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RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 01-0313870

APPLICATION OF A. N. MACDIARMID CO. (000572) FOR AN EXCEPTION TO STATEWIDE RULE 21 FOR VARIOUS WELLS IN THE METZGER, H.L. (09643) LEASE, MONKSFIELD (350 SAND) FIELD, BEXAR COUNTY, TEXAS

EXAMINERS' REPORT AND RECOMMENDATION

HEARD BY: Kristi Reeve – Administrative Law Judge
Robert Musick, P. G. – Technical Examiner

PREPARED BY: Ezra A. Johnson – Administrative Law Judge
Robert Musick, P. G. – Technical Examiner

HEARING DATE: February 11, 2019

CONFERENCE DATE: August 20, 2019

APPEARANCES:

REPRESENTING:

APPLICANT:

A. N. MacDiarmid Co.

Christopher C. Rosas, Attorney
John MacDiarmid, President and Engineer

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I. Statement of the Case

A. N. MacDiarmid Co. (Operator No. 00572) ("MacDiarmid" or "Applicant"), seeks air jetting authority under Statewide Rule 21¹ for twenty-six wells ("Wells") on the Metzger, H.L. (09643) Lease (the "Lease") in the Monksfield (350 Sand) Field in Bexar County, Texas. Appendix A of this Examiners' Report and Recommendation ("Report") is a chart providing identifying information for each of the Wells, including the name of the Lease, well numbers, and field. No party protested these applications for air jetting authority. The Administrative Law Judge and Technical Examiner (collectively "Examiners") respectfully submit this Report and recommend the Commission grant the subject applications ("Applications").

II. Jurisdiction and Notice

The Commission has jurisdiction to adopt and implement the provisions regarding air jetting in Statewide Rule 21 under sections 81.051 and 81.052 of the Texas Natural Resources Code, which provide the Commission with jurisdiction over all persons owning or engaged in drilling or operating oil or gas wells in Texas and the authority to adopt all necessary rules for governing and regulating persons and their operations under the jurisdiction of the Commission.²

At least ten days' notice of the hearing is required to be given to "the mineral interest owners of record and surface owners of record of the lease on which a well for which an exception is sought is located . . ."³ For each docket number, at least ten days' notice of hearing was provided to all mineral interest owners of record and surface owners of record of the lease on which a well for which an exception is sought.⁴

III. Applicable Legal Authority

Statewide Rule 21 states:

Swabbing, bailing, or air jetting of wells is prohibited as a production method for wells unless the Commission has, after notice and hearing, granted an exception. . . .⁵

Statewide Rule 21 contains six requirements that must be met in order for an operator to obtain an exception to the prohibition on air jetting. The six requirements are:

¹ Statewide Rule 21 refers to 16 Tex. Admin. Code §3.21.

² Tex. Nat. Res. Code §§81.051 and 81.052; *see, e.g.*, 27 Tex. Reg. 9149 (September 27, 2002).

³ 16 Tex. Admin. Code §3.21(k)(1).

⁴ See Notice of Hearing and certificate of publication.

⁵ 16 Tex. Admin. Code §3.21(k).

1. the method of production proposed;
2. that any production is properly accounted for pursuant to 16 Tex. Admin. Code § 3.26;
3. that the proposed exception is necessary to prevent waste or protect correlative rights;
4. that wellhead control is sufficient to prevent releases from the well;
5. that no pollution of usable quality water or safety hazard will result from either the proposed production method or the condition of the well; and
6. that the operator possesses a good faith claim to the right to operate the well.⁶

Additionally, Statewide Rule 21 provides seven factors the Commission has the discretion to consider when determining whether to allow production by air jetting. They are:

1. whether the well has passed a mechanical integrity test within the preceding 12 months;
2. the estimated monthly and cumulative production from the well if the requested exception is granted;
3. whether production will be into an on-lease tank battery or a mobile tank;
4. the adequacy of the financial assurance provided by the operator to assure that the well will be timely and properly plugged;
5. whether production volume, fine sands in the reservoir, or other factors render pumping of the well impracticable;
6. whether the reservoir from which the well produces contains hydrogen sulfide; and
7. the operator's history of compliance with Commission rules.⁷

⁶ 16 Tex. Admin. Code §3.21(k)(1)(B).

