

30-015-38348

## COG Operating LLC

### Hydrogen Sulfide Drilling Operation Plan

#### I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H<sub>2</sub>S on metal components. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan. **The concentrations of H<sub>2</sub>S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

## II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

### 1. Well Control Equipment:

- A. Flare line.
- B. Choke manifold.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

### 2. Protective equipment for essential personnel:

- A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

### 3. H2S detection and monitoring equipment:

- A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

### 4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram (Exhibit #8).
- B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

### 5. Mud program:

- A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

**6. Metallurgy:**

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.
- B. All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

**7. Communication:**

- A. Radio communications in company vehicles including cellular telephone and 2-way radio.
- B. Land line (telephone) communication at Office.

**8. Well testing:**

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H<sub>2</sub>S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

**EXHIBIT #7**

**WARNING**  
**YOU ARE ENTERING AN H<sub>2</sub>S**  
**AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED
- 2. HARD HATS REQUIRED
- 3. SMOKING IN DESIGNATED AREAS ONLY
- 4. BE WIND CONSCIOUS AT ALL TIMES
- 5. CHECK WITH COG OPERATING FOREMAN AT

**COG OPERATING LLC**  
**1-432-683-7443**  
**1-575-746-2010**

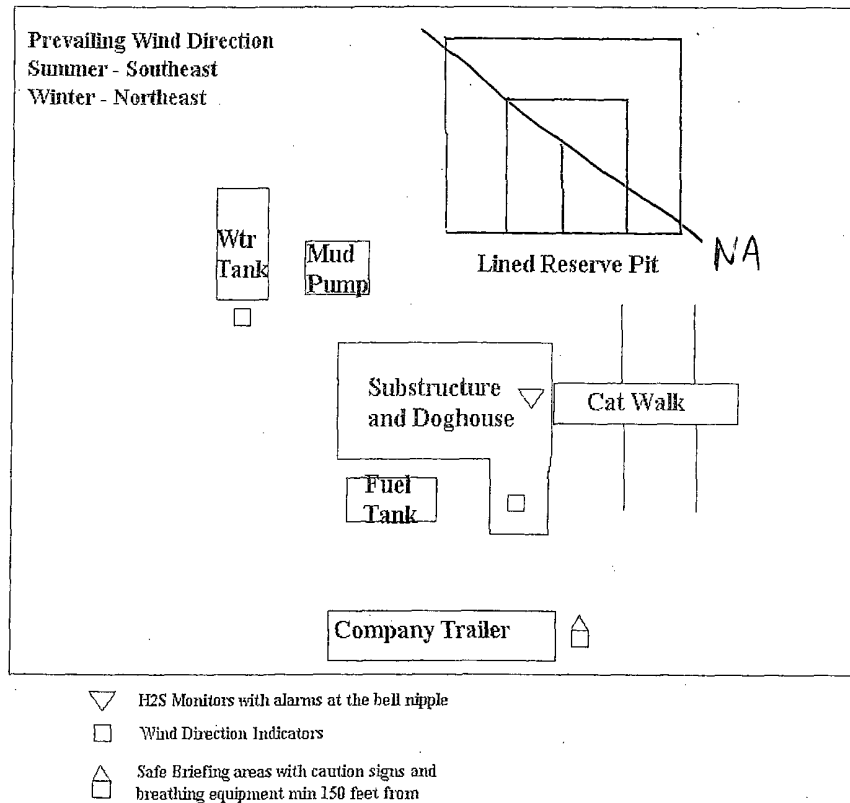
**EDDY COUNTY EMERGENCY NUMBERS**

ARTESIA FIRE DEPT. 575-746-5050  
ARTESIA POLICE DEPT. 575-746-5000  
EDDY CO. SHERIFF DEPT. 575-746-9888

**LEA COUNTY EMERGENCY NUMBERS**

HOBBS FIRE DEPT. 575-397-9308  
HOBBS POLICE DEPT. 575-397-9285  
LEA CO. SHERIFF DEPT. 575-396-1196

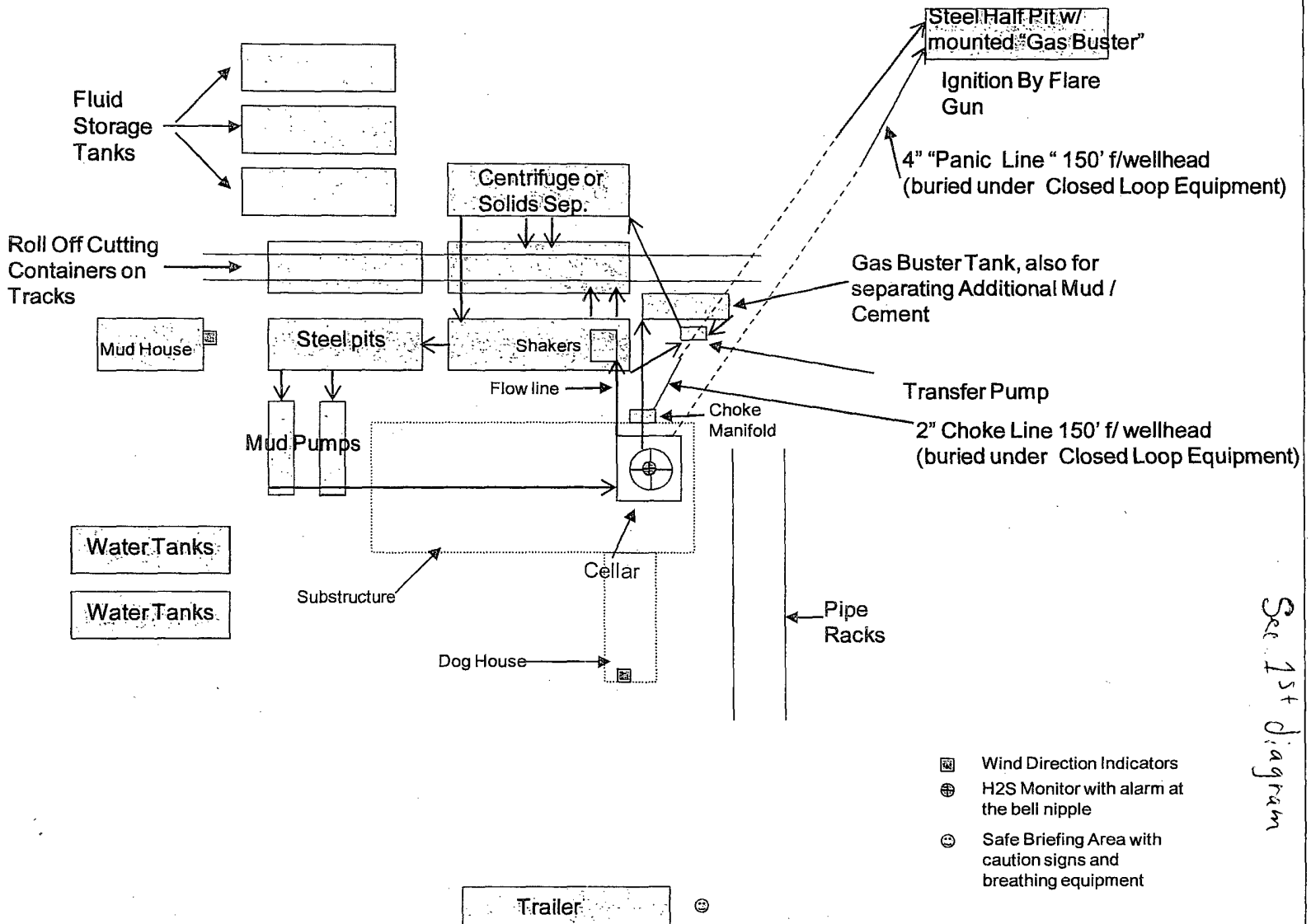
# DRILLING LOCATION H<sub>2</sub>S SAFETY EQUIPMENT Exhibit # 8



COG Operating LLC

## EXHIBIT 8

Drilling Location - H2S Safety Equipment Diagram



See 1st diagram

## **SURFACE USE AND OPERATING PLAN**

### **1. Existing & Proposed Access Roads**

- A. The well site survey and elevation plat for the proposed well is shown in Exhibit #1. It was staked by John West Engineering, Hobbs, NM.
- B. All roads to the location are shown in the topographic map Exhibit #2. The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary.
- C. **Directions to Location:** From the intersection US Highway 82 and Co. Rd. 224 (Ripple Road), Go Southwest on US Highway 82 apprx 1.2 miles. Turn Right and Go Northwest apprx 0.3 mile. Turn Right & Go North apprx 0.3 mile. Turn Right & Go Northeast apprx 0.5 mile. Turn Right & Go East apprx 0.3 mile to an existing well location. The location stake is apprx 395 feet Southeast of existing well location. See Vicinity Map, Exhibit #3.
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease. Roads will be maintained according to specifications in section 2A of this Surface Use and Operating Plan.

