



Government of the Co-operative Republic of Guyana
Environmental Protection Agency



**Kaieteur 12 Well Exploration and Appraisal (E&A) Drilling Program –
Kaieteur PPL, Offshore Guyana.**

Project Description

ESSO Exploration and Production Guyana Limited (EEPGL) has submitted an application for a 12 Well Exploration and Appraisal drilling Program in the Kaieteur License Area, Offshore Guyana. The Kaieteur Block is located between 10.664° N, 57.418° W at the northwestern-most point, and 8.830° N, 56.668° W at the southeastern-most point, approximately 200 km offshore from Georgetown, Guyana. The drilling of the wells is expected to commence in the 4th 2022. Conclusion of the proposed drilling campaign is expected by first quarter 2027.

Based on the water depths in the Kaieteur Block, multiple dynamically-positioned drill ships would be used to drill the wells. The Kaieteur Multiwell well Programme aims to gather data on the reservoir characteristics, hydrocarbon presence, pressure, and temperatures. If the presence of hydrocarbons is discovered, wells will be tested to establish the limits of the reservoir. Additionally, the productivity of wells and the oil or gas properties present will be tested. Once the proposed drilling operations are complete, the exploration well will be permanently plugged and abandoned.

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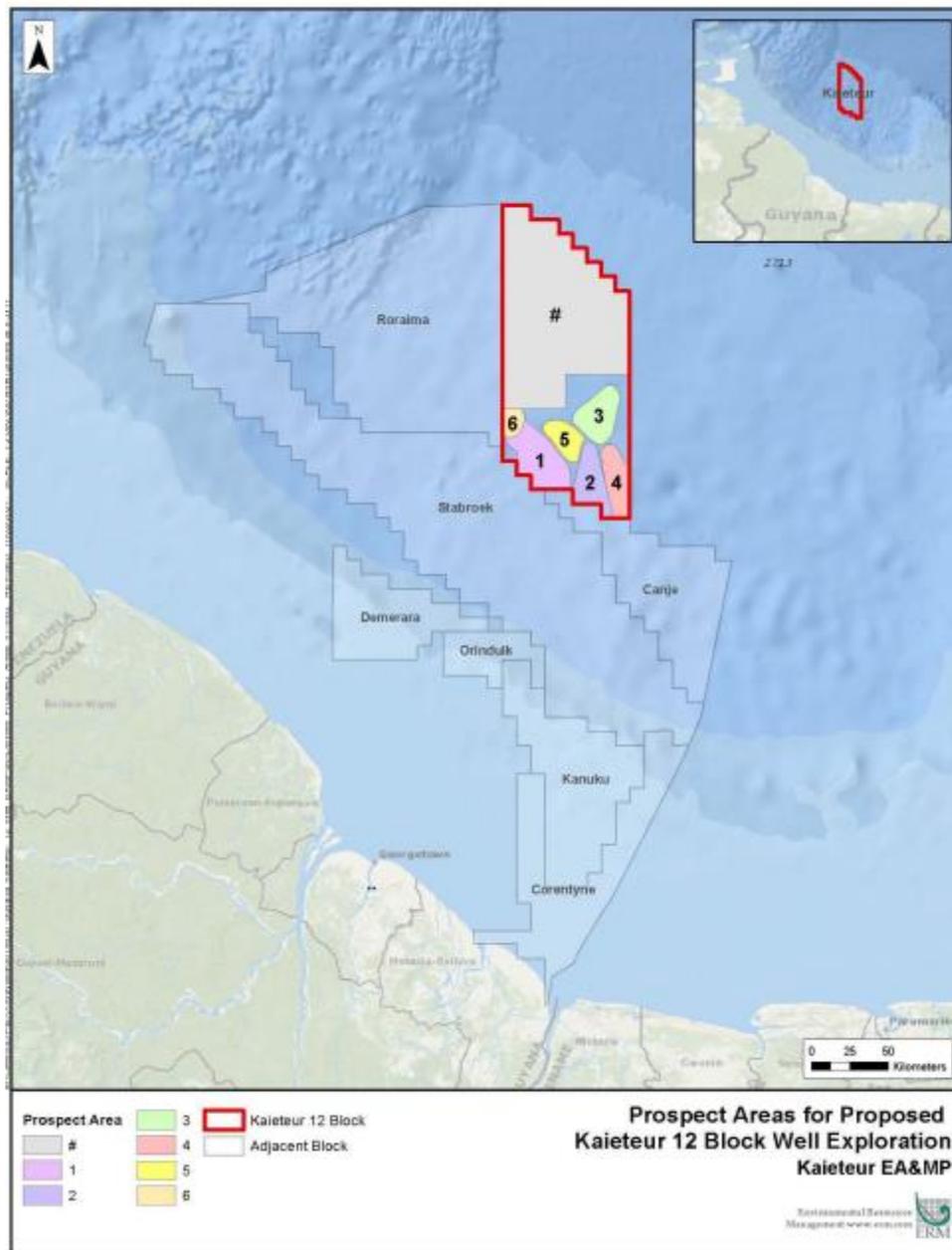
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The Project will generate hazardous and non-hazardous wastes. All waste streams for the Project will be managed in accordance with a Comprehensive Waste Management Plan (CWMP).

