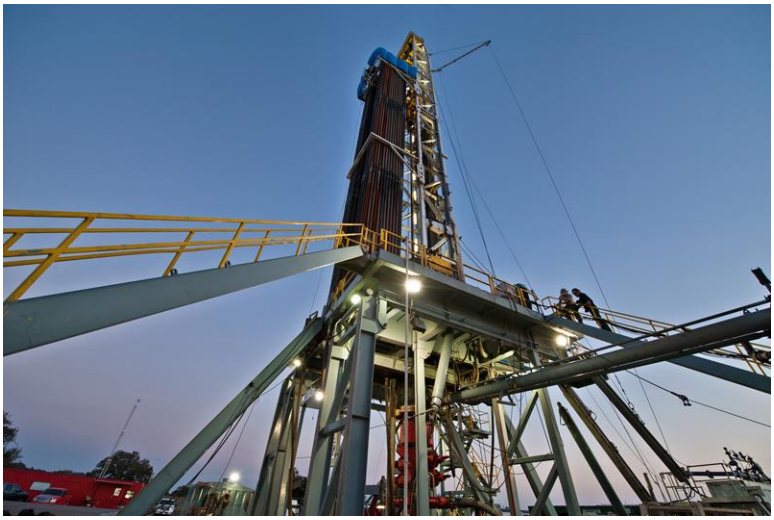
Worldwide Survey of the Market for Drilling Equipment & Services



Competitive Positioning Report

March 2016

Kimberlite
International Oilfield Research

INTRODUCTION

This report presents the results of in-depth, personal interviews with decision makers within oil and gas operating companies around the world who purchase and use drilling equipment and services in exploration and development of oil and gas resources. The drilling equipment and services evaluated in the report include downhole mud motors, MWD, Rotary Steerable Systems (RSS), drill bits and drilling fluids. The report assesses industry trends, buying preferences, technology & service needs and preferences pertaining to supplier selection including market share and supplier performance benchmarking.

A total of 255 personal interviews were conducted via telephone for the project with key individuals and decision makers within oil and gas companies worldwide who use drilling equipment and related services. The interviews were conducted from December, 2015 through February, 2016.

Each respondent interviewed for the report was pre-qualified as knowledgeable and involved in the selection of suppliers to provide drilling equipment and related services.

This report was prepared by Kimberlite International Oilfield Research and is distributed as a courtesy for the participating respondents.

2016 Projected Drilling Activity and Characteristics

Overall, oil and gas operating companies in North America plan to decrease the number of wells they plan to drill in 2016 by 25% versus 2015 levels and international operators on average are planning to increase drilling activity by approximately 5-7% in 2016 versus 2015 led by the Middle East and to a lesser extent Asia Pacific.

In North America, there is a growing number of small privately held operators and start-up operators funded by private capital who will operate in a manner contrary to the broader market leveraging the low cost of drilling rigs and services to begin drilling operations because they have no previous debt. These operators will use the downturn to operate below the radar screen in terms of overall market impact on the number of wells drilled. The larger and more established operators in North America are reducing their 2016 capital expenditure and activity levels in an effort to conserve cash and help contribute to a supply side response in an effort to balance supply and demand.

National oil companies operate to a different set of drivers versus that of North American operators who are often publically traded. The NOCs in many cases are not directly tied into the market signals due to subsidized prices and desire to maintain government employment levels.

Most operators believe that 2016 will be a year in which the oil markets achieve equilibrium and 2017 will reflect a year in which many North American operators will use to rebuild their balance sheets and gain confidence to increase spending plans for 2018. These views are based upon no major supply disruptions and Iran continuing to expand production to 4 million barrels per day while the rest of the OPEC and non-OPEC participating countries uphold production freezes at current levels.

Average Number of Suppliers Used for Selected Drilling Equipment & Services

Overall, operators surveyed report that they use more suppliers to meet their fixed cutter drill bit requirements than they do for other drilling equipment and services. On average, operators worldwide use approximately 2.59 suppliers to meet their fixed cutter bit requirements and this average grows to approximately 3.18 suppliers for North American operators.

The table below highlights the average number of suppliers used by oil & gas operators to meet their downhole mud motor, MWD, RSS, drill bit and drilling fluids requirements and segmented by North America and International.

AVERAGE NUMBER OF SUPPLIERS USED			
	Total Sample	*North America*	*International*
Mud Motors	2.00	2.49	1.50
MWD	1.70	2.06	1.37
RSS	1.38	1.46	1.34
Fixed Cutter Drill Bits	2.59	3.18	2.07
Roller Cone Drill Bits	1.71	1.65	1.77
Water Based Mud	1.39	1.53	1.26
Oil Based Mud	1.36	1.54	1.20

North America operators on average use more suppliers to meet their requirements as evidenced by the number of suppliers used by the typical North America operator for Mud Motors (approximately 2.5) versus that of the typical international operator who consolidates their number of suppliers used to an average of only 1.5. Consequently, the international markets are served by a concentrated group of oilfield service suppliers on average and the North America markets are typically more fragmented with dozens of potential suppliers to use for downhole mud motors, MWD and drilling fluids. Rotary steerable systems and to a lesser degree drill bits are still served by a relatively concentrated group of suppliers worldwide (North America and international).

Supplier Performance by Product Line for Key Selection and Performance Factors

Supplier's performance was evaluated by the oil & gas operators for key selection and performance factors such as equipment/product quality & reliability, responsiveness to needs, competency of field personnel, technical support & service, availability/delivery, documented cost or time saving benefits/value proposition and pricing competitiveness.

Comparison of supplier performance across product lines reveal that overall suppliers of downhole mud motors and MWD services need to improve the most in the area of equipment/product quality and reliability versus that of the other drilling equipment and services evaluated.

Suppliers of MWD, drilling fluids and downhole mud motors also exhibited the largest variance in performance levels in the areas of competency of field personnel, technical support & service and pricing competitiveness revealing that oil & gas operators will benefit from conducting due diligence prior to contracting to obtain the best value and that oilfield service suppliers have an opportunity to improve and deliver a more consistent level of overall performance in these key areas to better serve the market.

The tables below illustrate the variance and overall average rating for each drilling equipment & service evaluated for the key performance factors.