### **2. Proposed Access Road:**

Exhibit #4 shows that 230' of new access road will be required for this location. If any road is required it will be constructed as follows:

- A. The maximum width of the running surface will be 14'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.

- E. Surfacing material will consist of native caliche. Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from the nearest BLM caliche pit.

**3. Location of Existing Well:**

Exhibit #5 shows all existing wells within a one-mile radius of this well.

As shown on this plat there are numerous wells producing from the San Andres and Yeso formations.

**4. Location of Existing and/or Proposed Facilities:**

- A. COG Operating LLC does operate a production facility on this lease.
- B. If the well is productive, contemplated facilities will be as follows:

1) Production will be sent to the Skelly 605 Federal tank battery located well location @ 2460 FSL & 2410 FEL, Section 14, T17S, R31E, UL J. The facility location is shown in Exhibit #5.

- 2) The tank battery and facilities including all flow lines and piping will be installed according to API specifications.
- 3) Any additional caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche will be hauled from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.
- 4) Proposed flow lines, will follow an archaeologically approved route to the Skelly 605 Federal tank battery located well location @ 2460 FSL & 2410 FEL, Section 14, T17S, R31E, UL J. The flowline will be SDR 7 3" poly line laid on the surface and will be approximately 3090' in length with max pressure 100 psi. Flowlines will be no more than 11' from the paralleling road. The facility location is shown in Exhibit #5.
- 5) It will be necessary to run electric power if this well is productive. Power will be provided by CVE and they will submit a separate plan and ROW for service to the well location.
- 6) If the well is productive, rehabilitation plans will include the following:
  - a) The original topsoil from the well site will be returned to the location, and the site will be re-contoured as close as possible to the original site.

**5. Location and Type of Water Supply:**

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown in Exhibit #2. If a commercial fresh water source is nearby, fast line may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

**6. Source of Construction Materials and Location "Turn-Over" Procedure:**

Obtaining caliche: The primary way of obtaining caliche to build locations and roads will be by "turning over" the location. This means, caliche will be obtained from the actual well sight. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cu. Yards is max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

- A. The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.**
- B. An approximate 120' X 120' area is used within the proposed well site to remove caliche.**
- C. Subsoil is removed and piled along side the 120' by 120' area within the pad site.**
- D. When caliche is found, material will be stock piled within the pad site to build the location and road.**
- E. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.**
- F. Once well is drilled, the stock piled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche or subsoil will be stock piled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in attached plat.**

In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit.

**7. Methods of Handling Water Disposal:**

- A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site.**
- B. Drilling fluids will be contained in steel mud pits.**



- C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.
- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

**8. Ancillary Facilities:**

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

**9. Well Site Layout:**

- A. The drill pad layout, with elevations staked by John West Engineering, is shown in Exhibit #4. Dimensions of the pad and pits are shown on Exhibit #6. V door direction is South. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.
- B. Exhibit #6 also shows the proposed orientation of closed loop system and access road. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

**10. Plans for Restoration of the Surface:**

- A. Interim Reclamation will take place after the well has been completed. The pad will be downsized by reclaiming the areas not needed for production operations. The portions of the pad that are not needed for production operations will be recontoured to its original state as much as possible. The caliche that is removed will be reused to either build another pad site or for road repairs within the lease. The stockpiled topsoil will then be spread out reclaimed area and reseeded with a BLM approved seed mixture. In the event that the well must be worked over or maintained, it may be necessary to drive, park, and/or operate machinery on reclaimed land. This area will be repaired or reclaimed after work is complete.

- B. Final Reclamation: Upon plugging and abandoning the well, All caliche for well pad and lease road will be removed and surface will be recountoured to reflect its surroundings as much as possible. Caliche will be recycled for road repair or reused for another well pad within the lease. If any topsoil remains, it will be spread out and the area will be re-seeded with a BLM approved mixture and revegetated as per BLM orders.

**11.Surface Ownership:**

- A. The surface is owned by the U.S. Government and is administered by the Bureau of Land Management. The surface is multiple uses with the primary uses of the region for grazing of livestock and the production of oil and gas.
- B. The surface tenant for this site is Charles Martin, P.O. Box 706, Artesia NM 88211.
- C. The proposed road routes and surface location will be restored as directed by the BLM

**12.Other Information:**

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.
- B. There is no permanent or live water in the immediate area.
- C. There are no dwellings within 2 miles of this location.
- D. If needed, a Cultural Resources Examination is being prepared by Southern New Mexico Archaeological Services, Inc. P.O. Box 1, Bent New Mexico, 88314, phone # 505-671-4797 and the results will be forwarded to your office in the near future. Otherwise, **COG will be participating in the Permian Basin MOA Program.**

*Surface Use Plan  
COG Operating, LLC  
Skelly Unit 669  
1730' FSL & 2440' FEL, UL I  
Section 14, T-17-S, R-31-E  
Eddy County, New Mexico*

**13. Bond Coverage:**

Bond Coverage is Nationwide Bond # 000215

**14. Lessee's and Operator's Representative:**

The COG Operating LLC representative responsible for assuring compliance with the surface use plan is as follows:

John Coffman,

Drilling Superintendent

COG Operating LLC

550 W. Texas, Suite 1300

Midland, TX 79701

Phone (432) 683-7443 (office)

(432) 631-9762 (cell)

Erick Nelson.

Division Operations Manager

COG Operating LLC

550 W. Texas, Suite 1300

Midland, TX 79701

Phone (505) 746-2210 (office)

(432) 238-7591 (cell)

Surface Use Plan  
COG Operating, LLC  
Skelly Unit 669  
1730' FSL & 2440' FEL, UL I  
Section 14, T-17-S, R-31-E  
Eddy County, New Mexico

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or COG Operating, LLC, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 27th day of August, 2010.

