

**COG OPERATING LLC  
AUTHORITY FOR EXPENDITURE  
DRILLING**

WELL NAME: Blackhawk "11" Fed Com #1	PROSPECT NAME: Crow Flats
Surf. Loc: 430' FS&WL, Sec 11	COUNTY & STATE: Eddy, NM
B.H. Loc: 330' FS&EL, Sec 11	OBJECTIVE: 10,856' MD (6610' TVD) Lower Abo Test
T16S - R28E; w/pilot, wo/LWD	

<u>INTANGIBLE COSTS</u>	<u>BCP</u>	<u>ACP</u>	<u>TOTAL</u>
Title/Curative/Permit	201 5,500		5,500
Insurance	202 22,000	302	22,000
Damages/Right of Way	203 15,000	303	15,000
Survey/Stake Location	204 3,000	304	3,000
Location/Pits/Road Expense	205 45,000	305 5,000	50,000
Drilling / Completion Overhead	206 5,000	306 1,000	6,000
Turnkey Contract	207	307	0
Footage Contract	208	308	0
Daywork Contract 32.4 @ \$10,000/day	209 320,000	309 40,000	360,000
Directional Drilling Services, With out LWD	210 180,000	310	180,000
Fuel & Power	211 54,000	311 6,000	60,000
Water	212 30,000	312 50,000	80,000
Bits	213 50,000	313 1,000	51,000
Mud & Chemicals	214 60,000	314	60,000
Drill Stem Test	215	315	0
Coring & Analysis	216		0
Cement Surface	217 12,200		12,200
Cement Intermediate	218 15,000		15,000
Cement 2nd Intermediate 7"	218	319 23,400	23,400
Cement Squeeze & Other (Kickoff Plug)	220 18,700	320	18,700
Float Equipment & Centralizers	221 5,000	321 2,000	7,000
Casing Crews & Equipment	222 15,000	322 10,000	25,000
Fishing Tools & Service	223	323	0
Geologic/Engineering	224 10,000	324 1,000	11,000
Contract Labor	225 10,000	325 30,000	40,000
Company Supervision	226 2,000	326 2,000	4,000
Contract Supervision	227 36,000	327 4,000	40,000
Testing Casing/Tubing	228 4,000	328 1,500	5,500
Mud Logging Unit	229 22,500	329	22,500
Logging	230 60,000	330	60,000
Perforating/Wireline Services	231 1,500	331 12,500	14,000
Stimulation/Treating		332 750,000	750,000
Completion Unit		333 18,000	18,000
Swabbing Unit		334	0
Rentals-Surface	235 100,000	335 45,000	145,000
Rentals-Subsurface	236 45,000	336 10,000	55,000
Trucking/Forklift/Rig Mobilization	237 80,000	337 15,000	95,000
Welding Services	238 3,000	338 1,500	4,500
Water Disposal	239	339 15,000	15,000
Plug to Abandon	240	340	0
Seismic Analysis	241	341	0
Closed Loop & Environmental	244 225,000	344	225,000
Miscellaneous	242 5,000	342 1,000	6,000
Contingency	243 146,600	343 105,100	251,700
<b>TOTAL INTANGIBLES</b>	<b>1,606,000</b>	<b>1,150,000</b>	<b>2,756,000</b>
<u>TANGIBLE COSTS</u>			
Surface Casing 500' 13 3/8"	401 18,000		18,000
Intermediate Casing 2300' 9 5/8", 6000' - 7"	402 59,000	503 145,000	204,000
Production Casing/Liner 4900' - 4.5"		503 59,000	59,000
Tubing 6000' 2 7/8"		504 34,000	34,000
Wellhead Equipment	405 10,000	505 8,000	18,000
Pumping Unit		506	0
Prime Mover		507	0
Rods		508	0
Pumps		509	0
Tanks		510 60,000	60,000
Flowlines		511 15,000	15,000
Heater Treater/Separator		512 25,000	25,000
Electrical System		513	0
Packers/Anchors/Hangers	414	514 200,000	200,000
Couplings/Fittings/Valves	415 2,000	515 50,000	52,000
Gas Compressors/Meters		516 4,000	4,000
Dehydrator		517	0
Injection Plant/CO2 Equipment		518	0
Miscellaneous	419 1,000	519 1,000	2,000
Contingency	420 9,000	520 61,000	70,000
<b>TOTAL TANGIBLES</b>	<b>99,000</b>	<b>662,000</b>	<b>761,000</b>
<b>TOTAL WELL COSTS</b>	<b>1,705,000</b>	<b>1,812,000</b>	<b>3,517,000</b>

COG Operating LLC

By: J. Coffman / C. Bird

Date Prepared: 6/15/09

We approve:  
\_\_\_\_\_% Working Interest

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.