

PERMITTING AUDIT REPORT

January-June 2025

Marathon Oil Company / Bakken Assets

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INTRODUCTION

The Marathon Oil Company Consent Decree (Civil Action No. 1:24-cv-136) ("Consent Decree") requires third-party audits for facilities on the Fort Berthold Indian Reservation in North Dakota and New Well Pads as defined by the Consent Decree. Such audit shall be consistent with the Third-Party Audit Work Plan Version 1.0 and shall include reviewing (a) Marathon's permit applications for all Air Permit Facilities (the "Permitting Audit").

Following the Permitting Audit, Trinity has prepared the attached Third-Party Audit Report ("Audit Report"). The Audit Report includes the following: (a) description of the work completed; (b) the number of permit applications with identified non-compliance with the Emissions Calculations SOP; and (c) recommended corrective action for the identified non-compliance.

This Audit Report covers the semi-annual period ending June 30, 2025.

This Permitting Audit is based on an approved Third-Party Audit Plan provided by Marathon and is detailed as noted below:

- ▶ Obtain copies of each Part 2 Registration and Permit application subject to the Scope of this Audit (defined in Third-Party Audit Plan) along with supporting documentation including:
 - Anticipated oil, water and gas production rates;
 - Anticipated flare volumes;
 - Anticipated oil loading volumes;
 - Anticipated VRU availability;
 - Site specific or representative samples used;
 - List of onsite equipment and operating conditions;
 - Process flow diagrams;
 - Planned maintenance list (for activities listed in the Emissions Calculation SOP); and
 - Documentation for any other model input or information used for the Permit application being reviewed.
- ▶ Review all inputs to emissions process models and emissions calculations to ensure compliance with approved Emissions Calculations SOP including:
 - Use of acceptable decline curve;
 - Anticipated oil, water and gas production values;
 - Anticipated flare volumes;
 - Anticipated oil loading volumes;
 - Anticipated VRU availability;
 - Equipment operating conditions used in process models;
 - Site specific or representative sample data accuracy in model;
 - Any other inputs to the process model; and
 - Overall compliance with the Emissions Calculations SOP.
- ▶ Review all emissions calculations completed for Permit application.

As part of this Permitting Audit, Trinity reviewed the information listed above as provided by Marathon for one hundred twenty-five (125) permit applications, listed in Appendix A. Calculations were checked for consistency with the Emissions Calculations SOP version 2.0, approved by EPA on September 10, 2024. Four (4) of those applications had identified non-compliance items. Specific non-compliance items are described in Appendix B, including the recommended corrective action.

