REGION 6
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733

NPDES Permit No GM0000002

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. §1251 et. seq; the "Act"),

Freeport McMoRan Energy LLC
1615 Poydras Street
New Orleans, LA 70112

is authorized to discharge from a facility in an area defined by 29° 15-16' 42-56" North Latitude and 88° 45-46' 03-48" West Longitude, Main Pass Block 299, Outer Continental Shelf of the Gulf of Mexico, to the Gulf of Mexico, from the following locations:

Outfall 001 - Latitude 29° 15' 59.6" North, Longitude 88° 45' 38.6" West
Outfall 003 - Latitude 29° 15' 59.6" North, Longitude 88° 45' 38.6" West
Outfall 005 - Latitude 29° 15' 56.3" North, Longitude 88° 45' 29.5" West
Outfall 006 - Latitude 29° 15' 56.3" North, Longitude 88° 45' 29.5" West
Outfall 007 - Latitude 29° 15' 56.3" North, Longitude 88° 45' 29.5" West
Outfall 008 - Latitude 29° 15' 56.3" North, Longitude 88° 45' 29.5" West
Outfall 009 - Latitude 29° 15' 59.6" North, Longitude 88° 45' 38.6" West

in accordance with this cover page and the effluent limitations, monitoring requirements, and other conditions set forth in Part I, Part II, and Part III hereof.

This permit replaces NPDES Permit No. GM0000002 expired April 30, 2018.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Issued on

David F. Garcia, P.E.
Acting Director
Water Division

Prepared by

Isaac Chen
Environmental Engineer
Permitting Section (6WQ-PP)

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PART I – REQUIREMENTS FOR NPDES PERMITS

SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS

1. OUTFALLs 001, 005, 008 and 009: FINAL Effluent Limits

During the period beginning on the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from deck drainage (Outfall 001), salt cavern brine return waste water (Outfall 005), rig cooling waste water (Outfall 008), and Miscellaneous discharges include fresh water, treated or untreated seawater and brine from numerous sources including, but not limited to: rig and structure washdowns; seawater overflows; water drained for normal maintenance; fresh water, seawater and/or brine overflows or oil-free water drained from storage tanks; seawater, firewater and other pumps and systems testing; pump packing leakage; pipeline hydrotest and maintenance water; brine, ballast, cooling water and fresh water from other sources; and miscellaneous drips and drains. Such discharges shall be limited and monitored by the permittee as specified below:

Outfalls 001, 005, 008 and 009

EFFLUENT CHARACTERISTICS	Monthly Average Load Limit	Daily Maximum Load Limit	Monthly Average Concentration Limit	Daily Maximum Concentration Limit	Measuring Frequency	Sample Type
Flow	Report MGD	Report MGD	N/A	N/A	1/Month (*1)	Estimate (*2)
Free Oil	N/A	N/A	No Discharge (*3)	No Discharge (*3)	Daily (*1)	Observation (*3)

Footnotes:
*1. When discharging.
*2. "Estimate" flow measurements shall not be subject to the accuracy provisions established at Part III.C.6. The flow value may be estimated using best engineering judgment.
*3. As determined by the presence of a film or sheen on or a discoloration of the surface of the receiving water (visual sheen) See Part II.

2. OUTFALL 003: FINAL Effluent Limits

During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge sanitary and domestic water, to the Gulf of Mexico from migratory outfalls from several structures. Such discharges shall be limited and monitored by the permittee as specified below:

Outfall 003

EFFLUENT CHARACTERISTICS	Monthly Average Load Limit	Daily Maximum Load Limit	Monthly Average Concentration Limit	Daily Maximum Concentration Limit	Measuring Frequency	Sample Type
Flow	Report MGD	Report MGD	N/A	N/A	1/Month (*1)	Estimate (*2)
Total Residual Chlorine	N/A	N/A	(*3)	(*3)	1/Month (*1)	Grab

Footnotes:

*1. When discharging.

