

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
May 27, 2004

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

RECEIVED

APR 25 2006

Submit to appropriate District Office

OCD-ARTESIA

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Tandem Energy Corporation P.O. Box 1559 Midland, Texas 79702-1559		² OGRID Number 236183
³ Property Code 302006	⁴ Property Name Ballard Grayburg San Andres Unit	⁵ API Number 30 - 015 - 35028
⁹ Proposed Pool 1 Loco Hills QU-GB-SA		¹⁰ Proposed Pool 2

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	5	18-S	29-E		1200	South	1475	West	Eddy

⁸ Proposed 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

Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code P	¹⁵ Ground Level Elevation 3563
¹⁶ Multiple No	¹⁷ Proposed Depth 3200	¹⁸ Formation Permian	¹⁹ Contractor Mixon Drilling Company	²⁰ Spud Date 4-5-2006
Depth to Groundwater 400'		Distance from nearest fresh water well N/A		Distance from nearest surface water N/A
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 12 mils thick Clay <input type="checkbox"/> Pit Volume: _____ bbls Drilling Method: Closed-Loop System <input type="checkbox"/> Fresh Water <input checked="" type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	8 5/8"	24#	0' - 40' 300	150 Lite: 100 C	Surface
7 7/8"	5 1/2"	15.50#	0' - TD	650 Lite: 165 C	Surface

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

See attached program plans.



²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines <input checked="" type="checkbox"/> , a general permit <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> .		OIL CONSERVATION DIVISION	
Printed name: Robbie M. O'Donnell		Approved by: BRYAN G. ARRANT	
Title: Office Manager		Title: DISTRICT II GEOLOGIST	
E-mail Address: Robbie@wtoil.com		Approval Date: JUL 26 2006 Expiration Date: JUL 26 2007	
Date: 4-19-2006	Phone: 432-686-7136 #1106	Conditions of Approval Attached <input type="checkbox"/>	

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-402
Revised October 12, 2005
Submit to Appropriate District Office
State Lease- 4 Copies
Fee Lease- 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name LOCO HILLS QU-GB-SA
Property Code 236183	Property Name BALLARD GRAYBURG - SAN ANDRES UNIT		Well Number 235
OGRID No.	Operator Name TANDEM ENERGY CORPORATION		Elevation 3563'

Surface Location

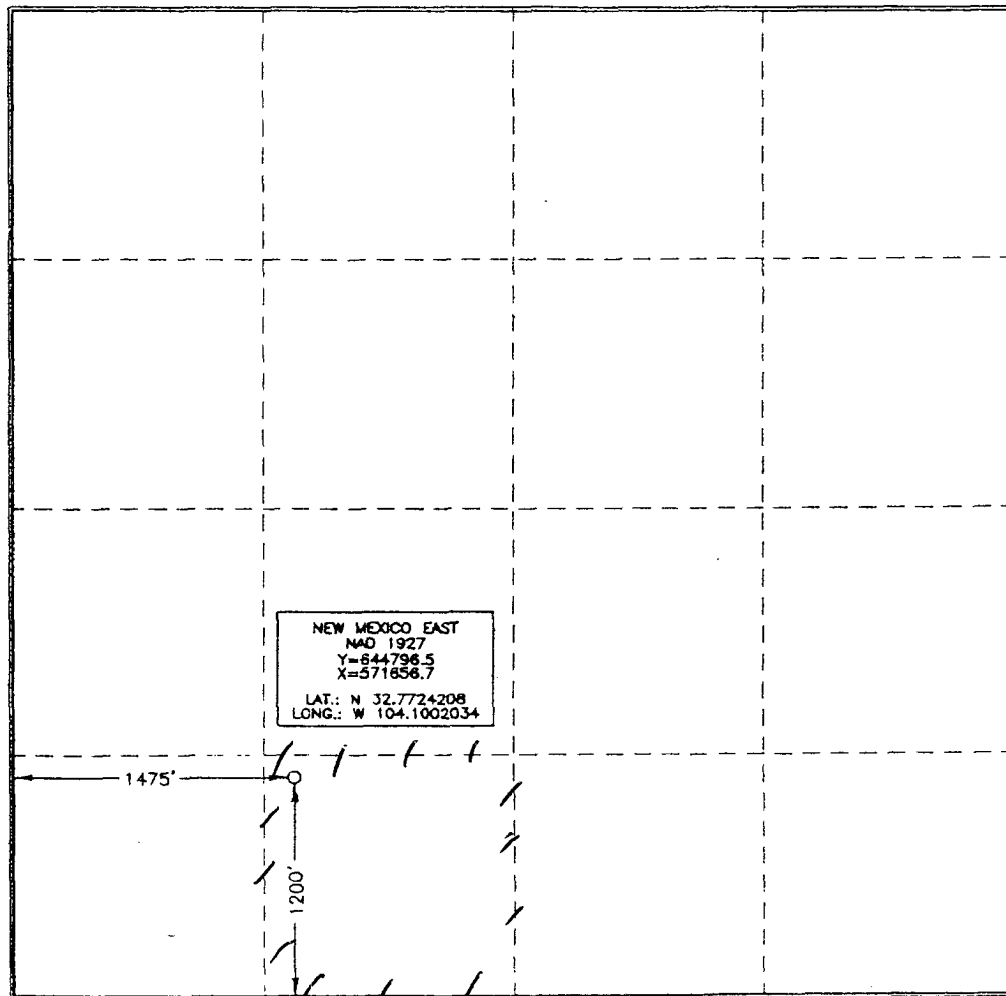
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	5	18 SOUTH	29 EAST, N.M.P.M.		1200	SOUTH	1475	WEST	EDDY

