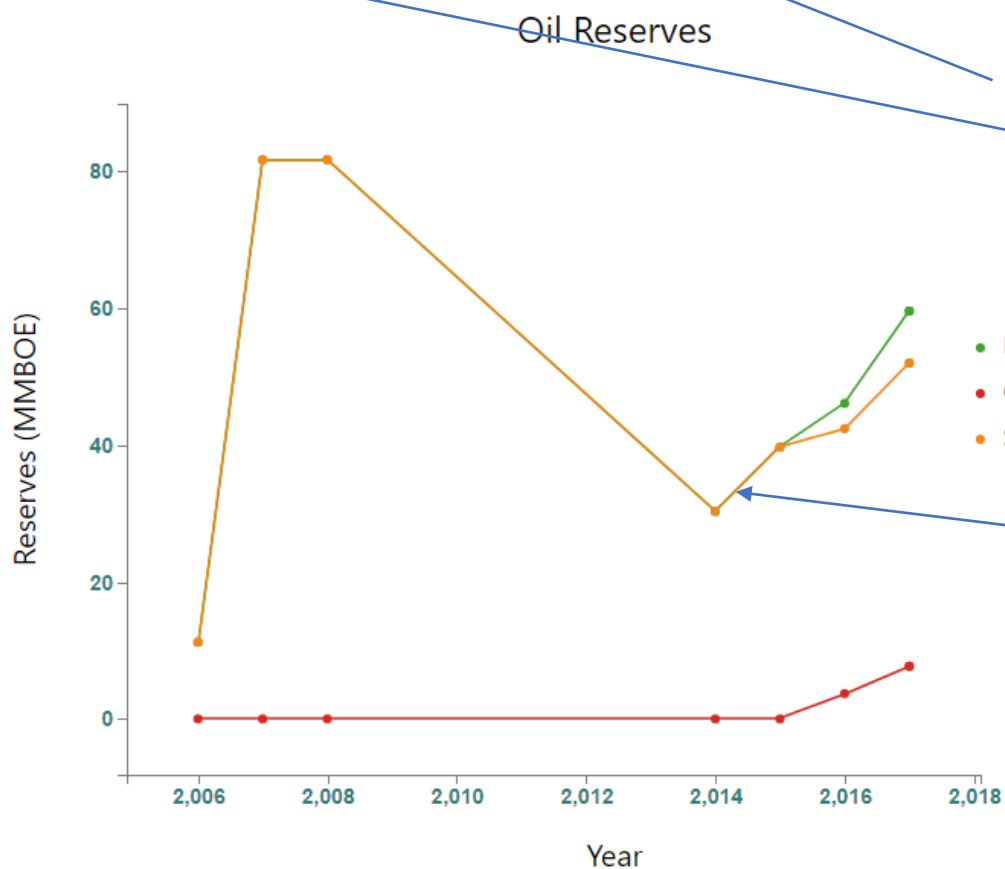


## BSEE Data Analysis

BOEM Field Codes: 'WR627'

Field Reserves



This graph seems of minimal value. Not quite sure what we are showing. Says Field Reserves. Instead of field code, should have field name.

Why is recoverable oil reserves going up and down by year?

Field Oil, Gas and BOE Reserves

## Field Wells Data

	001	DC101	JU102	JU102	JU103	JU104	JU105	JU105	JU106	JU106
<b>Rig (Days)</b>	T.O. DEEPWATER NAUTILUS (134)	MAERSK VIKING (254)	OCEAN EIRIK RAUDE (114), MAERSK VIKING (172)	MAERSK VIKING (175)	MAERSK VIKING (111)	MAERSK VIKING (203)	MAERSK VIKING (150)	MAERSK VIKING (224)	ROWAN RELENTLESS (52), VALARIS DS-18 (ROWAN RELENTLESS) (126)	VALARIS DS- 18 (ROWAN RELENTLESS)
<b>Company</b>	Exxon Mobil Corporation	Exxon Mobil Corporation	Exxon Mobil Corporation	Exxon Mobil Corporation	Exxon Mobil Corporation	Exxon Mobil Corporation	Exxon Mobil Corporation	Exxon Mobil Corporation	Exxon Mobil Corporation	Exxon Mobil Corporation
<b>Field</b>	WR627	WR627	WR627	WR627	WR627	WR627	WR627	WR627	WR627	WR627
<b>Well Purpose</b>	E	D	E	D	D	D	D	D	D	D
<b>Side Tracks</b>	0	0	1	1	0	0	1	1	1	1
<b>Sidetrack and Bypass</b>	ST00BP00	ST00BP00	ST00BP00	ST01BP00	ST00BP00	ST00BP00	ST00BP00	ST01BP00	ST00BP00	ST00BP01
<b>Water Depth (ft)</b>	7087	7138	7120	7143	7138	7148	7147	7147	7139	7139
<b>Tree Height AML (ft)</b>	NaN	15	NaN	31	NaN	15	NaN	15	NaN	NaN
<b>API10</b>	6081240024	6081240094	6081240033	6081240033	6081240102	6081240108	6081240111	6081240111	6081240127	6081240127
<b>API12</b>	608124002400	608124009400	608124003300	608124003301	608124010200	608124010800	608124011100	608124011101	608124012700	608124012701

