

Well Hook-up Planning and Costing

By: Said Al-Jabri

Development Cost & Planning Engineer



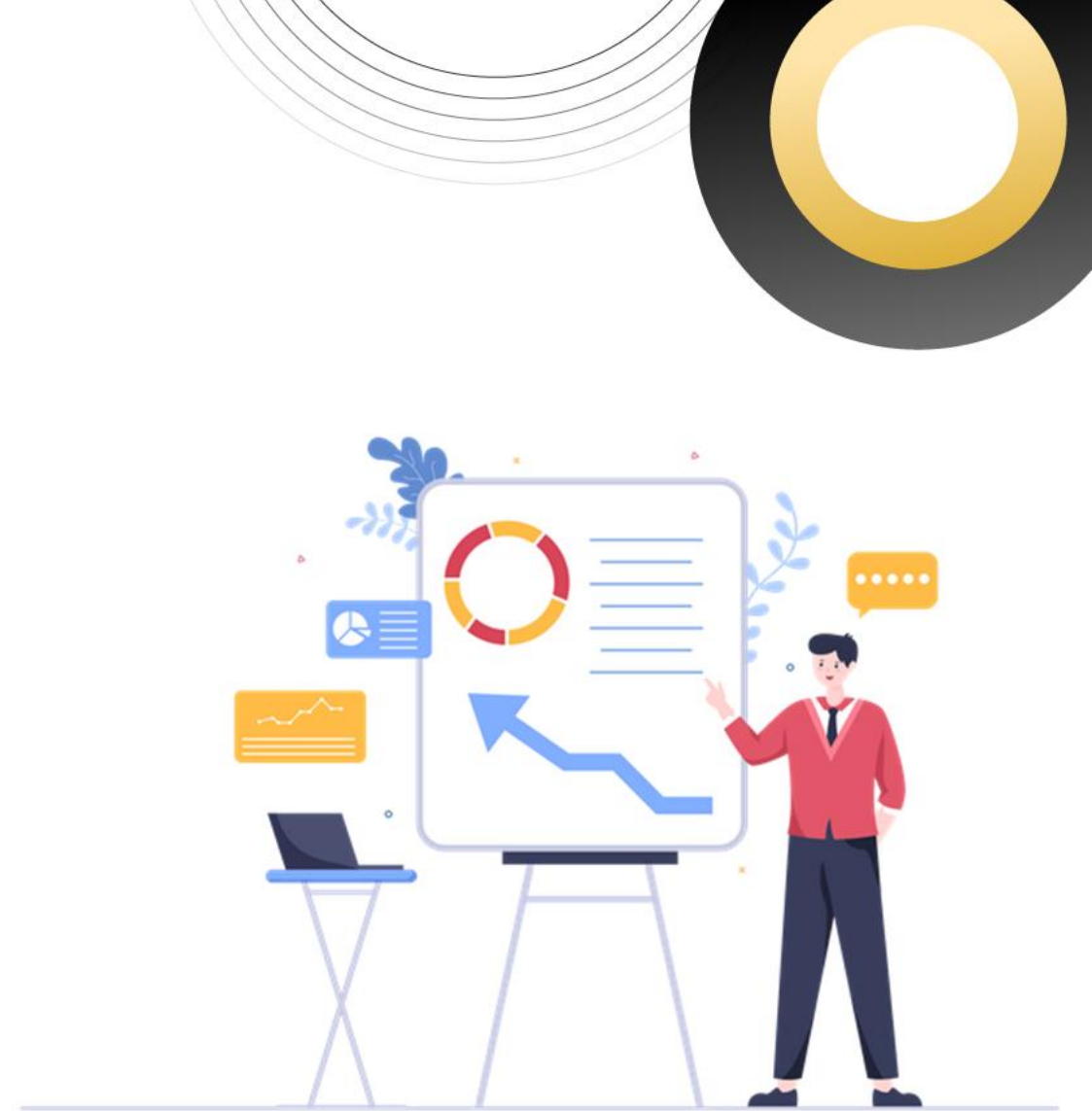
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This session will provide an insights on how the project control engineer is planning and costing the gas well delivery projects.



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Agenda

1

Understanding the Scope of Work and Hookup Configuration

2

Well Delivery Planning (Hook-up Construction Planning).

