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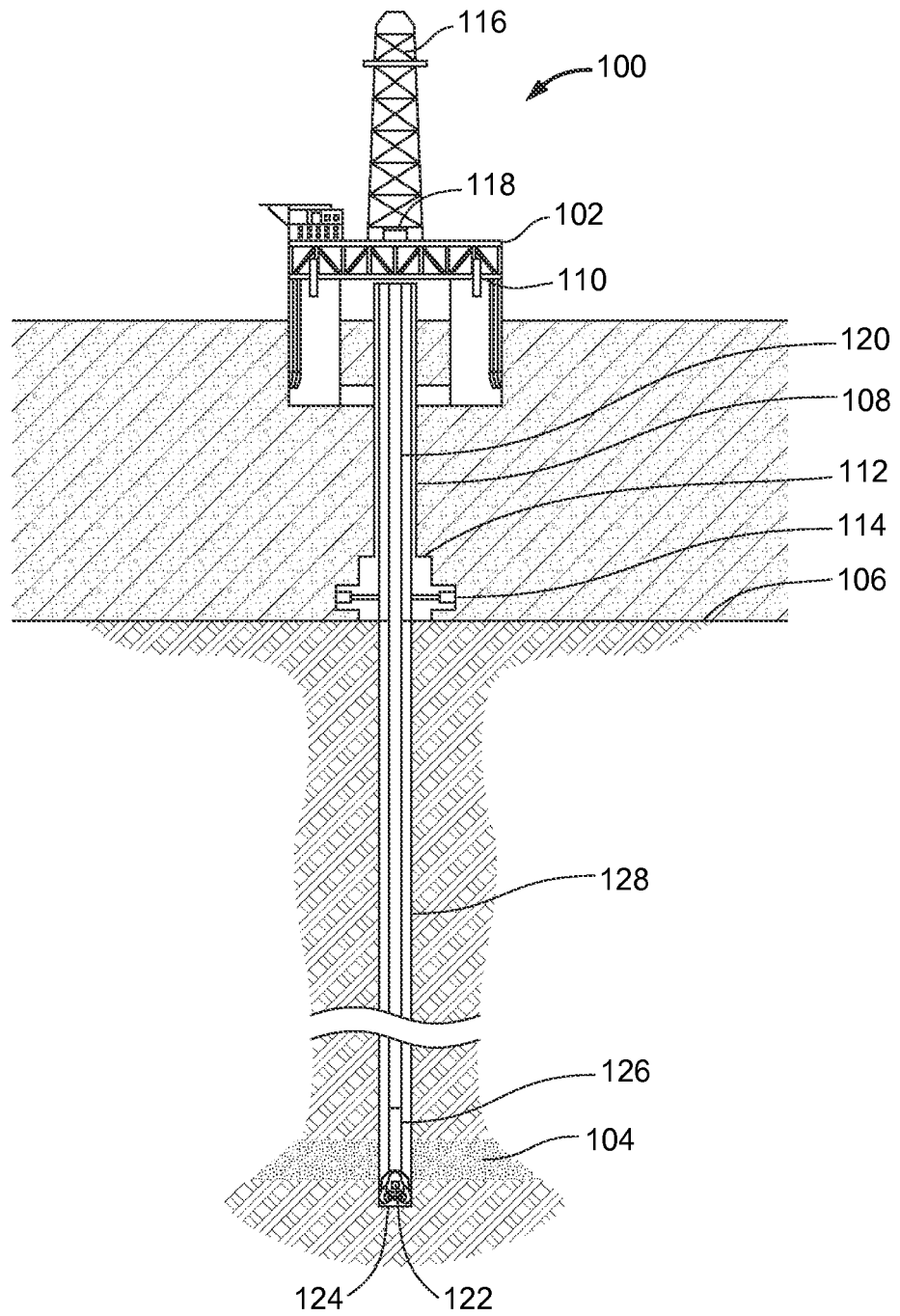


FIG. 1

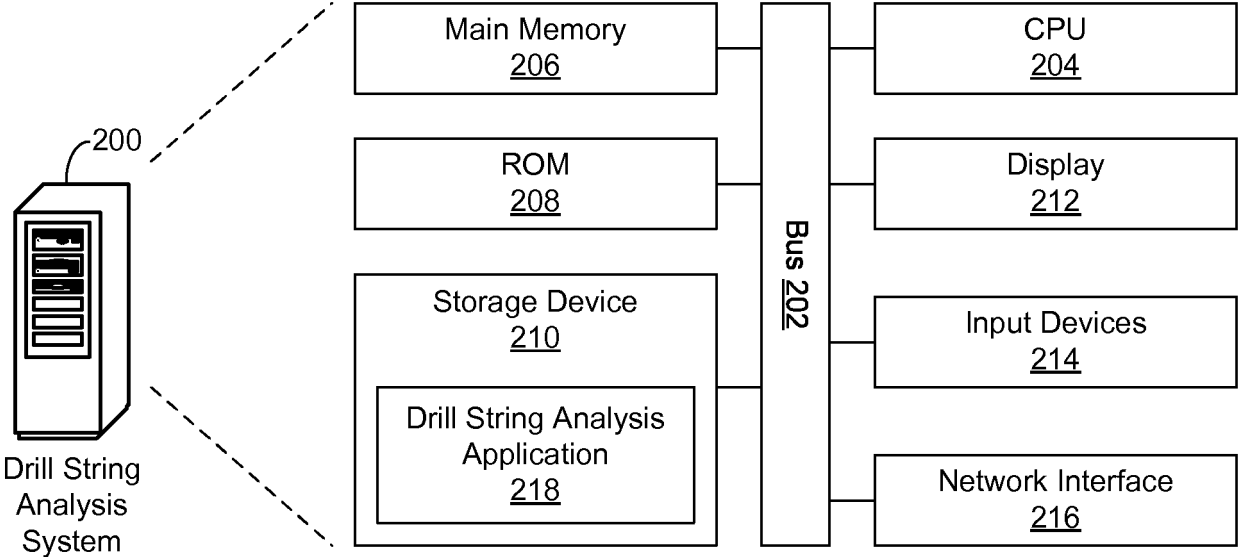
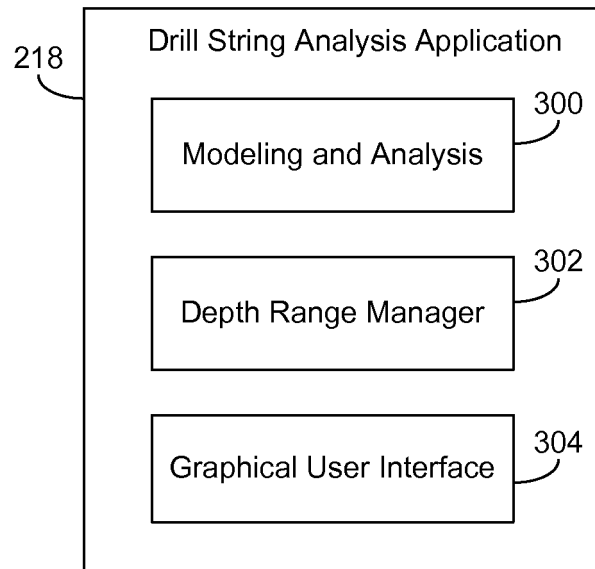