RANGE IN AVERAGE SUPPLIER PERFORMANCE RATINGS FOR EQUIPMENT or PRODUCT QUALITY/ RELIABILITY				
	Average Rating	*Best Performer*	*Worst Performer*	*Variance*
Drill Bits	8.04	8.17	7.38	0.79
Drilling Fluids	7.93	8.41	7.41	1.00
RSS	7.43	7.53	6.60	0.93
MWD	7.32	7.72	6.11	1.61
Mud Motors	7.25	7.90	6.14	1.76

RANGE IN AVERAGE SUPPLIER PERFORMANCE RATINGS FOR RESPONSIVE TO NEEDS				
	Average Rating	*Best Performer*	*Worst Performer*	*Variance*
Drill Bits	7.77	8.29	7.33	0.96
Drilling Fluids	7.72	8.62	7.40	1.22
RSS	7.60	8.20	7.32	0.88
MWD	7.55	8.14	7.33	0.81
Mud Motors	7.46	8.30	6.80	1.50

RANGE IN AVERAGE SUPPLIER PERFORMANCE RATINGS FOR COMPETENCY OF FIELD PERSONNEL				
	Average Rating	*Best Performer*	*Worst Performer*	*Variance*
Drill Bits	7.70	7.80	7.17	0.63
Drilling Fluids	7.64	8.42	7.11	1.31
MWD	7.56	8.20	6.80	1.40
Mud Motors	7.56	8.25	6.88	1.37
RSS	7.52	7.65	7.20	0.45

RANGE IN AVERAGE SUPPLIER PERFORMANCE RATINGS FOR TECHNICAL SUPPORT & SERVICE				
	Average Rating	*Best Performer*	*Worst Performer*	*Variance*
Drilling Fluids	7.73	8.67	6.70	1.97
RSS	7.66	7.76	7.20	0.56
Drill Bits	7.65	7.78	6.23	1.55
MWD	7.54	8.38	6.40	1.98
Mud Motors	7.45	8.11	6.62	1.49

RANGE IN AVERAGE SUPPLIER PERFORMANCE RATINGS FOR AVAILABILITY/ DELIVERY				
	Average Rating	*Best Performer*	*Worst Performer*	*Variance*
Drill Bits	8.16	8.76	7.81	0.95
Drilling Fluids	8.02	8.92	7.57	1.35
MWD	7.99	9.22	7.70	1.52
Mud Motors	7.98	9.13	7.57	1.56
RSS	7.76	7.97	7.20	0.77

RANGE IN AVERAGE SUPPLIER PERFORMANCE RATINGS FOR COST or TIME SAVING BENEFITS				
	Average Rating	*Best Performer*	*Worst Performer*	*Variance*
Drill Bits	7.46	7.58	6.63	0.95
Drilling Fluids	7.13	8.23	6.10	2.13
MWD	6.88	7.55	6.63	0.92
Mud Motors	6.71	8.50	5.80	2.70
RSS	6.70	7.00	6.48	0.52

RANGE IN AVERAGE SUPPLIER PERFORMANCE RATINGS FOR PRICE COMPETITIVENESS				
	Average Rating	*Best Performer*	*Worst Performer*	*Variance*
Drill Bits	7.32	8.10	6.95	1.15
Drilling Fluids	7.12	8.17	6.29	1.88
Mud Motors	6.93	8.00	6.20	1.80
MWD	6.91	8.40	6.33	2.07
RSS	6.64	7.11	5.80	1.31

Drill bit suppliers generally outperformed other drilling & equipment service product lines in most key performance areas. Drilling fluid and mud motor suppliers exhibited the widest variance in performance in the category of documented cost or timing saving benefits/value proposition reflecting a clear opportunity to strengthen their value proposition with their customers.

Customer Loyalty and Overall Satisfaction Levels as Measured by the Net Promoter Score

The Net Promoter Score is a widely used industry benchmark for customer loyalty & satisfaction and is based on the question "How likely would you be to recommend this company to a friend or colleague" using a scale of 1 to 10 with 10 being highly likely. The Net Promoter Score is calculated by subtracting the percentage of Promoters (ratings of 9 or 10) from the percentage of Detractors (ratings of 6 or lower). Net Promoters are customers that exhibit strong customer loyalty and are more inclined to forgive a supplier for making a mistake and is more willing to try new offerings from the supplier. Net Detractors are much less willing to repurchase from a supplier and often serves as a detriment to the supplier by sharing their disappointment in the supplier's performance with others in the industry. Consequently, the Net Promoter Score is a good benchmark to track and monitor over time and correlate to business performance.

When evaluating the overall Net Promoter Scores for each of the drilling equipment & service categories in the report, downhole mud motors and MWD lag the average ratings versus that of drill bits, drilling fluids and RSS. The low Net Promoter Score ratings for mud motors and MWD are consistent with that of the other performance ratings for product quality, technical support,

competency of field personnel and other factors reinforcing that mud motor suppliers and MWD suppliers possess the greatest opportunity for improved performance among the drilling equipment and service providers.

AVERAGE NET PROMOTER SCORES FOR SELECTED CATEGORIES	
Drill Bits	19.5%
Drilling Fluids	17.5%
RSS	10.6%
MWD	3.6%
Mud Motors	-0.2%
ALL DRILLING PRODUCTS & SERVICES COMBINED	**10.8%**