APPENDIX A. APPLICATIONS REVIEWED: JANUARY-JUNE 2025

Marathon Bakken Permitting Audit
Applications Reviewed

ID Number	Air Permit Name	Facility Name	Date Review Completed	Number of Non-Compliances
2.02	WADHOLM 41-30H	Wadholm 41-30H	1/14/2025	0
2.04	THORNTON CTB	Thornton CTB	1/9/2025	0
2.05	BRODAHL CTB	Brodahl CTB	1/14/2025	0
2.06	RICHARD BANGEN 21-26H	Richard Bangen 21-26H	2/2/2025	0
2.07	AISENBREY CTB	Aisenbrey CTB	2/2/2025	0
2.08	RAVN CTB	Ravn CTB	1/9/2025	0
2.09.1	RUDOLPH USA 41-15TFH AND RUDOLPH 44-10TFH	Rudolph 41-15TFH	2/2/2025	0
2.09.2	RUDOLPH USA 41-15TFH AND RUDOLPH 44-10TFH	Rudolph 44-10TFH	2/2/2025	0
2.10	JASPER L USA CTB	Jasper L USA CTB	2/2/2025	0
2.11.1	ARVID BANGEN USA CTB AND OLD BEAR USA CTB	Arvid Bangen USA CTB	2/2/2025	0
2.11.2	ARVID BANGEN USA CTB AND OLD BEAR USA CTB	Old Bear USA CTB	2/2/2025	0
2.12	PEARL CTB	Pearl CTB	2/4/2025	0
2.13	WALJEN USA CTB	Waljen USA CTB	2/4/2025	0
2.16	COLLINS USA CTB	Collins USA CTB	1/10/2025	0
2.17.1	POINT USA CTB AND LUCILLE USA CTB	Point USA CTB	1/10/2025	0
2.17.2	POINT USA CTB AND LUCILLE USA CTB	Lucille USA CTB	1/10/2025	0
2.18	CUMMINGS USA CTB	Cummings USA CTB	2/4/2025	0
2.19	RMJK 31-26H	RMJK 31-26H	2/5/2025	1
2.20	EVERETT FISHER USA 41 CTB	Everett Fisher USA 41 CTB	2/4/2025	0
2.21	HENRY CHARGING USA 41 CTB	Henry Charging USA 41 CTB	2/4/2025	0
2.22	HARRINGTON USA CTB	Harrington USA CTB	2/6/2025	0
2.23	RHODA CTB	Rhoda CTB	2/6/2025	0
2.24	DEBBIE BAKLENKO USA CTB	Debbie Baklenko USA CTB	2/6/2025	0
2.25	SHOBE USA CTB	Shobe USA CTB	2/6/2025	0
2.26	WOLDING 14-24H	Wolding 14-24H	2/6/2025	0
2.27	RAYMOND USA CTB	Raymond USA CTB	2/6/2025	0
2.28	ELK USA CTB	Elk USA CTB	2/6/2025	0
2.29	JAY SANDSTROM USA CTB	Jay Sandstrom USA CTB	2/6/2025	0
2.30	WAKELUM 41 CTB	Wakelum 41 CTB	2/6/2025	0
2.31	JAHNKE USA CTB	Jahnke USA CTB	2/6/2025	0
2.32.1	RANDI USA 41-17H & ELLA USA 11-16H	Randi USA 41-17H	2/6/2025	0
2.32.2	RANDI USA 41-17H & ELLA USA 11-16H	Ella USA 11-16H	2/6/2025	0
2.33	MARK SANDSTROM 14-32H	Mark Sandstrom 14-32H	2/6/2025	0
2.34.1	BULLS EYE USA CTB / KEITH 44-31TFH / GLISAR 14-32TFH / CLOON 14-32H	Bulls Eye USA CTB	2/6/2025	0
2.34.2	BULLS EYE USA CTB / KEITH 44-31TFH / GLISAR 14-32TFH / CLOON 14-32H	Glisar 14-32 TFH	2/6/2025	0
2.34.3	BULLS EYE USA CTB / KEITH 44-31TFH / GLISAR 14-32TFH / CLOON 14-32H	Keith 44-31TFH	2/4/2025	0
2.34.4	BULLS EYE USA CTB / KEITH 44-31TFH / GLISAR 14-32TFH / CLOON 14-32H	Cloon 14-32H	2/5/2025	0
2.35	MIKKELSEN 11-14H	Mikkelsen 11-14H	2/6/2025	0
2.36.1	HENRY CHARGING USA 21 CTB, GRACIE USA 11-3TFH, HALVORSON CTB	Henry Charging USA 21 CTB	2/6/2025	0
2.36.2	HENRY CHARGING USA 21 CTB, GRACIE USA 11-3TFH, HALVORSON CTB	Gracie USA 11-3TFH	2/6/2025	0
2.36.3	HENRY CHARGING USA 21 CTB, GRACIE USA 11-3TFH, HALVORSON CTB	Halvorson CTB	2/5/2025	0