FIG. 2

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**FIG. 3**

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400

FIG. 4A	FIG. 4C	FIG. 4B
<u>402</u>	<u>406</u>	<u>404</u>

FIG. 4

402

Operational Parameters 410

Depth Range Manager

	Start Depth (ft)	End Depth (ft)	Description	Enabled
1	0.0	20,000.0	Full Analysis	☒ 412
				☐ 414

☐ Common

-Operational Pump Rate _____

Pump rate: gpm

☐ Torque & Drag

-Drilling Operations _____

-☐ Use Tripping In _____

Speed: ft/min RPM: rpm 416

FIG. 4A

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404 → Analysis Settings

▲ Common

-Depth Range Manger Options—
Active Depth Range: Full Analysis ▼ ⓘ
-Calculation Options—
Sea water density: 8.60 ppg

▲ Torque & Drag

-Hook Load/Weight-Indicator Correction —
Block weight: 50.00 kip
-Analytical Method —
☐ Use Bending Stress Magnification
-String Analysis Model —
☐ Use stiff string ⓘ
☐ Use viscous torque and drag ⓘ
Buckling limit factor: ⓘ
-Maximum Overpull —
using % of yield: 90.00 %
-Fluid Column —
☐ Use fluid column gradient ⓘ

420

422

FIG. 4B

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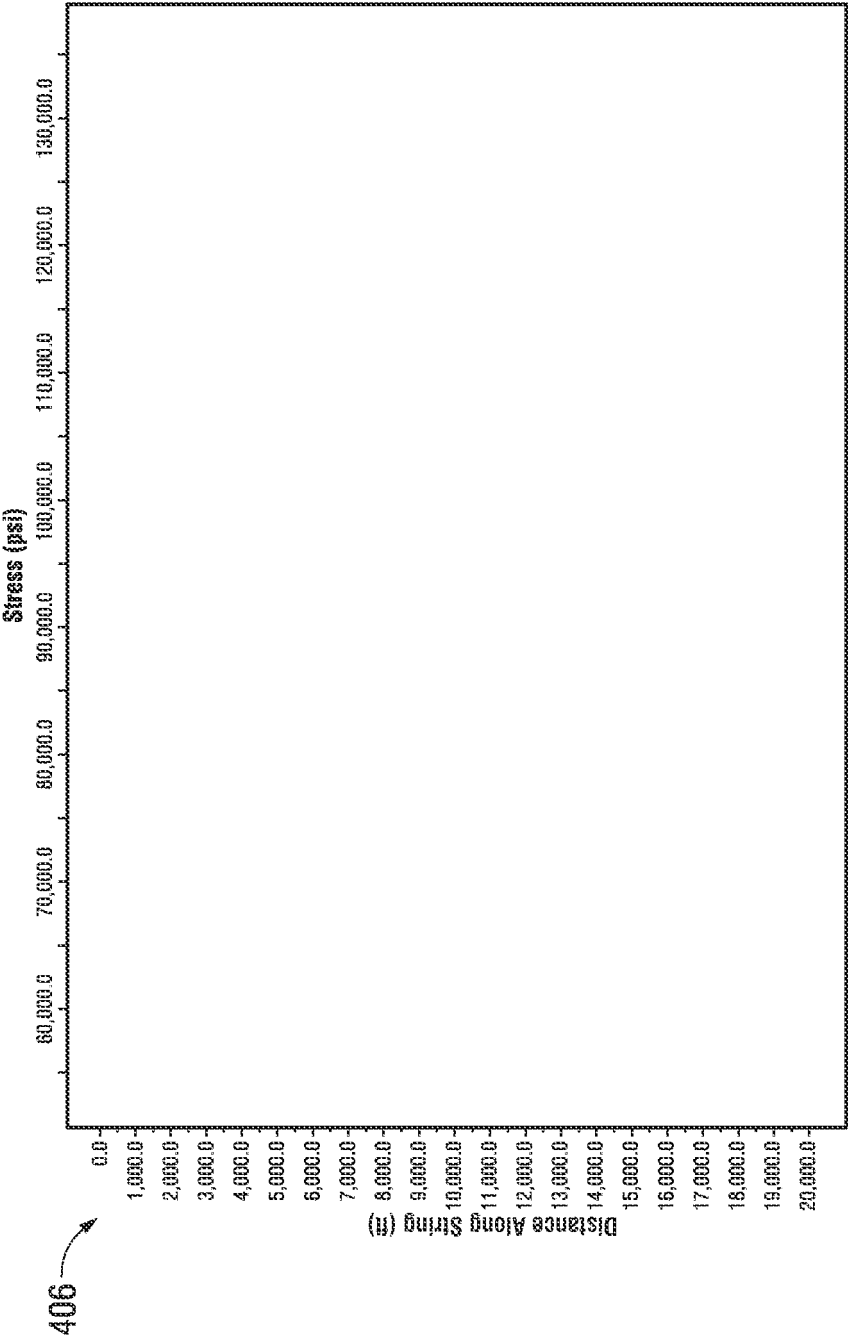


