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2. NAME OF OPERATOR				· • • •	RAPTOR "4" FE	
COG OPERATING, 1	LC. (E	RICK NELSON	432-685-4342)		9. API WELL NO.	
3. ADDRESS AND TELEPHONE NO.				******	-	
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760' FNL & 330'	FEL SECTION	4 T19S-R34E	LEA CO. NM		11. SEC., T., R., M., OB AND SURVEY OR	BLE.
At proposed prod. zone						
		Unit	H/Lot /			9S-R34E
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Approximately 4		of Hobbs, Ne	w Mexico.		LEA CO.	NEW MEXICO
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1. Drill 25" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redimix.

Capiton Controlled Water Besin

- 2. Drill 11" hole to 1850'. Run and set 1850' of 8 5/8" 32# J-55 ST&C casing. Cement with 600 Sx. Class "C" POZ cement + 2% CaCl, + ½# Flocele/Sx. tail in with 200 Sx. of Class "C" cement + 2% CaCl, circulate cement to surface.
- 3. Drill 7 7/8" holce to 8200'. Run and set 8200' of 5¹/₂" 17# J-55 LT&C casing. Cement with 700 Sx. of Class "C" cement + additives, Estimate top of cement 3100' from surface or at least 500' above the top of the upper most productive interval.

COG OPERATING, LLC. ACCEPTS THE RESPONSIBILITY OF OPERATING THIS LEASE.

APPROVAL SUBJECT TO

*See Instructions On Reverse Side APPROVAL FOR 1 YEAR

GENERAL REQUIREMENTS AND

eepen directionally, give pertinent data on subsurface To	M: If proposal is to deepen, give data on present productive one pentions and measured and true vertical depths Arife BACHARP	The preparation of the proposal is to drill and preparation of the proposal is to drill anter program, if any.
signed to et	Cinto Agent	DATE 12/13/04
AThis space for Federal or State office use	>)	
PERMIT NO.	APPROVAL DATE	
Application approval does not warrant or certify that to CONDITIONS OF APPROVAL, IF ANY:	he applicant holds legal or equitable title to those rights in the subject $\int \int dx$	KE
APPROVED BY /s/ Joe G. La	FIELD MANAGER	R JAN 1 4 2005

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the

DISTRICT I 1625 N. Preach Dr., Hobbs, NM 88240

DISTRICT II 811 South First, Artesia, NM 88210

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV 2040 South Pacheco, Sents Fe, NM 87505 Energy, Minerals and Natural Resources Department

Form C-102 Revised March 17, 1999

Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

BASIN SURVEY

OIL CONSERVATION DIVISION

2040 South Pacheco

Santa Fe, New Mexico 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number Pool Code Dios Mano Pool Name 30.025- 37062 96531 WILDCAT DELAWARE South Property Code **Property** Name Well Number 24551 RAPTOR "4" FEDERAL 1 OGRID No. **Operator** Name Elevation 229137 C.O.G. OPERATING LLC 4008' Surface Location UL or lot No. Section Township Lot Idn Range Feet from the North/South line Feet from the East/West line County LOT 1 4 19 S 34 E 760 NORTH 330 EAST LEA Bottom Hole Location If Different From Surface UL or lot No. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County Dedicated Acres Joint or Infill Consolidation Code Order No. 40 NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION LOT 4 LOT 3 LOT 2 LOT 1 4008 OPERATOR CERTIFICATION 760 4010.0' I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Lat.: N32•41'41.5" 44.40 AC. Long.: W103'33'27.9" 330 ļl nec 4009.3 44.74 AC. 400 44.63 AC. 44.51 AC. /Signature Joe T. Jamíca Printed Name Agent Title 12/13/04 Date SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison and that the same is true and correct to the best of my belief. December 1, 2004 Date Surveyed Signature & Seal of Nes Sarre Professional EXHIBIT "A" 4869 No. Certificate Gary 7977 Joi PROFESSIONAL UP JLP





RAPTOR "4" FEDERAL #1 Located at 760' FNL and 330' FEL Section 4, Township 19 South, Range 34 East, N.M.P.M., Lea County, New Mexico.

