Brazilian





Contents

2017 outlook

- 4 Petrobras
- 10 Subsea & seismic
- 12 IOCs & others
 - Spot market
 - Tankers
- 18 Spotlight on Vessels Value
- 19 Elsso Ai

14

16

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2017 Outlook

In this month's Brazilian Wave we put forward where we think the market will develop and how in 2017

Petrobras

The main player no matter how you slice it. What does Petrobras have on the cards for next year and critically what will this mean for vessel demand?

Seismic & Subsea

Will the dry spell in subsea projects persist on will we see a return to life in 2017?

IOCs

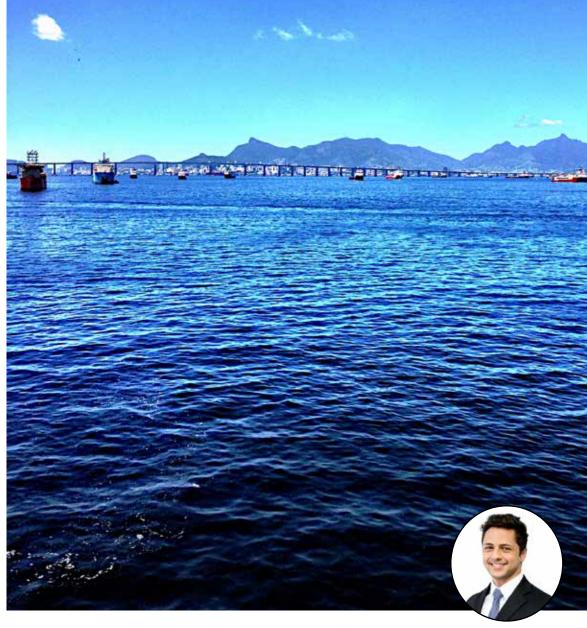
As the pre-salt areas are opened up for other companies to explore, who will drill and who will need vessels?

Spot market

How trends for chartering vessels on the Brazilian spot market will play out next year.

Tankers

Forecasted demand for tankers for next year and beyond.



