

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

**APPLICATIONS OF MEWBOURNE OIL COMPANY
FOR COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO**

**Case No. 23365
Case No. 23366**

**APPLICATION OF EARTHSTONE OPERATING, LLC,
FOR A HORIZONTAL SPACING UNIT AND
COMPULSORY POOLING, LEA COUNTY, NEW MEXICO**

**Case No. 23475
Case No. 23477**



Case No. 23475:

**Outland 18-7 State Com 114H Well
Outland 18-7 State Com 214H Well**

Case No. 23477:

**Outland 18-7 State Com 113H Well
Outland 18-7 State Com 223H Well**

SUPPLEMENT - AMENDED EXHIBIT C

This Supplement amends **Exhibit C** to include Nicholas Goree's resume after his testimony, which is referenced at Paragraph 4, but was omitted from the Pre-Hearing Exhibit Packet filed September 14, 2023.

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DIRECT TESTIMONY OF ENGINEER NICHOLAS GOREE

I, Nicholas James Goree, being duly sworn on oath, state the following:

1. I am over the age of 18, and I have personal knowledge of the matters stated herein.
2. I am a petroleum engineer employed by Earthstone Operating, LLC (“Earthstone”), and I am familiar with the subject applications of Earthstone and Mewbourne Oil Company (“Mewbourne”) and the lands involved.
3. I am employed as a petroleum engineer with the title of Vice President of Drilling for Earthstone Operating, LLC (“Earthstone”), and I am familiar with the subject application and the geology involved.
4. I have worked at Earthstone for approximately 6 years; I have been working in New Mexico for 2 years. I have not testified previously before the New Mexico Oil Conservation Division (“Division”) but ask that my credentials be accepted of record for the purpose of being qualified and recognized as an expert witness in petroleum land matters. My resume is attached for the Division’s review and consideration. My education and work experience are as follows:



- a. I obtained a Bachelor's degree in Petroleum Engineering from the University of Oklahoma in 2010;
- b. I obtained a Master in Energy Business from Tulsa University in 2015;
- c. I have been working in the oil and gas industry since 2010 in various engineering capacities, including Drilling, Completions and Production Operations.

5. From an engineering perspective, Earthstone's development plan is superior to the competing proposal of Mewbourne for the following reasons:

- a. As set forth in **Exhibit C-1**, Earthstone has a long history as an operator and entered the New Mexico Delaware basin in 2022 with its acquisition of Chisholm Energy Operating, LLC ("Chisholm"). With the acquisition of Chisholm, Earthstone acquired and became operator of 78 previously drilled wells. Subsequently in 2022, Earthstone acquired Titus NM Delaware and 51 previously drilled wells. Earthstone has drilled 74 wells in New Mexico. Earthstone thus operates 203 wells in the Delaware Basin, 74 of which it has drilled. Additionally, Earthstone operates 136 wells in the Midland Basin.
- b. As **Exhibit C-2** shows, Earthstone recently successfully drilled 3 Outland State wells. So Earthstone is very familiar with drilling the acreage at issue in these applications, and can drill the proposed wells economically and efficiently. Earthstone owns and operates 3 producing horizontal wells in a section adjacent to the proposed Outland Horizontal Spacing Unit being contested. The landing zones and inter-well lateral spacing of the wells have been designed to both maximize the recovery of oil and gas from the proposed HSU and to

simultaneously minimize any negative impact on horizontal wells in adjacent HSUs.

