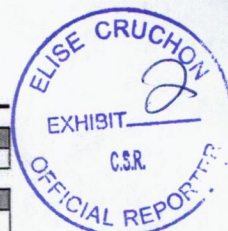




## Authorization For Expenditure



Company Entity	Date Prepared
CIMAREX ENERGY CO	December 15, 2015

Region	Well Name	Prospect or Field Name	Property Number	Drilling AFE No.
Anadarko	PETERSON 1H-2821X	CANA NORTHWEST PROSPECT	350012-406.01	2216003

Location	County	State	Type Well		
Section 28-16N-12W, Blaine County, Oklahoma	Blaine	OK	Oil	Expl	X
			Gas	X	Prod

Estimate Type	Est. Start Date	Est. Comp Date	Formation	Ttl Measured Depth
Original Estimate	04/01/2016	06/06/2016	Meramec	21,270'
Revised Estimate				Ttl Vertical Depth
Supplemental Estimate				11,270'

**Project Description**  
Drill and complete a horizontal test. Drill to 1500', set surface casing. Drill to 9548', set intermediate casing. Drill to 10792' (KOP). Drill curve at 12 DLS build rate to +/- 11270' TVD and a +/- 9730' long lateral in the Meramec formation. Run and cement production casing. Stage frac in 42 stages. Drill out plugs. Run production tubing. Flow to sales through new facility.

Intangibles	Dry Hole Cost	After Casing Point	Completed Well Cost
Drilling Costs	\$3,862,000		\$3,862,000
Completion Costs		\$5,587,500	\$5,587,500
<b>Total Intangible Costs</b>	<b>\$3,862,000</b>	<b>\$5,587,500</b>	<b>\$9,449,500</b>

Tangibles			
Well Equipment	\$456,000	\$626,800	\$1,082,800
Lease Equipment		\$346,400	\$346,400
<b>Total Tangible Well Cost</b>	<b>\$456,000</b>	<b>\$973,200</b>	<b>\$1,429,200</b>

Plug and Abandon Cost	\$0	\$0	\$0
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<b>Total Well Cost</b>	<b>\$4,318,000</b>	<b>\$6,560,700</b>	<b>\$10,878,700</b>
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**Comments on Well Costs**  
1. All tubulars, well or lease equipment is priced by COPAS and CEPS guidelines using the Historic Price Multiplier.

**Well Control Insurance**  
Unless otherwise indicated below, you, as a non-operating working interest owner, agree to be covered by Operator's well control insurance procured by Operator so long as Operator conducts operations hereunder and to pay your prorated share of the premiums therefore. If you elect to purchase your own well control insurance, you must provide a certificate of such insurance acceptable to Operator, as to form and limits, at the time this AFE is returned, if available, but in no event later than commencement of drilling operations. You agree that failure to provide the certificate of insurance, as provided herein, will result in your being covered by insurance procured by Operator.

☐ I elect to purchase my own well control insurance policy.

Well control insurance procured by Operator, provides, among other terms, for \$20,000,000 (100% W.I.) of Combined Single Limit coverage for well control and related redrilling and clean-up/pollution expense covering drilling (through completion) with a \$1,000,000 (100% W.I.) deductible.

**Marketing Election**  
Cimarex sells its gas under arm's-length contracts with third party purchasers. Such contracts may include fees. In addition, penalties may be incurred for insufficient volumes delivered over time. Should you choose to market your share of gas with Cimarex, you will be subject to all of the terms of such contracts. Upon written request to Cimarex's Marketing Department, we will share with you the terms and conditions pursuant to which gas will be sold. Failure to make an election below shall be deemed an election to market your gas with Cimarex under the terms and conditions set forth above.

☐ I elect to take my gas in kind.

☐ I elect to market my gas with Cimarex pursuant to the terms and conditions of its contract.

**Comments on AFE**  
The above costs are estimates only and anticipate trouble free operations without any foreseeable change in plans. The actual costs may exceed the estimated costs without affecting the authorization for expenditure herein granted. By approval of this AFE, the working interest owner agrees to pay its proportionate share of actual legal, curative, regulatory and well costs under term of the joint operating agreement, regulatory order or other applicable agreement covering this well.

