NM OIL CONSERVATION
ARTESIA DISTRICT
OCD Artesia AUG 28 2014

12-972

Form 3160-3
(August 2007)

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

JCS

HIGH CAVEKARST

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NM 0504364-B — 9-4-14

6. If Indian, Allotee or Tribe Name: N/A

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.: N/A

1b. Type of Well: ☑ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. Pan Canadian # 6H < ~~37336~~ 313639

2. Name of Operator Unit Petroleum Company < 115990 >

9. API Well No. 30-015-42622

3a. Address 7130 South Lewis, Suite 1000, Tulsa, Oklahoma 74136

3b. Phone No. *(include area code)* (918) 493-7700

10. Field and Pool, or Exploratory < 97565 North Seven Rivers (Glorietta-Yeso)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface 1,650' FNL - 330' FEL, Section 34, T19S-R25E, Eddy County, NM

At proposed prod. zone 1,650' FNL - 330' FWL, Section 34, T19S-R25E, Eddy County, NM

11. Sec., T. R. M. or Blk. and Survey or Area: Section 34, T19S-R25E

14. Distance in miles and direction from nearest town or post office*
From Carlsbad, NM go 13 mi North on Sate Hwy 285 to CR 21, turn West, go 2.8 mi, turn left into

12. County or Parish: Eddy

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
330'	480 acres	160 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
300'	6700 MD 2600TVD	NM 8000888 - KO 8598447
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3507	08/15/2013	60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
Title: Vice President	Carl Hansen	02/21/2013

Approved by *(Signature)* Steve Caffey	Name *(Printed/Typed)*	Date AUG 21 2014
Title: FIELD MANAGER	Office: CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Operator must be in compliance with NMOCD Rule 5.9 prior to producing well. JCS

Roswell Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

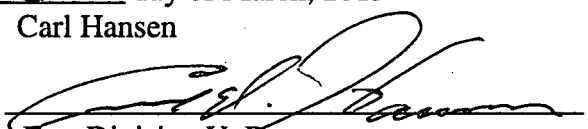
SEE ATTACHED FOR CONDITIONS OF APPROVAL

Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed 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 Unit Petroleum Company, 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.

I hereby also certify that I, or Unit Petroleum Company have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this 8th day of March, 2013
Printed Name: Carl Hansen

Signed Name: 
Position Title: East Division V.P.
Address: 7130 South Lewis Avenue, Suite 1000, Tulsa, Oklahoma 74136
Telephone: (918) 493-7700
Field Representative: Frank Shores
Address: P.O. Box 116, Stigler, Oklahoma 74462
Telephone: (918) 465-7035
E-mail: fshores@crosstel.net

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-42622	~~55670~~ 97565	NORTH SEVEN RIVERS (GLORIETTA-YESO)

Property Code	Property Name	Well Number
~~312369~~ 313639	PAN CANADIAN	6H

OGRID No.	Operator Name	Elevation
115970	UNIT PETROLEUM COMPANY	3507'