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Exploration and Appraisal Drilling proposed for the Kaieteur Block will be similar to previously executed Exploration and Drilling Campaigns undertaken by EEPGL.

Impacts of the Project

The potential impacts from the Project are physical, biological, and socioeconomic in nature. These impacts include but are not limited to the following;

1. Associated impacts on the Physical Resources, including Air Quality and Water Quality, are negligible to low, short-term and localized. The project area is in the open sea.
2. The Project can potentially affect biological organisms. Impacts on Biological Resources range from negligible to moderate. Coastal habitats could potentially be impacted due to non-routine, unplanned events. OSRP is cited as an embedded control mechanism. However, a copy of was not provided as part of the project summary.
3. The Project is not expected to directly cause negative changes to the coastal population demographic.

Embedded Controls

The EPA's screening concludes that the Project will not have a significant environmental impact, providing all proposed embedded control mechanisms and practices are implemented. The proposed embedded controls include but are not limited to the following:

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Control Mechanism	Resource/Receptor
<p>Flow only the minimum volume of hydrocarbons required for the test and reduce the test duration to the extent practical;</p> <p>Use an efficient test-flare burner head equipped with an appropriate combustion enhancement system to minimize incomplete combustion, black smoke, and hydrocarbon fallout to the sea;</p> <p>Record volumes of hydrocarbons flared during well drilling in End of Well Reports and make available to the EPA upon request;</p> <p>Provide adequate gas sensors that are appropriately located during testing operations, as a means of detecting all sources of gas;</p> <p>Monitor pipes and joints on a daily basis for leakages and fugitive emissions. Burn all collected gaseous streams in high-efficiency flares, and implement and maintain a leak detection and repair program;</p> <p>Keep the well test to the minimum practical time, in keeping with a pre-approved schedule with the EPA. Notify the EPA immediately in case of any deviation/variation to the well test; and</p> <p>Provide sufficient compressed air to the oil burner for efficient flaring assignment.</p>	<p style="text-align: center;">Well Testing</p>

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Use water-based drilling fluids to the extent reasonably practicable (upper sections of the wells). For well sections requiring non-aqueous drill fluid (NADF), use only low-toxicity International Oil and Gas Producers Group III base fluid.	Marine geology and sediments, marine water quality, marine mammals, marine turtles, marine fish, seabirds, marine benthos
When NADF is used, use a solids control and cuttings dryer system to treat drill cuttings such that end-of-well maximum weighted mass ratio averaged over all well sections drilled using NADF does not exceed 6.9 percent wet weight base fluid retained on cuttings.	Marine geology and sediments, marine water quality, marine mammals, marine turtles, marine fish, seabirds, marine benthos
Install a blowout preventer (BOP) system that can be closed rapidly in the event of an uncontrolled influx of formation fluids and that allows the well to be circulated to safety by venting the gas at surface and routing oil so that it may be contained.	Marine geology and sediments, marine water quality, marine mammals, marine turtles, marine fish, seabirds, marine benthos
Conduct BOP equipment inspections, after disconnection or repair of any pressure containment seal, and at regular intervals (at least every 21 days or as operations allow).	Marine geology and sediments, marine water quality, marine mammals, marine turtles, marine fish, seabirds, marine benthos
Visually check and take appropriate measures to mitigate occurrence of free oil resulting from discharge of NADF drill cuttings.	Marine geology and sediments, marine water quality, marine mammals, marine turtles, marine fish, seabirds, marine benthos
Employ trained Protected Species Observers (PSOs) during the conduct of seismic-related activities.	Marine mammals, marine turtles

