Improving Rig Moves IADC Rig Moving Committee January 9, 2014



# **Background Information**



# What to do?







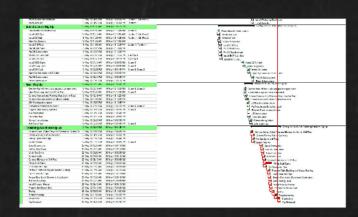


# **Develop a Baseline**

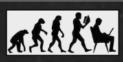
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# **Project Evolution**









# Four Key Areas of a Rig Move

# Streamlined Procedures - Benchmarks - Timelines - Checklists - Simplicity Optimized Rig Move

#### Intelligent Rig Desig

- Mast and Sub mobility
   Reduce cable handling
   Reduce hydraulic handling
   Skid sizes
- Round bottom tanks
   Accessories stay on rig

#### Effectiv

- Pre-planning
   Pre-shift
- During move
   Lessons learned

**Streamlined Procedures** 

- Benchmarks
  - Timelines
  - Checklists
  - Simplicity

# Max Equipment Utilization

- Type required
- Driver to-do list
- Minimize empty travel
- Reduce double-handling

# Intelligent Rig Design

- Mast and Sub mobility
- Reduce cable handling
- Reduce hydraulic handling
  - Skid sizes
  - Round bottom tanks
  - Accessories stay on rig

# Effective Communication

- Pre-planning
  - Pre-shift
- During move
- Lessons learned

### Streamlined Procedures

- Benchmarks
- Timelines
- Checklists
- Simplicity

- Type requiredDriver to-do list

- Minimize empty travel Reduce double-handling

## **Optimized Rig Move**

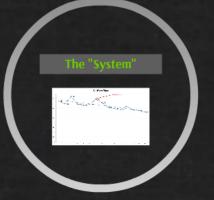
- Mast and Sub mobility
  Reduce cable handling
  Reduce hydraulic handling
  Skid sizes

  - Round bottom tanks

#### · Accessories stay on rig

- Pre-planning
- Pre-shift
- During move
- · Lessons learned

# Results



Equipment Modifications





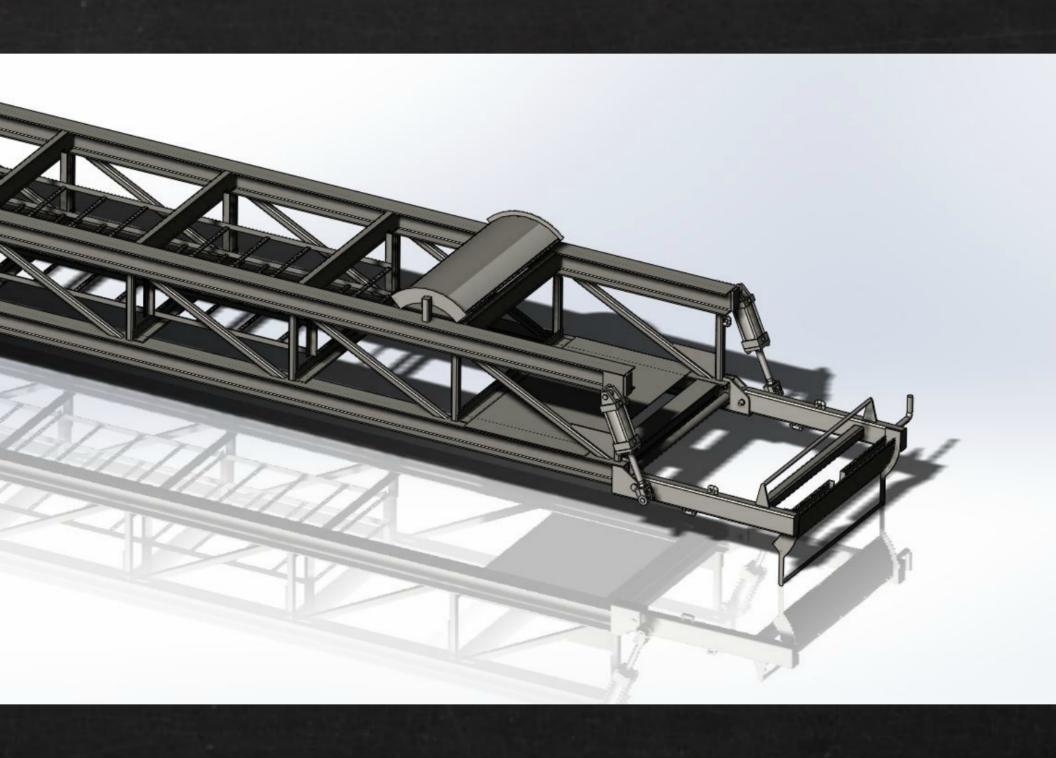


- Operator,Contractor, Trucking
  Contracts
  Customer relationships
  Customer design ideas
  Training



