30-015-38356

H_2S Contingency Plan

PLU Ross Ranch 30 Federal 1H

Section 19, 25S, 30E,

Eddy County, New Mexico

September 2010

Table of Contents

I. H_2S CONTINGENCY PLAN SECTION

Scope

This contingency plan establishes guidelines for all company employees and contract employees whose work activities may involve exposure to Hydrogen Sulfide gas (H_2S).

Objective

1. Prevent any and all accidents, and prevent the uncontrolled release of H_2S into the atmosphere.
2. Provide proper evacuation procedures to cope with emergencies.
3. Provide immediate and adequate medical attention should an injury occur.

Discussion of Plan

This plan is necessary to get everyone prepared for H_2S incident while drilling the well as the formations are capable of producing H_2S and has been reported in the area. Hence, monitoring of H_2S and readiness will be started at surface and continue to TD.

Implementation: This plan, with all details, is to be fully implemented before spudding the well.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to prior to drilling.

Emergency Call Lists: Included are the telephone numbers of all persons that would need to be contacted should an emergency arise.

Briefing: This section deals with the briefing of all people involved in the drilling operation.

Public Safety: Public Safety Personnel will be made aware of the drilling of this well.

CheckLists: Status Check Lists and Procedural Check Lists have been included to insure adherence to the plan.

General Information: A general information section has been included to supply support information.

II. EMERGENCY PROCEDURES SECTION

Emergency Procedures

I. In the event of any evidence of H_2S level above 10 ppm, take the following steps immediately:

- A. Secure breathing apparatus.
- B. Order non-essential personnel out of the danger zone.
- C. Take steps to determine if the H_2S level can be corrected or suppressed, and if so, proceed with normal operations.

II. If uncontrollable conditions occur, proceed with the following:

- A. Take steps to protect and/or remove any public downwind of the rig including partial evacuation or isolation. Notify necessary public safety personnel and the NMOCD and the BLM of the situation.
- B. Remove all personnel to the Safe Briefing Area.
- C. Notify public safety personnel for help with maintaining roadblocks and implementing evacuation.
- D. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety procedures.

III. Responsibility

- A. The Company Approved Supervisor shall be responsible for the total implementation of the plan.
- B. The Company Approved Supervisor shall be in complete command during any emergency.
- C. The Company Approved Supervisor shall designate a back up Supervisor in the event that he/she is not available.

Emergency Procedure Implementation

I. Drilling or Tripping

A. All Personnel

1. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.
2. Check status of other personnel (buddy system).
3. Secure breathing apparatus.
4. Await orders from Supervisor.

B. Drilling Foreman

1. Report to the upwind Safe Briefing Area.
2. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).
3. Determine the concentration of H2S.
4. Assess the situation and take appropriate control measures.

C. Tool Pusher

1. Report to the upwind Safe Briefing Area.
2. Don Breathing Apparatus and return to the point of release with the Drilling Foreman or Driller (buddy system).
3. Determine the concentration of H2S.
4. Assess the situation and take appropriate control measures.

D. Driller

1. Don escape unit.
2. Check monitor for point of release.
3. Report to the Safe Briefing Area.
4. Check the status of other personnel (in a rescue attempt, always use the buddy system).
5. Assign the least essential person to notify the Drilling Foreman and Tool Pusher, in the event of their absence.
6. Assume the responsibility of the Drilling Foreman and Tool Pusher until they arrive, in the event of their absence.

E. Derrick Man

1. Remain in the Safe Briefing Area until otherwise instructed by Supervisor.

F. Mud Engineer

1. Report to Safe Briefing Area.
2. When instructed, begin check of mud for pH level and H2S level.

G. Safety Personnel

1. Don appropriate breathing apparatus.
2. Check status of all personnel

3. Await instructions from Drilling Foreman or Tool Pusher.

II. Taking a Kick

A. All personnel report to Safe Briefing Area.
B. Follow standard BOP procedures.

III. Open Hole Logging

A. All unnecessary personnel should leave the rig floor.
B. Drilling Foreman and Safety personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging

A. Follow "Drilling or Tripping" procedures.
B. Assure that all personnel have access to protective equipment.

Simulated Blowout Control Drills

All drills will be initiated by activating alarm devices (air horn). One long blast, on air horn, for ACTUAL and SIMULATED Blowout Control Drills. This operation will be performed by the Drilling Foreman or Tool Pusher at least one time per week for each of the following conditions, with each crew:

Drill 1	Bottom Drilling
Drill 2	Tripping Drill Pipe

In each of these drills, the initial reaction time to shutting in the well shall be timed as well as the total time for the crew to complete its entire pit drill assignment. The times must be recorded on the IADC Driller's Log as "Blowout Control Drill".

Drill No.:_____
Reaction Time to Shut-In:_____minutes,_____seconds.
Total Time to Complete Assignment:_____minutes,_____seconds.

I. Drill Overviews

A. Drill No. 1--Bottom Drilling

1. Sound the alarm immediately.
2. Stop the rotary and hoist kelly joint above the rotary table.
3. Stop the circulatory pump.
4. Close drill pipe rams.
5. Record casing and drill pipe shut-in pressures and pit volume increases.

B. Drill No. 2--Tripping Drill Pipe

1. Sound the alarm immediately.
2. Position the upper tool joint just above the rotary table and set slips.
3. Install a full opening valve or inside blowout preventor tool in order to close the drill pipe.
4. Close the drill pipe rams.
5. Record the shut-in annular pressure.

II. Crew Assignments

A. Drill No. 1--Bottom Drilling

1. Driller
   a. Stop the rotary and hoist kelly joint above the rotary table.
   b. Stop the circulatory pump.
   c. Check flow.
   d. If flowing, sound the alarm immediately.
   e. Record the shut-in drill pipe pressure.
   f. Record all data reported by the crew.
   g. Determine the mud weight increase needed or other courses of action.

2. Derrickman

   a. Open choke line valve at BOP.
   b. Signal Floor Man #1 at accumulator that choke line is open.
   c. Close choke and upstream valve after pipe rams have been closed.
   d. Read the shut-in annular pressure and report readings to Driller.

3. Floor Man #1

   a. Close the pipe rams after receiving the signal from the Derrickman.
   b. Report to Driller for further instructions.