Surface Location

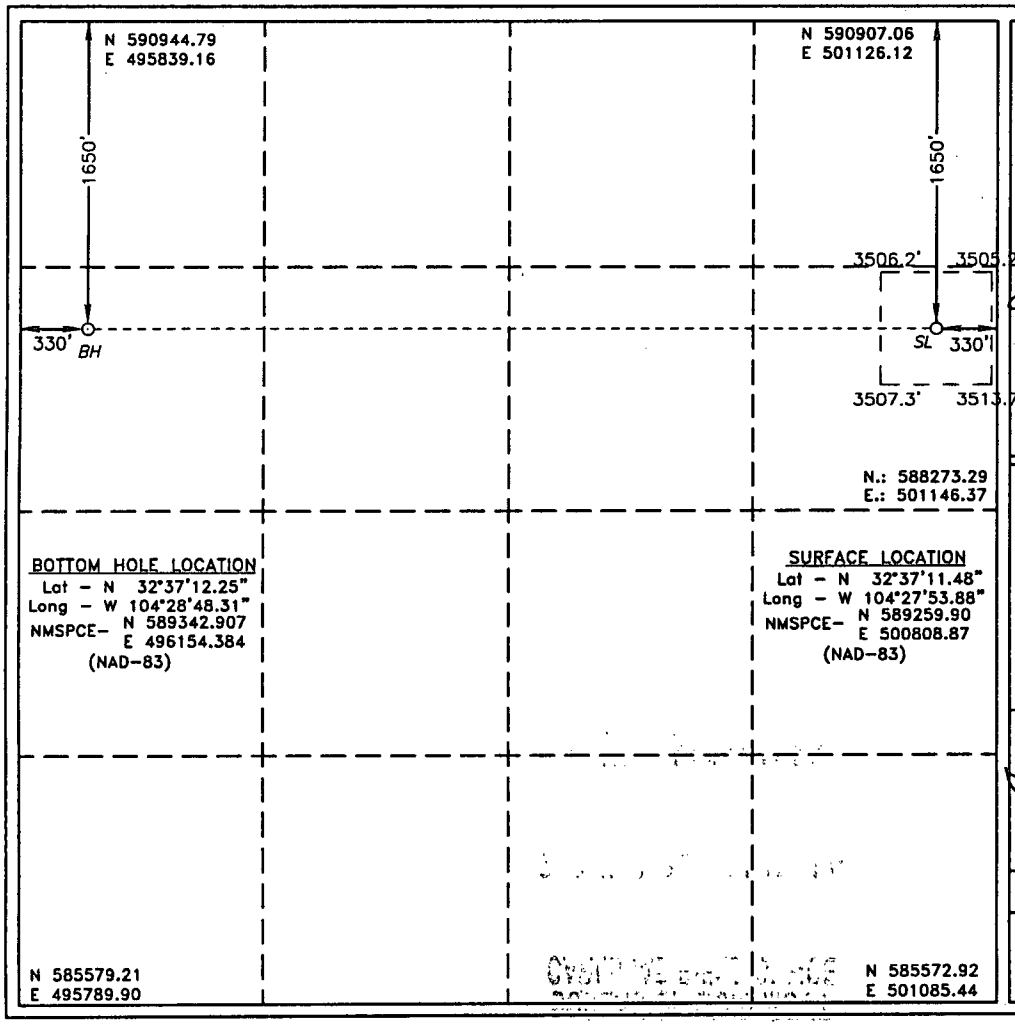
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	34	19 S	25 E		1650	NORTH	330	EAST	EDDY

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
E	34	19 S	25 E		1650	NORTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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.