## Cimarex Energy Co. Approval

Prepared by	Drilling and Completion Manager	Regional Manager

## Joint Interest Approval

Company	By	Date



# Project Cost Estimate

Lease Name:

					BCP - Drilling		ACP - Drilling		Completion /		
					(Dry Hole Cost)				Stimulation		
Intangibles					Codes		Codes		Codes		
Roads & Location Preparation / Restoration					DIDC.100	\$160,000			STIM.100	\$30,000	
Damages					DIDC.105	\$28,000					
Mud / Fluids Disposal Charges					DIDC.255	\$120,000			STIM.255	\$120,000	
Day Rate	#####	DH Days	50.00	ACP Days @	\$5.00	Per Day	DIDC.115	\$1,301,000	DICC.120	\$131,000	
Misc Preparation Cost (mouse hole, rat hole, pads, pile clusters, misc.)					DIDC.120	\$26,000					
Bits					DIDC.125	\$170,000	DICC.125	\$0	STIM.125	\$0	
Fuel		\$2.00	Per Gallon	#####	Gallons Per Day	DIDC.135	\$180,000	DICC.130	\$0		
Water for Drilling Rig / Completion Fluids (Not Frac Water)					DIDC.140	\$30,000	DICC.135	\$1,000	STIM.135	\$0	
Mud & Additives					DIDC.145	\$400,000					
Surface Rentals					DIDC.150	\$120,000	DICC.140	\$0	STIM.140	\$140,000	
Downhole Rentals					DIDC.155	\$30,000			STIM.145	\$0	
Formation Evaluation (DST, Coring including evaluation, G&G Services)					DIDC.160	\$0			STIM.150	\$0	
Mud Logging						48.00	Days @	\$1,000.00	Per Day	DIDC.170	\$48,000
Open Hole Logging					DIDC.180	\$0					
Cementing & Float Equipment					DIDC.185	\$45,000	DICC.155	\$130,000			
Tubular Inspections					DIDC.190	\$17,000	DICC.160	\$10,000	STIM.160	\$0	
Casing Crews					DIDC.195	\$28,000	DICC.165	\$25,000	STIM.165	\$0	
Extra Labor, Welding, Etc.					DIDC.200	\$18,000	DICC.170	\$5,000	STIM.170	\$0	
Land Transportation (Trucking for tangibles)					DIDC.205	\$18,000	DICC.175	\$9,000	STIM.175	\$5,000	
Supervision						\$4,000.00	Per Day	DIDC.210	\$220,000	DICC.180	\$15,000
Trailer House / Camp / Catering					DIDC.280	\$47,000	DICC.235	\$5,000	STIM.280	\$13,000	
Other Misc Expenses					DIDC.220	\$2,000	DICC.190	\$0	STIM.190	\$25,000	
Overhead					DIDC.225	\$11,000	DICC.195	\$5,000			
Remedial Cementing					DIDC.231	\$0			STIM.215	\$0	
MOB/DEMOB					DIDC.240	\$215,000					
Directional Drilling Services					DIDC.245	\$300,000					
Crane for Construction											
Solids Control					DIDC.260	\$43,000					
Well Control Equip (Snubbing Svcs.)					DIDC.265	\$60,000	DICC.240	\$10,000	STIM.240	\$15,000	
Fishing & Sidetrack Operations					DIDC.270	\$0	DICC.245	\$0	STIM.245	\$0	
Completion Rig									STIM.115	\$0	
Coil Tubing									STIM.260	\$350,000	
Completion Logging, Perforating, WL Units, WL Surveys									STIM.200	\$213,000	
Composite Plugs									STIM.390	\$113,000	
Stimulation Pumping Charges, Chemicals, Additives, Sand									STIM.210	\$2,881,000	
Stimulation Water / Water Transfer / Water Storage									STIM.395	\$299,000	
Cimarex Owned Frac / Rental Equipment									STIM.305	\$100,000	
Legal / Regulatory / Curative					DIDC.300	\$20,000					
Well Control Insurance						\$1.00	Per Foot	DIDC.285	\$21,000		
Contingency						0.0	% of Drilling Intangibles	DIDC.435	\$184,000	DICC.220	\$13,000
Construction For Flow Lines											
Construction For Sales P/L											
Total Intangible Cost						\$3,862,000		\$359,000		\$4,590,000	

