



AUTHORITY FOR EXPENDITURE
DRILLING AND COMPLETION

Operator <u>HighMark Energy Operating</u>	Well Number <u>TBD</u>	Date <u>11/18/2016</u>
Well Name <u>Whitehall Lane 1-3H</u>	API Number <u>35-011-XXXXX</u>	AFE Number <u>TBD</u>
Operator WI <u>TBD</u>	County / State <u>3-17N-11W Blaine County, OK</u>	

PROJECT: Drill, complete, and equip 1 mile horizontal Mississippian well w/multi-stage cemented plug & perf completion. +/- 9,480' TVD; +/- 14,350' MD; +/- 4,550' lateral length. 2,260+ lb/ft.

INTANGIBLE COSTS		Drilling - 8153	Completion - 8155	Total
Minor	Description			
100	Location, Roads & Survey	\$ 145,000	\$ 8,000	\$ 153,000
110	Surface Damages & Right of Way	25,000		\$ 25,000
120	Rig Move	200,000		\$ 200,000
140	Rig Cost - Daywork / Workover Rig	465,000	33,000	\$ 498,000
150	Coiled Tubing Unit		145,000	\$ 145,000
160	Fuel & Power	79,000		\$ 79,000
165	Drilling Water / Frac Water & Transfer	19,000	129,000	\$ 142,000
170	Bits & BHA / Downhole Rentals	192,000	30,000	\$ 222,000
175	Drill Pipe Rental	6,000		\$ 6,000
180	Open Hole Logging / Cased Hole Logging		5,000	\$ 5,000
185	Directional Drilling Services	157,000		\$ 157,000
190	Surface Equipment Rental	108,000	96,000	\$ 204,000
195	Field Office and Communications	37,000	13,000	\$ 50,000
200	Contract Service - Engineering & Geology	55,000	5,000	\$ 61,000
210	Tubular Inspection	6,000	3,000	\$ 9,000
220	Transportation	15,000	8,000	\$ 23,000
240	Fishing Tools & Services			\$ -
250	Mud & Chemicals	300,000	50,000	\$ 350,000
255	Mud Logging	22,000		\$ 22,000
260	Formation Evaluation	12,000		\$ 12,000
270	Cement Services & Float Equipment	128,000		\$ 128,000
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	83,000	\$ 249,000
325	Environmental, Health & Safety	5,000	4,000	\$ 9,000
340	Perforating & Wireline Services		135,000	\$ 135,000
350	Wellsite Supervision	111,000	52,000	\$ 163,000
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	2,000	\$ 8,000
850	Overhead	15,000	7,000	\$ 22,000
851	Insurance - Control of Well			\$ -
854	Contingency	120,000	129,000	\$ 249,000
	TOTAL INTANGIBLE	2,518,000	2,710,000	\$ 5,228,000
TANGIBLE COSTS		Drilling - 8154	Completion - 8156	Total
100	Surface Casing	39,000		\$ 39,000
105	Intermediate Casing	209,000		\$ 209,000
115	Production Casing	283,000		\$ 283,000
120	Wellhead	18,000	32,000	\$ 50,000
110	Tubing		45,000	\$ 45,000
130	Downhole Equipment	16,000	10,000	\$ 26,000
135	Artificial Lift Equipment		12,000	\$ 12,000
140	Trucking	10,000	10,000	\$ 20,000
150	Conductor	12,000		\$ 12,000
160	Surface Facilities		231,000	\$ 231,000
170	Valves & Fittings		25,000	\$ 25,000
180	Flowlines		25,000	\$ 25,000
800	Other	5,000		\$ 5,000
	TOTAL INTANGIBLE	592,000	390,000	\$ 982,000
	TOTAL AFE COSTS	\$ 3,110,000	\$ 3,100,000	\$ 6,210,000

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	
VP Operations <u>Brandon Junker</u>	Date <u>11/18/16</u>
COO <u>Stephen Pugh</u>	Date <u>11/18/16</u>

Partner Approval	
Signature _____	Company _____
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)	



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