4. Floor Man #2

   a. Notify the Tool Pusher and Operator Representative of the H_2S alarms.
   b. Check for open fires and, if safe to do so, extinguish them.
   c. Stop all welding operations.
   d. Turn-off all non-explosion proof lights and instruments.
   e. Report to Driller for further instructions.

5. Tool Pusher

   a. Report to the rig floor.
   b. Have a meeting with all crews.
   c. Compile and summarize all information.
   d. Calculate the proper kill weight.
   e. Ensure that proper well procedures are put into action.

6. Operator Representative

   a. Notify the Drilling Superintendent.
   b. Determine if an emergency exists and if so, activate the contingency plan.

B. Drill No.2--Tripping Pipe

1. Driller

   a. Sound the alarm immediately when mud volume increase has been detected.
   b. Position the upper tool joint just above the rotary table and set slips.
   c. Install a full opening valve or inside blowout preventor tool to close the drill pipe.
   d. Check flow.
   e. Record all data reported by the crew.
   f. Determine the course of action.

2. Derrickman

   a. Come down out of derrick.
   b. Notify Tool Pusher and Operator Representative
   c. Check for open fires and, if safe to do so, extinguish them.
   d. Stop all welding operations.
   e. Report to Driller for further instructions.

3. Floor Man #1

   a. Pick up full opening valve or inside blowout preventors and stab into tool joint above rotary table (with Floor Man #2).
   b. Tighten valve with back-up tongs.
   c. Close pipe rams after signal from Floor Man #2.
   d. Read accumulator pressure and check for possible high pressure fluid leaks in valves or piping.
   e. Report to Driller for further instructions.

4. Floor Man #2

   a. Pick-up full opening valve or inside blowout preventors and stab into tool joint above rotary table (with Floor Man #1).
   b. Position back-up tongs on drill pipe.
   c. Open choke line valve at BOP.
   d. Signal Floor Man #1 at accumulator that choke line is open.
   e. Close choke and upstream valve after pipe rams have been closed.
   f. Check for leaks on BOP stack and choke manifold.
   g. Read annular pressure.
   h. Report readings to the Driller.

5. Tool Pusher

   a. Report to rig floor.
   b. Have a meeting with all crews.
   c. Compile and summarize all information.
   d. Calculate proper kill weight.
   e. See that proper well kill procedures are put into action.

6. Operator Representative

   a. Notify Drilling Superintendent.
   b. Determine if an emergency exists, and if so, activate the contingency plans.

III. IGNITION PROCEDURES SECTION

Responsibility

The decision to ignite the well is the responsibility of the DRILLING FOREMAN in concurrence with the STATE POLICE. In the event the Drilling Foreman is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and attach a safety rope. One man must monitor the atmosphere for explosive gases with the Explosimeter, while the Drilling Foreman is responsible for igniting the well.
2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.
3. Ignite from upwind and do not approach any closer than is warranted.
4. Select the ignition site best suited for protection and which offers an easy escape route.
5. Before igniting, check for the presence of combustible gases.
6. After igniting, continue emergency actions and procedures as before.
7. All unassigned personnel will limit their actions to those directed by the Drilling Foreman.

NOTE: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Do not assume the area is safe after the well is ignited.

IV. TRAINING PROGRAM SECTION

Training Requirements

When working in an area where Hydrogen Sulfide gas (H_2S) might be encountered, definite training requirements must be carried out. The Company Supervisor will insure that all personnel, at the well site, have had adequate training in the following:

1. Hazards and characteristics of H_2S.
2. Physical effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H_2S detection.
5. Emergency rescue.
6. Resuscitators.
7. First aid and artificial resuscitation.
8. The effects of H_2S on metals.
9. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H2S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

V. EMERGENCY EQUIPMENT SECTION

Emergency Equipment Requirements

I. Signs

A. Located at the location entrance with the following information:

(Lease)
CAUTION-POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

II. * Fresh air breathing equipment

A. Air line units for all rig personnel on location.
B. Cascade system with hose lines to rig floor and one to the derrick man and other operation areas. Spare cascade (trailer) on location

III. Wind socks or wind streamers

A. Two 10" windsocks located at strategic locations at a height visible from the rig floor.
B. Wind streamers (if preferred) to be placed at various locations on the well site to ensure wind consciousness at all times. (Corners of location).

IV. Hydrogen Sulfide detector and alarms.

A. 1-four channel H_2S monitor with alarms.
B. 4 sensors located at floor, bell nipple, shale shaker, and pits
* C. Hand operated detectors with tubes.
* D. H_2S monitor tester.

V. Condition sign and flags

A. One each of green, yellow, and red condition flags to be displayed to denote conditions:
GREEN--Normal Conditions
YELLOW--Potential Danger
RED--Danger, H2S Present
B. The condition flag shall be posted at the location entrance.

VI. * Auxiliary rescue equipment

A. Stretcher
B. Two 100' lengths of 5/8" nylon rope.

VII. * Mud inspection devices

A. Garrett Gas Train or Hach Tester for inspection of Hydrogen Sulfide concentration in the mud system.

VIII. Fire extinguishers

A. Adequate fire extinguishers shall be located at strategic locations.

IX. Blowout prevention equipment

A. The well shall have hydraulic BOP equipment for the anticipated BHP.
B. Equipment must be tested upon installation.

X. * Combustible gas detectors

A. There shall be one combustible gas detector on location at all times.

XI. BOP testing

A. BOP, Choke Line and Kill Line will be tested as specified by operator. The discharge point for the flare line will be located a minimum of 150 feet away from the wellbore and any existing production facilities, securely anchored, and positioned downwind from the prevailing winds.

XII. Audio system

A. Radio communication shall be available at the rig.
B. Radio communication shall be available at the rig floor or trailer.
C. Radio communication shall be available on vehicles.

XIII. Special control equipment

A. Hydraulic BOP equipment with remote control on ground.
B. Rotating head at surface casing point.

XIV. Evacuation Plan

A. Evacuation routes should be established prior to spudding each well.
B. Should be discussed with all rig personnel.

XV. Designated Areas

A. Parking and visitor area.

1. All vehicles are to be parked at a pre-determined safe distance from the wellhead.
2. Designated smoking area.

B. Safe Briefing Area

1. Two Safe Briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds or they are at a 180 degree angle if wind directions tend to shift in the area.
2. Personal protective equipment should be stored in both protection centers or if a moveable trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both protection centers should be accessible.