Picture by Wilson Nobre, ShipbrokerImage of the bridge to Niteroi

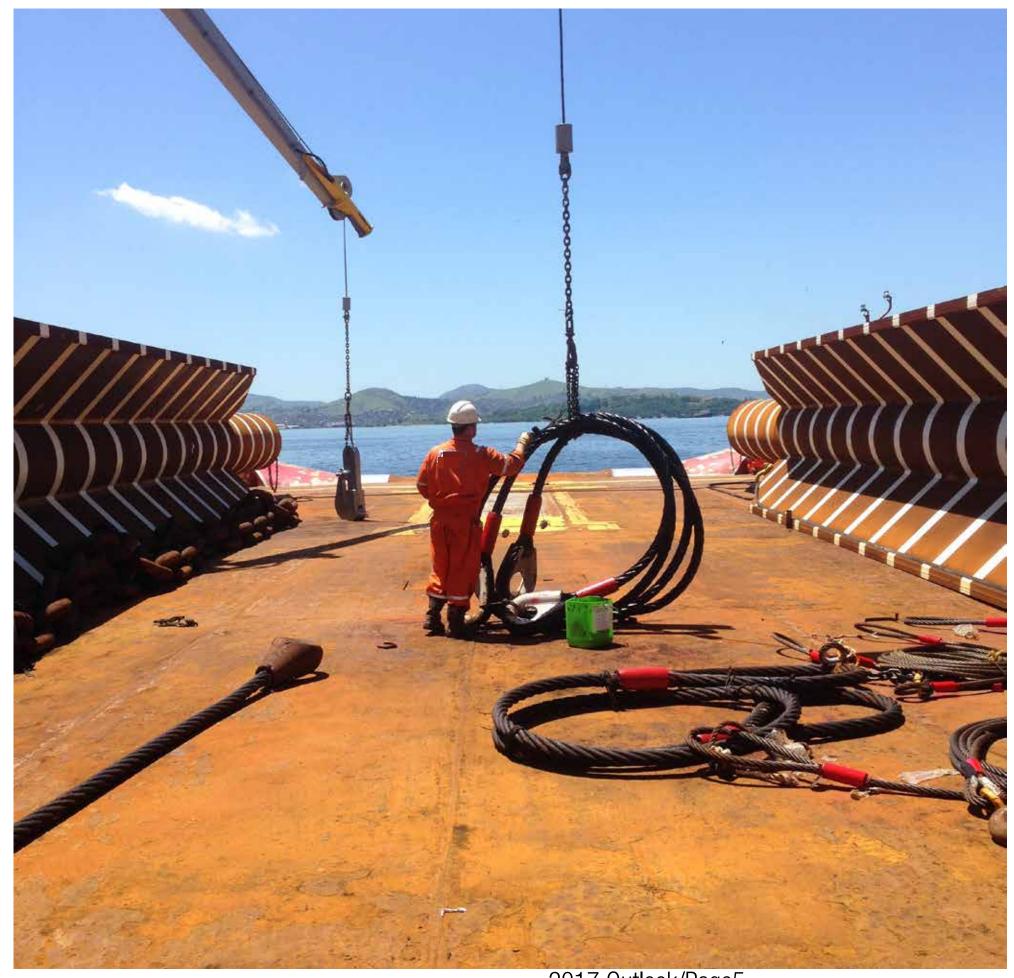
PETROBRAS

2017 - The year of **Anchor Handlers**



Report by Alexandre Vilela Images taken on Skandi Admiral

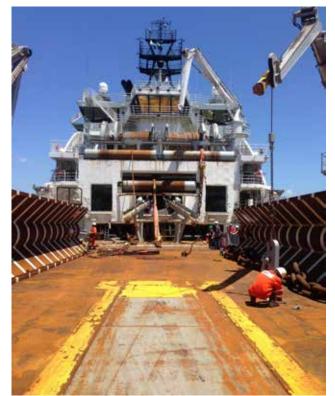
Vessel hires in Petrobras are at a record low. Without conclusive awards on the PSV4500, RSV and OSRV750 tenders, and considering that after running the SDSV tender Petrobras ended up renewing the contract of Far Swift; apart from some hires generated by blocking of foreign flagged vessels the 2016 year has been near a complete stop. This is not necessarily bad news, at least in what concerns the year of 2017. Naturally those vessel spots are still open and as Petrobras leaves 2016 behind, the odds are that quite a number of ships will end up being contracted. However that comes not as an increase on the fleet, but as replacement of other contracts which are coming to conclusion. The reduction on the fleet on the other hand has come to a stop. Overall the number of vessels is now stable.

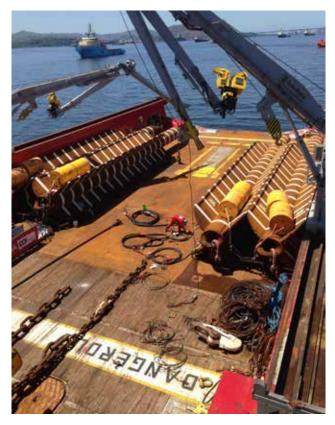


2017 Outlook/Page5

BW Dec'16







(...) if Petrobras were to reduce its AHTS fleet further by - say - 20%, that would still mean over 20 AHTS opportunities in the bi-annum.

Alexandre Vilela, Commercial Director

nat 2016 can teach us about dealing with 2017 is "Brazilian flag". In 2016 the foreign fleet of PSVs has practically disappeared, from over 80 units down to below 20 now, which are doomed to disappear as replaced by "local" ships. And "local" does not necessarily mean Brazilian built. Currently there are 19 PSVs operating in Brazil under Brazilian flag which are not Brazilian built, but placed under REB through the tonnage act. 2016 can also teach us that vessels migrate categories. Half of the current 46 OSRVs operating in Brazil, most of them with Petrobras, are originally either PSVs or even small AHTSs converted to OSRVs. In this vessel type again the

- There isn't much to be said about these categories that can make owners decisions change for 2017. As a matter of fact, PSVs have virtually no space, regardless of size. There are a number of Brazilian flagged ships laid up in country and no demand that can absorb the idle fleet. As we have pointed out before, the PSVs have become a commodity where volume is important and margins are low. This is not going to change anytime soon. 2016 also produced some movement around the replacement of OSRVs. Petrobras re-bid the foreign flagged vessels under contract against each other, and listed them from the most to the least expensive, those positioned last have been

number of local ships now outnumbers the

flag OSRVs than local).

