

Everyone's Smart University

Project (Spring 2021)

Advanced project Management

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Master

Date

Thursday

18 / 03 / 2021

Course Code

(PMG506)

Project Name: Field Development Plan

1. INTRODUCTION

The objective of this project is to develop the oil and gas field by constructing new static and dynamic models to perform the following:

- Calculate the Original Oil & Gas in Place (OOIP & OGIO)
- Estimate the Oil & Gas reserve
- Production strategy to achieve the sustainable target rate.
- Develop the oil and gas facilities

I have assigned as a project manager and I will be the responsible for the successful completion and final results of this project by submit the required deliverables with time, budget and specifications. This project/research will address on the following issues:

- Purpose, scope, and objectives of the project
- Divide tasks and resources amongst a project team
- Milestones and activities
- Creating the budget and link the costs to the key milestones for a project

One of the most team-building success is clear project scope which will effect on the project objectives and goals. The objectives usually formulated by project manager, team member and stockholders or clients, and with unclear objectives many teams are disorganizing during performing their tasks because there is not anyone understand where the project should be a headed. Moreover, if objectives are not explicit, it becomes difficult to clearly define roles and responsibilities. In additional, do not hide the important role of communications, whether among team members or with stakeholders and customers, and with an effective communication will make the team members clearly understand their responsibility and increase the productivity to successes the project. The project consists of two main phases which are the **static phase and dynamic phase**, and many of milestones and activities with their estimated costs and the final budget of the project will be calculated based on the total cost of activities by using tools and techniques which will be explained later in the Methodology section.

2. LITERATURE REVIEW

There are many papers on the value of project management for organizations, indicating that the majority of project management literature focuses on the use of tools and methods. A project is defined as a time-limited effort to deliver a product or service, while project management is the process of organizing activities with the goal of meeting stakeholder objectives. In terms of project management methodology, the rated companies that ranked first in PMP certification have stronger project management methodology as shown by OPM3 performance [1].

SMART goals are meant to address all of your major job responsibilities. When setting a goal, be Specific about what you want to achieve, make it Measurable by defining the metrics, and make it Achievable by knowing how, Realistic means are the goals and objectives easy to deliver, especially if you face problems or complications, Timely can your project goals and objectives be met within the allocated time frame? Is it a key criterion to meet these deadlines?. Often, the target must be relevant; it must align with the company's overall objectives. Finally, everyone can set up targets and goals, but they are unlikely to be reached if they are not realistically timed [2].

PMI defines project management as "the application of relevant knowledge, tools, skills, and techniques to project operations in order to accomplish project goals," and adhering to Project Management Methodologies reduces risk, lowers costs, and improves performance rates. Project managers and engineers seldom apply missing elements to their approaches because they feel their solution already contains all of the tools and processes required to complete a project successfully [3].

3. METHODOLOGY

The project charter is a key output from the Initiation process and it is important for who is working on projects to understand exactly what the project is and It should give the following output:

- Formally authorize the project
- Provide authority to project manager
- The business need for the project and product description

- Provide the main objective of the project.
- Project/Team members (project leader and team members)

The project charter was issued by a manager who is external to the project and higher in the corporate hierarchy. After defined the project charter, the project scope was defined by using the SMART guideline which is a well-established tool that you can use to plan and achieve your goals, it is stands for Specific, Measurable, Achievable, Realistic and Timely, based on that, the resources and realistic project work breakdown structure (WBS) with code was defined by WBS Chart as shown in Figure 1.

