BHA # 1

Mud Motor Report

ENSECO Directional Drilling

SDI Job #:	11255-159	FIELD:	Jacks Draw
COMPANY:	Wexpro Company	Sec-Twn-Rng:	
LOCATION:	Moffat Co., Colorado	SD District	
RIG NAME:	SST 88	Lead DD:	Vearl Tucker
STATE:	Colorado	Co. Man:	Rick Bush
COUNTY:	Moffat		
WELL NAME:	Jacks Draw Unit # 20	**Motor Failed?: NO**	

Time and Depths (This BHA)

Date In:	17-Oct-11 @ 22:30
Date Out:	19-Oct-11 @ 00:30
Hrs In Hole:	25.50
Start Depth:	110.00
End Depth:	1535.00
Total Drilled:	1425.00
Avg. Total ROP:	158.33
Circ Hrs:Tot/Only	10.58 / 1.58
Percent Slide:	10.32
Percent Hrs:	33.33
Slide Hours:	3.00
Total Sliding:	147.00
Avg. Slide ROP:	49.00
Percent Rotary:	89.68
Percent Hrs:	66.67
Rot / Total Hrs:	6.00 / 9.00
Rotary Drilled:	1278.00
Avg. Rotary ROP:	213.00
Reason POOH:	

Motor Data

Desc:	8 inch Adj Motor
MFG.:	Hunting
BHA Circ/ All BHA:	**10.58 / 10.58**
Motor SN:	**8009**
PAD OD:	8.25
NB Stab:	0
Bit to Bend:	8.6
Bent Hsg / Sub:	2.12 / °
Lobe/Stage:	7/8 / 4
Rev/GAL:	0.17
Rotor Jet:	0
Prop BUR:	
Act BUR:	
Stator Clearance:	
Lower Stab OD:	
Upper Stab OD:	
Extended Motor?	NO
Number of Stalls:	
Stall Duration:	

Drilling Parameters

SO/PU:	60 - 90 ' 60-118
Rot Wt:	60-98
WOB:	0 - 15
TORQ:	0 - 0
SPP:	500 - 2100
Motor RPM:	56 - 112
Rotary RPM:	45 - 45
Flow Rate:	307 - 656
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Bit Record

SMITH / Hycalog E1038 w/ 6x12's

Run #:	1		
Type Bit:	PDC		
IADC#:		TFA:	0.662
JETS:	6-12		
Bit Drop:	832 PSI @ 656 GPM		
Cond.:			

Mud Data

Type	LSND					WT:	9.2	Vis:	42	WL:	10	PV:	8			Flow T °:	110
SAND	0.1	Chlor:	100	GAS:	0	SOL:	5	Oil %:	0	YP:	9	PH:	10.3	Bottom Hole T °:			102.2

Formation:

EXPANDED REASON PULLED:

BHA PERFORMANCE:

ADDITIONAL COMMENTS: (Expands to next page if necessary)

BHA # 2

Mud Motor Report

ENSECO Directional Drilling

SDI Job #:	11255-159	FIELD:	Jacks Draw
COMPANY:	Wexpro Company	Sec-Twn-Rng:	Sec 28-T12N-R97W
LOCATION:	Moffat Co., Colorado	SD District	
RIG NAME:	SST 88	Lead DD:	Vearl Tucker
STATE:	Colorado	Co. Man:	Rick Bush
COUNTY:	Moffat		
WELL NAME:	Jacks Draw Unit # 20	Motor Failed?:	NO

Time and Depths (This BHA)

Date In:	20-Oct-11 @ 08:00
Date Out:	21-Oct-11 @ 09:35
Hrs In Hole:	25.58
Start Depth:	1535.00
End Depth:	2445.00
Total Drilled:	910.00
Avg. Total ROP:	52.75
Circ Hrs:Tot/Only	18.33 / 1.08
Percent Slide:	6.48
Percent Hrs:	8.21
Slide Hours:	1.42
Total Sliding:	59.00
Avg. Slide ROP:	41.65
Percent Rotary:	93.52
Percent Hrs:	91.79
Rot / Total Hrs:	15.83 / 17.25
Rotary Drilled:	851.00
Avg. Rotary ROP:	53.75
Reason POOH:	