Signed: \_\_\_\_\_



Printed Name: Carl Bird

Position: Drilling Engineer

Address: 550 W. Texas, Suite 1300, Midland, Texas 79701

Telephone: (432) 683-7443

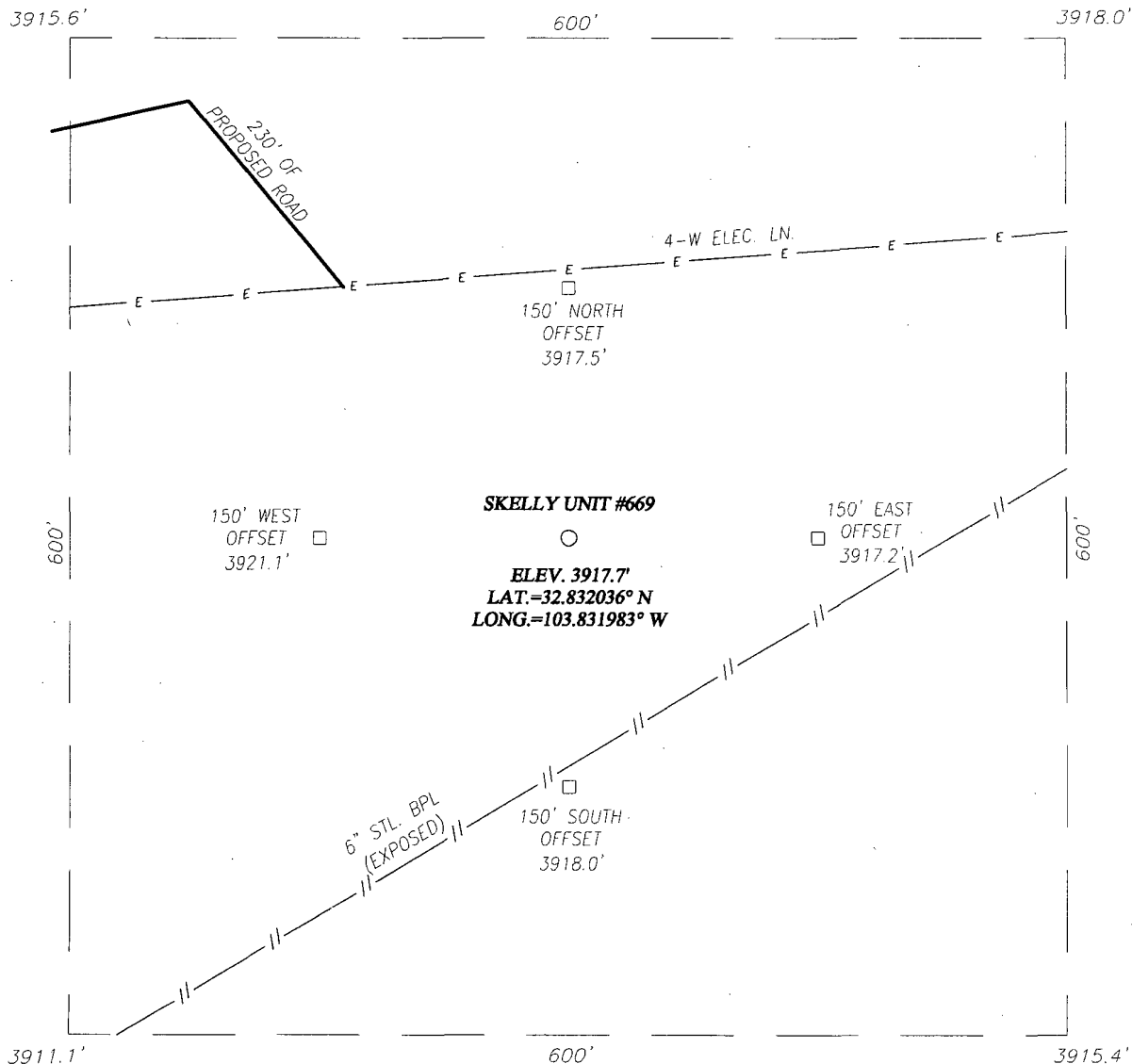
Field Representative (if not above signatory): Same

E-mail: cbird@conchoresources.com

**Exhibits:**

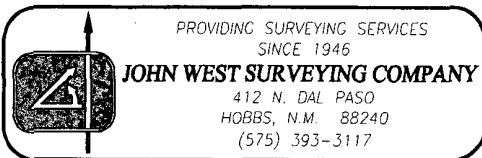
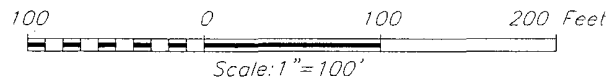
- |                    |   |
|--------------------|---|
| <b>Exhibit #1</b>  | <b>Wellsite and Elevation Plat</b><br><br><b>Form C-102 Well location and acreage dedication plat</b> |
| <b>Exhibit #2</b>  | <b>Topographic Map (West)</b>   |
| <b>Exhibit #3</b>  | <b>Vicinity Map and area roads</b>  |
| <b>Exhibit #4</b>  | <b>Elevation Plat (West)</b>  |
| <b>Exhibit #5</b>  | <b>Topographic extract showing wells, roads and flowlines</b>   |
| <b>Exhibit #6</b>  | <b>Pad Layout and orientation</b>   |
| <b>Exhibit #7</b>  | <b>H2S Signage</b>  |
| <b>Exhibit #8</b>  | <b>H2S Equipment location</b>   |
| <b>Exhibit #9</b>  | <b>BOP and Choke diagrams</b>   |
| <b>Exhibit #10</b> | <b>Form C-144 NMOCD pit permit application</b>  |

**SECTION 14, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.**  
 EDDY COUNTY NEW MEXICO



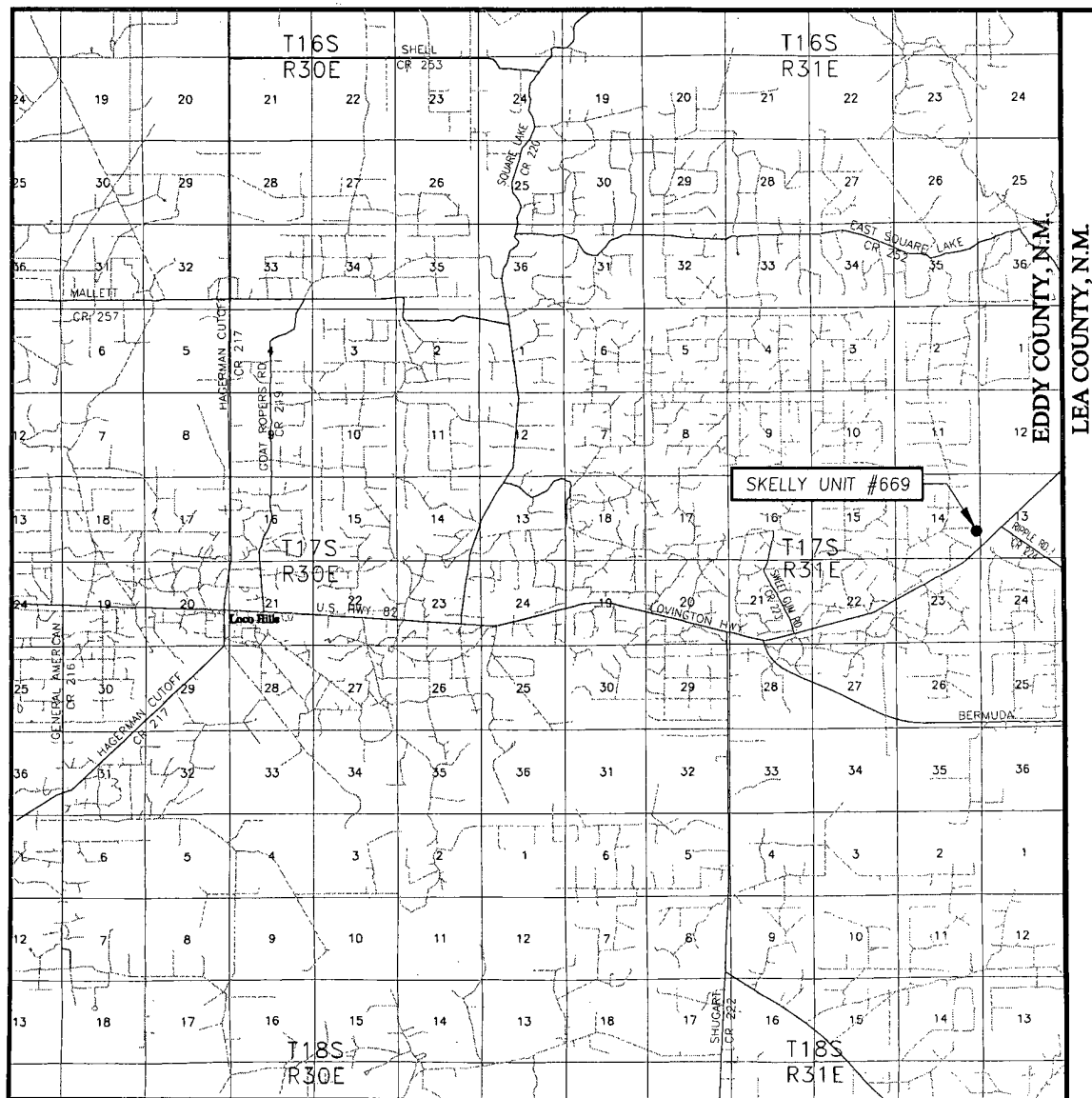
**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF U.S. HWY. #82 AND CO. RD. #224 (RIPPLE RD.), GO SOUTHWEST ON U.S. HWY. #82 APPROX. 1.2 MILES. TURN RIGHT AND GO NORTHWEST APPROX. 0.3 MILES. TURN RIGHT AND GO NORTH APPROX. 0.3 MILES. VEER RIGHT AND GO NORTHEAST APPROX. 0.5 MILES. TURN RIGHT AND GO EAST APPROX. 0.3 MILES TO AN EXISTING WELL LOCATION. THE LOCATION STAKE IS APPROX. 395 FEET SOUTHEAST OF EXISTING WELL LOCATION.




