

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: Halberd 27 State Com 1H	PROSPECT NAME: Spruce	SWF
SHL: 1003' FSL & 65' FWL,UL-M (Sec 26)	STATE & COUNTY: New Mexico, Eddy	
BHL: 976' FSL & 330' FWL,UL-M (Sec 27)	OBJECTIVE: Yeso Horizontal	
FORMATION: Yeso	DEPTH: 8,935	
LEGAL: SW/4SW/4 Sec 26, T17S-R28E	TVD: 3,925	

INTANGIBLE COSTS		BCP	ACP	TOTAL
Title/Curative/Permit	201	11,000		11,000
Insurance	202	4,000	0	4,000
Damages/Right of Way	203	12,000	0	12,000
Survey/Stake Location	204	3,000	0	3,000
Location/Pits/Road Expense	205	60,000	9,000	69,000
Drilling / Completion Overhead	206	4,000	7,000	11,000
Turnkey Contract	207			0
Footage Contract	208			0
Daywork Contract (0 days @ \$0)	209	144,000	0	144,000
Directional Drilling Services (0 dr days @ \$0)	210	78,000		78,000
Fuel & Power	211	15,000	1,000	16,000
Water	212	30,000	127,000	157,000
Bhs	213	41,856	5,000	46,856
Mud & Chemicals	214	31,000	0	31,000
Data Stem Test	215		0	0
Coring & Analysis	216			0
Cement Surface	217	12,000		12,000
Cement Intermediate	218	10,000		10,000
Cement 2nd Intermediate/Production	219	0	45,000	45,000
Cement Squeeze & Other (Kickoff Plug)	220		0	0
Float Equipment & Centralizers	221	2,700	7,000	9,700
Casing Crews & Equipment	222	6,460	9,000	15,460
Fishing Tools & Service	223			0
Geologic/Engineering	224			0
Contract Labor	225	4,250	18,000	22,250
Company Supervision	226		7,000	7,000
Contract Supervision	227	18,000	58,000	76,000
Testing Casing/Tubing	228	2,490	4,000	6,490
Mud Logging Unit	229	18,000		18,000
Logging	230	18,560		18,560
Perforating/Wireline Services	231	1,500	115,000	116,500
Stimulation/Treating			777,000	777,000
Completion Unit			41,000	41,000
Swabbing Unit				0
Rentals-Surface	235	36,000	170,000	206,000
Rentals-Subsurface	236	43,800	18,000	61,800
Trucking/Forklift/Htg Mobilization	237	40,000	57,000	97,000
Welding Services	238	4,750	1,000	5,750
Water Disposal	239	0	8,000	8,000
Plug to Abandon	240	0	0	0
Seismic Analysis	241	0	0	0
Closed Loop & Environmental	244	55,000	0	55,000
Miscellaneous	242	0	0	0
Contingency 2%	243	15,414	48,000	63,414
TOTAL INTANGIBLES		721,000	1,528,000	2,249,000

TANGIBLE COSTS				
Surface Casing (13 3/8" 54.5# J55 STC)	401	10,000		10,000
Intermediate Casing (9 5/8" 40# J55 LTC)	402	18,000	0	18,000
Production Casing (7" 29# & 5 1/2" 17# L80)			131,000	131,000
Tubing			18,000	18,000
Wellhead Equipment	405	8,900	22,000	30,900
Pumping Unit			64,000	64,000
Prime Mover			0	0
Rods			15,000	15,000
Pumps			50,000	50,000
Tanks			15,000	15,000
Flowlines			20,000	20,000
Heater Treater/Separator			51,000	51,000
Electrical System			28,000	28,000
Packers/Anchors/Hangers	414	0	2,000	2,000
Couplings/Fittings/Valves	415	500	18,000	18,500
Gas Compressors/Motors			3,000	3,000
Dehydrator				0
Injection Plant/CO2 Equipment				0
Miscellaneous	419	500	10,000	10,500
Contingency	420	100	0	100
TOTAL TANGIBLES		58,000	445,000	503,000
TOTAL WELL COSTS		759,000	1,971,000	2,730,000

COG Operating LLC

By: Carl Bird/Paul Fiegel

We approve:
_____% Working Interest

Company:

By:

Printed Name:

Title:

Date:

Date Prepared: 2-25-18

BJM 2/28/18

COG Operating LLC

By:

**BEFORE THE OIL CONVERSATION
DIVISION**

Santa Fe, New Mexico

Exhibit No. 6

Submitted by: COG OPERATING LLC

Hearing Date: August 4, 2016

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: Halberd 27 State Com 21H	PROSPECT NAME: Spruce
SHL: 1150' FSL & 65' FWL, UL: M (Sec 26)	STATE & COUNTY: New Mexico, Eddy
BHL: 972' FSL & 330' FWL, UL: M (Sec 27)	OBJECTIVE: Yesso Horizontal
FORMATION: Yesso	DEPTH: 9,460
LEGAL: SW1/4SW1/4 Sec 26, T17S-R28E	TVD: 4,450

INTANGIBLE COSTS		BCP		ACP	TOTAL
Title/Curative/Permit	201	11,000			11,000
Insurance	202	4,000	302	0	4,000
Damages/Right of Way	203	12,000	303	0	12,000
Survey/Stake Location	204	3,000	304	0	3,000
Location/Pits/Road Expense	205	60,000	305	8,000	68,000
Drilling / Completion Overhead	206	4,000	306	7,000	11,000
Turnkey Contract	207		307		0
Forfeiture Contract	208		308		0
Daywork Contract (10 days / \$1000-fts @ \$0)	209	144,000	309	0	144,000
Directional Drilling Services (10 dir days @ \$0)	210	78,000	310		78,000
Fuel & Power	211	15,000	311	1,000	16,000
Water	212	30,000	312	127,000	157,000
Bits	213	41,858	313	5,000	46,858
Mud & Chemicals	214	31,000	314	0	31,000
Drill Stem Test	215		315	0	0
Coring & Analysis	216				0
Cement Surface	217	12,000			12,000
Cement Intermediate	218	10,000			10,000
Cement 2nd Intermediate/Production	219	0	319	45,000	45,000
Cement Squeeze & Other (Kickoff Plug)	220		320	0	0
Float Equipment & Centralizers	221	2,700	321	7,000	9,700
Casing Crews & Equipment	222	6,480	322	9,000	15,480
Fishing Tools & Service	223		323		0
Geologic/Engineering	224		324		0
Contract Labor	225	4,250	325	18,000	22,250
Company Supervision	226		326	7,000	7,000
Contract Supervision	227	18,000	327	58,000	76,000
Testing Casing/Tubing	228	2,490	328	4,000	6,490
Mud Logging Unit	229	18,000	329		18,000
Logging	230	18,560	330		18,560
Perforating/Wireline Services	231	1,500	331	115,000	116,500
Stimulation/Treating			332	777,000	777,000
Completion Unit			333	41,000	41,000
Swabbing Unit			334		0
Rentals-Surface	235	36,000	335	170,000	206,000
Rentals-Subsurface	236	43,000	336	18,000	61,000
Trucking/Forfeiture/Rig Mobilization	237	40,000	337	57,000	97,000
Welding Services	238	4,750	338	1,000	5,750
Water Disposal	239	0	339	8,000	8,000
Plug to Abandon	240	0	340	0	0
Seismic Analysis	241	0	341	0	0
Closed Loop & Environmental	244	55,000	344	0	55,000
Miscellaneous	242	0	342	0	0
Contingency 2%	243	15,414	343	48,000	63,414
TOTAL INTANGIBLES		721,000		1,528,000	2,249,000

TANGIBLE COSTS		BCP		ACP	TOTAL
Surface Casing (13 3/8" 54.5# J55 STC)	401	10,000			10,000
Intermediate Casing (9 5/8" 40# J55 LTC)	402	18,000	503	0	18,000
Production Casing (7" 29# & 5 1/2" 17# L80)			503	131,000	131,000
Tubing			504	18,000	18,000
Wellhead Equipment	405	8,800	505	22,000	30,800
Pumping Unit			506	84,000	84,000
Prime Mover			507	0	0
Rods			508	15,000	15,000
Pumps			509	50,000	50,000
Tanks			610	15,000	15,000
Flowlines			611	20,000	20,000
Heater Treater/Separator			612	51,000	51,000
Electrical System			613	28,000	28,000
Packoffs/Anchors/Hangers		0	614	2,000	2,000
Couplings/Fittings/Valves	415	500	615	16,000	16,500
Gas Compressors/Meters			616	3,000	3,000
Dehydrator			617	0	0
Injection Plant/CO2 Equipment			618	0	0
Miscellaneous	419	500	619	10,000	10,500
Contingency	420	100	620	0	100
TOTAL TANGIBLES		38,000		445,000	483,000
TOTAL WELL COSTS		759,000		1,973,000	2,732,000

COG Operating LLC

By: Carl Bird/Paul Fige

We approve:
_____% Working Interest

Company:

By:

Printed Name:

Title:

Date:

Date Prepared: 2-25-18

BJM 2/26/18

COG Operating LLC

By:

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.