

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

| | |
|--|---|
| WELL NAME: Blackhawk "11" Fed Com #2 | PROSPECT NAME: Crow Flats |
| Surf. Loc: 1590' FSL & 1800' FWL, Sec 11 | COUNTY & STATE: Eddy, NM |
| B.H. Loc: 1650' FSL & 330' FEL, Sec 11 | OBJECTIVE: 9,591' MD (6620' TVD) Lower Abo Test |
| T16S - R28E; w/pilot, wo/LWD | |

| INTANGIBLE COSTS | | BCP | | ACP | | TOTAL |
|--|-----|------------------|-----|------------------|--|------------------|
| 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 29:4 @ \$10,000/day | 209 | 290,000 | 309 | 40,000 | | 330,000 |
| Directional Drilling Services, With out LWD | 210 | 160,000 | 310 | | | 160,000 |
| Fuel & Power | 211 | 48,000 | 311 | 6,000 | | 54,000 |
| 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 | 19,500 | 329 | | | 19,500 |
| 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 | 90,000 | 335 | 45,000 | | 135,000 |
| Rentals-Subsurface | 236 | 40,000 | 336 | 10,000 | | 50,000 |
| 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 | 210,000 | 344 | | | 210,000 |
| Miscellaneous | 242 | 5,000 | 342 | 1,000 | | 6,000 |
| Contingency | 243 | 138,600 | 343 | 105,100 | | 243,700 |
| TOTAL INTANGIBLES | | 1,509,000 | | 1,150,000 | | 2,659,000 |
| TANGIBLE COSTS | | | | | | |
| 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 |
| TOTAL TANGIBLES | | 99,000 | | 662,000 | | 761,000 |
| TOTAL WELL COSTS | | 1,608,000 | | 1,812,000 | | 3,420,000 |

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.