Signature 5/08/2013 Date

Carl D. Hansen
Printed Name

carl.hansen@unitcorp.com
Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

SEPTEMBER 7, 2012
Date Surveyed

Signature & Seal of Professional Surveyor

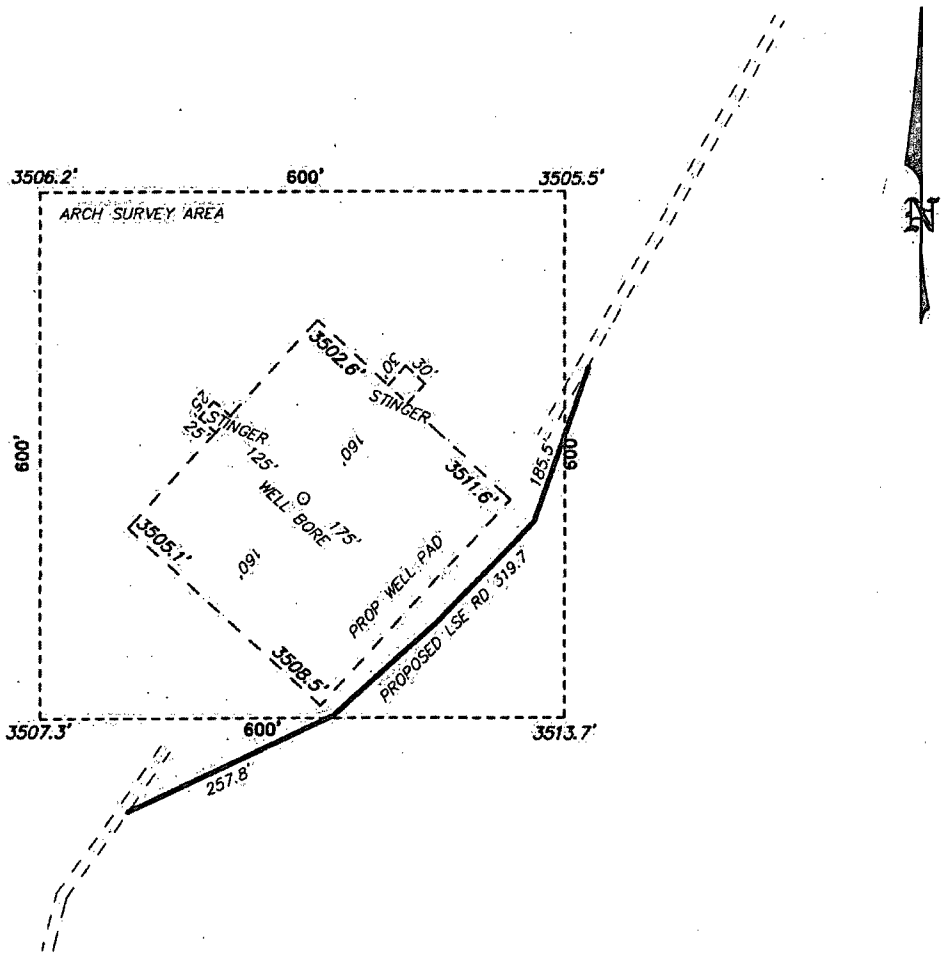
NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 27416