2.19	RMJK 31-26H [Update]	RMJK 31-26H [Update]	2/12/2025	0
2.26	WOLDING 14-24H [Update]	Wolding 14-24H [Update]	2/12/2025	0
2.37	HOWARD USA CTB [Update]	Howard USA CTB [Update]	2/18/2025	1
2.37.1	HOWARD USA CTB [Update 2]	Howard USA CTB [Update 2]	2/25/2025	0
2.38.1	MANDAN USA CTB AND MARION USA 44-10TFH [Update]	Mandan USA CTB [Update]	2/26/2025	2
2.38.2	MANDAN USA CTB AND MARION USA 44-10TFH [Update]	Marion USA 44-10TFH [Update]	2/25/2025	0
2.39.1	DOVEN USA CTB, SKOGSTAD 41-28H, AND SURA USA 44-21TFH [Update]	Skogstad 41-28H [Update]	3/5/2025	0
2.39.2	DOVEN USA CTB, SKOGSTAD 41-28H, AND SURA USA 44-21TFH [Update]	Doven USA CTB [Update]	3/5/2025	0
2.39.3	DOVEN USA CTB, SKOGSTAD 41-28H, AND SURA USA 44-21TFH [Update]	Sura USA 44-21TFH [Update]	3/5/2025	0
2.40.1	BAKER USA CTB AND BURSHIA USA CTB [Update]	Baker USA CTB [Update]	3/5/2025	0
3.01.1	SITTING OWL USA 34-8H AND ONE FEATHER USA 31-17H	Sitting Owl USA 34-8H	4/14/2025	0
3.01.2	SITTING OWL USA 34-8H AND ONE FEATHER USA 31-17H	One Feather USA 31-17H	4/14/2025	0
3.02	THOMAS MILLER USA CTB	Thomas Miller USA CTB	4/14/2025	0
3.03	BEAR DEN USA CTB	Bear Den USA CTB	4/14/2025	0
3.04	BUFFALO-ELK CREEK USA CTB	Buffalo-Elk Creek USA CTB	4/14/2025	0
3.05	RICHANDA USA CTB	Richanda USA CTB	4/21/2025	0
3.06.1	DARREL QUALE USA CTB/YESENKO USA CTB	Darrel Qualls USA CTB	4/21/2025	0
3.06.2	DARREL QUALE USA CTB/YESENKO USA CTB	Yesenko USA CTB	4/21/2025	0
3.07.1	EAGLE USA 41-5H AND CROSBY USA 41-6H	Crosby USA 41-6H	5/1/2025	0
3.07.2	EAGLE USA 41-5H AND CROSBY USA 41-6H	Eagle USA 41-5H	5/5/2025	0
3.08	AZURE USA CTB	Azure USA CTB	5/5/2025	0
3.09	LANTZ USA CTB AND NAATUS USA CTB	Naatus USA CTB [Update]	5/5/2025	0
3.10.1	DEEP CREEK USA CTB AND OSKING USA 14-12H	Deep Creek USA CTB	5/9/2025	0
3.10.2	DEEP CREEK USA CTB AND OSKING USA 14-12H	Osking USA 14-12H	5/12/2025	0
3.11	FREDERICKS USA	Fredericks USA	5/20/2025	0
3.12.1	ONE FEATHER USA 11-17H AND TORGERSO USA 14-8H	One Feather USA 11-17H	5/18/2025	0
3.12.2	ONE FEATHER USA 11-17H AND TORGERSO USA 14-8H	Torgerson USA 14-8H	5/18/2025	0
3.13	MARTINEZ	Martinez	5/19/2025	0
3.14.1.1	POINT USA CTB AND LUCILLE USA CTB	Point Scenario 1	6/2/2025	0
3.14.1.2	POINT USA CTB AND LUCILLE USA CTB	Point Scenario 2	6/2/2025	0
3.14.2	POINT USA CTB AND LUCILLE USA CTB	Lucille	6/2/2025	0
3.15	THORNTON CTB	Thornton	5/23/2025	0
3.16	GUY CARLSON CTB	Guy Carlson CTB	6/1/2025	0
3.17	WARD-ROEHR USA CTB	Ward-Roehr USA CTB	6/2/2025	0
3.18.1	LINCOLN USA 16-1H AND HOPKINS USA 15-2H	Lincoln USA 16-1H	6/2/2025	0
3.18.2	LINCOLN USA 16-1H AND HOPKINS USA 15-2H	Hopkins USA 15-2H	6/2/2025	0
3.19	GOODBIRD USA CTB	Goodbird USA CTB	6/4/2025	0
3.20	VORWERK USA 14-34H	Vorwerk USA 14-34H	6/4/2025	0

