STABIL RILL

Jar Placement Application IntelliJar Training

INTRODUCTION

The purpose of this training material is to aid potential users and Stabil Drill's customers of Intellijar application, as available through company's website (see next page).

Application's link can be found here:

https://intellijar.stabildrill.com/

This free-to-use application, helps the end user enter details about planned BHA, along with drilling parameters and it calculates the best placement of the Stabil Drill's jar, within the specified BHA, either in tension (preferred) or compression.

Additional useful outputs are calculated to better assist the user in understanding specific drilling/jarring operations.

STABILƏRILL

in

STABILIZERS

REAMERS			
HOLE OPENERS			
	~		
DRILL COLLARS			
FISHING TOOLS			

JARS & SHOCK SUBS

PROTECT YOUR DRILL STRING WITH THESE HIGH-PERFORMANCE SUBS DESIGNED SPECIFICALLY TO NEGATE TOOL DAMAGE AND ENABLE MAXIMUM SPEED.

Normal drilling operations can really put a beating on the drill string. That's where Stabil Drill shock comes in. These simple components are engineered to absorb downhole impacts and vibrations—drastically reducing their transmission to the rest of the drill string. The result is better protection and faster rate of penetration.



SHOCK SUBS

Vibration is the enemy of your drill string. These heavy-duty subs prevent damage to critical drill string components such as drill collars, pipe and more—even helping protect surface equipment. And Stabil Drill can make and specify them to run in any formation type or temp.

DOWNLOAD SPEC SHEET

HYDRA HAMMER DRILLING JAR

When your drill string is stuck, you need a high-impact fix. The Hydra Hammer Drilling Jar is used to apply a mechanical impact on another downhole component such as dislodging a stuck BHA. This hydraulic drilling jar is capable of jarring both upward and downward, and can be configured to deliver an impact load in a variety of directions and magnitudes to get you back on track.

DOWNLOAD SPEC SHEET

Privacy Policy Terms and Conditions © 2020 Stabil Drill. All rights reserved.

intellijar.stabildrill.com



Account Registration

Once you navigate to the website and you are seeing this page, click on "**Register**" in any of the three locations. If you are already registered, click on the "**Log In**" to log into your account. Alternatively, you can click on "Log In" link and you can register on that page as well if you do not have an account already.

Register Log in Home About		
IntelliJar Home Page		Log in Use a local account to log in.
The IntelliJar softwares application will make recommendations regarding the appropriate placement of mechanical and hydraulic jars within a bottom hole assembly (BHA), based on the information you provide and using StabilDrill Best Practices.		Email
Please choose from the following:	OR	Password
Start new Intellijar project This wizard will take you thru series of simple steps to create a new Intellijar project. At the end of the wizard you will be presented with Jar solution. Start here		Log in
Manage my Intellijar projects Authenticated users can create multiple Intellijar projects. Anonymous users can only have one interim Intellijar project. In order to begin managing multiple projects please login or consider registering a free account.		Register i you don't have an accounts. Reset Password?
3 Manage my custom drilling tools Authenticated users can create their own custom drilling tools and add them to the BHA. In order to begin managing tools please <u>login</u> or consider <u>registering a free account</u> .		

Account Registration - continued

Enter your details, as required, create a password and confirm it, then click "**Register**". Within 24 hrs. you will be receiving a notification from Stabil Drill acknowledging your account is active and ready to use. Should you NOT receive an activation notice from Stabil Drill within 24 hrs. from your request, send an email to engineering@stabildrill.com and ask for details.

Title	First name	Last name	
Select Title			
Company	Email	Phone Number	
Password	Confirm password		



Using the Application (IntelliJar)

Once you log in with your credentials, after you have received the notification from Stabil Drill, click on "**Start Here**" as instructed, or choose one of the following as shown below:

Hello,	Log off	
Home	About	

IntelliJar Home Page

The IntelliJar softwares application will make recommendations regarding the appropriate placement of mechanical and hydraulic jars within a bottom hole assembly (BHA), based on the information you provide and using StabilDrill Best Practices.