What do these numbers mean? Rig Days versus drilling and completion days? Would be better to have a separate rows in the table – Drilling Days and Completion Days

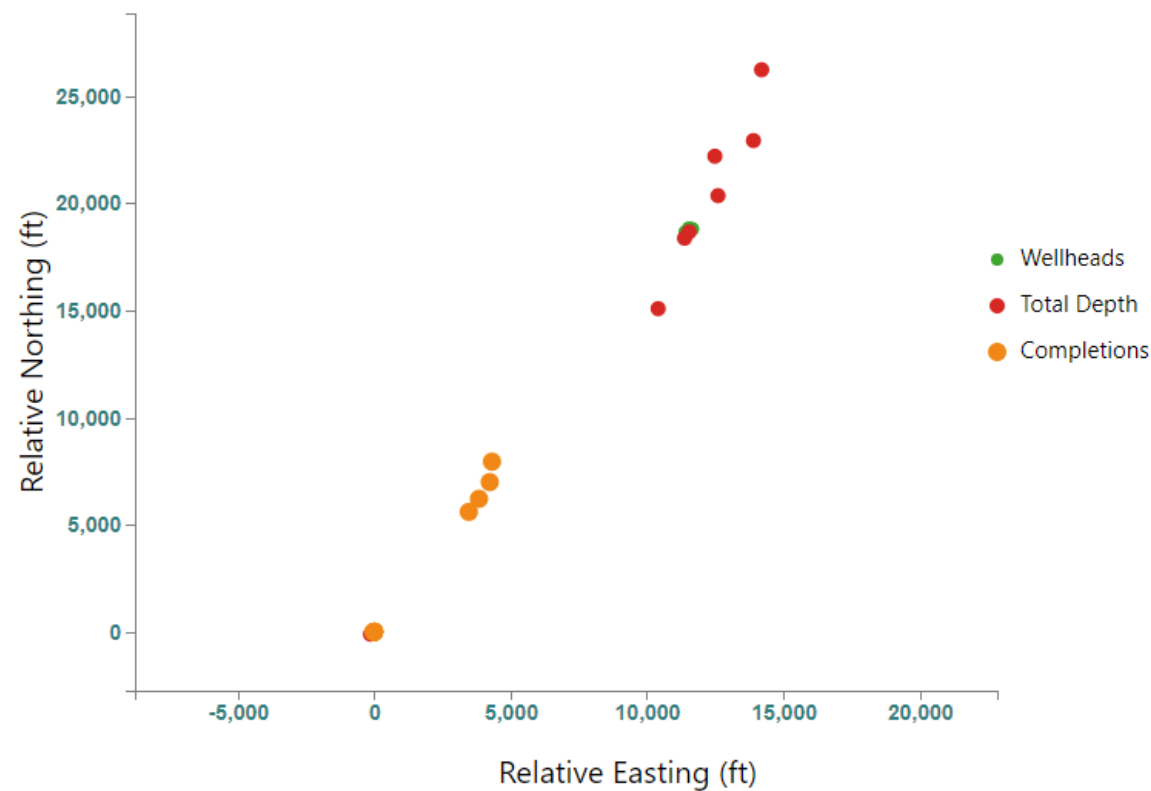
Why do we have two columns for the same well. This is confusing. Seems like each column should represent 1 well

## Well Locations

## Producing Well (Relative) Locations and Summary

Bubble size proportional to production (MMbbl) to date. Hover on bubble for further well information.