- *Additional equipment will be available at Callaway Safety Midland, Texas.
- Additional personnel hydrogen sulfide monitors on location for all hands.
- Automatic flare igniter installed on rig

VI. CHECK LIST SECTION

Status Check List

Note: Date each item as they are implemented.

1. Sign at location entrance. _____
2. Two (2) wind socks (in required locations). _____
3. Wind streamers (if required). _____
4. 30 minute pressure demand air packs on location for all rig personnel and mud loggers. _____
5. Air packs, inspected and ready for use. _____
6. Spare bottles for each air pack (if required). _____
7. Cascade system and hose line hook up. _____
8. Cascade system for refilling air bottles. _____
9. Choke manifold hooked-up and tested. (Before drilling out surface casing.) _____
10. Remote Hydraulic BOP control (hooked-up and tested before drilling out surface casing.) _____
11. BOP Preventer tested (before drilling out surface casing.) _____
12. Mud engineer on location with equipment to test mud for Hydrogen Sulfide. _____
13. Safe Briefing Areas set-up. _____
14. Condition sign and flags on location and ready. _____
15. Hydrogen Sulfide detection system hooked-up. _____
16. Hydrogen Sulfide alarm system hooked-up. _____
17. Stretcher on location at Safe Briefing Area. _____
18. 1-100' length of 5/8" nylon rope on location. _____
19. 1-20 # or 30# ABC fire extinguisher in safety trailer in addition to those on rig. _____

VII. BRIEFING PROCEDURES SECTION

Briefing Procedures

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.
Attendance: Drilling Supervisor
Drilling Engineer
Drilling Foreman
Rig Pushers
Rig Driller
Mud Engineer
All Safety Personnel
Service Companies
Purpose: Review and discuss the well program, step-by-step, to insure complete understanding of assignments and responsibilities.

Affected Public Notification List
(within a 24' radius of exposure at 100ppm)

Certain geologic zones will be encountered during drilling that may possibly contain hazardous quantities of H_2S. Therefore, the plan is to carefully monitor hazards associated with H_2S as previously mentioned in this document.

Should these conditions change prior to starting the project; the residents within the affected radius will be notified via a hand delivered written notice describing the activities, potential hazards, conditions of evacuation, evacuation drill siren alarms, and other precautionary measures.

Evacuee Description:

Residents and/or

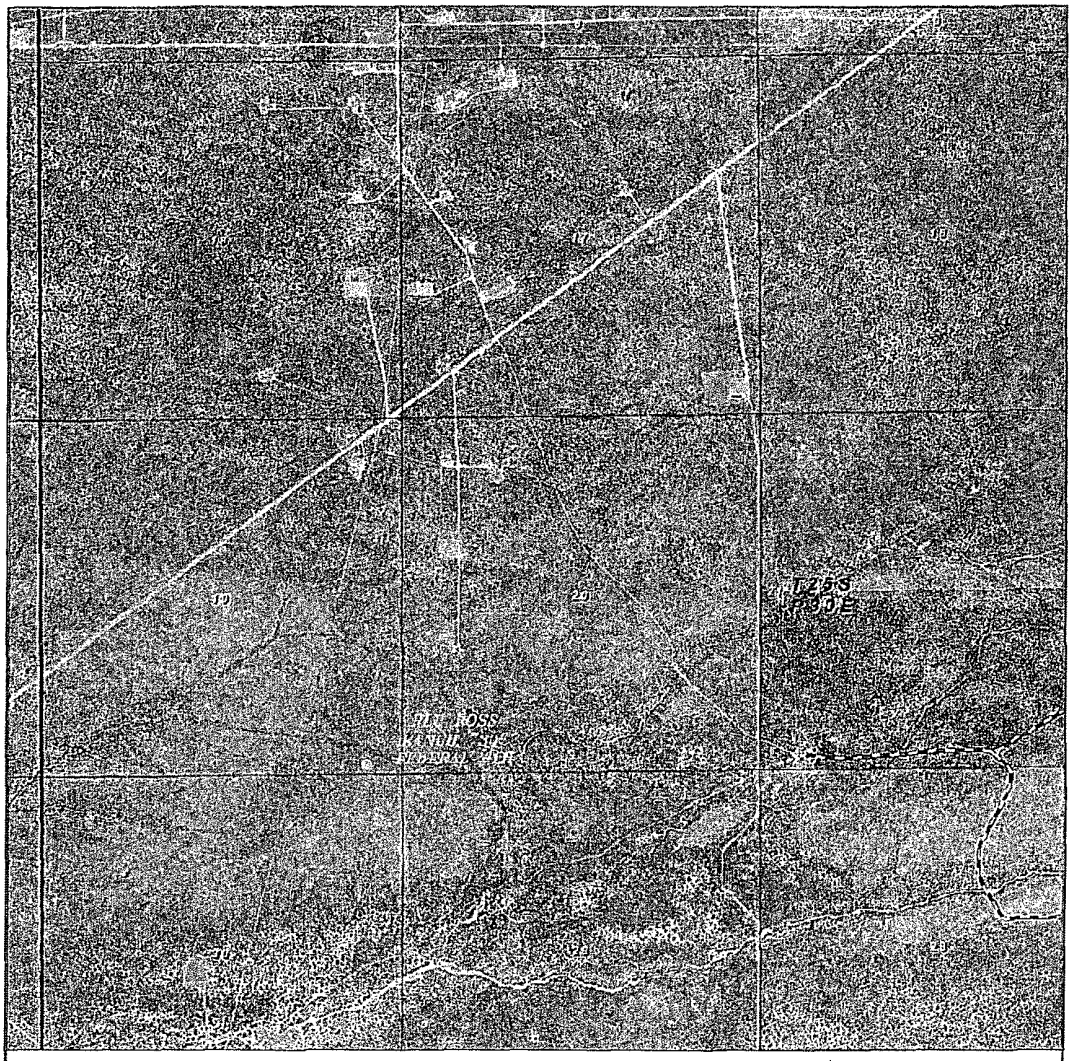
Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate lateral to the wind direction.