Please choose from the following:



Start new IntelliJar project

This wizard will take you thru series of simple steps to create a new IntelliJar project. At the end of the wizard you will be presented with Jar solution. <u>Start here ...</u>



Manage my IntelliJar projects

Authenticated users can create multiple IntelliJar projects. Begin managing your saved IntelliJar projects here ...



Manage my custom drilling tools

Authenticated users can create their own custom drilling tools and add them to the BHA. Begin managing your tools here ...



Manage my account

Authenticated users can manage your account. Begin managing your account here ...



	Hello, Log
	Home Add
jar p	LACEMENT BEST PRACTICES
SECTI	ION BEST PRACTICE
JAR LI	IFE & EFFECTIVENESS:
	DO NOT PLACE THE JAR NEAR THE NEUTRAL POINT (STAY (+/-) 20% AWAY FROM THE NEUTRAL POINT).
	DO NOT PLACE THE JAR WITHIN 90 FT OF A STABILIZER, ROLLER REAMER OR SIMILAR TOOL.
	DO NOT PLACE THE JAR WITHIN 60 FT OF THE DRILL PIPE IN THE DRILL STRING.
	DO NOT PLACE THE JAR WITHIN 90 FT OF A SHOCKTOOL AND ALWAYS ABOVE THE SHOCK TOOL.
	DO NOT PLACE THE JAR WITHIN 90 FT OF THE DRILL BIT.
	DO NOT USE THE JAR AS CROSSOVER OR PLACE AT A TRANSITION POINT (BETWEEN TOOLS/PIPE OF DIFFERENT DIAMETER).
	THE DIAMETER OF HEAVY WEIGHT OR DRILL COLLARS ABOVE AND BELOW JAR SHOULD NEVER BE LARGER THAN THE O.D. OF TH JAR.
	JAR REQUIRES A MINIMUM OF 2 ITEMS OF DRILL PIPE, COLLAR OR HEAVY WEIGHT BOTH ABOVE AND BELOW JAR.
MAXI	MIZE JAR EFFICIENCY:
	IT IS RECOMMENDED TO PLACE TWO JOINTS OF DRILL COLLARS (OR HEAVY WEIGHT) ABOVE AND BELOW THE JAR TO INCREASE MASS NEAR JAR.
	IT IS RECOMMENDED TO PLACE JAR LOWER IN BHA, IF MECHANICAL STICKING (STUCK AT BIT) IS EXPECTED (TO INCREASE JARRIN EFFICIENCY AT STUCK POINT).
	IT IS RECOMMENDED TO PLACE JAR HIGHER IN BHA, IF DIFFERENTIAL STICKING IS EXPECTED (TO REDUCE CHANCE OF STICKING ABOVE JAR).
PLAC	EMENT OF JAR:
	JAR MAY BE PLACED IN TENSION OR COMPRESSION.
	IT IS RECOMMENDED TO RUN A MECHANICAL JAR IN COMPRESSION IF POSSIBLE (REDUCES MISFIRE DUE TO WT. BELOW JAR).
	IT IS RECOMMENDED TO RUN A HYDRO JAR IN TENSION IF POSSIBLE, TO REDUCE CHANCE OF MISFIRE DUE TO INADVERDENT OPERATOR ERROR.
	DO NOT PLACE THE JAR IN, OR NEAR, DRILL PIPE.

After reading important details about the jar, click on NEXT

Next >>





Start new project

If you have a survey available, check this radio button, and the application will automatically pull measured depth from the survey, if the survey is formatted as the reference template.

		Well #		Company	
Customer		Analyst			
O Well depth [MD](Vertica	al wells only)	OR Import Survey	/ [Surve	y Template] (Directional wells))
0	FT	Choose File No f	ile chose	n	
Pipe grade					
- Select pipe grade -					
- Select pipe grade - Mud weight		Max weight on bit		Pressure diff	
- Select pipe grade - Mud weight	PPG	Max weight on bit	LBS	Pressure diff	PSI
 Pipe grade Select pipe grade - Mud weight 0 Jar 	PPG	Max weight on bit 0 Primary pipe	LBS	Pressure diff 0 Primary pipe angle	PSI
 Pipe grade Select pipe grade - Mud weight 0 Jar Select jar - 	PPG	Max weight on bit 0 Primary pipe - Select primary pipe -	LBS	Pressure diff 0 Primary pipe angle 0	PSI

