



Authority For Expenditure Harvey E. Yates Company

Date:	7/19/2014
Prepared By:	Trent Green
Prospect Name:	Quail Ridge
County, State:	Lea, New Mexico
Projected Total Depth:	18,473'

Lease / Well Number:	Mallon 27 Fed Com #1H
Location:	SML: Sec 27, T19S R34E, 330' FSL & 660' FEL BHL: Sec 22, T19S, R34E, 2310' FSL & 660' FEL
Field:	Quail Ridge
Primary Objectives:	3rd Bone Spring

NOTES

Daywork Contract - Horiz. Well - Closed Loop Mud System
Multi-Stage Plug & Perf Hydraulic Stimulation Completion
Assumes regulatory agency (BLM) approves casing program
Casing prices based on direct purchase for this well

It is recognized that the amounts provided here are estimates only and approval of this authorization shall extend to actual costs incurred in conducting the operations specified, whether more or less than estimated.

Intan. Drilling Costs BCP		COSTS
951-000 Abandonment & Cleanup		\$ 25,000
920-009 Abstracts & Title Opinions		\$ 30,000
920-009 Well Control Insurance	18,475 \$/Ft: 0.6	\$ 8,700
921-000 Legal, Permits & Fees		\$ 20,000
921-000 Staking Location & Surveys		\$ 7,500
921-001 Location, Road & ROW		\$ 100,000
921-003 IDC Daywork	Days: 32 \$/Day: 24,000	\$ 768,000
921-003 Mobilization / Demobilization		\$ 200,000
921-003 Rig Fuel	Days: 32 \$/Day: 6,000	\$ 192,000
921-002 IDC Footage	\$/Ft:	\$ -
922-001 Supervision	Days: 32 \$/Day: 3,500	\$ 112,000
922-001 Drilling Overhead (Administrative Services)		\$ 8,000
922-004 Bits & Reamers		\$ 158,000
922-000 Rentals Surface		\$ 136,150
922-000 Rentals Sub-Surface		\$ 120,000
922-000 Drill Pipe / Motors	Days: 20 \$/Day: 1,000	\$ 20,000
922-000 Directional Drilling Expense		\$ 325,000
921-008 Inspection - Drill String		\$ 38,000
921-008 Well Control & Testing		\$ 100,000
921-008 Miscellaneous IDC		\$ -
921-006 Mud Logging	Days: 24 \$/Day: 1,750	\$ 42,000
922-003 Contract Labor		\$ 30,000
922-002 Transportation		\$ 39,000
921-004 Surface Casing Crews		\$ 20,000
921-004 Surface Cement and Cement Services		\$ 50,000
921-004 Surface Float Equipment & Centralizers		\$ 250,000
921-007 Intermediate Casing Crews		\$ 40,000
921-007 Intermediate Cement and Cement Services		\$ 200,000
921-007 Intermediate Float Equipment & Centralizers		\$ 25,000
921-005 Mud & Additives		\$ 140,000
921-011 Corrosion Control & Chem.		\$ 5,000
921-010 Water		\$ 10,000
921-010 Water / Mud Disposal		\$ 35,000
Contingency (5%)		\$ 162,718
TOTAL		\$ 3,417,068

Intan. Formation Testing BCP	COSTS
923-003 Logging & Wireline	\$ 28,500
923-003 Drill Stem - Formation Tests	\$ -
923-001 Coring & Analysis (Sidewall Cores)	\$ -
Contingency (5%)	\$ 1,425
TOTAL	\$ 29,925

Tangible Lease & Well Equipment BCP	COSTS
930-001 Surface Casing	13-3/8" \$/Ft: 39 Feet: 1,700 \$ 66,300
930-002 Intermediate Csg	9-5/8" \$/Ft: 32 Feet: 5,500 \$ 176,000
	\$/Ft: Feet: \$ -
	\$/Ft: Feet: \$ -
930-009 Wellhead	\$ 50,000
931-003 Cattle Guards	\$ -
Contingency (5%)	\$ 14,615
TOTAL EQUIPMENT	\$ 306,915