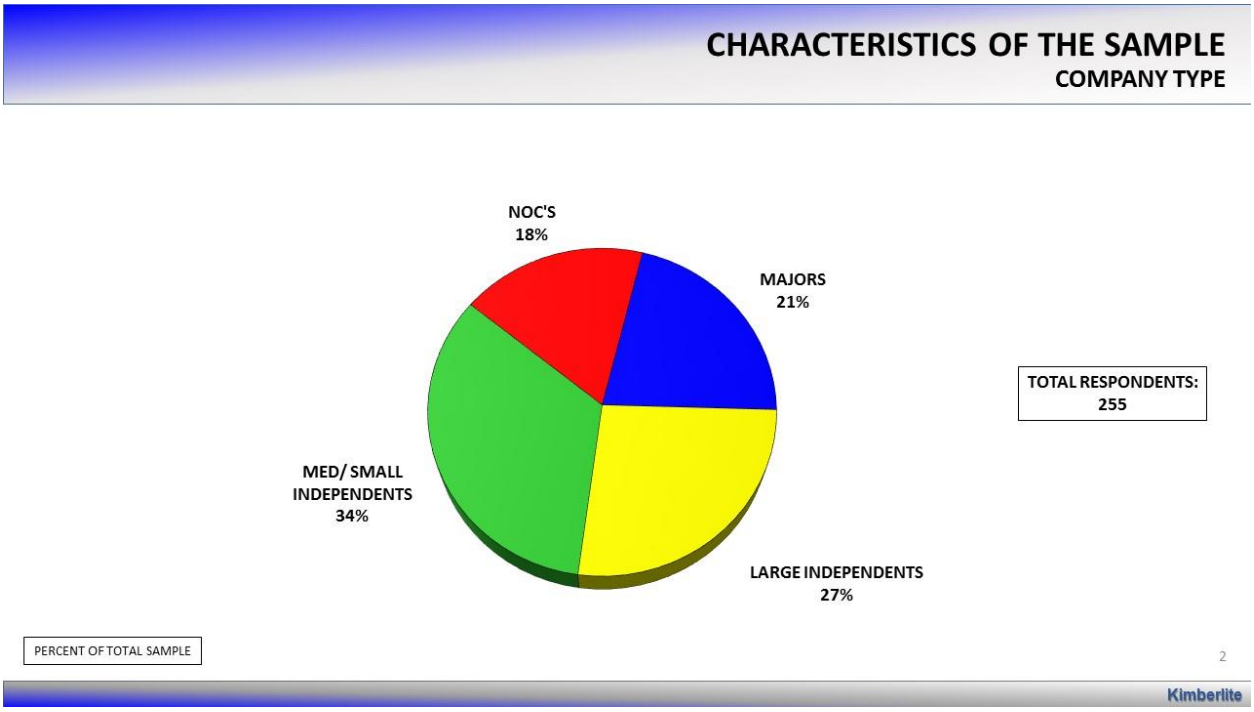
Drill bit suppliers overall received the highest Net Promoter Score rating with a 19.5% followed closely by drilling fluids at 17.5%. These two drilling equipment and service offerings led the drilling equipment category in terms of customer loyalty ratings and these higher ratings were consistent with the ratings these two offerings received on the other 7 performance factors evaluated.

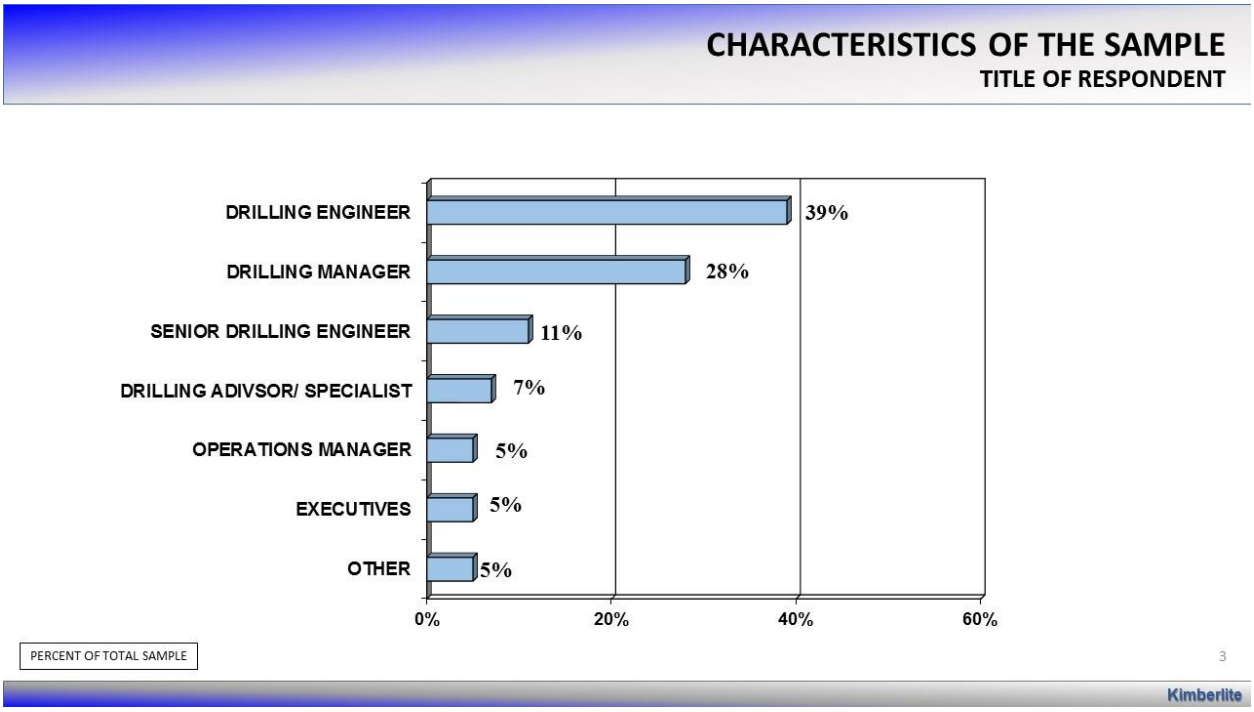
Performance Factors with Greatest Impact on Customer Loyalty and Supplier Use

The performance factors that exhibited the highest statistical correlation to the likelihood to recommend and use a drilling equipment and services supplier were:

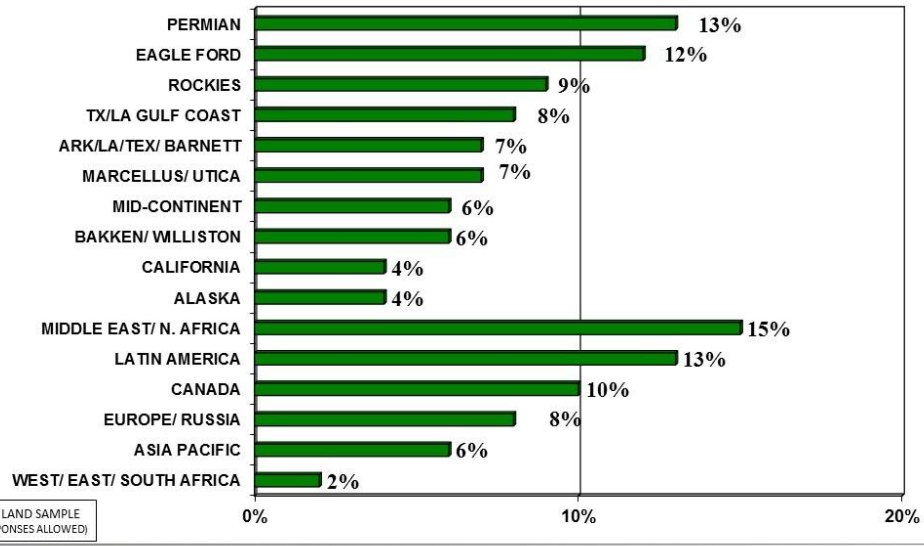
- Responsiveness to Needs
- Technical Service & Support
- Equipment/ Product Quality & Reliability

GRAPHIC HIGHLIGHTS





CHARACTERISTICS OF THE SAMPLE
GEOGRAPHIC REGIONS OF ACTIVITY - LAND



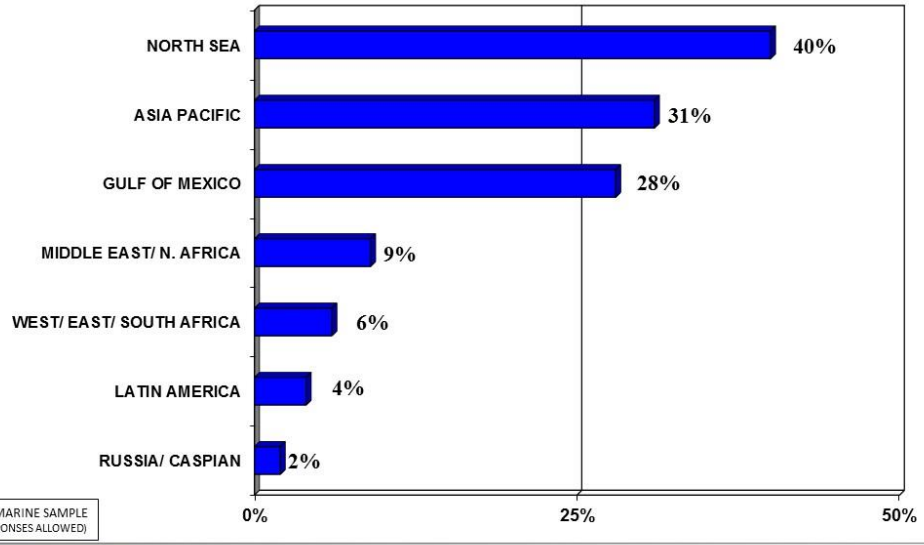
194 RESPONDENTS

PERCENT OF LAND SAMPLE (MULTIPLE RESPONSES ALLOWED)

4

Kimberlite

CHARACTERISTICS OF THE SAMPLE
GEOGRAPHIC REGIONS OF ACTIVITY - MARINE



67 RESPONDENTS

PERCENT OF MARINE SAMPLE (MULTIPLE RESPONSES ALLOWED)

5

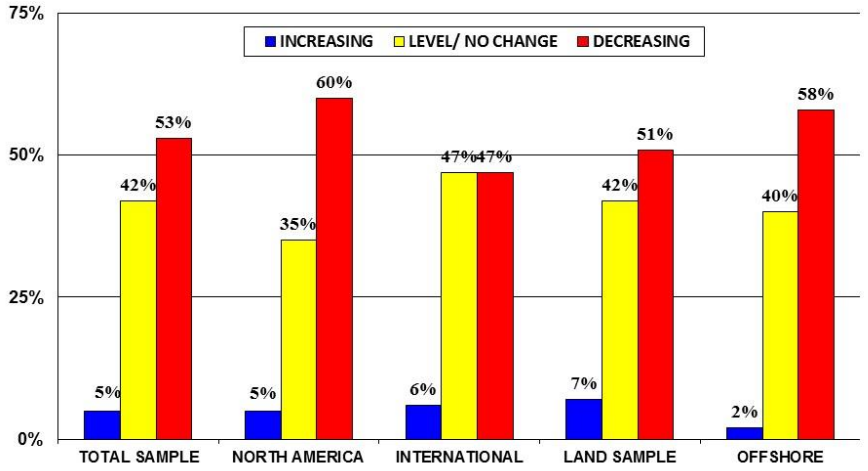
Kimberlite

TREND IN DRILLING EXPENDITURES OVER NEXT 6 MONTHS
vs PAST 6 MONTHS

Respondent sentiment is presented in the form of a diffusion index.

The calculation for the index is:
*(% Increasing*1) + (% No Change*0.5) + (% Decreasing*0)*

If 100% of the respondents reported an increase, the index would be 100.0. If 100% reported a decrease, the index would be zero. If 100% saw no change, the index would be 50.0 (% No Change * 0.5). Therefore, an index reading of 50.0 indicates no change, a number over 50.0 indicates an improvement, while anything below 50.0 suggests a decline.

