

Manzano, LLC

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

HOBBS OCD

OCT 01 2012

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:

RECEIVED

- A. The hazards and characteristics of hydrogen sulfide (H₂S).
- B. The proper use and maintenance of personal protective equipment and life support systems.
- C. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- D. The proper techniques for first aid and rescue procedures.

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

- A. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- B. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- C. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

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 reasonably expected to contain H₂S.

- A. Well Control Equipment:
 - All BOP and BOP equipment is shown in the attachments.
 - Flare line.
 - Choke manifold.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.
- B. Protective equipment for essential personnel:
 - Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- C. H₂S detection and monitoring equipment:
 - 2 - portable H₂S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 20 ppm are reached.
- D. Visual warning systems:
 - Caution/Danger signs 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.

E. Mud Program: The mud program has been designed to minimize the volume of H₂S circulated to the surface

F. Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.

G. Communication:

Company vehicles equipped with cellular telephone.

W A R N I N G

**YOU ARE ENTERING AN H₂S AREA
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. CK WITH MANZANO FOREMAN AT MAIN OFFICE***

Manzano, LLC

575-623-1996

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

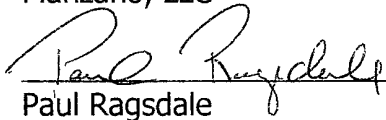
The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Date: June 13, 2012