⁷ 16 Tex. Admin. Code §3.21(k)(2).

IV. Discussion of the Evidence

The above-referenced docketed case was initiated by Applicant filing an application for an exception to Statewide Rule 21 to produce Wells by air jetting. Applicant provided the Commission with the addresses of the surface owners and mineral owners of the affected tracts to whom notice was to be mailed.⁸ Notice of Hearing was first mailed on October 8, 2018.⁹ No mailings were returned due to bad addresses. The noticed hearing was continued to February 11, 2019 to allow counsel for Applicant to adequately prepare the Applications for this un-protested docket.

No protests were received, and no party appeared in protest of these Applications at the February 11, 2019 hearing (the "Hearing"). At the Hearing, Applicant appeared and presented evidence by and through its counsel, Christopher C. Rosas. Applicant tendered five exhibits in support of the Applications.¹⁰ John MacDiarmid, Engineer, appeared and provided testimony as an expert witness in support of the Applications.

A. The Testimony of John MacDiarmid

In support of the Applications, Mr. MacDiarmid testified¹¹ as to:

- 1) the method of production on the leases using air jetting;
- 2) the on-lease gathering facilities and permanent tank batteries;
- 3) the need for air jetting to prevent waste;
- 4) the manner of inspecting the facilities on each lease to prevent pollution
- 5) the present condition of the Wells; and
- 6) the Applicant's good faith claim to the right to operate the Wells.

Mr. MacDiarmid testified that Applicant will utilize its existing air jetting lift methodology of intermittently and sequentially injecting compressed air through 5/8" plastic air lines (controlled by solenoids) into a string of 2-1/2" PVC pipe suspended within the (single string) well casing in each Well.¹² This was depicted in the diagram admitted as Exhibit 1. Pressure within the system created by pumping of compressed air will force oil to the surface through a 3/4" plastic tube connected to the on-lease gathering system and tank battery.¹³

Mr. MacDiarmid testified that the Wells produce 100 barrels of oil per month via air jetting and that such reserves would not otherwise be recoverable by pumping.¹⁴ The

⁸ See Notice of Hearing.

⁹ *Id.*

¹⁰ These Exhibits are referred to as "Ex. [number]."

¹¹ The audio hearing file in this case is referred to as "Tr. at [minutes]."

¹² Tr. at 23-6, Tr. at 44.

¹³ *Id.*

¹⁴ Tr. at 28-30.

production curve for the Wells has already flattened and it is likely that they will produce at their average monthly rate with only a gradual decline for the foreseeable future.¹⁵ It is not economical to produce the Wells by pumping at their current low production volumes.¹⁶ Production by air jetting is economical and will enable recovery of additional reserves.¹⁷

There is little-to-no natural pressure or associated gas in the producing formation.¹⁸ When not pressurized by injection of compressed air, oil "seeps" slowly into the wellbore of the Wells in small quantities and remains hundreds of feet below the wellhead until the system is re-pressurized by the activation of solenoids, whereupon the oil is brought to the surface via plastic tubing by the air jetting production process.¹⁹ The hoses that constitute the on-lease gathering system for the Wells are inspected daily for leaks, and pressure within the system is also monitored to ensure that there are no observable losses.²⁰ No integrity tests have been conducted on the Wells due to the fact that they were all active producers at the time of the Hearing.²¹

Mr. MacDiarmid further testified that Exhibits 2 and 3 were printouts of the Form GW-2 for several of the Wells included in the Applications. These exhibits were offered by Applicant, he said, to show that the Groundwater Advisory Unit created a blanket rule for all of the wells covered by the Applications as to the protection of usable quality water in the area. This blanket rule requires the interval from the land surface to a depth of 100 feet to be protected.²²