The "Survey Template" file contains Measured Depth (in feet), Inclination (in degrees) and Azimuth (in degrees), being formatted as a .csv file (comma separated values), example below:

AutoSave 💽 off 🗒 🛱 🎽 🗸 🖓 🍷 🗧										
Fi	ile	Home	Inse	rt Pag	e Layout	Formu	las	Data	Re	
E1	5	Ŧ	: 3	× v	f _x					
			А		В			С		
1	Mea	sured De	pth Fee	et	Inclinatio	n Degree	Azim	uth Deg	ree	
2			0		0)		0		
3										
4										



Select your pipe grade from the drop-down menu

new project					Start new project					
Name	Well #		Company		Name		Well #		Company	
Test Well	1		123		Test Well		1		123	
Customer	Analyst				Customer		Analyst			
XYZ	JohnDoe				XYZ		JohnDoe			
Well depth [MD](Vertical wells or	nly) OR O Import Survey [Surve	y Template] (Directional wells)		Well depth [MD](Vertical wells	only)	OR Or Import Survey	Surve	<u>ey Template</u>] (D	irectional well
20000 F	FT Choose File No file	e chose	n		20000	FT	Choose File No file	chose	en	
Pipe grade					Pipe grade					
- Select pipe grade -					- Select pipe grade -					
- Select pipe grade - GRADE E I 75000 PSI 1	Max weight on bit		Pressure diff		Mud weight		Max weight on bit		Pressure dif	if 📕
GRADE X-95 [95000 PSI] P	PPG 0	LBS	500	PSI	11	PPG	30000	LBS	s 500	
GRADE G-105 [105000 PSI] GRADE S-135 [135000 PSI]	Primary pipe		Primary pipe angle		Jar		Primary pipe		Primary pipe	e angle
- Select jar -	- Select primary pipe -]	0	Deg	- Select jar -		- Select primary pipe -		0	
					- Select jar -					
			Project list	Next >>	JAR: SD650 HYDRO				(Project list
					JAR: SD800 HYDRO					

Select your jar size from the drop-down menu (notice Pressure Difference (pressure across the bit) is about 500 psi, if you think you have a different number, then enter it here)

PSI

Deg

Next >>

Start	new	proj	ect

Select your primary pipe from the drop-down menu. If you don't see on the list the pipe you will be using, send an email request to <u>engineering@stabildrill.com</u> with pipe details and it will be added to the catalog

		- Select primary pipe -			
Name		DRILL PIPE, 2.375 O.D. [6.65 LB/FT]			
Test Well		DRILL PIPE, 2.875 O.D. [10.4 LB/FT]			
lest weil		DRILL PIPE, 2.875 O.D. [6.85 LB/FT]			
Customer		DRILL PIPE, 3.500 O.D. [15.5 LB/FT]			
Customer		DRILL PIPE, 3.500 O.D. [13.3 LB/F I]			
XYZ		DRILL PIPE, 3.500 O.D. [9.5 LB/F1]			
		DRILL PIPE, 4 O.D. [15.7 LB/FT]			
Well depth [MD](Vertical wells of the second sec	only)	DRILL PIPE, 4 O.D. [14 LB/FT]		ional wells)	
20000	FT	DRILL PIPE, 4 O.D. [11.85 LB/FT]			
20000		DRILL PIPE, 4.5 O.D. [20 LB/FT]			
Pine grade		DRILL PIPE, 4.5 O.D. [16.6 LB/FT]			
i ibe grade		DRILL PIPE, 5 O.D. [25.6 LB/FT]			
GRADE S-135 [135000 PSE]		DRILL PIPE, 5 O.D. [19.5 LB/FT]			
		DRILL PIPE, 5.5 O.D. [24.7 LB/FT]			
Mud weight		DRILL PIPE, 5.5 O.D. [21.9 LB/FT]			
11		DRILL PIPE, 6.625 O.D. [27.7 LB/FT]			DOL
	PPG	DRILL PIPE, 6.625 O.D. [25.2 LB/FT]			PSI
lee.		DRILL PIPE (6 5/8 OD X 5.581ID [34.02 LBS/FT])		ala	
Jar		DRILL PIPE (6 5/8 OD X 5.375 [40.05]ID)	•	igie	
JAR: SD800 HYDRO		- Select primary pipe -			Deg
			Pr	oject list	Next >