Chesapeake will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local fire and emergency medical service as necessary.



PLU ROSS RANCH "30" FEDERAL #1H
Located 150' FSL and 525' FEL
Section 19, Township 25 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: JMS 22638

Scale: 1" = 2000'

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

N

CHESAPEAKE OPERATING CO.

EXHIBIT A-5

X. GENERAL INOFRMATION SECTION

Toxic Effects of Hydrogen Sulfide Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 20 ppm, which is .002% by volume. Hydrogen Sulfide is heavier than air (specific gravity-1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is between five and six times more toxic than Carbon Monoxide. Toxicity data for Hydrogen Sulfide and various other gases are compared below in Table I. Physical effects at various Hydrogen Sulfide levels are shown in Table II.

Table I
Toxicity of Various Gases

Common Name	Chemical Formula	Specific Gravity	Threshold Limit (A)	Hazardous Limit (B)	Lethal Concentration C)
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H2S	1.18	10 ppm (D) 20 ppm (E)	250 ppm/hr	600 ppm
Sulfur Dioxide	SO2	2.21	5 ppm		1000 ppm
Chlorine	CL2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO2	1.52	5000 ppm	5%	10%
Methane	CH4	0.55	90,000 ppm	(9%)	Combustible above 5% in air

A. Threshold Limit--Concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.
B. Hazardous Limit--Concentration that may cause death.
C. Lethal Concentration--Concentration that will cause death with short-term exposure.
D. Threshold Limit--10 ppm, 1972 ACGIH (American Conference of Governmental industrial Hygienists)
E. Threshold Limit--20 ppm, 1966 ANSI acceptable ceiling concentration for eight-hour exposure (based on 40-hour week) is 20 ppm. OSHA Rules and Regulations (Federal Register, Volume 37, No. 202, Part II, dated 10/18/72).

Table II

Physical Effects of Hydrogen Sulfide

Percent %	ppm	Physical Effects
0.001	10	Obvious and unpleasant odor.
0.002	20	Safe for 8 hrs. exposure
0.01	100	Kills smell in 3 to 5 minutes; may sting eyes and throat.
0.02	200	Kills smell shortly; stings eyes and throat.
0.03	300	IDLH (Immediately Dangerous to Life & Health) Level
0.05	500	Dizziness; breathing ceases in a few minutes
0.07	700	Unconscious quickly; death will result if not rescued.
0.10	1000	Unconscious at once; followed by death within minutes.

*Caution: Hydrogen Sulfide is a colorless and transparent gas and is highly flammable. It is heavier than air and may accumulate in low places.

Use of Self-Contained Breathing Apparatus

I. Written procedures shall be prepared covering safe use of respirators in dangerous atmospheric situations which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

II. Respirators shall be inspected frequently, at random, to insure that they are properly used, cleaned, and maintained.

III. Anyone who may use respirators shall be trained in how to properly seal the face piece. They shall wear respirators in normal air and then in a test atmosphere. (Note: Such items as facial hair (beard or sideburns) and eyeglass temple pieces will not allow a proper seal.) Anyone that may be expected to wear respirators should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses. Contact lenses should not be allowed.

IV. Maintenance and care of respirators

A. A program of maintenance and care of respirators shall include the following:
   1. Inspection for defects, including leak checks.
   2. Cleaning and disinfecting.
   3. Repair.
   4. Storage.

B. Inspection: Self-Contained Breathing Apparatus for emergency use shall be inspected monthly, and records maintained, for the following:
   1. Fully charged cylinders.
   2. Regulator and warning device operation.
   3. Condition of face piece and connection.
   4. Elastomer or rubber parts shall be stretched or massaged to keep them pliable and prevent deterioration.

C. Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure proper protection is provided.

V. Persons assigned tasks that require the use of Self-Contained Breathing Equipment shall be certified physically fit for breathing equipment usage by the local company physician at least annually.

VI. Respirators should be worn during the following conditions:

A. Any employee who works near the top or on the top of any tank unless tests reveal less than 20 ppm of H2S.
B. When breaking out any line where H2S can reasonably be expected.
C. When sampling air in areas to determine if toxic concentrations of H2S exist.
D. When working in areas where over 20 ppm H2S has been detected.
E. At any time where there is a doubt as to the H2S level in the area to be entered.

Rescue-First Aid for Hydrogen Sulfide Poisoning

Do Not Panic!!!

Remain Calm--THINK

1. Hold your breath (Do not inhale; stop breathing.) and go to Briefing area.

2. Put on breathing apparatus.

3. Remove victim(s) to fresh air as quickly as possible. (Go upwind from the source or at right angles to the wind; NOT downwind.)

4. Briefly apply chest pressure--arm lift method of artificial respiration to clear the victim's lungs and to avoid inhaling any toxic gas directly from the victim's lungs

5. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.

6. Hospital(s) or medical facilities need to be informed, beforehand, of the possibility of H2S gas poisoning, no matter how remote the possibility.

7. Notify emergency room personnel that the victim(s) have been exposed to H2S gas.

Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration, as well as first aid for eyes and skin contact with liquid H2S. Everyone needs to master these necessary skills.

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

1. EXISTING ROADS

   a. Existing county and lease roads will be used to enter proposed access road.
   b. Location, access, and vicinity plats attached hereto. See Exhibits A-1 to A-4.

2. ROADS

   a. In order to level the location, cut and fill will be required. Please see attached Well Location and Acreage Dedication Plat – Exhibits A-1 to A-4.
   b. A locking gate will be installed at the site entrance.
   c. Any fences cut will be repaired. Cattle guards will be installed, if needed.
   d. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.
   f. Driving directions are from the junction of Twin Wells & McDonald, go Southwest 2.0 miles to lease rd, on lease rd go Southwest 4.8 miles to lease rd, on lease rd go South 0.7 miles to proposed lease rd for the JRU 304H, Follow proposed lease rd to proposed BOPCO well; Follow lease rd South to proposed location.