Mr. MacDiarmid also testified that, as far as he knew, all of the Wells were completed and cemented in such a manner as to protect the usable quality groundwater as required by the Groundwater Advisory Unit. Produced oil remains at least 100 feet or more below the protected usable quality groundwater unless it is being produced through the tubing that is inside the cemented casing.²³ The produced fluids are more than 90% oil and there is no "extraneous" water production as would suggest communication with water-bearing sands.²⁴

B. Applications, Field Inspection Reports, and Late-Filed Evidence.

Official notice is taken of the information contained in the files for each docket. Included in the file for each docket are the following:

¹⁵ Tr. at 20-22.

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Tr. at 48-50.

¹⁹ Tr. at 20-22 and 48-50.

²⁰ Tr. at 35.

²¹ Tr. at 39-40.

²² See Ex. 2-3.

²³ Tr. at 20-22 and 48-50.

²⁴ Tr. at 36.

- 1) Twenty-six individual Applications for Exception to Statewide Rule 21 to Produce by Swabbing, Bailing, or Jetting;
- 2) Inspection Reports for the Wells and Lease prepared by the Commission's San Antonio District Office inspectors, filed on January 25, 2019 (the "Inspection Reports").
- 3) Memoranda prepared by Field Operations for each lease stating there is no objection to using jetting as a manner of production.

The applications state that the Wells were drilled between 1983 and 1989. The perforated intervals for all of the Wells are in the Monksfield (350 Sand) Field in Bexar County, Texas. The Applications further state that the Wells currently produce two barrels of oil (or less) per month per well. The applications also show that oil produced from the Wells does not contain hydrogen sulfide.

Each Inspection Report is accompanied by a memorandum from the Oil and Gas Division-Field Operations, stating that Field Operations has reviewed the applications and the Inspection Reports and has no objection to the use of jetting as a manner of production. However, these reports also show that some of the Wells were cased and completed in a manner that is in conflict with the testimony of John MacDiarmid. Mr. MacDiarmid testified in the Hearing as to his belief that all of the Wells were single-string completions without surface casing or Bradenheads.²⁵ According to the Inspection Reports, some of the wells are double-string completions with surface casing (also without Bradenheads).

Pursuant to a request made at the Hearing, on February 26, 2019, Applicant provided a copy of the recorded oil and gas lease applicable to the Wells dated December 31, 1976, from the City of San Antonio, as Lessor to Energy Innovations, Inc., as Lessee, recorded in Volume 1467, page 806, Deed Records, Bexar County, Texas.²⁶ In a letter dated February 26, 2019, Christopher Rosas states that this lease was assigned to Ria Mia Corp. and then to Applicant by Ria Mia's trustee.²⁷

On June 24, 2019, pursuant to a written request made by the Examiners after the hearing, John MacDiarmid submitted a letter stating that there was virtually no difference in the operation of any of the Wells whether there are one or two strings of casing.²⁸ The letter re-emphasized that wellhead control was adequate for all of the Wells; wellhead control can easily be established by controlling the compression system.²⁹ Once the

²⁵ Tr. at 48-50.

²⁶ Letter of Christopher C. Rosas, February 26, 2019.

²⁷ *Id.*

²⁸ Letter of John MacDiarmid, June 24, 2019, p.2.

²⁹ *Id.* at p.3.

compression system is turned off, there is no flow from the Wells because of low permeability and very low reservoir pressure.³⁰

Moreover, Mr. MacDiarmid's letter reiterates that groundwater is adequately protected. All available records show that sufficient cement was used to isolate the casing from water-bearing strata.³¹ Minimal water production from the Wells strongly suggests that there is no communication between the producing interval and water-bearing strata.³²

V. Examiners' Analysis

The Examiners conclude that Applicant has met the burden of proof and the Applications should be granted.

