2019 WORLD SURVEY OF STIMULATION VESSELS

		Region of operation							Statistics				Above deck						Below deck				Tankage		
Photo #	Contractor and vessel name	Gulf of Mexico	Bay of Campeche	North Sea	West Africa	South America	Middle East	Asia/Southeast Asia	Total length (ft)	Total beam (ft)	Main engine horsepower (hp)	Cruising speed (kts)	Acid (gal)	Additive (gal or lb)	Gel/completion fluid (bbl)	Gas (gal)	Bulk (cu ft)	Proppant (lb)	Acid (gal)	Additives (gal)	Gel/completion fluid (bbl)	Proppant (cu ft or lb)	Frac (bbl)	Water (bbl)	Filter capability (b/m)
Baker Hughes, a GE company																									
	Blue Dolphin	●							300	60	7,200	10	13,000	8,850	300	None	7,500	750,000	None	6,500	11,800	2,000,000	11,800	7,915	25
	Blue Tarpon	●							300	60	7,200	10	3,600	8,850	400	None	7,500	750,000	None	6,500	10,200	2,000,000	10,200	7,915	80
	StimFORCE I*						●		257	52	4,400	12	8400 + Flex	6,550	500	Optional	3,500	350,000	None	5,000	5,000	400,000	9,500	9,000	20
	StimFORCE III*							●	307	64.5	11,500	14	8600 + Flex	6,550	2,000	Optional	1,750	175,000	None	5,000	5,000	1,000,000	7,550	10,500	20
1	Blue Orca			●					317	60	12,570	12	180,000	16,400	250	None	14,450	1,100,000	None	53,676	10,156	1,400,000	10,156	10,156	80
	Blue Angel					●			280	60	9,600	12	100,000	32,800	200	None	5,000	500,000	None	63,000	4,000	1,650,000	4,000	6,900	10
2	Blue Marlin					●			280	56	7,200	13.5	88,000	29,000	200	None	5,900	590,000	None	120,000	4,800	1,100,000	4,800	8,900	10
Halliburton Mike Henry, 3000 North Sam Houston Pkwy East, Houston, TX 77032; Telephone: (281) 575-4092; email: michael.henry@halliburton.com																									
	Stim Star Arabian Gulf						●		234	56	4,000	11.5	100,000	12,800	None	N/A	N/A	N/A	*****	N/A	9,000	6,000 CUFT	9,000	5,800	50
	Stim Star Angola				●				241	54	6,570	14	25,000	21,300	100	N/A	N/A	450,000	*****	N/A	8,051	9005 CUFT	8,051	5,661 + Watermaker	75
	Stim Star		●						274	56	3,420	14.2	60,000**	12,100	600	20,000	N/A	501,000	*****	N/A	4,850	8,075 CUFT	4,850	4,850	75
	Stim Star III	●							260	56	5,400	14.2	*****	10,000	None	*****	N/A	835,000	*****	N/A	10,230	10,500 CUFT	8,870	6,740	75
3	Stim Star IV	●							312	66	8,156	13	26,000	50,800	None	N/A	N/A	1,363,250	*****	25,368	9,008	21254 CUFT	11,683	8,857	100
4	Stim Star Brasil					●			312	66	9,000	13.7	196,450	49,700	11,600	N/A	N/A	654,960	*****	N/A	11,600	11200 CUFT	11,600	11,600	20
	Stim Star Mexico		●						280	60	9,789	12	*****	35,068	*****	64,000	1,359	300,000	108,800	N/A	3,765	3,600 CUFT	3,765	3,765	50
	Stim Star Campeche		●						280	60	9,789	12	*****	35,068	*****	64,000	1,359	300,000	108,800	N/A	3,765	3,600 CUFT	3,765	3,765	50
	IWIV							●	427	92	18,000	15	50,400	4,400	1,200	N/A	N/A	250,000	*****	N/A	5,661	N/A	1,200	5,661	25
	SEA VMS							●	N/A	N/A	N/A	N/A	8,820	5,500	1,425	N/A	N/A	300,000	*****	N/A	N/A	N/A	1,425	N/A	25
Mehran Engineering & Well Services Co.																									
5	Northern Genesis						●		236	56	5724	10	N/A	26,600	N/A	10,000	N/A	N/A	160,000	N/A	3,200	N/A	3,200	12,000	75
	Mehravar						●		211	42	2250	12	N/A	11,800	N/A	5,000	N/A	N/A	80,000	N/A	N/A	N/A	N/A	3,400	No
Schlumberger																									
6	Big Orange 18			●					243	59	4,350	10	180,000	15,000	None	12,000	15,400	1,540,000	N/A	N/A	5,500	N/A	5,500	5,500	60
	DeepSTIM Norway I			●					305	66	9,300	12	90,000	15,000	970	40,000	N/A	N/A	188,000	53700	13,000	N/A	13,000	13,000	80
	DeepSTIM Norway II			●					305	66	9,300	12	90,000	15,000	970	40,000	N/A	N/A	188,000	53700	13,000	N/A	13,000	13,000	80
7	DeepSTIM II				●				270	56	3,420	10	8,400	9,750	860	N/A	2,000	200,000	N/A	N/A	6,600	14,700	6,600	6,600	15
	Ramya				●				256	56	6,300	12	60,000	10,000	100	15,000	1,800	180,000	N/A	37,000	6,200	7,760	6,200	6,200	No
	FlexSTIM Skipsey Tide						●		236	53	7,480	12	100,000	20,400	200	N/A	N/A	N/A	N/A	N/A	6,250	N/A	7,700	7,700	yes
	FlexSTIM Paterson Tide						●		275	59	9,270	12	160,000	7,000	300	N/A	N/A	N/A	N/A	90,000	9,400	N/A	13,000	13,000	yes
	FlexSTIM Flowers Tide						●		262	69	6,530	12	160,000	19,250	200	N/A	N/A	N/A	N/A	N/A	6,692	N/A	14,500	14,500	yes
StimWell Services																									
8	Island Patriot			•					283	63	10,340	12	210,000	8,960	None	16,000	N/A	1,770,000	0	27,000	7,860	740,000	7,720	10,240	Yes

