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REPORT
as of
APRIL 30, 2020
on
RESERVES and REVENUE
of
CERTAIN FIELDS
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

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FOREWORD

Scope of Investigation

This report presents estimates, as of April 30, 2020, of the extent of the proved, probable, and possible oil, condensate, and gas reserves and the value of the proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves of the Polvo, Tubarão Martelo, Frade, and Manati fields in Brazil in which PetroRio S.A. (PetroRio) has represented it holds an interest. The fields evaluated, PetroRio's working interests, and the concession expiration dates are shown in Table 1 of this report.

Estimates of reserves presented in this report have been prepared in accordance with the Petroleum Resources Management System (PRMS) approved in March 2007 and revised in June 2018 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, the Society of Petroleum Evaluation Engineers, the Society of Exploration Geophysicists, the Society of Petrophysicists and Well Log Analysts, and the European Association of Geoscientists & Engineers. These reserves definitions are discussed in detail in the Definition of Reserves section of this report.

Reserves estimated in this report are expressed as gross reserves and net reserves. Gross reserves are defined as the total estimated petroleum remaining to be produced from these properties after April 30, 2020. Net reserves are defined as that portion of the gross reserves attributable to the interests held by PetroRio after deducting all interests held by others, including royalties paid in kind. PetroRio has advised that its government royalty obligation is paid in cash; therefore, net reserves have not been reduced in consideration of this royalty obligation.

PetroRio has represented that it holds a 10-percent working interest in the Manati field, located in license block BCAM-40, that it holds a 100-percent working interest in the Polvo field, located in license block BM-C-8, and that it will hold a 100-percent working interest in the Tubarão Martelo field, located in license block BM-C-39, once the field is connected with the neighboring Polvo field. The connection of the Polvo and Tubarão Martelo fields is scheduled for March 2021. Under the terms of purchase, PetroRio will hold an 80-percent working interest in the Tubarão Martelo field until the field is connected with the Polvo field. Following the connection of the Polvo and Tubarão Martelo fields, PetroRio will hold a 100-percent working interest in both fields, but it will hold a net interest of 95 percent until 30 million barrels of oil are produced following the connection of the two fields. PetroRio's net interest will increase to 96 percent after 30 million barrels of oil are produced from the two fields. PetroRio has represented that it holds a 70-percent working interest in the Frade field and that it has executed a Sales and Purchase Agreement with Petrobras to acquire Petrobras' 30-percent working interest in the Frade field. PetroRio is awaiting the final regulatory approval by the ANP to complete the acquisition. For the purposes of this report, the "evaluated working interest" for the Frade field is 100 percent, which includes PetroRio's current interest plus Petrobras' working interest.

This report presents values for proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves that were estimated using prices, expenses, and costs provided by PetroRio. Prices, expenses, and costs were provided in United States dollars (U.S.$), and all monetary values in this report are expressed in U.S.$. A detailed explanation of the forecast price, expense, and cost assumptions is included in the Valuation of Reserves section of this report.

Values for proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves in this report are expressed in terms

of estimated future gross revenue, future net revenue, and present worth. Future gross revenue is defined as that revenue which will accrue to the evaluated interests from the production and sale of the estimated net reserves. Future net revenue is calculated by deducting royalties paid in cash, operating expenses, capital costs, abandonment costs, and the special participation fee (SPF) from the future gross revenue. Operating expenses include field operating expenses, transportation and processing expenses, and an allocation of overhead that directly relates to production activities. Capital costs include drilling and completion costs, facilities and pipeline costs, and well workover expenses. Abandonment costs are represented by PetroRio to be inclusive of those costs associated with the removal of equipment, plugging of wells, and reclamation and restoration associated with the abandonment. At the request of PetroRio, future income taxes were not taken into account in the preparation of these estimates. Present worth is defined as the future net revenue discounted at a specified arbitrary discount rate compounded monthly over the expected period of realization. Present worth should not be construed as fair market value because no consideration was given to additional factors that influence the prices at which properties are bought and sold. In this report, present worth values using a nominal discount rate of 10 percent are reported in detail and values using nominal discount rates of 5, 15, and 20 percent are reported as totals.

Estimates of reserves and revenue should be regarded only as estimates that may change as further production history and additional information become available. Not only are such estimates based on that information which is currently available, but such estimates are also subject to the uncertainties inherent in the application of judgmental factors in interpreting such information.

Authority

This report was authorized by Mr. Milton Rangel, Head of Finance, PetroRio S.A.

Source of Information

Information used in the preparation of this report was obtained from PetroRio. In the preparation of this report we have relied, without independent verification, upon information furnished by PetroRio with respect to the property interests being evaluated, production from such properties, current costs of operation and development, current prices for production, agreements relating to current and future

operations and sale of production, and various other information and data that were accepted as represented. A field examination of the properties was not considered necessary for the purposes of this report.

GEOLOGY

Manati Field

The Manati field is located in the Camamu Basin, offshore northeast Brazil (Figure 1). The field lies about 65 kilometers southwest of the city of Salvador, Bahia State. The field, discovered in 2000 by Petrobras, is within license block BCAM-40. Water depth over the field is about 40 meters.

The productive reservoirs in the Manati field are a thick sequence of upper Jurassic-age eolian and fluvial sandstones of the Sergi Formation. These were deposited before the start of rifting in this region. The Sergi is overlain by Cretaceous-age shales of the Itaipe Formation and sealed laterally by lacustrine sediments of the Morro do Barro Formation, which were deposited in the Tinharé Canyon and are the source rocks for petroleum in the Manati field.

The field structure is a four-way dipping feature that was later shaped by faulting and erosion. The western, northern, and eastern edges are the intersection of the north/south-trending Mutá regional fault with the Tinharé Canyon. The canyon formed after deposition of the field sandstones and replaced them with a thick shale section on the west side of the structure. The present structural dip is to the north and south, away from a crest in the center of the field. Other faults cross parts of the field and intersect the Mutá fault, but do not appear to compartmentalize the reservoirs. The southern field limit is a water contact.

A total of nine wells were drilled in the area to discover and delineate the field. Currently, six wells are producing gas from the multiple Sergi Formation sandstones in the field.

Polvo Field

The Polvo field is located in the Campos Basin, offshore Brazil (Figure 1). The field lies about 100 kilometers east of the city of Cabo Frio, Rio de Janeiro State.

In the Campos Basin, regional dip is toward the southeast, reflecting basinward dip caused by the opening of the Atlantic Ocean during the early Cretaceous. This structural configuration is also present in the Polvo field.

Basement rocks in the Campos Basin are Precambrian granites. As the basin began to open and fill, basalts of the Cabiúnas Formation flowed onto the granite basement. The earliest sediments in the basin are lacustrine shales and carbonates of the Lagoa Feia Formation, which is the primary hydrocarbon source formation for the basin. After the original rifting period, a massive sequence of continental and marine sediments accumulated in the basin. The lower part of this sequence is made up of conglomerates and carbonates, which are subsequently covered by a thick evaporite section, composed predominantly of salt and anhydrite. Above the evaporites are mudstones and oolitic grainstones, deposited during Albian time when a broad carbonate platform developed in the region. In the Polvo field, the Albian carbonates are the Quissamã members of the Macaé Formation. These carbonates accumulated in shallow water on northeast-trending local structural highs atop basement or salt uplifts.

As basin subsidence continued, coastal rivers flooded sands into the basin. These sands were deposited in environments ranging from deepwater turbidites to shallow-water deltaic and bay-lagoon settings. This style of sedimentation continued from the Cenomanian until the Miocene. In the Polvo field, the sandstones were deposited in coastal plain, lagoon, and bay-deltaic environments.

The initial drilling campaign identified several areas of Quissamã carbonate accumulation. After further evaluation, three of these areas were targeted for additional development, as follows: the Dev-7 and Dev-4&5 shoal areas, in the western part of the field, and the Dev-3 shoal area, referred to as the East Quissamã herein. Six platform wells have been drilled and completed as producers from the Quissamã accumulation.

The Turonian and Maastrichtian sandstones were found to be well developed and productive in separate accumulations east of the Quissamã wells. This part of the field was originally known as the Guarajuba field. At present, six wells produce from the Maastrichtian reservoir, four produce from the Turonian reservoir, and one produces from the Turonian East reservoir.

The Eocene-age reservoirs in this field are the marine sandstones of the Embore Formation, These clastic reservoirs were originally associated with a variety of sub-environments, deepwater turbidities, and submarine fans deposited in a slope basin. This formation was affected by salt

tectonics, which contributed to the generation of normal faults and, together with the top of the salt dome, work as seals for this field. The trap system is a combination of the structure and the stratigraphic, with lateral seals from the Oligocene canyon fill deposits.

These Eocene sandstone reservoirs were tested in six wells located at the edge of local horst-graven system. Five of the wells are located in the central part of the field, while the 1-Dev-6 well tested oil in the northern part.

Productive reservoir volumes were estimated using standard volumetric methods based on geological mapping utilizing seismic data and well logs. Structure maps were drawn for each reservoir. Isopach maps of the sandstone reservoirs were drawn using limits based on stratigraphy and structural oil/water contacts (OWC). In many of the sandstone reservoirs, the productive sands were often cut by overlying erosional unconformities that formed the northern, western, and eastern limits. The southern downdip limit was often an estimated OWC.

Tubarão Martelo Field

The producing reservoirs of the Tubarão Martelo field are in the Albo-Cenomanian Imbetiba and Quissama Formations of the Macaé Group.

The Imbetiba Formation is the uppermost section of the Macaé Group and can be described as a very clean limestone made up of mainly oolitic/oncolitic packstones and grainstones, peloidal packstones, peloidal wackestones, and peloidal/bioclastic mudstones. These high-energy shoal facies are typically deposited on structurally positive features, and are likely the result of salt movement and/or basement-involved faulting.

The high-energy shoals are the primary targets in the Imbetiba Formation in the Tubarão Martelo field. The reservoir features primary porosity, likely resulting from rapid deposition, low compaction, and a lack of calcite cement precipitated early in the burial process.

The Quissama Formation is the lowermost section of the Macaé Group and is predominantly below the OWC in the Tubarão Martelo field. The Quissama Formation is a secondary reservoir in the Tubarão

Martelo field. Reservoir quality in the Quissama Formation is more variable than in the overlying Imbetiba Formation.

The structural configuration of the Tubarão Martelo field is a southward-dipping monocline with northeast to southwest, up-to-the-basin antithetic faults trending across the northern portion of the field and a down-to-the-basin normal fault forming the southern closure of the field. The down-to-the-basin normal fault on the southern flank of the field creates a local horst block. Structural dip closes the structure to the west. In this evaluation, the oil accumulation was limited to the east by the Tubarão Martelo ring-fence boundary.