	1.0. DOX 1700	W.O. Number: 4869AA - JLP #1	COC
DASIN Shirana	1120 N. West County Rd. Hobbs, New Mexico 88241 (505) 393-7316 - Office		C.O.G. OPERATING
focused on excellence	(505) 392-3074 - Fax basinsurveys.com	Scale: 1" = 2000' Date: 12/02/04	LLC

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	RAPTOR "4" FEDERAL #1 Located at 760' FNL and 330' FEL Section 4, Township 19 South, Range 34 East, N.M.P.M., Lea County, New Mexico.						
DASin	P.O. Box 1780 1120 N. West Hobbs, New M (505) 393-73 (505) 392-30 basinsurveys.c	County Rd. Survey Data 6 — Office 4 — Fax	= 2000'	8	C.O.G. ERATING LLC		

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APPLICATION TO DRILL

COG OPERATING, LLC. RAPTOR "4" FEDERAL # 1 UNIT "A" SECTION 4 T19S-R34E LEA CO. NM

In response to questions asked under Section II of Bulletin NTL-6 the following information on the above well is providedfor your consideration.

- 1. Location of well: 760' FNL & 330' FEL SECTION 4 T19S-R34E LEA CO. NM
- 2. Ground Elevation above Sea Level: 4008' GR.
- 3. Geological age of surface formation: Quaternary Deposits:
- 4. Drilling tools and associated equipment: Conventional rotary drilling rig using drilling mud as a circulating medium to remove solids from hole.
- 5. Proposed drilling depth: 8200'
- 6. Estimated tops of geological markers: Rustler Anhydrite 1840' San Andres 5350' Salado Salt 1950' Delaware 7000' Yates 3100'
- 7. Possible mineral bearing formations:
 - Delaware 0i1
- 8. Casing Program:

Hole Size	Interval	OD of Casing	Weight	Thread	Collar	Grade
25''	0-40'	20"	NA	NA	NA	Conductor
11"	0-1850'	8 5/8"	32	8-R	ST&C	J-55
7 7/8"	0-8200'	5½"	17#	8-R	LT&C	J-55

APPLICATION TO DRILL

COG OPERATING, LLC. RAPTOR "4" FEDERAL # 1 UNIT "A" SECTION 4 T19S-R34E LEA CO. NM

9. CASING CEMENTING & SETTING DEPTH:

20''	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
8 5/8"	Surface	Set 1850' of 8 5/8" $32\#$ J-55 ST&C casing. Cement with 600 Sx. of Class "C" POZ + $\frac{1}{2}\#$ Flocele/Sx, + 2% CaCl, tail in with 200 Sx. of Class "C" + 2% CaCl, circulate cement to surface.
5½''	Production	Set 8200' of 5 ¹ ₂ " 17# J-55 LT&C casing. Cement with 700 Sx. of Class "C" cement + additives, estimate Top of cement 3100' From surface or at least 500' above upper- most productive interval.

- 10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 series 3000 PSI working perssure B.O.P. consisting of an annular bag type preventor, middle blind rams, and bottom pipe rams. The B.O.P. will be nippled up on the 8 5/8" casing and tested to API specifications. The B.O.P. will be operated at least once each 24 Hr. period and the blind rams will be operated when the drill pipe is out of on trips. Full opening stabbing valve and upper kelly cock will be available in case if needed. Exhibit "E-1" shows a hydraulically operated closing unit and a 3" 3000 PSI choke manifold with adjustable chokes. No abnormal pressures or temperatures are expected while drilling this well. No problems in offset wells.
 - 11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40-1850'	8.4-9.2	29-40	NC	Fresh water Spud Mud add paper to control seepage, use high viscosity sweeps to clean hole.
1850-8200'	10.0-10.2	29–35	NC to 20cc	Brine water use Gel to control viscosity paper to control seep- age, starch for water loss control and high viscosity sweeps to clean-hole.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, and casing, viscosity, and water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

COG OPERATING, LLC. RAPTOR "4" FEDERAL # 1 UNIT "A" SECTION 4 T19S-R34E LEA CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: Dual Laterolog, SNP, LDT, Caliper and Gamma Ray from TD back to 8 5/8" casing shoe.
- B. Cased hole logs: Gamma Ray, neutron from 8 5/8" casing shoe back to surface.
- C. No cores or DST's are planned at this time.
- d. Mud logger may be placed on hole at 1850' and remain on hole to TD.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H^2S in this area. If H^2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP <u>4000±</u> PSI, and Estimated BHT <u>140°</u>.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 14 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The <u>Delaware</u> formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialed as an oil well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

- 1. All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazzards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
- 2. H₂S Detection and Alarm Systems
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
- 3. Windsock and/or wind streamers
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock at briefing area should be high enough to be visible.
 - C. There should be a windsock at entrance to location.
- 4. Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H₂S present in dangerous concentration. Only emergency personnel admitted to location.
- 5. Well control equipment
 - A. See exhibit "E" & "E-1"
- 6. Communication
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.
- 7. Drillstem Testing
 - A. Exhausts will be watered.
 - B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
 - C. If the location is near to a dwelling a closed DST will be performed.