3

Hook-up & Flowline Cost Estimation and Controlling the Cost

4

Summary & Takeaways



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About the Sultanate of Oman



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UAE

Dubai

Muscat

Oman

440 Km

About Petroleum Development Oman

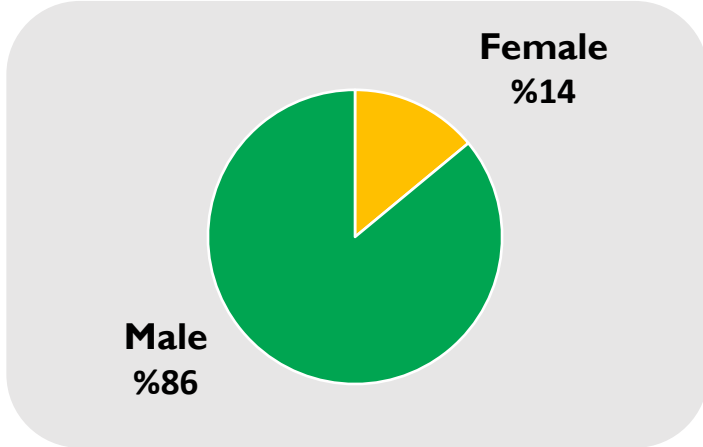
01

90%
Omanisation
(8,904 employees)

03

+202
Producing Oil Fields

02



04

+33,000
Km of Pipelines & Flowlines



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About the Presenter

Work Experience

Education

Personal Information



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Personal Information

Work Experience

Education

Said Al-Jabri
Sultanate of Oman
25 years old



Personal Information



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Education

Work Experience

Chemical and Process Engineering
Graduated in 2020, Sultan Qaboos University

Education

Personal Information



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Work Experience

2021-2023: Worked in OQ Refinery for 1.5 years, Production Planner

2023: Development Cost & Planning Engineer at PDO

Work Experience

Education

Personal Information



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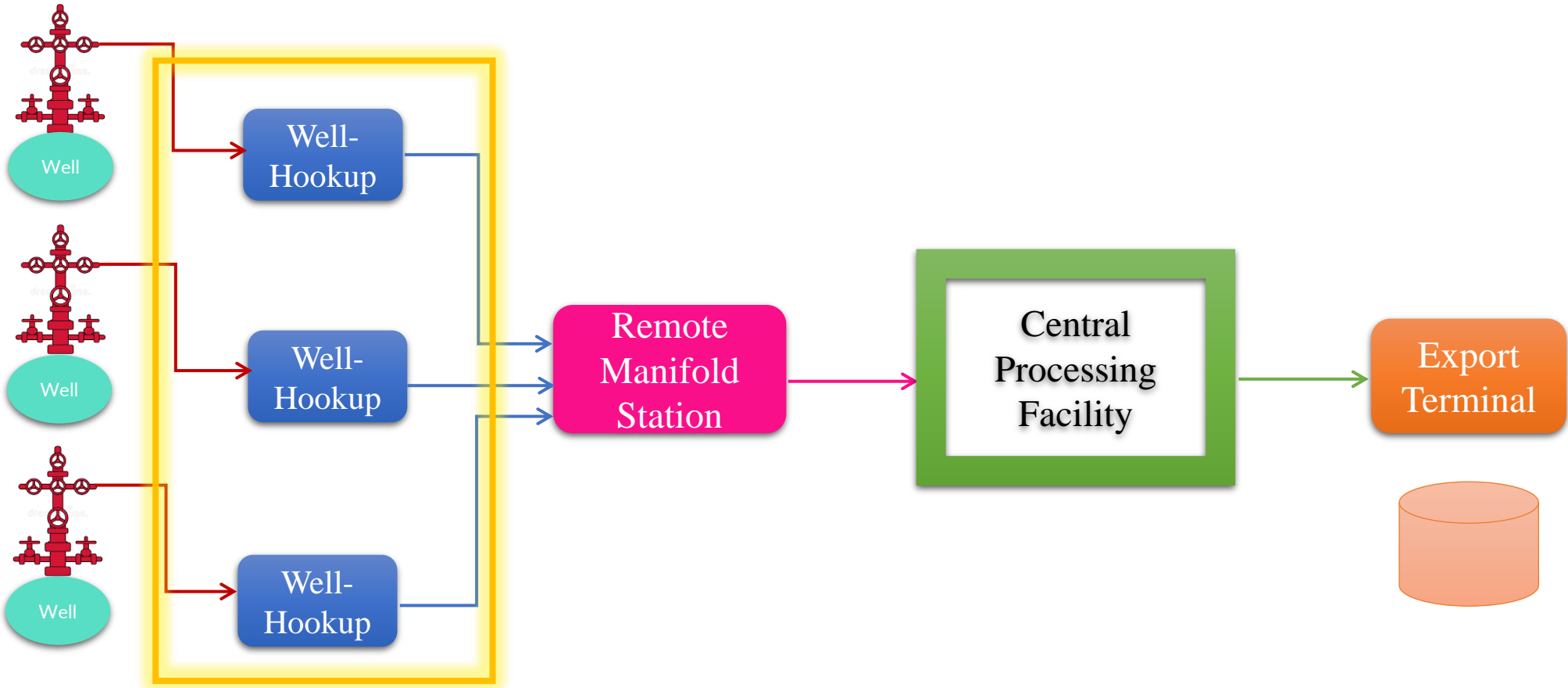