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 40	Joint or Infill	Consolidation Code	Order No.
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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.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

John Scott 10/3/06

Signature Date

JOHN SCOTT
Printed Name

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 supervision, and that the same is true and correct to the best of my belief.

15079

JANUARY 10, 2006

Date of Survey
Signature and Seal of Professional Surveyor

Certificate Number 15079

WO# 060106WL-k (COG)

TANDEM ENERGY

c o r p o r a t i o n

Drilling Plan

Attachment to Form 3160-3
Tandem Energy Corporation
Ballard Grayburg San Andres Unit (BGSAU)
Eddy County, New Mexico

Tract	Well #	Legals		Gr. Elev.
6	6-4	SW/SE 6-18S-29E	80' FSL, 2540' FEL	3599'
6	6-5	SE/SE 6-18S-29E	70' FSL 1025' FEL	3588'
12	12-3	NW/NW 8-18S-29E	150' FNL 225' FWL	3577'
12	12-4	NW/NW 8-18S-29E	1125' FNL 115' FWL	3556'
12	12-5	NE/NW 8-18S-29E	253' FNL 1068' FWL	3567'
15	15-10	SW/NW 8-18S-29E	2350' FNL 200' FWL	3550'
11	11-3	SE/NE 6-18S-29E	1770' FNL 1090' FEL	3610'
23	23-5	SE/SW 5-18S-29E	1200' FSL 1475' FWL	3563'

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Formations:

Formation	Top
Top of Salt	+/- 325'
Base of Salt	+/- 725'
Yates	+/- 900'
Seven Rivers	+/- 1250'
Queen	+/- 1875'
Grayburg	+/- 2275'
Loco Hills	+/- 2350'
Top of Unit	+/- 2400'
Metex	+/- 2450'
Premier	+/- 2575'
San Andres	+/- 2650'
TD	+/- 3150'

3. Estimated Depths of Anticipated Fresh Water, Oil, or Gas

Water: None Anticipated

Oil: 2475'-3100'

Gas: None Anticipated

No other formations are expected to yield oil, gas, or fresh water in measurable

volumes. The surface fresh water sands will be protected by setting 8-5/8" casing at

+/- 400' and circulating cement back to surface. The Grayburg and San Andres intervals will be isolated by setting 5-1/2" csg. to TD of +/- 3200' and circulating cement to surface.

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>Casing Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Type</u>
12-1/4"	0'-400'	8-5/8"	24#	K-55	ST&C
7-7/8"	0'-TD	5-1/2"	15.50#	J-55	ST&C

Cementing Program:

8-5/8" Surface Casing: Cement to surface with 150 sx Lite (35% Poz, 65% Class "C", 6% gel) with 2% CaCl and ¼ lb/sx Cellophane flakes + 100 sx Class "C" with 2% CaCl and ¼ lb/sx Cellophane flakes.

5-1/2" Production Casing: Cement to surface with 650 sx Lite (35% Poz, 65% Class "C", 6% gel) with 5 lb/sx salt and ¼ lb/sx Cellophane flakes + 165 sx Class "C" ¼ lb/sx Cellophane flakes.