Marathon Bakken Permitting Audit
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ID Number	Air Permit Name	Facility Name	Date Review Completed	Number of Non-Compliances
3.21	WIND BOY USA 12-35H	Windy Boy USA 12-35H	6/4/2025	0
3.22	BOY CHIEF USA 11-15TFH	Boy Chief USA 11-15TFH	6/13/2025	0
3.23.1	MELVAIN FOX USA CTB AND GOOD BEAR USA CTB	Melvain Fox USA CTB	6/17/2025	0
3.23.2	MELVAIN FOX USA CTB AND GOOD BEAR USA CTB	Good Bear USA CTB	6/17/2025	0
3.24.1	BLACK HAWK USA 31-16H AND DRIVER USA 34-9H	Black Hawk USA 31-16H	6/4/2025	0
3.24.2	BLACK HAWK USA 31-16H AND DRIVER USA 34-9H	Driver USA 34-9H	6/4/2025	0
3.25.1	CHARGING USA 42-35H AND HUBER USA 41-2H	Charging USA 42-35H	6/16/2025	0
3.25.2	CHARGING USA 42-35H AND HUBER USA 41-2H	Huber USA 41-2H	6/16/2025	0
3.26.1	EAGLE USA 41-5H AND CROSBY USA 41-6H [Update]	Crosby USA 41-6H [Update]	6/16/2025	0
3.26.2	EAGLE USA 41-5H AND CROSBY USA 41-6H [Update]	Eagle USA 41-5H [Update]	6/16/2025	0
3.27	FREDERICKS USA [Update]	Fredericks USA [Update]	6/16/2025	0
3.28	GARY BELL USA 23-36H	Gary Bell USA 23-36H	6/16/2025	0
3.29	FOUR BEARS USA CTB	Four Bears USA CTB	6/13/2025	0
3.30.1	BEARS GHOST USA 31 CTB AND GODDARD USA 41-TFH	Goddard USA 41-4TFH	6/13/2025	0
3.30.2	BEARS GHOST USA 31 CTB AND GODDARD USA 41-TFH	Bears Ghost USA 31 CTB (HT Only)	6/19/2025	0
3.30.3	BEARS GHOST USA 31 CTB AND GODDARD USA 41-TFH	Bears Ghost USA 31 CTB (Sep & HT)	6/23/2025	0
3.31.1	FOOLISH BEAR USA CTB AND HERZIG USA 11-16H	Foolish Bear USA CTB	6/23/2025	0
3.31.2	FOOLISH BEAR USA CTB AND HERZIG USA 11-16H	Herzig USA 11-16H	6/21/2025	0
3.32.1	LINCOLN USA 16-1H AND HOPKINS USA 15-2H [Update]	Lincoln USA 16-1H [Update]	6/19/2025	0
3.32.2	LINCOLN USA 16-1H AND HOPKINS USA 15-2H [Update]	Hopkins USA 15-2H [Update]	6/19/2025	0
3.33.1	MELVAIN FOX USA CTB AND GOOD BEAR USA CTB [Update]	Melvain Fox USA CTB [Update]	6/27/2025	0
LEAF.1.1	POINT USA CTB AND LUCILLE USA CTB [Update]	Point Scenario 1 [Update]	6/20/2025	0
LEAF.1.2	POINT USA CTB AND LUCILLE USA CTB [Update]	Point Scenario 2 [Update]	6/20/2025	0
LEAF.2	LILLIAN USA CTB [Update]	Lillian USA CTB [Update]	6/20/2025	0
LEAF.3	Ashley USA CTB [Update]	Ashley USA CTB [Update]	6/19/2025	0
LEAF.4	MURRAY USA CTB [Update]	Murray USA CTB [Update]	6/20/2025	0
LEAF.5	COLLINS USA CTB [Update]	Collins USA CTB [Update]	6/20/2025	0
LEAF.6	FOOLISH BEAR USA CTB AND HERZIG USA 11-16H [Update]	Foolish Bear USA CTB [Update]	6/22/2025	0
LEAF.7	FOOLISH BEAR USA CTB AND HERZIG USA 11-16H [Update]	Herzig USA 11-16H [Update]	6/20/2025	0
LEAF.8	RAVN CTB [Update]	Ravn CTB [Update]	6/20/2025	0
LEAF.9	THORNTON CTB [Update]	Thornton [Update]	6/19/2025	0
LEAF.10.1	Whitaker [Update]	Whitaker Scenario 1 (HP Sep and HP to HT) [Update]	6/22/2025	0
LEAF.10.2	Whitaker [Update]	Whitaker Scenario 2 (all HP to HT) [Update]	6/22/2025	0
LEAF.11	PRUDENCE CTB [Update]	Prudence CTB [Update]	6/19/2025	0
LEAF.12.1	Gloria 2 [Update]	Gloria 2 Scenario 1 (HP Sep and HP to HT) [Update]	6/24/2025	1
LEAF.12.2	Gloria 2 [Update]	Gloria 2 Scenario 2 (all HP to HT) [Update]	6/24/2025	0
LEAF.13.1	Frye CTB [Update]	Frye CTB Scenario 1 (HP Sep and HP to HT) [Update]	6/20/2025	0
LEAF.13.2	Frye CTB [Update]	Frye CTB Scenario 2 (all HP to HT) [Update]	6/20/2025	0
LEAF.14.1	Vance Strommen 2 [Update]	Vance Strommen 2 Scenario 1 (HP Sep and HP to HT) [Update]	6/19/2025	0
LEAF.14.2	Vance Strommen 2 [Update]	Vance Strommen 2 Scenario 2 (all HP to HT) [Update]	6/22/2025	0
LEAF.15	Guy Carlson CTB [Update]	Guy Carlson CTB [Update]	6/19/2025	0
LEAF.16.1	Gaugler CTB [Update]	Gaugler CTB Scenario 1 (HP Sep and HP to HT) [Update]	6/19/2025	0
LEAF.16.2	Gaugler CTB [Update]	Gaugler CTB Scenario 2 (all HP to HT) [Update]	6/19/2025	0
LEAF.17	Jennie and Middleton [Update]	Jennie [Update]	6/19/2025	0
LEAF.18	Jennie and Middleton [Update]	Middleton [Update]	6/19/2025	0
LEAF.19	CORA 2 CTB [Update]	Cora 2 CTB [Update]	6/20/2025	0