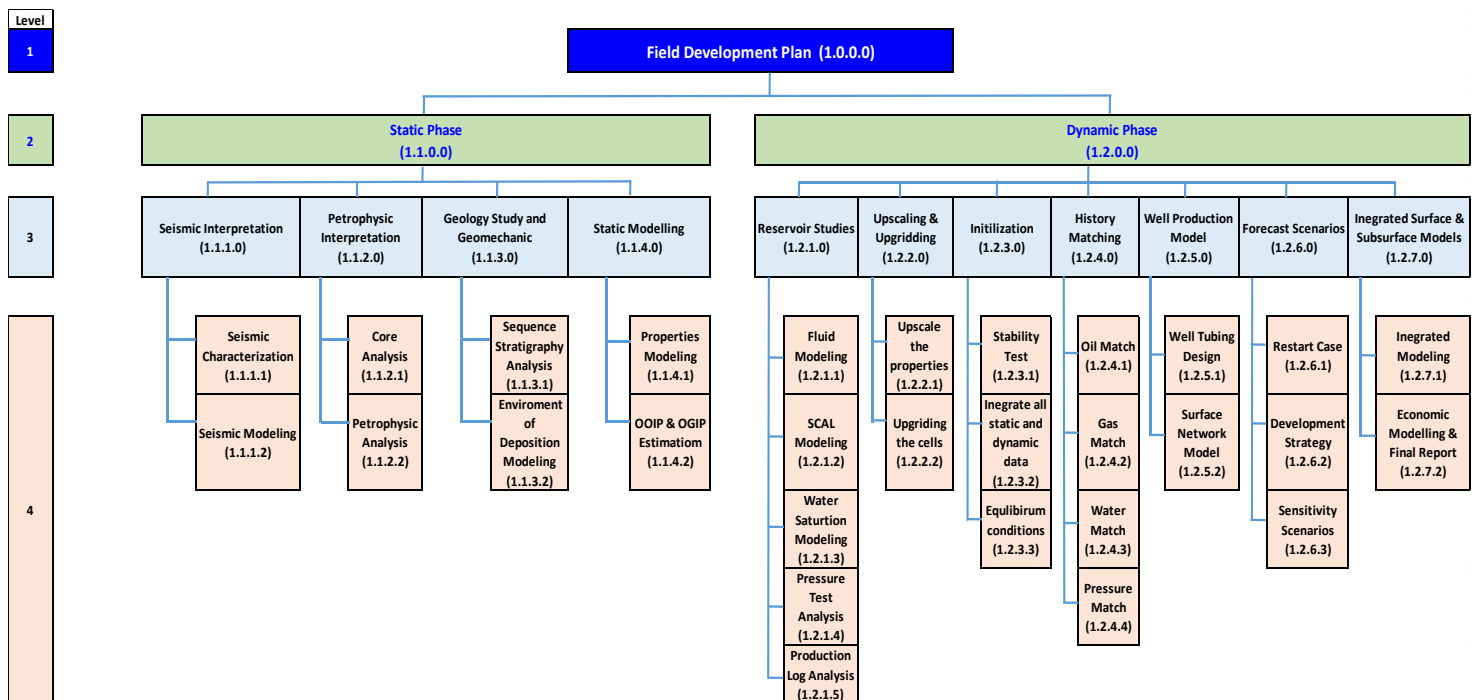


Figure 1: Work Breakdown Structure (WBS) chart

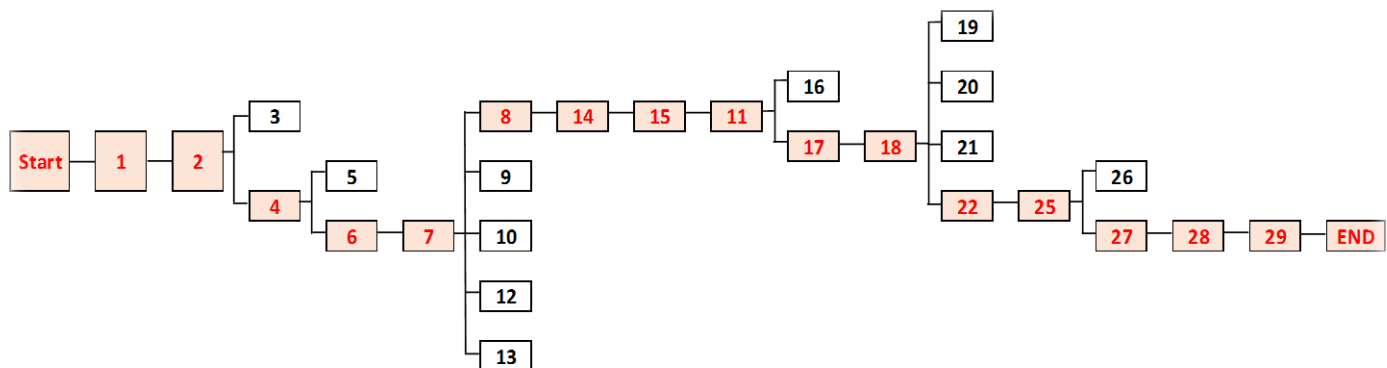
After submitted the WBS, the 'RASCI' Accountability/Aesponsibility Matrix was used for effectively assigning and communicating levels of accountability for project activities (define roles and responsibilities to all team members). The RASCI is stands for **R**esponsibility, **A**ccountability, **S**upport, **C**onsult and **I**nformed. Table 1 shows the RASCI Matrix Model for Tasks/Activities.

