

May 2014

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# Manati Annual Statement of Reserves

Dated December 31<sup>st</sup>, 2013

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**QGEP**

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## QGEP Provides Update on Manati Field Reserves

**Rio de Janeiro, May 7<sup>th</sup>, 2014** - QGEP Participações S.A. (BMF&Bovespa: QGEP3, "Company", "QGEP") provides an update on the natural gas and condensate reserves at the Manati Field dated December 31<sup>st</sup>, 2013, based on a reserve report prepared by independent consultant, Gaffney, Cline & Associates (GCA), issued in March 31<sup>st</sup>, 2014.

The Manati Field, located in the Camamu Basin off the coast of northeast Brazil, is one of the largest non-associated producing gas fields in the country. QGEP is the largest owner, with 45% of the Field, which is operated by Petrobras. The Manati Field is currently QGEP's sole source of gross revenue and drives the Company's strong operating cash flow.

Manati has six wells connected by subsea flowlines to a fixed production platform (PMNT-1), installed at a depth of 35 meters, located 10 km off the coast. This platform was originally constructed to be operated remotely. From the platform, the gas flows via a 125 km offshore and onshore pipeline to the Geofísico Vandemir Ferreira gas processing station, in the city of São Francisco do Conde. After this treatment, the gas from the Manati Field is sold to Petrobras and the condensate is sold by QGEP.

A construction of a compression Plant will be needed to restore the reservoir energy in order to keep its production capacity of 6MM m<sup>3</sup> per day in the next years. The plant will be located 20 km off the platform. The contracting process for the construction and operation of a surface gas compression plant at the Manati Field has been concluded successfully, and construction is slated to begin late in the 2014 second quarter. The compression plant is expected to be operational in the second half of 2015.

Please find below an extract, which is part of the GCA report:

"This reserve statement has been prepared by Gaffney, Cline & Associates (GCA) and issued on March 31, 2014 at the request of Queiroz Galvão Exploração e Produção S.A. (QGEP), non-operator and 45.0% interest participant in the Manati Field of the BCAM-40 Block, in the Camamu-Almada Basin offshore Bahia, Brazil. Petroleo Brasileiro S.A. (Petrobras) is the operator of the field.

GCA has conducted an independent audit examination as of December 31, 2013, of the hydrocarbon liquids and natural gas volumes expected to be produced in the mentioned field. On the basis of pertinent technical and other information made available to us concerning these property units, we hereby provide the reserve statement given in the tables below.

**Statement of Remaining Hydrocarbon Volumes Manati Field, offshore Brazil as of December 31, 2013**

	Gross (100%) Sales Volumes		Company Net (NRI) Reserves	
	Liquids (MMBbl)	Gas (Bm <sup>3</sup> )	Liquids (MMBbl)	Gas (Bm <sup>3</sup> )
1P	1.53	14.3	0.69	6.43
2P	1.68	15.7	0.75	7.06
3P	1.83	17.1	0.82	7.70

The Camamu-Almada Basin is located offshore from the state of Bahia, northeastern Brazil. The BCAM-40 block is in shallow waters, approximately 20-50 meters deep and 10-20 km from shore. The Manati dry gas field was discovered in 2000 by the 1-BAS-128 well.