FIG. 4C

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400

FIG. 5A	FIG. 5C	FIG. 5B
<u>402</u>	<u>406</u>	<u>404</u>

FIG. 5

Operational Parameters 410

Depth Range Manager

	Start Depth (ft)	End Depth (ft)	Description	Enabled
1	0.0	20,000.0	Full Analysis	☒ 412
				☐ 414

Common

-Operational Pump Rate _____
Pump rate: gpm

Torque & Drag

-Drilling Operations _____
- ☒ Use Tripping In _____

Speed: ft/min RPM: rpm

FIG. 5A

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404 → Analysis Settings

▲ Common 420

-Depth Range Manager Options—

Active Depth Range: Full Analysis ▼ ⓘ

-Calculation Options—

Sea water density: 8.60 ppg

▲ Torque & Drag 422

-Hook Load/Weight-Indicator Correction —

Block weight: 50.00 kip

-Analytical Method —

☐ Use Bending Stress Magnification

-String Analysis Model —

☐ Use stiff string ⓘ

☐ Use viscous torque and drag ⓘ

Buckling limit factor: ⓘ

-Maximum Overpull —

using % of yield: 90.00 %

-Fluid Column —

☐ Use fluid column gradient ⓘ

FIG. 5B

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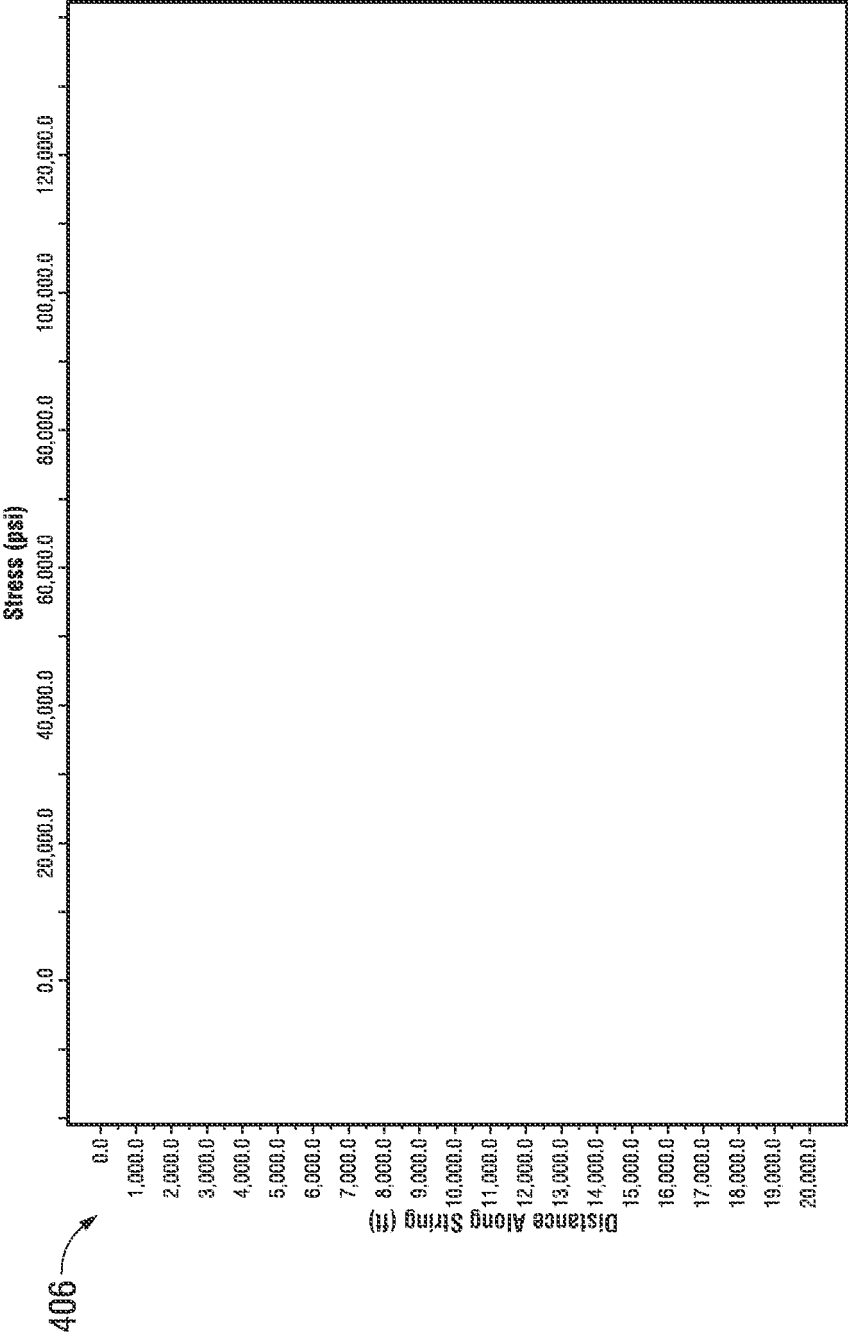


FIG. 5C

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400

FIG. 6A	FIG. 6C	FIG. 6B
<u>402</u>	<u>406</u>	<u>404</u>

FIG. 6

Operational Parameters 410

Depth Range Manager

	Start Depth (ft)	End Depth (ft)	Description	Enabled
1	0.0	20,000.0	Full Analysis	☒ 412
				☐ 414