RASCI Matrix Model

Task/Activity	WBS code	Project Manager	Geophysic	Petrophysics	Geologist	Geomodeling	Reservoir Engineer	Simulation Engineer	Production Engineer
Seismic Interpretation	(1.1.1.0)	A, C	R	S		I			
Petrophysic Interpretation	(1.1.2.0)	A	C	R	I		S		
Geology Study and Geomechanic	(1.1.3.0)	A	I	S	R	C			
Static Modelling	(1.1.4.0)	A		I	S	R	C		
Reservoir Studies	(1.2.1.0)	A				I	R	C	S
Upscaling & Upgridding	(1.2.2.0)	A		C			S	R	I
Initialization	(1.2.3.0)	A					S	R	C
History Matching	(1.2.4.0)	A, S					I	R	C
Well Production Model	(1.2.5.0)	A, C					I	S	R
Forecast Scenarios	(1.2.6.0)	A, I					S	R	C
Integrated Surface & Subsurface Models	(1.2.7.0)	A, I					C	R	S

Table 1: RASCI Matrix Model for Tasks/Activities

After assigned tasks to the all team members by RASCI matrix, and based on the estimated resource requirements and available resources, the duration of all activities was estimated by Analogues estimating technique using historical data from similar project (this technique is a fast estimating, low accuracy and cost). Then, Network Logic Diagram for all activities was created as shown in Figure 2.



Critical Path is : 1 - 2 - 4 - 6 - 7 - 8 - 14 - 15 - 11 - 17 - 18 - 22 - 25 - 27 - 28 - 29

Figure 2: Network Logic Diagram

Based on the activities list, sequence of activities, assigned resources and duration accordingly, the project schedule has been developed and the critical path was defined. At the same time, the project costs for all activities were defined by using Bottom-Up estimating technique (cost estimate technique is created at the lowest level in the WBS and then rolled up to create an overall estimate for the project) as shown in Table 2.