If your pipe has any bending in it, you can enter the pipe angle here, if not, leave zero and click **NEXT**

		Well #		Company	
Test Well		1		123	
Customer		Analyst			
XYZ		JohnDoe			
Well depth [MD](Vertical wells	only)	OR O Import Sur	vey [Surve	y Template] (Directional wells)
20000	FT	Choose File	No file chose	n	
Pipe grade					
i ipe grade					
GRADE S-135 [135000 PS					
GRADE S-135 [135000 PSE] Mud weight		Max weight on bit		Pressure diff	
GRADE S-135 [135000 PSF] Mud weight 11	PPG	Max weight on bit 30000	LBS	Pressure diff 500	PSI
GRADE S-135 [135000 PSE] Mud weight 11 Jar	PPG	Max weight on bit 30000 Primary pipe	LBS	Pressure diff 500 Primary pipe angle	PSI
GRADE S-135 [135000 PSF Mud weight 11 Jar JAR: SD800 HYDRO	PPG	Max weight on bit 30000 Primary pipe DRILL PIPE (6 5/8 OD X	LBS	Pressure diff 500 Primary pipe angle 0	PSI Deg



Project details

You can EDIT your project here	Name Well # Date Company Customer Analyst Well depth [MD] Pipe grade Mud weight Max weight on bit Pressure diff Jar Primary pipe Primary pipe angle Edit <u>My projects</u> <u>Bes</u> Drill Pipes	Test Well 1 01/17/2023 123 XYZ JohnDoe 20,000 FT 135,000 PSI 11.00 PPG 30,000 LBS 500 PSI JAR: SD800 HYDRO DRILL PIPE (6 5/8 OD X 5.581ID [34.02 LB5/FT]) 0 Deg	Finish your BHA at any the solution was found. Please You can see your previe by clicking on "My Proje	me by adding the se consider adding OUS COMP ects" link	drill bit. No g more tools to the			
You can ADD	Add new drill pipe to drill	string						
new drill pipe to	Description			Qty	Angle			
your string here	DRILL PIPE (6 5/8 OD X 5.	581ID [34.02 LBS/FT])		667	0.0			
	Bottom Hole Assembly							
building vour	Add new tool to BHA							
BHA here	Tool type	Description	Qty	Angle				



Use the drop-down menu to add you BHA components, starting with the "Bit" first. If you need your BHA component is NOT on the list, you can click on the "New Custom Tool" button to create your custom tool. Enter the details as required and it will be saved in the database for future reference.





Project details

Name	Test Well		
Name Mane	1 est vven		
vvell #	1		The BHA is complete. Solution in tension was for
Date	01/17/2023		Solution in compression was found
Company	123		Solution in compression was round.
Customer	XYZ		
Analyst	JohnDoe	_	
Well depth [MD]	20,000 FT		
Pipe grade	135,000 PSI		
Mud weight	11.00 PPG		
Max weight on bit	30,000 LBS		
Pressure diff	500 PSI		
Jar	JAR: SD800 HYDRO		
Primary pipe	DRILL PIPE (6 5/8 OD X 5.5811D		
	[34.02 LBS/FT])		
Primary pipe angle	0 Deg		
	-		

und.