Low, best, and high original oil in place (OOIP) quantities were estimated for the Tubarão Martelo field. The low quantities were areally limited to the crestal portions of the Tubarão Martelo field based on the reduction of the net-to-gross ratio seen in wells drilled on the flanks of the field. For volumetric estimation purposes, the Imbetiba and Quissama reservoir section was subdivided into four units to account for variations in petrophysical properties. The uppermost unit represents the Imbetiba Formation and is referred to as Zone 1. The unit underlying Zone 1 is referred to as Zone 2, which represents a low-porosity interval encountered in each of the non-horizontal wells. The unit underlying Zone 2 is referred to as Zone 3, which represents the upper portion of the Quissima Formation. The lowermost reservoir unit in the field is named Zone 4, which represents the lower portion of the Quissama Formation. The vast majority of the oil in place in the Tubarão Martelo field is contained in Zone 1.

Frade Field

The Frade field is located in the northern area of the Campos Basin (Figure 1). The field was discovered in 1986 by Petrobras and is about 370 kilometers northwest of the city of Rio de Janeiro. Water depth over the field is about 1,200 meters.

Over a period of 80 million years, extending from the lower Cretaceous through the Miocene, rivers from mainland Brazil flooded the Campos Basin region with clastic sediments, which accumulated above a thick layer of lower Cretaceous salt. Subsequent deposition of younger sediment masses activated salt movement in many areas of the basin. In the area of the Frade field, this salt movement uplifted and deformed Oligocene-Miocene turbidite sandstones and shales and created structures that later became the hydrocarbon traps in the field.

The producing reservoirs of the Frade field are in the Oligo-Miocene turbidite reservoirs of the Carapebus Formation. In the field, there are five reservoir compartments separated by faulting. The sandstone reservoirs have average porosities estimated between 29 and 34 percent and average estimated permeabilities between 1.2 and 3.8 darcys.

DEFINITION of RESERVES

Estimates of proved, probable, and possible reserves presented in this report have been prepared in accordance with the PRMS approved in March 2007 and revised in June 2018 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, the Society of Petroleum Evaluation Engineers, the Society of Exploration Geophysicists, the Society of Petrophysicists and Well Log Analysts, and the European Association of Geoscientists & Engineers. The petroleum reserves are defined as follows:

Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must satisfy four criteria: discovered, recoverable, commercial, and remaining (as of the evaluation's effective date) based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by development and production status.

> *Proved Reserves* are those quantities of petroleum that, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable from a given date forward from known reservoirs and under defined economic conditions, operating methods, and government regulations. If deterministic methods are used, the term "reasonable certainty" is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the estimate.
>
> *Probable Reserves* are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves. It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.

Possible Reserves are those additional reserves that analysis of geoscience and engineering data indicates are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high-estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate.

Once projects satisfy commercial maturity, the associated quantities are classified as Reserves. These quantities may be allocated to the following subdivisions based on the funding and operational status of wells and associated facilities within the reservoir development plan:

Developed Reserves are quantities expected to be recovered from existing wells and facilities. Reserves are considered developed only after the necessary equipment has been installed, or when the costs to do so are relatively minor compared to the cost of a well. Where required facilities become unavailable, it may be necessary to reclassify Developed Reserves as Undeveloped. Developed Reserves may be further sub-classified as Producing or Non-Producing.

Developed Producing Reserves are expected quantities to be recovered from completion intervals that are open and producing at the effective date of the estimate. Improved recovery Reserves are considered producing only after the improved recovery project is in operation.

Developed Non-Producing Reserves include shut-in and behind-pipe reserves. Shut-in Reserves are expected to be recovered from (1) completion intervals that are open at the time of the estimate but which have not yet started producing, (2) wells which were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are expected to be recovered from zones in existing wells that will require additional completion work or future re-completion before start of production with minor cost to access these reserves. In all cases, production can

be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.

Undeveloped Reserves are quantities expected to be recovered through future significant investments. Undeveloped Reserves are to be produced (1) from new wells on undrilled acreage in known accumulations, (2) from deepening existing wells to a different (but known) reservoir, (3) from infill wells that will increase recovery, or (4) where a relatively large expenditure (e.g., when compared to the cost of drilling a new well) is required to (a) recomplete an existing well or (b) install production or transportation facilities for primary or improved recovery projects.

The extent to which probable and possible reserves ultimately may be recategorized as proved reserves is dependent upon future drilling, testing, and well performance. The degree of risk to be applied in evaluating probable and possible reserves is influenced by economic and technological factors as well as the time element. Estimates of probable and possible reserves in this report have not been adjusted in consideration of these additional risks to make them comparable to estimates of proved reserves.

ESTIMATION of RESERVES

Estimates of reserves were prepared by the use of appropriate geologic, petroleum engineering, and evaluation principles and techniques that are in accordance with practices generally recognized by the petroleum industry and in accordance with definitions established by the PRMS. The method or combination of methods used in the analysis of each reservoir was tempered by experience with similar reservoirs, stage of development, quality and completeness of basic data, and production history.

Based on the current stage of field development, production performance, the development plans provided by PetroRio, and the analyses of areas offsetting existing wells with test or production data, reserves were categorized as proved, probable, or possible.

The proved undeveloped reserves estimates were based on opportunities identified in the plan of development provided by PetroRio. Proved developed non-producing reserves include those quantities associated with behind-pipe zones and include minor remaining capital expenditure as compared to the cost of a new well.

PetroRio has represented that its senior management is committed to the development plan provided by PetroRio and that PetroRio has the financial capability to execute the development plan, including the drilling and completion of wells and the installation of equipment and facilities.

Reserves were limited to the economic limit as defined in the Definition of Reserves section of this report or the expiration date of the production concession license, whichever occurs first.

Data provided by PetroRio from wells drilled through April 2020, and made available for this evaluation were used to prepare the reserves estimates herein. These reserves estimates were based on consideration of monthly production data available only through March 31, 2020. Estimated cumulative production, as of April 30, 2020, was deducted from the estimated gross ultimate recovery to estimate gross reserves. This required that production be estimated for up to 1 month.

Oil reserves estimated herein are to be recovered by normal field separation. Condensate reserves were estimated by applying a constant condensate-gas ratio to the sales gas forecast. The condensate-gas ratio was estimated based on production history. Oil and condensate reserves estimated herein are expressed in thousands of barrels (10^3bbl). In these estimates, 1 barrel equals 42 United States gallons.

Gas quantities estimated herein are expressed as sales gas. Sales gas is defined as the total gas to be produced from the reservoirs, measured at the point of delivery, after reduction for fuel usage, flare, and shrinkage resulting from field separation and processing. Gas reserves estimated herein are reported as sales gas. Gas quantities are expressed at a temperature base of 20 degrees Celsius (°C) and at a pressure base of 1 atmosphere (atm). Gas quantities included in this report are expressed in millions of cubic feet (10^6ft^3).

Gas quantities are identified by the type of reservoir from which the gas will be produced. Nonassociated gas is gas at initial reservoir conditions with no crude oil present in the reservoir. Associated gas includes both gas-cap gas and solution gas. Gas-cap gas is gas at initial reservoir conditions and is in communication with an underlying crude oil zone. Solution gas is gas dissolved in crude oil at initial reservoir conditions. Gas quantities estimated herein are nonassociated gas.

Manati Field

The Manati field was discovered in 1990 by Petrobras with the drilling of the 1-BAS-128 well in a water depth of approximately 40 meters. In 2007, production commenced from a production platform, which is connected with a subsea pipeline to an onshore gas processing facility. The Manati field is located in license block BCAM-40, and the terms of the production concession license expire in 2029. Petrobras is the operator of the field.

For the Manati field, the material-balance method was used to estimate the original gas in place (OGIP). Estimates of ultimate recovery were obtained after applying recovery factors to the OGIP. These recovery factors were based on consideration of the type of energy inherent in the reservoirs, analyses of the petroleum, the structural positions of the properties, analogs, and well production histories. Reservoir performance parameters, such as cumulative production, producing rate, reservoir pressure, gas-oil ratio behavior, and water

production, were considered in estimating recovery efficiencies used in estimating gross ultimate recovery.

Proved developed producing reserves were estimated for current active producing wells using the material-balance method by integrating updated production, pressure, fluid properties, well productivities, and considering the gas production rate plateau strategy provided by PetroRio. Proved developed non-producing reserves were estimated to be zero; therefore, proved developed reserves equal proved developed producing reserves. PetroRio has represented that the development plan for the Manati field does not consider additional drilling locations or the installation of new production facilities. Proved undeveloped reserves were estimated to be zero.

Probable and possible reserves were estimated for the Manati field considering more favorable behavior than that used to estimate proved reserves.

Reserves were estimated to the economic limit as defined in the Definition of Reserves section of this report, which occurs prior to the expiration date of the concession.

Polvo Field

The Polvo field was discovered in 1993 by Petrobras with the drilling of the 1-RJS-486A well. In 2000, during the Agência Nacional de Petróleo's (ANP) second licensing round, license block BM-C-8 containing the Polvo field was awarded to Devon Energy do Brasil Ltda. (Devon) and partners. Devon continued field delineation drilling and development. A portion of license block BM-C-8 was relinquished following declaration of commerciality and the establishment of the Polvo Development Area ring fence. In 2011, BP acquired Devon's interest in the Polvo field, and in 2013 PetroRio acquired BP's interest in the field. PetroRio has represented that the production concession license for license block BM-C-8 continues through July 1, 2032, and that PetroRio will apply for a license extension to the regulatory agency in Brazil (ANP) which would ensure the Polvo field produces to the field's economic limit. Based on PetroRio's representations, reserves evaluated herein were estimated to the economic limit as defined in the Definitions of Reserves section of this report and within one license extension for the Polvo field.

Production commenced in the Polvo field in August 2007. The average gravity of the produced Polvo crude is 21 degrees API. The producing gas-oil ratio in the field is approximately 100 cubic feet per barrel, and all produced gas is either used as fuel or flared. The water depth in the Polvo field ranges from 90 to 250 meters. The field was developed with a drilling/production platform and a floating, production, storage, and offloading vessel (FPSO), both in a water depth of approximately 100 meters. A multiphase pipeline transports the produced fluids from the platform to the Polvo FPSO. All producing wells are horizontal/highly deviated and are completed with electric submersible pumps (ESP). In March 2021, PetroRio intends to decommission the Polvo FPSO and connect all producing wells in the Polvo field to OSX-3 FPSO in the neighboring Tubarão Martelo field.

For the Polvo field, the volumetric method was used to estimate the OOIP. Structure maps were prepared to delineate each reservoir, and isopach maps were constructed to estimate reservoir volume. Electrical logs, radioactivity logs, core analyses, and other available data were used to prepare these maps as well as to estimate representative values for porosity and water saturation.

