**JSM - unraveling the mystery**

**email 20250220**

Guys, even though we will probably never get a clear picture of how much money has been and will end up being invested in (& spent on operations for) these 2 elephants, I hope we can tie down officially reported specifics on:

* OIP
* Reserves (i.e., recoverable bbls & boe)
* Total number of well bores by type from/including discovery & appraisal
  + NOTE – we do already have the total exploration/appraisal well bore data
* Total number of & key drilling details for completions by type
* Detailed individual well production data / profiles
* Average total daily, monthly, annual production bbls & boe
* More???

I have pulled off some interesting but confusing “data” from articles online from:

* JSM fact sheet by CVX (attached), **2016** –
  + The fields are approximately 280 miles south of New Orleans 25 miles apart, in ~7000ft WD.
  + Reservoir depths are in the order of 26,500 feet.
  + Electric seafloor pumps are used to assist production to the host.
  + Production from **FIRST stage** is expected to ramp up over the next several years to a total of **105Kbopd + 26Mcfd** of natural gas, with the capability for future expansion.
  + With a planned production life > 30 years, current technologies should yield >500Mboe recovery.
* Stages 1 & 2 🡺 13 wells… **per CVX’s JSM 2016** brochure
  + After discovery in 2003, CVX had drilled 7 E&A wells and 9 producers thru Q1’2016
    - By the end of Q1’2016, production had reached 75Kboepd
  + The WR regional host can handle 170Kbopd+42Mcfd and serves as host for JULIA.
  + Stage 1 put 9 wells on stream (4 producers at JACK and 5 producers at St. Malo)
  + Stage 2 added 4 wells (2 producers at JACK and 2 producers at St. Malo)
* **Stage 3**… ???
  + **03May2017**, UPSTREAM wrote that CVX had sanctioned Ph. 3… but, I don’t have subscription to get details from article
  + **22Mar2024**, OFFSHORE TECHNOLOGY website –
  + Stage three included the **drilling of two additional wells** at the Jack field.
    - But, also says…
    - *The initial phases of development involved* ***drilling ten production wells****: four at Jack and* ***six*** *at St Malo.*
    - *The* ***development also involved drilling 43 subsea wells****, which are tied back to the Jack/St. Malo semisubmersible floating production unit*
  + **???**
* **Stage 4**… EQUINOR website, **20Sep’19** –
  + Equinor announced today the sanction of a waterflood project in the St. Malo field in the US Gulf of Mexico.
  + This waterflood project, sanctioned in the resource-rich Wilcox formation in the deepwater Gulf of Mexico, is expected to contribute an estimated ultimate recovery of more than 150-175 million barrels of oil equivalent. Equinor holds a 21.5% working interest in the St. Malo field.
  + The project will include **two** new production wells, **three** new injector wells, and topsides injection equipment to the Jack/St. Malo floating production unit, allowing us to extend the life of the field.
* CVX website, 03Sep’24 (5yrs later)–
  + At the Jack/St. Malo facility, **Chevron achieved first water injection at the St. Malo field**, the company’s first waterflood project in the deepwater Wilcox trend. The project was **delivered under budget**, with the addition of water injection facilities, **two** new production wells, and **two** new injection wells. It is **expected to add approximately 175 million barrels of oil equivalent** to the St. Malo field’s gross ultimate recovery.
    - Original FID for this Stage 4 project called for TWO producers & THREE injectors… so, they stayed under budget by dropping one of the injectors???
  + **Since production started in 2014, JSM has cumulatively produced ~ 400 million gross BOE.**

**So, some questions:**

* Does the water injection project / Phase 4 bring the combined reserves to 675Mboe (or 575Mboe)?
* Does the “FORTY-THREE (43) wells” include more fields than just JSM… e.g., JULIA and others?
* Where/how could that number be justified… see below from OE???
* How many rigs are needed develop and operate JSM + JULIA?
* **Other q’s???**

From good article in OFFSHORE ENGINEER, by Karen Boman, **01JULY2017**

* She mentions that a Third Phase has been sanctioned (but no details ☹)
* And discusses the E-STMZ Completion technology…
  + By Chevron and Halliburton teamed up in 2007 to develop an enhanced single trip multi-zonal completion system (EMTSZ) (*OE*: December 2014). This technology allows an operator to run and fracture five zones in a single trip. The ability to reduce the number of trips to perforate wells save not only time, but drilling rig day rate costs, Flowers said.
  + At Jack/St. Malo, Halliburton’s tool allowed Chevron to conduct successful hydraulic fracturing jobs to effectively open up cliff-based inflow wells. Unique production tracers in each zone allowed Chevron to study samples. As a result, **the Jack/St. Malo completion team completed 47 fracs in 10 wells without missing the target**, Flowers said.
  + Besides the first successful demonstration of the completion system, one of the biggest wells that Chevron has ever drilled was at Jack/St. Malo. For that well, Chevron ran a 2.3 million-pound casing string. **Chevron also is seeing the highest completion pressure its ever seen, with Jack/St. Malo wells at 9500psi**.