*2. "Estimate" flow measurements shall not be subject to the accuracy provisions established at Part III.C.6. The flow value may be estimated using best engineering judgment.

*3. If facility is manned with 10 more persons: The total residual chlorine concentration shall be a minimum of 1 mg/l and shall be maintained as close to that concentration as possible.
If facility is manned with 9 or less persons, monitoring of TRC is not required.
No floating solids may be discharged to the receiving waters. A daily observation, when the facility is manned, shall be made for floating solids. The observation must be made during daylight in the vicinity of sanitary waste outfalls during discharge.

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3. OUTFALLs 006 and 007: FINAL Effluent Limits

During the period beginning on the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge drilling fluids from generic, non oil-based sea water and fresh water mud, cement, and drill cuttings from the shale shakers and desanders to the Gulf of Mexico from migratory outfalls from several structures. Such discharges shall be limited and monitored by the permittee as specified below:

Outfalls 006 and 007

EFFLUENT CHARACTERISTICS	Monthly Average Load Limit	Daily Maximum Load Limit	Monthly Average Concentration Limit	Daily Maximum Concentration Limit	Measuring Frequency	Sample Type
Flow	Report MGD	Report MGD	N/A	N/A	1/Month (*1)	Estimate (*2)
Free Oil	N/A	N/A	No Discharge (*3)	No Discharge (*3)	Daily (*1)	Observation (*3)
Cadmium, Total	N/A	N/A	3 mg/kg (*4)	3 mg/kg (*4)	1/Batch (*4)	Grab
Mercury, Total	N/A	N/A	1 mg/kg (*4)	1 mg/kg (*4)	1/Batch (*4)	Grab
Suspended Particulate Phase Toxicity	N/A	N/A	30,000 ppm (*5)	30,000 ppm (*5)	1/Month (*5)	Grab

Footnotes:

*1. When discharging.

*2. "Estimate" flow measurements shall not be subject to the accuracy provisions established at Part III.C.6. The flow value may be estimated using best engineering judgment.

*3. As determined by the presence of a film or sheen on or a discoloration of the surface of the receiving water (visual sheen) See Part II.

*4. There shall be no discharge of drilling fluids to which barite has been added if such barite contains mercury in excess of 1.0 mg/kg (dry weight) or cadmium in excess of 3.0 mg/kg (dry weight). The permittee shall analyze a representative sample of all stock barite used once, prior to drilling each well and submit the results for total mercury and cadmium in the Discharge Monitoring Report (DMR).
Alternatively, the permittee may provide certification as documented by the supplier(s), that the barite being used on the well will meet the above limits. The concentration of mercury and cadmium in the barite shall be reported on the DMR as documented by the supplier(s).
Analysis for mercury shall be conducted using EPA Methods 245.5 or 7471 A and the results expressed in mg/kg (dry weight). Analysis for cadmium shall be conducted using EPA Methods 200.7, 200.8 or EPA Method B followed by 6010B or 6020 and the results expressed as mg/kg (dry weight) of barite.

*5. Discharged drilling fluids shall meet both a daily minimum and a monthly average minimum 96-hour LC50 of at least 30,000 ppm in a 9:1 seawater to drilling fluid suspended particulate phase (SPP) volumetric ratio using Mysidopsis bahia. Monitoring shall be performed at least once per month for both a daily minimum and the monthly average. In addition, an end-of-well sample is required for a daily minimum when drilling is conducted using aqueous based drilling fluid. The type of sample required is a grab sample, taken from beneath the shale shaker, or if

there are no returns across the shale shaker, the sample must be taken from a location that is characteristic of the overall mud system to be discharged. Permittee shall report the results on the DMR using either the full toxicity test or the partial toxicity test as specified at 58 FR 12512, March 4, 1993; however, if the partial toxicity test method shows a failure, all testing of future samples from that well shall be conducted using the full toxicity test method to determine the 96-hour LC50. The approved test method for permit compliance is identified as Drilling Fluids Toxicity Test at 40 CFR Part 435, Subpart A, Appendix 2.