Estimates of ultimate recovery were obtained after applying recovery factors to OOIP. These recovery factors were based on consideration of the type of energy inherent in the reservoirs, analyses of the petroleum, the structural positions of the properties, analogs, and well production histories. Reservoir performance parameters such as cumulative production, oil producing rate, reservoir pressure, gas-oil ratio behavior, and water production were considered in estimating recovery efficiencies used in estimating gross ultimate recovery.

Proved developed producing reserves were estimated by analysis of individual-well oil rate versus time decline-curve analysis. Proved developed non-producing reserves were estimated to be zero; therefore, proved developed reserves equal proved developed producing reserves. Proved undeveloped reserves were estimated for the extension of the field life after the Polvo field is connected to the Tubarão Martelo FPSO and for two future production well locations, the PoL-B and Pol-C wells. Probable undeveloped reserves were estimated for one future well location, Pol-A. The Pol-A, Pol-B, and Pol-C future well locations will target an Eocene reservoir and its reserves were estimated based upon analogy and numerical simulation. A three-dimensional sector model was developed for the Eocene undeveloped well locations to run in a black-oil simulator to aid in estimating ultimate

oil recovery, potential production profiles, and recovery factors. Production from the future well locations is scheduled to start in 2021.

Probable and possible reserves were estimated for incremental recoveries above quantities estimated for proved and proved-plus-probable reserves, respectively.

No gas reserves were estimated for the Polvo field, since PetroRio has represented that there are no plans for gas sales.

Tubarão Martelo Field

The Tubarão Martelo field was discovered in 2010 by OGX with the drilling of the 1-OGX-25-RJS well in license block BM-C-39. Approval for the Tubarão Martelo development plan was issued by the ANP in July 2013. Initial oil production in the field began in December 2013. PetroRio has represented in February 2020 it acquired the interest previously held by OGX in the Tubarão Martelo field and that the production concession license for license block BM-C-39 continues through April 2039. PetroRio has represented that it will apply to the ANP for a license extension which would ensure that the Tubarão Martelo field produces to the field's economic limit. Based on PetroRio's representations, reserves evaluated herein were estimated to the economic limit as defined in the Definitions of Reserves section of this report and within one license extension for Tubarão Martelo field.

For the Tubarão Martelo field, the volumetric method was used to estimate the OOIP. Structure maps were prepared to delineate each reservoir, and isopach maps were constructed to estimate reservoir volume. Electrical logs, radioactivity logs, core analyses, and other available data were used to prepare these maps as well as to estimate representative values for porosity and water saturation.

Estimates of ultimate recovery were obtained after applying recovery factors to OOIP. These recovery factors were based on consideration of the type of energy inherent in the reservoirs, analyses of the petroleum, the structural positions of the properties, analogs, and well production histories. Reservoir performance parameters such as cumulative production, oil producing rate, reservoir pressure, gas-oil ratio behavior, and water production were considered in estimating recovery efficiencies used in estimating gross ultimate recovery.

Proved developed producing reserves were estimated by analysis of individual-well oil rate versus time decline-curve analysis. Proved developed non-producing reserves were estimated for activation of two wells, 7-TMBT-4H and 7-TMBT-2H, based upon analogy with historical performance of nearby wells in the same reservoir and considering the estimated drainage areas. Proved undeveloped reserves were estimated for the extension of the field life in consideration of the capital associated with the connection of the Polvo field to the Tubarão Martelo FPSO and for one well, 7-TMBT-10H, based upon analogy with historical performance of nearby wells in the same reservoir and considering the estimated drainage areas.

Probable and possible reserves were estimated for incremental recoveries above quantities estimated for proved and proved-plus-probable reserves, respectively.

No gas reserves were estimated for the Tubarão Martelo field, since PetroRio has represented that there are no plans for gas sales.

Frade Field

The Frade field is located offshore in the Campos Basin, Brazil, at a water depth of approximately 1,200 meters, and produces from Miocene- and Oligocene-age turbidite sandstone reservoirs with average estimated porosities between 29 and 34 percent, average estimated permeabilities between 1.2 and 3.8 darcys, and oil gravities ranging between 16 and 24 degrees API. The Frade field was discovered by Petrobras in 1986, and Chevron and its partners began development activities in 2008. First oil was achieved in June 2009 using a subsea gathering system connected to a FPSO. A total of 11 horizontal production wells and 5 vertical water injection wells have been drilled since 2008, as well as several pilot boreholes. Water injection started in July 2010, but was suspended in November 2011 due to a pressure kick that occurred when drilling one of the field wells. Production was suspended in the field in March 2012 due to oil seeps interpreted to be associated with fractures connecting to the sea floor that are believed to have been opened by localized higher pressures near the injection wells. Production restarted in April 2013, and 10 wells were on production at the end of July 2019. Water injection is expected to recommence only through new horizontal injection wells and after the water injection filtration system has been upgraded, as per the current development plan for the Frade field provided by PetroRio.

As represented by PetroRio, the original concession expiration date is August 2025. However, PetroRio has also represented that the regulatory agency in Brazil (ANP) has approved an extension, provided that certain activities will be carried out in the field, including, among other things, drilling at least five wells and one contingent water injection well and carrying out certain modifications to the water injection filtration system. PetroRio has represented that it plans to comply with the ANP's requirements for the extension of the concession, and that its development plan includes drilling four horizontal production wells and three horizontal water injection wells, as well as the other investments and activities required by the ANP. Based on PetroRio's representations, reserves evaluated herein were estimated to the economic limit as defined in the Definition of Reserves section of this report and within one license extension.

Proved developed producing reserves were estimated for the existing wells by the application of appropriate decline curves or other performance relationships, primarily the semi-logarithmic plots of oil rate versus time and the Cartesian plot of oil rate versus cumulative oil. Proved undeveloped reserves were estimated for the future production wells based upon analogy with historical performance of nearby wells in the same reservoir and considering the estimated drainage areas. Probable reserves were estimated for the future water injection wells based upon analogy, material-balance, and reservoir simulation methods.

Probable and possible reserves were estimated for incremental recoveries above quantities estimated for proved and proved-plus-probable reserves, respectively.

Production forecasts of the proved developed, total proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves were estimated for this evaluation. These forecasts were prepared using the development plan for the field, including, as appropriate, the drilling of additional wells and the installation of new production facilities and pipelines. The sales gas reserves estimated herein are those quantities of gas forecast to be produced after the fuel requirements for the FPSO have been met.

Table 2 presents a summary of the gross and net reserves for the Polvo, Tubarão Martelo, Frade, and Manati fields evaluated herein.

VALUATION of RESERVES

Revenue values in this report were estimated using forecast prices, expenses, and costs provided by PetroRio.

In this report, revenue values for proved developed, total proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves were based on projections of estimated future production and revenue prepared for these properties with no risk adjustment applied to the probable and possible reserves. Probable and possible reserves involve substantially higher risk than proved reserves. Revenue values associated with proved-plus-probable and proved-plus-probable-plus-possible reserves have not been adjusted to account for such risks; this adjustment would be necessary in order to make values associated with probable and possible reserves comparable to values associated with proved reserves.

PetroRio has represented that it holds a 100-percent working interest in the Polvo field, a 100-percent evaluated working interest in the Frade field, and a 10-percent working interest in the Manati field. PetroRio has also represented that it holds an 80-percent working interest in the Tubarão Martelo field until the field is connected to the neighboring Polvo field, after which PetroRio will hold a 100-percent working interest in the field. Following the connection of the Tubarão Martel field with the Polvo field, PetroRio will hold a net interestof 95 percent from the combined oil production from the two fields. The remaining 5-percent net interest is held by Dommo Energia, formerly OGX Petróleo e Gas SA, until 30 million barrels of oil are produced, and then PetroRio's net interest increases to 96 percent for the lives of the fields.

Estimates of future net revenue have been made in accordance with the Government of Brazil's Petroleum Law n° 9,478, the Petroleum Law of 1997. The fiscal terms outlined in the Petroleum Law of 1997 and assessable to PetroRio as well as other economic assumptions used in this evaluation are presented as follows:

Brazilian Fiscal Terms

The Petroleum Law of 1997 affords the Brazilian Government three elements of government take: 1) petroleum levies consisting of royalties, a special participation fee, and surface

rentals; 2) direct taxes, which are levied through the financial transaction tax, the corporate income tax, and two social contribution taxes; and 3) indirect taxes, which are levies on equipment and services used by companies engaged in exploration and production activities. Indirect tax levies for which PetroRio may be responsible for have not been included in the estimates of operating expenses and capital costs. Certain indirect levies are eligible for reimbursement from sales of refined products. The reimbursement of the indirect levies from refined product sales has not been accounted for in this evaluation.

Royalties

The federal royalty rate in Brazil varies by field between 5 and 10 percent. PetroRio provided federal royalty rates of 7.5 percent for the Manati field and 10 percent for the Tubarão Martelo and Frade fields. The federal royalty rates for the Polvo field were updated in 2019 to incur a royalty rate of 10 percent on a portion of the oil production equal or under a field baseline oil production forecast; any additional oil production volumes in the year will have a reduced royalty rate of 5 percent. PetroRio has advised that these royalties are paid in cash.

Oil royalty is assessed on the market value of the oil (and condensate), which is defined as the greater of the sales price or the market valuation as determined by the ANP. Gas royalty is levied on the market value of the gas production less gas injected.

Special Participation Fee

The SPF is a tax assessed at the field level on a sliding-scale basis that varies depending on the location of the field (onshore or offshore), water depth, level of production, and number of years on production. The tax basis for the SPF is similar to the tax basis for corporate income tax (CIT), with some exceptions. Drilling costs are depreciated using a units-of-production basis for SPF, but expensed for CIT. An annual provision for

abandonment costs is also deductible for SPF, but expensed in the year incurred for CIT. In years in which the SPF is paid, there is an additional 1-percent research and development fee assessed.

Surface Rental Fees

Rental fees are payable to the ANP and vary by field, depending on stage of activity (exploration or development), geological characteristics, and location of sedimentary basin. The surface rental fees are included herein in the estimates of field operating expenses.

Corporate Income Tax

As advised by PetroRio, income taxes have not been considered in this evaluation.

Social Contribution Taxes

Two social contribution taxes are levied on the market value of oil and gas sales. The Contribution for the Worker's Social Integration Program (PIS) is assessed at a rate of 1.65 percent and the Contribution for Social Security Funding (COFINS) is levied at a 7.6-percent rate. At the Request of PetroRio, these taxes have not been considered in the estimates of future net revenue included herein.