Oman

Muscat

Qarn Alam

Scope of Work



Flowline & Hookup

- ▶ **Flow-line:** to transport fluids (gas/oil) from the Hook-up to Remote Manifold Station
- ▶ **Hook-up:** connect the wellhead to the flowlines.



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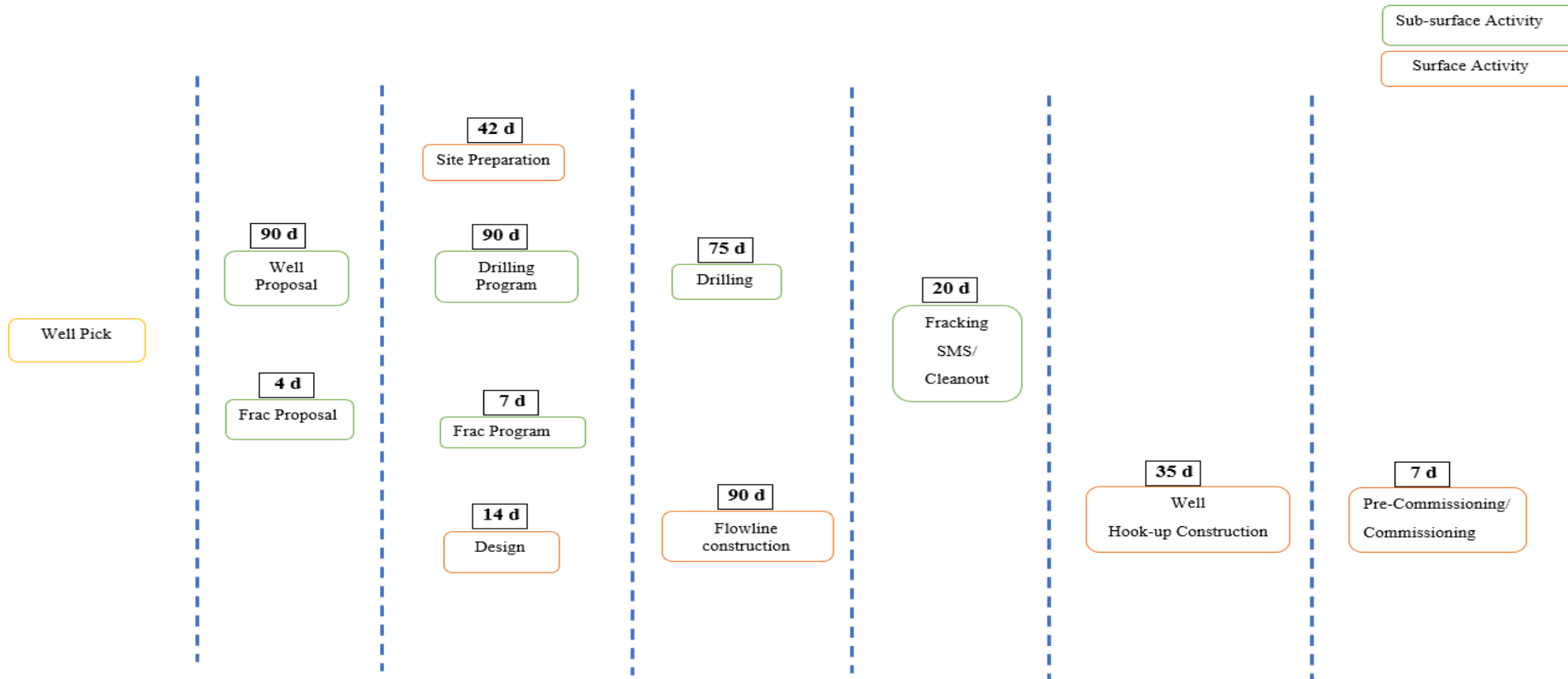
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Well Delivery Planning in PDO

