

**COG OPERATING LLC  
AUTHORITY FOR EXPENDITURE  
DRILLING**

|            |                                        |                 |                            |
|------------|----------------------------------------|-----------------|----------------------------|
| WELL NAME: | FAT TIRE 12 FEDERAL #1H                | PROSPECT NAME:  | ELKHORN 720005             |
| SHL:       | 330' FNL & 150' FEL UL-A               | STATE & COUNTY: | New Mexico, Eddy           |
| BHL:       | 330' FNL & 330' FWL UL-D               | OBJECTIVE:      | SH39 NO PH Packer Full Lat |
| FORMATION: | Lower Blinbry; Glorieta Yeso Formation | DEPTH:          | 10,100                     |
| LEGAL:     | SEC12 T17S-R29E                        | TVD:            | 5,450                      |

| 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 | 50,000           | 305 | 15,000           | 65,000           |
| Drilling / Completion Overhead                   | 206 | 5,000            | 306 | 1,000            | 6,000            |
| Turnkey Contract                                 | 207 | 0                | 307 | 0                | 0                |
| Footage Contract                                 | 208 | 0                | 308 | 0                | 0                |
| Daywork Contract (0 days /spud-rts @ \$0)        | 209 | 280,000          | 309 | 56,000           | 336,000          |
| Directional Drilling Services (0 dir days @ \$0) | 210 | 175,000          | 310 | 0                | 175,000          |
| Fuel & Power                                     | 211 | 60,000           | 311 | 12,000           | 72,000           |
| Water                                            | 212 | 30,000           | 312 | 60,000           | 90,000           |
| Bits                                             | 213 | 50,000           | 313 | 5,000            | 55,000           |
| Mud & Chemicals                                  | 214 | 50,000           | 314 | 0                | 50,000           |
| Drill Stem Test                                  | 215 | 0                | 315 | 0                | 0                |
| Coring & Analysis                                | 216 | 0                |     |                  | 0                |
| Cement Surface                                   | 217 | 40,000           |     |                  | 40,000           |
| Cement Intermediate                              | 218 | 24,000           |     |                  | 24,000           |
| Cement 2nd Intermediate 7"                       | 218 | 0                | 319 | 33,135           | 33,135           |
| Cement Squeeze & Other (Kickoff Plug)            | 220 | 0                | 320 | 0                | 0                |
| Float Equipment & Centralizers                   | 221 | 4,000            | 321 | 25,000           | 29,000           |
| Casing Crews & Equipment                         | 222 | 12,000           | 322 | 15,000           | 27,000           |
| Fishing Tools & Service                          | 223 | 0                | 323 | 0                | 0                |
| Geologic/Engineering                             | 224 | 10,000           | 324 | 1,000            | 11,000           |
| Contract Labor                                   | 225 | 20,000           | 325 | 21,000           | 41,000           |
| Company Supervision                              | 226 | 2,000            | 326 | 2,000            | 4,000            |
| Contract Supervision                             | 227 | 32,000           | 327 | 6,400            | 38,400           |
| Testing Casing/Tubing                            | 228 | 5,000            | 328 | 12,000           | 17,000           |
| Mud Logging Unit (logging /24 days)              | 229 | 25,000           | 329 | 0                | 25,000           |
| Logging                                          | 230 | 25,000           | 330 | 0                | 25,000           |
| Perforating/Wireline Services                    | 231 | 3,500            | 331 | 0                | 3,500            |
| Stimulation/Treating                             |     |                  | 332 | 1,300,000        | 1,300,000        |
| Completion Unit                                  |     |                  | 333 | 24,000           | 24,000           |
| Swabbing Unit                                    |     |                  | 334 | 0                | 0                |
| Rentals-Surface                                  | 235 | 34,000           | 335 | 75,000           | 109,000          |
| Rentals-Subsurface                               | 236 | 52,000           | 336 | 10,000           | 62,000           |
| Trucking/Forklift/Rig Mobilization               | 237 | 45,000           | 337 | 20,000           | 65,000           |
| Welding Services                                 | 238 | 5,000            | 338 | 2,500            | 7,500            |
| Water Disposal                                   | 239 | 0                | 339 | 15,000           | 15,000           |
| Plug to Abandon                                  | 240 | 0                | 340 | 0                | 0                |
| Seismic Analysis                                 | 241 | 0                | 341 | 0                | 0                |
| Closed Loop & Environmental                      | 244 | 96,000           | 344 | 0                | 96,000           |
| Miscellaneous                                    | 242 | 5,000            | 342 | 1,000            | 6,000            |
| Contingency                                      | 243 | 119,500          | 343 | 172,865          | 292,465          |
| <b>TOTAL INTANGIBLES</b>                         |     | <b>1,309,000</b> |     | <b>1,885,000</b> | <b>3,194,000</b> |

| TANGIBLE COSTS                                     |     | BCP              |     | ACP              | TOTAL            |
|----------------------------------------------------|-----|------------------|-----|------------------|------------------|
| Surface Casing (655' 13 3/8" 54.5# J55 STC)        | 401 | 29,000           |     |                  | 29,000           |
| Intermediate Casing(4050' 9 5/8" 36#/40# J55 BUTT) | 402 | 36,000           | 503 | 0                | 36,000           |
| Production Casing (13,450' 5 1/2" 17# N80/P110)    |     |                  | 503 | 234,000          | 234,000          |
| Tubing                                             |     |                  | 504 | 35,000           | 35,000           |
| Wellhead Equipment                                 | 405 | 8,000            | 505 | 15,000           | 23,000           |
| Pumping Unit                                       |     |                  | 506 | 40,000           | 40,000           |
| Prime Mover                                        |     |                  | 507 | 20,000           | 20,000           |
| Rods                                               |     |                  | 508 | 24,000           | 24,000           |
| Pumps                                              |     |                  | 509 | 10,000           | 10,000           |
| Tanks                                              |     |                  | 510 | 21,000           | 21,000           |
| Flowlines                                          |     |                  | 511 | 8,000            | 8,000            |
| Heater Treater/Separator                           |     |                  | 512 | 30,000           | 30,000           |
| Electrical System                                  |     |                  | 513 | 11,250           | 11,250           |
| Packers/Anchors/Hangers                            | 414 | 0                | 514 | 335,000          | 335,000          |
| Couplings/Fittings/Valves                          | 415 | 2,500            | 515 | 45,000           | 47,500           |
| Gas Compressors/Meters                             |     |                  | 516 | 14,500           | 14,500           |
| Dehydrator                                         |     |                  | 517 | 0                | 0                |
| Injection Plant/CO2 Equipment                      |     |                  | 518 | 0                | 0                |
| Miscellaneous                                      | 419 | 1,000            | 519 | 20,000           | 21,000           |
| Contingency                                        | 420 | 8,500            | 520 | 87,250           | 95,750           |
| <b>TOTAL TANGIBLES</b>                             |     | <b>85,000</b>    |     | <b>950,000</b>   | <b>1,035,000</b> |
| <b>TOTAL WELL COSTS</b>                            |     | <b>1,394,000</b> |     | <b>2,835,000</b> | <b>4,229,000</b> |

COG Operating LLC

Date Prepared: 1/24/13 JJ

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

COG Operating LLC

BEFORE THE OIL CONSERVATION DIVISION

By: Chad Elliott

Santa Fe, New Mexico

Exhibit No. 4

Submitted by: **COG OPERATING, LLC**

Hearing Date: July 25, 2013

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.