Product Prices

PetroRio provided the following sales price forecast for the Polvo, Tubarão Martelo, Frade, and Manati fields. Prices are expressed in United States dollars per barrel (U.S.$/bbl) and United States dollars per thousand cubic feet (U.S.$/$10^3 ft^3$).

Year	Polvo and Tubaro Martelo Fields Oil Sales Price (U.S.$/bbl)	Frade Field Oil Sales Price (U.S.$/bbl)	Manati Field Condensate Sales Price (U.S.$/bbl)	Manati Field Gas Sales Price (U.S.$/10^{3}ft^3)
2020	35.00	38.50	40.00	6.69
2021	45.00	48.50	50.00	6.95
2022 to 2032	55.00	58.50	60.00	7.23-8.42
2033 Forward	57.00	60.50	62.00	-

Operating Expenses, Capital Costs, and Abandonment Costs

Operating expenses for the fields were provided by PetroRio and were represented to include all costs associated with the operation and maintenance of equipment and personnel and include surface rental fees.

Abandonment costs, which are those costs associated with the removal of equipment, plugging of wells, and reclamation and restoration associated with the abandonment, were based on information provided by PetroRio. For the Polvo and Tubarão Martel fields, abandonment costs were included in the year following cessation of production. Abandonment costs for the Frade field were included in the last year of production and the following year. For the Manati field, abandonment costs were included as a yearly accrual to an abandonment fund, which PetroRio has represented is fully funded. As represented by PetroRio, the Manati field owners reimburse the third-party operator of the compression facility through annual tariff payments until the contractual amount has been reached. These yearly payments have not been included in the determination of the economic limit presented in this report.

Exchange Rate

All costs and revenues included herein were estimated in U.S.$. Certain operating costs paid in Brazilian reais were converted to U.S.$ by PetroRio.

A summary of future net revenue for the proved developed, total proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves are presented by field in Table 3.

Projections of future net revenue for the proved developed, total proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves for the Polvo, Tubarão Martelo, Frade, and Manati fields are shown in Tables 4 through 16.

SUMMARY and CONCLUSIONS

PetroRio has represented that it holds interests in the Polvo, Tubarão Martelo, Frade, and Manati fields located in Brazil. The estimated gross and net proved developed, proved undeveloped, total proved, probable, and possible reserves, as of April 30, 2020, of the properties evaluated herein are summarized as follows, expressed in thousands of barrels (10^3bbl) and millions of cubic feet (10^6ft^3):

	Gross Reserves			Net Reserves		
	Oil (10^3bbl)	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Oil (10^3bbl)	Condensate (10^3bbl)	Sales Gas (10^6ft^3)
Proved						
Developed	66,523	500	155,453	62,275	50	15,593
Undeveloped	47,110	0	5,312	48,603	0	5,312
Total Proved	113,633	500	160,765	110,878	50	20,905
Probable	78,718	40	20,931	76,833	4	7,053
Possible	87,654	0	7,838	85,536	0	4,751

Notes:
1. Net proved undeveloped reserves are higher than the gross proved undeveloped reserves due to the net interest in the Tubarão Martelo field, which will increase from 80 percent to 95 percent once the Polvo field is connected.
2. Probable and possible reserves have not been risk adjusted to make them comparable to proved reserves.

The estimated future net revenue attributable to PetroRio's interest in the proved developed, total proved, proved-plus-probable, and proved-plus-probable-plus-possible net reserves, as of April 30, 2020, of the properties evaluated under the economic assumptions described herein is summarized as follows, expressed in thousands of United States dollars (10^3U.S.$):

	Proved Developed (10^3U.S.$)	Total Proved (10^3U.S.$)	Proved plus Probable (10^3U.S.$)	Proved plus Probable plus Possible (10^3U.S.$)
Future Gross Revenue	3,403,023	6,143,899	10,544,879	15,462,931
Royalties Paid in Cash	340,498	608,446	979,275	1,408,183
Operating Expenses	1,493,431	2,012,517	3,135,888	4,159,343
Capital Costs	112,044	657,245	1,073,645	1,222,645
Abandonment Costs	413,549	458,549	488,549	488,549
SPF	1,155	1,155	1,489	4,968
Future Net Revenue	1,038,945	2,405,987	4,866,033	8,179,236
Present Worth at 10 Percent	927,051	1,768,198	2,890,795	4,090,016

Notes:
1. Values for probable and possible reserves have not been risk adjusted to make them comparable to values for proved reserves.
2. Future social contribution tax expenses were not taken into account in the preparation of these estimates.
3. Future corporate income taxes were not taken into account in the preparation of these estimates.

While the oil and gas industry may be subject to regulatory changes from time to time that could affect an industry participant's ability to recover its reserves, we are not aware of any such governmental actions which would restrict the recovery of the April 30, 2020, estimated reserves.

DeGolyer and MacNaughton is an independent petroleum engineering consulting firm that has been providing petroleum consulting services throughout the world since 1936. Our fees were not contingent on the results of our evaluation. This report has been prepared at the request of PetroRio. DeGolyer and MacNaughton has used all assumptions, procedures, data, and methods that it considers necessary to prepare this report.

Submitted,

DeGolyer and MacNaughton

DeGOLYER and MacNAUGHTON
Texas Registered Engineering Firm F-716

SIGNED: May 15, 2020

Federico Dordoni, P.E.

Federico Dordoni, P.E.
Vice President
DeGolyer and MacNaughton

TABLE 1
WORKING INTERESTS and CONTRACT EXPIRATION DATES
as of
APRIL 30, 2020
for the
CERTAIN FIELDS
with interests attributable to
PETRORIO S.A.
in
BRAZIL

PRMS CASE

Field	Working Interest	Concession Expiration Date	Extension of the Concession Expiration Date
Polvo	100.00%	July 1, 2032	July 1, 2059
Tubarão Martelo	80.00-100.00%	April 30, 2039	April 30, 2066
Frade	100.00%	August 31, 2025	August 31, 2052
Manati	10.00%	November 1, 2029	Not Applicable

Notes:

1. Petrorio has represented their working interest in the Tubarão Martelo is 80% until the field is connected to the Polvo field scheduled in March 2021 at which time Petrorio will hold 100% working interest in the Tubarão Martelo field.
2. PetroRio has represented that it holds a 70-percent working interest in the Frade field and that it has executed a Sales and Purchase Agreement with Petrobras to acquire Petrobas' 30-percent working interest in the Frade field. PetroRio is awaiting the final regulatory approval by the ANP to complete the acquisition.
3. Projected forecasts and estimated economic limits occur beyond the expiration of the concession agreements for the Polvo, Tubarão Martelo, and Frade fields. PetroRio has represented that it will meet the conditions required by the National Petroleum Agency (ANP) to obtain concession extensions. Based on this representation, and at PetroRio's reques the reserves evaluated herein consider the potential concession extensions for those fields.

TABLE 2
SUMMARY of GROSS and NET RESERVES
as of
APRIL 30, 2020
for
CERTAIN FIELDS
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

Gross Reserves

	Proved Developed			Proved Undeveloped			Total Proved			Probable			Possible		
Field	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**
Polvo	8,997	0	0	12,799	0	0	21,796	0	0	28,962	0	0	31,473	0	0
Tubarão Martelo	21,233	0	0	10,378	0	0	31,611	0	0	17,665	0	0	20,337	0	0
Frade	36,293	0	53	23,933	0	5,312	60,226	0	5,365	32,091	0	5,511	35,844	0	4,408
Manati	0	500	155,400	0	0	0	0	500	155,400	0	40	15,420	0	0	3,430
Total	**66,523**	**500**	**155,453**	**47,110**	**0**	**5,312**	**113,633**	**500**	**160,765**	**78,718**	**40**	**20,931**	**87,654**	**0**	**7,838**

Net Reserves

	Proved Developed			Proved Undeveloped			Total Proved			Probable			Possible		
Field	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**	**Oil (10^3bbl)**	**Condensate (10^3bbl)**	**Sales Gas (10^6ft^3)**
Polvo	8,997	0	0	11,907	0	0	20,904	0	0	27,788	0	0	30,209	0	0
Tubarão Martelo	16,985	0	0	12,763	0	0	29,748	0	0	16,954	0	0	19,483	0	0
Frade	36,293	0	53	23,933	0	5,312	60,226	0	5,365	32,091	0	5,511	35,844	0	4,408
Manati	0	50	15,540	0	0	0	0	50	15,540	0	4	1,542	0	0	343
Total	**62,275**	**50**	**15,593**	**48,603**	**0**	**5,312**	**110,878**	**50**	**20,905**	**76,833**	**4**	**7,053**	**85,536**	**0**	**4,751**

Note: Probable and possible reserves have not been risk adjusted to make them comparable to proved reserves.

TABLE 3
SUMMARY of FUTURE NET REVENUE
as of
APRIL 30, 2020
for
CERTAIN FIELDS
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

Proved Developed

Field	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
Polvo	422,675	39,265	326,194	0	42,600	0	11,215	18,304
Tubarão Martelo	885,295	89,435	378,108	87,500	79,500	0	250,752	217,073
Frade	1,980,634	202,778	750,191	23,780	290,000	0	713,885	637,999
Manati	114,419	9,020	38,938	764	1,449	1,155	63,093	53,675
Total	**3,403,023**	**340,498**	**1,493,431**	**112,044**	**413,549**	**1,155**	**1,038,945**	**927,051**

Total Proved

Field	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
Polvo & Tubarão Martelo	2,644,726	251,603	1,051,024	280,501	127,100	0	934,498	683,383
Frade	3,384,754	347,823	922,555	375,980	330,000	0	1,408,396	1,031,140
Manati	114,419	9,020	38,938	764	1,449	1,155	63,093	53,675
Total	**6,143,899**	**608,446**	**2,012,517**	**657,245**	**458,549**	**1,155**	**2,405,987**	**1,768,198**

Proved plus Probable

Field	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
Polvo & Tubarão Martelo	5,130,364	425,758	1,750,324	455,501	127,100	0	2,371,681	1,365,590
Frade	5,288,631	543,587	1,346,551	617,380	360,000	0	2,421,113	1,463,577
Manati	125,884	9,930	39,013	764	1,449	1,489	73,239	61,628
Total	**10,544,879**	**979,275**	**3,135,888**	**1,073,645**	**488,549**	**1,489**	**4,866,033**	**2,890,795**

Proved plus Probable plus Possible

Field	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
Polvo & Tubarão Martelo	7,903,880	635,938	2,169,904	579,501	127,100	0	4,391,437	2,077,081
Frade	7,430,698	762,116	1,950,416	642,380	360,000	3,386	3,712,400	1,949,563
Manati	128,353	10,129	39,023	764	1,449	1,582	75,399	63,372
Total	**15,462,931**	**1,408,183**	**4,159,343**	**1,222,645**	**488,549**	**4,968**	**8,179,236**	**4,090,016**

Note: Probable and possible reserves and the values associated with probable and possible reserves have not been risk adjusted to make them comparable to proved reserves.