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach surface.

5. Minimum Specifications for Pressure Control:

The blowout prevention equipment (BOP) shown in exhibit #1 will consist of a 3K (3000 psi working pressure) annular preventer. This unit is air operated with a backup hand pump. The BOP will be installed on top of the 8-5/8" surface casing and utilized continuously until total depth is reached. As per BLM Drilling Operations Order #2, prior to drilling out the 8-5/8" casing shoe, the BOP will be function tested and pressured to 1000 psi with the rig pump.

The annular preventer will be operated and checked each 24 hour period and each time that the drill pipe is pulled out of the hole. These function tests will be documented on the daily drillers log. Tandem Energy requests an exception to the minimum BOP equipment due to the shallow depth, low anticipated reservoir pressures, and extensive drilling knowledge of this lease.

6. Types and Characteristics of Proposed Mud Systems:

The surface holes on all subject wells will be drilled with fresh water. The same fresh water will be used to drill out of surface and allowed to gain chlorides through the salt section. Each new hole will start with a small volume of fresh water, and then cut brine from the previous well will be transferred over and re-used on all successive wells after the surface hole has been drilled.

<u>Depth</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Water Loss</u>
0'-400'	Fresh water	8.3-8.8	28-36	No control
400'-TD'	Cut brine	8.8-9.2	28-32	No control

7. Logging, Testing and Coring Program:

- A. No DST's are planned.
- B. The open hole electrical logging program will be: GR/DLL/CAL/DSN
- C. No coring program is planned.
- D. No additional testing will be initiated subsequent to setting the 5-1/2" production casing.

8. Abnormal Pressures, Temperatures, and Potential Hazards

No abnormal pressures or temperatures are foreseen. The anticipated bottomhole temperature at total depth is 110 degrees and maximum bottom pressure is 1500 psi. No major loss circulation intervals have been encountered in adjacent wells. Small quantities of H₂S are associated with the Queen, Grayburg and San Andres formations in this area. An H₂S plan is attached.

9. Anticipated Starting Date and Duration of Operations

Barry Hunt of the Carlsbad, New Mexico BLM office has performed the onsite inspection of the proposed pad site of this location. A cultural resources examination will be submitted by Boone Archaeological Services to the BLM Carlsbad, New Mexico office.

Road and location preparation will not be undertaken until approval has been received from the BLM. If approved, this well will be drilled as part of a development project. The anticipated spud date for this project is approximately February 25, 2006. The eight well package is anticipated to take 80 days. If the wells are deemed productive, completion operations could require an additional 30 days.

TANDEM ENERGY

c o r p o r a t i o n

Surface Use and Operation Plan

Attachment to Form 3160-3
Tandem Energy Corporation
Ballard Grayburg San Andres Unit (BGSAU)
Eddy County, New Mexico

Tract	Well #	Legals		Gr. Elev.
6	6-4	SW/SE 6-18S-29E	80' FSL, 2540' FEL	3599'
6	6-5	SE/SE 6-18S-29E	70' FSL 1025' FEL	3588'
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23	23-5	SE/SW 5-18S-29E	1200' FSL 1475' FWL	3563'

1. Existing Roads:

- A. The well sites and elevation plats for the above proposed wells are reflected in Exhibit 2. The wells were staked by Terry Asel Surveying of Hobbs, New Mexico.
- B. All roads to location are depicted in Exhibit #3. No more than 600' of new road will have to be constructed for any one location.
- C. Directions to locations: From Artesia, New Mexico, go east on Highway 82 for 14 miles to State Road 360 and go approximately 5.1 miles. Turn left (East) onto caliche road at the BGSAU sign. Go approximately 0.7 miles to water plant. Follow Exhibit #3 map to each location.

2. Proposed Access Roads:

Exhibit #3 shows the new access roads to be constructed from the existing lease roads. They will be constructed as follows.

- A. The maximum width of the road will be fifteen feet.
- B. It will be crowned and made of 6 inches of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
- C. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest to the location.

- C. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest to the location.
- D. Grades will be no more than 8%.
- E. No cattle guards, grates, or fence cuts will be required.
- F. No turnouts are planned.

3. **Location of Existing Wells:**

Exhibit #4 shows all active wells within the unit offsetting the planned new-drills.