<b>COG OPERATING, LLC</b>			
SKELLY UNIT #669 WELL LOCATED 1730 FEET FROM THE SOUTH LINE AND 244 FEET FROM THE EAST LINE OF SECTION 14, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO			
Survey Date: 8/11/10	Sheet 1 of 1 Sheets		
W.O. Number: 10.11.1024	Dr By: LA	Rev 1: N/A	
Date: 8/19/10	10111024	Scale: 1"=100'	

# VICINITY MAP



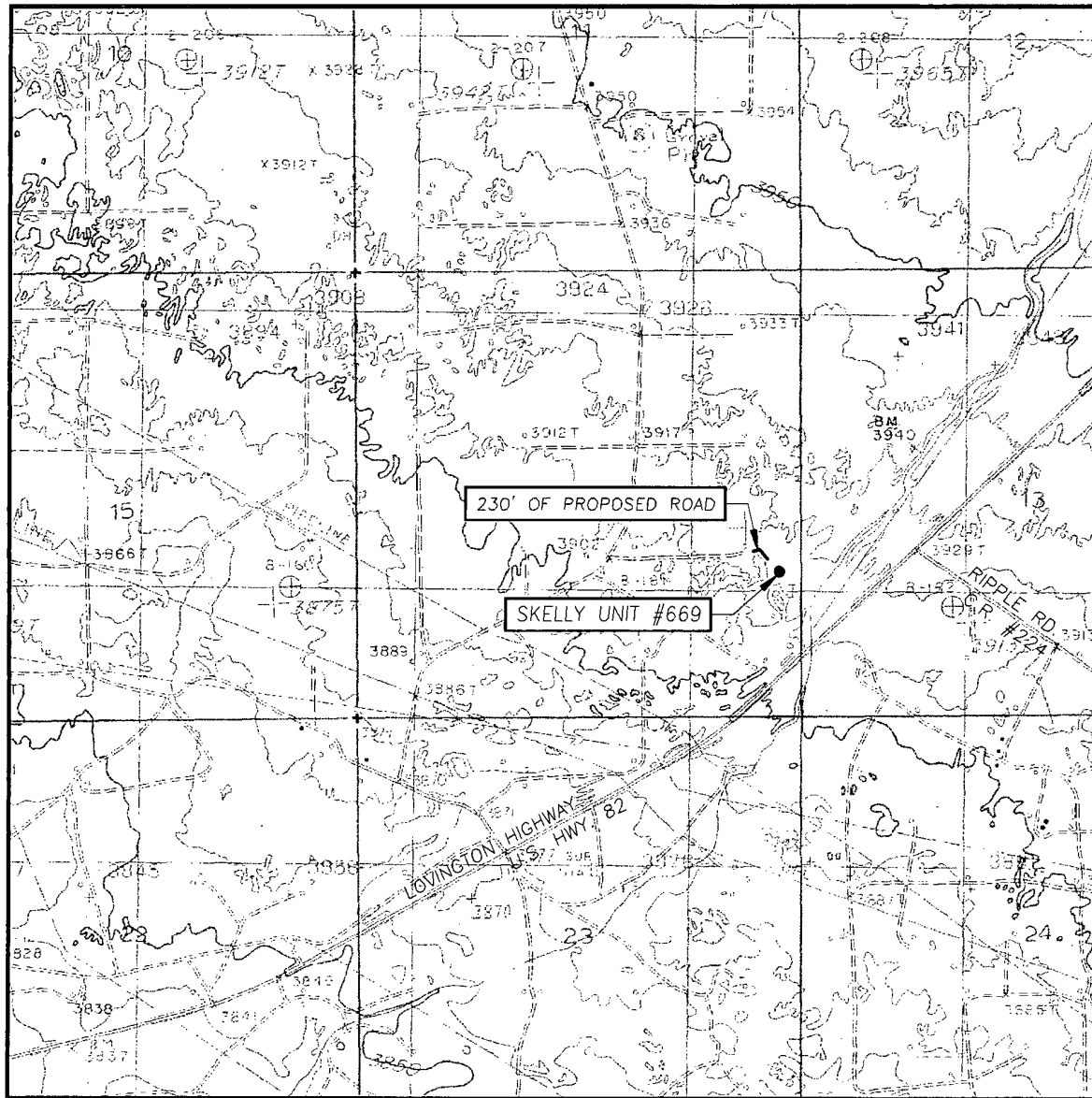
SCALE: 1" = 2 MILES

SEC. 14 TWP. 17-S RGE. 31-E  
 SURVEY N.M.P.M.  
 COUNTY EDDY STATE NEW MEXICO  
 DESCRIPTION 1730' FSL & 244' FEL  
 ELEVATION 3918'  
 OPERATOR COG OPERATING, LLC  
 LEASE SKELLY UNIT



PROVIDING SURVEYING SERVICES  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (575) 393-3117

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
MALJAMAR, N.M. - 10'

SEC. 14 TWP. 17-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

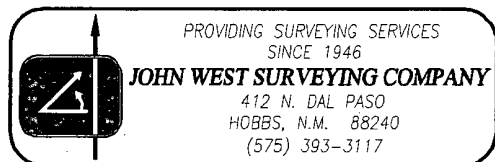
DESCRIPTION 1730' FSL & 244' FEL

ELEVATION 3918'

OPERATOR COG OPERATING, INC.

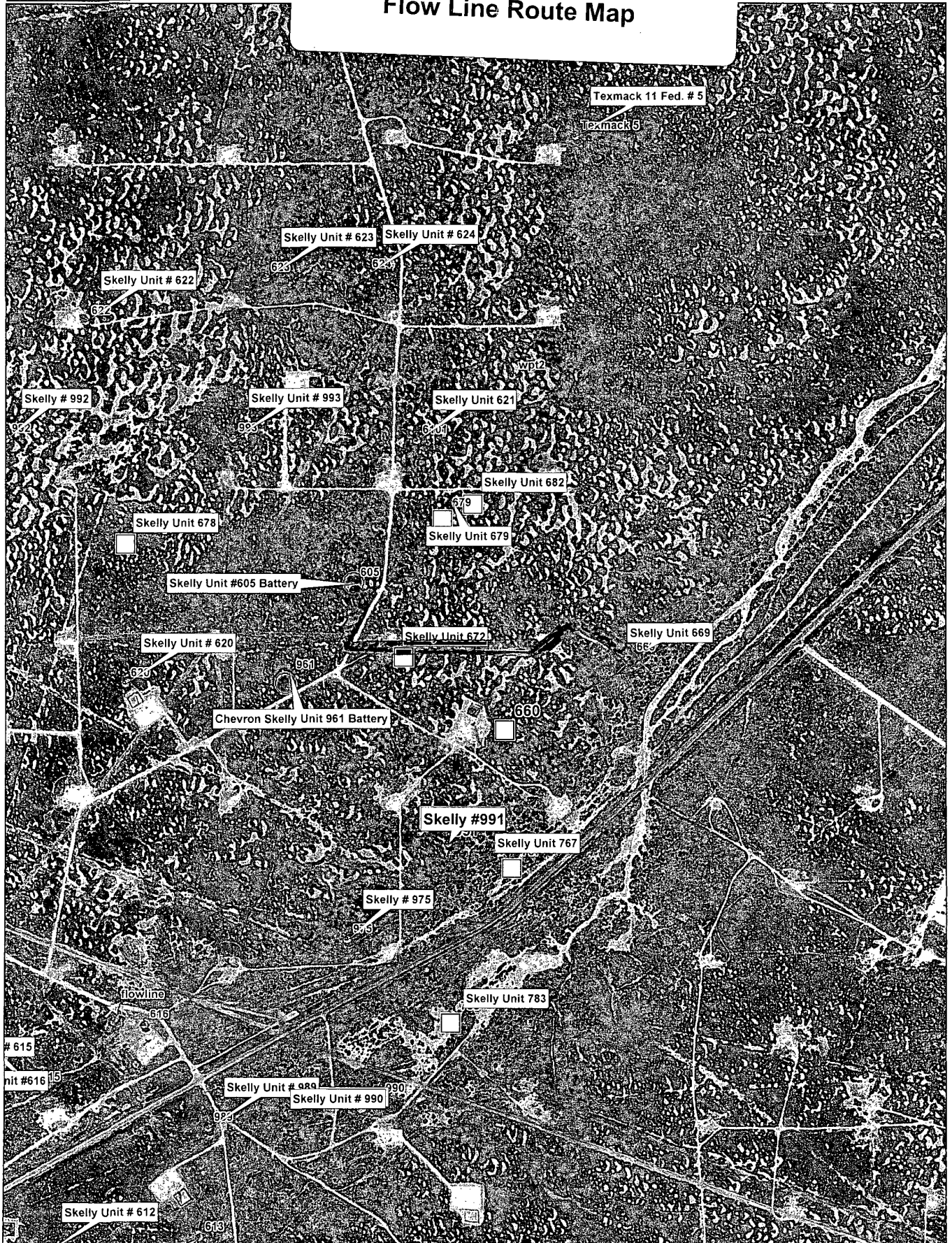
LEASE SKELLY UNIT

U.S.G.S. TOPOGRAPHIC MAP  
MALJAMAR, N.M.