Edit | My projects | Best practices | Solution Tension | Solution Compression

Drill Pipes

Add new drill pipe to drill string

Description	Qty	Angle
DRILL PIPE (6 5/8 OD X 5.581ID [34.02 LBS/FT])	642	0.0

Bottom Hole Assembly

Add new tool to BHA | Change the order of tools in the BHA

Tool type	Description	Qty	Angle	
<u>Heavy Weight</u>	HWDP (6 5/8 OD X 4.5 ID [73.72LB/FT])	20	0.0	X
Custom Tool	UBHO	1	0.0	×
Mud Motor	MUD MOTOR, 6-34 O.D. [117.5 LB/FT]	1	0.0	×
Shock Tool	SHOCK TOOL, 8 O.D.	1	0.0	X
Drill Collar	DRILL COLLAR, 8 O.D. X 2-13/16 I.D. [150 LB/FT]	0.33	0.0	×
Drill Collar	DRILL COLLAR, 8 O.D. X 2-13/16 I.D. [150 LB/FT]	2	0.0	×
Shock Tool	SHOCK TOOL, 8 O.D.	1	0.0	×
<u>Stabilizer</u>	STABILIZER, 7.25 O.D. [9-7/8 HOLE SIZE]	1	0.0	×
Bit	DRILL BIT - 9 7/8	1	0.0	X

You can change the order of the BHA components by clicking here

Name	Test Well
Well #	1
Date	01/17/2023
Company	123
Customer	XYZ
Analyst	JohnDoe
Well depth [MD]	20,000 FT
Pipe grade	135,000 PSI
Mud weight	11.00 PPG
Max weight on bit	30,000 LBS
Pressure diff	500 PSI
Jar	JAR: SD800 HYDRO
Primary pipe	DRILL PIPE (6 5/8 OD X 5.581ID
	[34.02 LBS/FT])
Primary pipe angle	0 Deg

Edit | My projects | Best practices | Solution Tension | Solution Compression

Drill Pipes

Project details

Add new drill pipe to drill string

Description	Qty	Angle
DRILL PIPE (6 5/8 OD X 5.581ID [34.02 LBS/FT])	642	0.0

 \bigcirc

The BHA is complete. Solution in tension was found.

Solution in compression was found.

Bottom Hole Assembly

Add new tool to BHA | Change the order of tools in the BHA

Tool type Description Angle Qty HWDP (6 5/8 OD X 4.5 ID [73.72LB/FT]) 20 0.0 X Heavy Weight X Custom Tool UBHO 1 0.0 Shock Tool SHOCK TOOL, 8 O.D. 1 0.0 X X Mud Motor MUD MOTOR, 6-3/4 O.D. [117.5 LB/FT] 1 0.0 Drill Collar DRILL COLLAR, 8 O.D. X 2-13/16 I.D. [150 LB/FT] 0.33 0.0 X X Stabilizer STABILIZER, 7.25 O.D. [9-7/8 HOLE SIZE] 0.0 1 Shock Tool SHOCK TOOL, 8 O.D. 1 0.0 X **Drill Collar** DRILL COLLAR, 8 O.D. X 2-13/16 I.D. [150 LB/FT] X 2 0.0 DRILL BIT - 9 7/8 X <u>Bit</u> 1 0.0

Once you click on the link, click and drag the component you want to move (up or down) then click SAVE

Once you get a solution (smiley face within the green box) you can click HERE to see the calculation results and SAVE your file as a .pdf

For editing purposes, you can always click on the highlighted BHA components and change them, their number, angle and so on.

STABILORILL

Project details

Name Well # Date Company Customer Analyst Well depth [MD] Pipe grade Mud weight Max weight on bit Pressure diff	Test Well 1 01/17/2023 123 XYZ JohnDoe 20,000 FT 135,000 PSI 11.00 PPG 30,000 LBS 500 PSI	The BHA is complete. Solution in tension was found. Solution in compression was found.
Jar Primary pipe	DRILL PIPE (6.5/8 OD X 5.5811D	
Primary pipe angle	[34.02 LBS/FT]) 0 Deg	
<u>Edit My projects Bes</u>	t practices Solution Tension Solution (<u>iompression</u>
Drill Pipes		

