

**COG OPERATING LLC  
AUTHORITY FOR EXPENDITURE  
DRILLING**

|                                          |                                             |
|------------------------------------------|---------------------------------------------|
| <b>WELL NAME:</b> BRAGG 10 FEE #3H       | <b>PROSPECT NAME:</b> LAKEWOOD              |
| <b>SHL:</b> 150' FSL & 2310' FEL (UL: O) | <b>STATE &amp; COUNTY:</b> New Mexico, Eddy |
| <b>BHL:</b> 330' FNL & 2310' FEL (UL: B) | <b>OBJECTIVE:</b> SH9 Yaso Horizontal       |
| <b>FORMATION:</b> YESO                   | <b>DEPTH:</b> 7,615                         |
| <b>LEGAL:</b> SEC. 10, T19S-R26E, W2E2   | <b>TVD:</b> 3,450                           |

| INTANGIBLE COSTS                                 |     | BCP            | ACP              | TOTAL            |
|--------------------------------------------------|-----|----------------|------------------|------------------|
| Title/Curtive/Permit                             | 201 | 11,000         |                  | 11,000           |
| Insurance                                        | 202 | 22,000         | 302 0            | 22,000           |
| Damages/Right of Way                             | 203 | 50,000         | 303 0            | 50,000           |
| Survey/Stake Location                            | 204 | 7,000          | 304 0            | 7,000            |
| Location/Pits/Road Expense                       | 205 | 65,000         | 305 25,000       | 110,000          |
| Drilling / Completion Overhead                   | 206 | 6,000          | 306 2,000        | 8,000            |
| Turnkey Contract                                 | 207 |                | 307              | 0                |
| Footage Contract                                 | 208 |                | 308              | 0                |
| Daywork Contract (0 days /spud-ris @ \$0)        | 209 | 145,000        | 309 29,000       | 174,000          |
| Directional Drilling Services (0 dir days @ \$0) | 210 | 125,000        | 310              | 125,000          |
| Fuel & Power                                     | 211 | 30,000         | 311 6,000        | 36,000           |
| Water                                            | 212 | 24,000         | 312 120,000      | 144,000          |
| Bits                                             | 213 | 25,000         | 313 5,000        | 30,000           |
| Mud & Chemicals                                  | 214 | 19,000         | 314 0            | 19,000           |
| Drill Stem Test                                  | 215 |                | 315 0            | 0                |
| Coring & Analysis                                | 216 |                |                  | 0                |
| Cement Surface                                   | 217 | 54,000         |                  | 54,000           |
| Cement Intermediate                              | 218 | 0              |                  | 0                |
| Cement 2nd Intermediate/Production               | 218 | 0              | 319 55,000       | 55,000           |
| Cement Squeeze & Other (Kickoff Plug)            | 220 |                | 320 0            | 0                |
| Float Equipment & Centralizers                   | 221 | 2,000          | 321 20,000       | 22,000           |
| Casing Crews & Equipment                         | 222 | 5,000          | 322 12,000       | 17,000           |
| Fishing Tools & Service                          | 223 |                | 323              | 0                |
| Geologic/Engineering                             | 224 | 2,000          | 324              | 2,000            |
| Contract Labor                                   | 225 | 35,000         | 325 21,000       | 56,000           |
| Company Supervision                              | 226 | 2,000          | 326 2,000        | 4,000            |
| Contract Supervision                             | 227 | 17,000         | 327 40,000       | 57,000           |
| Testing Casing/Tubing                            | 228 | 3,000          | 328 5,000        | 8,000            |
| Mud Logging Unit (logging /24 days)              | 229 | 17,000         | 329              | 17,000           |
| Logging                                          | 230 | 20,000         | 330              | 20,000           |
| Perforating/Wireline Services                    | 231 | 1,500          | 331 95,000       | 96,500           |
| Stimulation/Treating                             |     |                | 332 825,000      | 825,000          |
| Completion Unit                                  |     |                | 333 30,000       | 30,000           |
| Swabbing Unit                                    |     |                | 334              | 0                |
| Rentals-Surface                                  | 235 | 14,000         | 335 200,000      | 214,000          |
| Rentals-Subsurface                               | 236 | 23,000         | 336 15,000       | 38,000           |
| Trucking/Forklift/Rig Mobilization               | 237 | 42,000         | 337 30,000       | 72,000           |
| Welding Services                                 | 238 | 5,000          | 338 2,500        | 7,500            |
| Water Disposal                                   | 239 | 0              | 339 30,000       | 30,000           |
| Plug to Abandon                                  | 240 | 0              | 340 0            | 0                |
| Seismic Analysis                                 | 241 | 0              | 341 0            | 0                |
| Closed Loop & Environmental                      | 244 | 50,000         | 344 0            | 50,000           |
| Miscellaneous                                    | 242 | 0              | 342 0            | 0                |
| Contingency 10%                                  | 243 | 85,500         | 343 167,500      | 253,000          |
| <b>TOTAL INTANGIBLES</b>                         |     | <b>827,000</b> | <b>1,837,000</b> | <b>2,764,000</b> |

| TANGIBLE COSTS                                 |     |                |                  |                  |
|------------------------------------------------|-----|----------------|------------------|------------------|
| Surface Casing (8 5/8" 32# J55 LTC)            | 401 | 26,000         |                  | 26,000           |
| Intermediate Casing (2150' 8 5/8" 32# J55 LTC) | 402 | 0              | 503 0            | 0                |
| Production Casing (5 1/2" 17# L80)             |     |                | 503 109,000      | 109,000          |
| Tubing                                         |     |                | 504 15,000       | 15,000           |
| Wellhead Equipment                             | 405 | 6,000          | 505 20,000       | 26,000           |
| Pumping Unit                                   |     |                | 506 60,000       | 60,000           |
| Prime Mover                                    |     |                | 507 20,000       | 20,000           |
| Rods                                           |     |                | 508 12,000       | 12,000           |
| Pumps                                          |     |                | 509 70,000       | 70,000           |
| Tanks                                          |     |                | 510 21,000       | 21,000           |
| Flowlines                                      |     |                | 511 12,000       | 12,000           |
| Heater Treater/Separator                       |     |                | 512 33,000       | 33,000           |
| Electrical System                              |     |                | 513 20,000       | 20,000           |
| Peckers/Anchors/Hangers                        | 414 | 0              | 514 2,500        | 2,500            |
| Couplings/Fittings/Valves                      | 415 | 500            | 515 40,000       | 40,500           |
| Gas Compressors/Meters                         |     |                | 516 5,000        | 5,000            |
| Dehydrator                                     |     |                | 517              | 0                |
| Injection Plant/CO2 Equipment                  |     |                | 518              | 0                |
| Miscellaneous                                  | 419 | 500            | 519 4,000        | 4,500            |
| Contingency                                    | 420 | 2,000          | 520 23,500       | 25,500           |
| <b>TOTAL TANGIBLES</b>                         |     | <b>35,000</b>  | <b>468,000</b>   | <b>503,000</b>   |
| <b>TOTAL WELL COSTS</b>                        |     | <b>862,000</b> | <b>2,305,000</b> | <b>3,267,000</b> |

COG Operating LLC

By: Carl Bird

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

Company:

By:

Printed Name:

Title:

Date:

Date Prepared: 10/31/2014

COG Operating LLC

By:

BEFORE THE OIL CONVERSION  
DIVISION  
Santa Fe, New Mexico  
Exhibit No. 4  
Submitted by: COG Operating LLC  
Hearing Date: January 8, 2015

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