SAMPLE LOCATION(S) - ALL OUTFALLS

Samples taken in compliance with the monitoring requirements specified above shall be taken unless otherwise noted, after the last treatment unit immediately prior to discharge.

FLOATING SOLIDS, VISIBLE FOAM AND/OR OILS – ALL OUTFALLS

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no discharge of visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks. Monitoring shall be performed daily during daylight hours when discharging.

B. PROHIBITIONS – ALL OUTFALLS

Oil Based Drilling Fluids

The discharge of oil based drilling fluids, diesel oil, non-aqueous based drilling fluids or drilling fluids which contain waste engine oil, cooling oil, gear oil or any lubricants which have been previously used for purposes other than borehole lubrication is prohibited. De minimis discharges of non-aqueous based drilling fluid not associated with cuttings shall be contained to the extent practicable to prevent discharge. Allowable de minimis discharges can include windblown drilling fluids from the pipe rack and minor drips and splatters around mud handling and solids control equipment. Such de minimis discharges are not likely to be measurable and are not considered in the base fluids retained on cuttings limit.

Halogenated Phenolic Compounds

There shall be no discharge of halogenated phenolic compounds as part of any waste stream authorized in this permit.

Dispersants, Surfactants and Detergents

The applicant is required to use phosphate free and non-toxic soaps and detergents for any purpose if they will be discharged into waters subject to this permit. These detergents must be free from toxic or bioaccumulative compounds and not lead to extreme shifts in receiving water pH. “Non-toxic” soaps, cleaners, and detergents means these materials which do not exhibit potentially harmful characteristics as defined by the Consumer Product Safety Commission regulations found at 16 CFR Chapter II, Subchapter C, Part 1500. “Phosphate Free” soaps, cleaners, and detergents means these materials which contain, by weight, 0.5% or less of phosphates or derivatives of phosphates.

Further, minimization on the use of any detergents or emulsifiers for activities that do not comply with safety requirements of the Occupational Safety and Health Administration and the

Bureau of Ocean Energy Management are required. These restrictions apply to tank cleaning and other operations which do not directly involve the safety of workers. The restriction is imposed since detergents disperse and emulsify oil, thereby increasing toxicity and making detection of a discharge of oil more difficult. Waste water associated with tank and pit cleaning operations shall be classified as the former contents of the tank or pit; for example, wash water generated from cleaning drilling fluid pits would be subject to the same discharge limitation as the drilling fluid formerly contained in those pits.

Garbage/Trash

The discharge of garbage including maintenance waste is prohibited. Comminuted food waste, (able to pass through a screen mesh no larger than 25 mm, approx. 1 inch) may be discharged.

C. SCHEDULE OF COMPLIANCE

NONE

D. MONITORING AND REPORTING (MINOR DISCHARGERS)

Monitoring results must be reported to EPA on either the electronic or paper Discharge Monitoring Report (DMR) approved formats. Monitoring results can be submitted electronically in lieu of the paper DMR Form. To submit electronically, access the NetDMR website at www.epa.gov/netdmr and contact the R6NetDMR@epa.gov in-box for further instructions. Until you are approved for Net DMR, you must report on the Discharge Monitoring Report (DMR) Form EPA. No. 3320-1 in accordance with the "General Instructions" provided on the form. No additional copies are needed if reporting electronically, however when submitting paper form EPA No. 3320-1, the permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA and other agencies as required. (See Part III.D.IV of the permit.) Monitoring information shall be submitted quarterly. Each quarterly submittal shall include separate forms for each month of the reporting period.

1. Reporting periods shall end on the last day of the months March, June, September, and December.

2. The permittee is required to submit regular quarterly reports as described above postmarked no later than the last day of the month following each reporting period.

3. NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box located in the upper right corner of the preprinted Discharge Monitoring Report.