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<p>Conduct a continuous observation of a mitigation zone (500 meters [1,640 feet] around the sound source) to verify whether it is clear of marine mammals and marine turtles before commencing sound producing seismic operations. Do not commence sound-producing seismic operations (including soft starts) if marine mammals or turtles are sighted within the mitigation zone during the 30 minutes prior to commencing sound-producing operations in water depths less than 200 meters [656 feet], or 60 minutes prior to commencing sound-producing operations in water depths greater than 200 meters [656 feet].</p>	<p>Marine mammals, marine turtles</p>
<p>Where reasonably practicable, equip sound-making devices or equipment with silencers or mufflers and are enclosed, and/or use soft-start procedures (e.g., for pile driving, vertical seismic profiling, etc.) to reduce noise to levels that do not cause material harm or injury to marine species. Adhere to the Joint Nature Conservation Committee guidelines (JNCC 2017) during the conduct of seismic-related activities.</p> <p>Perform required inspections and testing of all equipment prior to deployment/installation;</p> <ul style="list-style-type: none"> • Use dynamically overbalanced drilling fluids to control wells while drilling; • Perform operational training certification (including well-control training) for key drill ship leadership positions; 	<p>Marine mammals, marine fish, marine turtles</p>

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<ul style="list-style-type: none"> • Regularly audit field operations on the drill ships to confirm application of designed safeguards; and • Use controls for mitigating a failure of the Dynamic Positioning (DP) system on the drill ships and maintaining station-keeping, which include: <ul style="list-style-type: none"> – Use of a Class 3 DP system, which includes numerous redundancies; – Rigorous personnel qualifications and training; – Sea trials and acceptance criteria; – DP proving trials; – System Failure Mode and Effects Analysis; – DP failure consequence analysis; and – Establishment of well-specific operations guidelines. 	
<p>Maintain marine safety exclusion zones to be issued through the Maritime Administration Department with a 500-meter radius around drill ships and major installation vessels, to prevent unauthorized vessels from entering areas with an elevated risk of collision.</p>	<p>Marine use and transportation</p>

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<p>All vessel wastewater discharges (e.g., storage displacement water, ballast water, bilge water, deck drainage) should comply with International Maritime Organization (IMO)/International Convention for the Prevention of Pollution by Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78) requirements.</p>	<p>Marine water quality, marine mammals, marine turtles, marine fish, marine benthos, seabirds, ecological balance and ecosystems</p>
<p>Confirm leak detection systems are in place for equipment, treatment, and storage facilities (fuel, chemical, etc.) on drill ships in accordance with international offshore petroleum industry standards.</p>	<p>Marine geology and sediments, marine water quality, marine mammals, marine turtles, marine fish, marine benthos, seabirds</p>
<p>Confirm wastewater released from the onboard sewage treatment plant complies with aquatic discharge standards in accordance with MARPOL 73/78 regulations.</p>	<p>Marine geology and sediments, marine water quality, marine mammals, marine turtles, marine fish, marine benthos, seabirds</p>
<p>Provide for adequate onshore waste-management equipment and facilities for the proper management of waste in accordance with local regulation and good international oil field practice</p>	<p>Waste management infrastructure capacity</p>
<p>Treat bilge water in accordance with MARPOL 73/78 so that it may comply with an oil-in-water content of less than 15 parts per million, as applicable.</p>	<p>Marine geology and sediments, marine water quality, marine mammals, marine turtles, marine fish, marine benthos, seabirds</p>
<p>Use an established Safety, Security, Health, and Environment program to which all Project workers and contractors will be required to adhere to mitigate against risk of occupational hazards. All workers and contractors should receive training on the implementation of these principles and are required to adhere to them in the daily execution of their duties.</p>	<p>Workforce</p>

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Maintain an OSRP to enable an effective response to an oil spill, including maintaining the equipment and other resources specified in the OSRP and conducting periodic training and drills, including regular inspection and periodic testing of oil spill	All resources and receptors potentially impacted by an oil spill
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Decision

Project impacts have been deemed negligible to low, short-term and localized. An Environmental Impact Assessment (EIA) is not required based on the screening. However, an Environmental Management Plan (EMP) is required to outline the measures to be implemented to mitigate the impacts associated with the Project.

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