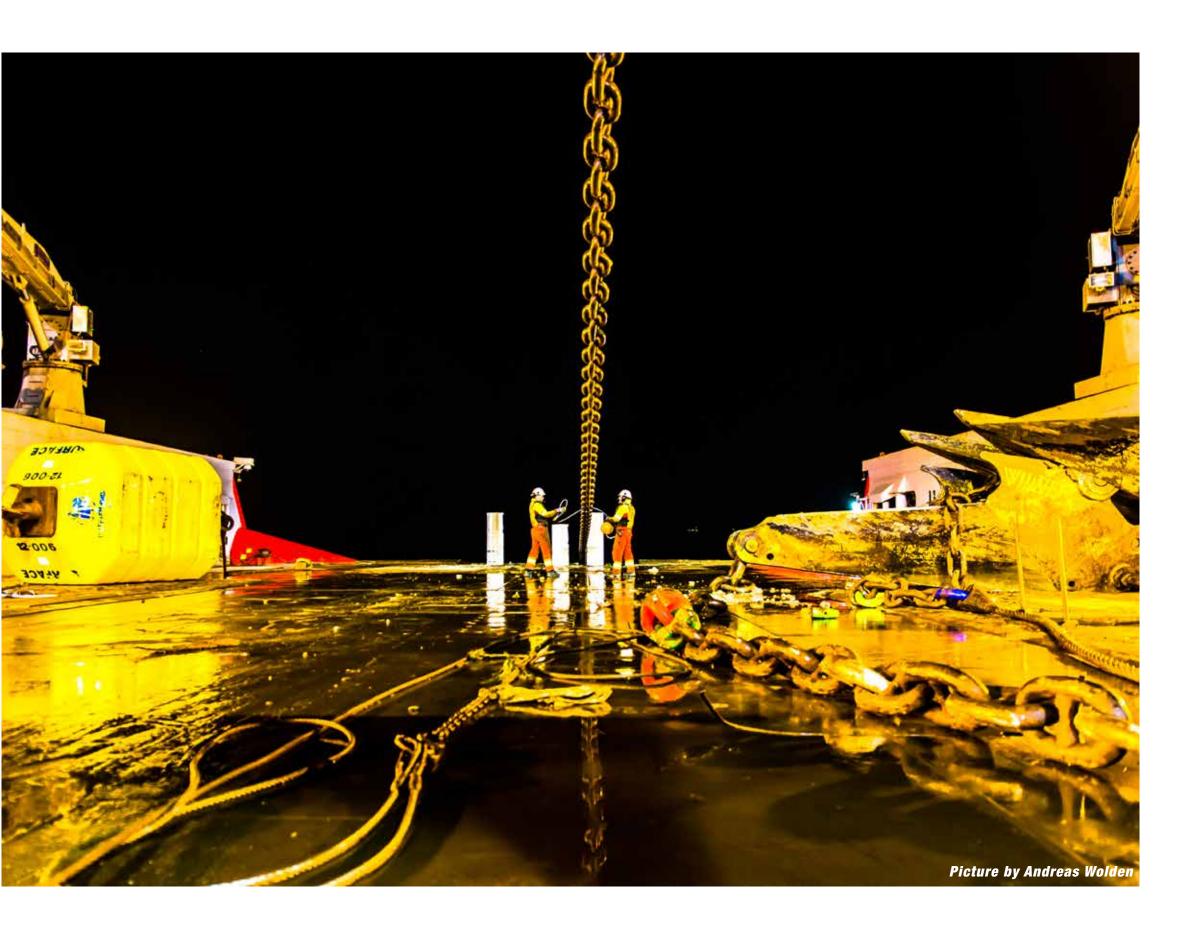
foreign fleet (in 2015 there were more foreign

replaced by Brazilian flagged ships.

- As 2016 draws to a close Petrobras is preparing to do the same with the AHTS 18000 category and very shortly those vessels listed as most expensive will see their contracts being replaced by local flagged ships. There is more than a handful of vessels available or will become available, if we consider not only the vessels which are Brazilian built (Farstad, Finarge, DOF, etc.), but also those owners which have already placed Brazilian flag on vessels of foreign origin (Maersk Handler) or that are under process (Skandi Admiral), among others. We believe that 2017 is the year of the AHTS category for those opportunities. In our market reports it is demonstrated that in 2017 8 AHTS vessel contracts will expire, with another 10 expiring in 2018. And this is the number of opportunities there are, as those contracts are currently filled in by foreign flagged vessels. Yet, in 2017 four and in 2018 five Brazilian flagged vessels currently under contract will also see their contracts coming to an end. What that means: 27 contract opportunities. In a pessimistic scenario, if Petrobras were to reduce its AHTS fleet further by - say -20%, that would still mean over 20 AHTS opportunities in the bi-annum.

