

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: Flat Head Fed Com #8H	PROSPECT NAME: NM Shelf 6001 - 7000' TVD
SHL: 1170' FNL, 330' FEL sec.14 (unit A)	STATE & COUNTY: New Mexico, Lea
BHL: 330' FNL, 330' FEL sec.11 (unit A)	OBJECTIVE: 1.25 mile Yeso Horizontal
FORMATION: LWR Blinebry	DEPTH: 12,735
LEGAL: T17S-R32E sec.11 & 14	TVD: 6,850

INTANGIBLE COSTS	BCP		ACP		TOTAL
Title/Curative/Permit	201	10,000			10,000
Insurance	202	22,000	302	0	22,000
Damages/Right of Way	203	15,000	303	0	15,000
Survey/Stake Location	204	3,000	304	0	3,000
Location/Pits/Road Expense	205	60,000	305	25,000	85,000
Drilling / Completion Overhead	206	5,000	306	2,000	7,000
Turnkey Contract	207		307		0
Footage Contract	208		308		0
Daywork Contract (0 days f/spud-rls @ \$0)	209	388,000	309	47,000	435,000
Directional Drilling Services (0 dir days @ \$0)	210	210,000	310		210,000
Fuel & Power	211	94,000	311	12,000	106,000
Water	212	65,000	312	100,000	165,000
Bits	213	54,500	313	5,000	59,500
Mud & Chemicals	214	53,000	314	0	53,000
Drill Stem Test	215		315	0	0
Coring & Analysis	216				0
Cement Surface	217	38,000			38,000
Cement Intermediate	218	20,000			20,000
Cement 2nd Intermediate/Production	218	0	319	111,000	111,000
Cement Squeeze & Other (Kickoff Plug)	220		320	0	0
Float Equipment & Centralizers	221	2,000	321	30,000	32,000
Casing Crews & Equipment	222	5,000	322	12,000	17,000
Fishing Tools & Service	223		323		0
Geologic/Engineering	224	10,000	324		10,000
Contract Labor	225	20,000	325	21,000	41,000
Company Supervision	226	2,000	326	2,000	4,000
Contract Supervision	227	43,000	327	20,000	63,000
Testing Casing/Tubing	228	3,000	328	12,000	15,000
Mud Logging Unit (logging f/24 days)	229	24,000	329		24,000
Logging	230	25,000	330		25,000
Perforating/Wireline Services	231	3,500	331	50,000	53,500
Stimulation/Treating			332	1,750,000	1,750,000
Completion Unit			333	30,000	30,000
Swabbing Unit			334		0
Rentals-Surface	235	40,000	335	250,000	290,000
Rentals-Subsurface	236	73,000	336	75,000	148,000
Trucking/Forklift/Rig Mobilization	237	57,000	337	20,000	77,000
Welding Services	238	5,000	338	2,500	7,500
Water Disposal	239	0	339	40,000	40,000
Plug to Abandon	240	0	340	0	0
Seismic Analysis	241	0	341	0	0
Closed Loop & Environmental	244	163,000	344	0	163,000
Miscellaneous	242	0	342	0	0
Contingency 10%	243	152,000	343	262,500	414,500
TOTAL INTANGIBLES		1,665,000		2,879,000	4,544,000

TANGIBLE COSTS					
Surface Casing (13 3/8" 48# H40 STC)	401	33,000			33,000
Intermediate Casing(9 5/8" 40# J55 LTC)	402	63,000	503	0	63,000
Production Casing (7" 26# & 5 1/2" 17# L80)			503	242,000	242,000
Tubing			504	35,000	35,000
Wellhead Equipment	405	6,000	505	35,000	41,000
Pumping Unit			506	90,000	90,000
Prime Mover			507	20,000	20,000
Rods			508	20,000	20,000
Pumps			509	10,000	10,000
Tanks			510	21,000	21,000
Flowlines			511	11,000	11,000
Heater Treater/Separator			512	30,000	30,000
Electrical System			513	30,000	30,000
Packers/Anchors/Hangers	414	0	514	2,500	2,500
Couplings/Fittings/Valves	415	500	515	60,000	60,500
Gas Compressors/Meters			516	5,000	5,000
Dehydrator			517		0
Injection Plant/CO2 Equipment			518		0
Miscellaneous	419	500	519	500	1,000
Contingency	420	6,000	520	31,000	37,000
TOTAL TANGIBLES		109,000		643,000	752,000
TOTAL WELL COSTS		1,774,000		3,522,000	5,296,000

COG Operating LLC

By: Carl Bird _____

Date Prepared: 5/13/2013 _____

We approve:
_____% Working Interest

COG Operating LLC

By: _____

**NMOCD CASE NO. 15029
July 25, 2013
Exhibit No. 5**

Company:
By: _____

Printed Name:
Title:
Date: _____

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