Short Term Production Forecast	Long Term Production Forecast
2 years Plan	5 years Plan
2 years drilling/ Production Forecast	5 years drilling/ Production Forecast
Updated Yearly	Updated Yearly
More Stable and Firmed	More changes

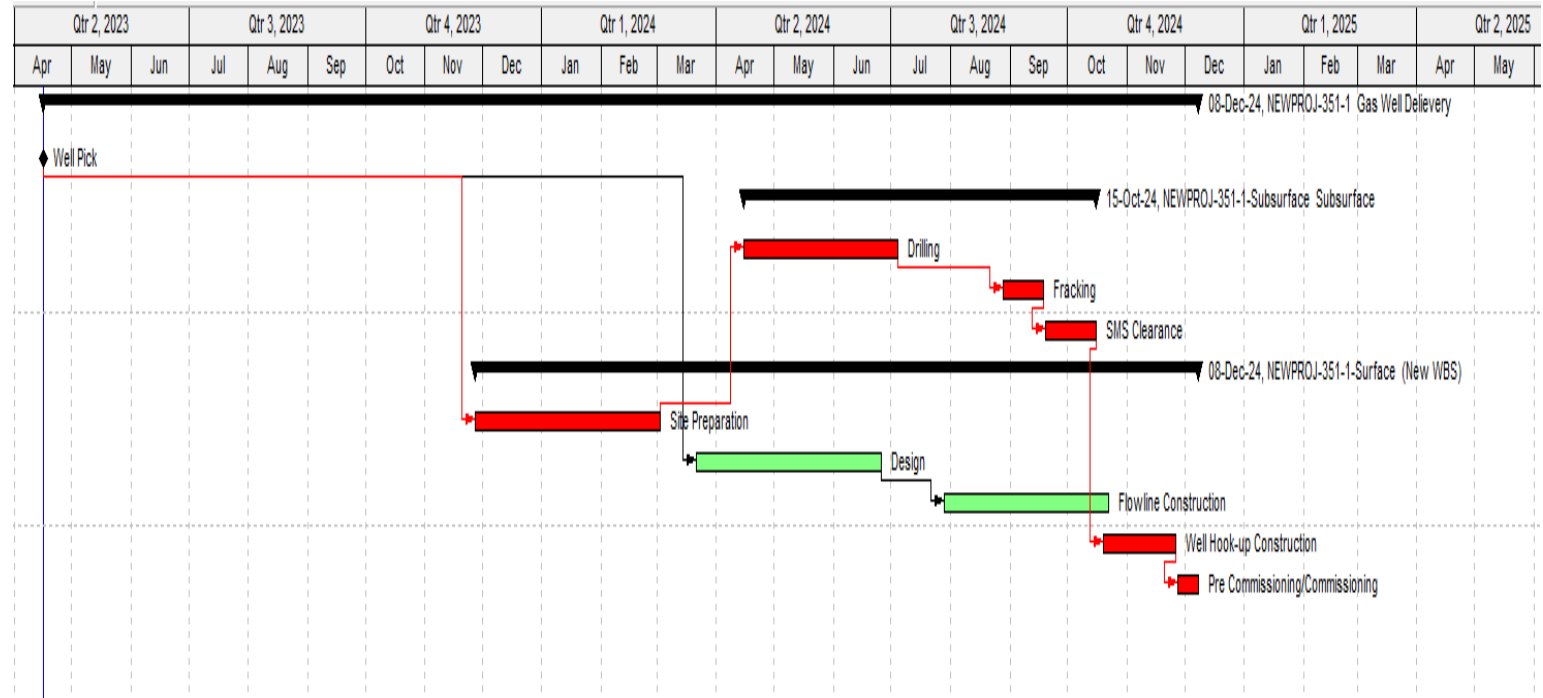


Well Delivery End to End Process



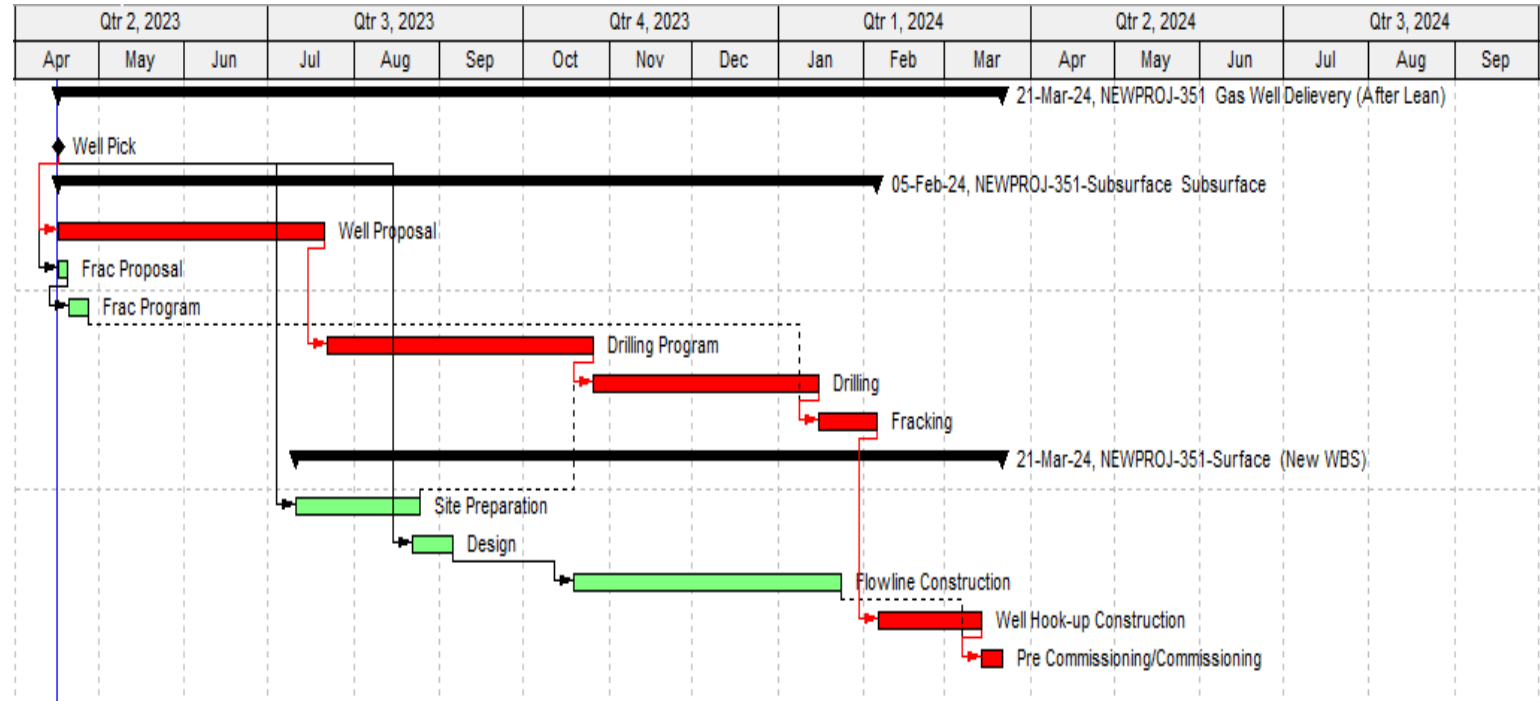
Well Delivery End to End Process

Well Delivery End to End Process
(before Applying the lean)
Around 580 days






