not consistent with the Oil and Gas Act or the previous findings of the NMOCC.

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[43] 19.15.17.12.B(1) NMAC.

[44] Dept. of Energy, *Environmental Benefits of Advanced Oil and Gas Production Technology*, DOE-FE-0385, 109 (1999), *available at*: http://www.osti.gov/bridge/product.biblio.jsp?osti_id=771125.) (comparing the environmental benefits of advanced (synthetic) drilling fluids with oil-based (hydrocarbon-based) drilling fluids).

[45] New Mexico Oil and Gas Comm'n Order No. R-12939, 26 (May 9, 2008).

[46] New Mexico Oil Conserv. Div., *Analytical Results of OCD's Pit Sampling Program* (2007), *available at* http://www.emnrd.state.nm.us/ocd/environmental.htm.

[47] *Id.*

Most operators have already invested in steel tanks to store their hydrocarbon-based drilling fluids. Replacing this requirement would merely result in operators transferring this equipment to other states that maintain strict environmental standards. This change provides few, if any, cost savings to operators and unnecessarily weakens the current rule's protections against contamination from hydrocarbon-based drilling fluids.

For these reasons, R360 recommends keeping the sentence in Section 19-15-17-12.B(1) NMAC, "[t]he operator shall use a tank made of steel or other material which the appropriate Division district office approves, to contain hydrocarbon-based drilling fluids." This is consistent with longstanding industry practices and recognizes the disposition or disposal of such waste as being regulated differently by rule. It is also consistent with the definition of "closed-loop system" found in 19.15.17.7.C NMAC.

6. The applicants' proposed maximum chemical concentrations for closure should not be adopted.

NMOGA's modifications retain the relaxed chemical concentration limits in the closure criteria for soils beneath and for wastes left in place in pits, drying pads, and below grade tanks for benzene, Total Petroleum Hydrocarbons ("TPH") and chlorides found in its original proposal.[48] Benzene is a toxic chemical and known carcinogen. The benzene limit under the current Pit Rule's closure criteria is set at 0.2 mg/kg. NMOGA's amended proposal seeks to increase this limit to 10 mg/kg, regardless of the depth to groundwater, for both soils beneath and waste left in place in pits, drying pads, and below grade tanks. Benzene is a recognized threat to the public health for many different state agencies. For example, Colorado requires that pits be constructed such that benzene concentrations in soil do not exceed a standard of 0.17 kg/mg, which certainly highlights concerns of regulators in that state when it comes to benzene.[49] Additionally, under the federal Safe Drinking Water Act ("SDWA"), EPA's maximum contaminant level ("MCL") for benzene is set at 5 ppb (0.005 ppm).[50]

The NMOCD currently provides a limit of 0.2 ppm, which is already 40 times less stringent than the MCL value. R360 understands and appreciates the differences between standards for drinking water and permissible benzene concentrations in soil, but the proposed limit of 10 mg/kg is 2,000 times higher than the SDWA standard. This standard endangers soil viability and productivity, and represents an unreasonable threat to groundwater supplies. The applicant's amended proposal would increase the benzene limit to 10 ppm without any scientific basis for choosing 10 ppm. In light of the carcinogenic effects of benzene and the documented history of benzene contamination associated with pits noted in Comment 5, neither the facts nor the circumstances warrant such an increase in the limits for the closure criteria for soils as related to benzene. Adoption of this increase without factual justification

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[48] *See* Applicant's Proposal, 19.15.17.13 Table I.

[49] *See* Colorado Oil and Gas Conserv. Commission R. 905(a)(1) (2011); *see also id.* at Table 910-1, *available at* http://cogcc.state.co.us/RR_docs_new/rules/900Series.pdf.

[50] 40 C.F.R. 141.61 (2011).

would be not only arbitrary and capricious but also inconsistent with the NMOCC's statutory charge to protect the public health and the environment.

NMOGA's amended proposal still seeks to establish new chloride concentrations 20 times greater than current limits for soils and 10 times greater than current limits for wastes left in place. The current closure criteria for chloride concentrations in soils beneath pits, drying pads, and below grade tanks is 500 mg/kg where the depth to groundwater is between 50 and 100 feet, and 1,000 mg/kg where the depth to groundwater is greater than 100 feet. The applicants' proposal changes those limits to 10,000 mg/kg and 20,000 mg/kg, respectively. The environmental and contamination concerns associated with chloride levels previously discussed in Comment 4 also apply here. Adopting the proposed change would not be consistent with the Oil and Gas Act.