All Wells, Wellhead and Bottom Locations



This is good. I am assuming that the orange “Completions” are the mudline location of the wellhead? And the red total depth shows the bottom hole location. I would make the orange dots green and also show wellheads that were abandoned and not completed red. Total depth can be orange.

Well Production Information

	Units	001	DC101	JU102	JU102	JU103	JU104	JU105	JU105	JU106	JU106
Sidetrack and Bypass	-	ST00BP00	ST00BP00	ST00BP00	ST01BP00	ST00BP00	ST00BP00	ST00BP00	ST01BP00	ST00BP00	ST00BP01
Cumulative Production to Date	MMbbls	0	7.94	5.65	0	0	8.7	5.52	0	0	0
Mean Production Rate	BOPD	0	6026	4061	0	0	11238	6392	0	0	0

Well Production Rate (BOPD)

	Units	001	DC101	JU102	JU102	JU103	JU104	JU105	JU105	JU106	JU106
Sidetrack and Bypass	-	ST00BP00	ST00BP00	ST00BP00	ST01BP00	ST00BP00	ST00BP00	ST00BP00	ST01BP00	ST00BP00	ST00BP01
Surface Latitude	deg	26.3329	26.3843	26.3838	26.3838	26.384	26.3844	26.3839	26.3839	26.3844	26.3844
Surface Longitude	deg	-91.4023	-91.3659	-91.3663	-91.3663	-91.3666	-91.3661	-91.3668	-91.3668	-91.3664	-91.3664
Bottom Latitude	deg	26.332638	26.38850335	26.38387786	26.38308186	26.374074	26.39553428	26.39357264	26.40461314	*****	*****
Bottom Longitude	deg	-91.40275806	-91.3630723	-91.36637558	-91.36689598	-91.36997685	-91.35900249	-91.3633535	-91.357958	*****	*****
Bottom Hole Rel X	ft	-132	12607	11547	11380	10413	13906	12491	14206	NaN	NaN
Bottom Hole Rel Y	ft	-111	20356	18661	18370	15083	22928	22197	26232	NaN	NaN
Wellhead Rel X	ft	0	11693	11559	11559	11487	11621	11394	11394	11526	11526
Wellhead Rel Y	ft	0	18801	18642	18642	18704	18862	18663	18663	18847	18847
Horizontal Departure	ft	172	1804	22	326	3777	4665	3701	8075	NaN	NaN
Wellbore Status	-	PA	COM	ST	COM	TA	COM	ST	COM	ST	DRL
Wellbore Status Date	-	7/3/2019	10/7/2015	1/20/2015	7/12/2015	2/7/2016	11/26/2017	1/24/2017	9/2/2017	10/29/2019	10/29/2019
Completion Stub Code	-	S	D	P	D	P	D	N	D	S	N
Sidetrack Kick-off MD	ft	None	None	None	24605	None	None	None	14207	*****	*****

Why do these have different number of decimal places?

Started with surface hole location first, but changed to bottom hole first row?

What does completion stub code mean?

We need to work on this, we probably can find this number somewhere

Well Drilling Information

	Units	001	DC101	JU102	JU102	JU103	JU104	JU105	JU105	JU106	JU106
Rig (Days)	-	T.O. DEEPWATER NAUTILUS (134)	MAERSK VIKING (254)	OCEAN EIRIK RAUDE (114), MAERSK VIKING (42)	MAERSK VIKING (175)	MAERSK VIKING (111)	MAERSK VIKING (203)	MAERSK VIKING (150)	MAERSK VIKING (224)	ROWAN RELENTLESS (52), VALARIS DS-18 (ROWAN RELENTLESS) (126)	VALARIS DS-18 (ROWAN RELENTLESS) (84)
Sidetrack and Bypass	-	ST00BP00	ST00BP00	ST00BP00	ST01BP00	ST00BP00	ST00BP00	ST00BP00	ST01BP00	ST00BP00	ST00BP01
Total Measured Depth	ft	31800	30944	30955	30483	31400	31315	22195	31472	*****	*****
Total Vertical Depth	ft	31788	30685	30951	30453	30815	30310	21096	28961	*****	*****
Drilling Days	days	113	116	96	37	83	138	52	122	139	19
Spud Date	-	2006-12-15	2014-07-10	2008-02-17	2015-01-20	2015-10-21	2016-02-13	2016-09-03	2017-01-24	2019-05-10	2019-10-29
Total Depth Date	-	2007-04-07	2014-11-03	2008-05-23	2015-02-26	2016-01-12	2016-06-30	2016-10-25	2017-05-26	2019-09-26	2019-11-17

Again what are the rig days in the top row?