Common

-Operational Pump Rate _____
Pump rate: gpm

Torque & Drag

-Drilling Operations _____
- ☒ Use Tripping In _____

Speed: ft/min RPM: rpm

FIG. 6A

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404 → Analysis Settings

▲ Common 420

-Depth Range Manger Options—

Active Depth Range: Full Analysis ▼ ⓘ

-Calculation Options—

Sea water density: 8.60 ppg

▲ Torque & Drag 422

-Hook Load/Weight-Indicator Correction —

Block weight: 50.00 kip

-Analytical Method —

☐ Use Bending Stress Magnification

-String Analysis Model —

☐ Use stiff string ⓘ

☐ Use viscous torque and drag ⓘ

Buckling limit factor: ⓘ

-Maximum Overpull —

using % of yield: 90.00 %

-Fluid Column —

☐ Use fluid column gradient ⓘ

FIG. 6B

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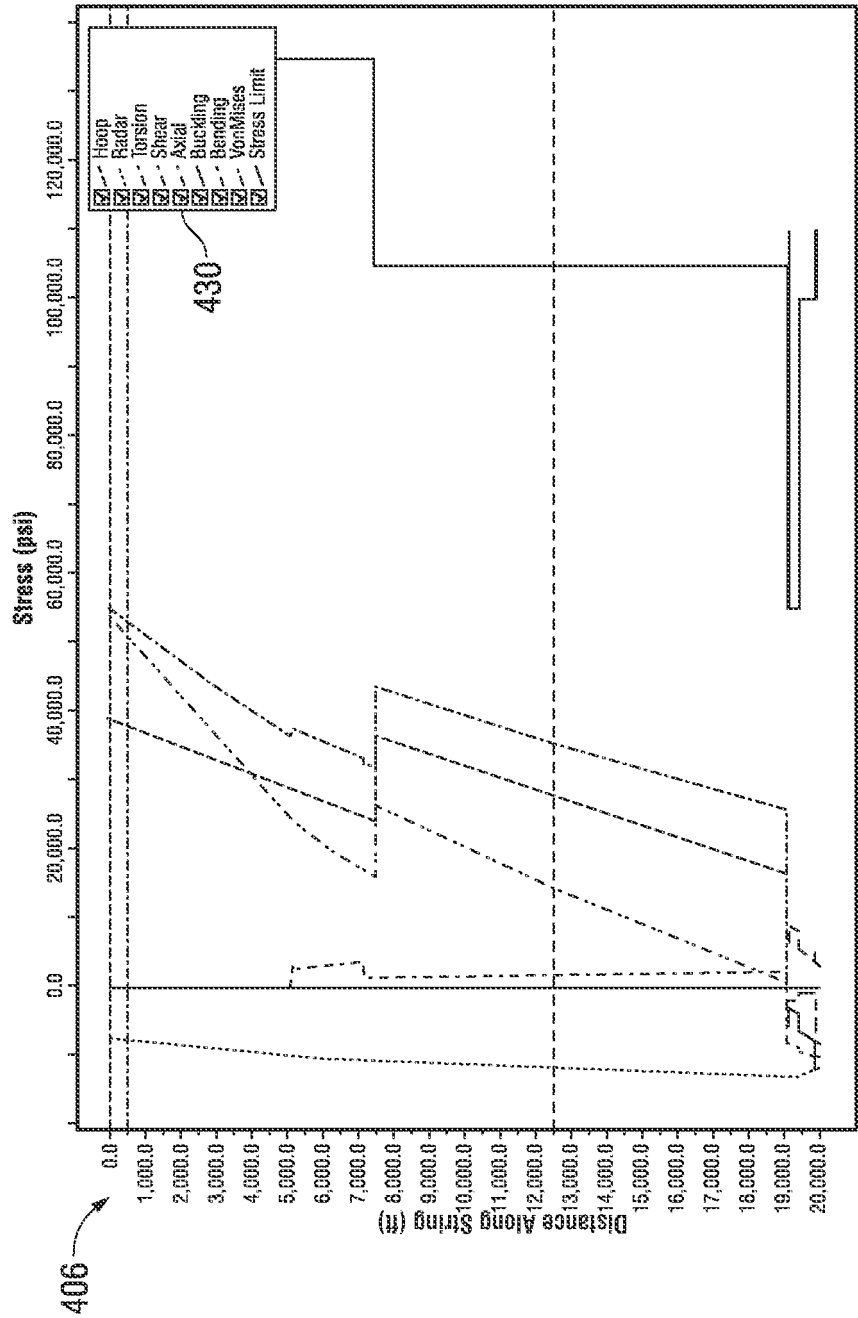


FIG. 6C

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400

FIG. 7A	FIG. 7C	FIG. 7B
<u>402</u>	<u>406</u>	<u>404</u>

FIG. 7

402

Operational Parameters 410

Depth Range Manager

	Start Depth (ft)	End Depth (ft)	Description	Enabled
1	0.0	20,000.0	Full Analysis	☒
2	15,000.0	20,000.0	Targeted Area 1	☒
3	17,000.0	20,000.0	Targeted Area 2	☒