APPENDIX B. NON-COMPLIANCE ITEM DESCRIPTIONS

Marathon Bakken Permitting Audit
Noncompliance Items

Item Number	Equipment or Process	Facility Name(s)	Emissions SOP or Management System SOP Requirement	Description of Non Compliance with SOPs	SOP Reference	Underestimates PTE or Actual Emissions (Y/N)	Suggested Corrective Action	Date Marathon was Notified	Corrective Action Taken	Explanation if Corrective Action Differs from Suggested Corrective Action	Target Completion Date	Actual Completion Date
1	Sampling	RMJK 31-26H	Verify oil sample used in permit representation passed laboratory bubble point QA/QC check.	Sample does not pass laboratory bubble point QA/QC check.	10.0 Quality Assurance and Quality Control, UID 1 (pg 135)	Unknown	Obtain a sample that does pass bubble point QA/QC check and recalculate emissions.	2/6/2025	The correct sample that passed bubble point was used and emissions were recalculated.		2/15/2025	2/13/2025
2	ProMax	Howard USA CTB [Update]	Process Simulation Inlet Oil C10+ molecular weight should be based on Pressurized Oil samples.	Inlet Oil C10+ molecular weight used in ProMax does not match the Pressurized Oil sample.	8.0 Data Source Basis (pg 127-128)	N	Correct the ProMax input.	2/18/2025	The ProMax input was corrected.		3/1/2025	2/19/2025
3	Engines	Mandan USA CTB [Update]	PM10 emission factor is based on engine type and AP-42 Section 3.2.	Unit type is indicated as 4 stroke lean burn, however PM10 emission factor is based on 4 stroke rich burn.	7.8 Stationary RICE – PTE, Equation 81 and Tables 4-6 (pg 63-65)	N	Correct PM10 emission factor to reflect lean burn engine type.	2/25/2025	The PM10 emission factor for engines was corrected to match AP42 for lean burn engines.		3/1/2025	2/28/2025
4	Engines	Mandan USA CTB [Update]	VOC emissions are based on manufacturer-supplied emission factor.	The VOC emissions are calculated with the manufacturer-supplied emission factor and additionally include 2,2,4-Trimethylpentane.	7.8 Stationary RICE – PTE, Equation 80 (pg 63)	N	Correct VOC emissions to not add 2,2,4-Trimethylpentane.	2/25/2025	The VOC emissions for engines was corrected to not add 2,2,4-Trimethylpentane.		3/1/2025	2/28/2025
5	Vessel Anode Maintenance	Gloria 2 Scenario 1 (HP Sep and HP to HT) [Update]	Quantify criteria and HAP mass emissions from replacement and/or inspection of separator, heater-treater and LEAF vessel (aka LEAF Storage Tank) anodes. Count of total vessels depressurized for anode replacement (e.g., separator, heater-treaters, storage vessel).	The count of total vessels depressurized for anode replacement does not account for separators.	7.28 MSS: Pressure Vessel Anode Replacements – PTE (pg 113)	Y	Correct the count of total vessels depressurized for anode replacement to include separators, increasing the number of events per year from 20 to 40.	6/23/2025	The count of vessels for vessel depressurization for anode replacement was corrected to include separators making the number of events 40.		7/7/2025	7/2/2025