We have drilling days as a row, perhaps we should have 4 rows: drilling days, sidetrack days, total drilling days, completion days. This would allow us to go to 1 column per well?

Hydrocarbon Bearing Interval

Geology Markers

Putting the Kick-off Depth in this table would make good sense.

3	JU102	608124003300	Upper Wilcox	28324	28754.0	Oil
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Geology Markers

	API12	WELL_NAME	GEO_MARKER_NAME	TOP_MD
0	608124002400	001	Base of Salt	21823.0
1	608124002400	001	Top of Salt	10300.0
2	608124002400	001	Base hydrocarbon	30430.0
3	608124002400	001	Top Hydrocarbon	30270.0
4	608124002400	001	Lower Wilcox	20293.0
5	608124002400	001	Upper Wilcox	29160.0
6	608124002400	001	Lower Wilcox	30293.0
7	608124002400	001	Wilcox	29160.0
8	608124002400	001	Eocene	28728.0
9	608124002400	001	Base Salt	21823.0
10	608124002400	001	Top Salt	10300.0
11	608124003300	JU102	Upper Wilcox	28324.0
12	608124003300	JU102	Middle Wilcox	28814.0

Well Completion Information

Well Completion Perforations

Producers, Tubulars Grouped by Hole Size

All Wells, Tubulars Raw Information

Here is where we should change the structure of the tool and interface so that the use selects the well of interest, and we get a table of the formation tops for that well. Also I believe these depths are TVD?

Well Completion Perforations

	WELL_NAME	API12	PERF_TOP_MD	PERF_BOTM_TVD	PERF_TOP_TVD	PERF_BASE_MD
0	DC101	608124009400	28835	28771	28576	29030
1	DC101	608124009400	29621	29557	29362	29816
2	DC101	608124009400	30035	29971	29776	30230
3	DC101	608124009400	29206	29142	28947	29401
4	DC101	608124009400	28355	28291	28096	28550
5	JU102	608124003301	29291	29457	29261	29487
6	JU102	608124003301	28440	28606	28410	28636
7	JU102	608124003301	28833	28999	28803	29029
8	JU102	608124003301	29705	29870	29675	29900
9	JU104	608124010800	28935	28020	27930	29003
10	JU104	608124010800	29647	28844	28642	29849
11	JU104	608124010800	29265	28466	28260	29471
12	JU104	608124010800	30418	29619	29413	30624
13	JU104	608124010800	30829	29997	29824	31002
14	JU105	608124011101	30960	28664	28479	31156
15	JU105	608124011101	30495	28226	28042	30691
16	JU105	608124011101	30215	27910	27779	30355

Producers, Tubulars Grouped by Hole Size

All Wells, Tubulars Raw Information

Open Hole Activities

Same comment here, table would be more useful if the user selected the well, then the perforations just for that well. Don't need API number in tables, well name is good enough



Casing Wt	224.3	224.3	224.3	224.5
Tubular Test Presssure	None	None	4100	3000
Shoe Test Pressure	11	0	10.9	11
Cement Vol	8425	10000	9825	7613

Hole Size: 21.0

	608124009400	608124003300	608124010800	608124011100
Well Name	DC101	JU102	JU104	JU105
Top MD	9835	9227	9881	9913
Bottom MD	13961	12528	14496	14067
Casing Size	17.875	17.875	17.875	17.875
Casing Grade	P110	HCN-80	Q-125	Q-125
Casing Wt	93.5	93.5	93.5	93.5
Tubular Test Presssure	2450	1800	3100	3000
Shoe Test Pressure	13.9	13.4	14.1	12.8
Cement Vol	1583	2900	1920	1797

Hole Size: 16.5

Hole Size: 14.875

Hole Size: 14.0

Hole Size: 12.5

Hole Size: 12.25

Same comment here, table would be more useful if the user selected the well, then the “Hole Sizes” just for that well are displayed showing all hole sizes for one well.