TABLE 4
PROJECTION of PROVED DEVELOPED RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
POLVO FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

Year	Gross Oil Production (10^3bbl)	Net Oil Production (10^3bbl)	Oil Price (U.S.$/bbl)	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
2020 (8 mos)	2,257	2,257	35.00	78,995	7,032	59,308	3,401	0	0	9,254	8,916
2021	2,702	2,702	45.00	121,590	11,162	88,962	0	0	0	21,466	19,040
2022	2,204	2,204	55.00	121,220	11,378	88,962	0	0	0	20,880	16,765
2023	1,834	1,834	55.00	100,870	9,693	88,962	0	0	0	2,215	1,610
2024	0	0	-	0	0	0	0	42,600	0	(42,600)	(28,027)
2025	0	0	-	0	0	0	0	0	0	0	0
2026	0	0	-	0	0	0	0	0	0	0	0
2027	0	0	-	0	0	0	0	0	0	0	0
2028	0	0	-	0	0	0	0	0	0	0	0
2029	0	0	-	0	0	0	0	0	0	0	0
2030	0	0	-	0	0	0	0	0	0	0	0
2031	0	0	-	0	0	0	0	0	0	0	0
2032	0	0	-	0	0	0	0	0	0	0	0
2033	0	0	-	0	0	0	0	0	0	0	0
2034	0	0	-	0	0	0	0	0	0	0	0
2035	0	0	-	0	0	0	0	0	0	0	0
2036	0	0	-	0	0	0	0	0	0	0	0
2037	0	0	-	0	0	0	0	0	0	0	0
2038	0	0	-	0	0	0	0	0	0	0	0
2039	0	0	-	0	0	0	0	0	0	0	0
2040	0	0	-	0	0	0	0	0	0	0	0
2041	0	0	-	0	0	0	0	0	0	0	0
2042	0	0	-	0	0	0	0	0	0	0	0
2043	0	0	-	0	0	0	0	0	0	0	0
2044	0	0	-	0	0	0	0	0	0	0	0
Total	**8,997**	**8,997**		**422,675**	**39,265**	**326,194**	**3,401**	**42,600**	**0**	**11,215**	**18,304**

Present Worth (10^3U.S.$) at:	
5 Percent	**15,351**
15 Percent	**20,340**
20 Percent	**21,668**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.

TABLE 5
PROJECTION of PROVED DEVELOPED RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
TUBARÃO MARTELO FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

Year	Gross Oil Production (10^3bbl)	Net Oil Production (10^3bbl)	Oil Price (U.S.$/bbl)	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
2020 (8 mos)	1,569	1,255	35.00	43,925	4,489	14,376	0	0	0	25,060	24,146
2021	2,973	2,378	45.00	107,010	10,819	21,564	12,500	0	0	62,127	55,106
2022	2,735	2,188	55.00	120,340	12,141	21,564	12,500	0	0	74,135	59,524
2023	2,455	1,964	55.00	108,020	10,900	21,564	12,500	0	0	63,056	45,830
2024	2,211	1,769	55.00	97,295	9,820	42,720	12,500	0	0	32,255	21,221
2025	1,981	1,585	55.00	87,175	8,799	42,720	12,500	0	0	23,156	13,791
2026	1,783	1,426	55.00	78,430	7,917	42,720	12,500	0	0	15,293	8,245
2027	1,604	1,283	55.00	70,565	7,124	42,720	12,500	0	0	8,221	4,012
2028	1,448	1,158	55.00	63,690	6,431	42,720	0	0	0	14,539	6,423
2029	1,301	1,041	55.00	57,255	5,782	42,720	0	0	0	8,753	3,500
2030	1,173	938	55.00	51,590	5,213	42,720	0	0	0	3,657	1,324
2031	0	0	-	0	0	0	0	79,500	0	(79,500)	(26,049)
2032	0	0	-	0	0	0	0	0	0	0	0
2033	0	0	-	0	0	0	0	0	0	0	0
2034	0	0	-	0	0	0	0	0	0	0	0
2035	0	0	-	0	0	0	0	0	0	0	0
2036	0	0	-	0	0	0	0	0	0	0	0
2037	0	0	-	0	0	0	0	0	0	0	0
2038	0	0	-	0	0	0	0	0	0	0	0
2039	0	0	-	0	0	0	0	0	0	0	0
2040	0	0	-	0	0	0	0	0	0	0	0
2041	0	0	-	0	0	0	0	0	0	0	0
2042	0	0	-	0	0	0	0	0	0	0	0
2043	0	0	-	0	0	0	0	0	0	0	0
2044	0	0	-	0	0	0	0	0	0	0	0
Total	**21,233**	**16,985**		**885,295**	**89,435**	**378,108**	**87,500**	**79,500**	**0**	**250,752**	**217,073**

Present Worth (10^3U.S.$) at:	
5 Percent	**236,132**
15 Percent	**197,265**
20 Percent	**178,439**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.

TABLE 6
PROJECTION of TOTAL PROVED RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
TUBARÃO MARTELO & POLVO FIELDS
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

Year	Gross Oil Production (10^3bbl)	Net Oil Production (10^3bbl)	Oil Price (U.S.$/bbl)	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
2020 (8 mos)	4,327	3,913	35.00	136,955	13,001	73,684	3,701	0	0	46,569	44,870
2021	7,291	6,863	45.00	308,835	28,576	68,250	121,800	0	0	90,209	80,014
2022	6,434	6,112	55.00	336,160	31,353	69,930	15,500	0	0	219,377	176,141
2023	5,464	5,190	55.00	285,450	27,203	69,930	15,500	0	0	172,817	125,605
2024	4,727	4,490	55.00	246,950	23,784	69,930	15,500	0	0	137,736	90,619
2025	4,107	3,901	55.00	214,555	21,100	69,930	15,500	0	0	108,025	64,335
2026	3,602	3,427	55.00	188,485	18,727	69,930	15,500	0	0	84,328	45,461
2027	3,175	3,049	55.00	167,695	16,832	69,930	15,500	0	0	65,433	31,931
2028	2,818	2,705	55.00	148,775	15,083	69,930	15,500	0	0	48,262	21,320
2029	2,494	2,394	55.00	131,670	13,349	69,930	15,500	0	0	32,891	13,152
2030	2,220	2,130	55.00	117,150	11,876	69,930	15,500	0	0	19,844	7,183
2031	1,978	1,899	55.00	104,445	8,789	69,930	15,500	0	0	10,226	3,351
2032	1,772	1,701	55.00	93,555	7,967	69,930	0	0	0	15,658	4,644
2033	1,581	1,518	57.00	86,526	7,365	69,930	0	0	0	9,231	2,478
2034	1,417	1,360	57.00	77,520	6,598	69,930	0	0	0	992	241
2035	0	0	-	0	0	0	0	127,100	0	(127,100)	(27,962)
2036	0	0	-	0	0	0	0	0	0	0	0
2037	0	0	-	0	0	0	0	0	0	0	0
2038	0	0	-	0	0	0	0	0	0	0	0
2039	0	0	-	0	0	0	0	0	0	0	0
2040	0	0	-	0	0	0	0	0	0	0	0
2041	0	0	-	0	0	0	0	0	0	0	0
2042	0	0	-	0	0	0	0	0	0	0	0
2043	0	0	-	0	0	0	0	0	0	0	0
2044	0	0	-	0	0	0	0	0	0	0	0
Total	**53,407**	**50,652**		**2,644,726**	**251,603**	**1,051,024**	**280,501**	**127,100**	**0**	**934,498**	**683,383**

Present Worth (10^3U.S.$) at:	
5 Percent	**801,797**
15 Percent	**583,433**
20 Percent	**500,903**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.

TABLE 7
PROJECTION of PROVED-plus-PROBABLE RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
TUBARÃO MARTELO & POLVO FIELDS
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

DeGolyer and MacNaughton
F-716
TEXAS REGISTERED ENGINEERING FIRM

Year	Gross Oil Production (10^3bbl)	Net Oil Production (10^3bbl)	Oil Price (U.S.$/bbl)	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
2020 (8 mos)	4,668	4,215	35.00	147,525	13,898	73,684	3,701	0	0	56,242	54,190
2021	8,803	8,293	45.00	373,185	32,703	68,250	141,800	0	0	130,432	115,692
2022	8,620	8,189	55.00	450,395	38,211	69,930	15,500	0	0	326,754	262,355
2023	7,578	7,199	55.00	395,945	33,993	69,930	15,500	0	0	276,522	200,978
2024	6,816	6,486	55.00	356,730	30,771	69,930	15,500	0	0	240,529	158,248
2025	6,145	5,900	55.00	324,500	28,123	69,930	15,500	0	0	210,947	125,630
2026	5,598	5,375	55.00	295,625	25,680	69,930	15,500	0	0	184,515	99,472
2027	5,123	4,919	55.00	270,545	23,529	69,930	15,500	0	0	161,586	78,854
2028	4,717	4,528	55.00	249,040	21,683	69,930	15,500	0	0	141,927	62,696
2029	4,330	4,157	55.00	228,635	19,930	69,930	15,500	0	0	123,275	49,294
2030	3,995	3,835	55.00	210,925	18,386	69,930	15,500	0	0	107,109	38,770
2031	3,693	3,545	55.00	194,975	14,920	69,930	15,500	0	0	94,625	31,005
2032	3,428	3,291	55.00	181,005	13,851	69,930	15,500	0	0	81,724	24,240
2033	3,171	3,044	57.00	173,508	13,253	69,930	15,500	0	0	74,825	20,090
2034	2,939	2,822	57.00	160,854	12,287	69,930	15,500	0	0	63,137	15,345
2035	2,734	2,624	57.00	149,568	11,409	69,930	15,500	0	0	52,729	11,601
2036	2,551	2,450	57.00	139,650	10,639	69,930	15,500	0	0	43,581	8,679
2037	2,371	2,277	57.00	129,789	9,874	69,930	15,500	0	0	34,485	6,217
2038	2,212	2,124	57.00	121,068	9,198	69,930	15,500	0	0	26,440	4,315
2039	2,059	1,977	57.00	112,689	8,550	69,930	15,500	0	0	18,709	2,764
2040	1,930	1,853	57.00	105,621	8,003	69,930	15,500	0	0	12,188	1,630
2041	1,801	1,729	57.00	98,553	7,447	69,930	15,500	0	0	5,676	687
2042	1,686	1,619	57.00	92,283	6,964	69,930	0	0	0	15,389	1,686
2043	1,580	1,517	57.00	86,469	6,425	69,930	0	0	0	10,114	1,003
2044	1,486	1,426	57.00	81,282	6,031	69,930	0	0	0	5,321	478
2045	0	0	-	0	0	0	0	127,100	0	(127,100)	(10,329)
Total	**100,034**	**95,394**		**5,130,364**	**425,758**	**1,750,324**	**455,501**	**127,100**	**0**	**2,371,681**	**1,365,590**

Present Worth (10^3U.S.$) at:	
5 Percent	**1,773,689**
15 Percent	**1,082,563**
20 Percent	**880,362**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.