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

- A. The production facilities will be located at Tandem's central tank battery.
- B. In the event that the wells are found to be productive, they will be added to the facilities shown in Exhibit #5.
- C. The wells will be operated by means of electric motors.
- D. If the wells are productive, rehabilitation plans are as follows:
 - 1. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days of completion, weather permitting)
 - 2. Caliche from unused portions of the drill pad will be removed. The original top soil from the well sites will be returned to the location. The drill site will then be contoured to the original source.

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

All wells will be drilled with fresh water and cut brine mud systems (outlined in drilling program). The fresh water will be obtained from commercial sources and pumped through poly line to each location. No water wells will be drilled on any location.

6. **Source of Construction Materials:**

All caliche utilized for the drilling pad and proposed access roads will be obtained from an exiting BOM approved pit. All roads will be constructed of 6" rolled and compacted caliche.

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

- A. Drill cuttings will be disposed into the reserve pit.
- B. Drilling fluids will be contained in the reserve pits. The reserve pit will contain excess drilling fluid, or fluid from the well during drilling, cementing, and completion operations. The reserve pits will be three rectangular 90' x 10' x 5' pits.
- C. The reserve pits will be fenced on four sides throughout drilling operations and will be totally isolated upon removal of the rotary rig. The pit will be lined using a 12 mil plastic to minimize loss of drilling fluids.
- D. Water produced from the well during completion operations will be disposed into a steel tank or reserve pit, if volumes prove excessive. After placing the well on production through the production facilities, all water will be collected in tanks and injected into the water injection system. Produced oil will be separated into steel stock tanks and sold.

- E. Garbage, trash, and waste paper produced during drilling operations will be collected in a contained trailer and disposed at an approved landfill. All waste material will be contained to prevent scattering by the wind. All water, fluids, salt or other chemicals will be disposed into the reserve pit. No toxic or hazardous chemicals will be generated by this operation.
- F. All waste material will be removed within 30 days after the well is either completed or abandoned. The reserve pit will be completely fenced until it has dried. At the point the reserve pit is found sufficiently dry, it will be backfilled and reclaimed. The portion of the drilling pad used by the production equipment (pumping unit) will remain in use. If the well is deemed non-commercial, only a dry hole marker will remain.

8. Ancillary Facilities:

No campsite or other facilities will be constructed as a result of this well.

9. Well Site Layout:

- A. The drill pad is shown on exhibit #6. Approximate dimensions of the pad, pits, and general location of the rig equipment are displayed. Top soil, if any found will be stored adjacent to the pad until reclamation efforts are undertaken. Only modest cuts will be necessary to build the pads which will be covered with 6" of compacted caliche.
- B. No permanent living facilities are planned, but temporary trailers for the tool pusher, and mud loggers may be on location throughout drilling operations.
- C. The reserve pit and earthen pits will be lined using plastic sheeting of 12 mil thickness.

10. Plans for Restoration of Surface:

- A. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original pit or used for other drilling locations or access roads. The road will be reclaimed as directed by the BLM. The reserve pit area will be broken out and leveled after drying to a condition where these efforts are feasible. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.
- B. The pit lining will be buried or hauled away in order to return the location and road to their pristine nature. All pits will be filled and location leveled, weather permitting, within 120 days after abandonment.
- C. The location and road will be rehabilitated as recommended by the BLM.
- D. The reserve pit will be fenced on four sides throughout drilling operations and will remain in place when the rotary rig is removed to preclude endangering wildlife. The fencing will be in place until the pit is reclaimed.
- E. If the well is deemed commercially productive, the reserve pit will be restored as described in 10(A) within 120 days after the completion date. Caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. The

unused area of the drill pad will be contoured, as close as possible to match the original topography.

11. Surface Ownership

Tract 6, 11, 12, & 15 well sites are owned by Bogle, Ltd.

The tract 23 well site (and all of S/2 of section 5) is on BLM surface and minerals and has an undetermined surface lessee.

Tract 26 well sites are on private surface and minerals.

12. Other Information

- A. The area surrounding the well site is gypsiferous and supportive of desert scrub and grassland formation. The vegetation is moderately sparse with desert scrub.
- B. There are no known active water wells within a 1 mile radius of any wellsite. The nearest permanent water is a water stock tank located approximately near the southeast edge of the unit.
- C. A cultural resources examination will be submitted by Boone Archaeological Services to the BLM office in Carlsbad, New Mexico.