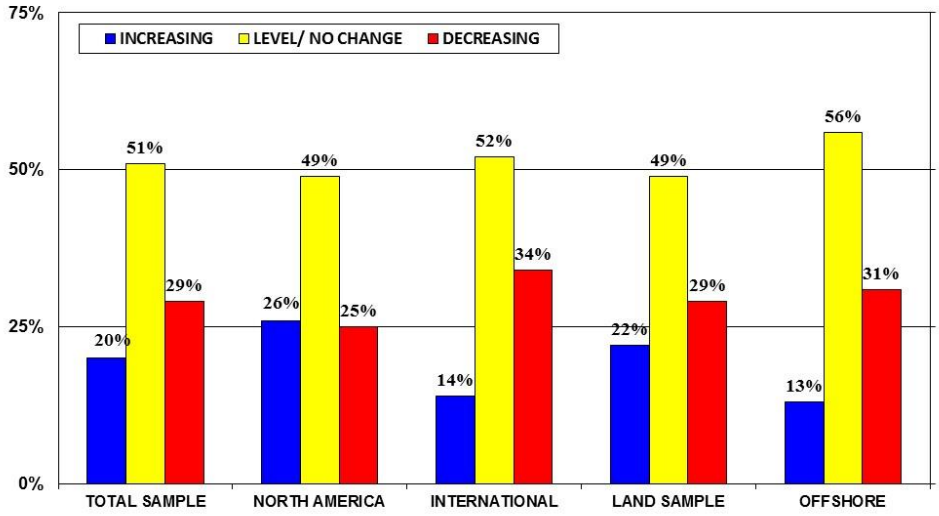


RESPONDENT SENTIMENT (DIFFUSION INDEX)	26.0	22.5	29.5	28.0	22.0

6

Kimberlite

TREND IN USE OF LATEST DRILLING TECHNOLOGIES OVER NEXT 6 MONTHS
vs PAST 6 MONTHS

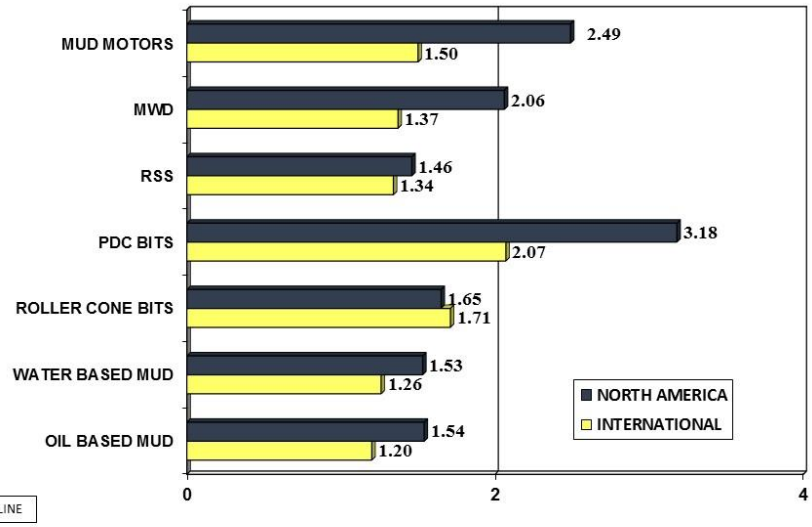


PERCENT OF TOTAL SAMPLE

7

Kimberlite

AVERAGE NUMBER OF SUPPLIERS USED
FOR SELECTED PRODUCTS/ SERVICES

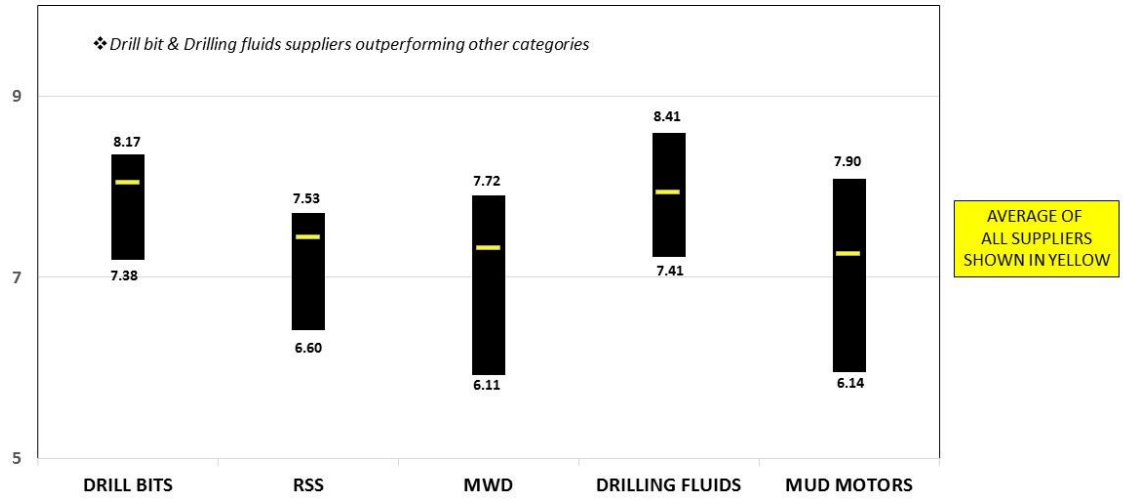


AVERAGE PER PRODUCT/ SERVICE LINE

8

Kimberlite

RANGE OF AVERAGE SUPPLIER RATINGS FOR SELECTED PERFORMANCE FACTORS -EQUIPMENT/ PRODUCT QUALITY & RELIABILITY

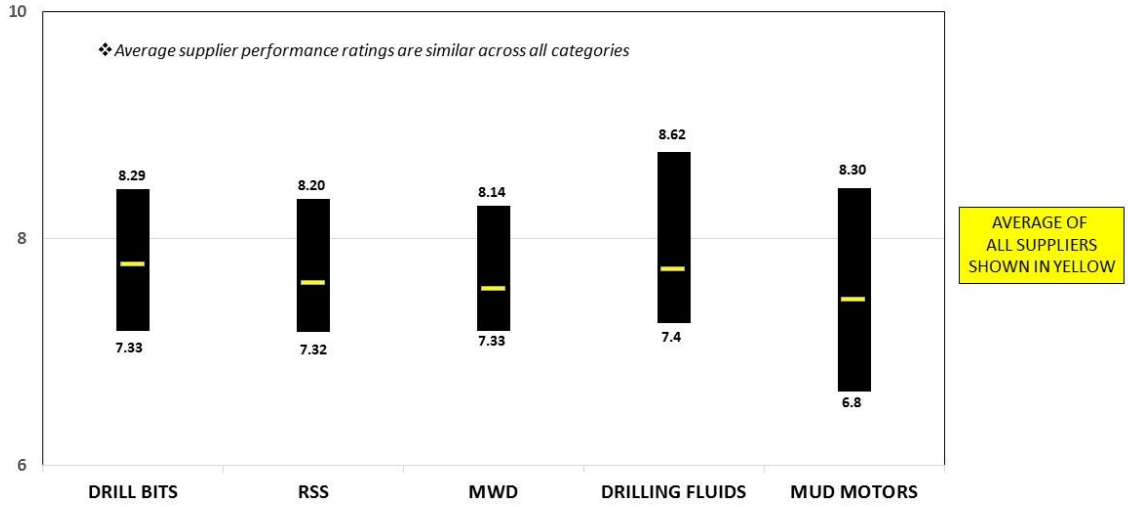