# Flow Line Route Map



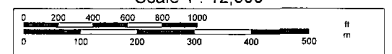
Data use subject to license.

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www.delorme.com



Scale 1 : 12,800



1" = 1,066.7 ft

Data Zoom 14-0

## Wells in 1 Mile Radius to Skelly Unit 669

API#	Operator	County	Legal	Lease	Well#	Date Issued	Permitted Depth	Permit TVD	Images	Doc	Total Depth	Well Type	Well Status	Target Formation
30-015-38015	COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	782	7/15/2010	7,100		No	link	7,100	PO	Active	
30-015-37979	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	654	6/29/2010	96,900		No	link	96,900	PO	Active	
30-015-37980	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	658	6/29/2010	6,800		No	link	6,800	PO	Active	
30-015-37911	HUDSON OIL COMPANY OF TEXAS	EDDY	S:13, T:17S, R:31E	PUCKETT NORTH	9	6/7/2010	4,300		Yes	link	4,300	PO	Active Permit	
30-015-37881	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	672	5/20/2010	6,925	6,900	Yes	link	6,925	PO	Active Permit	
30-015-37885	COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	783	5/20/2010	7,100		Yes	link	7,100	PO	Active Permit	
30-015-37823	COG OPERATING LLC	EDDY	S:11, T:17S, R:31E	TEX MACK 11 FEDERAL	39	5/13/2010	7,000		Yes	link	7,000	PO	Active Permit	
30-015-37840	COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	614	4/23/2010	6,900		Yes	link	6,900	PO	Active Permit	
30-015-37820	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	679	4/23/2010	7,100		Yes	link	7,100	PO	Active Permit	
30-015-37667	COG OPERATING LLC	EDDY	S:11, T:17S, R:31E	TEX-MACK 11 FEDERAL	35	2/24/2010	7,000		Yes	link	7,000	PO	Active Permit	
30-015-37613	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	642	2/8/2010		7,000	Yes	link	7,000	PO	Active Permit	
30-015-37474	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	678	12/18/2009	6,900		Yes	link	6,900	PO	Active Permit	
30-015-37476	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	767	12/18/2009	6,900		Yes	link	6,900	PO	Active Permit	
30-015-37477	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	682	12/18/2009	6,900		Yes	link	6,900	PO	Active Permit	
30-015-37446	COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	795	12/11/2009	6,900		Yes	link	6,920	O	Active Permit	
30-015-37245	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	660	8/26/2009	6,800		Yes	link	6,800	PO	Active Permit	
30-015-37222	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	685	8/12/2009	6,800		Yes	link	6,808	O	Active Permit	
30-015-37186	COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	613	7/24/2009	6,500		Yes	link	6,511	O	Active Permit	
30-015-37161	HUDSON OIL COMPANY OF TEXAS	EDDY	S:13, T:17S, R:31E	PUCKETT NORTH	7	7/10/2009	4,300		Yes	link	4,296	O	Active Permit	
	HUDSON OIL													

30-015-37160	COMPANY OF TEXAS	EDDY	S:12, T:17S, R:31E	PUCKETT NORTH	6	7/10/2009	4,300		Yes	link	4,290	O	Active Permit
30-015-36963	COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	631	2/25/2009	6,800		Yes	link	6,801	O	Active Permit
30-015-36966	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	633	2/25/2009	6,800		Yes	link	6,798	O	Active Permit
30-015-36965	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	634	2/25/2009	6,800		Yes	link	6,820	O	Active Permit
30-015-36847	COG OPERATING LLC AGENT or COG OPERATING LLC	EDDY	S:11, T:17S, R:31E	TEX MACK 11 FEDERAL	5	12/12/2008	6,631	6,600	Yes	link	6,845	O	Active Permit
30-015-36962	COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	630	12/12/2008	6,800		Yes	link	6,818	O	Active Permit
30-015-36831	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	622	12/5/2008	6,640	6,600	Yes	link	6,650	O	Active Permit
30-015-36833	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	623	12/5/2008	6,642	6,600	Yes	link	6,857	O	Active Permit
30-015-36832	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	621	12/5/2008	6,628	6,600	Yes	link	6,857	O	Active Permit
30-015-36780	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	624	11/21/2008	6,600		Yes	link	6,620	O	Active Permit
30-015-36779	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	620	11/21/2008	6,500		Yes	link	6,570	O	Active Permit
30-015-36889	COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	616	11/21/2008	6,500		Yes	link	6,810	O	Active Permit
30-015-36885	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	605	11/4/2008	6,700		Yes	link	6,721	O	Active Permit
30-015-36633	HUDSON OIL COMPANY OF TEXAS	EDDY	S:12, T:17S, R:31E	PUCKETT NORTH	3	9/17/2008	4,300		Yes	link	4,250	O	Active Permit
30-015-36589	COG OPERATING L L C AGENT or COG OPERATING LLC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	990	8/19/2008	6,700		Yes	link	6,720	U	Active Permit
30-015-36517	COG OPERATING LLC AGENT or COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	984	8/4/2008	6,500		Yes	link	6,720	O	Active Permit
30-015-36597	COG OPERATING L L C AGENT or COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	974	8/4/2008	6,511	6,500	Yes	link	6,500	O	Active Permit
	COG OPERATING			SKELLY									

30-015-36498	LLC	EDDY	S:23, T:17S, R:31E	UNIT	989	8/1/2008	6,600		Yes	link	6,518	O	Active Permit	
30-015-36472	COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	993	7/31/2008	6,700		Yes	link	6,790	O	Active Permit	
30-015-36471	COG OPERATING LLC AGENT or COG OPERATING LLC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	991	7/31/2008	6,700		Yes	link	6,521	O	Active Permit	
30-015-36356	CHEVRON U S A INC or CHEVRON USA INC	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	975	5/29/2008	6,600		Yes	link	6,747	O	Active Permit	
30-015-35947	CHEVRON USA, INC. or CHEVRON USA INC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	971	9/18/2007	6,600		Yes	link	6,580	O	Active Permit	
30-015-34747	HUDSON OIL COMPANY OF TEXAS	EDDY	S:12, T:17S, R:31E	PUCKETT NORTH	2	3/28/2006	4,300		No	link	4,300	PO	Active Permit	
30-015-34324	CHEVRON USA, INC.	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	961	9/2/2005	5,500		No	link	5,495	O	Active Permit	
30-015-34325	CHEVRON USA, INC.	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	962	9/2/2005	5,500		No	link	5,470	PO	Active Permit	
30-015-32023	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A	031	6/16/2003	4,200		No	link	4,200	O	Active	
30-015-32287	HUDSON OIL COMPANY OF TEXAS	EDDY	S:13, T:17S, R:31E	WESCOTT FEDERAL	001	6/16/2003	6,200		No	link	6,200	O	Active	
30-015-32023	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A	031	5/31/2003			No	link	4,200	O	Active	MALJAMAR G-SA
30-015-32287	HUDSON OIL COMPANY OF TEXAS	EDDY	S:13, T:17S, R:31E	WESCOTT FEDERAL	001	5/31/2003			No	link	6,200	O	Active	MALJAMAR PADDOCK
30-015-31860	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A	030	9/3/2002	4,200		No	link	4,200	PO	Active Permit	
30-015-31860	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A	030	8/31/2002			No	link	4,200	PO	Active Permit	MALJAMAR G-SA
30-015-31740	HUDSON OIL COMPANY OF TEXAS	EDDY	S:12, T:17S, R:31E	PUCKETT B 12	002	8/8/2002			No	link	12,500	G	Active	
30-015-31740	HUDSON OIL COMPANY OF TEXAS	EDDY	S:12, T:17S, R:31E	PUCKETT B 12	002	7/31/2002			No	link	12,500	G	Active	FREN MORROW
30-015-31371	CHEVRON USA, INC. or CHEVRON U S A INC	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	905	5/1/2002			No	link	12,470	O	Active	FREN MORROW
30-015-32008	HUDSON OIL COMPANY OF TEXAS	EDDY	S:13, T:17S, R:31E	PUCKETT B	037	3/8/2002			No	link	12,600	O	Pumping	WILDCAT MORROW
30-015-05131	WESTBROOK OIL CORP	EDDY	S:11, T:17S, R:31E	LEA C	003	3/1/2002			No	link	3,953	O	Temporarily Abandoned	
30-015-05133	WESTBROOK OIL CORP	EDDY	S:11, T:17S, R:31E	LEA C	005	3/1/2002			No	link		O	Active	
30-015-20648	WESTBROOK OIL CORP	EDDY	S:11, T:17S, R:31E	LEA C	009	3/1/2002			No	link		I	Temporarily Abandoned	
	WESTBROOK													