Section 34, Township 19 South, Range 25 East, N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



UNIT PETROLEUM COMPANY
PAN CANADIAN #6H
ELEV. - 3507'
Lat - N 32°37'11.48"
Long - W 104°27'53.89"
NMSPCE- N 589259.9
E 500808.9
(NAD-83)

ARTESIA, NM IS ±15 MILES TO THE NORTH-NORTHEAST OF LOCATION.

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

Directions to Location:

FROM HWY 285 AND CR 23/ ROCK DAISY GO WEST 3 MILES, TURN SOUTH ON LEASE ROAD 0.25 MILES TO PROPOSED LOCATION ON RIGHT.

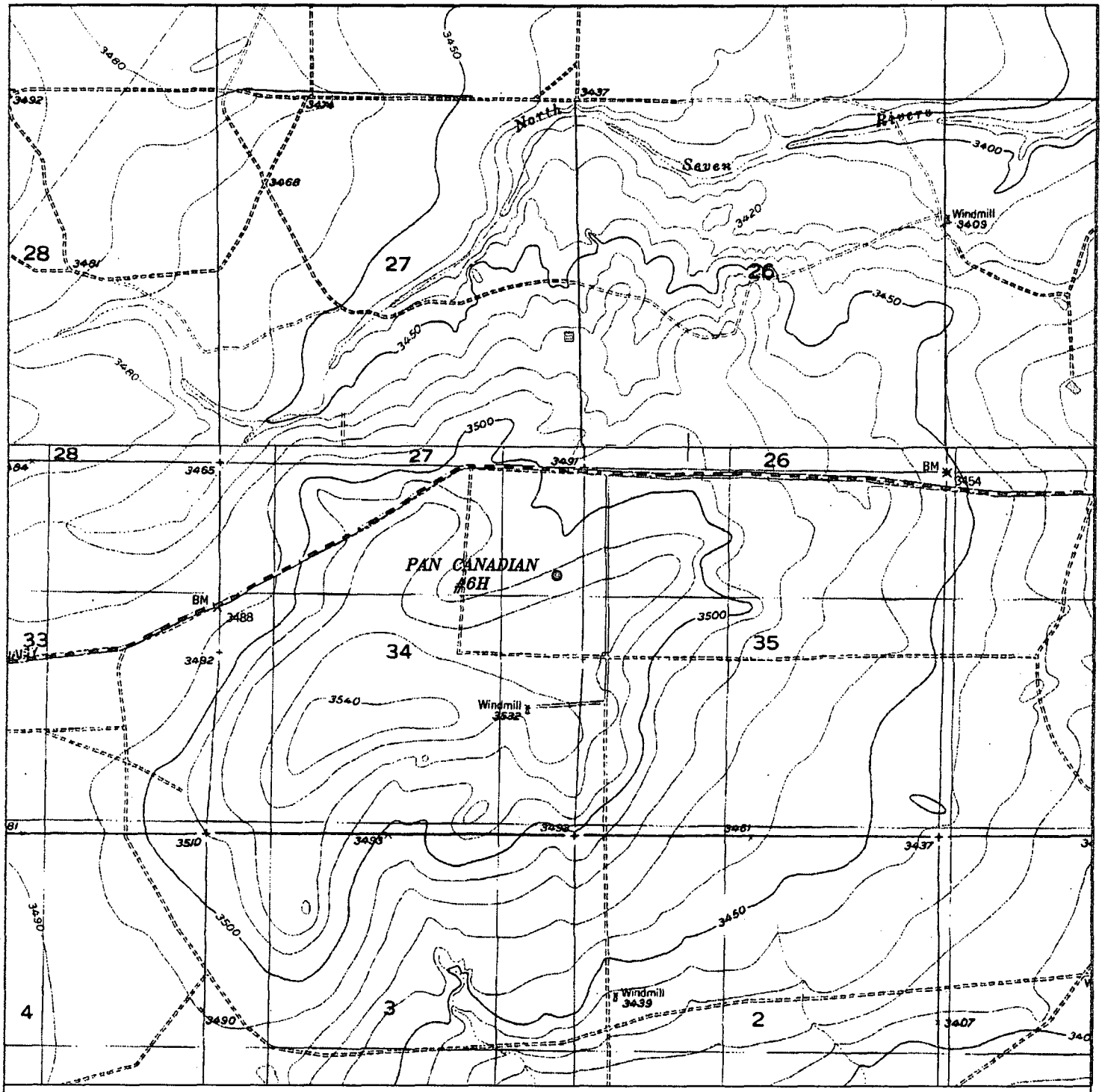
UNIT PETROLEUM COMPANY

REF: PAN CANADIAN #6H / WELL PAD TOPO

THE PAN CANADIAN #6H LOCATED 1650' FROM THE NORTH LINE AND 330' FROM THE EAST LINE OF SECTION 34, TOWNSHIP 19 SOUTH, RANGE 25 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: 30339	Drawn By: K. NORRIS	Date: 04-21-2014	Survey Date: 04-16-2014	Sheet 1 of 1 Sheets



PAN CANADIAN #6H
Located 1650' FNL and 330' FEL
Section 34, Township 19 South, Range 25 East,
N.M.P.M., Eddy County, New Mexico.