- Petrobras directors are making consistent statements that the company will need to keep the pace of drilling in the next 4 years. That has to do with the development of extremely profitable fields, mainly those on the pre-salt, but also and further with the commitments made with ANP for areas of extreme high interest for Petrobras.

2017 Outlook/Page6



- urther, there is a volume of arrival of new units for the pre-salt area which will demand installation capacity. In other words, there is demand.
- Breaking down this demand by AHTS size, there isn't as much rooms on the AHTS15000 as there is on the AHTS18000 or even more so on the AHTS21000. It is however observed that as Petrobras let some AHTS15000 leave at their contract expirations, some originally hired AHTS18000 are now working as AHTS15000 supporting tanker offloadings. This is the result of contracts being in place when the anchor handling activity lowered. As Petrobras still had larger AHTSs under hire, those have been repositioned categories, even if not the most economical choice. Our records show that in the 2017-2018 period 10 AHTS 15000 contracts will expire, and another three originally hired AHTS18000 are currently working as TS, which means a total of 13 AHTS 15000 opportunities out in the market. It is reasonable to state that some 10 vessels may be replaced. More immediately we understand Petrobras will dismiss three foreign flagged vessels and absorb at least two AHTS15000 from the market as Petrobras runs a "local-blocking-vessels-bid" with the about five Brazilian flagged vessels blocking this vessel category and available. Those which are not selected in this opportunity will most probably see another employment opportunity towards the end of 2017.
- On the AHTS18000 category, on the contrary, Petrobras will shortly have to run another re-bid of the foreign flagged ships which CAAs are being blocked by a fewer number of Brazilian flagged vessels. Our market data points at six AHTS18000 being blocked in the 1H of 2017, and at least two, maybe three Brazilian flagged AHTSs to be hired. As those vessels under CAA renewal are yet under firm contract period, the tendency is for a replacement of the most expensive by Brazilian flagged ships, whereas the remaining foreign flagged will be unblocked and obtain another year of contract lifetime or the remaining of the contract period, whichever is shorter.
- The AHTS21000 category is more of a secure ground for foreign flagged ships and similarly for those Brazilian flagged. The one vessel currently being placed under REB will most likely secure employment at a sustainable rate sooner than later.
- For a detailed vessel reading, exact contract expiry dates, rates and more please contact us.

SUBSEA PROJECTS

s an outcome of Petrobras' significant cuts in investments, subsea companies will have a dryspell of new projects as a continuation of 2016's low activity. Saipem has the ongoing EPCI contract with Petrobras for Lula Norte, Lula Sul, and Lula Extremo Sul three pipelines. This project will soon hire two PSVs 4500 starting in Q1 2017 for minimum 120 days, in an ongoing tender. Allseas' operation is currently taking place in Santos and Campos basin with four PSV 4500 from Bravante supporting the trenching vessel Calamity Jane and PLSV Solitaire, which commenced in October 2016 and is expected to be concluded until March 2017. Technip currently works on a contract for the supply of flexible pipes for the Libra Extended Well Test field, located in the Santos Basin pre-salt area, Brazil.

- This is one of the first steps of the Libra giant field development. In the company's manufacturing plants in Vitória and Açu, flexible pipe production progressed for the pre-salt fields of Lula Alto, Iracema Norte and Libra Extended Well Test, and was completed for the Iracema Sul field. Spot demands for barges and tugs for the flexible lines transfer usually happen when pipes are delivered. Meanwhile, Subsea7 continues to study new projects while it operates a large fleet of specialized vessels for Petrobras, which recently got two additions, Seven Sun and Seven Cruzeiro. Overall, new EPCI projects currently being studied are not expected to start in 2017.



Report by Paula QuirinoFurther information available at
Westshore do Brasil

(....) for Lula Norte, Lula Sul, and Lula Extremo Sul three pipelines. This project will soon hire two PSVs 4500 starting in Q1 2017 for minimum 120 days Paula Quirino, Shipbroker