30-015-20697	OIL CORP	EDDY	S:11, T:17S, R:31E	LEA C	012	3/1/2002		No	link	3,995	O	Pumping	
30-015-20704	WESTBROOK OIL CORP	EDDY	S:11, T:17S, R:31E	LEA C	013	3/1/2002		No	link	4,000	I	Temporarily Abandoned	
30-015-10304	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A	026	2/2/2001	0	No	link	5,250	O	Active	
30-015-05365	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	070	9/10/2000	0	No	link	0	PI	Temporarily Abandoned	
30-015-05384	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A	008	8/30/2000	0	No	link	0	I	Pumping	
30-015-31304	HUDSON OIL COMPANY OF TEXAS	EDDY	S:13, T:17S, R:31E	PUCKETT A LL	001	8/18/2000		No	link	4,045	O	Pumping	MALJAMAR G-SA
30-015-31305	HUDSON OIL COMPANY OF TEXAS	EDDY	S:13, T:17S, R:31E	PUCKETT A LL	002	8/18/2000		No	link	4,070	O	Active	MALAJAR G-SA
30-015-31306	HUDSON OIL COMPANY OF TEXAS	EDDY	S:13, T:17S, R:31E	PUCKETT A LL	003	8/18/2000		No	link	4,023	O	Pumping	MALJAMAR G-SA
30-015-31081	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A W H	001	4/12/2000		No	link	4,040	O	Active	MALJAMAR GRAYBURG SAN ANDRES
30-015-31082	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A W H	002	4/12/2000		No	link	4,052	O	Pumping	MALJAMAR GRAYBURG SAN ANDRES
30-015-30312	TEXACO EXPLORATION & PRODUCTION INC	EDDY	S:11, T:17S, R:31E	TEXMACK 11 FEDERAL	002	6/15/1998		No	link	12,350	G	Active	WOLFCAMP
30-015-10457	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A	027	6/1/1998		No	link	3,900	O	Pumping	
30-015-29201	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	184	4/7/1998		No	link		PO	Unknown	SAN ANDRES
30-015-29202	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	186	4/7/1998		No	link		X	Cancelled	SAN ANDRES
30-015-29218	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	195	4/7/1998		No	link		X	Cancelled	SAN ANDRES
30-015-05148	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	103	7/22/1997	0	No	link	0	I	Injection Well	
30-015-20469	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	110	7/18/1997	0	No	link	0	I	Injection Well	
30-015-05146	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	104	6/6/1997	0	No	link	3,831	I	Injection Well	
30-015-05140	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	033	6/2/1997	0	No	link	3,840	I	Injection Well	
30-015-05145	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	023	4/24/1997	0	No	link	3,860	I	Pumping	
30-015-29541	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	215	4/24/1997		No	link	4,000	O	Pumping	SAN ANDRES
30-015-10773	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	035	4/4/1997	0	No	link	3,944	I	Pumping	
30-015-05359	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	049	3/31/1997	0	No	link	3,850	O	Active	
30-015-05361	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	039	3/28/1997	0	No	link	3,841	G	Active	
30-015-05364	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	047	3/28/1997	0	No	link	3,822	I	Injection Well	
30-015-05372	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	072	3/19/1997	0	No	link	3,000	I	Injection Well	

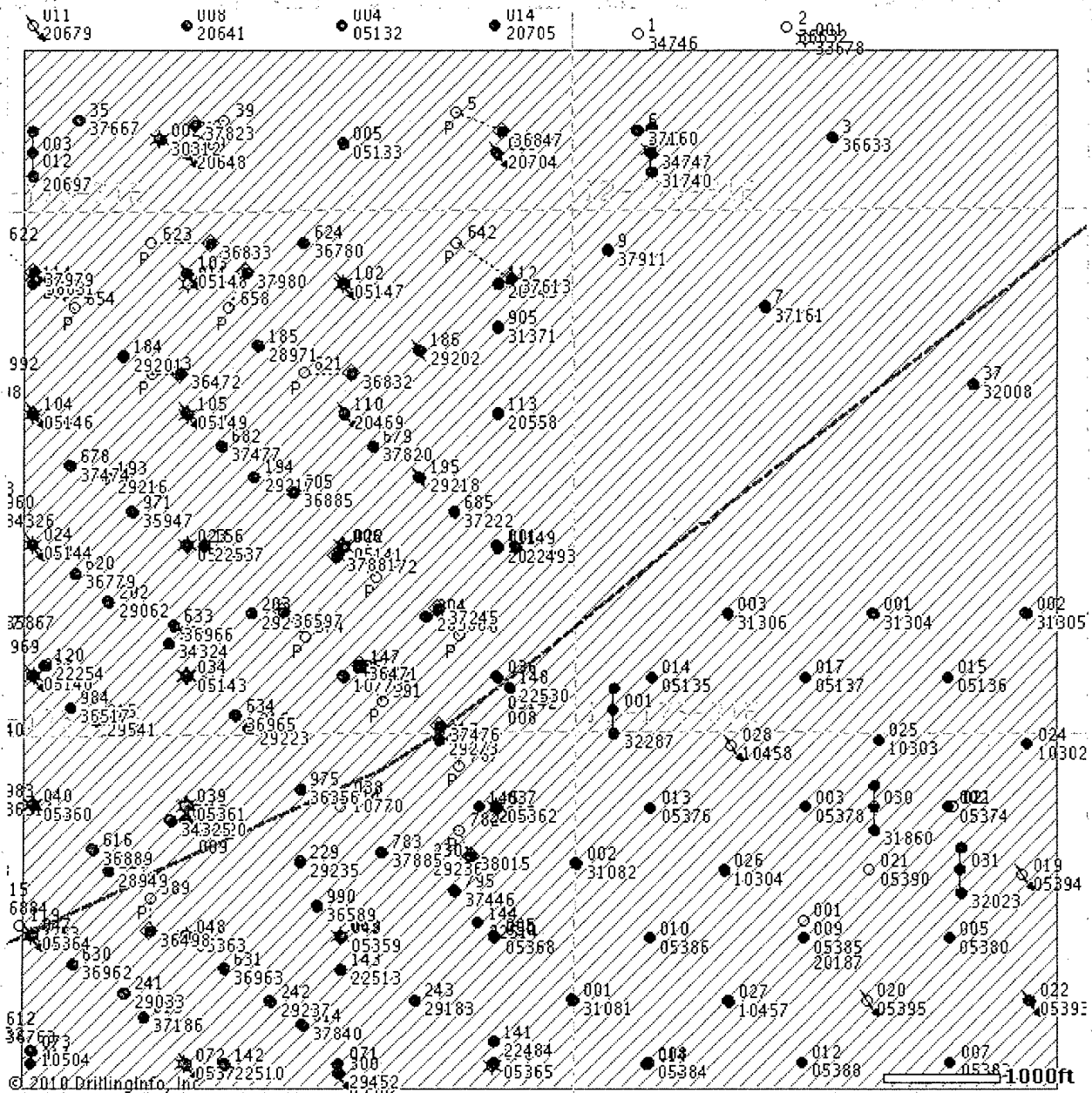
30-015-29452	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	300	3/10/1997			No	link	4,050	I	Injection Well	SAN ANDRES
30-015-29273	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	217	11/14/1996			No	link	4,120	O	Pumping	SAN ANDRES
30-015-29235	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	229	10/23/1996			No	link	4,025	O	Pumping	SAN ANDRES
30-015-29236	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	230	10/23/1996			No	link	4,100	O	Active	SAN ANDRES
30-015-29237	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	242	10/23/1996			No	link	4,025	O	Temporarily Abandoned	SAN ANDRES
30-015-29223	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	216	10/11/1996			No	link	4,100	O	Pumping	SAN ANDRES
30-015-29216	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	193	10/9/1996			No	link	4,100	O	Pumping	SAN ANDRES
30-015-29217	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	194	10/9/1996			No	link	4,100	O	Pumping	SAN ANDRES
30-015-29219	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	203	10/9/1996			No	link	4,100	O	Pumping	SAN ANDRES
30-015-29183	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	243	9/24/1996			No	link	4,050	O	Pumping	SAN ANDRES
30-015-29062	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	202	7/25/1996			No	link	4,050	O	Pumping	SAN ANDRES
30-015-29033	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	241	7/2/1996			No	link	4,000	O	Pumping	SAN ANDRES
30-015-28971	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	185	5/9/1996			No	link	4,150	O	Pumping	GRAYBURG JACKSON
30-015-28966	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	204	5/2/1996			No	link	4,150	O	Active	GRAYBURG-JACKSON
30-015-28949	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	228	4/24/1996			No	link	4,005	O	Active	SAN ANDRES
30-015-05141	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	022	9/1/1995	0		No	link	3,311	G	Flowing	
30-015-05143	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	034	9/1/1995	0		No	link	0	G	Flowing	
30-015-05144	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	024	9/1/1995	0		No	link	0	I	Injection Well	
30-015-05147	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	102	9/1/1995	0		No	link	0	I	Injection Well	
30-015-05149	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	105	9/1/1995	0		No	link	0	I	Injection Well	
30-015-05360	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	040	9/1/1995	0		No	link	3,827	G	Flowing	
30-015-05362	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	037	9/1/1995			No	link	3,886	O	Temporarily Abandoned	
30-015-05363	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	048	9/1/1995	0		No	link	3,857	I	Pumping	
30-015-10504	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	073	9/1/1995	0		No	link	0	O	Active	
30-015-10770	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	038	9/1/1995			No	link	3,910	PI	Injection Well	
30-015-20548	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	111	9/1/1995	0		No	link	3,835	O	Active	
30-015-20549	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	112	9/1/1995	0		No	link	3,947	O	Active	
30-015-20558	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	113	9/1/1995	0		No	link	3,959	O	Pumping	
30-015-22254	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	120	9/1/1995	0		No	link	2,600	O	Pumping	
30-015-22484	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	141	9/1/1995	0		No	link	2,700	O	Active	