- c. The proposed pad location minimizes additional potential surface disturbance, because Earthstone will be using existing infrastructure already in place and will be co-developing with Earthstone's Dove Tail 18-7 State Com development directly offsetting the proposed Outland 18-7 State Com wells.
- d. Operationally, examining AFE costs in comparison to that of Mewbourne's proposed NWDU 8H versus Earthstone's 18-7 214H AFE, Earthstone's overall proposal is \$461,540 or 4.2% cheaper than that of Mewbourne's. *See Exhibits C-3 & C-4.* Breaking cost differentials down specifically into drilling and completion/facilities shows that the largest differential is in drilling costs. *See Exhibit C-3.* An estimated \$388,300 is saved in Earthstone's AFE in comparison to Mewbourne. The majority of this cost savings is saved by the estimated drilling time saved, which favors Earthstone by 9 days. Also, during comparison of the AFEs, it was found Mewbourne is missing costs for closed loop drilling. This suggests that Mewbourne will be constructing a pit, which will cause additional surface disturbance and potential environmental damage. If Mewbourne's plan is to use closed loop drilling, then this oversight could drive cost differentials above \$500,000 between Mewbourne and Earthstone just on drilling operations. Evaluating completions and facilities costs, there is little difference in the intangible costs side. *See Exhibit C-4.* Even though costs are comparable, Earthstone's development plan plans to pump 28% more sand compared with Mewbourne, which should allow for greater fracture complexity

and greater future production. Evaluating Tangible costs, Earthstone is \$155,700 or 9.9% below Mewbourne's proposed costs. And even while Earthstone's development plan is cheaper, it's more efficient, because Earthstone's production includes the running of an Electrical Submersible Pump (ESP), which will allow for greater fluid production rates than Mewbourne's proposed artificial lift.

6. The Exhibits attached to this narrative testimony were prepared by me or compiled from Earthstone's company business records under my direct supervision.

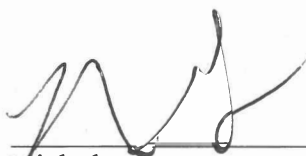
7. The granting of this Application by Earthstone over Mewbourne's application is in the interests of conservation, the prevention of waste and the drilling of unnecessary wells, and the protection of correlative rights.

8. The foregoing is correct and complete to the best of my knowledge and belief.

[Signature page follows]

Signature page of Testimony of Nicholas Goree:

I understand that this Direct Testimony will be used as written testimony before the Division in Case Nos. 23475 and 23477 and affirm that my testimony herein is true and correct, to the best of my knowledge and belief and made under penalty of perjury under the laws of the State of New Mexico.



Nicholas Goree

9/14/23

Date Signed

Nicholas Goree

Experience

September 2017-Current

Earthstone Energy

The Woodlands, TX

Vice President of Drilling

- Successfully integrated over 6 acquisitions totaling \$3.5B+
- Handled a diverse drilling program ranging from 0 to 6 rigs in relation to commodity pricing in the Midland and Delaware Basins
- Oversaw the drilling of 130+ wells across 16 formations with a capital spend of over \$500mm
- Drove drilling efficiencies and design changes to allow for performance improvements as seen in the Delaware with 46% YOY increase in FPD from 21' to 22' and a 13% YOY FPD increase from 22' to 23'
- Managed a team of over 20+ employees and contractors
- Sole procurement lead for all drilling tangibles including the purchasing of over 5mm feet of casing
- Negotiate and manage all rig contracts to optimize schedule flexibility and commodity pricing
- Intimate knowledge of TRRC, EMNRD and BLM regulations
- Reviewed all AFE's and drilling operation financials to provide updated guidance to finance delivering a 2023 AFE vs FE accuracy of 99% and a FE vs GL accuracy of 97%

Drilling Manager

- Oversee all drilling operations in multiple counties in the Midland Basin
- Drilling in 6 different formation target zones
- Create AFE's and track day to day financials along with approving/reviewing all invoices
- Create detailed drilling programs implementing loop feedback learning utilizing analytical analysis

August 2014-July 2017

Permian Resources

Oklahoma City, OK

Sr. Drilling Engineer

Midland Basin

- Oversaw daily drilling operations for up to 4 rigs operating in the Midland Basin
- Drilled over 100 Wolfcamp Shale wells in 8 different shale packages
- Successfully implemented new casing designs allowing for intermediate removal and record well performances
- Created AFE's and tracked day to day financials along with approving/reviewing all invoices
- Created detailed drilling programs implementing latest technologies and learning's
- Managed all survey data including: 6 axis, IFR, and MSA corrections
- Intimate knowledge of TRRC Rules and Regulations and helped implement HSE Rules