PART II - OTHER CONDITIONS

A. MINIMUM QUANTIFICATION LEVEL (MQL)

See list of MQL's at Appendix A of Part II below. For pollutants listed on Appendix A of Part II below with MQL's, analyses must be performed to the listed MQL. If any individual analytical test result is less than the MQL listed, a value of zero (0) may be used for that pollutant result for the Discharge Monitoring Report (DMR) calculations and reporting requirements.

In addition, any additional pollutant sampling for purposes of this permit, including renewal applications or any other reporting, shall be tested to the MQL shown on the attached Appendix A of Part II. Results of analyses that are less than the listed MQL may be reported as "non-detect" (ND).

B. PERMIT MODIFICATION AND REOPENER

In accordance with 40 CFR Part 122.44(d), the permit may be reopened and modified during the life of the permit if applicable water quality standards are established and/or remanded.

In accordance with 40 CFR Part 122.62(s)(2), the permit may be reopened and modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR Part 124.5.

C. 24-HOUR ORAL REPORTING: DAILY MAXIMUM LIMITATION VIOLATIONS

Under the provisions of Part III.D.7.b.(3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported orally to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas, within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.

D. FREE OIL MONITORING - VISUAL SHEEN

The visual sheen test is used to detect free oil by observing the surface of the receiving water for the presence of sheen while discharging. The operator must conduct a visual sheen test only at times when sheen could be observed and the facility is manned. This restriction eliminates observations when atmospheric or surface conditions prohibit the observer from detecting a sheen (e.g., overcast skies, rough seas, rain etc.).

The observer must be positioned on the rig or platform, relative to both the discharge point and current flow at the time of discharge, such that the observer can detect sheen should it occur downstream from the discharge. For dischargers that have been occurring for at least 15 minutes previously, observations may be made any time thereafter. For dischargers of less than 15

minutes duration, observations must be made during both discharge and at 5 minutes after discharge has ceased.

E. FLOATING SOLIDS and VISIBLE FOAM

Monitoring for floating solids and visible foam shall be performed during conditions when an observation is possible and the facility is manned.

F. MARINE SANITATION DEVICE OPERATION AND MAINTENANCE

If a marine sanitation device (MSD) to treat sanitary waste has been installed in the facility, the MSD shall be tested yearly for proper operation and the test results maintained for three years at the facility or at an alternate site if not practicable. The operator is required to demonstrate proper operation of MSD via US Coast Guard approval, annual inspections, Class/Flag State inspections and/or the International Sewage Pollution Prevention Certificate (ISPPC) and maintenance logs/records.

G. OUTFALL 005 SALT CAVERN BRINE DISCHARGE

If in any discharge event the estimated brine discharge rate, within 7 days, is equal to, or greater than, 0.1 MGD, the operator must also conduct a 7-day chronic toxicity test and determine the specific NOEC prior to discharge of brine. The Operator must control the discharge rate to ensure the applicable critical dilution at the edge of 100 meters from the point of discharge (using CORMIX or other dispersion modelling) will not exceed its NOEC. The operator must submit the testing result and report to EPA at the address below and keep a copy onsite available for inspector's review.

U.S. Environmental Protection Agency Region 6
Water Enforcement Branch (6EN-WC)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

The approved test methods for permit compliance are identified in 40 CFR Part 136.

a) The permittee shall utilize the Mysidopsis bahia (Mysid shrimp) chronic static renewal 7-day survival and growth test using Method 1007.0. A minimum of eight (8) replicates with five (5) organisms per replicate must be used in the control and in each effluent dilution of this test.

b) The permittee shall utilize the Menidia beryllina (Inland Silverside minnow) chronic static renewal 7-day larval survival and growth test (Method 1006.0). A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

c) The NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution which does not result in a lethal or sub-lethal effect that is statistically different from the control (0% effluent) at the 95% confidence level. In the case of a test that exhibits a non-

monotonic concentration response, determination of the NOEC will rely on the procedures described in *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136),* July 2000, EPA 821-B-00-004.