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Hobbs, New Mexico 88241
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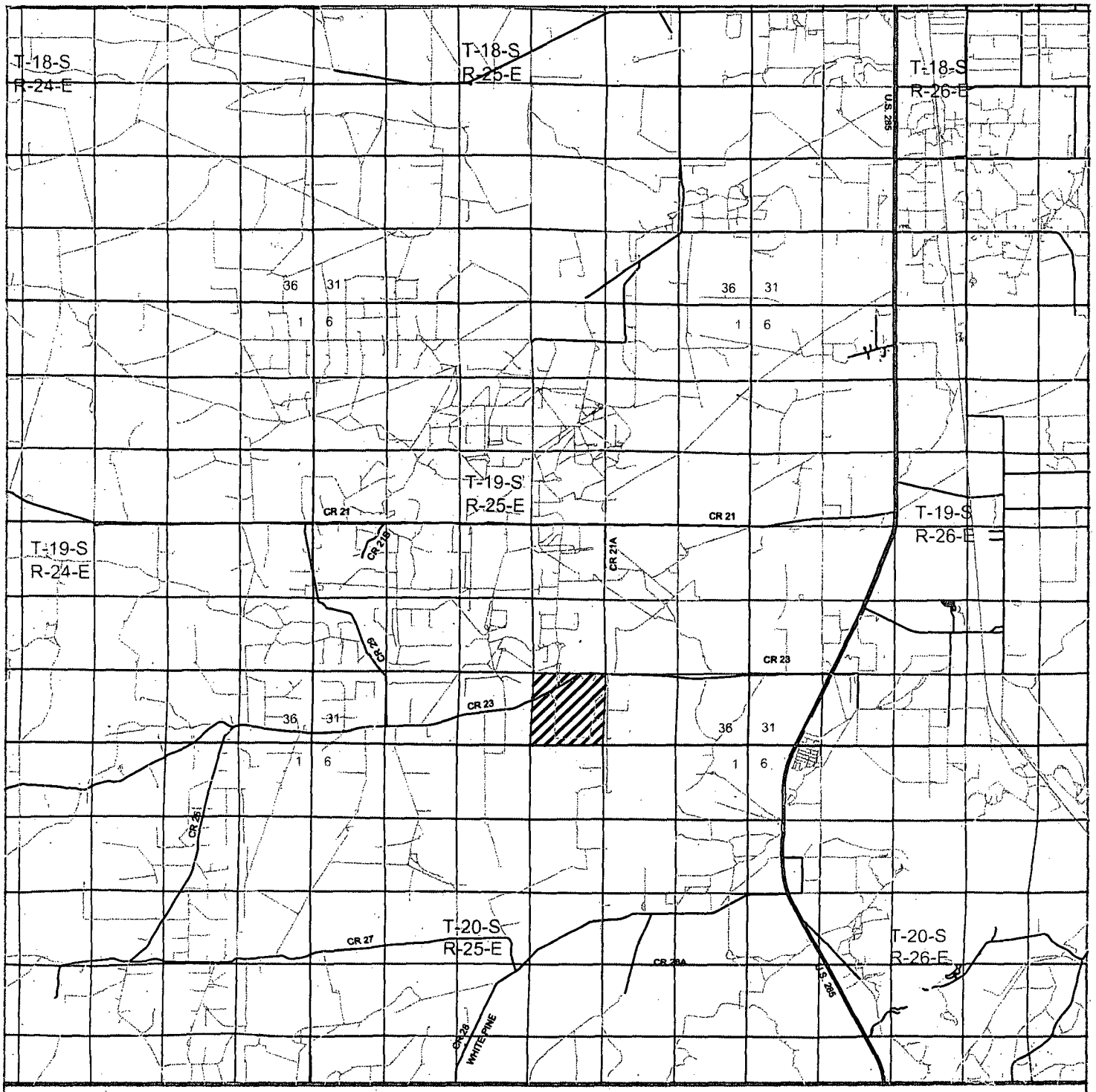
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: DAJ 27416
Survey Date: 09-18-2012
Scale: 1" = 2000'
Date: 09-25-2012