TOTAL SAMPLE

9

Kimberlite

RANGE OF AVERAGE SUPPLIER RATINGS FOR SELECTED PERFORMANCE FACTORS -RESPONSIVE TO NEEDS

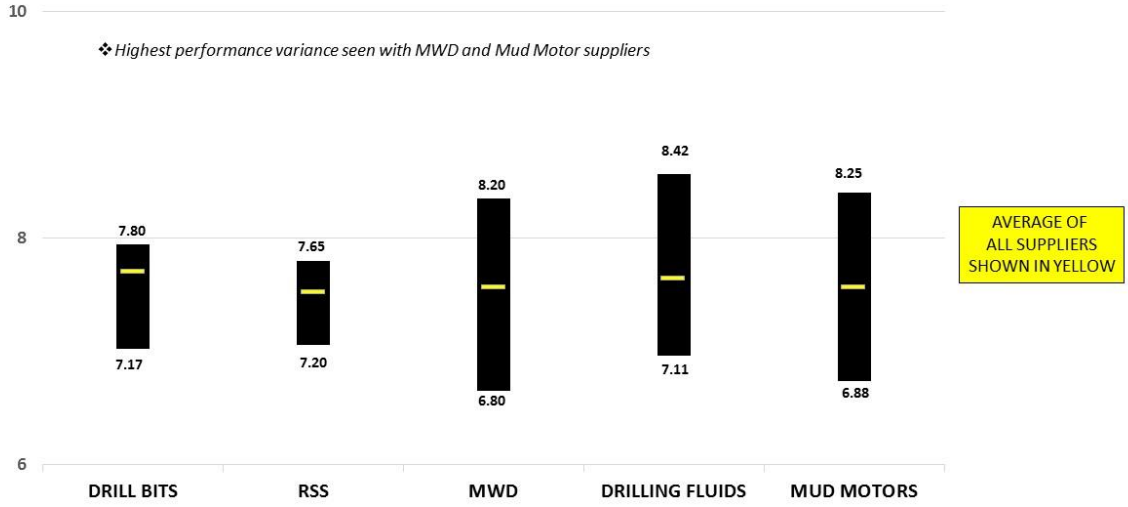


TOTAL SAMPLE

10

Kimberlite

RANGE OF AVERAGE SUPPLIER RATINGS FOR SELECTED PERFORMANCE FACTORS - COMPETENCY OF FIELD PERSONNEL

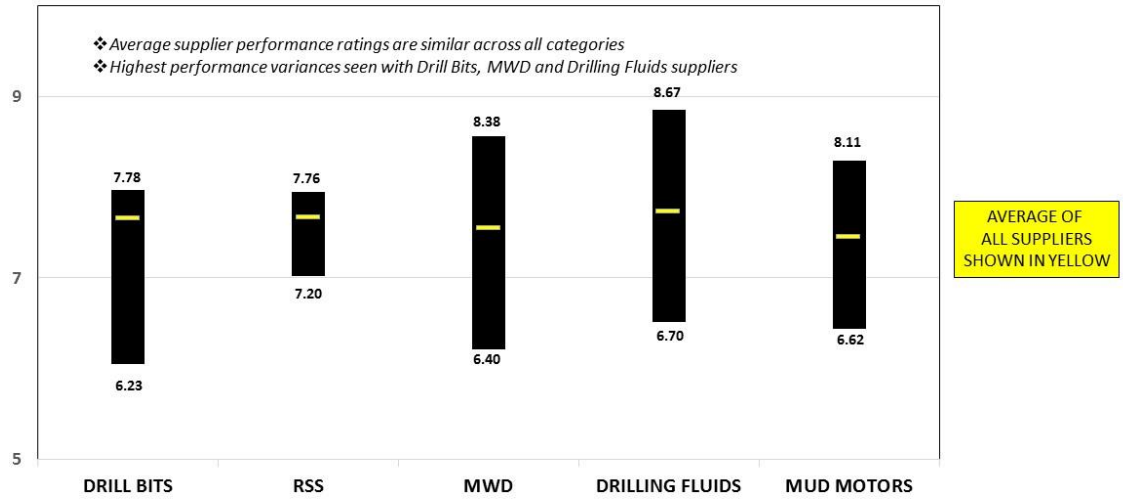


TOTAL SAMPLE

11

Kimberlite

RANGE OF AVERAGE SUPPLIER RATINGS FOR SELECTED PERFORMANCE FACTORS -TECHNICAL SUPPORT & SERVICE

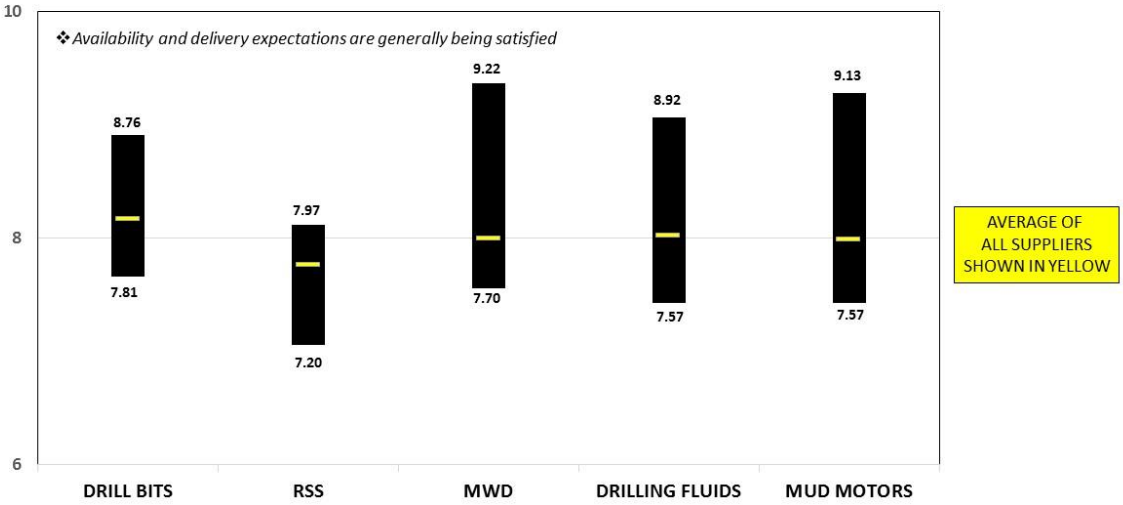


TOTAL SAMPLE

12

Kimberlite

RANGE OF AVERAGE SUPPLIER RATINGS FOR SELECTED PERFORMANCE FACTORS -AVAILABILITY/ DELIVERY