Overall:

- Acquired and negotiated \$100MM+ of rig contracts to meet expansion plans
- Reduced average drilling cost 35% YOY and reduced average cost per foot 38% YOY
- Increased average feet per day by 33% YOY and reduced average spud to rig release 27% YOY

June 2012-August 2014

LINN Energy

Oklahoma City, OK

Sr. Engineer

Completions:

- Oversaw completions schedule of operated wells-Worked with water management to reduce turn in line times and bring wells on as quickly as possible.
- Designed and optimized completion programs for TX/OK completions: Average yearly budget Of \$300mm
- Review and implement new completion technologies: Tracer analysis, DFITs, SPIDR Analysis
- Became proficient in FracPro Pressure Matching Analysis for completion optimization

245 Bee Balm Court, Conroe TX 77304 • 405-204-8544 • goreenick@gmail.com

Nicholas Goree

Drilling:

Granite Wash- Britt-Carr-Hogshooter-Atoka

- Oversaw daily drilling operations for three rigs operating in various plays in the Texas Panhandle: Personally in charge of \$216MM of yearly capital
- Created AFE's , monitor financials and personally review invoices
- Create detailed drilling program specifically designed for each stratigraphic bench
- Familiar with TRRC Rules and Regulations and work to maintain proper HSE
- Instituted a MPD Mudcap drilling project that led to effectively drilling multiple extreme loss circulation wells. Cleveland-
- Built entire drilling program from ground up. This included rig selection and contract negotiation. Proper vendor and rig site personnel selection. Average yearly drilling budget \$72MM
- Created blanket AFE and tracked daily costs to maintain an effective under AFE well status.
- Created and optimized drilling procedure for the area this included instituting a designer curve for enhanced production with placement of pumps
- Oversaw daily drilling operations acting as Superintendent for rig site- Making all calls for well situations

Overall:

- Established COMPASS Database for the Oklahoma office to have a hub for offset gyros and well plans-
- Maintained daily PVA's and planned all directional work on the 4 rigs operating
- Led team on rig move optimization project which resulted in 27% reduction in rig move times

May 2010-June 2012

Chesapeake Energy

Oklahoma City, OK

Drilling Engineer I

Marcellus Shale/Utica:

- Oversaw daily drilling operations for four rigs operating in the southern Marcellus play along with multiple Utica wells. Became proficient in air drilling techniques and methods, helped develop beginning guidelines for CHK
- Created AFE's and detailed drilling programs
- Intimate knowledge of West Virginia and Pennsylvania DEP rules and regulations
- Oversaw the drilling of the longest conventional lateral in the Marcellus by Chesapeake at the time 10,000'+

Permian:

- Oversaw daily drilling operations for two rigs drilling Wolfberry vertical wells
- Created AFE's, well plans, and drilling programs
- Became familiarized with Texas Regulations and New Mexico BLM permitting requirements

Field Work:

- 14 Month Drilling and Production Rotation: Eagle Ford Shale, Haynesville Shale, Fayetteville Shale, Permian
- Gained hands on experience of daily rig operations and rig components working as roving superintendent.

Education

2014-2015 University of Tulsa

Master Energy Business

2006-2010 University of Oklahoma

B.S. Petroleum Engineering

2020-Present

Registered Project Management Professional

C-1 Earthstone Energy Record of Performance

Earthstone Operator History:

Entered Delaware with Chisholm Acquisition in 2022

Chisholm Wells Previously Drilled: 78

Titus NM Delaware Acquisition in 2022

Titus Wells Previously Drilled: 51

Earthstone Operating Delaware Wells Drilled: 74

Total Delaware Wells: 203

Long Operator History as well in Texas Midland Basin

Total Midland Basin Wells: 136



Images: Earthstone Drilling Rig Unit 410 Operating (2022)