A. There is sufficient evidence of each of the six requirements in Rule 21.

To be granted an exception to produce a well by air jetting, an operator must present evidence at hearing sufficient to meet the minimum requirements of the six elements outlined in Rule 21(k)(1)(B). An operator must demonstrate:

1. the method of production;
2. production will be properly accounted for;
3. the exception is necessary to prevent waste or protect correlative rights;
4. wellhead control is sufficient prevent releases;
5. production method and the well condition will not cause pollution or a safety hazard; and
6. the operator has a good faith claim to the right to operate the lease and wells.

The Examiners conclude that Applicant has provided sufficient evidence as to each of these required elements.

1. Applicant provided the method of production proposed.

Applicant provided sufficient evidence of the method of production proposed as required.³³ Applicant will utilize its existing air jetting lift methodology of intermittently and sequentially injecting compressed air through 5/8" plastic air lines (controlled by solenoids) into a string of 2-1/2" PVC pipe suspended within the well casing in each Well. Pressure within the system created by pumping of compressed air will force oil to the

³⁰ Letter of John MacDiarmid, June 24, 2019, p.3.

³¹ *Id.* at p.2.

³² *Id.* at p.3.

³³ 16 Tex. Admin. Code §3.21(k)(1)(B)(i).

surface through a 3/4" plastic tube connected to the on-lease gathering system and tank battery.

2. Any production will be properly accounted for.

Applicant provided sufficient evidence that production by air jetting will be properly accounted for; any oil produced by air jetting will be transferred to the permanent, on-site tank battery. This will allow the oil to be properly allocated to the leases.³⁴

3. The proposed exception is necessary to prevent waste and protect correlative rights.

Applicant provided sufficient evidence that air jetting the Wells is necessary to prevent waste.³⁵ As seen in the Applications, the Wells were drilled between 1975 and 1986. The production curve for the Wells has already flattened, and that it is likely that they will produce at their average monthly rate with only a gradual decline for the foreseeable future. It is not economical to produce the Wells by pumping at their current low production volumes. Production by air jetting is economical and will enable recovery of additional reserves. The Applications state that the Wells currently produce two barrels of oil (or less) per month per well. Mr. MacDiarmid testified that the Wells produce 100 barrels of oil per month via air jetting and that such reserves would not otherwise be recoverable by pumping.

4. Wellhead control is sufficient to prevent releases from each of the Wells.

Applicant provided sufficient evidence that wellhead control is adequate to prevent releases from the Wells.³⁶ There is little-to-no natural pressure or associated gas in the producing formation. Wellhead control is handled by controlling the compressed-air system. When not pressurized by injection of compressed air, oil "seeps" slowly into the wellbore of the Wells in small quantities and remains hundreds of feet below the wellhead until the system is re-pressurized, whereupon the oil is brought to the surface via plastic tubing by the air jetting production process. If no pressure is introduced into the system, the Wells do not flow. The Wells are inspected daily for leaks.

³⁴ 16 Tex. Admin. Code §3.21(k)(1)(B)(ii).

³⁵ 16 Tex. Admin. Code §3.21(k)(1)(B)(iii).

³⁶ 16 Tex. Admin. Code §3.21(k)(1)(B)(iv).

5. No pollution of usable quality water or safety hazard will result from either the proposed production method or the condition of the Wells.

Applicant provided sufficient evidence that no pollution of usable quality water or safety hazard will result from either the proposed production method or the condition of the Wells.³⁷ The Groundwater Protection Determinations applicable to the leases states that the interval from the surface to a depth of 100 feet must be protected for wells drilled on the Lease. As noted above, oil "seeps" slowly into the wellbore casing when unpressurized and remains at least 100 feet or more below the protected usable quality water formations until brought to the surface via plastic tubing when compressed air is re-injected into the well. The air pressure applied to the system also causes the oil produced from the Wells to be transferred by hose to an on-site tank battery.³⁸ The hoses that constitute the on-lease gathering system for the Wells are inspected daily for leaks, and pressure within the system is also monitored to ensure that there are no observable losses.³⁹

6. Applicant possesses a good faith claim to the right to operate the Wells.

Applicant provided sufficient evidence that it possesses a good faith claim to the right to operate the Wells. Applicant provided copies of the leases and mineral title documents applicable to the Wells. The Inspection Reports submitted by Field Operations show that Applicant's P-5 Status with the Commission is "active". These reports also indicate that Applicant is the current Commission operator of record for the Wells.