SURFACE USE PLAN

COG OPERATING, LLC. RAPTOR "4" FEDERAL # 1 UNIT "A" SECTION 4 T19S-R34E LEA CO. NM

- EXISTING ROADS & PROPOSED ROADS: Area maps; Exhibit "B" is a reproduction of a County General Hi-way Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
 - A. Exhibit "A" shows the proposed well site as staked.
 - B. From Hobbs New Mexico take U.S. Hi-way 62-180 West 15[±] miles to junction with State Hi-way 529 bear Left on 529 go 10[±] miles to MP 20.7 turn South on GEMINI LANE go 1.6 miles to location on the West side of road.
 - C. Exhibit "C" shows roads leading to location. Possible powerline R-O-W to furnish power to operate pumping unit motor, and related equipment.

2. PLANNED ACCESS ROADS: Approximately 250' of new road will be constructed.

- A. The access roads will be crowned and ditched to a 12' wide travel surface with a 40' Right-of-Way.
- B, Gradient of all roads will be less than 5.00%.
- C. If turn-outs are necessary they will be constructed.
- D. If needed roads will be surfaced with a mimimum of 4" of caliche. This material will be obtained from a local source.
- E. Center-line for new roads will be flagged. Earth-work will be will be done as field conditions require.
- F. Culverts will be placed in the access road if they are necessary. The roads will be constructed to utilaze low water crossings for drainage as required by topography.
- 3. LOCATIONS OF EXISTING WELLS IN A ONE MILE RADIUS. EXHIBIT "A-1"

A. Water wells

- B. Disposal wells None known
- C. Drilling wells None known
- D. Producing wells As shown of n Exhibit "A-1"
- E. Abandoned wells As shown on Exhibit "A-1"

COG OPERATING, LLC. RAPTOR "4" FEDERAL # 1 UNIT "A" SECTION 4 T19S-R34E LEA CO. NM

4. If on completion this well is a producer the operator will lay pipelines and construct powerlines along existing road R-O-W's or other existing R-O-W's. Possible routes of pipelines, flowlines and powerlines are shown on Exhibit "C".

5. LOCATION AND TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the access roads or piped to location in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction material will be obtained from the excavation of drill site, if additional material is needed it will be obtained from a local source and transported over the access roads as shown on Exhibit "C".

7. METHODS OF HANDLING WASTE MATERIAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in a approved sanitary land fill.
- C. Salts remaining after completion of well will be picked up by the supplier, including broken sacks.
- D. Waste water from living quaters will be drained into holes with a minium of 10'. These holes will be covered during drilling and will be back filled when the well is completed. A Porto-John will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- E. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for furthed drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approve disposal site. Later pips will be broken out to speed drying. Water produced during completion will be put in reserve pits. Oil and condensate produced will be put in storage tanks and sold.

8. ANCILLARY FACILITIES:

A. No camps or air strips will be constructed on location.

COG OPERATING, LLC. RAPTOR "4" FEDERAL # 1 UNIT "A" SECTION 4 T19S-R34E LEA CO. NM

- 9. WELL SITE LAYOUT
 - A. Exhibit "D" shows the proposed well site layout.
 - B. This exhibit indicated proposed location of reserve and sump pits and living facilities.
 - C. Mud pits in the active circulating system will be steel pits & the reserve pit is proposed to be unlined unless subsurface condition encountered during pit construction indicate that lining is needed for lateral containment of fluids.
 - D. If needed, the reserve pit is to be lined with polyethelene. The pit liner will be 6 mils thick. Pit liner will extend a minimum 2'00" over the reserve pits dikes where the liner will be anchored down.
 - E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.
- 10. PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be contoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