Legal Description: Section 1-T20S-R32E
Lea County, New Mexico

Formation(s): Permian
Bond Coverage: Statewide
BLM Bond File #: NM-2567

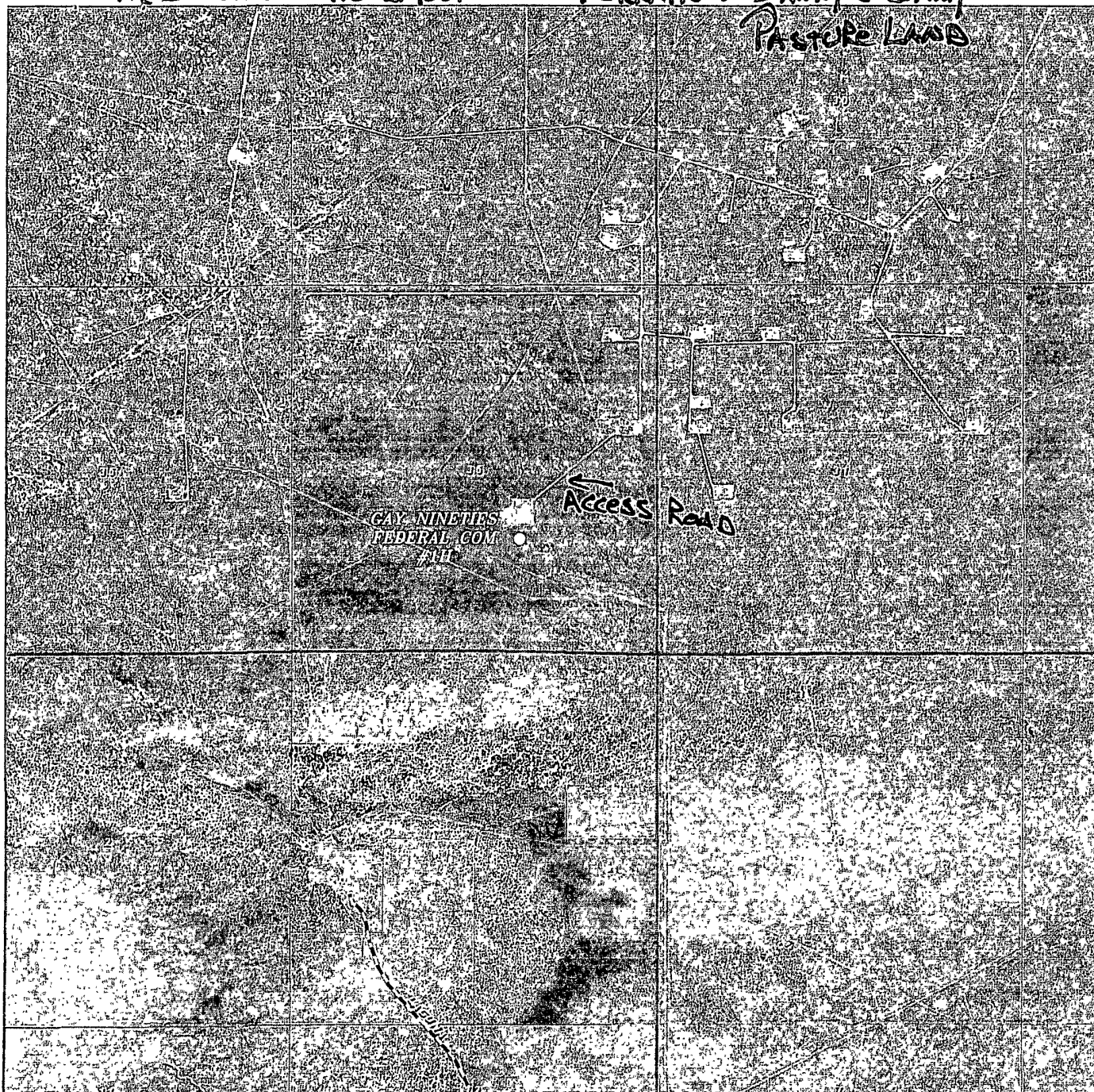
Manzano, LLC



Paul Ragsdale
Operations Engineer

H₂S Well Site Layout

TERRAIN: SANDY & LOAMY
PASTURE LAND



GAY NINETIES FEDERAL COM #1H
Located 1628' FSL and 1980' FEL
Section 36, Township 19 South, Range 32 East,
N.M.P.M., Lea 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 26400

Scale: 1" = 2000'