TABLE 8
PROJECTION of PROVED-plus-PROBABLE-plus-POSSIBLE RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
TUBARÃO MARTELO & POLVO FIELDS
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

Year	Gross Oil Production (10^3bbl)	Net Oil Production (10^3bbl)	Oil Price (U.S.$/bbl)	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
2020 (8 mos)	5,088	4,590	35.00	160,650	14,920	73,684	3,701	0	0	68,345	65,852
2021	9,916	9,344	45.00	420,480	36,194	68,250	141,800	0	0	174,236	154,546
2022	10,314	9,798	55.00	538,890	44,126	69,930	15,500	0	0	409,334	328,660
2023	9,378	8,909	55.00	489,995	40,278	69,930	15,500	0	0	364,287	264,767
2024	8,657	8,296	55.00	456,280	37,541	69,930	15,500	0	0	333,309	219,289
2025	8,021	7,700	55.00	423,500	34,804	69,930	15,500	0	0	303,266	180,611
2026	7,487	7,187	55.00	395,285	32,430	69,930	15,500	0	0	277,425	149,560
2027	6,992	6,713	55.00	369,215	30,261	69,930	15,500	0	0	253,524	123,720
2028	6,560	6,297	55.00	346,335	28,363	69,930	15,500	0	0	232,542	102,724
2029	6,134	5,889	55.00	323,895	26,499	69,930	15,500	0	0	211,966	84,760
2030	5,766	5,535	55.00	304,425	24,876	69,930	15,500	0	0	194,119	70,265
2031	5,429	5,211	55.00	286,605	21,294	69,930	15,500	0	0	179,881	58,940
2032	5,127	4,922	55.00	270,710	20,109	69,930	15,500	0	0	165,171	48,990
2033	4,822	4,629	57.00	263,853	19,581	69,930	15,500	0	0	158,842	42,647
2034	4,555	4,373	57.00	249,261	18,484	69,930	15,500	0	0	145,347	35,325
2035	4,308	4,136	57.00	235,752	17,465	69,930	15,500	0	0	132,857	29,229
2036	4,091	3,928	57.00	223,896	16,566	69,930	15,500	0	0	121,900	24,276
2037	3,868	3,714	57.00	211,698	15,641	69,930	15,500	0	0	110,627	19,943
2038	3,672	3,525	57.00	200,925	14,820	69,930	15,500	0	0	100,675	16,429
2039	3,489	3,349	57.00	190,893	14,055	69,930	15,500	0	0	91,408	13,502
2040	3,327	3,194	57.00	182,058	13,379	69,930	15,500	0	0	83,249	11,132
2041	3,158	3,032	57.00	172,824	12,674	69,930	15,500	0	0	74,720	9,044
2042	3,009	2,888	57.00	164,616	12,046	69,930	15,500	0	0	67,140	7,356
2043	2,869	2,754	57.00	156,978	11,313	69,930	15,500	0	0	60,235	5,974
2044	2,745	2,635	57.00	150,195	10,798	69,930	15,500	0	0	53,967	4,845
2045	2,613	2,509	57.00	143,013	10,257	69,930	15,500	0	0	47,326	3,846
2046	2,427	2,329	57.00	132,753	13,275	69,930	15,500	0	0	34,048	2,505
2047	2,215	2,126	57.00	121,182	12,118	69,930	15,500	0	0	23,634	1,574
2048	2,059	1,976	57.00	112,632	11,263	69,930	15,500	0	0	15,939	961
2049	1,926	1,849	57.00	105,393	10,539	69,930	15,500	0	0	9,424	514
2050	1,822	1,749	57.00	99,693	9,969	69,930	0	0	0	19,794	978
2051	0	0	-	0	0	0	0	127,100		(127,100)	(5,683)
2052	0	0	-	0	0	0	0	0	0	0	0
Total	**151,844**	**145,086**		**7,903,880**	**635,938**	**2,169,904**	**579,501**	**127,100**	**0**	**4,391,437**	**2,077,081**

Present Worth (10^3U.S.$) at:	
5 Percent	**2,909,201**
15 Percent	**1,570,335**
20 Percent	**1,238,229**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.
4. Probable and possible reserves and the values associated with probable and possible reserves have not been risk adjusted to make them comparable to proved reserves.

TABLE 9
PROJECTION of PROVED DEVELOPED RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
FRADE FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

	Gross		Net										Pre-Tax	Pre-Tax
	Oil Production	Sales Gas	Oil Production	Sales Gas	Oil Price	Gas Price	Future Gross Revenue	Royalties Paid in Cash	Operating Expenses	Capital Costs	Abandonment Costs	SPF	Future Net Revenue	Present Worth at 10 Percent
Year	(10^3bbl)	(10^6ft^3)	(10^3bbl)	(10^6ft^3)	(U.S.$/bbl)	(U.S.$/$10^3ft^3$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)
2020 (8 mos)	4,300	53	4,300	53	38.50	1.14	165,610	17,161	42,034	3,780	0	0	102,635	98,891
2021	5,657	0	5,657	0	48.50	-	274,365	28,219	62,558	0	0	0	183,588	162,841
2022	4,877	0	4,877	0	58.50	-	285,305	29,191	65,204	0	0	0	190,910	153,284
2023	4,209	0	4,209	0	58.50	-	246,227	25,180	67,742	15,000	0	0	138,305	100,521
2024	3,646	0	3,646	0	58.50	-	213,291	21,801	69,941	0	0	0	121,549	79,969
2025	3,144	0	3,144	0	58.50	-	183,924	18,791	71,788	0	0	0	93,345	55,592
2026	2,723	0	2,723	0	58.50	-	159,296	16,267	73,391	5,000	0	0	64,638	34,847
2027	2,360	0	2,360	0	58.50	-	138,060	14,091	74,768	0	0	0	49,201	24,010
2028	2,053	0	2,053	0	58.50	-	120,101	12,253	75,993	0	0	0	31,855	14,072
2029	1,779	0	1,779	0	58.50	-	104,072	10,612	76,977	0	0	0	16,483	6,591
2030	1,545	0	1,545	0	58.50	-	90,383	9,212	69,795	0	50,000	0	(38,624)	(13,981)
2031	0	0	0	0	-	-	0	0	0	0	240,000	0	(240,000)	(78,638)
2032	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2033	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2034	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2035	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2036	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2037	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2038	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2039	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2040	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2041	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2042	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2043	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2044	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2045	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2046	0	0	0	0	-	-	0	0	0	0	0	0	0	0
Total	**36,293**	**53**	**36,293**	**53**			**1,980,634**	**202,778**	**750,191**	**23,780**	**290,000**	**0**	**713,885**	**637,999**

Present Worth (10^3U.S.$) at:	
5 Percent	685,909
15 Percent	584,202
20 Percent	531,346

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.

TABLE 10
PROJECTION of TOTAL PROVED RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
FRADE FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

	Gross		Net										Pre-Tax	Pre-Tax
	Oil Production	Sales Gas	Oil Production	Sales Gas	Oil Price	Gas Price	Future Gross Revenue	Royalties Paid in Cash	Operating Expenses	Capital Costs	Abandonment Costs	SPF	Future Net Revenue	Present Worth at 10 Percent
Year	(10^3bbl)	(10^6ft^3)	(10^3bbl)	(10^6ft^3)	(U.S.$/bbl)	(U.S.$/$10^3ft^3$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)
2020 (8 mos)	4,300	53	4,300	53	38.50	1.14	165,610	17,161	42,034	3,780	0	0	102,635	98,891
2021	6,141	171	6,141	171	48.50	1.14	298,034	30,724	62,066	94,700	0	0	110,544	98,051
2022	7,649	1,706	7,649	1,706	58.50	1.14	449,412	46,212	62,066	242,500	0	0	98,634	79,195
2023	8,056	1,968	8,056	1,968	58.50	1.14	473,520	48,682	62,066	15,000	0	0	347,772	252,763
2024	6,691	1,091	6,691	1,091	58.50	1.14	392,668	40,397	62,066	0	0	0	290,205	190,930
2025	5,547	376	5,547	376	58.50	1.14	324,929	33,460	62,894	0	0	0	228,575	136,129
2026	4,629	0	4,629	0	58.50	-	270,797	27,898	66,148	5,000	0	0	171,751	92,591
2027	3,876	0	3,876	0	58.50	-	226,746	23,340	69,010	0	0	0	134,396	65,586
2028	3,264	0	3,264	0	58.50	-	190,944	19,638	71,393	0	0	0	99,913	44,136
2029	2,743	0	2,743	0	58.50	-	160,466	16,490	73,314	15,000	0	0	55,662	22,258
2030	2,317	0	2,317	0	58.50	-	135,545	13,917	74,933	0	0	0	46,695	16,902
2031	1,944	0	1,944	0	58.50	-	113,724	11,668	76,350	0	0	0	25,706	8,423
2032	1,658	0	1,658	0	58.50	-	96,993	9,699	76,149	0	0	0	11,145	3,306
2033	1,411	0	1,411	0	-	-	85,366	8,537	62,066	0	70,000	0	(55,237)	(14,831)
2034	0	0	0	0	-	-	0	0	0	0	260,000	0	(260,000)	(63,190)
2035	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2036	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2037	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2038	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2039	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2040	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2041	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2042	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2043	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2044	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2045	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2046	0	0	0	0	-	-	0	0	0	0	0	0	0	0
Total	**60,226**	**5,365**	**60,226**	**5,365**			**3,384,754**	**347,823**	**922,555**	**375,980**	**330,000**	**0**	**1,408,396**	**1,031,140**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.