11. OTHER INFORMATION:

- A. Topography is relatively flat with little or no dip the well is on top of the Caprock with the fall off about .25 miles to the West. Vegetation is native grasses with an occasional mesquite. Top soil is very shallow with a Caliche base.
- B. Surface is owned by the U.S. Department of Interior and is administered by the Bureau of Land Management. The surface is leased to ranchers for grazing of live stock.
- C. An archaeological survey will be conducted and the results will be filed with The Bureau of Land Management Carlsbad Field office in Carlsbad NM. If this is required by the Bureau of Land Management since this is an old existing location.
- D. There are no domestic dwellings located within one mile of the location.
- 12. OPERATORS REPRESENTIVE:

Before construction:

During and after construction:

TIERRA EXPLORATION, INC.	COG OPERATING, LLC.
P.O. BOX 2188	550 WEST TEXAS AVE
HOBBS, NEW MEXICO 88241	SUITE 1300
JOE T. JANICA	MIDLAND, TEXAS 79701
OFFICE PHONE 505-391-8503	ERICK NELSON PHONE 432-685-4342

13. <u>CERTIFICATION:</u> I hereby certify that I or persons under my direct supervision have inspected the proposed drill site and access route, that I am familiar with the conditions which currently exist, that the statements made in this plan are to the best of my knowledge, are true and correct, and that the work associated with the operations proposed herein will be performed by COG OPERATING, LLC. it's contractors/subcontractors is in the conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false statement.



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- ↔ Wind Direction Indicators (wind sock or streamers)
- △ H2S Monitors (alarms at bell nipple and shale shaker)
- \circ Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

EXHIBIT "D"
RIG LAY OUT PLAT
COG OPERATING, LLC.
RAPTOR "4" FEDERAL # 1
UNIT "A" SECTION 4
T19S-R34E LEA CO. NM



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COG OPERATING, LLC. RAPTOR "4" FEDERAL # 1 UNIT "A" SECTION 4 T19S-R34E LEA CO. NM



State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-144 March 12, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office. For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure Is pit or below-grade tank covered by a "general plan"? Yes No Type of action: Registration of a pit or below-grade tank Closure of a pit or below-grade tank Operator: COG OPERATING, LLC. Operator: <u>COG OPERATING, LLC.</u> Address: <u>550 WEST TEXAS AVE. SUITE 1300 MIDLAND</u>, TEXAS 79701 Facility or well name: RAPTOR "4" fed. #1 API # 30.025.37062 U/L or Qtr/Qtr 4 Sec 4 T 195 R 34E Latitude N32°41'42'' Longitude W103°33'28'' NAD: 1927 🗌 1983 🗋 Surface Owner Federal 🕅 State 🗋 Private 🗖 Indian County. LEA Pit Below-grade tank Type: Drilling 🚺 Production 🗌 Disposal 🗌 Volume: _____bbl Type of fluid: _____ Workover Emergency Construction material: Lined 📥 Unlined 🗌 Double-walled, with leak detection? Yes 🔲 If not, explain why not. Liner type: Synthetic 🔽 Thickness 1.2 mil Clay 🗌 Volume 20M bbl Less than 50 feet (20 points) Depth to ground water (vertical distance from bottom of pit to seasonal high 50 feet or more, but less than 100 feet (10 points) water elevation of ground water.) 100 feet or more 110' 0 (0 points) Yes (20 points) Wellhead protection area: (Less than 200 feet from a private domestic No (0 points) .8 miles 0 water source, or less than 1000 feet from all other water sources.) Х Less than 200 feet (20 points) Distance to surface water: (horizontal distance to all wetlands, playas, 200 feet or more, but less than 1000 feet (10 points) irrigation canals, ditches, and perennial and ephemeral watercourses.) 1000 feet or more 2000' (0 points) 0 **Ranking Score (Total Points)** 0 If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location:

onsite i offsite i If offsite, name of facility __. (3) Attach a general description of remedial action taken including remediation start date and end

date. (4) Groundwater encountered: No 🗌 Yes 🔲 If yes, show depth below ground surface______ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines [], a general permit], or an (attached) alternative OCD-approved plan]. Date: <u>61/21/05</u> Signature

Agent Printed Name/Title_

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations. V 11

Approval:

Date: JAN 2.5 2005 Printed Name/Title_____

PETROLEUM ENGINEER

Signature

enco