Bayu Undan Discrepancies

Regarding the records of production of petroleum from the Bayu Undan field since 2004

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This study does not intend in any way to suggest that the operator of the Bayu Undan field in the JPDA and of the LNG plant in Darwin is in any way delinquent with regard to the payment of taxes to the governments of Australia and East Timor, but the atmosphere of secrecy surrounding the whole operation, the lack of information provided by the operator (when compared to the information made liberally available to the shareholders of other major oil and gas companies), and the obvious systematic errors and inconsistencies in the technical reports prepared by the ANP (the Timorese JPDA Authority), although ANP's financial reports seem to be reasonable accurate, lead the observer to ask several questions, for which neither the ANP, ConocoPhillips, nor the Australian Ministry in charge of petroleum production were able or willing to provide satisfactory answers.

This study could also suggest that the terms of the Bayu Undan contract between the Bayu Undan consortium and the governments of Australia and East Timor unduly favored the Bayu Undan consortium with regard to the valuation of natural gas, which could prove embarrassing for the negotiators on the Governments' side. The contract is secret, the records are secret, but it seems that the valuation of natural gas was determined by contract to be 25% below LNG export value, although the cost of the LNG plant was recovered before tax.

The discrepancies between the various sources of data are many and significant. Sources used for this study were:

- The Australian Petroleum Production & Exploration Association (APPEA): certain data concerning the JPDA required adjustment as they sometime refer to the whole production and sometime to the Australian share of revenue only (10%), but the discrepancies are so obvious as to be easily corrected. Detailed data about Australian petroleum production were made available from 1990 until 2014, but in 2015 APPEA discontinued abruptly the quarterly reporting.

- Port of Darwin database: movements of LNG carriers are reported on a day by day basis.

- Shipbuilder and LNG sources, in order to ascertain the capacity of each LNG carrier.

- Santos quarterly reports: these provide very valuable information. Santos owns 11.40% of the project.

- ANPM (ex-ANP, the JPDA Joint Authority): monthly production reports are for “barrels of oil equivalent” only, without any detail regarding dry gas, wet gas, LNG, LPG and condensate. ANPM agglomerates all productions quantities for Elang Kakatua, Bayu Undan, and Kitan, and there are obvious and large discrepancies. On the other hand, ANPM publishes financial data on a per month basis that are highly credible and dedicated to each production unit.

ConocoPhillips: provides no data worth mentioning

Based on the above mentioned sources, we were able to conclude the following:

Since the start of operations in 2004, and until 31 December, 2014, production at Bayu Undan was:

- Natural gas: 1,289,609 MMSCF (million standard cubic feet), or a calculated 26,851,224 metric tons and 1,375,763,973 GJ (gigajoules)
- Condensate: 209,372,100 barrels
- LPG: 115,782,590 barrels, or a calculated 9,883,683 metric tons

“First Tranche Petroleum” tax revenue to the Designated Authority was:

- Natural gas: $545,034,492.63
- Condensate: $811,951,586.28
- LPG: $275,390,666.09

“Profit oil” tax for condensate, LPG and LNG, which is 50% of revenue for condensate (up to 50,000 bbl per day, increasing beyond) and 40% for natural gas and LPG, minus recoverable costs (capital expenditure and operating costs mostly) was:

- $9,605,723,598.89

From “First Tranche Petroleum” tax revenue, we were able to infer production revenues, the Production Sharing Agreement stating that 10% of production revenue before any cost recovery is devolved to the operator

and the governments (90% of which goes to East Timor and 10% to Australia):

- Natural gas: $13,625,862,315.75
- Condensate: $16,239,031,725.56
- LPG: $6,884,766,652.25

Calculated average unit prices were therefore:

- Natural gas: $507.46 per metric ton or $9.90 per GJ
- Condensate: $77.56 per barrel
- LPG: $696.58 per metric ton

Although the average calculated condensate and LPG prices seem to be reasonably in line with the Australian average prices reported in various annual reports during the period, in particular Santos', the price calculated for natural gas is about 25% lower than LNG prices reported elsewhere specifically for Bayu Undan.

From other Santos reports, LNG production is about 15% lower than the gross gas production reported in other documents, the difference being explained by energy requirements both at the production and liquefaction facilities.