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Apps

BSEE Data Analysis : Julia

Producers, Tubulars Grouped by Hole Size

Hole Size: 32.0

	608124009400	608124003300	608124010800	608124011100
Well Name	None	None	None	JU105
Top MD	None	None	None	0
Bottom MD	None	None	None	8372
Casing Size	None	None	None	28
Casing Grade	None	None	None	X60
Casing Wt	None	None	None	218
Tubular Test Presssure	None	None	None	0
Shoe Test Pressure	None	None	None	0
Cement Vol	None	None	None	2982

Hole Size: 28.0

	608124009400	608124003300	608124010800	608124011100
Well Name	DC101	JU102	JU104	JU105
Top MD	0	0	0	0
Bottom MD	10302	10206	10390	10420
Casing Size	22	22	22	22
Casing Grade	X---80	X-80	X-80	X-80
Casing Wt	224.3	224.3	224.3	224.5
Tubular Test Presssure	None	None	4100	3000
Shoe Test Pressure	11	0	10.9	11
Cement Vol	8425	10000	9825	7613

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Ideally it would be most useful to have the hole size table and the casing size tables combined so we see the holes section, hole size, casing size, casing grade, weight etc in columns with the hole sections forming rows.

All Wells, Tubulars Raw Information

	API12	Well Name	CSNG_INTV_TYPE_CD	CSNG_HOLE_SIZE	CSNG_SETTING_BOTM_MD	CSNG_SETTING_TOP_MD	CASING_SIZE	CASING_WEIGHT	CASING_GRADE
0	608124002400	001	L	12.250	30120	25117	9.375	39.0	Q-125
1	608124002400	001	L	12.250	25316	20271	11.750	36.0	L-80
2	608124002400	001	C	16.500	20748	0	13.625	88.2	Q-125
3	608124002400	001	L	18.125	15305	9967	16.000	84.0	N80
4	608124002400	001	C	26.000	10600	0	22.000	224.0	X-80
5	608124002400	001	C	32.000	8296	0	28.000	218.0	X56
6	608124009400	DC101	L	12.250	23702	23722	10.750	89.3	Q-125HC
7	608124009400	DC101	L	14.000	26122	25268	11.000	89.0	Q-125
8	608124009400	DC101	C	16.500	24262	0	14.000	73.0	Q-125
9	608124009400	DC101	C	21.000	13961	9835	17.875	93.5	HCN-80
10	608124009400	DC101	C	28.000	10302	0	22.000	224.3	X---80
11	608124003300	JU102	C	14.875	24500	0	13.625	88.2	Q125
12	608124003300	JU102	L	21.000	12528	9227	17.875	93.5	HCN-80
13	608124003300	JU102	L	21.000	14062	0	17.875	93.5	HCN-80
14	608124003300	JU102	C	28.000	10206	0	22.000	224.3	X-80
15	608124003301	JU102	C	12.250	15953	0	10.000	73.9	Q-125HC
16	608124003301	JU102	C	12.250	23980	15953	10.000	73.9	Q-125HC
17	608124003301	JU102	C	12.250	30473	23967	10.000	73.9	Q-125HC
18	608124003301	JU102	C	14.875	24500	0	13.625	88.2	Q125
19	608124003301	JU102	L	21.000	12528	9227	17.875	93.5	HCN-80
20	608124003301	JU102	L	21.000	14062	0	17.875	93.5	HCN-80

Ideally it would be most useful to have the hole size table and the casing size tables combined so we see the holes section, hole size, casing size, casing grade, weight etc in columns with the hole sections forming rows.