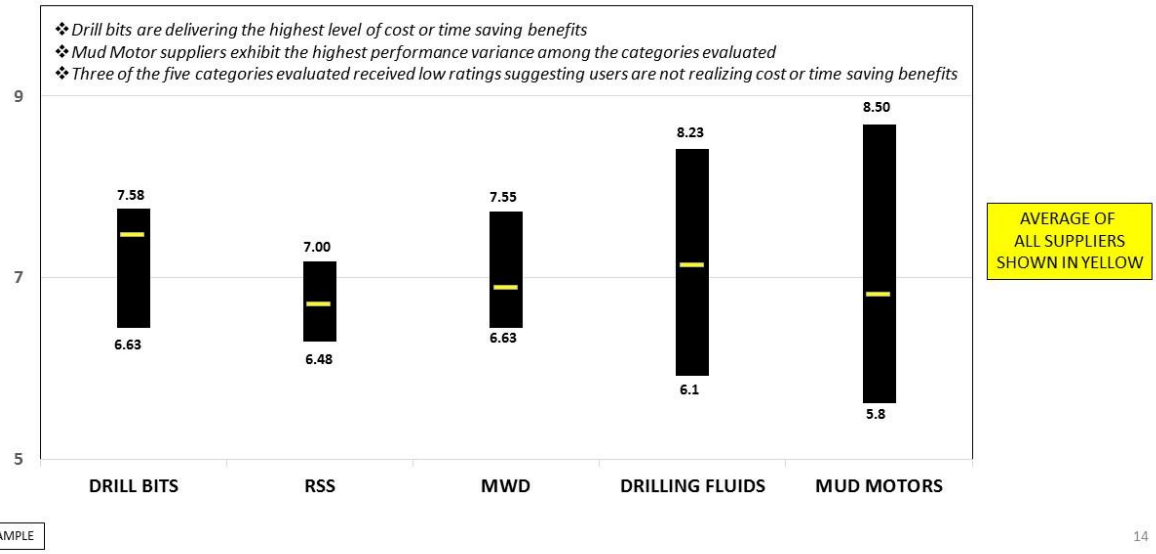


TOTAL SAMPLE

13

Kimberlite

RANGE OF AVERAGE SUPPLIER RATINGS FOR SELECTED PERFORMANCE FACTORS -COST or TIME SAVING BENEFITS

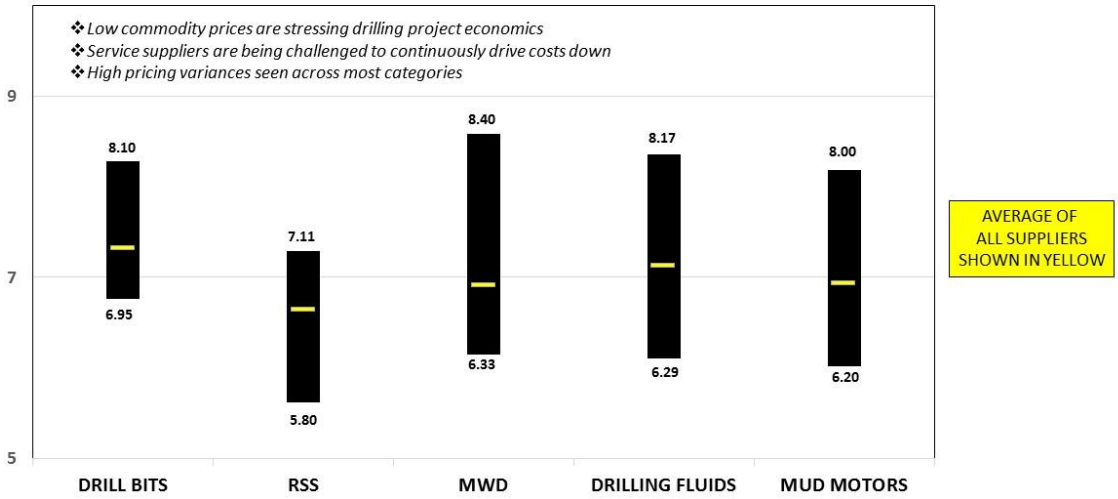


TOTAL SAMPLE

14

Kimberlite

RANGE OF AVERAGE SUPPLIER RATINGS FOR SELECTED PERFORMANCE FACTORS -PRICE COMPETITIVENESS



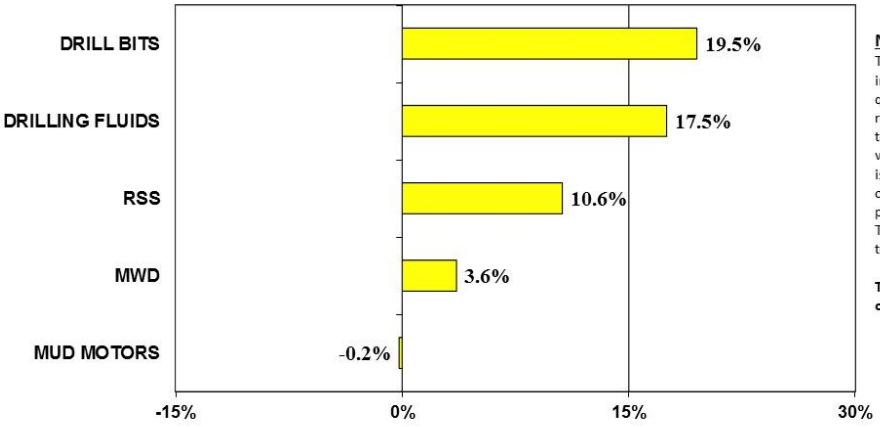
TOTAL SAMPLE

15

Kimberlite

NET PROMOTER SCORES
– CATEGORY AVERAGE RATINGS

❖ *Lowest customer loyalty & satisfaction ratings are observed with MWD and Mud Motor suppliers*