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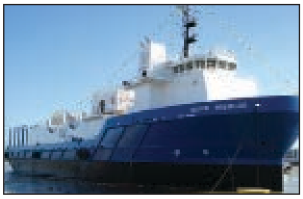

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General notes:

- Blank cells indicate "data not provided"
- Pump types common to all vessels in survey are quintiplex and triplex positive displacement pumps with Coflexip high-pressure line(s)

Mixing equipment				Navigational equipment						Safety equipment			Pumping equipment								
Gel on the fly capability?	Blenders (b/m)	Batch (bbl)	Acid (b/m)	Proppant (lbs per minute)	Frac (b/m)	Frac on the fly capability?	Thrusters (hp)	Dynamic positioning	Dynamic positioning type	Hose reel quick disconnect?	One button operation shutdown?	Quick disconnect work w/ power loss?	QA/QC lab on vessel?	Treatment line size (in.)	Treatment line length (ft)	Line pressure capability (psi)	Number of pumps	Total hydraulic horsepower (hhp)	Max rate (b/m)	Max pressure (psi)	Below deck pump capability (gpm)
Yes	3 x 60	200	50	32,000	80	Yes	4,550	Yes	DP-2 ABS certified	Yes	Yes	Yes	Yes	3 and 4	3 x 350	20,000	9	23,000	80	20,000	3,360
Yes	3 x 60	550	20	32,000	80	Yes	4,550	Yes	DP-2 ABS certified	Yes	Yes	Yes	Yes	3 and 4	3 x 400	15,000	11	24,700	80	15,000	3,360
Yes	2 x 45	270	20	16,200	32	Yes	6,300	Yes	DP-2 ABS certified	Yes	Yes	Yes	Yes	3 and 4	2 x 300	15,000	7	14000 + Flex	45	15,000	1,008
Yes	1 x 45	1,650	15	16,200	30	Yes	4,225	Yes	DP-2 DNV certified	Yes	Yes	Yes	Yes	3 and 4	2 x 300	15,000	3	5200 + Flex	30	15,000	1,320
Yes	2 x 60	4x50	80	25000	50	Yes	6704	Yes	MT DP-2 ABS certified	Yes	Yes	Yes	Yes	4	2 x 400	15000	7	15200	80	15,00	3360
Yes	2 x 50	4x50	50	32,000	50	Yes	9,460	Yes	DP-2 ABS certified	Yes	Yes	Yes	Yes	4	2 x 450	15,000	9	13,800	50	15,000	2,520
Yes	2 x 50	4x50	50	32,000	50	Yes	6,600	Yes	DP-2 ABS certified	Yes	Yes	Yes	Yes	4	2 x 450	15,000	8	12,800	50	15,000	2,520
Yes	70	50	50	N/A	N/A	N/A	2x750/350	Yes	Beier Radio IVCS 2002 DPS-2	Yes	Yes	Yes	Yes	3, 4	200, 400	15,000	7	9,000	70	15,000	2x 2,100
Yes	70	50	40	20,000	60	Yes	2 x 800/2 x 800	Yes	Simrad/Konesberg DPS-2	Yes	Yes	Yes	Yes	3,4	400	15,000	6	8,250	60	15,000	5 ea 2,500
Yes	50	200	30	20,000	50	Yes	1,200/1,000	Yes	Simrad/Kongsberg SDP21, DPS-2	Yes	Yes	Yes	Yes	3, 4	400	15,000	7	10,150	75	15,000	7 ea 2,500
Yes	75	N/A	N/A	20,000	60	Yes	2-1,000/1-1,200	Yes	Simrad/Konesberg SDP21, DPS-2	Yes	Yes	Yes	Yes	3, 4	400	15,000	8	21,500	64	15,000	7 ea 3,100