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



MANZANO, LLC

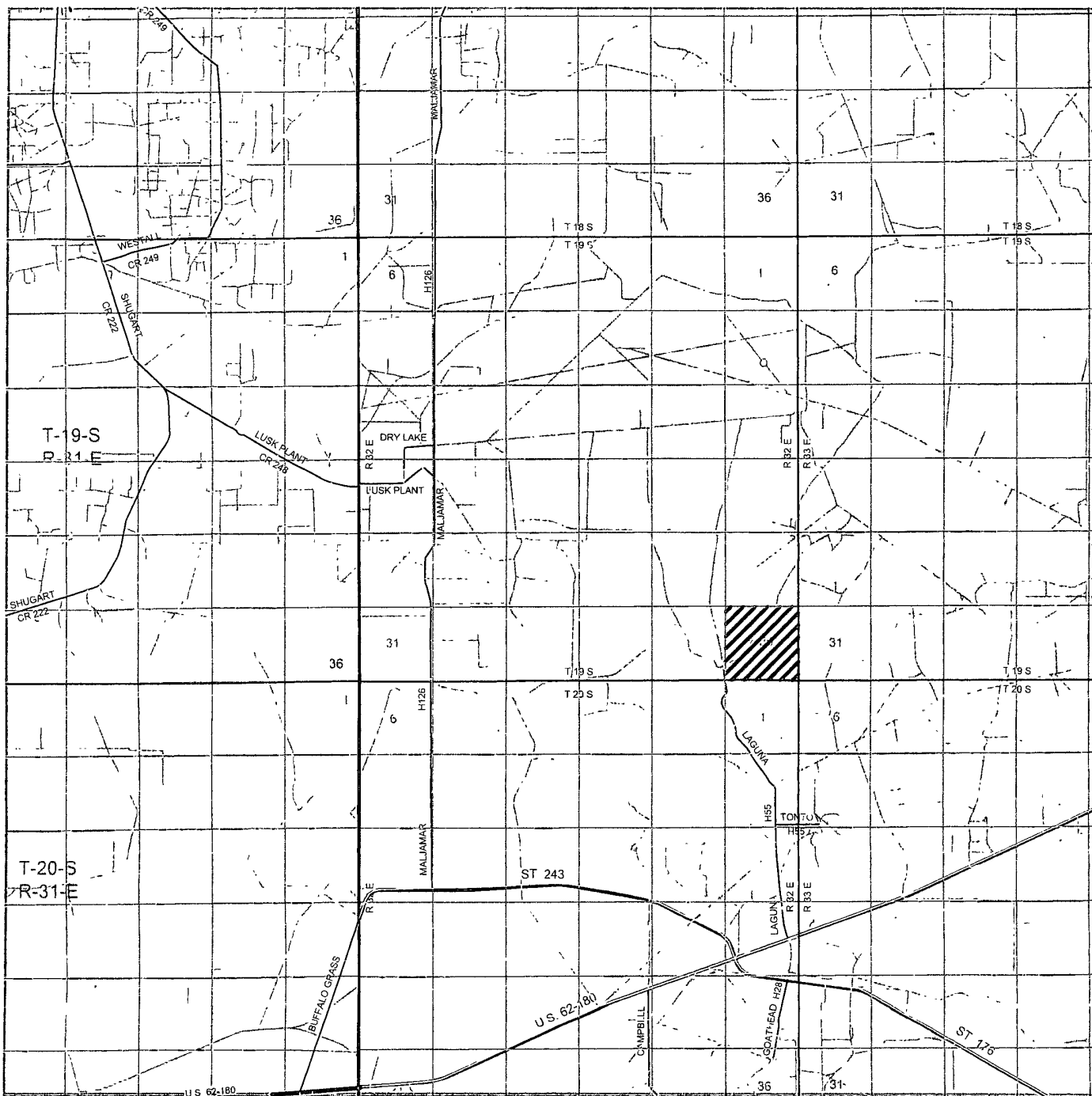
H₂S Schematic

O
FLARE



BRIEFING
AREA

Prevailing Winds



GAY NINETIES FEDERAL COM #1H
 Located 1628' FSL and 1980' FEL
 Section 36, Township 19 South, Range 32 East,
 N.M.P.M., Lea County, New Mexico.



P.O. Box 1786
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 Hobbs, New Mexico 88241
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 basinsurveys.com

W.O. Number: JMS 26400

Survey Date: 03-23-2012

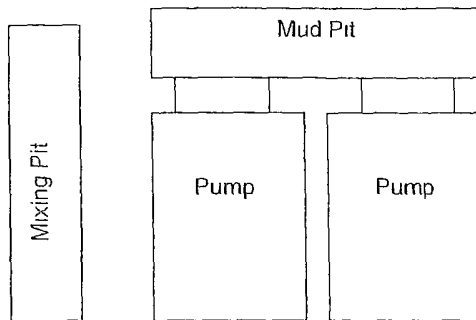
Scale: 1" = 2 Miles

Date: 03-28-2012

MANZANO, LLC

H₂S Schematic

AREA BRIEFING



Generator House

Water Tank

Water Tank

Fuel Tank

Change House

Mud Pit

48'

160'

125'

with 25' stinger

140'