C-2 Recent Offset Activity on Acreage

Earthstone recently successfully drilled 3 Outland State wells

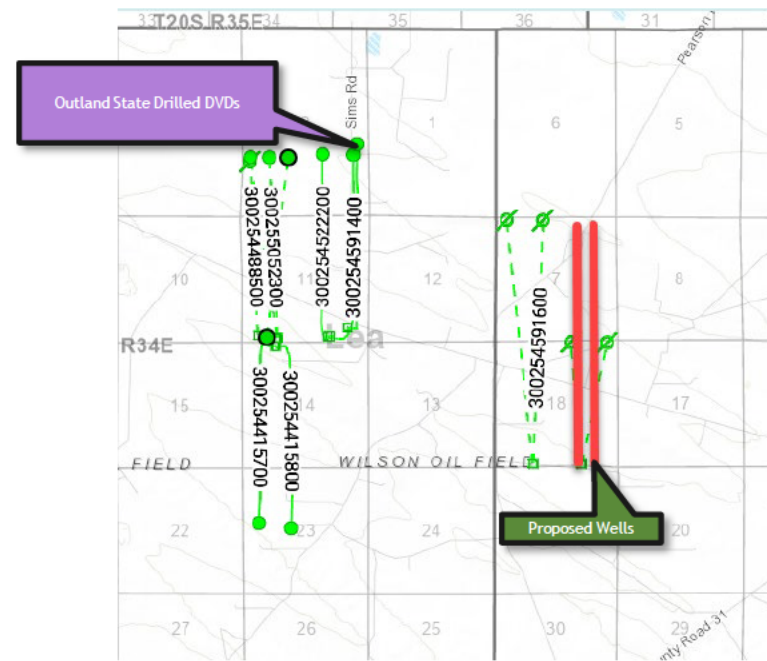
Spud to RR:

Outland State Unit 11H: 21.4 Days 1st BSPG

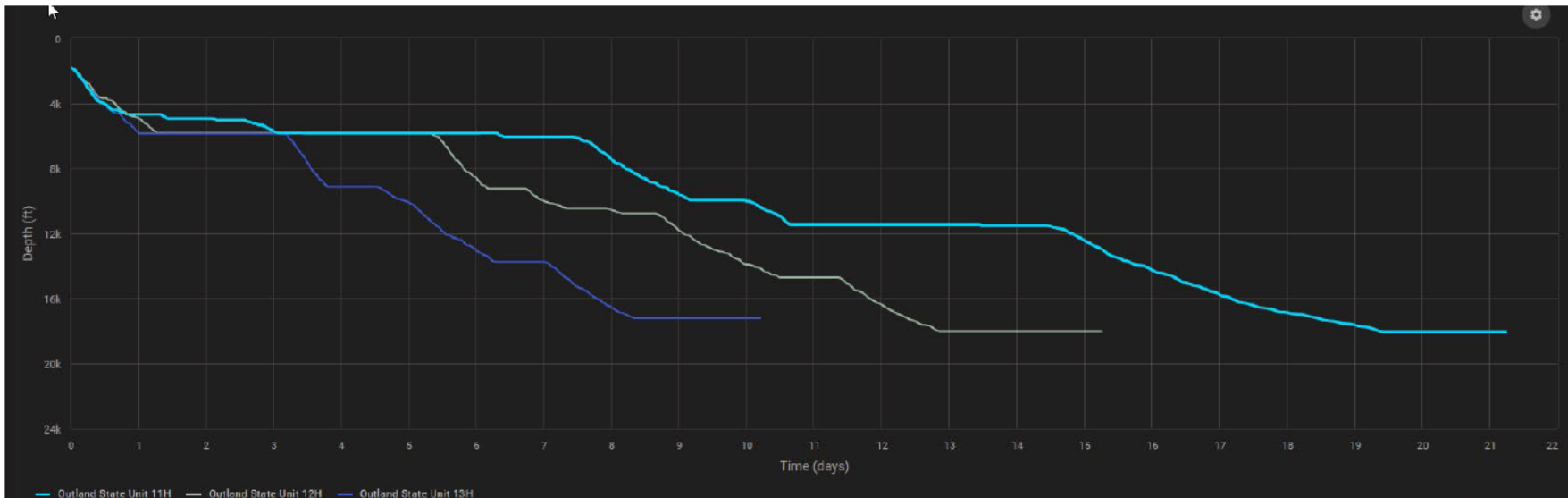
Outland State Unit 12H: 10.2 Days 2nd BSPG