Yes	150	50	30	20,000	150	yes	1-1087/2-1427	yes	MT System DP II	yes	yes	yes	Yes	4,4,4	400	15,000	12	21,500	128	15,000	5 ea 3000
Yes	150	100	100	17,500	150	Yes	2 x 3000	Yes	Marine Technologies	Yes	Yes	Yes	Yes	4,4	450	15,000	8	13,500	64	15,000	9 ea 2,100
YES	50	100	35	25,200	50	YES	2 x 1,206	YES	DYNPOS-AUTR	Yes	Yes	Yes	Yes	4,4	400	15000	7	11500	50	15000	"4 ea 1,500 3 ea 1,300"
YES	50	100	35	25,200	50	YES	2 x 1,206	YES	DYNPOS-AUTR	Yes	Yes	Yes	Yes	4,4	400	15,000	7	11,500	50	15,000	"4 ea 1,500 3 ea 1,300"
N/A	35	100	35	13,500	35	No	2 x 1.5MW bow, 1 X 2.0 MW Azi	Yes	Kongsberg Maritime,DP3	Yes	Yes	Yes	Yes	4	400	15,000	5	10,000	35	15,000	N/A
Yes	50	1,425	0	20,000	35	Yes	N/A	N/A	N/A	Yes	Yes	Yes	Yes	3,3	350	15,000	6	12,000	35	15,000	N/A
Yes	50	1,425	0	20,000	35	Yes	N/A	N/A	N/A	Yes	Yes	Yes	Yes	3,3	350	15,000	6	12,000	35	15,000	N/A
N/A	40	2*100	30	N/A	N/A	N/A	500	N/A	N/A	Yes	Yes	Yes	Yes	2&3	2*150+ Rigid lines	15,000	6	4,000	30	10,000	3*1,680
Yes	60	200	60	2 x 9,000	60	Yes	6,670	Yes	Kongsberg K-Pos/DP2	Yes	Yes	Yes	Yes	3 & 4	2 x 350	15,000	9	11,000	60	12,500	6,720
Yes	80	100	80	N/A	80	No	10,400	Yes	Marine Technology/Bridge Mate DP2	Yes	Yes	Yes	Yes	4	2 x 370	15,000	10	20,000	80	15,000	14,000
Yes	80	100	80	N/A	80	No	10,400	Yes	Marine Technology/Bridge Mate DP2	Yes	Yes	Yes	Yes	4	2 x 370	15,000	10	20,000	80	15,000	14,000
Yes	70	150	30	12,000	50	Yes	5,720	Yes	Marine Technology/Bridge Mate DP2	Yes	Yes	Yes	Yes	3 & 4	2 x 300	15,000	8	16,000	50	15,000	2,100
Yes	60	210	60	2 x 9,000	60	Yes	3,550	Yes	Converteam DP2	Yes	Yes	Yes	Yes	3 & 4	2 x 350	15,000	4	8,000	60	15,000	11,000
No	40	400	40	N/A	40	No	7,200	Yes	Kongsberg/DP2	Yes	Yes	Yes	Yes	3	1 x 350	15,000	4	6,500	40	15,000	1,680
No	40	200	40	N/A	30	No	3,400	Yes	Kongsberg/DP2	Yes	Yes	Yes	Yes	4	1 x 300	15,000	3	6,000	30	15,000	1,600
No	80	200	80	N/A	80	No	6,740	Yes	Kongsberg/DP2	Yes	Yes	Yes	Yes	4 & 4	2 x 300	7,500	5	10,000	100	7,500	1,600
Yes	70	7,720	70	20,000	70	Yes	10,400	Yes	DP 2 DNV Certified	Yes	Yes	Yes	Yes	2 x 4	2 x 400	15,000	7	14,000	70	15,000	5,040

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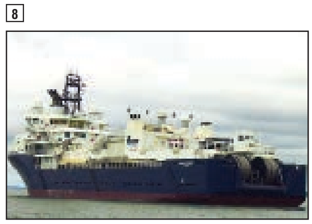

General notes:

- Pump "Number" includes all pumps available
- Pump "Max Rate" includes all pumps available
- Pump "Max Pressure" is hightest rating of all pumps on rigs