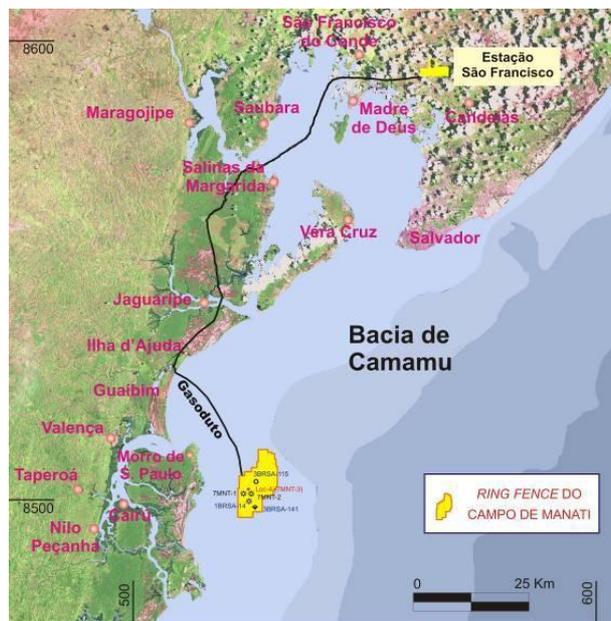


Figure 1 – Manati Field Location map

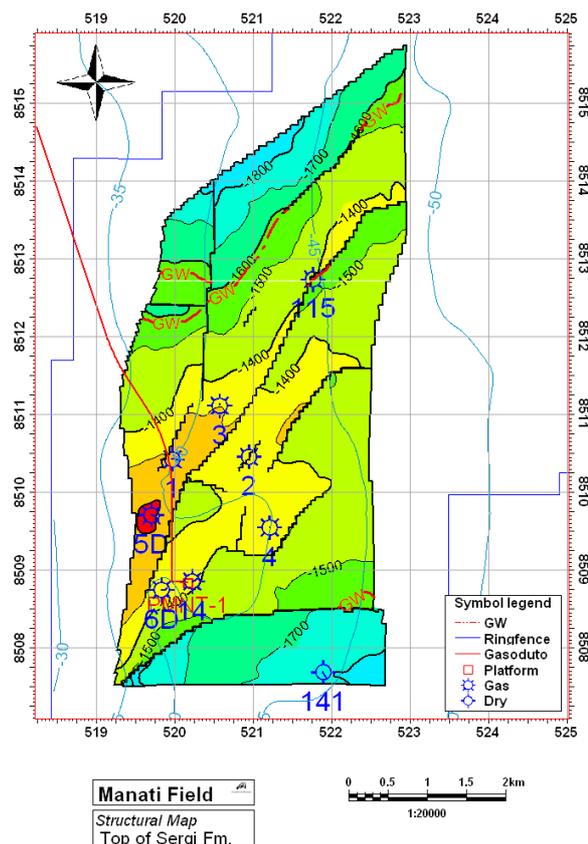
Manati started production in 2007 from the Sergi Formation sands and presently produces around 6 Mm<sup>3</sup>/d of gas and 640 bopd of condensate from six wells. Cumulative production is 13.3 Bm<sup>3</sup> of gas and 1.39 MMBbl of condensate. Production and pressure performance available as of April 2013 was analyzed through material balance, which indicates, after a cumulative gas production of 11.7 Bm<sup>3</sup>, a contacted original gas in place volume (OGIP) of 32.8 Bm<sup>3</sup>. This value is lower than the volumetric OGIP estimated by QGEP at 40 Bm<sup>3</sup>. The difference in volumes has been interpreted to indicate the existence of in place gas that is not being influenced by the existing six producing wells.

This extra volume has been identified by QGEP to be located in a northern portion of the reservoir, thought to be separated by partial permeable barriers. According to QGEP a simulation exercise conducted by Petrobras and adopted by QGEP indicates this northern

portion will not begin to contribute and provide pressure support until later in the life of the field. This late life pressure contribution is based on an acceptable pressure history match. There has been considerable discussion regarding the need for an additional well to access the additional volumes in the northern part of the field. If the predicted pressure response is not observed in accordance with the simulation results, a seventh well may be needed to prevent some portion of the reserves volumes being re-classified as Contingent Resources.

In this GCA estimation, the material balance OGIP estimate was the basis of the Proved reserves estimate while the volumetric estimate, which included the northern portion of the field, was used for the 2P and 3P estimates.

In order to estimate recovery factors for those in place volumes, GCA utilized the mentioned simulation runs to forecast an ultimate abandonment field pressure. This resulted in a recovery factor for the 1P case of 83.7% of the Proved OGIP (approximately 68% of the volumetric OGIP). For the 3P case, considering the volumetric OGIP, the recovery factor is 76.0%. The 2P case production profile was estimated as average of the former cases. Proved Undeveloped reserves were attributed to the compression investment. The average calorific value of the gas is 8,850 Kcal/m<sup>3</sup> while the condensate yield is 102 Bbl/MMm<sup>3</sup> in 2013.



Gas reserves sales volumes are based on a firm, existing gas contract and on the reasonable expectation that the amendment to such gas sales contract on similar terms will be approved in the near future.

The original sales contract signed in 2007 specified a daily contract quantity (DCQ) rate of 6 MMm<sup>3</sup>/d through 2011 followed by a reduced DCQ of 4 MMm<sup>3</sup>/d through 2016. The total

contractual sales volume was 23 Bm<sup>3</sup> expected to be reached between 2018 and 2019 depending on the reserves case.

As of the end of 2010, the partners had negotiated an amendment to this sales contract that was anticipated to receive formal approval in 2011. This amendment specifies a rate of 6 MMm<sup>3</sup>/d through the end of 2016, which requires surface gas compression, and a total volume limited only by the estimated total recovery from the field.

At the "as of date" of this audit this amendment has not been signed by the parties in the joint venture although the compression project approved in March 2014 by all partners will provide this service up to 2027. However, given the commitment to installation of the compression facilities and the ongoing sales gas deliveries at the 6 MMm<sup>3</sup>/d rate, GCA considers that amendment terms negotiated by the parties in respect of rate and total volumes are still reasonably certain to be obtained.