Outland State Unit 13H: 15.2 Days 1st BSPG

Locator Map



Well Performance



C-3 AFE Comparison

Drilling Intangibles and Tangibles

Originally Completions Side

Intangible Costs	Mewbourne	ESTE
Regulatory Permits & Surveys	\$ 10,000	\$ 6,000
Location/Road/Site/Preparation	\$ 50,000	
Location/Restoration	\$ 200,000	\$ 60,000
Daywork/Turnkey/Footage Drilling	\$ 805,300	\$ 736,000
Fuel	\$ 184,100	
Mud Chemical & Additives	\$ 40,000	
Mud - Specialized	\$ 200,000	\$ 296,000
Cementing	\$ 120,000	\$ 230,000
Logging & Wireline Services	\$ 2,300	\$ -
Casing/Tubing/Snubbing Service	\$ 25,000	\$ 50,000
Mud Logging	\$ 35,000	\$ 23,000
Water & Other	\$ 35,000	\$ 238,000
Bits	\$ 93,700	\$ 84,000
Inspection & Repair Services	\$ 50,000	\$ 10,000
Testing & Flowback Services	\$ 12,000	\$ -
Rig Mobilization	\$ 120,000	\$ 75,000
Transportation	\$ 30,000	\$ 55,000
Welding, Construction & Maint. Services	\$ 4,000	\$ -
Contract Services & Supervision	\$ 83,300	\$ 10,000
Directional Services	\$ 393,000	\$ 237,000
Equipment Rentals	\$ 194,600	\$ 125,000
Well/Lease Legal	\$ 5,000	\$ 9,000
Well/Lease Insurance	\$ 5,100	\$ 10,000
Intangible Supplies	\$ 8,000	\$ 15,000
Damages	\$ 30,000	\$ 22,500
Company Supervision	\$ 129,600	\$ 115,000
Overhead Fixed Rate	\$ 10,000	\$ 7,000
Contingencies	\$ 143,800	\$ 54,500
Downhole Rentals	\$ -	\$ 80,000
Closed Loop Sys/Cutting Disp	\$ -	\$ 160,000
Total	\$3,018,800	\$ 2,708,000
Difference	\$ 310,800	

Tangible Costs	Mewbourne	ESTE
Casing 19.1"-30"	\$ -	\$ 30,000
Casing 10.1"-19"	\$ 152,800	\$ 175,000
Casing 8.1"-10"	\$ 368,700	\$ 393,000
Casing 6.1"-8"	\$ 630,700	\$ 882,000
Casing 4.1"-6"	\$ 375,300	
Tubing	\$ -	
Drilling Head	\$ 35,000	\$ 55,000
Tubing Head & Upper Section	\$ -	
Horizontal Completion Tools	\$ 50,000	
Subsurface Equip & Artificial Lift	\$ -	
Pumping Unit Systems	\$ -	
Service Pumps	\$ -	
Storage Tanks	\$ -	
Emissions Control Equipment	\$ -	
Separation/Treating Equipment	\$ -	
Automation/Metering Equipment	\$ -	
Oil/Gas Pipeline, Valves, & Misc	\$ -	
Water Pipeline, Valves, & Misc	\$ -	
Onsite Valves, Fittings, Lines	\$ -	
Cathodic Protection	\$ -	
Electrical Installation	\$ -	
Equipment Installation	\$ -	
Oil/Gas Pipeline Construction	\$ -	
Water Pipeline Construction	\$ -	
Total	\$ 1,612,500	\$ 1,535,000
Difference:	\$ 77,500	