3. LOCATION OF EXISTING WELLS WITHIN A 1-MILE RADIUS OF THE PROPOSED LOCATION – see Exhibit B.

4. LOCATION OF PRODUCTION FACILITIES

   It is anticipated that production facilities will be located on the well pad and oil to be sold at the wellhead and/or tank battery. An allocation meter will be installed on location. This well will be connected to an existing Southern Union gathering system located about 1 mile to the east. – See Exhibit C

5. LOCATION AND TYPE OF WATER SUPPLY

Water will be obtained from a private water source. Chesapeake Operating, Inc. will ensure all proper notifications and filings are made with the state.

6. CONSTRUCTION MATERIALS

No construction materials will be used from Section 30-25S-30E. All material (i.e. shale) will be acquired from private or commercial sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill.

8. ANCILLARY FACILITIES

None

9. WELLSITE LAYOUT

The proposed site layout plat is attached showing the Cactus Rig 116 orientation and equipment location. See Exhibit D.

10. PLANS FOR RECLAMATION OF THE SURFACE

The location will be restored to as near as original condition as possible. Reclamation of the surface shall be done in strict compliance with the existing BLM and New Mexico Oil Conservation Division regulations.

Backfilling leveling, and contouring are planned as soon as the drilling rig and steel tanks are removed. Wastes and spoils materials will be hauled off to an approved landfill for disposal after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. The rehabilitation will begin after the drilling rig is removed.

11. SURFACE & MINERAL OWNERSHIP
United States of America
Department of Interior
Bureau of Land Management

GRAZING LESSEE
Byron Paschal
P.O. Box 992
Pecos, TX 79772
(Chesapeake Operating, Inc. has an agreement with the grazing lessee)

12. ADDITIONAL INFORMATION
A Class III cultural resource inventory report was prepared by Boone Archaeological Services, Carlsbad, New Mexico for the proposed location. A copy of the report has been sent to the BLM office under separate cover and is also attached for reference. See Exhibit E.

Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

13. OPERATOR'S REPRESENTATIVES

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405-767-4925 Office
justin.zerkle@chk.com

Sr. Regulatory Compliance Specialist
Linda Good
P.O. Box 18496
Oklahoma City, OK 73154
405-935-4275 (Office)
405-849-4275 (Fax)
linda.good@chk.com

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc. Agent for BOPCO
PLU Ross Ranch 30 Federal 1H
SL: 150' FSL & 525' FEL
Section 19-25S-30E
BL: 330' FSL & 400' FEL
Section 30-25S-30E
Eddy County, NM

CONFIDENTIAL – TIGHT HOLE
Lease No. NMLC 70125

OPERATOR CERTIFICATION

CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently 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 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 the company I represent, 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 a false statement.

Executed this 1st day of September, 2010

Name: [redacted]
Bud Cravey, Sr. Field Representative

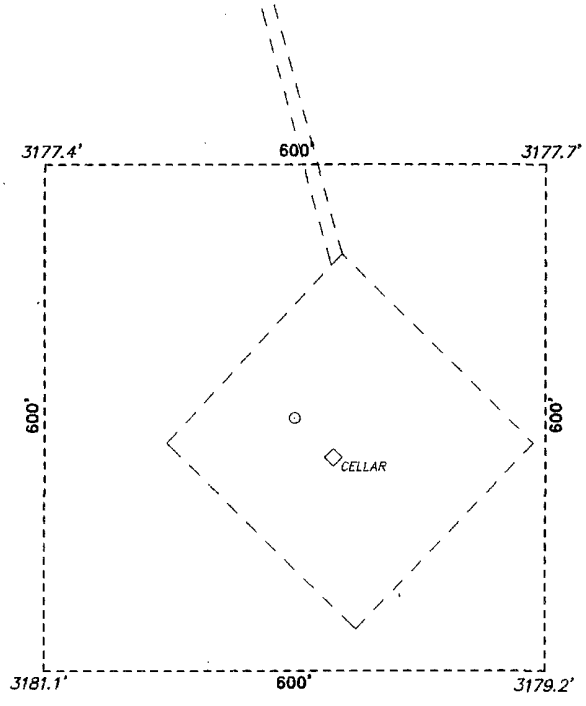
Address: 2010 Rankin Highway, Midland, TX 79701

Telephone: 432-238-7293

E-mail: bud.cravey@chk.com

SECTION 19, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



CHESAPEAKE OPERATING CO.
PLU ROSS RANCH "30" FEDERAL #1H
ELEV. - 3180'

Lat - N 32.10864876°
Long - W 103.9137733°
NMSPCE- N 403515.632
E 671243.010
(NAD-83)

200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF TWIN WELLS AND McDONALD, GO SOUTHWEST 2.0 MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTHWEST 4.8 MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTH 0.7 MILES TO PROPOSED LEASE ROAD FOR THE JRU 304H, FOLLOW PROPOSED LEASE ROAD GO PROPOSED BOPCO WELL; FOLLOWS LEASE ROAD SOUTH TO PROPOSED LOCATION.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

CHESAPEAKE OPERATING CO.

REF: PLU ROSS RANCH "30" FEDERAL #1H / WELL PAD TOPO

THE PLU ROSS RANCH "30" FEDERAL #1H LOCATED 150' FROM THE SOUTH LINE AND 525' FROM THE EAST LINE OF SECTION 19, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

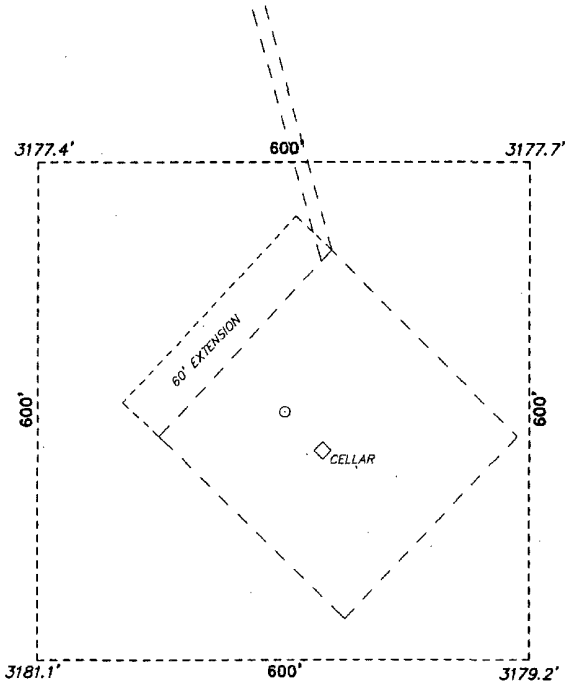
W.O. Number: 22638	Drawn By: J. SMALL		
Date: 05-25-2010	Disk: JMS 22638	Survey Date: 05-24-2010	Sheet 1 of 1 Sheets