# **Equipment Modifications**





# Rig Move Procedures





#### **Equipment Procedure**

Ideal Prime Rig Mobilization Plan

Reference Reference Description

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# **Equipment Utilization**

#### **Load Plan**

Hes/Shift	Mileage	Round trip (hrs)
10	50	3.2
		Trips/day
	Londs per Duy	
Day I	Day 2	Day 3
15	28	7
	Haul Trucks per Du	
Day I	Day 2	Day 3
	9	2
Day 1	Load Contents	Loads
	AL drill pipe	11
	Degasser	1
	Suction (smk Mout tank	1
	Equipment Skid	1
	Tetal	15
Day 2	1040	
	Cnow calkins	4.
	Substructure	2
	HPII/reaghneck Lights, electrical equipment	1
<b>-</b>	Om set	1
	VFD	í
	Toolhouse	1
	Mud pumps	2
	Drawworks	1
	Mots, stairs, mod mixing	1
	BOP accumulator	1
	Piperal	i
	Drill cabin	1
	Fuel tank	1
	Pertable mud system	1
	Tool container	1
_	Change house	1
	Water tank	1
_	Backup fuel tank BOP	1
$\vdash$	Top drive manlift/service loop	1
	Top drive manift service loop Total	26
Day 3	1000	
	Mast	ì
	Miscellaneous	1.
	Miscellmeous	1
1	Miscellaneous	i.
_	lloses	1-
-	Piperacko	1
	Standpipe, flareline	1
	Tetal	7
	Total Loads	50

## **Load Plan**

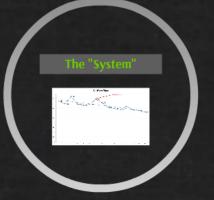
Hrs/Shift	Mileage	Round trip (hrs)
10	50	3.2
95		Trips/day
		3
	Loads per Da	ay
Day 1	Day 2	Day 3
15	28	7
-	Haul Trucks per	r Day
Day 1	Day 2	Day 3
5	9	2

	У	- 4
Dev. 1	Lord Contents	Incl
Day 1	All drill pipe	Loads 11
	Degasser	1
	Suction tank	1
	Mud tank	1
	Equipment Skid	1
	Total	15
Day 2		
	Crew cabins	4
	Substructure	2
	HPU/roughneck	1
	Lights, electrical equipment	1
	Gen set	3
	VFD	1
	Toolhouse Mud pumps	2
	Drawworks	1
	Mats, stairs, mud mixing	1
	, saas, mos mang	•
	BOP accumulator	1
	Pipecat	1
	Drill cabin	1
	Fuel tank	1
	Portable mud system	1
	Tool container	1
	Change house	1
	Water tank	1
	Backup fuel tank	1
	BOP	1
	Top drive/manlift/service loop	1
	Total	28
Day 3	Total	20
•	Mast	1
	A MARINE TO AN	1
	Miscellaneous	1
	Miscellaneous	1
	Miscellaneous	1
	Hoses	1
	Piperacks	1
	Standpipe, flareline	1
	2000 100	7
	Total	7
	1	
	Total Loads	50

# Communication

- Operator, Contractor, Trucking
- Contracts
- Customer relationships
- Customer design ideas
- Training

# Results



Equipment Modifications

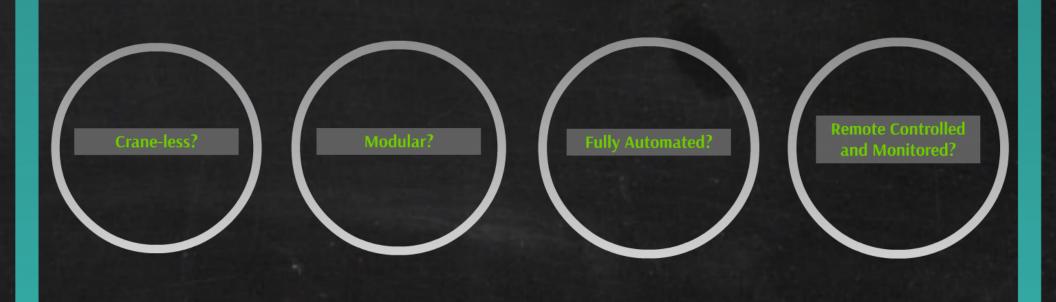






- Operator,Contractor, Trucking
  Contracts
  Customer relationships
  Customer design ideas
  Training

# What's the "Next" Rig Design?



# **How Will It Move?**

Improving Rig Moves IADC Rig Moving Committee January 9, 2014