PRIMARY BRIEFING

AREA

Tool pushers Quarters

X WIND SOCK & SIGN

FLARE

X WIND SOCK & SIGN

ACCESS ROAD

N

AREA BRIEFING

PREVAILING WIND

H₂S Well Site
Drill Rig Orientation

K2

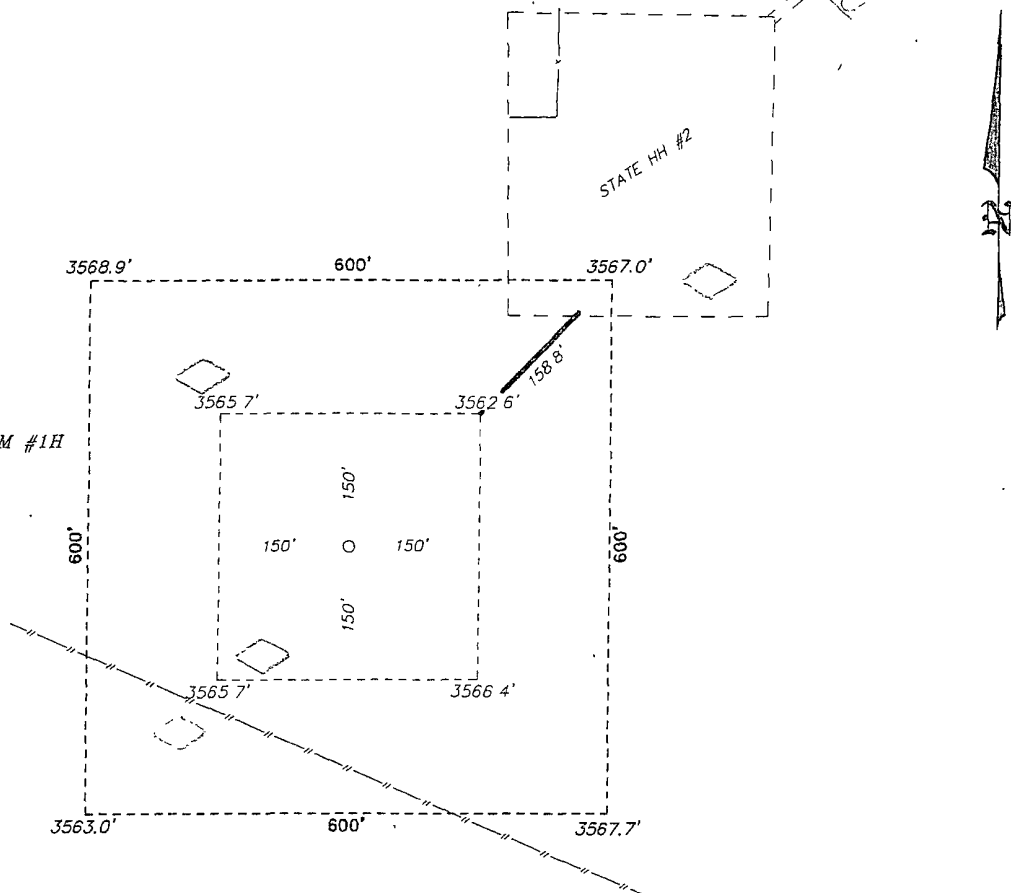
SECTION 36, TOWNSHIP 19 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

H₂S Well Site
Alternate Emergency Route

□ Briefing Area

MANZANO, LLC
GAY NINETIES FEDERAL COM #1H
ELEV. ~ 3563'

Lat - N 32°36'50.07"
Long - W 103°43'06.67"
NMSPCE- N 587618.208
E 730643.044
(NAD-83)



200 0 200 400 FEET
SCALE: 1" = 200'

Directions to Location

FROM THE JUNCTION OF HWY 62-180 AND SMITH RANCH, GO NORTH 2.0 MILES TURNING LEFT ON LEASE ROAD FOR 3.2 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTH 1.1 MILES TURNING NORTHWEST 2.0 MILES TO LEASE ROAD, ON LEASE ROAD GO 0.8 MILES SOUTHWEST TURNING WEST 0.5 MILE THENCE SOUTHWEST 0.1 MILES TURNING SOUTH AGAIN 0.6 MILES TO WELL LOCATION, GO SOUTHWEST 0.3 MILES TO PROPOSED LOCATION.

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

W.O Number 26633 Drawn By: J. SMALL
Date: 04-24-2012 Disk: JMS 26633

MANZANO, LLC

REF: GAY NINETIES FEDERAL COM #1H / WELL PAD TOPO

THE GAY NINETIES FEDERAL COM #1H LOCATED 1547'

FROM THE SOUTH LINE AND 2280' FROM THE EAST LINE OF

SECTION 36, TOWNSHIP 19 SOUTH, RANGE 32 EAST,

N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 04-18-2012 Sheet 1 of 1 Sheets