TOTAL DRILLING	\$ 3,753,908
TOTAL INTANGIBLE	\$ 7,074,218

Intan. Comp. Costs ACP	COSTS
951-000 Abandonment & Cleanup	\$ (25,000)
921-003 Daywork	Days: 3 \$/Day: 24,000 \$ 72,000
921-003 Rig Fuel	Spring Days: 3 \$/Day: 6,000 \$ 18,000
924-008 Drilling Rig Supervision	Days: 3 \$/Day: 3,500 \$ 10,500
924-004 Production Casing Crews	\$ 12,500
924-004 Production Casing Cement & Services	\$ 125,000
924-004 Prod. Float Equipment & Centralizers	\$ 125,000
924-001 Completion / Swab Unit	Days: 0 \$/Day: 12,500 \$ -
924-008 Compl. Rig Supervision	Days: 5 \$/Day: 3,500 \$ 17,500
924-008 Administrative Services	\$ 3,000
924-003 Mud & Chemicals	\$ -
924-003 Water Hauling	\$ 300,000
924-005 Logging, Perforations & Wireline	\$ 150,000
924-006 Rentals Subsurface	\$ 25,000
924-006 Rentals Surface	\$ 80,000
924-006 Nitrogen Service & Coiled Tubing	\$ 250,000
924-006 Fishing	\$ 150,000
924-007 Stimulation	\$ 2,000,000
924-007 Transportation	\$ 21,000
924-009 Contract Labor & Roustabout	\$ 100,000
925-001 Bits & Reamers	\$ -
925-001 Couplings & Fittings	\$ -
925-003 Location & Road Expense	\$ 20,000
925-003 Miscellaneous IDC	\$ -
925-003 Pipe Inspection & Recondition	\$ -
925-003 Pumping Services (Kill Truck)	\$ -
925-003 Testing	\$ -
925-003 Well Control Insurance	Days: 32 \$/Day: 0 \$ -
Contingency (5%)	\$ 172,725
TOTAL	\$ 3,627,225

Tangible Well Equipment ACP	COSTS
930-003 Prod. Csg / Liners	5-1/2" \$/Ft: 20 Feet: 18,475 \$ 369,500
	\$/Ft: Feet: \$ -
930-004 Tubing	2-3/8" \$/Ft: 7 Feet: 10,320 \$ 67,080
930-009 Wellhead	\$ 75,000
931-000 Downhole Lift Equipment	\$ 20,000
931-000 Subsurface Equipment	\$ 25,000
Contingency (5%)	\$ 27,829
TOTAL EQUIPMENT	\$ 584,409

Tangible Lease & Battery Equipment ACP	COSTS
940-001 Pumping Units & Engines	\$ -
940-002 Emission Controls	\$ 50,000
940-002 Heaters, Treaters & Separators	\$ 200,000
940-005 Tanks & Accessory Equipment	\$ 180,000
941-001 Pipeline	\$ 105,000
941-001 Facility Electrical & Automation	\$ 70,000
941-001 Overhead Electricity	\$ 48,000
941-001 Misc. Non-Controllable Equipment	\$ 50,000
Contingency (5%)	\$ 35,150
TOTAL EQUIPMENT	\$ 738,150

TOTAL COMPLETION	\$ 4,949,784
TOTAL TANGIBLE	\$ 1,629,474

Oil Conservation Division
Case No. 4 15233
Exhibit No. 4

TOTAL DRY HOLE COST	\$ 3,859,433
TOTAL WELL COST	\$ 8,703,692



Authority For Expenditure Harvey E. Yates Company

Region	Well Name	Field Name	Property Number	AFE No.
Permian	Mallon 27 Fed Com #1H	Quail Ridge		

Location	County, State	Well Type	
SHL: Sec. 27, T19S R34E, 330' FSL & 660' FEL BHL: Sec 22, T19S, R34E, 2310' FSL & 660' FEL	Lea, New Mexico	Oil <input checked="" type="checkbox"/>	EXPL <input checked="" type="checkbox"/>
		Gas <input type="checkbox"/>	PROD <input type="checkbox"/>

Estimate Type	Est. Start Date	Est. Comp. Date	Formation	Total Measured Depth
Original Estimate <input checked="" type="checkbox"/>	November 1, 2014	December 16, 2014	3rd Bone Spring	18,473'
Revised Estimate <input type="checkbox"/>				Total Vertical Depth
Supplemental Estimate <input type="checkbox"/>				

Project Description

Intangible Costs			
Drilling	\$ 3,417,068	Formation Testing	\$ 29,925
		Completion	\$ 3,627,225

Tangible Costs			
Lease and Well Equipment	\$ 306,915	Well Equipment	\$ 584,409
		Lease and Battery Equipment	\$ 738,150

Total Drilling	\$ 3,753,908	Total Completion	\$ 4,949,784
Total Intangible	\$ 7,074,218	Total Tangible	\$ 1,629,474

Total Well Cost	\$ 8,703,692	Total Dry Hole Cost	\$ 3,859,433
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Comments on Well Cost

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 operators well control insurance procedure by Operator so long as Operator conducts operation hereunder and to pay your prorata 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 operation. 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 procedure 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

HEYCO 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 HEYCO, you will be subject to all of the terms of such contracts. Upon written request to HEYCO, 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 HEYCO under the terms and conditions set forth above.

I elect to take my gas in kind.

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

AFE Comments

Harvey E. Yates Approval

Harvey E. Yates Company By: T.W. Green *TW* Date: Tuesday, July 15, 2014

Joint Interest Approval

Company	Approved By
Date	Signature