13. Lessee's and Operators Representative

The Tandem Energy Corporation representative responsible for ensuring compliance of the surface use plan is

Toben Scott
VP-Operations
(o) 432-686-7136 ext. 1102
(m) 432-528-3127
e-mail: tscott@tandem-energy.com

Tandem Energy Corp.
P.O. Box 1559
Midland, TX 79702-1559

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill sites and access roads, that I am familiar with the conditions that presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Tandem Energy Corporation and its contractors under which it is approved.

Signed: _____

Toben Scott—VP Operations

Date: _____

1/23/06



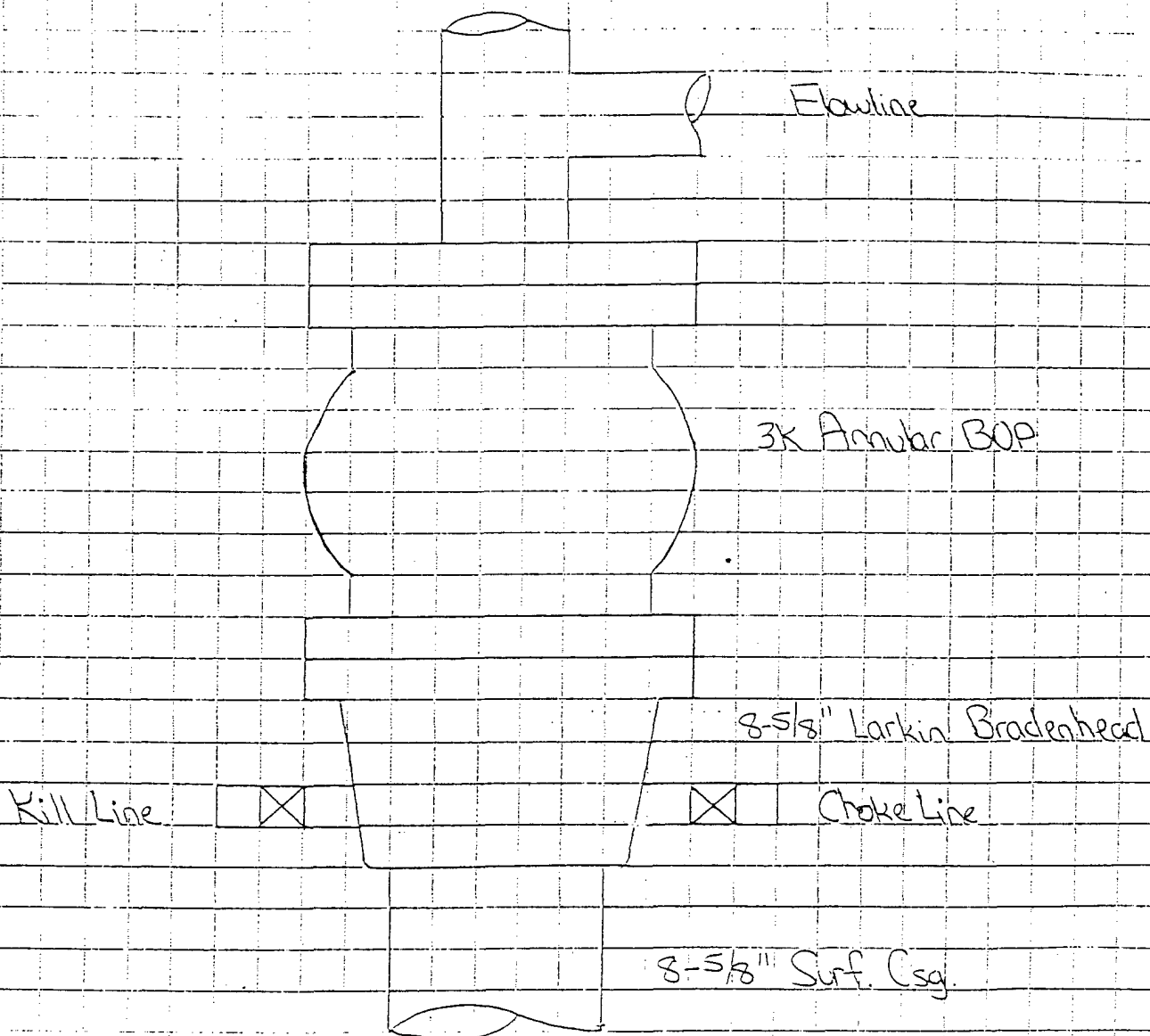
PATTERSON DRILLING COMPANY, LP

A LIMITED PARTNERSHIP

TANDEM ENERGY CORPORATION

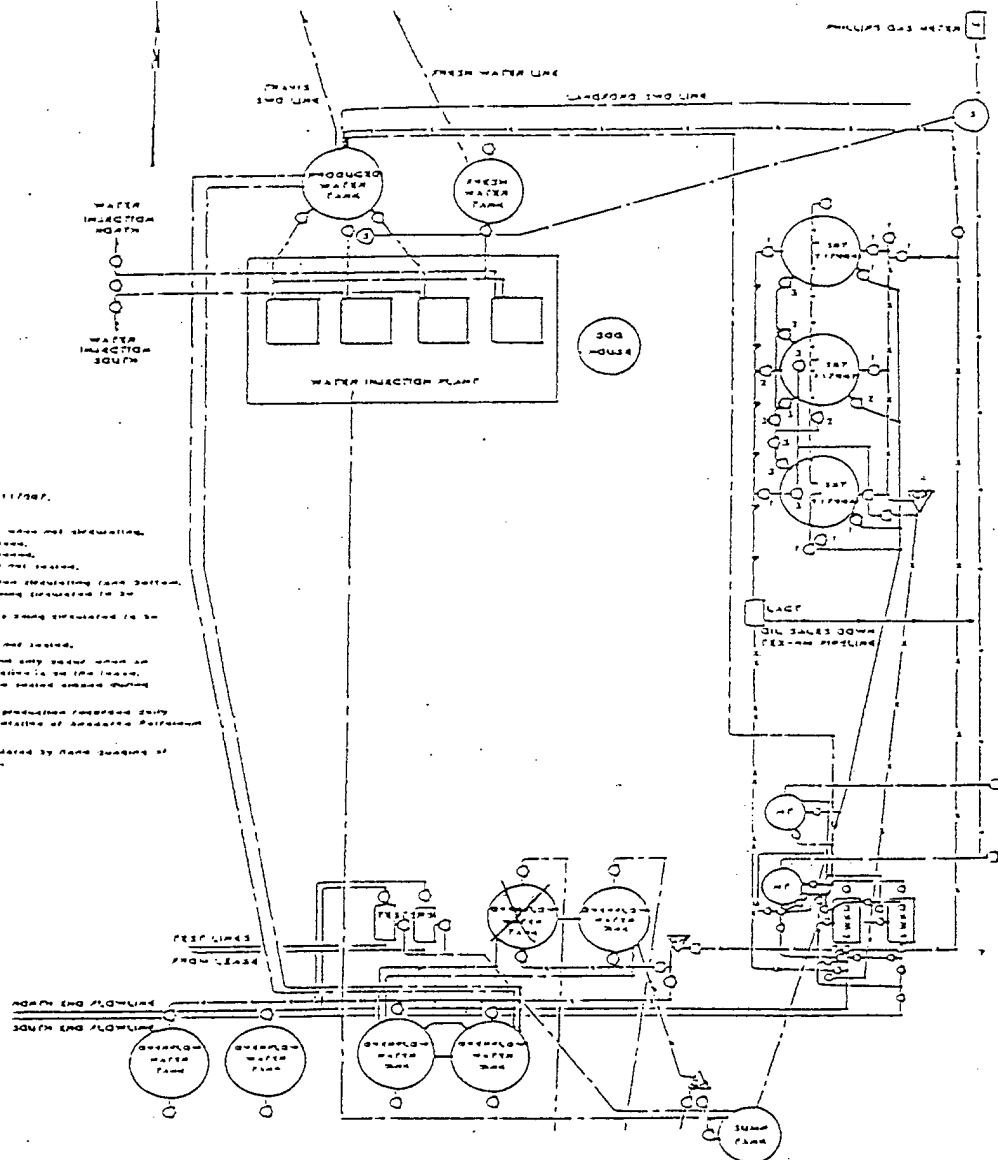
MIXON DRILLING RIG # 11

Blowout Preventer Hookup



TANDEM ENERGY

SITE FACILITY DIAGRAM
P.O. DRAWER 130
ARTESIA, NEW MEXICO 88211-0130
BALLARD GRAYBURG-SAN ANTOES
UNIT NO. 3910123990
SW 1/4 NW 1/4, SEC. 3 T13S-R23E
EDDY COUNTY, NEW MEXICO
LSE #LC-061702



PRODUCTION SYSTEM-CLOSED

1. On sales by last unit from tank #117267.

2. Test Requirements:

A. Production and Sales Phases when not shuttling.

(1) All #1 valves to be tested closed.