30-015-22510	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	142	9/1/1995	0	No	link	2,650	O	Pumping	
30-015-22513	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	143	9/1/1995	0	No	link	2,650	O	Temporarily Abandoned	
30-015-22520	WISER OIL CO (THE)	EDDY	S:23, T:17S, R:31E	SKELLY UNIT	146	9/1/1995	0	No	link	2,646	O	Pumping	
30-015-22530	WISER OIL CO (THE)	EDDY	S:14, T:17S, R:31E	SKELLY UNIT	148	9/1/1995		No	link		O	Temporarily Abandoned	
30-015-22493	STEVENS OPERATING CORPORATION or HANAGAN PETROLEUM CORP	EDDY	S:14, T:17S, R:31E	PRE- ONGARD WELL	149	1/1/1970		No	link		PO	Active Permit	GETTY OIL CO /SKELLY UT
30-015-22537	STEVENS OPERATING CORPORATION or HANAGAN PETROLEUM CORP	EDDY	S:14, T:17S, R:31E	PRE- ONGARD WELL	156	1/1/1970		No	link		PO	Active Permit	GETTY OIL CO /SKELLY UT
30-015-05393	HUDSON OIL COMPANY OF TEXAS	EDDY	S:24, T:17S, R:31E	PUCKETT A	022	12/13/1960		No	link		I	Injection Well	SAN ANDRES