EXHIBIT A-2

Pad Extended per John Fast w/BLM

SECTION 19, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



CHESAPEAKE OPERATING CO.
PLU ROSS RANCH "30" FEDERAL #1H
ELEV. - 3180'

Lat - N 32.10864876°
Long - W 103.9137733°
NMSPCE- N 403515.632
E 671243.010
(NAD-83)

200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF TWIN WELLS AND McDONALD, GO SOUTHWEST 2.0 MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTHWEST 4.8 MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTH 0.7 MILES TO PROPOSED LEASE ROAD FOR THE JRU 304H, FOLLOW PROPOSED LEASE ROAD GO PROPOSED BOPCO WELL; FOLLOWS LEASE ROAD SOUTH TO PROPOSED LOCATION.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 22638	Drawn By: J. SMALL
Date: 05-25-2010	Disk: JMS 22638

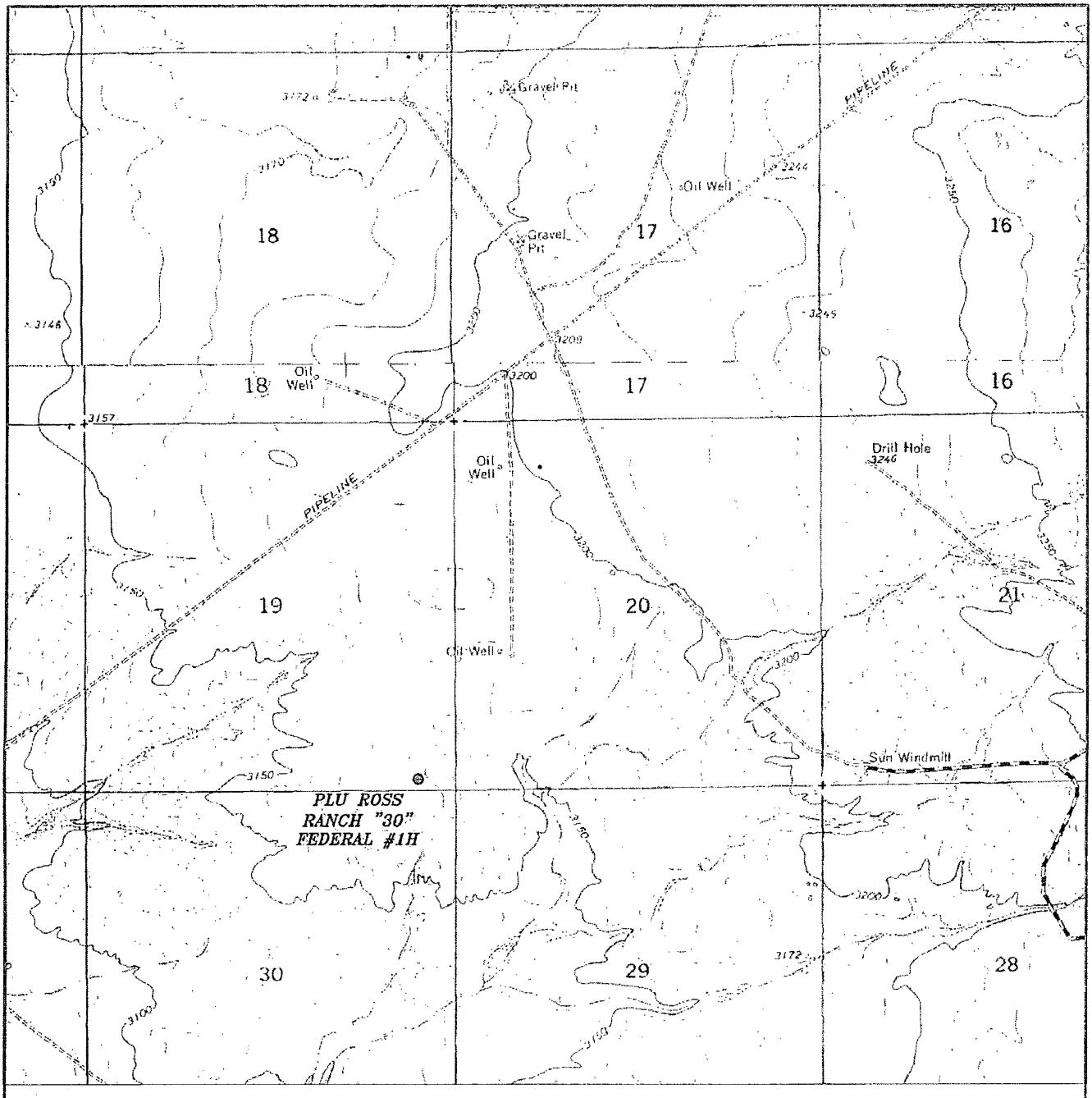
CHESAPEAKE OPERATING CO.

REF: PLU ROSS RANCH "30" FEDERAL #1H / WELL PAD TOPO

THE PLU ROSS RANCH "30" FEDERAL #1H LOCATED 150' FROM THE SOUTH LINE AND 525' FROM THE EAST LINE OF SECTION 19, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 05-24-2010	Sheet 1 of 1 Sheets