Present Worth (10^3U.S.$) at:	
5 Percent	**1,214,666**
15 Percent	**872,109**
20 Percent	**739,632**

TABLE 11
PROJECTION of PROVED-plus-PROBABLE RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
FRADE FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

	Gross		Net										Pre-Tax	Pre-Tax
	Oil Production	Sales Gas	Oil Production	Sales Gas	Oil Price	Gas Price	Future Gross Revenue	Royalties Paid in Cash	Operating Expenses	Capital Costs	Abandonment Costs	SPF	Future Net Revenue	Present Worth at 10 Percent
Year	(10^3bbl)	(10^6ft^3)	(10^3bbl)	(10^6ft^3)	(U.S.$/bbl)	(U.S.$/$10^3ft^3$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)
2020 (8 mos)	4,438	169	4,438	169	38.50	1.14	171,056	17,732	42,034	3,780	0	0	107,510	103,588
2021	6,471	391	6,471	391	48.50	1.14	314,290	32,400	62,066	198,400	0	0	21,424	19,003
2022	8,552	2,256	8,552	2,256	58.50	1.14	502,864	51,682	62,066	337,200	0	0	51,916	41,684
2023	9,958	3,085	9,958	3,085	58.50	1.14	586,060	60,191	62,066	38,000	0	0	425,803	309,477
2024	8,672	2,234	8,672	2,234	58.50	1.14	509,859	52,377	62,066	0	0	0	395,416	260,150
2025	7,486	1,484	7,486	1,484	58.50	1.14	439,623	45,182	62,066	0	0	0	332,375	197,947
2026	6,516	879	6,516	879	58.50	1.14	382,188	39,301	62,066	5,000	0	0	275,821	148,696
2027	5,699	378	5,699	378	58.50	1.14	333,823	34,350	62,431	0	0	0	237,042	115,677
2028	5,020	0	5,020	0	58.50	-	293,670	30,238	64,721	0	0	0	198,711	87,780
2029	4,417	0	4,417	0	58.50	-	258,395	26,589	66,952	15,000	0	0	149,854	59,923
2030	3,914	0	3,914	0	58.50	-	228,969	23,546	68,864	0	0	0	136,559	49,430
2031	3,482	0	3,482	0	58.50	-	203,697	20,935	70,507	0	0	0	112,255	36,782
2032	3,116	0	3,116	0	58.50	-	182,286	18,724	71,955	5,000	0	0	86,607	25,688
2033	2,783	0	2,783	0	60.50	-	168,372	17,270	73,161	0	0	0	77,941	20,926
2034	2,501	0	2,501	0	60.50	-	151,311	15,512	74,232	0	0	0	61,567	14,963
2035	2,255	0	2,255	0	60.50	-	136,428	13,979	75,170	15,000	0	0	32,279	7,101
2036	2,043	0	2,043	0	60.50	-	123,602	12,660	76,032	0	0	0	34,910	6,952
2037	1,832	0	1,832	0	60.50	-	110,836	11,347	76,032	0	0	0	23,457	4,229
2038	1,655	0	1,655	0	60.50	-	100,128	10,246	76,032	0	0	0	13,850	2,260
2039	1,507	0	1,507	0	60.50	-	91,174	9,326	76,032	0	100,000	0	(94,184)	(13,913)
2040	0	0	0	0	-	-	0	0	0	0	260,000	0	(260,000)	(34,766)
2041	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2042	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2043	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2044	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2045	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2046	0	0	0	0	-	-	0	0	0	0	0	0	0	0
Total	**92,317**	**10,876**	**92,317**	**10,876**			**5,288,631**	**543,587**	**1,346,551**	**617,380**	**360,000**	**0**	**2,421,113**	**1,463,577**

Present Worth (10^3U.S.$) at:	
5 Percent	**1,885,545**
15 Percent	**1,146,876**
20 Percent	**911,710**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.
4. Probable reserves and the values associated with probable reserves have not been risk adjusted to make them comparable to proved reserves.

TABLE 12
PROJECTION of PROVED-plus-PROBABLE-plus-POSSIBLE RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
FRADE FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

	Gross		Net											
Year	Oil Production (10^3bbl)	Sales Gas (10^6ft^3)	Oil Production (10^3bbl)	Sales Gas (10^6ft^3)	Oil Price (U.S.$/bbl)	Gas Price (U.S.$/$10^3ft^3$)	Future Gross Revenue (10^3U.S.$)	Royalties Paid in Cash (10^3U.S.$)	Operating Expenses (10^3U.S.$)	Capital Costs (10^3U.S.$)	Abandonment Costs (10^3U.S.$)	SPF (10^3U.S.$)	Pre-Tax Future Net Revenue (10^3U.S.$)	Pre-Tax Present Worth at 10 Percent (10^3U.S.$)
2020 (8 mos)	4,554	240	4,554	240	38.50	1.14	175,603	18,203	42,034	3,780	0	0	111,586	107,515
2021	6,777	550	6,777	550	48.50	1.14	329,312	33,938	62,066	198,400	0	0	34,908	30,963
2022	9,004	2,480	9,004	2,480	58.50	1.14	529,561	54,403	62,066	337,200	0	0	75,892	60,935
2023	11,105	3,680	11,105	3,680	58.50	1.14	653,838	67,105	62,066	38,000	0	3,386	483,281	351,252
2024	9,974	2,893	9,974	2,893	58.50	1.14	586,777	60,219	62,066	0	0	0	464,492	305,596
2025	8,777	2,134	8,777	2,134	58.50	1.14	515,888	52,957	62,066	0	0	0	400,865	238,736
2026	7,794	1,519	7,794	1,519	58.50	1.14	457,681	46,996	62,066	5,000	0	0	343,619	185,246
2027	6,960	1,004	6,960	1,004	58.50	1.14	408,305	41,941	62,066	0	0	0	304,298	148,498
2028	6,262	580	6,262	580	58.50	1.14	366,988	37,713	62,066	0	0	0	267,209	118,038
2029	5,630	204	5,630	204	58.50	1.14	329,588	33,887	62,493	15,000	0	0	218,208	87,256
2030	5,099	0	5,099	0	58.50	-	298,292	30,674	64,363	0	0	0	203,255	73,572
2031	4,635	0	4,635	0	58.50	-	271,148	27,868	66,123	0	0	0	177,157	58,047
2032	4,241	0	4,241	0	58.50	-	248,099	25,486	67,682	5,000	0	0	149,931	44,470
2033	3,872	0	3,872	0	60.50	-	234,256	24,032	69,025	0	0	0	141,199	37,910
2034	3,556	0	3,556	0	60.50	-	215,138	22,061	70,224	0	0	0	122,853	29,858
2035	3,269	0	3,269	0	60.50	-	197,775	20,271	71,316	15,000	0	0	91,188	20,062
2036	3,011	0	3,011	0	60.50	-	182,166	18,664	72,356	0	0	0	91,146	18,152
2037	2,782	0	2,782	0	60.50	-	168,311	17,237	72,356	0	0	0	78,718	14,191
2038	2,584	0	2,584	0	60.50	-	156,332	16,005	72,356	5,000	0	0	62,971	10,276
2039	2,405	0	2,405	0	60.50	-	145,503	14,890	72,356	0	0	0	58,257	8,606
2040	2,250	0	2,250	0	60.50	-	136,125	13,926	72,356	0	0	0	49,843	6,665
2041	2,097	0	2,097	0	60.50	-	126,869	12,975	72,356	15,000	0	0	26,538	3,212
2042	1,963	0	1,963	0	60.50	-	118,762	12,142	72,356	0	0	0	34,264	3,754
2043	1,842	0	1,842	0	60.50	-	111,441	11,390	72,356	0	0	0	27,695	2,747
2044	1,735	0	1,735	0	60.50	-	104,968	10,725	72,356	5,000	0	0	16,887	1,516
2045	1,628	0	1,628	0	60.50	-	98,494	10,060	72,356	0	0	0	16,078	1,307
2046	1,535	0	1,535	0	60.50	-	92,868	9,287	72,356	0	0	0	11,225	826
2047	1,448	0	1,448	0	60.50	-	87,604	8,760	72,356	0	0	0	6,488	432
2048	1,372	0	1,372	0	60.50	-	83,006	8,301	72,356	0	100,000	0	(97,651)	(5,887)
2049	0	0	0	0	-	-	0	0	0	0	260,000	0	(260,000)	(14,188)
2050	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2051	0	0	0	0	-	-	0	0	0	0	0	0	0	0
Total	**128,161**	**15,284**	**128,161**	**15,284**			**7,430,698**	**762,116**	**1,950,416**	**642,380**	**360,000**	**3,386**	**3,712,400**	**1,949,563**

Present Worth (10^3U.S.$) at:	
5 Percent	**2,667,865**
15 Percent	**1,466,278**
20 Percent	**1,134,329**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Operating expenses and capital costs do not include the indirect taxation that may be applicable to these expenditures.
4. Probable and possible reserves and the values associated with probable and possible reserves have not been risk adjusted to make them comparable to proved reserves.

TABLE 13
PROJECTION of PROVED DEVELOPED RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
MANATI FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

	Gross Production		Net Production		Product Prices		Future Gross Revenue	Royalties Paid in Cash	Operating Expenses	Capital Costs	Abandonment Costs	SPF	Pre-Tax Future Net Revenue	Pre-Tax Present Worth at 10 Percent
Year	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Condensate (U.S.$/bbl)	Sales Gas (U.S.$/$10^3ft^3$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)
2020 (8 mos)	120	36,300	12	3,630	40.00	6.69	24,765	1,952	6,138	182	207	743	15,543	14,976
2021	140	44,310	14	4,431	50.00	6.95	31,495	2,484	6,426	335	207	412	21,631	19,187
2022	100	31,380	10	3,138	60.00	7.23	23,288	1,836	5,948	100	207	0	15,197	12,202
2023	60	17,920	6	1,792	60.00	7.51	13,818	1,088	5,672	97	207	0	6,754	4,909
2024	30	9,520	3	952	60.00	7.78	7,587	598	5,238	50	207	0	1,494	983
2025	30	8,520	3	852	60.00	8.09	7,073	556	4,810	0	207	0	1,500	893
2026	20	7,450	2	745	60.00	8.42	6,393	506	4,706	0	207	0	974	525
2027	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2028	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2029	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2030	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2031	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2032	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2033	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2034	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2035	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2036	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2037	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2038	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2039	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2040	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2041	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2042	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2043	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2044	0	0	0	0	-	-	0	0	0	0	0	0	0	0
Total	**500**	**155,400**	**50**	**15,540**			**114,419**	**9,020**	**38,938**	**764**	**1,449**	**1,155**	**63,093**	**53,675**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Abandonment costs are allocated annually into an abandonment sinking fund.