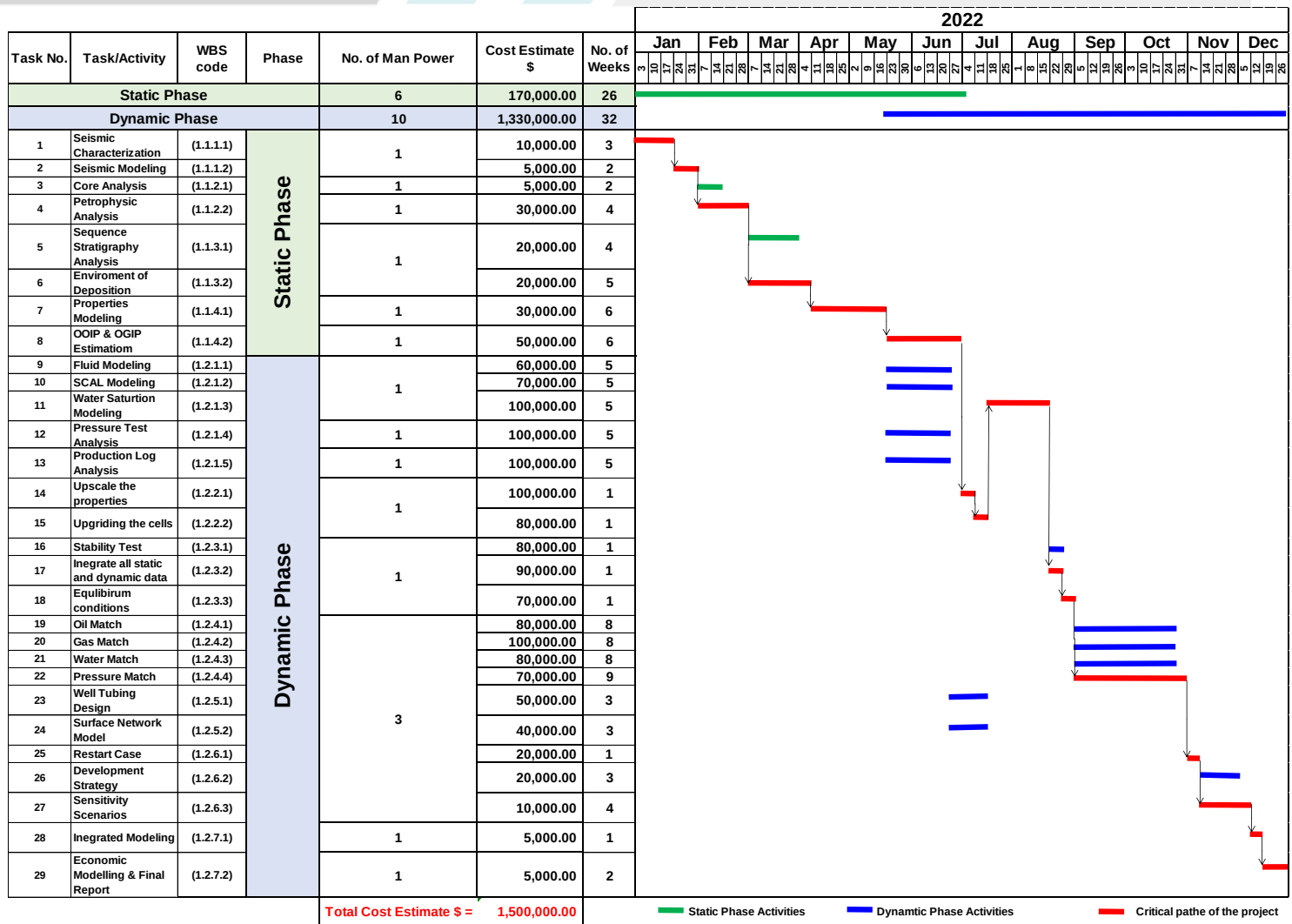


Table 2: Gant Chart of project

After estimating the project cost and developing the project schedule, the cost baseline which represented by S-Curve was defined as shown in Figure 3.

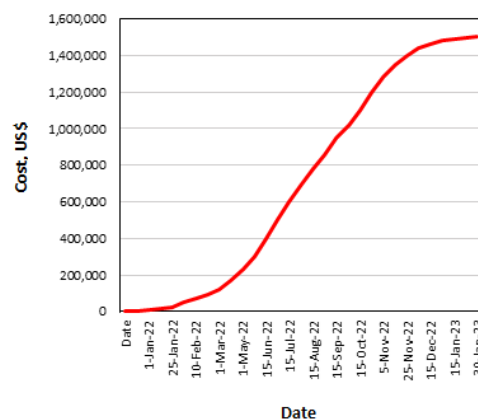


Figure 3: The Cost Baseline

4. RESULTS AND DISCUSSION

Based on the estimation techniques of duration and cost for each activity, the project period will be **ONE year (12 months)** and will cost around **1,500,000 US\$** (without contingency budget). For static phase (The estimate duration is **26 weeks** with cost around **170,000 US\$** and needs for 6 of man power), and for dynamic phase (The estimate duration is **32 weeks** with cost around **1,330,000 US\$** and needs for 6 of man power). During the execution process until the closing process of the project, the schedule and cost should be under control and track to avoid any delay in any activity or over budget (the best results of control when the project is ahead of schedule and under budget). The risk contingency budget should be estimated to cover the impact of risks on project by using Expected Monetary Value Technique (EMV).

5. REFERENCES

- 1- Alves Patah, L., Monteiro de Carvalho M. The value of project management methodology: a case study. University of Sao Paulo.
- 2- Mind Tools Ltd, (2009-2011). Goal Setting ToolKit
- 3- Abdulla, H. and Al-Hashimi M. (2019). The Impact of Project Management Methodologies on Project Success: A Case Study of the Oil and Gas Industry. Journal of Engineering, Project and Production Management.