(2) All #2 valves to be tested closed.

(3) All #3 valves to be tested and not tested.

B. Production and Sales Phases when shuttling from bottom.

(1) All #1 valves on tanks not being shuttled to be tested closed.

(2) All #2 and #3 valves on tanks being shuttled to be tested open.

(3) All #3 valves to be tested and not tested.

NOTE: Shutting of tank bottoms and only occur when an authorized company representative is on the tank. All shuttling of valves can be tested closed during any hour.

3. The facility will be monitored and production measured daily by an authorized company representative of Associated Petroleum Corporation.

4. Production at this facility is measured by tank weighing at tank and LACT unit measurements.



Hydrogen Sulfide Drilling Operations Plan

A. Hydrogen Sulfide Training

All rig crews and company personnel will receive training from a qualified instructor in the following areas prior to penetrating any hydrogen sulfide bearing formations during drilling operations.

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of the H₂S safety equipment and of personal protective equipment to be utilized at the location such as H₂S detection monitors, alarms, and warning systems, and breathing equipment. Briefing areas and evacuation procedures will also be discussed and established.
3. Proper rescue techniques and procedures will be discussed and established.

In addition to the above, supervisory personnel will be trained in the prevention of oil and gas well blowouts in accordance with Minerals Management Service Standards Subpart -0-250-212.

Prior to penetrating any known H₂S bearing formation, H₂S training will be required at the rig sight for all rig crews and company personnel that have not previously received such training. This instruction will be provided by a qualified instructor with each individual being required to pass a 20 question test regarding H₂S safety procedures. All contract personnel employed on an unscheduled basis will be required to have received appropriate H₂S training.

This Hydrogen Sulfide Drilling and Operations Plan shall be available at the well site during drilling operations.

B. H₂S Safety Equipment and Systems

All H₂S safety equipment and systems will be installed, tested and operational when drilling operations reach a depth of approximately 500' above any known or probable H₂S bearing formation. The safety systems to be utilized during drilling operations are as follows:

1. Well Control Equipment
 - a. 3K annular BOP with a properly sized closing unit.
2. H₂S Detection and Monitoring Equipment