B. In addition to meeting all the requirements in Rule 21, Applicant provided evidence that the discretionary considerations weigh in its favor.

Statewide Rule 21 also identifies factors the Commission has the discretion to consider in addition to the mandatory requirements that must be considered for an air-jetting exception. Regarding the discretionary factors the Commission can consider, Commission records noticed in the file indicate that all of the applied-for wells have been producing without substantial interruption for several years. Applicant stated that no integrity tests have been conducted on the Wells for this reason.

Applicant further provided evidence of the estimated monthly and cumulative production from the Wells if the requested exception is granted. Cumulatively, the Wells produce 100 barrels per month. As noted above, production will be into an on-lease tank

³⁷ 16 Tex. Admin. Code §3.21(k)(1)(B)(v).

³⁸ 16 Tex. Admin. Code §3.21(k)(1)(B)(v).

³⁹ Tr. at 35.

battery. As further noted above, low production volumes render pumping of the Wells uneconomical and therefore impracticable. The Inspection Reports indicate that the reservoir from which the Wells produce does not contain hydrogen sulfide.

Applicant has on file with the Commission adequate financial assurance pursuant to Texas Natural Resources Code §91.1042 and Statewide Rule 78(g)(1)(B). The Inspection Reports further indicate that Applicant's Organization status with the Commission is "active". Applicant filed its most recent organization report with the Commission on September 5, 2018. Applicant's first filed P-5 *Organization Report* with the Commission was effective August 26, 2011. The Inspection Reports also indicate that Applicant is currently the operator of record for all the subject Wells, as the Commission has approved Applicant's Form P-4 *Producer's Transportation Authority and Certificate of Compliance* filings for the Wells, effective May 1, 2011.

As shown in the Applications, the applied-for Wells were drilled in the time period beginning August 1983 and ending May 1989. Applicant presented evidence that air jetting has been used as a production method for the Wells continuously since that time.⁴⁰ Statewide Rule 21 was amended in 2002 to prohibit air jetting as a production method unless the Commission granted an exception following proper notice and hearing. Air jetting was not prohibited by Rule 21 prior to its amendment in 2002. As is indicated by the Inspection Reports filed by Field Operations, Applicant has been noticed in the past for failure to timely renew its P-5 and overproduction of oil above the prorated allocation for the Wells. These reports also indicate that these matters have been resolved and there are no lease holds where the Wells are located. There is no history of enforcement actions against the Applicant, again as indicated in the Inspection Reports.

Moreover, after reviewing Applicant's planned air jetting methodology and conducting on-site inspections, Field Operations has no objection to Applicant producing by air jetting.

VI. Conclusion

Based on all of the factors that the Commission must, or in its discretion may, consider, the Examiners have concluded that the Applications for exceptions to Statewide Rule 21 should be approved for so long as Applicant remains the operator of the Wells.

The Examiners recommend that the Commission grant the Applications and adopt the following Findings of Fact and Conclusions of Law.

⁴⁰ Tr. at 13.

