STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD

IN THE MATTER OF PROPOSED NEW REGULATION,
20.2.50 NMAC – *Oil and Gas Sector – Ozone Precursor Pollutants* **No. EIB 21-27 (R)**

REBUTTAL TESTIMONY OF BRANDON POWELL

Q. Please state your name.

A. My name is Brandon Powell.

Q. By whom are you employed and in what position?

A. I am the Engineering Bureau Chief of the Oil Conservation Division ("OCD") of the New Mexico Energy, Minerals, and Natural Resources Department.

Q. For whom are you presenting this rebuttal testimony and what topics will you cover?

A. I am presenting this written rebuttal testimony on behalf of the New Mexico Environment Department ("Department" or "NMED") in response to certain parts of the pre-filed direct testimony of John Dunham submitted by the New Mexico Oil and Gas Association ("NMOGA") in this proceeding, including the Memorandum dated June 13, 2021, included with that testimony. *See* NMOGA Statement of Intent to Present Technical Testimony (July 28, 2021) ("NMOGA Direct NOI") at Appendix A6.

Q. Please describe your work and educational background.

A. I have been with OCD for over 15 years. I began my career at OCD in 2006 as an Environmental Specialist, and have held several other positions within OCD, including Inspection and Enforcement Supervisor and District Supervisor. I am currently a Bureau Chief for the Engineering Bureau where I am responsible for oversight and management of the Administrative Permitting, Underground Injection Control, and Inspection Programs. In my time

with OCD, I have participated in multiple environmental- and engineering-related rulemakings before the New Mexico Oil Conservation Commission. I also regularly use the databases maintained by OCD that contain statistics on oil and natural gas wells within the state. These databases allow sorting by well statuses and classifications. This information is developed and maintained by the OCD in the normal course of its business and is available on the Statistics page of the EMNRD website at https://www.emnrd.nm.gov/ocd/ocd-data/statistics/ and the OCD Permitting website at https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/default.aspx.

My full background and qualifications are set forth in my resume, which is marked as NMED Rebuttal Exhibit 18.

Q. Did you review the direct testimony of NMOGA witness John Dunham, and the economic analysis conducted by John Dunham and Associates ("JDA") on pages 234 to 247 of NMOGA's direct testimony ("JDA Analysis")?

A. Yes.

Q. Did you find any factual errors in the JDA Analysis?

A. Yes, after reviewing the JDA Analysis, I determined that it overstates the number of oil and natural gas wells currently in operation across New Mexico. The numbers reported in that analysis significantly overstate the numbers currently recorded in OCD's official database. I also noticed some potential inconsistencies in the analysis related to: (i) production volumes from low volume oil and natural gas wells statewide, and (ii) assumptions made about the prevalence of certain types of equipment at all wells.

Q. What sort of data does OCD maintain on oil and gas wells in the State New Mexico?

A. Consistent with the requirements of the Oil and Gas Act (70-1-1, et. seq. NMSA 1978), OCD maintains a full suite of information on individual wells permitted and drilled across the

State. This information ranges from initial approvals to drill issued prior to development to information on final plugging, and everything in between, including, monthly reports on production. Most of the information maintained by OCD is available on its website (https://www.emnrd.nm.gov/ocd/) and is required by statute and regulation for all wells in the state, including wells on private, federal and State Land Office lands. The OCD also has information regarding wells on tribal lands in the State.

Q. How many oil wells (either drilled or approved) are there currently in New Mexico?

A. OCD's records show that there are currently 34,616 oil wells permitted in the State. This number includes all oil wells that have been permitted, whether they have been drilled yet or not. If you look at active wells, which are those that have been permitted, drilled, and are currently producing, the number of wells drops to 26,808.

Q. How many natural gas wells (either drilled or approved) are there currently in New Mexico?

A. OCD's records show that there are currently 29,002 natural gas wells permitted in the State. This number includes all natural gas wells that have been permitted, whether they have been drilled yet or not. The number of active wells is 26,530.