Well Delivery End to End Process

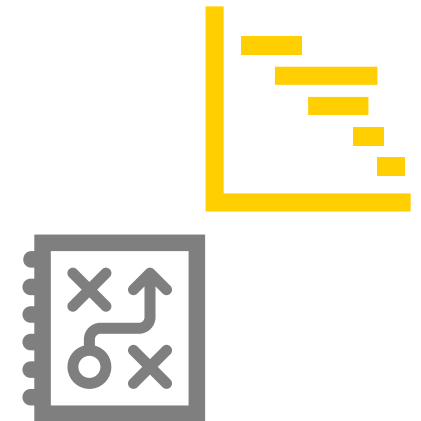
Well Delivery End to End Process
(After Applying the lean)
Around 300 days



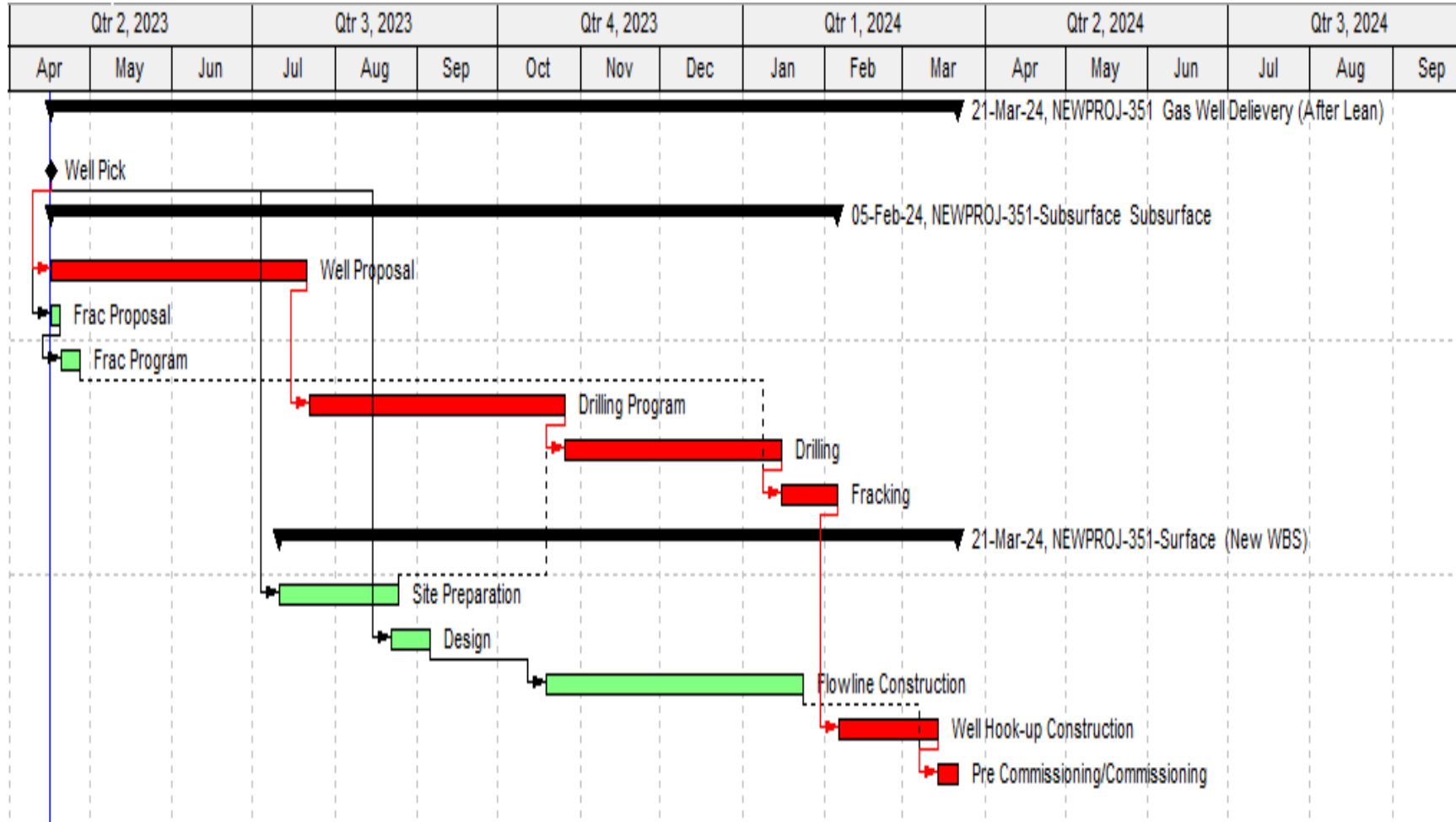
Well Delivery Planning

Required information:

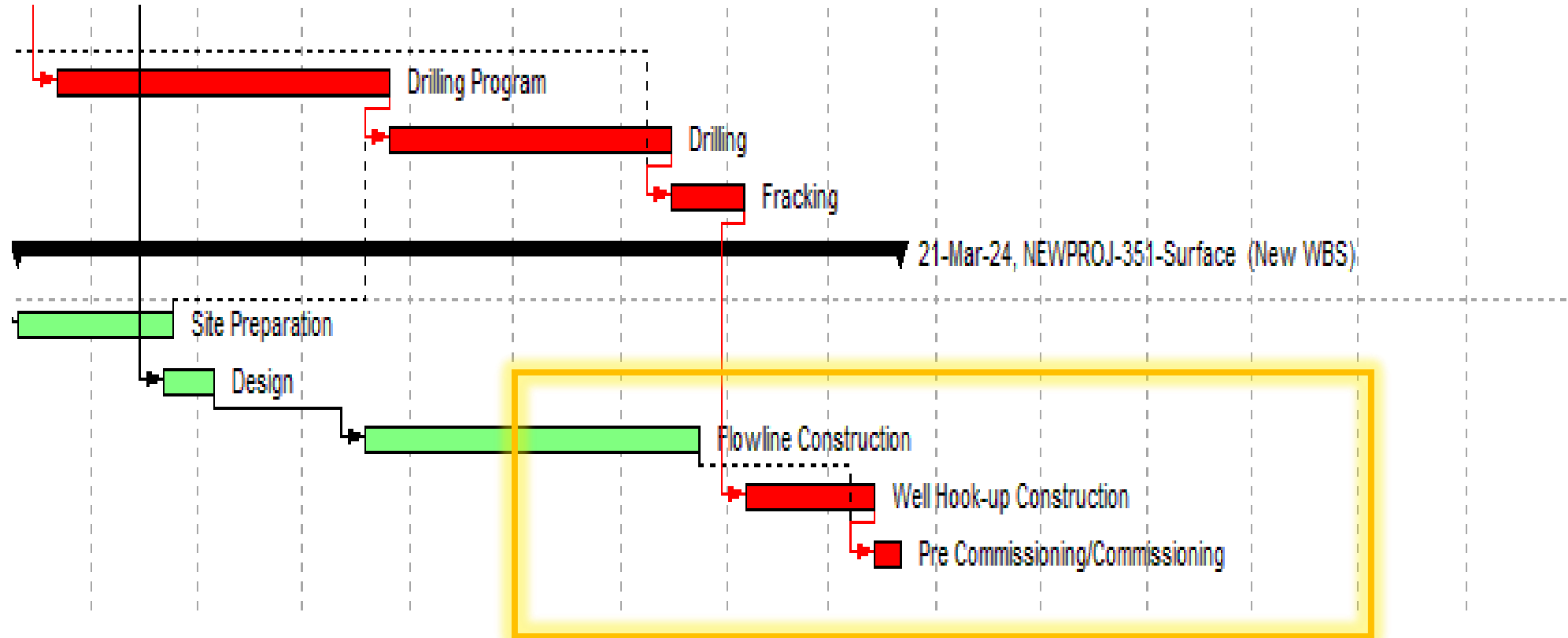
-  Drilling/Frac Sequence Dates
-  Agreed durations with the contractor (contractual durations for construction)
-  Availability of Hookup material