SEISMIC eismic campaigns are always a good opportunity for charter of small supply vessels and chase boats, to assist usually foreign seismic vessels. After the un-successful bid in 2014 and the rebid for 3D seismic survey issued in 2015 by the Libra consortium, no contract has been awarded yet. The campaign, which was expected CAMPAIGNS to start this year and take more than six months, will cover the southeast part of the exploration block and shall consider nodes and cables technology. Meanwhile, Petrobras has recently issued a tender for the first 3D seismic campaign with nodes for the Buzios field in Santos basin (transfer of rights area). About 1,000m2 of geological area and 1,600 m2 of area with nodes will be covered in deep water, starting in 2017 and lasting approximately 360 days. - Polarcus recently signed contracts with undisclosed clients for one 3D seismic campaign using Polarcus' RightBand technique for broadband data acquisition and one 4D monitoring survey, starting in Q1 2017 for about five months. This campaign may continue with the same seismic vessel, chase and supply boats hired for the company's ongoing campaigns in Brazil. In 2017, less projects with the IOCs in Equatorial Margin will (....) Petrobras has take place, when compared to 2016. QGEP will hire 3D recently issued a seismic campaign to cover its two blocks in Sergipe tender for the first basin (13th ANP round). The campaign is expected to 3D seismic campaign last 90 days, starting Q3 2017. - Also next year, Spectrum will invest in multi-client with nodes for the 2D seismic campaigns covering Potiguar, Parnaíba-**Buzios field in Santos** Pernambuco and Jacuípe regions, as well as areas with basinstarting few available data that could be considered in the next

ANP round expected for H2 2017, in order to anticipate

the needs of oil companies. A few seismic licenses from IBAMA are still pending and may be granted throughout

the year, generating more activity still in 2017.

in 2017 and lasting

approximately 360

Paula Quirino, Shipbroker

WESTSHORE





Report by Luiz MonteiroFurther information available at
Westshore do Brasil

IOCs & Others

s we approach the end of another turbulent year, we can say with tentative hope that 2017 will see a return to activity offshore Brazil. Looking back on 2016 is notably better than when we looked back on 2015 a year ago. This time companies are leaner and ready to do business at a far lower cost. In addition the government has made some serious inroads to improving oil legislation.

Turning to the plans the IOCs have for offshore activity next year and there are several companies gearing up to increase activity. Shell will continue with maintenance operations at Bijupira & Salema (FPSO Fluminense) and two small scale campaigns may go ahead in 2017. For Parque das Conhas (BC-10), besides the activities related to maintenance of production operations and some subsea interventions, Shell will start planning to drill up to two development wells. Chevron, in Frade field, is not expecting any activities besides normal operations to maintain production levels. On the other hand, Total will start its exploration drilling campaign at Foz do Amazonas basin in the second half of 2017. The plan is to drill two firm wells with options of up to nine wells. Vessel contract awards are expected in Q1 2017 (two PSV 3500, one PSV 2000, and one OSRV with ROV).

Karoon will increase operations not only in 2017 but in the years that follow. In the short term (first half of 2017) the plan is to start an exploration/development drilling campaign with two firm wells with options for two more. To support rig operations, five OSVs will be necessary (three AHTS, one PSV and one OSRV).

After several delays, QGEP should finally start Atlanta's production with FPSO Petrojarl I in Q4 2017, and is forecast to contract one AHTS and one OSRV (one year contract plus options). OGpar and PetroRio will likely focus efforts on maintaining production activities although PetroRio might decide to go ahead and drill two more infill wells at Polvo field, which is part of Field Development Plan approved by ANP. OGpar is in negotiation with ANP and IBAMA over the terms of Tubarão Azul P&A, as it currently stands this is unlikely to go ahead in 2017.

WHAT TO EXPECT FROM THE BRAZILIAN SPOTMARKET 2017

Report by Omar Darian & Wilson Nobre Image taken from Skandi Admiral

016 certainly wasn't a memorable year for the Brazilian spot market. The sustained low oil price resulted in a growing list of stacked rigs and a corresponding drop in demand for offshore supply vessels. While rigs being towed into port to be stacked provided a temporary source of work for some vessels trading the spot market, that didn't have a significant impact in the number of spot fixtures reported this year.

At time of writing (mid-December) there have been a total of 76 fixtures in the spot market, a drop of 31% compared to last year, when we had a total of 110 fixtures. Consequently, the net income to owners also had a sharp drop, a difference of almost USD 7 million. In 2016 drilling companies represented around 60% of spot demands while the other 40% was filled by other charterers such as IOCs, subsea companies and etc. From February until June, besides cargo runs and fuel runs, we had a few anchor handler jobs reported, mainly due to rigs leaving Brazil or being stacked here. From July onwards we saw an even drier market, a period of which cargo runs kept the spot market breathing. Surprisingly, from November until now (mid-December), nine contracts were fixed. That amount of fixtures in only one month excites the industry and makes us wonder if that is a preview of what 2017 will be like.