Q. How many total oil and natural gas wells (either drilled or approved) are there currently in New Mexico?

A. OCD's records shows that there are currently 63,618 permitted oil and natural gas wells in the State, both drilled and undrilled. This number does not include any other well types (e.g., underground injection wells) that the OCD permits. Of that number there are only, 53,338 active oil and natural gas wells that have been permitted, drilled, and are currently producing. It should be noted that these numbers vary over time as new wells are permitted and drilled and existing

wells become inactive. However, the variations will not be substantial unless a significant amount of time has passed.

Q. Do all oil and natural gas wells have the same level of production?

A. No, production depends on many variables including well design, geologic formation, and well age. As oil and natural gas wells age their volumes decrease, and they become stripper or marginal wells.

Q. How does OCD define a stripper well?

A. OCD's regulations define a stripper well as one that produces a daily average of less than 10 barrels of oil per day or 60,000 cubic feet of natural gas per day.

Q. How does OCD define a marginal well?

A. OCD's regulations define a marginal well as one that produces a daily average of 10 to 20 barrels of oil per day or 60,000 to 120,000 cubic feet of natural gas per day.

Q. Of the total well count, how many of those are stripper or marginal wells?

A. Using data extracted from OCD's databases I was able to prepare Figures 1 and 2 below, which contain data on well count, production, and proportion of overall statewide well count and production from stripper and marginal wells. These data shows that there are currently 14,858 stripper natural gas wells and 15,163 stripper oil wells in the State. The marginal well counts are 6,112 natural gas wells and 2,020 oil wells.

Figure 1. OCD Data on Stripper Wells (as of 8/31/2021)

Stripper wells Gas	Wells	State percentage	Production	type	State Percentage
D1, Hobbs	1,417	2.24%	7,440,456	mcf	1.16%
D2, Artesia	2,564	4.05%	11,887,603	mcf	1.86%
D3, Aztec	10,313	16.28%	101,819,419	mcf	15.93%
D4, Santa Fe	564	0.89%	4,762,271	mcf	0.75%
Total Stripper Gas Wells	**14,858**	**23.45%**			
Stripper wells Oil	Wells		Production		
D1, Hobbs	6,972	11.00%	5,964,053	bbl	5.07%
D2, Artesia	7,112	11.22%	5,311,656	bbl	4.51%
D3, Aztec	1,079	1.70%	435,665	bbl	0.37%
D4, Santa Fe	0	0.00%	0	bbl	0.00%
Total Stripper Oil Wells	**15,163**	**23.93%**			
North Wells	11,956	18.87%	106,581,690	Gas	16.67%
		Monthly Avg	8,881,808	Gas	
			435,665	Oil	0.37%
		Monthly Avg	36,305	Oil	
South Wells	18,065	28.51%	19,328,059	Gas	3.02%
		Monthly Avg	1,610,672		
			11,275,709	Oil	9.58%
		Monthly Avg	939,642		
Total Stripper wells	**30,021**	**47.38%**	**125,909,749**	Gas	**19.70%**
		Monthly Avg	10,492,479	Gas	19.70%
			11,711,374	**Oil**	**9.95%**
		Monthly Avg	975,948	Oil	9.95%

Figure 2. OCD Data on Marginal Wells in the State of New Mexico (as of 8/31/2021)

Marginal wells Gas	Wells	State percentage	Production		State Percentage
D1, Hobbs	142	0.22%	3,351,154	mcf	0.52%
D2, Artesia	371	0.59%	7,530,465	mcf	1.18%
D3, Aztec	5,424	8.56%	165,614,774	mcf	25.91%
D4, Santa Fe	175	0.28%	5,337,358	mcf	0.83%
Total Marginal Gas wells	**6,112**	**9.65%**			
Marginal wells Oil	Wells		Production		
D1, Hobbs	1,073	1.69%	4,543,377	bbl	3.86%
D2, Artesia	846	1.34%	3,598,804	bbl	3.06%
D3, Aztec	101	0.16%	454,657	bbl	0.39%
D4, Santa Fe		0.00%	0	bbl	0.00%
Total Marginal Oil wells	**2,020**	**3.19%**			
North Wells	5,700	9.00%	170,952,132	Gas	26.74%
		Monthly Avg	14,246,011	Gas	
			454,657	Oil	0.39%
		Monthly Avg	37,888	Oil	
South Wells	2,432		10,881,619	Gas	1.70%
		Monthly Avg	906,802	Gas	
			8,142,181	Oil	6.92%
		Monthly Avg	678,515	Oil	
Total Marginal wells	**8,132**	**12.83%**	**181,833,751**	**Gas**	**28.45%**
		Monthly Avg	15,152,813	Gas	28.45%
			8,596,838	**Oil**	**7.30%**
		Monthly Avg	716,403	Oil	7.30%