According to Appendix X of the contract, "*natural gas shall be valued at the field export point*", at a price necessarily different from the LNG sales price, in which case, because of the 15% difference in the productions of pipeline gas and LNG, the average gas value per GJ of LNG would be $11.65, about 10% lower than prices reported in other documents during the period. Calculating tax payments based on pipeline gas valuation "*at the field export point"* is understandable, but only if the capital expenditure relating to the Darwin LNG plant had not been recovered from revenue before the calculation of profit oil tax. From the "Profit oil" tax payment, a trial and error method applied on operating costs allowed the calculation of recoverable capital expenses as having been $4.2 billion between March 2004 and December 2008, and another $3.0 billion since January 2011, the latter figure probably covering the upgrade of the LNG plant and various field upgrades. At an aggregate value of $7 billion, the total recovered costs to date seem indeed to also cover the capital expenditure for the LNG plant. Various studies have valued the Darwin LNG plant at $2.0 billion, field development at $1.8 billion and the pipeline at $0.5 billion (the pipeline could have been included in the field development costs), for a total of between $3.8 and $4.3 billion,

reasonably in line with our calculation of $4.2 billion recovered before 2009. If the LNG plant capital expenditure was recovered for tax purposes, it would be expected that the valuation of gas for tax purposes should have been done at real LNG export prices, which we think were, as an average, around $12.90 per GJ, 10% higher than the $11.65 apparently used. We are not hereby questioning the latter $3.0 billion recovered expenditure, which however seems extraordinarily high.

The difference in revenue resulting from the unit price difference would be $1,719,704,966, leading to an additional tax payment of $687,881,986 (plus around another $480,000,000 in miscellaneous corporate and social taxes), 10% of which would be due to the Commonwealth ($117 million), the balance being due to East Timor ($1,051 million).

While accumulating data, we have been trying to resolve these discrepancies since 2010, first with ANP, then with the Australian Ministry in charge of petroleum production and finally with ConocoPhillips. The production data provided by ANP at the time were so unreliable and obviously flawed that we requested the original data from the Australian Ministry, which replied that they did not have anything more than what was available on the ANP website. Coincidentally, we were told a few days later that the officer we were communicating with at the Ministry had unexpectedly left for Dili right after our inquiry and the East Timorese Finance Minister later declared in an hour long ABC television report that at the time a lady from the Australian Embassy had requested production data from her, the request being apparently unclear to the Minister. As for ConocoPhillips, they turned down a request for a meeting on other issues as not having been confirmed by ANP. ANP has since removed the production data we had been questioning and replaced them with aggregate oil equivalent figures for all its fields, which are unfortunately of reduced significance.

Furthermore, hard data from the Port of Darwin authority suggest that there is a discrepancy between LNG quantities produced and quantities shipped, as high as 5% at least. Some latency between production and shipping could be a reason for the discrepancy, but the 5% difference has been constant for quite a long period. For reference, the quantities of LNG produced during 3 quarters (2,732,000 metric tons total for Q1 2016, Q4 2016, and Q1 2017)), and the number of cargoes shipped was 43. Independent tallying of the LNG carriers that collected LNG from the ConocoPhillips Wickham Point plant also reports 43 cargoes for the same period, but the maximum quantity those particular ships could load, from the available characteristics of the carriers, is 2,581,249 metric tons, if 100% of the ships' capacities were filled with LNG at its maximum possible density. The difference is 150,751 metric tons, or 5.52% of production and 5.84% of carrier capacity. Considering that LNG carriers cannot load 100% of capacity, but only 98 to 99%, perhaps as much as 7% of the LNG reportedly produced is not picked up by the LNG carriers.

The discrepancy is unclear, and represents a total of nearly 200,000 tons in a period of 276 days, or 700 tons per day, enough to power a 230 MW power plant. The Channel Island power plant near Darwin has an installed power of 310 MW and the Weddell plant of 129 MW. The plants would not use LNG. A total of exactly 250 loadout operations occurred in Darwin since the port started recording movements in November 2012. Only 18 different carriers came to Darwin, of which 7 picked up 90% of cargoes. It would be quite surprising if the published capacities of these ships, all within a few percentage points of each other and rounded to the cubic meter, could all be offset by 5% and always smaller than actual.

Regarding essential governmental action required for the Bayu Undan production records and other issues

The above discrepancies are quite significant and require clarification. One would expect that a project which has generated so far $36 billion in revenue from public mineral resources and should produce another $10 to $20 billion in the future, on which a flat tax rate of 40 to 50% is applied (plus another 30% for miscellaneous taxes, more or less), should be better controlled and scrutinized by the relevant authorities. Accurate production and accounting data need to be immediately published, leading either to the payment of additional tax or the exoneration of the operator, but the current flimsiness cannot be tolerated to persist, whereas such huge amounts of public money are involved.