Tangible - Well Equipment										
Casing	Size	Feet	\$ / Foot							
Drive Pipe	0	0.00	\$0.00	DWEB.150	\$0					
Conductor Pipe	0	0.00	\$0.00	DWEB.130	\$0					
Water String	0	0.00	\$0.00	DWEB.135	\$0					
Surface Casing	13.375	1500.00	\$36.21	DWEB.140	\$54,000					
Intermediate Casing 1	9.625	9548.00	\$38.45	DWEB.145	\$367,000					
Intermediate Casing 2	0	0.00	\$0.00	DWEB.155	\$0					
Drilling Liner	0	0.00	\$0.00	DWEB.160	\$0					
Production Casing or Liner	5.5	21270.00	\$22.00			DWEA.100	\$468,000			
Production Tie-Back	0	0.00	\$0.00			DWEA.165	\$0	STIMT.101	\$0	
Tubing	2.375	10890.00	\$5.10					STIMT.105	\$0	
Wellhead, Tree, Chokes				DWEB.115	\$35,000	DWEA.120	\$43,000	STIMT.120	\$40,000	
Liner Hanger, Isolation Packer				DWEB.100	\$0	DWEA.125	\$0			
Packer, Nipples								STIMT.400	\$5,000	
Pumping Unit, Engine								STIMT.405	\$0	
Downhole Lift Equipment (BHP, Rods, Anchors, ESP, GVLS, PC Pump)								STIMT.410	\$0	
Tangible - Lease Equipment										
N/C Lease Equipment										
Tanks, Tanks Steps, Stairs										
Battery (Heater Treater, Separator, Gas Treating Equipment)										
Secondary Containments										
Overhead Power Distribution (electric line to facility)										
Facility Electrical & Automation										
SWD Connection										
Flow Lines (Line Pipe from wellhead to central facility)										
Pipeline to Sales										
Meters and Metering Equipment										
Total Tangibles					\$456,000	\$511,000	\$45,000			

P&A Costs	DIDC.295	\$0	DICC.275	\$0		
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Total Cost	\$4,318,000	\$870,000	\$4,635,000
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# Project Cost Estimate

Lease Name:

	Production		Post		Total Well
	Codes	Equipment / Construction	Codes	Completion	
Intangibles					
Roads & Location Preparation / Restoration	CON.100	\$2,500	PCOM.100	\$1,000	\$193,500
Damages	CON.105	\$900			\$28,900
Mud / Fluids Disposal Charges			PCOM.255	\$144,000	\$384,000
Day Rate ##### DH Days 50.00 ACP Days @ \$5.00 Per Day					\$1,432,000
Misc Preparation Cost (mouse hole, rat hole, pads, pile clusters, misc.)					\$26,000
Bits			PCOM.125	\$0	\$170,000
Fuel \$2.00 Per Gallon ##### Gallons Per Day			PCOM.130	\$0	\$180,000
Water for Drilling Rig / Completion Fluids (Not Frac Water)			PCOM.135	\$1,000	\$32,000
Mud & Additives					\$400,000
Surface Rentals	CON.140	\$3,000	PCOM.140	\$280,000	\$543,000
Downhole Rentals			PCOM.145	\$0	\$30,000
Formation Evaluation (DST, Coring including evaluation, G&G Services)					\$0
Mud Logging 48.00 Days @ \$1,000.00 Per Day					\$48,000
Open Hole Logging					\$0
Cementing & Float Equipment					\$175,000
Tubular Inspections			PCOM.160	\$3,700	\$30,700
Casing Crews					\$53,000
Extra Labor, Welding, Etc.	CON.170	\$66,000	PCOM.170	\$0	\$89,000
Land Transportation (Trucking for tangibles)	CON.175	\$8,000	PCOM.175	\$6,800	\$46,800
Supervision \$4,000.00 Per Day	CON.180	\$8,500	PCOM.180	\$8,500	\$319,000
Trailer House / Camp / Catering					\$65,000
Other Misc Expenses	CON.190	\$3,000	PCOM.190	\$0	\$30,000
Overhead					\$16,000
Remedial Cementing			PCOM.215	\$0	\$0
MOB/DEMOB					\$215,000
Directional Drilling Services					\$300,000
Crane for Construction	CON.230	\$4,000			\$4,000
Solids Control					\$43,000
Well Control Equip (Snubbing Svcs.)			PCOM.240	\$22,000	\$107,000
Fishing & Sidetrack Operations			PCOM.245	\$0	\$0
Completion Rig			PCOM.115	\$14,000	\$14,000
Coil Tubing			PCOM.260	\$0	\$350,000
Completion Logging, Perforating, WL Units, WL Surveys			PCOM.200	\$0	\$213,000
Composite Plugs			PCOM.390	\$0	\$113,000
Stimulation Pumping Charges, Chemicals, Additives, Sand			PCOM.210	\$0	\$2,881,000
Stimulation Water / Water Transfer / Water Storage					\$299,000
Cimarex Owned Frac / Rental Equipment					\$100,000
Legal / Regulatory / Curative	CON.300	\$0			\$20,000
Well Control Insurance \$1.00 Per Foot					\$21,000
Contingency 0.0 % of Drilling Intangibles	CON.220	\$10,000	PCOM.220	\$48,100	\$474,100
Construction For Flow Lines	CON.310	\$3,500			\$3,500
Construction For Sales P/L	CON.265	\$0			\$0
<b>Total Intangible Cost</b>		<b>\$109,400</b>		<b>\$529,100</b>	<b>\$9,449,500</b>
<b>Tangible - Well Equipment</b>					
Casing	Size	Feet	\$ / Foot		
Drive Pipe	0	0.00	\$0.00		\$0
Conductor Pipe	0	0.00	\$0.00		\$0
Water String	0	0.00	\$0.00		\$0
Surface Casing	13.375	1500.00	\$36.21		\$54,000
Intermediate Casing 1	9.625	9548.00	\$38.45		\$367,000
Intermediate Casing 2	0	0.00	\$0.00		\$0
Drilling Liner	0	0.00	\$0.00		\$0
Production Casing or Liner	5.5	21270.00	\$22.00		\$468,000
Production Tie-Back	0	0.00	\$0.00		\$0
Tubing	2.375	10890.00	\$5.10	PCOMT.105	\$69,000
Wellhead, Tree, Chokes					\$118,000
Liner Hanger, Isolation Packer					\$0
Packer, Nipples				PCOMT.400	\$1,800
Pumping Unit, Engine				PCOMT.405	\$0
Downhole Lift Equipment (BHP, Rods, Anchors, ESP, GVLS, PC Pump)				PCOMT.410	\$0
<b>Tangible - Lease Equipment</b>					
N/C Lease Equipment	CONT.400	\$65,000			\$65,000
Tanks, Tanks Steps, Stairs	CONT.405	\$71,500			\$71,500
Battery (Heater Treater, Separator, Gas Treating Equipment)	CONT.410	\$115,700			\$115,700
Secondary Containments	CONT.415	\$8,000			\$8,000
Overhead Power Distribution (electric line to facility)	CONT.420	\$3,000			\$3,000
Facility Electrical & Automation	CONT.425	\$31,200			\$31,200
SWD Connection	CONT.430	\$0			\$0
Flow Lines (Line Pipe from wellhead to central facility)	CONT.435	\$23,200			\$23,200
Pipeline to Sales	CONT.440	\$0			\$0
Meters and Metering Equipment	CONT.445	\$28,800			\$28,800
<b>Total Tangibles</b>		<b>\$346,400</b>		<b>\$70,800</b>	<b>\$1,429,200</b>
P&A Costs					\$0
<b>Total Cost</b>		<b>\$455,800</b>		<b>\$599,900</b>	<b>\$10,878,700</b>