Q. What does OCD data show in terms of statewide production from stripper and marginal wells?

A. See Figures 1 and 2 above. The OCD data show production values from stripper and marginal wells in New Mexico that are well below the values reported for "Low Production wells" in the JDA Analysis. JDA defines a low producing well to be one producing between 1 and 15 barrel of oil equivalents per day so there are slight differences in definitions that lead to differences in the percent of wells that are considered "low producing" in the JDA Analysis and the percent of wells that are considered "stripper wells" in the OCD data. The total well counts for oil and natural gas wells characterized as stripper or marginal are also well below the count reported for "Low Production wells" in the JDA Analysis.

Q. In your experience are flares common on natural gas wells across the State?

A. No, flares are not common on natural gas wells in New Mexico. Those wells are specifically designed to capture the natural gas for resale purposes because that is the targeted commodity. As a result, very few natural gas wells in the State have an installed flare. The JDA Analysis appears to assume that all natural gas wells have flares, which is not a reasonable assumption based on my experience with oil and natural gas operations in New Mexico. In addition, many of the newer oil wells across the state use centralized facilities and do not have one flare per well; rather, one flare may serve numerous wells.

Q. In your experience do all well sites have enclosed combustion devices, thermal oxidizers, or glycol dehydrators?

A. No, while this type of equipment is common across oil producing regions of the State, operators do not install them at each individual well. The equipment is installed where needed and tends to be installed at more centralized facilities or locations. The JDA Analysis appears to assume that all natural gas wells have this equipment, which is not a reasonable assumption based on my experience with oil and natural gas operations in New Mexico.

CURRICULUM VITAE

BRANDON POWELL

SUMMARY

Mr. Powell is the Oil Conservation Division's (OCD) Engineering Bureau Chief. He has served with OCD for more than fourteen years. He began his career in 2006 as an environmental specialist overseeing environmental releases and remediation. In 2011, he was promoted to inspection and enforcement supervisor for OCD's district office in Aztec. In that position, he supervised down-hole engineering and compliance with OCD rules. In 2019, he was promoted to District Supervisor, which involved oversight of day-to-day operations for the San Juan Basin. Most recently, he was promoted to the chief of the Engineering Bureau. Mr. Powell has extensive experience applying OCD rules to all aspects of oil and gas development and has testified as an expert in OCC rulemakings, including the pit rule (19.15.17 NMAC), the produced water rule (19.15.34 NMAC), and the release rule (19.15.29 NMAC).

EMPLOYMENT

November 2020 - Current
New Mexico Oil Conservation Division
Chief, Engineering Bureau

- Oversight and Management of the OCD's Engineering Bureau which includes
  - Administrative Compliance Program
  - Underground Injection Control (UIC) Program
  - Administrative Permitting Program.
- Ensures that OCD goals and objectives are met by assigning and directly supervising the work of the Administrative Compliance, UIC, and Administrative Permitting Programs.
- Conducts training and performance evaluations of personnel and acts upon leave requests. This position designs and develops programs to address new technical issues as they arise and as technical advances in the oil and gas industry are implemented.

May 2019- November 2020
New Mexico Oil Conservation Division
District Supervisor

- Managed operations for OCD's Northern District, ensuring the proper management of more than 24,000 oil and gas wells and associated facilities to protect public health and the environment.
- Managed relations with four tribes and allottees, federal agencies including Bureau of Land Management, Bureau of Reclamation, and Forest Service, and private landowners.
- Supervised seven staff members, including geologist, compliance officers, and environmental specialists.