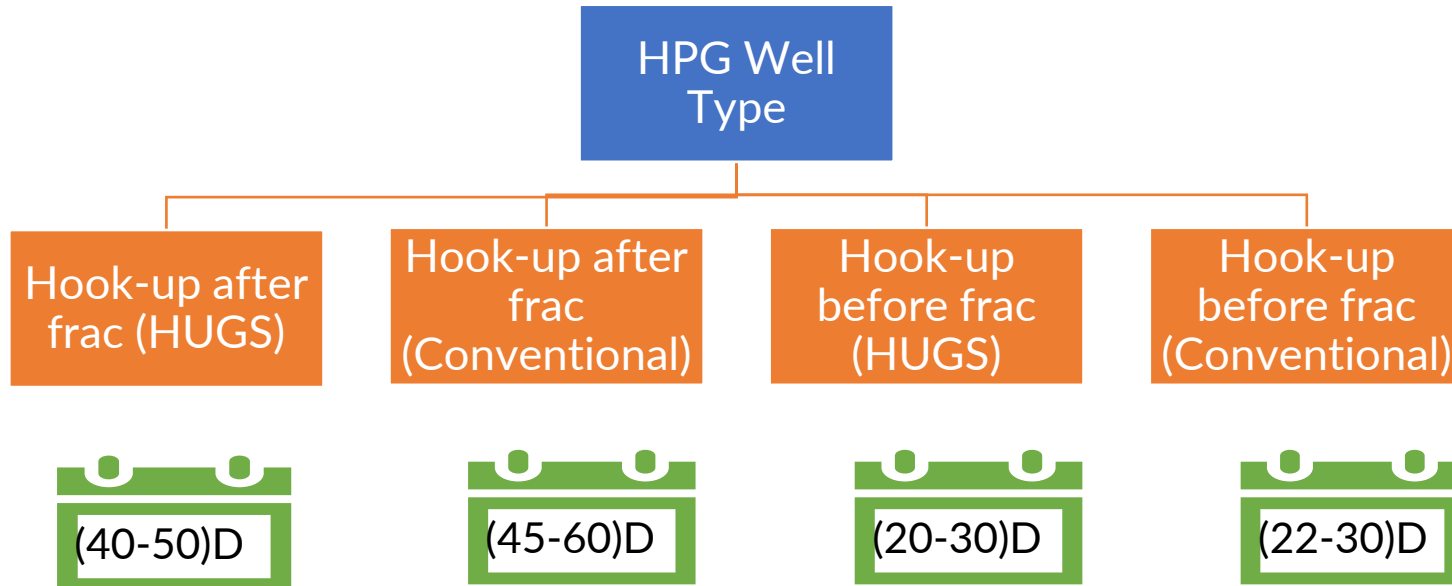
Types of On-Plot Hookup & Hookup Durations



Types of On-Plot Hookup & Hookup Durations



Types of On-Plot Hookup & Hookup Durations



HUGS: Hook-up Gas Skid



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Flowline & Hookup Construction Activities



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Typical Cost Estimation Per Well

S. No	Activity	Qty	P.O value (\$)
1	Engineering + Construction (Off-plot & On-Plot) (3KM of Standard length considered)	1 Well	(27-30)%
2	DSS Flowline (3KM of Standard length considered)	3KM	(39-41)%
3	HUGS (FRAMES) – 10K	1	(29-31)%
4	Miscellaneous (TPS Accommodation /Transport)	1 Well	(1-3)%
Total Value Approximately	-	1 Well	(X) Million



Budget Phasing



Required information:

- How many wells in the scope (STPF).
- Cost per well taking into account the flowline length.
- Distribution of the cost over the well delivery life cycle.



Cost Distribution Weightages

Typical weightages distribution Cost for the well delivery

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
Conventional Hook-up After Frac	(3-7)%	(3-7)%	(21-24)%	(7-10)%	(31-41)%	(16-17)%	(3-7)%
	Engineering	Engineering	Flowline construction	Flowline construction	-Hookup construction - Flowline construction	Pre-commissioning	Close-out

● Percentage of Cost

● Activity



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Summery of Well Delivery Planning

It is an essential to understand the way of how subsurface (drilling/frac) teams are working, then firm the durations with the contractor to give an optimistic a 2 years plan.



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Summary of Well Delivery Costing

The controlling of a cost of well hookup project job is an essential, it plays a major role in terms of assigning the yearly budget for any assets of portfolio.





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