Taking into consideration that Petrobras has around 30 drilling units under charter, of which four have contracts expiring in 2017; there is a possibility of demand for PSVs and AHTS for demobilization and for units undergoing repair. We can certainly say that there won't be much

activity in the spot market next year. Reason being that around 37 drilling units have left the country or had contracts early terminated by Petrobras since 2014. On the other hand subsea companies will mainly highlight short term jobs in 2017 given the fact that Petrobras is focused on increasing National oil and gas production. We also will see some movement for fuel runs but on a smaller scale than in 2016 since the number of drilling units leaving Brazil will decrease next year.

Going forward, we expect a market more focused on long term contracts due to the prospect of drilling campaigns in the Equatorial Margin of blocks awarded in the 11th ANP round

Going forward, we expect a market more focused on long term contracts due to the prospect of drilling campaigns in the Equatorial Margin of blocks awarded in the 11th ANP round. Also, four new FPSOs are forecasted to start operation next year and a further five in 2018 for Petrobras. In addition to demand for OSVs to install such units in the pre salt fields, the drilling rigs already under charter will be reallocated to start drilling new wells in order to comply with ANP's Minimum Exploratory Program which has been postponed several times by the State major.

2017 Outlook/Page14

TANKER INSIGHT

ith hopes that the Brazilian political and economic situation will be stabilized, the new year should be promising:
All going well, the oil price is expected to firm up enough to give much needed oxygen to allow a rebound of the industry in general. The crude production is setting new records on a monthly basis; the players' participation is increasing meaning investments likewise. The demand for shuttle tankers should follow suit. Improved logistics are expected to optimize the operations and savings.

- On the product front, albeit Petrobras' efforts to hang on to or recoup market shares, imports should continue on a steady flow. Renewed efforts must be put in place to improve the lacking infrastructure whilst alternative solutions be sought.
- On a not so bright note, it will also be the year that Ballast Water Management will start working its way into implementation leading to tough decision making by owners, being summoned to spend substantial amounts of money in quite a few cases on ships that are nearing their life span twilight but still have to be in compliance for the remainder years.
- We wish you a Merry Christmas and a healthy and successful New Year, leaving with a final note on the traditional Irish blessing for all of us:

May the road rise up to meet you.

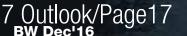
May the wind be always at your back.

May the sun shine warm upon your face;
the rains fall soft upon your fields
and until we meet again,
may God hold you in the palm of His hand.



Report by Daniel BuckleyFurther information available at
Westshore do Brasil







VV MINI MATRIX MONTHLY CHANGE

14 DEC 2016

YEAR OF BUILD	LARGE PSV	MEDIUM PSV	SMALL PSV	SUPER AHTS	MEDIUM AHTS	SMALL AHTS
	DWT			ВНР		
2016	-4.5%	-0.8%	-0.8%	+0.2%	-0.4%	-0.0%
	5200	3600	1700	24000	8000	5200
2011	-4.9%	-0.7%	-1.1%	-0.9%	-0.9%	-1.4%
	4800	3300	1600	24000	8000	5200
2006	-6.5%	-2.5%	-1.6%	-1.0%	-1.8%	-2.2%
	4800	3300	1600	23500	8000	5100
2001	-8.1%	-3.4%	-1.9%	-0.4%	-2.9%	-4.1%
	4700	3100	1600	18500	8000	5000
1996	-9.6%	-4.8%	-2.9%	-0.0%	-3.4%	-4.0%
	4700	3100	1200	18500	8000	4800
1991	-9.8%	-6.3%	-4.1%	N/A	-4.3%	-3.7%
	4600	3100	1200		7200	4800

VesselsValue Monthly OSV Valuations

VesselsValue is a data specialist company producing industry tools covering a broad spectrum of the shipping industry. The company is headquartered in London and utilizes a wide network of sources to gather data produce valuations for entire fleets to specific vessels. VesselsValue gives us the update on how the market has developed over the past month.

"OSV values continued to soften this month, with more noticeable changes occurring across the PSV sector due to the sales of ER Stavanger and ER Aalesund (3,200 DWT, 2008, Vard Aukra), that were sold from lay up to Caspian Marine Services for USD 6 mil each . AHTS values softened slightly."







On behalf of Westshore do Brasil, it has been an honor and a pleasure to work with you over the past year. We wish you a very Merry Christmas and a prosperous 2017.