- Managed office assignments, fleet repair and maintenance, and the District's Reclamation Fund (RFA) plugging program.
- Coordinated with the Engineering and Environmental Bureaus to ensure consistency in permitting and enforcement across the state.
- Supervised the District's UIC activities and coordinated with the UIC Program Manager to ensure consistency in testing and compliance.
- Conducted training for OCD and District staff.
- Assisted in the tasks described below when necessary for District operations, particularly in the absence of staff.
- Served as the District's representative on the New Mexico Oil and Gas Northwest Public Lands Committee.
- Assisted in development of standard operating procedures for wide range of OCD's business practices.
- Participated in strategic planning for OCD, including crisis management, electronic transition, enforcement, and rulemaking.

April 2011 - May 2019
New Mexico Oil Conservation Division
Staff Manager & Inspection and Enforcement Supervisor

- Supervised four district compliance officers and their activities regarding oil, gas, injection, brine and non-hazardous waste wells to protect public health, fresh water and other natural resources, including the review and approval of applications the conduct of investigations, and the recommendation of engineering solutions.
- Supervised environmental specialists, geologists, and data managers when the District Supervisor was not available and after he retired.
- Substituted for the geologist and environmental specialists during their absence and position vacancy for two years, including reviewing pools, logs and formation tops.
- Reviewed drilling, production, and closure of wells and other oil and gas facilities to ensure compliance with OCD rules, including:
    - Scheduled and conducted field inspections;
    - Initiated enforcement actions;
    - Reviewed applications for well work-overs, completion and plugging; and
    - Observed field activities.
- Provided technical assistance to OCD staff and operators.
- Coordinated office activities, including the review and approval of personnel documents and the conduct of other supervisory duties on behalf of the District Supervisor.
- Assisted in the development of rules.
- Served as the District's representative for the New Mexico Oil and Gas Northwest Public Lands Committee.

April 2006 – April 2011
New Mexico Oil Conservation Division
Environmental Specialist, Deputy Oil and Gas Inspector, and Loss Control Officer

- Supervised operators' remediation of releases.
- Responded to releases that endangered public health or the environment.

- Reviewed applications to perform and complete work.
- Drafted environmental compliance and enforcement documents.
- Testified in environmental compliance and enforcement cases.
- Coordinated work with other governmental agencies.
- Prepared and delivered environmental training to industry and other agencies.
- Worked with operators to ensure their compliance with OCD's rules.
- Tracked the district's occupational safety and prepared the annual OSHA reports.
- Responded to citizens' complaints.

June 2004 – April 2006
Envirotech, Inc.
Senior Environmental Technician, Soil Remediation Facility Manager, and Mold Inspector
- Prepared reports for various types of releases.
- Managed the soil remediation facility and personnel which averaged 1-3 people.
- Evaluated whether wastes could be disposed at different facilities.
- Increased the annual gross income of the soil remediation facility from $400,000 to more than $1,500,000 per year.
- Performed hazardous waste characterization and disposal of oil field and non-oilfield wastes.
- Prepared job quotes and project summaries.

June 2003 – June 2004
San Juan County, Utah
Team Leader
- Managed projects and supervised teams.
- Mapped oil & gas seismograph and mine roads.
- Determined the environmental impacts of the historic roads and operations.
- Advised regarding road closures.
- Logged GPS coordinates.
- My mentor was a retired minerals manager for the Bureau of Land Management.

EXPERT TESTIMONY IN RULEMAKING PROCEEDINGS
19.15.17 NMAC – *Pits, Close-Loop Systems, Below-Grade Tanks and Sumps*, 2008 and 2013
19.15.34 NMAC – *Produced Water, Drilling Fluids, and Liquid Oil Field Waste*, 2015
19.15.29 NMAC – *Releases*, 2018

CERTIFICATIONS AND TRAINING
Hazardous Waste Management Certification, Lion Technologies, September 2004
Hazmat Site Supervisor Training, High Desert Safety, 2005
Confined Space Certification, High Desert Safety, 2005
Hot Work Certification, High Desert Safety, 2005
OSHA Forty Hour Certification, 2005
Surveillance Detection Course for Commercial Operators, Department of Homeland Security, 2008

OTHER ACCOMPLISHMENTS

New Mexico Public Servant Leadership Program, 2013
Tribal Energy Management Seminar Series, San Juan College, 2018
OCD Employee of the Quarter, First Quarter 2013