## **BASIS OF OPINION**

In line with those accepted standards, this document does not in any way constitute or make a guarantee or prediction of results, and no warranty is implied or expressed that actual outcome will conform to the outcomes presented herein. GCA has not independently verified any information provided by or at the direction of the Client, and has accepted the accuracy and completeness of these data. GCA has no reason to believe that any material facts have been withheld from it, but does not warrant that its inquiries have revealed all of the matters that a more extensive examination might otherwise disclose.

The opinions expressed herein are subject to, and fully qualified by, the generally accepted uncertainties associated with the interpretation of geoscience and engineering data and do not reflect the totality of circumstances, scenarios and information that could potentially affect decisions made by the report's recipients and/or actual results. The opinions and statements contained in this report are made in good faith and in the belief that such opinions and statements are representative of prevailing physical and economic circumstances.

This assessment has been conducted within the context of GCA's understanding of the effects of petroleum legislation and other regulations that currently apply to these properties. However, GCA is not in a position to attest to property title or rights, conditions of these rights including environmental and abandonment obligations, and any necessary licenses and consents including planning permission, financial interest relationships or encumbrances thereon for any part of the appraised properties.

In carrying out this study, GCA is not aware that any conflict of interest has existed. As an independent consultancy, GCA is providing impartial technical, commercial and strategic advice within the energy sector. GCA's remuneration was not in any way contingent on the contents of this report. In the preparation of this document, GCA has maintained, and continues to maintain, a strict independent consultant-client relationship with the Client. Furthermore, the management and employees of GCA have no interest in any of the assets evaluated or related with the analysis carried out as part of this report.

Staff members who prepared this report are professionally-qualified with appropriate educational qualifications and levels of experience and expertise to perform the scope of work set out in the Proposal for Services.

GCA has not undertaken a site visit and inspection because it was not considered relevant for the purpose of this report. As such, GCA is not in a position to comment on the operations or facilities in place, their appropriateness and condition, and whether they are in compliance with the regulations pertaining to such operations. Further, GCA is not in a position to comment on any aspect of health, safety or environment of such operation.

In the preparation of this report GCA has used the Petroleum Resources Management System (PRMS) approved by the Society of Petroleum Engineers, World Petroleum Council, American Association of Petroleum Geologists and Society of Petroleum Evaluation Engineers in March 2007 (Appendix II).

There are numerous uncertainties inherent in estimating reserves and resources, and in projecting future production, development expenditures, operating expenses and cash flows. Oil and gas reserve engineering and resource assessment must be recognized as a subjective process of estimating subsurface accumulations of oil and gas that cannot be measured in an exact way. Estimates of oil and gas reserves or resources prepared by other parties may differ, perhaps materially, from those contained within this report.

The accuracy of any reserve estimate is a function of the quality of the available data and of engineering and geological interpretation. Results of drilling, testing and production that post-date the preparation of the estimates may justify revisions, some or all of which may be material. Accordingly, reserve estimates are often different from the quantities of oil and gas that are ultimately recovered, and the timing and cost of those volumes that are recovered may vary from that assumed.

Liquid volumes appearing in this report represent condensate separated in the field. Typically these volumes have been referred to in millions of barrel increments (MMBbl) at stock tank conditions. Natural gas volumes represent expected gas sales, and are reported in billions ( $10^9$ ) of cubic meters ( $Bm^3$ ) at standard conditions of 1 Bar and 20 degrees Celsius.

GCA's review and audit involved reviewing pertinent facts, interpretations and assumptions made by QGEP or others in preparing estimates of reserves. GCA carried out procedures necessary to enable it to render an opinion on the appropriateness of the methodologies employed, adequacy and quality of the data relied upon, the depth and thoroughness of the reserves and resources estimation process, the classification and categorization of reserves appropriate to the relevant definitions used and the reasonableness of the estimated reserves.

It is GCA's opinion that the estimates of total remaining recoverable hydrocarbon liquid volumes at December 31, 2013, are, in the aggregate, reasonable and the reserves classification and categorization is appropriate and consistent with the definitions and guidelines for reserves.

GCA concludes that the methodologies employed by QGEP in the derivation of the volume estimates are appropriate and that the quality of the data relied upon, the depth and

thoroughness of the estimation process are adequate. GCA is not aware of any potential changes in regulations applicable to these fields that could affect the ability of QGEP to produce the estimated reserves.

Reserves are those quantities of petroleum that are anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: they must be discovered, recoverable, commercial, and remaining (as of the evaluation 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. All categories of Reserve volumes quoted herein have been determined within the context of an economic limit test (pre-tax and exclusive of accumulated depreciation amounts) assessment prior to any NPV analysis.

The reserve volumes have been reduced for fuel usage in the compression plant estimated at 2% of compressed gas. Article 47 of the Brazilian Petroleum Law states that "...royalties are to be paid on a monthly basis, in national currency ..." and therefore royalties are treated as cash deductions rather than a reduction to volumes."