EXHIBIT A-2 Extended



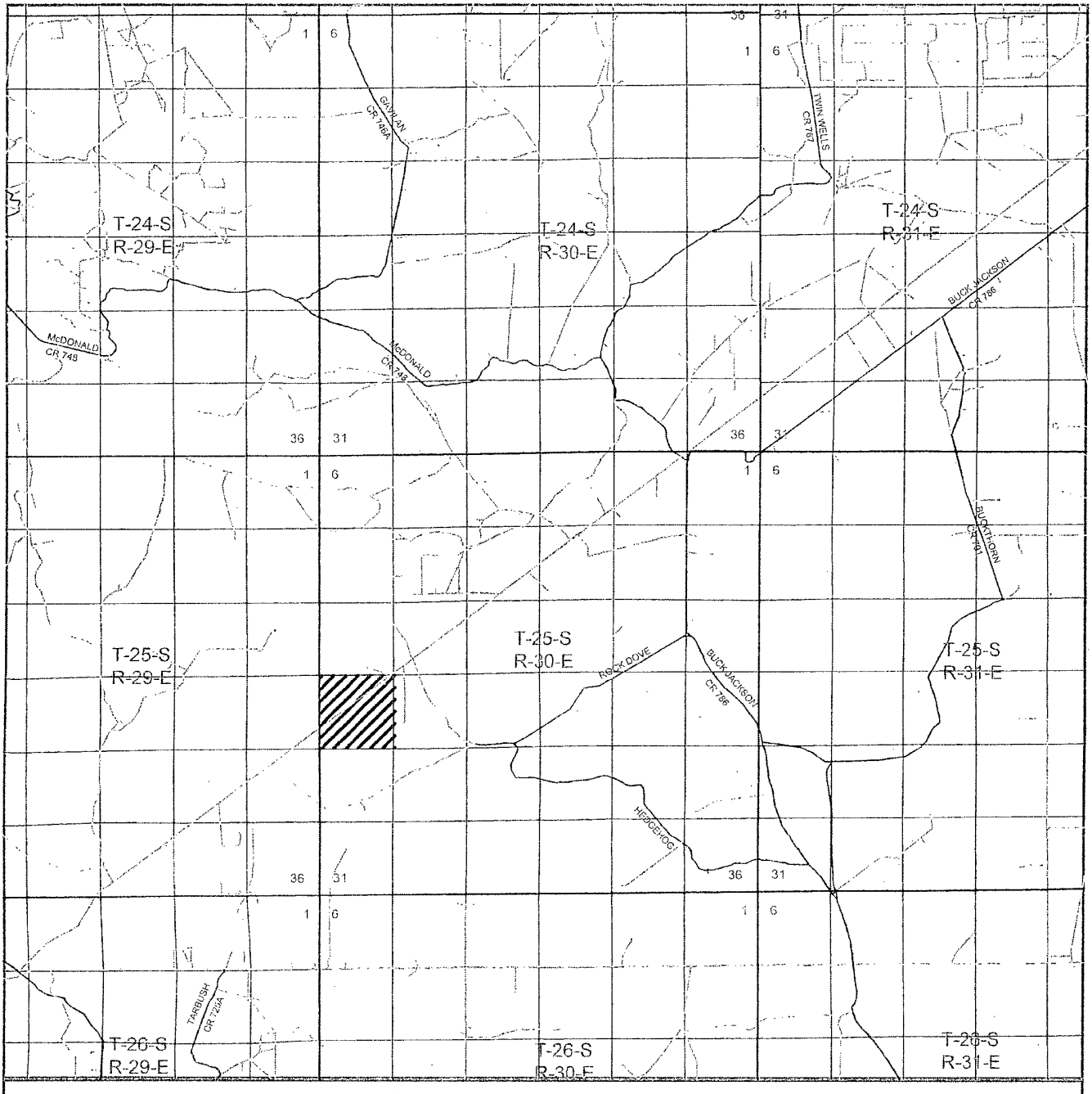
PLU ROSS RANCH "30" FEDERAL #1H
Located 150' FSL and 525' FEL
Section 19, Township 25 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

Basin Surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number:	JMS 22638
Survey Date:	05-24-2010
Scale:	1" = 2000'
Date:	05-25-2010

CHESAPEAKE OPERATING CO.

EXHIBIT A-3



PLU ROSS RANCH "30" FEDERAL #1H
Located 150' FSL and 525' FEL
Section 19, Township 25 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
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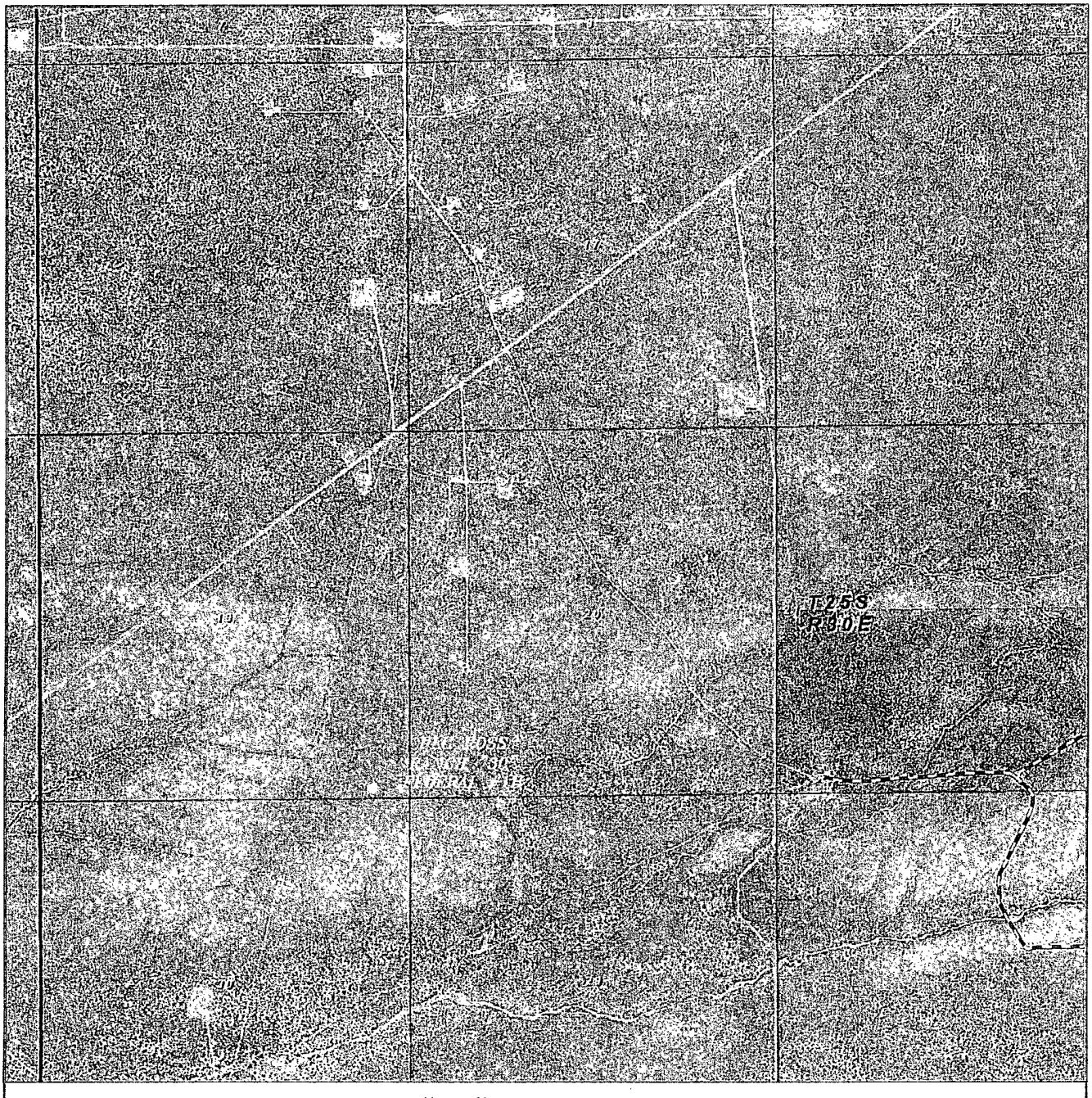
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: JMS 22638
Survey Date: 05-24-2010
Scale: 1" = 2 Miles
Date: 05-25-2010