412

414

Common

-Operational Pump Rate

Pump rate: gpm

Torque & Drag

-Drilling Operations

- ☒ Tripping In

Speed: ft/min RPM: rpm

- ☒ Tripping Out

Speed: ft/min RPM: rpm

- ☒ Rotating On Bottom

WOB: kip Torque at bit: ft-lbf

- ☐ Side Drilling

WOB: kip Torque at bit: ft-lbf

- ☐ Backreaming

WOB: kip Torque at bit: ft-lbf

- ☐ Rotating Off Bottom

416

FIG. 7A

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404

Analysis Settings

420

Common

-Depth Range Manger Options—

Active Depth Range: Full Analysis ⓘ

-Calculation Options—

Sea water density: 8.60 ppg

422

Torque & Drag

-Hook Load/Weight-Indicator Correction—

Block weight: 50.00 kip

-Analytical Method—

☐ Use Bending Stress Magnification

-String Analysis Model—

☐ Use stiff string ⓘ

☐ Use viscous torque and drag ⓘ

Buckling limit factor: ⓘ

-Maximum Overpull—

using % of yield: 90.00 %

-Fluid Column—

☐ Use fluid column gradient ⓘ

FIG. 7B

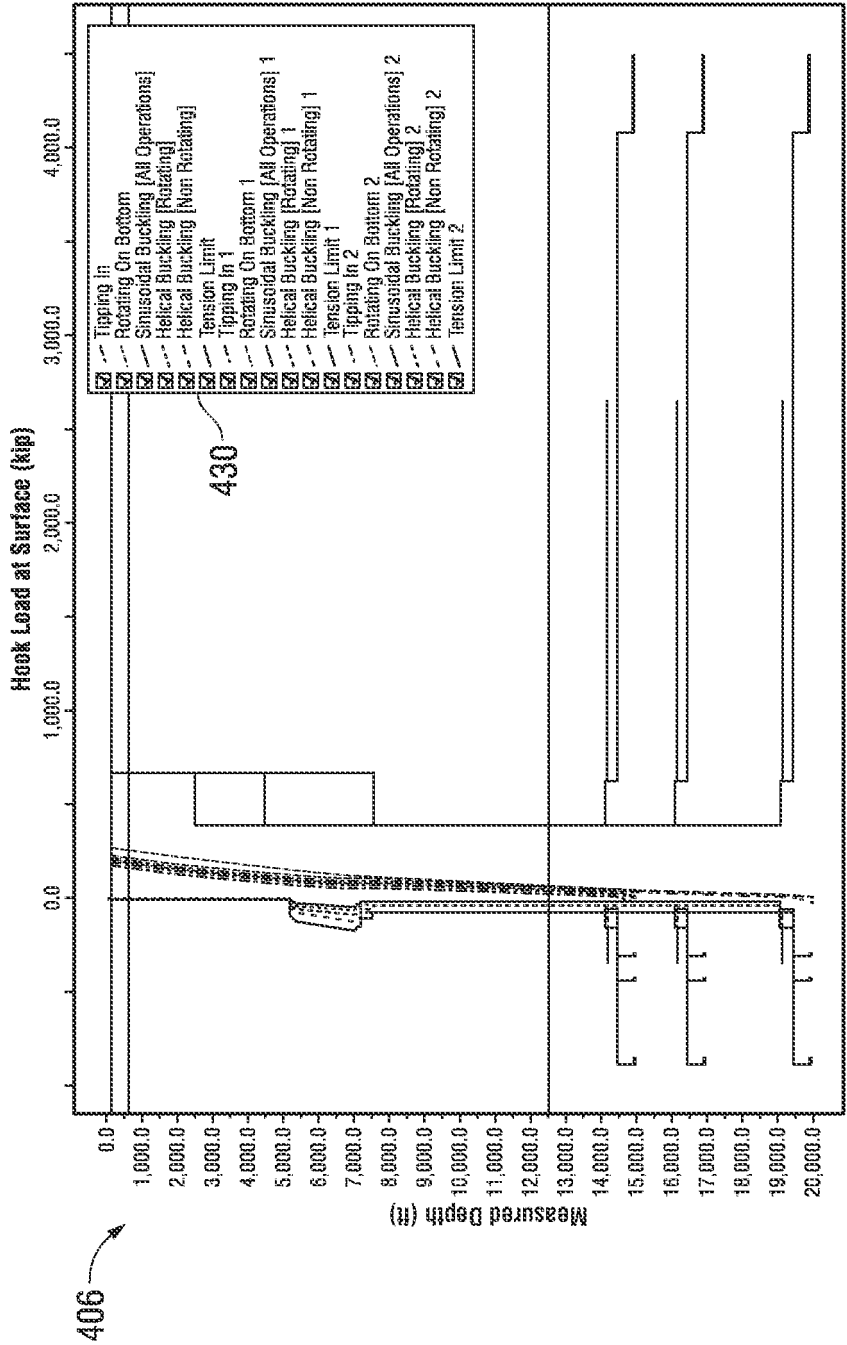


FIG. 7C

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400

FIG. 8A	FIG. 8C	FIG. 8B
<u>402</u>	<u>406</u>	<u>404</u>

FIG. 8

402

Operational Parameters 410

Depth Range Manager

	Start Depth (ft)	End Depth (ft)	Description	Enabled
1	0.0	20,000.0	Full Analysis	☒
2	15,000.0	20,000.0	Targeted Area 1	☒
3	17,000.0	20,000.0	Targeted Area 2	☒

412

414

▲ Common

-Operational Pump Rate _____

Pump rate: gpm

▲ Torque & Drag

-Drilling Operations _____

- ☒ Tripping In _____

Speed: ft/min RPM: rpm

- ☐ Tripping Out _____

Speed: ft/min RPM: rpm

- ☒ Rotating On Bottom _____

WOB: kip Torque at bit: ft-lbf

- ☐ Side Drilling _____

WOB: kip Torque at bit: ft-lbf

- ☐ Backreaming _____

WOB: kip Torque at bit: ft-lbf

- ☐ Rotating Off Bottom _____

416

FIG. 8A

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404 Analysis Settings

420

Common

-Run Parameters

Step size: ft

-Calculation Options

Sea water density: ppg

422

Torque & Drag

☒ Actual Load Values

-Hook Load/Weight-Indicator Correction

Block weight: kip

☐ Use sheave friction correction

Lines strung:

Mechanical efficiency: %

-Analytical Method

☐ Use Bending Stress Magnification

-String Analysis Model

☐ Use stiff string ⓘ

Drag chart calculations using stiff string:
About 2 minutes

☐ Use viscous torque and drag ⓘ

Buckling limit factor: % ⓘ

-Maximum Overpull

using % of yield: %

-Fluid Column

☐ Use fluid column gradient ⓘ

FIG. 8B

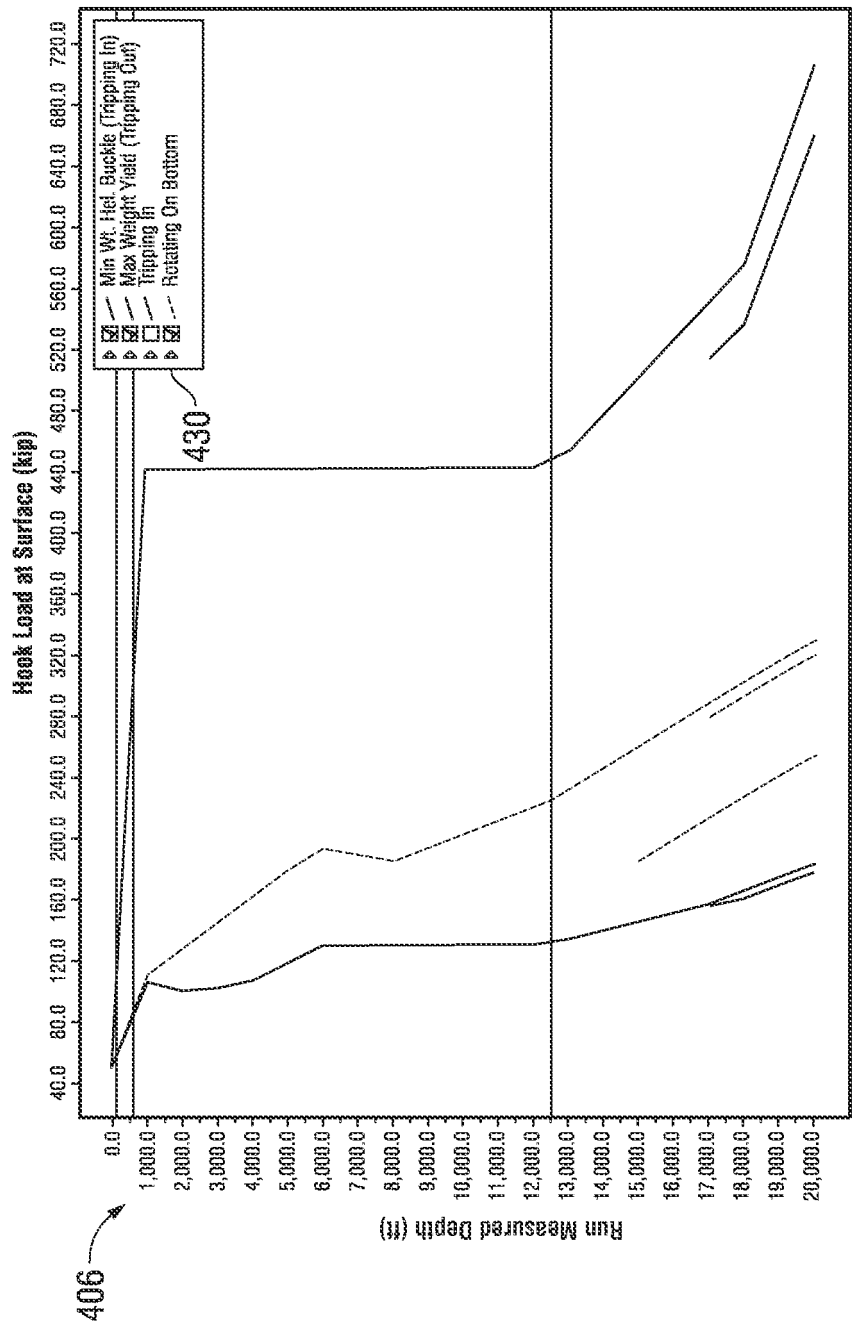


FIG. 8C

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400

FIG. 9A	FIG. 9C	FIG. 9B
<u>402</u>	<u>406</u>	<u>404</u>

FIG. 9

402

Operational Parameters 410

Depth Range Manager

	Start Depth (ft)	End Depth (ft)	Description	Enabled
1	0.0	20,000.0	Full Analysis	☐
2	15,000.0	20,000.0	Targeted Area 1	☒
3	17,000.0	20,000.0	Targeted Area 2	☒

412

414

Common

-Operational Pump Rate

Pump rate: gpm

Torque & Drag

-Drilling Operations

- ☒ Tripping In

Speed: ft/min RPM: rpm

- ☐ Tripping Out

Speed: ft/min RPM: rpm

- ☒ Rotating On Bottom

WOB: kip Torque at bit: ft-lbf

- ☐ Side Drilling

WOB: kip Torque at bit: ft-lbf

- ☐ Backreaming

WOB: kip Torque at bit: ft-lbf

- ☐ Rotating Off Bottom

416

FIG. 9A

20/24

404

Analysis Settings

420

Common

-Run Parameters

Step size: ft

-Calculation Options

Sea water density: ppg

422

Torque & Drag

☒ Actual Load Values

-Hook Load/Weight-Indicator Correction

Block weight: kip

☐ Use sheave friction correction

Lines strung:

Mechanical efficiency: %

-Analytical Method

☐ Use Bending Stress Magnification

-String Analysis Model

☐ Use stiff string ⓘ

Drag chart calculations using stiff string:
About 2 minutes

☐ Use viscous torque and drag ⓘ

Buckling limit factor: % ⓘ

-Maximum Overpull

using % of yield: %

-Fluid Column

☐ Use fluid column gradient ⓘ

FIG. 9B

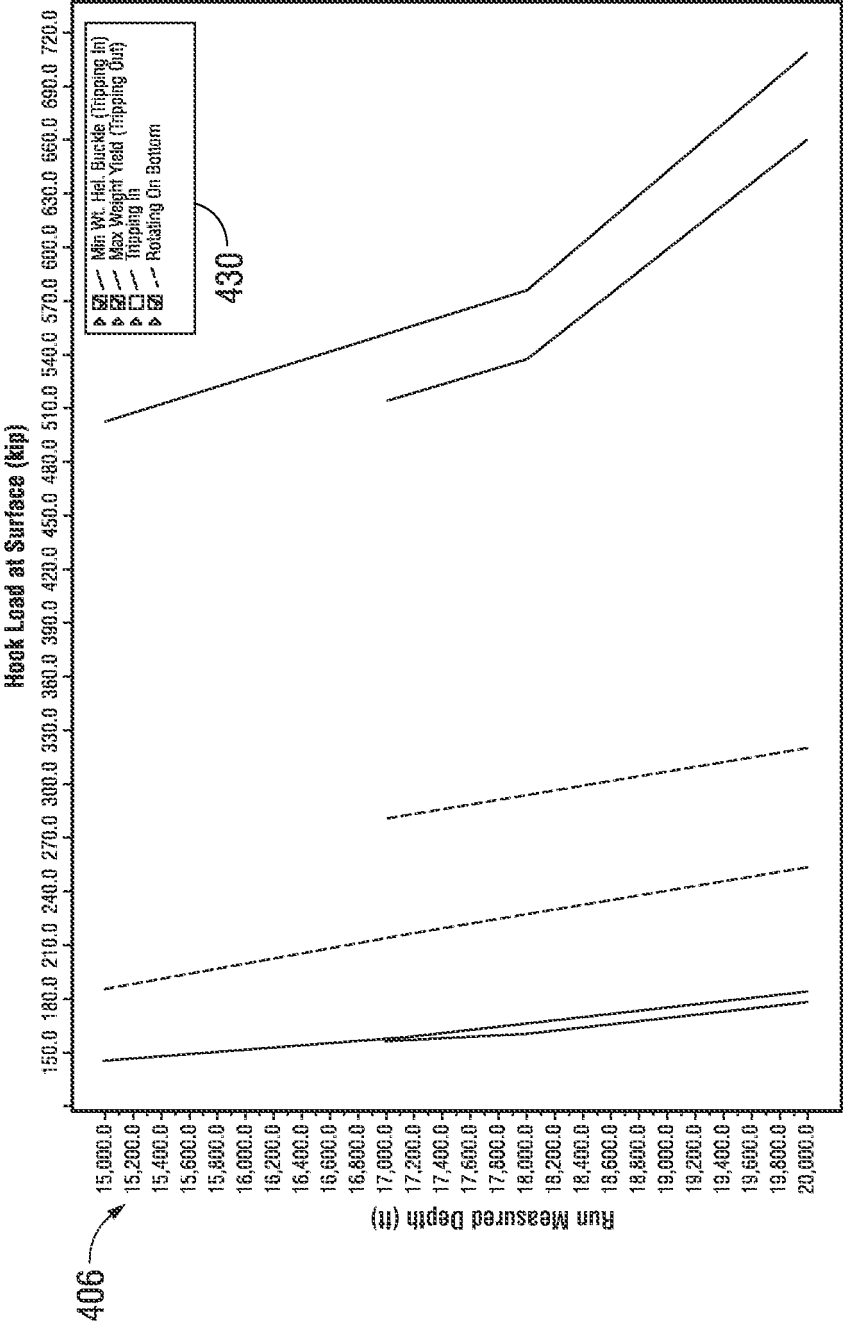


FIG. 9C

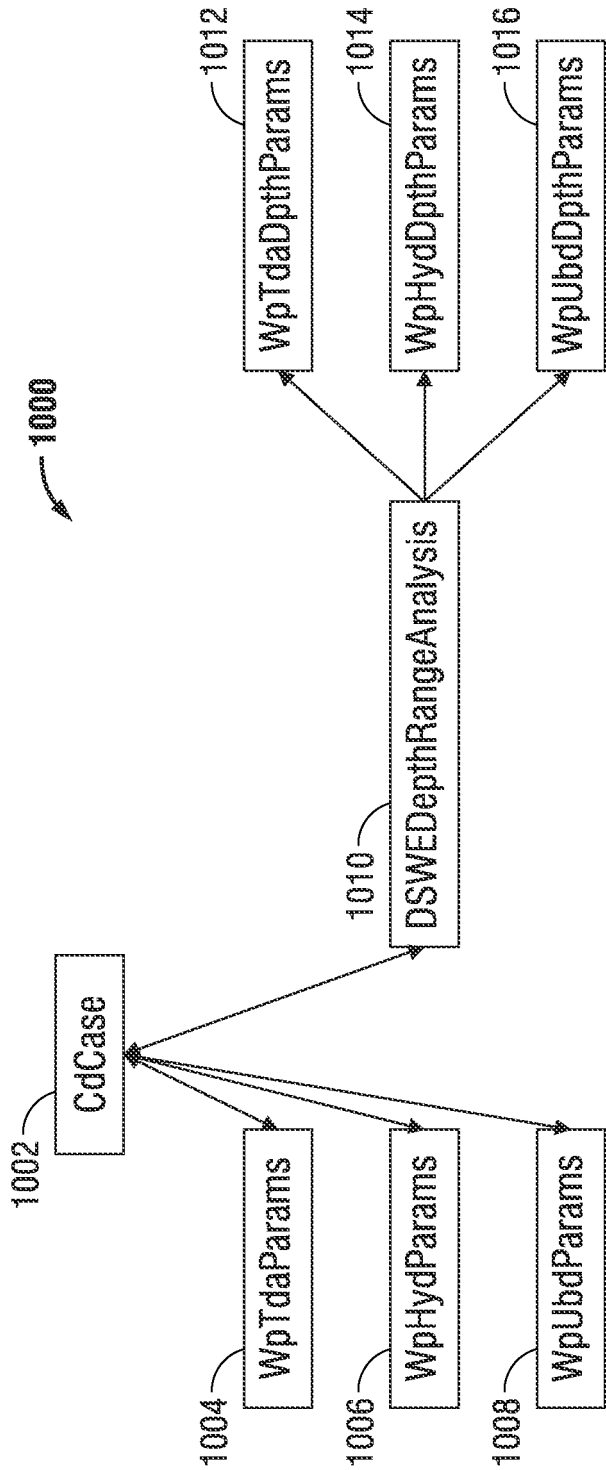


FIG. 10

1100

Case Id (PK)	Wellbore_Id (PK)	Well_Id (PK)	Description	Start Depth	End Depth	IsEnabled	DSWEIda Params_Id	DSWEHyd Params_Id	DSWEUbd Params_Id	Sequence_No