Motor Data

Desc:	6 1/2 inch Adj. Motor
MFG.:	Hunting
BHA Circ/ All BHA:	18.33 / 30.75
Motor SN:	6037
PAD OD:	6.75
NB Stab:	0
Bit to Bend:	5.96
Bent Hsg / Sub:	1.83 / °
Lobe/Stage:	7/8 / 3.5
Rev/GAL:	0.21
Rotor Jet:	0
Prop BUR:	9.8
Act BUR:	
Stator Clearance:	
Lower Stab OD:	
Upper Stab OD:	
Extended Motor?	NO
Number of Stalls:	
Stall Duration:	

Drilling Parameters

SO/PU:	90 - 90 ' 118-118
Rot Wt:	98-98
WOB:	0 - 20
TORQ:	0 - 0
SPP:	1050 - 1400
Motor RPM:	77 - 82
Rotary RPM:	35 - 45
Flow Rate:	328 - 389
Avg Diff:	200
Stall Pres.:	600
Off Bot Pres.:	100

Bit Record

SMITH / Reed G11CP w/ 4x12's

Run #:	2		
Type Bit:	ROCK		
IADC#:		TFA:	0.442
JETS:	4-12		
Bit Drop:	678 PSI @ 389 GPM		
Cond.:			

Mud Data

Type	LSND					WT:	9.5	Vis:	43	WL:	10	PV:	10			Flow T °:	110
SAND	0.1	Chlor:	100	GAS:	0	SOL:	6	Oil %:	0	YP:	11	PH:	10.4	Bottom Hole T °:			102.2

Formation:

EXPANDED REASON PULLED:

TD'd well

BHA PERFORMANCE:

Excellent

ADDITIONAL COMMENTS: (Expands to next page if necessary)

BHA # 3

Mud Motor Report

ENSECO Directional Drilling

SDI Job #:	11255-159	FIELD:	Jacks Draw
COMPANY:	Wexpro Company	Sec-Twn-Rng:	Sec 28-T12N-R97W
LOCATION:	Moffat Co., Colorado	SD District	
RIG NAME:	SST 88	Lead DD:	Vearl Tucker
STATE:	Colorado	Co. Man:	Steve Laws
COUNTY:	Moffat		
WELL NAME:	Jacks Draw Unit # 20	Motor Failed?:	NO

Time and Depths (This BHA)

Date In:	21-Oct-11 @ 09:35
Date Out:	24-Oct-11 @ 24:00
Hrs In Hole:	80.92
Start Depth:	2445.00
End Depth:	7023.00
Total Drilled:	4578.00
Avg. Total ROP:	75.77
Circ Hrs:Tot/Only	62.17 / 1.75
Percent Slide:	5.09
Percent Hrs:	13.38
Slide Hours:	8.08
Total Sliding:	233.00
Avg. Slide ROP:	28.82
Percent Rotary:	94.91
Percent Hrs:	86.62
Rot / Total Hrs:	52.33 / 60.42
Rotary Drilled:	4345.00
Avg. Rotary ROP:	83.03
Reason POOH:	

Motor Data

Desc:	6 1/2 inch Adj Motor
MFG.:	Hunting
BHA Circ/ All BHA:	62.17 / 80.50
Motor SN:	6037
PAD OD:	6.75
NB Stab:	0
Bit to Bend:	5.96
Bent Hsg / Sub:	1.83 / °
Lobe/Stage:	7/8 / 3.5
Rev/GAL:	0.21
Rotor Jet:	0
Prop BUR:	9.8
Act BUR:	
Stator Clearance:	
Lower Stab OD:	
Upper Stab OD:	
Extended Motor?	NO
Number of Stalls:	
Stall Duration:	

Drilling Parameters

SO/PU:	90 - 130	118-195
Rot Wt:	98-165	
WOB:	12 - 20	
TORQ:	0 - 0	
SPP:	1400 - 1775	
Motor RPM:	73 - 82	
Rotary RPM:	60 - 60	
Flow Rate:	348 - 389	
Avg Diff:	200	
Stall Pres.:	600	
Off Bot Pres.:	100	

Bit Record

Security / FX55D, 7x9's

Run #:	3		
Type Bit:	PDC		
IADC#:		TFA:	0.435
JETS:	7-9		
Bit Drop:	707 PSI @ 389 GPM		
Cond.:			

Mud Data

Type	LSND					WT:	9.6	Vis:	46	WL:	6.3	PV:	15			Flow T °:	115
SAND	0.1	Chlor:	100	GAS:	0	SOL:	8	Oil %:	0	YP:	10	PH:	9.1	Bottom Hole T °:			131

Formation:

EXPANDED REASON PULLED:

BHA PERFORMANCE:

ADDITIONAL COMMENTS: (Expands to next page if necessary)