Add new drill pipe to drill string

Description	Qty	Angle
DRILL PIPE (6 5/8 OD X 5.581ID [34.02 LBS/FT])	642	0.0

Bottom Hole Assembly

Add new tool to BHA | Change the order of tools in the BHA

Tool type	Description	Qty	Angle	
Heavy Weight	HWDP (6 5/8 OD X 4.5 ID [73.72LB/FT])	20	0.0	X
Custom Tool	UBHO	1	0.0	X
Mud Motor	MUD MOTOR, 6-34 O.D. [117.5 LB/FT]	1	0.0	X
Shock Tool	SHOCK TOOL, 8 O.D.	1	0.0	X
Drill Collar	DRILL COLLAR, 8 O.D. X 2-13/16 I.D. [150 LB/FT]	0.33	0.0	X
Drill Collar	DRILL COLLAR, 8 O.D. X 2-13/16 I.D. [150 LB/FT]	2	0.0	X
Shock Tool	SHOCK TOOL, 8 O.D.	1	0.0	X
<u>Stabilizer</u>	STABILIZER, 7.25 O.D. [9-7/8 HOLE SIZE]	1	0.0	X
<u>Bit</u>	DRILL BIT - 9 7/8	1	0.0	×

Measured

Depth

MD

Inclination

INC

Azimuth

AZI

Project details

Nama	Tost Well				
Well #	1	The BHA is complete So	lution in ten	sion was fo	hund
Date	01/17/2023	Solution in compression	was found.	131011 1403 10	ana.
Company	123	'			
Analyst	JohnDoe				
Well depth [MD]	20,000 FT				
Pipe grade	135,000 PSI				
Mud weight	11.00 PPG				
Max weight on bit	50,000 LBS				
lar	IAR: SD800 HYDRO				
Primary pipe	DRILL PIPE (6 5/8 OD X 5.5811D				
	[34.02 LBS/FT])				
Primary pipe angle	0 Deg				
Edit My projects E	Best practices Solution Tension Solution	Compression			
Drill Pipes					
Add new drill pipe to d	rill string				
Description			Ohu	larda	
Description			Qty	vigie	
DRILL PIPE (6 5/8 OD)	(5.581ID [34.02 LBS/FT])		642	0.0	
Bottom Hole Assen	nbly				
Add new tool to BHA	Change the order of tools in the BHA				
Tool type	Description		Qty	Argle	
Heavy Weight	HWDP (6 5/8 OD X 4.5 ID [73.72LB/FT])		20	0.0	×
Custom Tool	UBHO		1	0.0	×
Mud Motor	MUD MOTOR, 6-34 O.D. [117.5 LB/FT]		1	0.0	×
Shock Tool	SHOCK TOOL, 8 O.D.		1	0.0	×
Drill Collar	DRILL COLLAR, 8 O.D. X 2-13/16 I.D. [15	0 LB/FT]	0.33	0.0	×
Drill Collar	DRILL COLLAR, 8 O.D. X 2-13/16 I.D. [15	0 LB/FT]	2	0.0	×
Shock Tool	SHOCK TOOL, 8 O.D.		1	0.0	×
<u>Stabilizer</u>	STABILIZER, 7.25 O.D. [9-7/8 HOLE SIZE]	1	0.0	X
<u>Bit</u>	DRILL BIT - 9 7/8		1	0.0	×

STABILORILL

For directional wells, where the survey is available, the user can enter the "ANGLE" for EACH tool, working from the bit upwards and considering the length of EACH individual tool. Start from the **BIT**

Bit is 1' long, from 7200' to 7199' @ 36 deg inc.
 Stabilizer is 10' long, from 7199' to 7189' @ 36 deg inc.
 Shock Tool is 10' long, from 7189' to 7179' @ 36 deg inc.
 Drill Collar is 31' long, from 7179' to 7148' @ 36 deg inc.
 Drill Collar is 31' long, from 7148' to 7117' @ 33 deg inc.
 Shock Tool is 10' long, from 7117' to 7107' @ 30 deg inc.
 Shock Tool is 30' long, from 7107' to 7077' @ 30 deg inc.
 UBHO is 6' long, from 7077' to 7071' @ 27 deg inc.
 HWDP is 31' long, from 7071' to 7040'@ 24 deg inc.
 HWDP is 31' long, from' to'@ deg inc.

Continue breaking down components till Inclination (inc.) is zero degrees. Leave the rest of the drill string a zero inclination and then CLICK on the Solution Tension as outlined in the previous slide.

You can PRINT or SAVE the final document for your reference.