Total Drilling Difference: \$388,300

C-4 AFE Comparison

Completion/Facility Intangibles and Tangibles

Intangible Costs	Mewbourne	ESTE
Regulatory Permits & Surveys	\$ -	\$ 2,500
Location/Road/Site/Preparation	\$ 35,000	\$ 35,000
Location/Restoration	\$ 112,500	\$ 20,000
Daywork/Turnkey/Footage Drilling	\$ 92,900	\$ -
Fuel	\$ 323,200	\$ -
Alternate Fuels	\$ 96,300	\$ -
Horizontal Drillout Services	\$ 200,000	\$ 160,000
Stimulation Toe Preparation	\$ 40,000	\$ -
Cementing	\$ 4,500	\$ -
Logging & Wireline Services	\$ 364,500	\$ 357,300
Casing/Tubing/Snubbing Service	\$ 15,000	\$ -
Stimulation	\$ 2,850,000	\$ 3,050,000
Stimulation Rentals & Other	\$ 278,000	\$ 390,000
Water & Other	\$ 448,600	\$ 491,000
Bits	\$ 5,000	\$ -
Inspection & Repair Services	\$ 5,000	\$ -
Misc Air & Pumping Services	\$ 10,000	\$ -
Testing & Flowback Services	\$ 24,000	\$ 100,800
Completion/Workover Rig	\$ 10,500	\$ 46,400
Transportation	\$ 74,500	\$ 120,000
Welding, Construction & Maint. Services	\$ 15,000	\$ -
Contract Services & Supervision	\$ 57,700	\$ 115,000
Equipment Rentals	\$ 21,600	\$ 120,000
Well/Lease Insurance	\$ -	\$ 1,700
Intangible Supplies	\$ 1,000	\$ -
Damages	\$ 10,000	\$ -
Pipeline Interconnect & ROW Easements	\$ 5,000	\$ -
Company Supervision	\$ 62,400	\$ 114,600
Overhead Fixed Rate	\$ 20,000	\$ -
Contingencies	\$ 259,100	\$ 320,260
Total	\$ 5,441,300	\$ 5,444,560
Difference		\$ 3,260

Tangible Costs	Mewbourne	ESTE
Casing 19.1"-30"	\$ -	\$ -
Casing 10.1"-19"	\$ -	\$ -
Casing 8.1"-10"	\$ -	\$ -
Casing 6.1"-8"	\$ -	\$ -
Casing 4.1"-6"	\$ -	\$ -
Tubing	\$ 135,400	\$ 126,000
Drilling Head	\$ -	\$ -
Tubing Head & Upper Section	\$ 30,000	\$ 50,000
Horizontal Completion Tools	\$ -	\$ -
Subsurface Equip & Artificial Lift	\$ 25,000	\$ 705,000
Pumping Unit Systems	\$ -	\$ -
Service Pumps	\$ 16,000	\$ -
Storage Tanks	\$ 203,000	\$ 69,000
Emissions Control Equipment	\$ 137,700	\$ 15,000
Separation/Treating Equipment	\$ 98,700	\$ 130,000
Automation/Metering Equipment	\$ 89,300	\$ 90,000
Oil/Gas Pipeline, Valves, & Misc	\$ 30,500	\$ -
Water Pipeline, Valves, & Misc	\$ 101,200	\$ -
Onsite Valves, Fittings, Lines	\$ 202,600	\$ 110,000
Cathodic Protection	\$ -	\$ -
Electrical Installation	\$ 238,100	\$ 50,000
Equipment Installation	\$ 137,500	\$ 36,000
Oil/Gas Pipeline Construction	\$ 12,500	\$ -
Water Pipeline Construction	\$ 79,200	\$ -
Total	\$ 1,536,700	\$ 1,381,000
Difference:	\$ 155,700	

Total Completions Difference: \$152,440