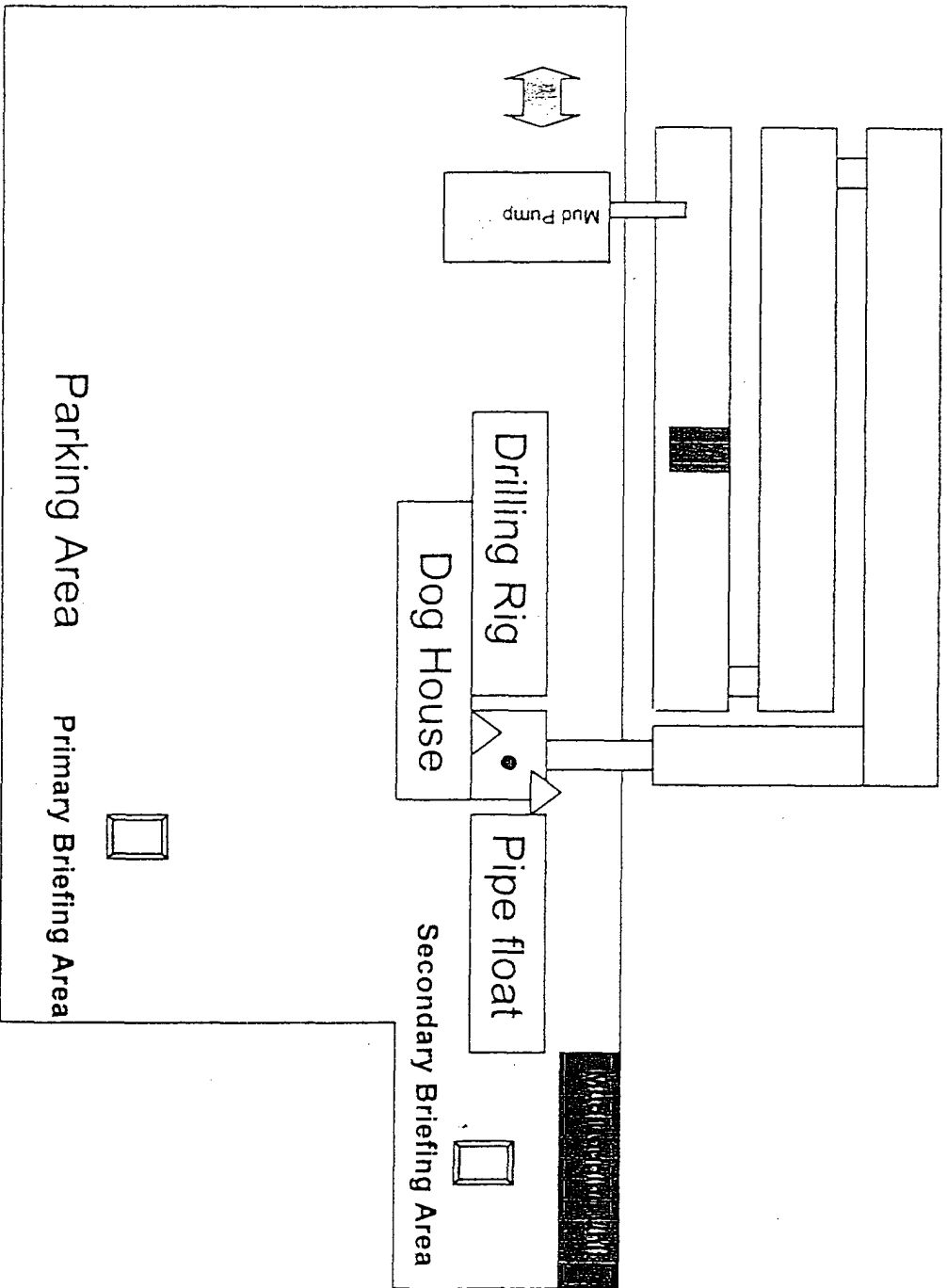
- a. Three H₂S detection monitors will be placed in service at the location. One monitor will be placed near the bell nipple on the rig floor, one will be placed at the rig substructure, and one will be at the working mud pits or shale shaker. This monitoring system will have warning lights and audible alarms that will alert personnel when H₂S levels reach 10 ppm.
3. Protective Equipment for Essential Personnel

Protective equipment will consist of the following:

- a. Two five minute escape packs located at strategic points around the rig.
4. Visual warning system will consist of the following:
 - a. One wind direction indicator
 - b. One condition/warning sign which will be posted on the road providing direct access to the location. The sign will contain lettering of sufficient size to be legible at a reasonable distance from the immediate location. The sign will inform the public that a hydrogen sulfide gas environment could be encountered at the location.
5. Mud Program
 - a. The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight and safe drilling practices (for example, keeping the hole filled during trips) will minimize the hazards when drilling in H₂S bearing formations.
6. Metallurgy
 - a. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spools, kill lines, and valves shall be suitable for H₂S service.
7. Communication
 - a. Cellular telephone communication will be available by and between rig crews and company supervision.

C. Diagram of Drilling Location

1. Attached is a diagram representing a typical location layout as well as the location of H₂S monitors, briefing areas, and wind direction indicators.



H2S monitors with alarms at bell nipple, and mud pit.



Wind direction indicators



Safe briefing areas with caution signs and protective breathing equipment

Attachment to Exhibit #1
Attachment to Form C-101
Tandem Energy Corporation
Ballard Grayburg San Andres Unit (BGSAU)
Eddy County, New Mexico

1. The drilling nipple (bradenhead) will be male-type and screwed into the API drifted and tested 8-5/8" csg. collar. It can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Blowout preventer and all associated fittings will be in operable condition to withstand 1000 psi surface shut-in pressure. This pressure assumes a 1500 psi max bottomhole pressure less a partially evacuated hole with a pressure gradient of 0.22 psi/ft. The BOP and surface csg. will be tested hydrostatically to 1000 psi prior to drilling out the surface shoe.
3. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
4. Rig air supply and backup hand pump to operate the annular BOP will be properly installed and tested for safe operation.
5. All BOP equipment will meet API standards.