Net Promoter Analysis –
The Net Promoter Score is a widely used industry benchmark and is based on the question "How likely would you be to recommend this company (or product) to a friend or colleague" using a scale of 0 to 10 with 10 being highly likely. The Net Promoter Score is calculated by subtracting the percentage of Promoters (ratings of 9 or 10) from the percentage of Detractors (ratings of 6 or lower). The Net Promoter Score is a good benchmark to track and monitor customer loyalty.

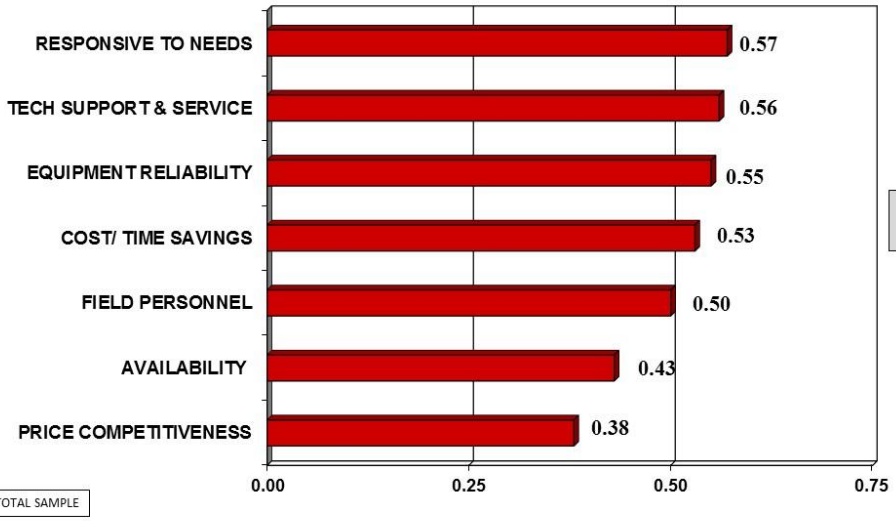
The Combined Average NPS Rating for Suppliers of Drilling Products & Services worldwide was:
+10.8%
(1,976 Total Supplier Ratings)

Net Promoter Score (NPS) = Percent of Promoters minus Percent of Detractors

16

Kimberlite

PERFORMANCE FACTORS WITH GREATEST IMPACT ON CUSTOMER LOYALTY
CORRELATION OF SELECTED FACTORS TO "LIKELY TO RECOMMEND"



*** ALL PRODUCT/ SERVICE LINES COMBINED**

PERCENT OF TOTAL SAMPLE

17

Kimberlite

DRILLING PRODUCTS & SERVICES OVERVIEW
Supplier Performance Comparison – Combined Drilling PSL's

NORTH AMERICA

Non-Price Factors Included in Performance Evaluation

- Responsive to Needs
- Equipment Quality/ Reliability
- Competency of Filed Personnel
- Technical Support & Service
- Availability/ Delivery
- Time/ Cost Saving Benefits

Fair Value Slope Assumes 50% of Purchase Decision Based on Price

PSL's Include:
- Mud Motors
- MWD
- RSS
- Drill Bits
- Drilling Fluids

18

Kimberlite

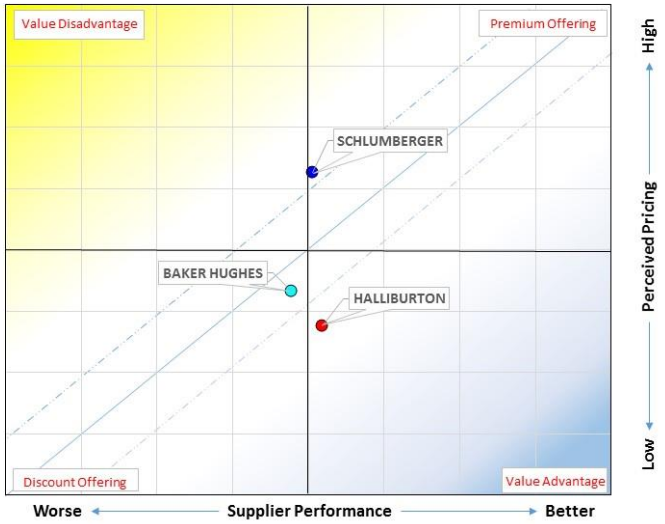
DRILLING PRODUCTS & SERVICES OVERVIEW
Supplier Performance Comparison – Combined Drilling PSL's

INTERNATIONAL

Non-Price Factors Included in Performance Evaluation

- Responsive to Needs
- Equipment Quality/ Reliability
- Competency of Filed Personnel
- Technical Support & Service
- Availability/ Delivery
- Time/ Cost Saving Benefits

Fair Value Slope Assumes 50% of Purchase Decision Based on Price



PSL's Include:
- Mud Motors
- MWD
- RSS
- Drill Bits
- Drilling Fluids

19

Kimberlite

Kimberlite

International Oilfield Research

Diamond-bearing kimberlites are volcanic rocks that originate deep in the Earth and are erupted onto the surface. Kimberlite occurs in the Earth's crust in vertical structures known as kimberlite pipes. Kimberlite pipes are the most important source of mined diamonds today. The deposits occurring at Kimberley, South Africa were the first recognized discovery and the source of the name. The Kimberley diamonds were originally found in weathered kimberlite which was colored yellow by limonite, and so was called yellow ground. Deeper mining found another pay zone which miners called blue ground. Blue and yellow ground are both prolific diamond producers.

Kimberlite mines through data to reveal the diamonds you seek.
Dig Deep!

5 Grogans Park Drive, Suite 210 The Woodlands, Texas 77380
281-771-3801/3802 kimberliteresearch.com