Pre-Tax Present Worth (10^3U.S.$) at:	
5 Percent	58,074
15 Percent	49,796
20 Percent	46,360

TABLE 14
PROJECTION of TOTAL PROVED RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
MANATI FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

	Gross Production		Net Production		Product Prices		Future Gross Revenue	Royalties Paid in Cash	Operating Expenses	Capital Costs	Abandonment Costs	SPF	Pre-Tax Future Net Revenue	Pre-Tax Present Worth at 10 Percent
Year	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Condensate (U.S.$/bbl)	Sales Gas (U.S.$/$10^3ft^3$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)
2020 (8 mos)	120	36,300	12	3,630	40.00	6.69	24,765	1,952	6,138	182	207	743	15,543	14,976
2021	140	44,310	14	4,431	50.00	6.95	31,495	2,484	6,426	335	207	412	21,631	19,187
2022	100	31,380	10	3,138	60.00	7.23	23,288	1,836	5,948	100	207	0	15,197	12,202
2023	60	17,920	6	1,792	60.00	7.51	13,818	1,088	5,672	97	207	0	6,754	4,909
2024	30	9,520	3	952	60.00	7.78	7,587	598	5,238	50	207	0	1,494	983
2025	30	8,520	3	852	60.00	8.09	7,073	556	4,810	0	207	0	1,500	893
2026	20	7,450	2	745	60.00	8.42	6,393	506	4,706	0	207	0	974	525
2027	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2028	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2029	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2030	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2031	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2032	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2033	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2034	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2035	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2036	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2037	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2038	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2039	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2040	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2041	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2042	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2043	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2044	0	0	0	0	-	-	0	0	0	0	0	0	0	0
Total	**500**	**155,400**	**50**	**15,540**			**114,419**	**9,020**	**38,938**	**764**	**1,449**	**1,155**	**63,093**	**53,675**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Abandonment costs are allocated annually into an abandonment sinking fund.

Pre-Tax Present Worth (10^3U.S.$) at:	
5 Percent	58,074
15 Percent	49,796
20 Percent	46,360

TABLE 15
PROJECTION of PROVED-plus-PROBABLE RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
MANATI FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

	Gross Production		Net Production		Product Prices		Future Gross Revenue	Royalties Paid in Cash	Operating Expenses	Capital Costs	Abandonment Costs	SPF	Pre-Tax Future Net Revenue	Pre-Tax Present Worth at 10 Percent
Year	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Condensate (U.S.$/bbl)	Sales Gas (U.S.$/$10^3ft^3$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)
2020 (8 mos)	120	37,790	12	3,779	40.00	6.69	25,762	2,032	6,145	182	207	822	16,374	15,777
2021	160	49,220	16	4,922	50.00	6.95	35,008	2,759	6,450	335	207	667	24,590	21,811
2022	110	35,340	11	3,534	60.00	7.23	26,211	2,068	5,968	100	207	0	17,868	14,347
2023	60	20,010	6	2,001	60.00	7.51	15,388	1,215	5,682	97	207	0	8,187	5,950
2024	30	10,560	3	1,056	60.00	7.78	8,396	664	5,243	50	207	0	2,232	1,469
2025	30	9,470	3	947	60.00	8.09	7,841	619	4,814	0	207	0	2,201	1,311
2026	30	8,430	3	843	60.00	8.42	7,278	573	4,711	0	207	0	1,787	963
2027	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2028	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2029	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2030	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2031	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2032	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2033	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2034	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2035	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2036	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2037	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2038	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2039	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2040	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2041	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2042	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2043	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2044	0	0	0	0	-	-	0	0	0	0	0	0	0	0
Total	**540**	**170,820**	**54**	**17,082**			**125,884**	**9,930**	**39,013**	**764**	**1,449**	**1,489**	**73,239**	**61,628**

Pre-Tax Present Worth (10^3U.S.$) at:	
5 Percent	67,025
15 Percent	56,908
20 Percent	52,758

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Abandonment costs are allocated annually into an abandonment sinking fund.
4. Probable reserves and the values associated with probable reserves have not been risk adjusted to make them comparable to proved reserves.

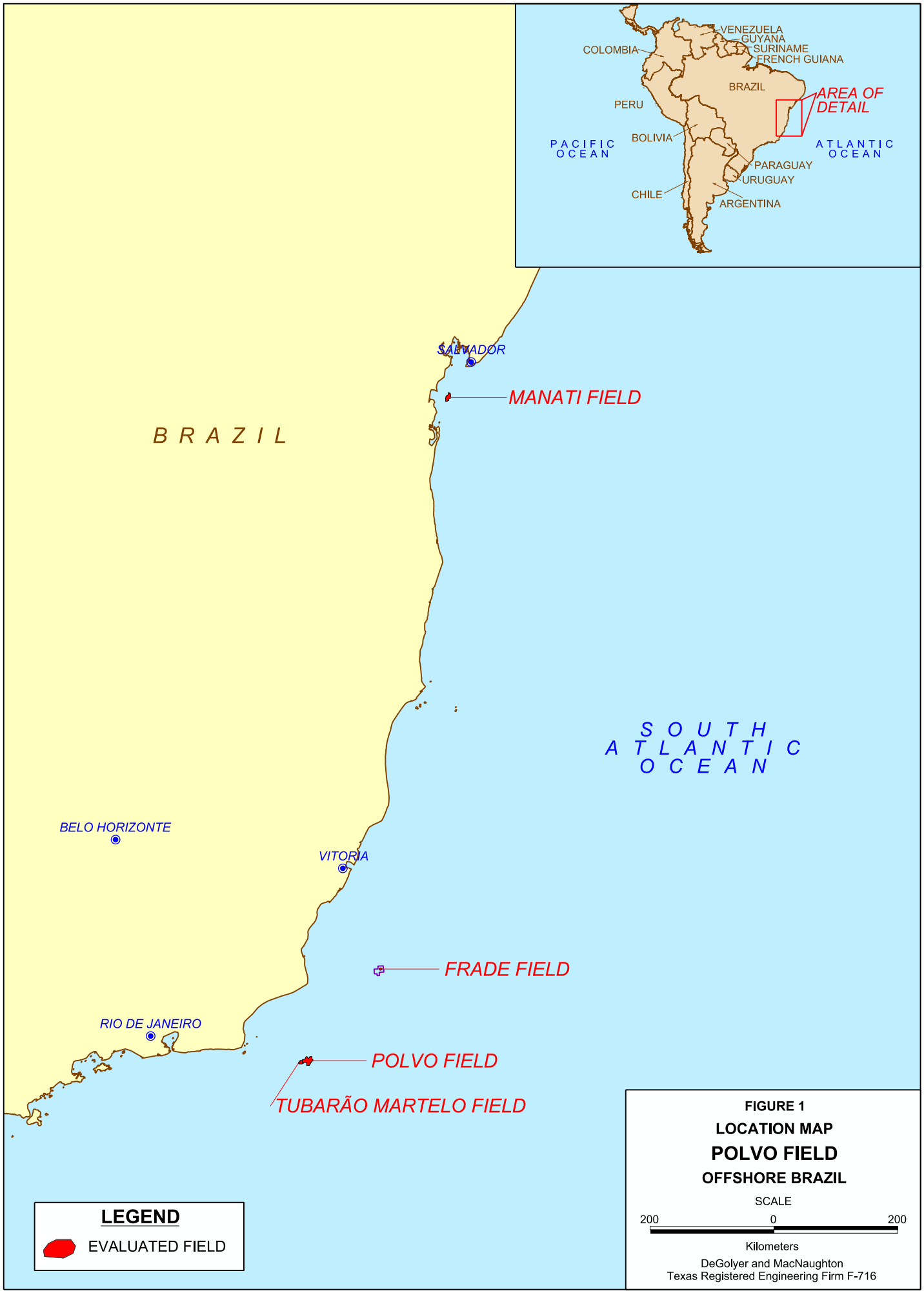
TABLE 16
PROJECTION of PROVED-plus-PROBABLE-plus-POSSIBLE RESERVES and FUTURE NET REVENUE
as of
APRIL 30, 2020
for the
MANATI FIELD
in
BRAZIL
with interests attributable to
PETRORIO S.A.

PRMS CASE

	Gross Production		Net Production		Product Prices		Future Gross Revenue	Royalties Paid in Cash	Operating Expenses	Capital Costs	Abandonment Costs	SPF	Pre-Tax Future Net Revenue	Pre-Tax Present Worth at 10 Percent
Year	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Condensate (10^3bbl)	Sales Gas (10^6ft^3)	Condensate (U.S.$/bbl)	Sales Gas (U.S.$/$10^3ft^3$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)	(10^3U.S.$)
2020 (8 mos)	120	38,550	12	3,855	40.00	6.69	26,270	2,073	6,149	182	207	863	16,796	16,183
2021	160	50,210	16	5,021	50.00	6.95	35,696	2,815	6,455	335	207	719	25,165	22,321
2022	110	36,050	11	3,605	60.00	7.23	26,724	2,109	5,971	100	207	0	18,337	14,723
2023	60	20,410	6	2,041	60.00	7.51	15,688	1,240	5,684	97	207	0	8,460	6,149
2024	30	10,770	3	1,077	60.00	7.78	8,559	677	5,244	50	207	0	2,381	1,567
2025	30	9,660	3	966	60.00	8.09	7,995	631	4,815	0	207	0	2,342	1,395
2026	30	8,600	3	860	60.00	8.42	7,421	584	4,705	0	207	0	1,918	1,034
2027	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2028	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2029	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2030	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2031	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2032	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2033	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2034	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2035	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2036	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2037	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2038	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2039	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2040	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2041	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2042	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2043	0	0	0	0	-	-	0	0	0	0	0	0	0	0
2044	0	0	0	0	-	-	0	0	0	0	0	0	0	0
Total	**540**	**174,250**	**54**	**17,425**			**128,353**	**10,129**	**39,023**	**764**	**1,449**	**1,582**	**75,399**	**63,372**

Pre-Tax Present Worth (10^3U.S.$) at:	
5 Percent	**68,959**
15 Percent	**58,492**
20 Percent	**54,205**

Notes:
1. Future income tax expenses were not taken into account in the preparation of these estimates.
2. SPF = Special Participation Fee.
3. Abandonment costs are allocated annually into an abandonment sinking fund.
4. Probable and possible reserves and the values associated with probable and possible reserves have not been risk adjusted to make them comparable to proved reserves.


VENEZUELA
GUYANA
SURINAME
FRENCH GUIANA
COLOMBIA
BRAZIL
AREA OF DETAIL
PERU
BOLIVIA
PACIFIC OCEAN
ATLANTIC OCEAN
PARAGUAY
URUGUAY
CHILE
ARGENTINA
SALVADOR
MANATI FIELD
B R A Z I L
S O U T H
A T L A N T I C
O C E A N
BELO HORIZONTE
VITORIA
FRADE FIELD
RIO DE JANEIRO
POLVO FIELD
TUBARÃO MARTELO FIELD
LEGEND
EVALUATED FIELD
FIGURE 1
LOCATION MAP
POLVO FIELD
OFFSHORE BRAZIL
SCALE
200
0
200
Kilometers
DeGolyer and MacNaughton
Texas Registered Engineering Firm F-716