## Open Hole Activities

	API12	WELL_NAME	BUS_ASC_NAME	OPERATIONS_COMPLETED_DATE	LOG_TOOL_TYPE_CODE	TOOL_LOGGING_METHOD_NAME	LOG_INTV_TOP_MD	LOG_IN
0	608124009400	DC101	SCHLUMBERGER	11/6/2014	ARC	MWD/LWD	7223.0	30944.0
1	608124003301	JU102	SCHLUMBERGER	2/27/2015	ARC	MWD/LWD	24500.0	30483.0
2	608124010200	JU103	SCHLUMBERGER	1/14/2016	ARC	MWD/LWD	7221.0	31371.0
3	608124010800	JU104	SCHLUMBERGER	7/3/2016	ARC	MWD/LWD	7224.0	31315.0
4	608124011101	JU105	SCHLUMBERGER	5/29/2017	ARC	MWD/LWD	30016.0	31440.0
5	608124002400	001	SCHLUMBERGER	4/12/2007	CMR	WIRELINE	31142.0	31640.0
6	608124002400	001	SCHLUMBERGER	3/5/2007	CMR	WIRELINE	28800.0	30140.0
7	608124009400	DC101	SCHLUMBERGER	11/15/2014	CMR	WIRELINE	26090.0	30944.0
8	608124003301	JU102	SCHLUMBERGER	2/28/2015	CMR	WIRELINE	28150.0	30483.0
9	608124010200	JU103	SCHLUMBERGER	1/14/2016	CMR	WIRELINE	28858.0	31400.0
10	608124010800	JU104	SCHLUMBERGER	7/3/2016	CMR	WIRELINE	28772.0	31315.0
11	608124003300	JU102	BAKER ATLAS WIRELINE	6/18/2008	CN	WIRELINE	24450.0	30992.0
12	608124009400	DC101	SCHLUMBERGER	11/6/2014	ADN	MWD/LWD	26327.0	30944.0
13	608124003301	JU102	SCHLUMBERGER	2/27/2015	ADN	MWD/LWD	24500.0	30483.0
14	608124010200	JU103	SCHLUMBERGER	1/14/2016	ADN	MWD/LWD	25414.0	31371.0
15	608124010800	JU104	SCHLUMBERGER	7/3/2016	ADN	MWD/LWD	7224.0	31315.0
16	608124011101	JU105	SCHLUMBERGER	5/29/2017	ADN	MWD/LWD	30016.0	31440.0
17	608124003300	JU102	SCHLUMBERGER	5/30/2008	ARC	MWD/LWD	7450.0	30920.0
18	608124002400	001	HALLIBURTON SPERRY SUN	4/7/2007	PWD	MWD/LWD	7143.0	30150.0
19	608124009400	DC101	SCHLUMBERGER	11/6/2014	DIR	MWD/LWD	7200.0	30944.0
20	608124003301	JU102	SCHLUMBERGER	2/27/2015	DIR	MWD/LWD	24500.0	30483.0

Again this would be displayed on a well by well basis after the user has selected the well.

92	608124002400	001	SCHLUMBERGER	3/5/2007	DSI	WIRELINE	25314.0	30140.0
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Well Activity Summary

	API12	WELL_NAME	RIG_NAME	WAR_START_DT	WAR_END_DT
0	608124002400	001	T.O. DEEPWATER NAUTILUS	2006-12-11	2006-12-16
1	608124002400	001	T.O. DEEPWATER NAUTILUS	2006-12-17	2006-12-23
2	608124002400	001	T.O. DEEPWATER NAUTILUS	2006-12-24	2006-12-30
3	608124002400	001	T.O. DEEPWATER NAUTILUS	2006-12-31	2007-01-06
4	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-01-07	2007-01-13
5	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-01-14	2007-01-20
6	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-01-21	2007-01-27
7	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-01-28	2007-02-03
8	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-02-04	2007-02-10
9	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-02-11	2007-02-17
10	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-02-18	2007-02-24
11	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-02-25	2007-03-03
12	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-03-04	2007-03-10
13	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-03-11	2007-03-17
14	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-03-18	2007-03-24
15	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-03-25	2007-03-31
16	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-04-01	2007-04-07
17	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-04-08	2007-04-14
18	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-04-15	2007-04-21
19	608124002400	001	T.O. DEEPWATER NAUTILUS	2007-04-22	2007-04-23
20	608124002400	001	VALARIS DS-18 (ROWAN RELENTLESS)	2019-07-03	2019-07-03

This table is not very helpful. The well activity reports should be displayed on a well by well basis. You can see from the dates here that BSEE requires the Operator to provide and weekly summary of activities. Once the user selects the well, he would then have the option of selecting the well activity reports for that well and they would be displayed with the text of weekly summaries from start to finish.