FINDINGS OF FACT

1. Applicant, A. N. MacDiarmid Co. (Operator No. 00572), ("Applicant"), seeks air jetting authority for 26 (twenty-six) wells ("Wells") on the Metzger, H.L. (09643) Lease (the "Lease") in the Monksfield (350 Sand) Field in Bexar County, Texas.
2. At least ten (10) days' notice of the hearing was provided to all persons required. Applicant appeared at the hearing and presented evidence in support of the application. No one appeared in protest.
3. Production from the Wells is accounted for by direct connection to a gathering-line system tied to permanent tank batteries on the Lease.
4. The shallow depth of the Wells, the volume of production, and the quality of the reservoir in the Monksfield (350 Sand) Field renders pumping of the Wells uneconomical and therefore impracticable.
5. Air jetting is an economical and practicable method for producing recoverable hydrocarbons from the Wells.
6. The estimated cumulative monthly production from the Wells via air jetting is 100 barrels per month.
7. Without air jetting, these recoverable hydrocarbons would not be produced from the Wells.
8. The proposed exception for air jetting the Wells is thus necessary to prevent waste.
9. All of the applied-for Wells are cemented to surface.
10. Production of recoverable hydrocarbons utilizing the air jetting method will not result in pollution of usable quality water or a safety hazard.
11. Applicant has a good faith claim to the right to operate the Wells.
12. No mechanical integrity tests have been conducted on the Wells in the preceding twelve months.
13. Applicant's Organization status with the Commission is "active". Applicant filed its most recent organization report with the Commission on February 28, 2019. Applicant's first filed P-5 *Organization Report* with the Commission was effective April 14, 2011. John P. MacDiarmid is identified as the President, Secretary and Treasurer of Applicant.

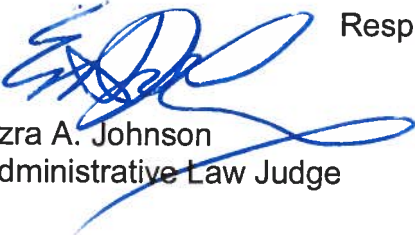
14. Applicant has on file with the Commission blanket financial assurance pursuant to Texas Natural Resources Code §91.1042 and Statewide Rule 78(g)(1)(B).
15. Applicant is currently the operator of record for all the subject Wells, as the Commission has approved Applicant's Form P-4 *Producer's Transportation Authority and Certificate of Compliance* filings for the Wells, effective May 1, 2011.
16. The reservoir from which the Wells are produced does not contain hydrogen sulfide.
17. Applicant has no prior enforcement proceedings or outstanding violations of Commission rules and there are no Commission holds on the Lease where the Wells are located.

CONCLUSIONS OF LAW

1. Proper notice of hearing was timely given to all persons entitled to notice. 16 Tex. Admin. Code §§1.42, 1.43, and 3.21.
2. All things have occurred to give the Commission jurisdiction to decide this matter. Tex. Nat. Res. Code §81.051.
3. Applicant's applications satisfy the mandatory requirements for an exception to Statewide Rule 21 to produce the Wells by air jetting. 16 Tex. Admin. Code §3.21.
4. In addition to meeting all the requirements for Statewide Rule 21, consideration of discretionary factors in Statewide Rule 21 favors Applicant obtaining authorization to produce by air jetting. 16 Tex. Admin. Code §3.21.
5. Pursuant to §2001.144(a)(4) of the Texas Government Code, and the consent of the applicant on the record, the Final Order in this case is effective when a Master Order relating to the Final Order is signed on August 20, 2019.

Examiners' Recommendation

The Administrative Law Judge and Technical Examiner recommend that A. N. MacDiarmid Co.'s Applications be granted to allow for the production of the Wells by air jetting, in accordance with the attached Final Order.


Ezra A. Johnson
Administrative Law Judge

Respectfully submitted,


Robert Musick P. G.
Technical Examiner

Appendix A

Docket No.	Lease Name	Lease ID	Well No(s).	Field	No. of Wells
01-0313870	Metzger, H.L.	09643	1, 2, 3, 4, 5, 6, 7, 13, B-30, D-30, F-30, W-1, W-2, W-3, W-4, W-5, W-6, W-7, W-9, X-9, Y-1, Y-2, Y-2, Y-4, Y-6, and Y-7.	Monksfield (350 Sand) Field	26