avidnf	ehyad	omdok	First Row	0	20000	NULL	null	null	abcde	0

FIG. 11A

1102

Case Id (PK)	Wellbore_Id (PK)	Well_Id (PK)	Description	Start Depth	End Depth	IsEnabled	DSWEIda Params_Id	DSWEHyd Params_Id	DSWEUbd Params_Id	Sequence_No
avidnf	ehyad	omdok	First Row	0	5000	TRUE	null	null	abcde	0
avidnf	ehyad	omdok	MiddleAnalysis	5000	10000	FALSE	mplem	irhu9	pkimd	1
avidnf	ehyad	omdok	MiddleAnalysis2	7000	10000	TRUE	ldmis3	padm5	Mahdq	2
avidnf	ehyad	omdok	Last Row	10000	20000	TRUE	masdi4	lao9e	mdisd3	3

FIG. 11B

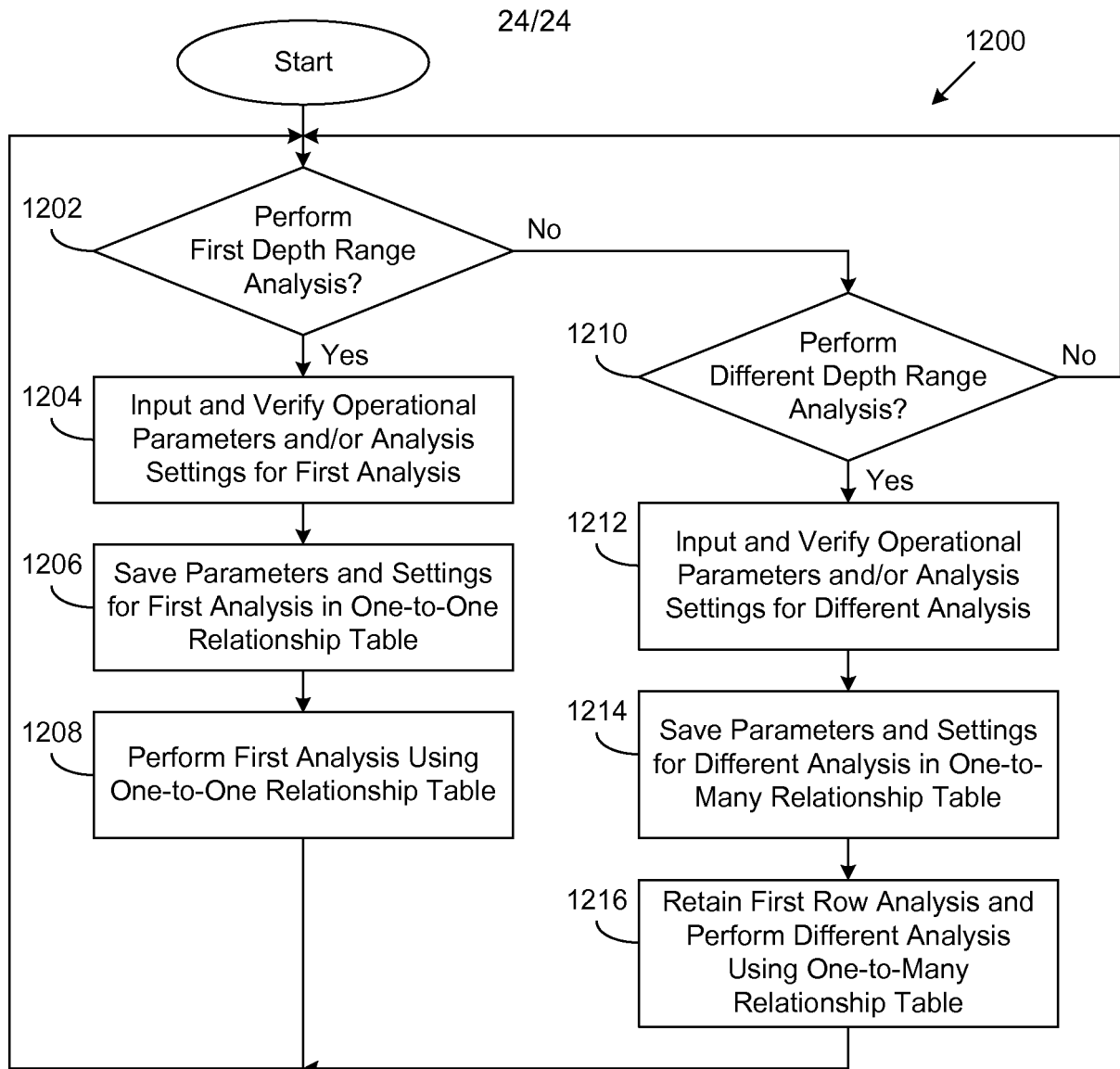


FIG. 12