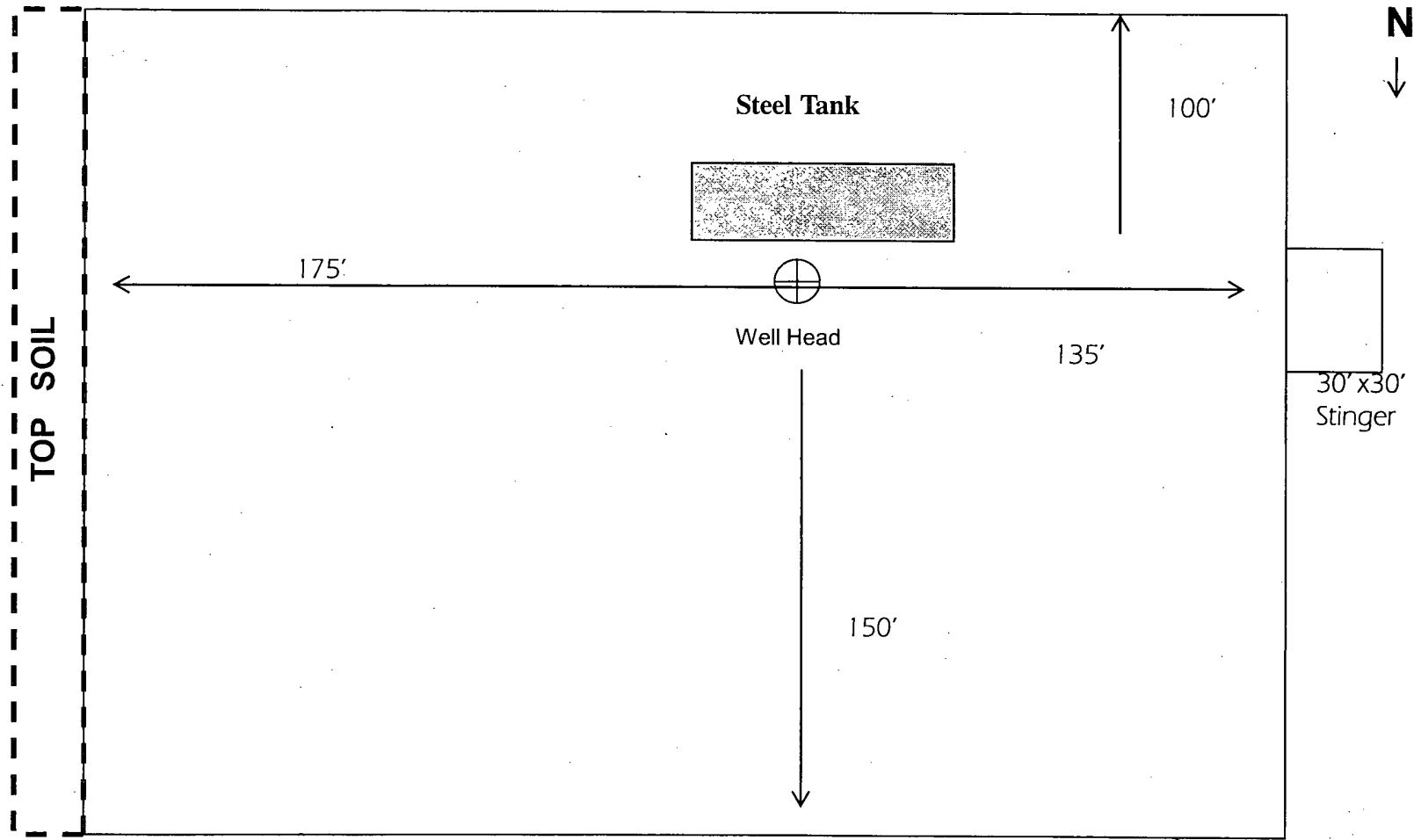


# Wells in 1 Mile Radius to Skelly Unit 669 - Change Title

PDF  
Map  
Save  
Image

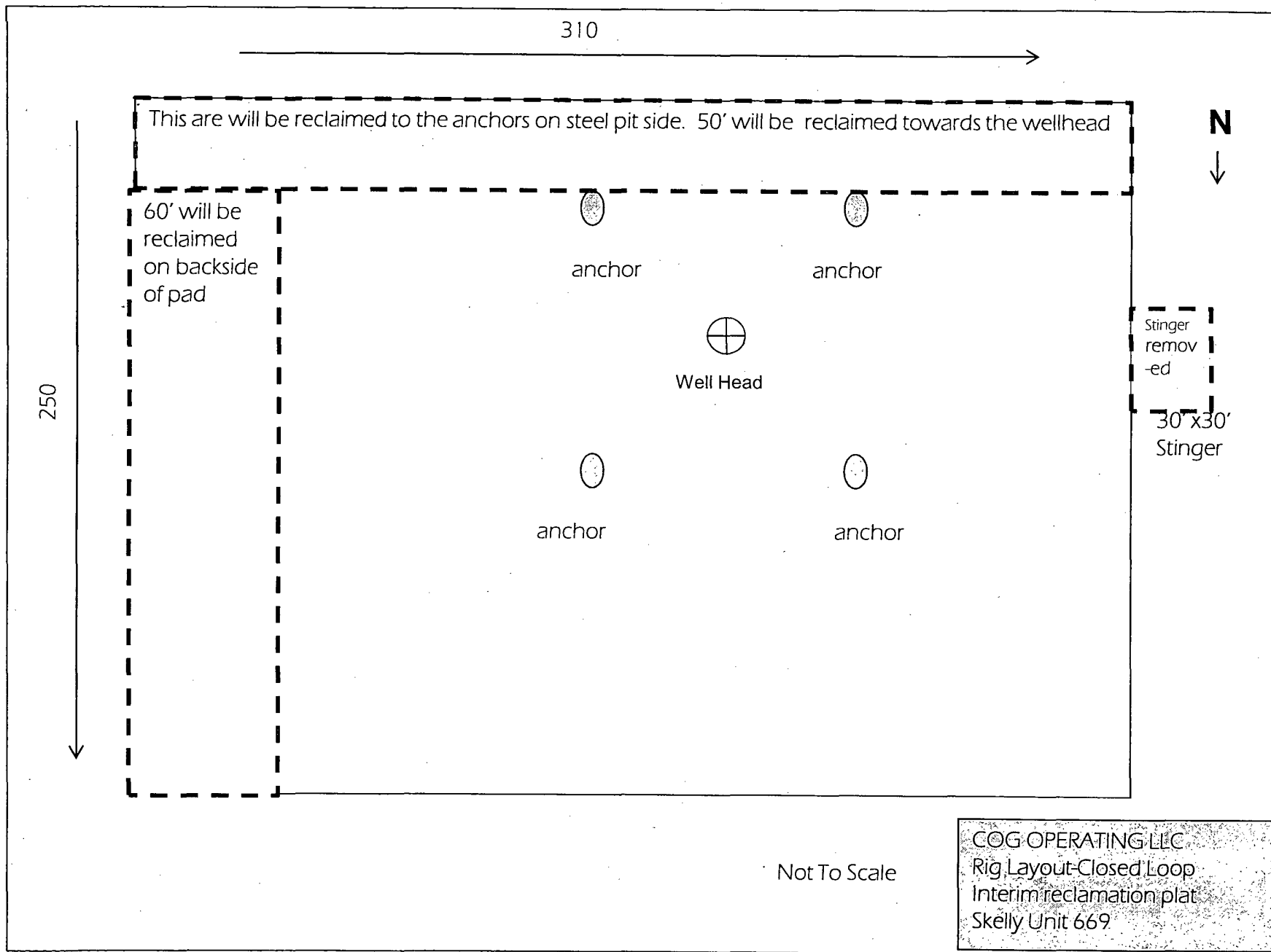






Not To Scale

COG OPERATING LLC  
Rig Layout-Closed Loop  
System Skelly Unit 669



## Closed Loop Operation & Maintenance Procedure

All drilling fluid circulated over shaker(s) with cuttings discharged into roll off container.

Fluid and fines below shaker(s) are circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll off container.

Fluid is continuously re-circulated through equipment with polymer added to aid separation of cutting fines.

Roll off containers are lined and de-watered with fluids re-circulated into system.

Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

This equipment will be maintained 24 hrs./day by solids control personnel and or rig crews that stay on location.

Cuttings will be hauled to either:

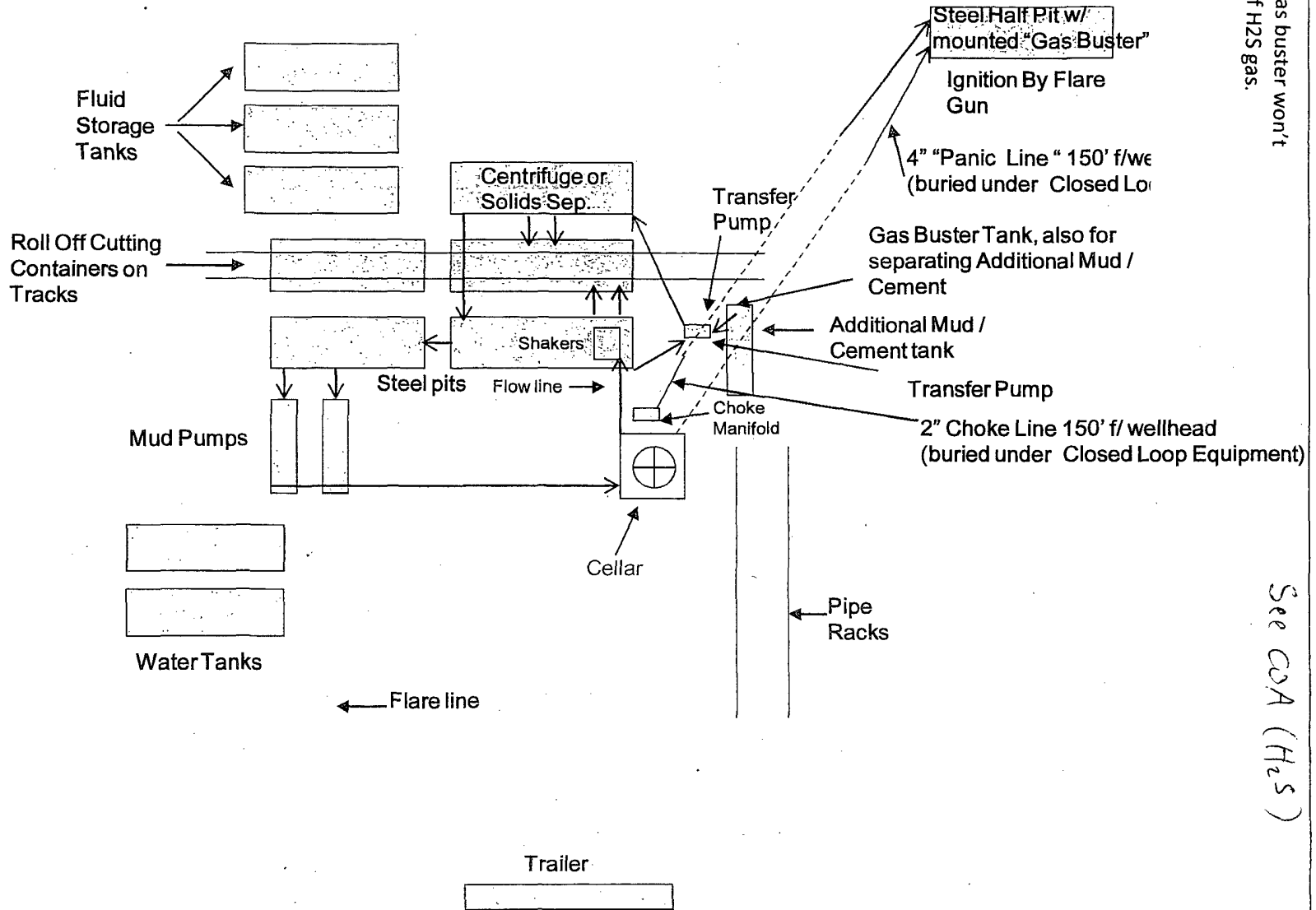
CRI (permit number R9166)

or

GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.

COG Operating LLC  
Closed Loop Equipment Diagram



Open bottom gas buster won't allow ignition of H<sub>2</sub>S gas.

See COA (H<sub>2</sub>S)