



AUTHORITY FOR EXPENDITURE
DRILLING AND COMPLETION

Operator HighMark Energy Operating	Well Number TBD	Date 11/19/2016
Well Name Red Mare 1-20H	API Number 35-011-XXXX	AFE Number TBD
Operator WI TBD	County / State 20-17N-12W Blaine County, OK	

PROJECT: Drill, complete, and equip 1 mile horizontal Woodford well w/ multi-stage cemented plug & perf completion. +/- 10,500' TVD; +/- 15,450' MD; +/- 4,550' lateral length. 2,200+ lb/ft.

INTANGIBLE COSTS

Minor	Description	Drilling - 8153	Completion - 8155	Total
100	Location, Roads & Survey	\$ 145,000	\$ 8,000	\$ 153,000
110	Surface Damages & Right of Way	25,000		\$ 25,000
120	Rig Move	175,000		\$ 175,000
140	Rig Cost - Daywork / Workover Rig	496,000	33,000	\$ 529,000
150	Coiled Tubing Unit		145,000	\$ 145,000
160	Fuel & Power	85,000		\$ 85,000
165	Drilling Water / Frac Water & Transfer	20,000	133,000	\$ 153,000
170	Bits & BHA / Downhole Rentals	193,000	30,000	\$ 223,000
175	Drill Pipe Rental	6,000		\$ 6,000
180	Open Hole Logging / Cased Hole Logging		5,000	\$ 5,000
185	Directional Drilling Services	164,000		\$ 164,000
190	Surface Equipment Rental	115,000	96,000	\$ 211,000
195	Field Office and Communications	38,000	13,000	\$ 51,000
200	Contract Service - Engineering & Geology	59,000	6,000	\$ 65,000
210	Tubular Inspection	6,000	3,000	\$ 9,000
220	Transportation	10,000	8,000	\$ 18,000
240	Fishing Tools & Services			\$ -
250	Mud & Chemicals	300,000	50,000	\$ 350,000
255	Mud Logging	24,000		\$ 24,000
260	Formation Evaluation	12,000		\$ 12,000
270	Cement Services & Float Equipment	130,000		\$ 130,000
280	Casing Crews	57,000		\$ 57,000
290	Stimulation		1,600,000	\$ 1,600,000
295	Pumping Services		50,000	\$ 50,000
300	Acidizing		8,000	\$ 8,000
315	Flowback & Well Testing		65,000	\$ 65,000
320	Mud Disposal / Salt Water Disposal	166,000	30,000	\$ 196,000
325	Environmental, Health & Safety	5,000	4,000	\$ 9,000
340	Perforating & Wireline Services		135,000	\$ 135,000
350	Wellsite Supervision	118,000	52,000	\$ 170,000
360	Other Labor	34,000	5,000	\$ 39,000
370	Surface Facility & Pipeline Installation Labor		50,000	\$ 50,000
700	Legal Expenses & Title	33,000		\$ 33,000
800	Other Expenses	6,000	4,000	\$ 10,000
850	Overhead	16,000	7,000	\$ 23,000
851	Insurance - Control of Well			\$ -
854	Contingency	122,000	130,000	\$ 252,000
TOTAL INTANGIBLE		2,560,000	2,730,000	\$ 5,290,000
TANGIBLE COSTS				
		Drilling - 8154	Completion - 8156	Total
100	Surface Casing	39,000		\$ 39,000
105	Intermediate Casing	217,000		\$ 217,000
115	Production Casing	305,000		\$ 305,000
120	Wellhead	18,000	32,000	\$ 50,000
110	Tubing		49,000	\$ 49,000
130	Downhole Equipment	16,000	10,000	\$ 26,000
135	Artificial Lift Equipment			\$ -
140	Trucking	10,000	10,000	\$ 20,000
150	Conductor	12,000		\$ 12,000
160	Surface Facilities		206,000	\$ 206,000
170	Valves & Fittings		25,000	\$ 25,000
180	Flowlines		25,000	\$ 25,000
800	Other	3,000	3,000	\$ 6,000
TOTAL TANGIBLE		620,000	360,000	\$ 980,000
TOTAL AFE COSTS		\$ 3,180,000	\$ 3,090,000	\$ 6,270,000

It is recognized that the amounts herein are estimates only and approval of this authorization shall extend to the actual costs incurred in conducting the operation specified whether more or less than that herein set out.

HighMark Approval		Date 11/21/16
VP Operations	Brandon Junker	Date 11/21/16
COO	Stephen Pugh	

Partner Approval		Company
Signature		
Printed Name		Date
Title/Position		Phone #/Email
We do DO NOT elect to be covered by HighMark Energy Operating, LLC's Well Control Insurance. (please initial)		



DEC 13 2016

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