Furthermore, the current limits for chloride in soils reflect the NMOCC's Surface Waste Management rules and should not be changed.[51] The NMOCC previously determined that when a land farm is closed, the treated soils can be left in place without endangering groundwater when the soil has a chloride concentration that does not exceed 500 mg/kg and the depth to ground water is between 50 and 100 feet.[52] The NMOCC also determined that 1,000 mg/kg chloride concentration was appropriate where the depth to groundwater was greater than 100 feet. The NMOCC carefully considered the facts and the circumstances involved when it originally adopted the Pit Rule's chloride concentration limits. The applicants have provided no additional evidence to justify such dramatic increases in the chloride limits. R360 does not believe the standards shown in the applicant's amended proposed 19-15-17-13 Table I and II are science based or reasonable. R360 therefore recommends that the NMOCC reject these changes in their entirety.

7. The NMOCC should reject NMOGA's proposal regarding the granting of variances and exceptions and adopt the modifications proposed by the NMOCD.

NMOGA's modifications adopt many of the modifications suggested by the NMOCD on January 9, 2012, but NMOGA's amendments still fail to consider many of the important issues raised by the NMOCD. Several of NMOGA's proposed changes infringe on the discretionary powers of the agency. NMOGA's proposed amendments also fail to ensure that the NMOCD can fully regulate pits in a manner that protects the public health and the environment.

The NMOCD's modifications would limit the granting of variances to standardized requirements for temporary pits, below-grade tanks, and multi-well fluid management pits.[53]

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[51] *See* 19.15.36.F-G NMAC. *See also* New Mexico Oil and Gas Comm'n Order No. R-12939, 12 (May 9, 2008).

[52] New Mexico Oil and Gas Comm'n Order No. R-12939, 12 (May 9, 2008).

[53] *See See* New Mexico Oil Conserv. Div., *Rules* – Proposed Modifications of the Oil Conservation Division to Case Nos. 14784 and 14785 – Exhibit A at 19.15.17.15.A(1)(a)-(c) (Jan. 9, 2012), http://www.emnrd.state.nm.us/ocd/Rules.htm.

This is a sensible modification that provides operators an avenue for relief when the facts and circumstances at the well make implementing the technical requirements of the Pit Rule impractical. The agency's proposed modification would ensure that the Pit Rule's protections related to onsite burial and pit closure remain in force and continue to serve the Pit Rule's objective to regulate E&P waste in a manner that protects the public health and the environment.

As stated in Comment 1 above, the Oil and Gas Act directs both NMOCC and the NMOCD to regulate the disposition of non-domestic wastes resulting from the exploration, development, and production of storage of crude oil or natural gas in manner that protects the public health and the environment.[54] The statute clearly vests the NMOCD with the authority to regulate the management of E&P waste. NMOGA's amended proposal allows operators to apply for a variance from any of the provisions of the Pit Rule and only requires approval from the appropriate NMOCD district office.[55] This change provides an avenue for operators to avoid compliance with the chemical concentration requirements for closure found in 19.15.17.13 NMAC. As explained in Comment 6 above, these requirements represent the cornerstone of the Pit Rule's environmental protections.

Allowing variances from certain aspects of the Pit Rule based on site-specific facts is reasonable and R360 agrees that the Pit Rule should provide a clear mechanism for operators to obtain such variances. However, complete departures from the Pit Rule's primary groundwater protection provisions require a higher level of scrutiny. Variances that deviate substantially from or complete exceptions to the Pit Rule's protections should rarely be granted and then only following careful consideration by agency leadership.

NMOCD's proposed modifications allow operators to petition the environmental bureau of the NMOCD to request an exception to permanent pit requirements or a variance that the appropriate district office believes to be substantial.[56] The NMOCD proposes a reasonable method for handling special cases where an operator can sufficiently demonstrate that there are alternatives to the Pit Rule's protections. NMOCD's proposed modification in this area provides an avenue for alternative requirements for permanent pits to those found in the Pit Rule and ensures that the intent and policy of the Oil and Gas Act and the Pit Rule are furthered by the agency's actions.

NMOCD's proposed modifications allow for agency oversight of E&P waste management and provide reasonable avenues for operators to demonstrate that their specific or unique circumstances warrant a departure from the requirements of the Pit Rule. As the NMOCD is responsible for administering the Pit Rule, the NMOCC should take all necessary steps to ensure that the NMOCD's concerns are incorporated into any changes that NMOCC adopts to the Pit Rule. R360 supports the NMOCD's proposed modifications and respectfully requests that the NMOCC adopt NMOCD's structure for the granting of exceptions and variances and reject NMOGA's proposed amendment in this area.

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[54] N.M. Stat. Ann. § 70-2-12(21).

[55] New Mexico Oil and Gas Association Case No. 14784 Attachment A at 19.15.17.15.B(1).

[56] New Mexico Oil and Gas Association Case No. 14784 Attachment A at 19.15.17.15.C(1)(a)-(b).