N

CHESAPEAKE OPERATING CO.

EXHIBIT A-4



PLU ROSS RANCH "30" FEDERAL #1H
Located 150' FSL and 525' FEL
Section 19, Township 25 South, Range 30 East,
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basinsurveys.com

W.O. Number: JMS 22638

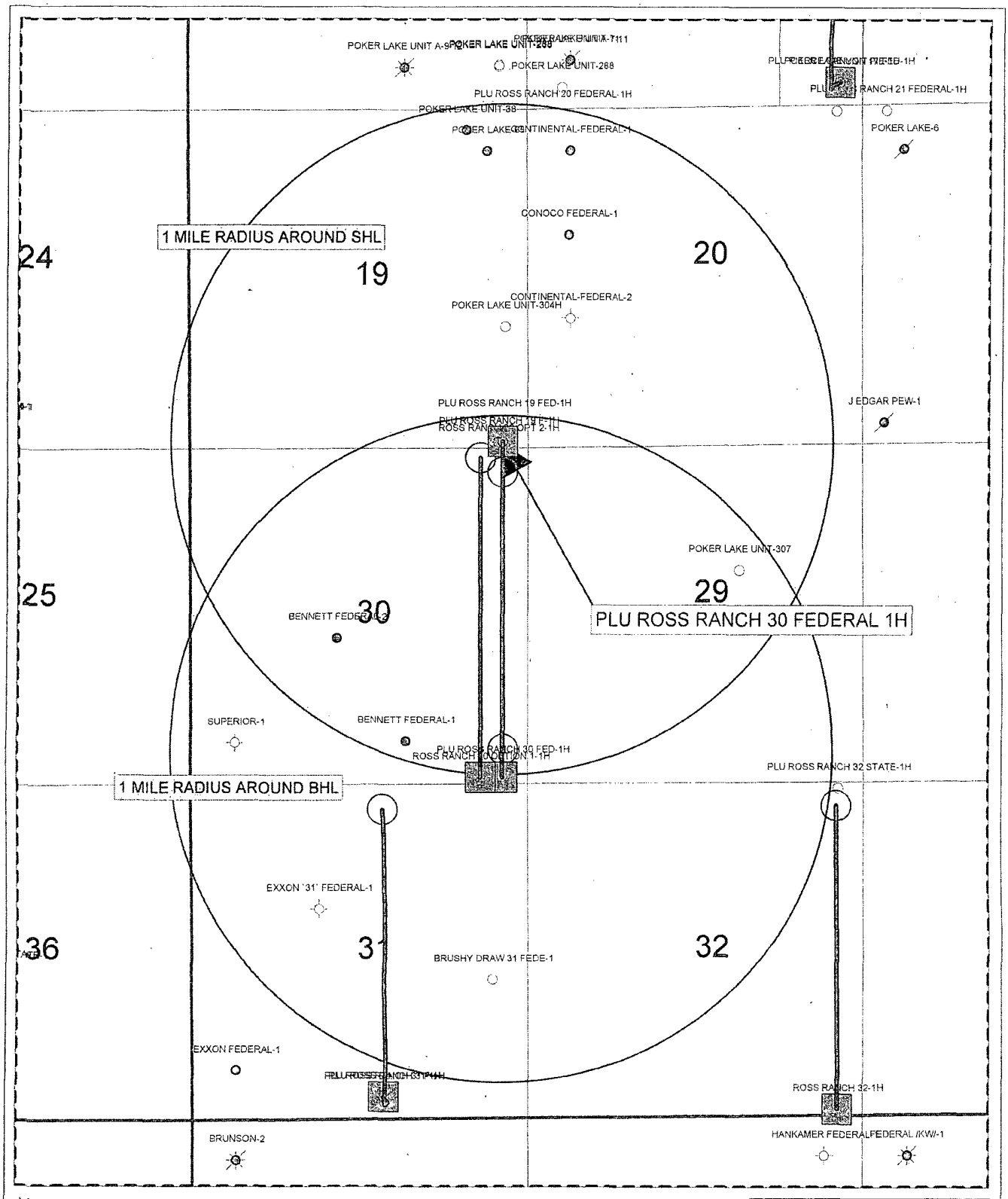
Scale: 1" = 2000'

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

N

CHESAPEAKE OPERATING CO.

EXHIBIT A-5



Chesapeake Energy

CHESAPEAKE OPERATING, INC.

PERMIAN DISTRICT
PLU ROSS RANCH 30 FEDERAL 1H
Eddy County, NM
19/30-25S-30E

PLU ROSS RANCH 30 FED 1H.gmp
Date: June 29, 2010 | Created by: E. Allen

EXHIBIT B