N

UNIT PETROLEUM COMPANY



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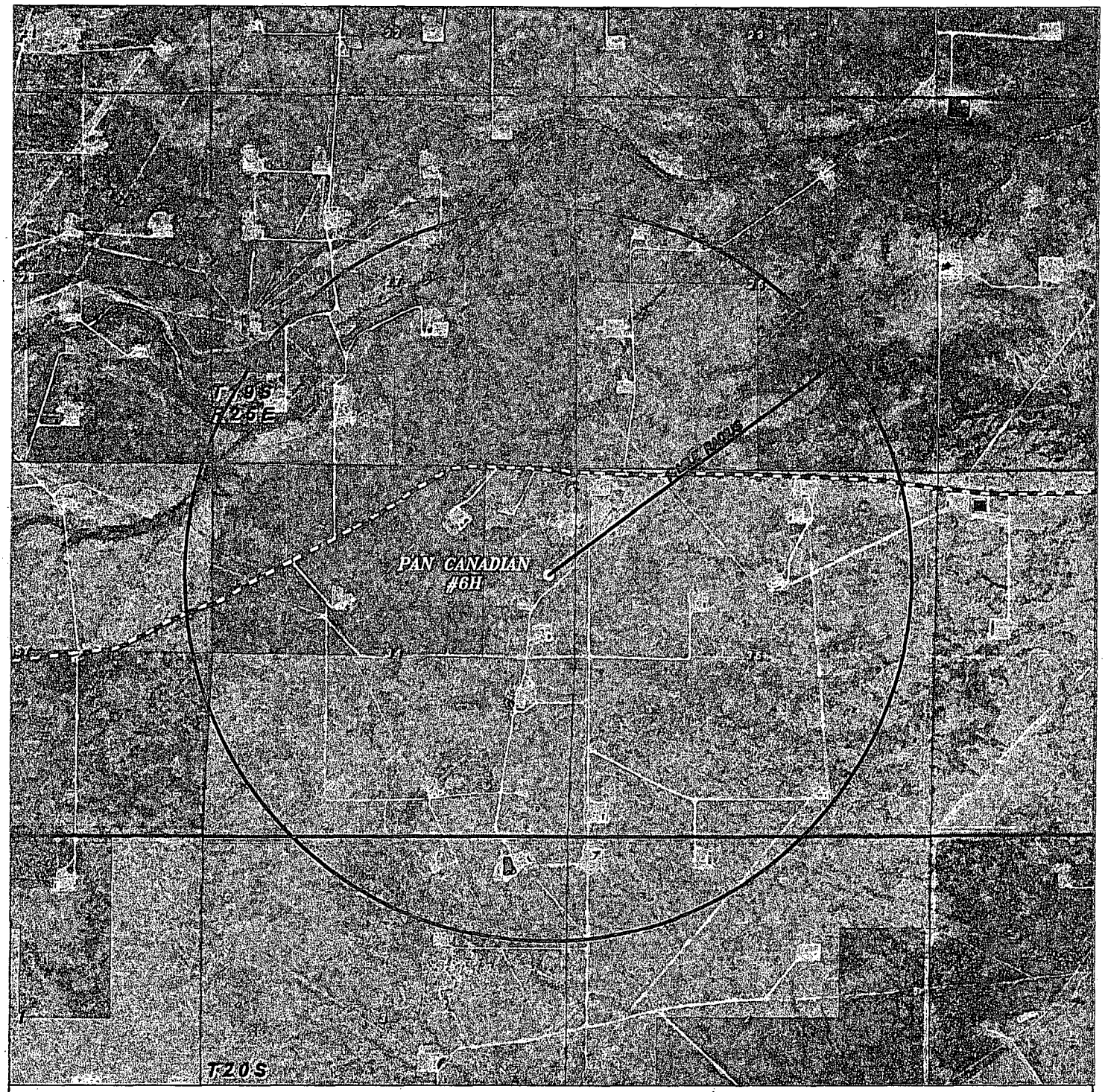
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: DAJ 27416
Survey Date: 09-18-2012
Scale: 1" = 2 Miles
Date: 09-25-2012

N

UNIT PETROLEUM COMPANY



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(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: DAJ 27416

Scale: 1" = 2000'

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

N

UNIT PETROLEUM COMPANY

DRILLING PROGRAM

Operator:
Unit Petroleum

Project Name:
Pan Canadian #6H

Project Location:
Surface Hole: 1,650' FNL & 330' FEL Section 34-19S-25E
Bottom Hole: 1,650' FNL & 330' FWL Section 34-19S-25E
Eddy County, New Mexico

Federal Nexus:
Mineral Estate

Prepared By:
Brent A. Keys

Date Prepared:
March 12th, 2014

Submitted To:
Bureau of Land Management

Please address inquiries, questions, scheduling of meetings and deficiency statements, if any, to Brent Keys at the address shown below:

Unit Petroleum Company
7130 South Lewis, Suite 1000
Tulsa, OK 74136
918-493-7700
brent.keys@unitcorp.com

Drilling Program
Unit Petroleum Company
Pan Canadian #6H
SHL: 1600' FNL & 330' FEL; Sec. 34-T19S-R25E
BHL: 1600' FNL & 330' FWL; Sec. 34-T19S-R25E
Eddy County, New Mexico

1. The estimated tops of geological markers are as follows:

Grayburg	596'
*San Andres	890'
*Glorietta	2,415'
*Yeso	2,600'

2. Estimated depths of anticipated fresh water, oil or gas:

Water	Fresh water is anticipated @ 150' and will be protected by setting surface casing at 1,000' and cementing to surface
Hydrocarbons	Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as necessary.

3. Pressure control equipment:

   A 5,000# BOP will be installed prior to drilling out surface casing shoe. Pressure tests will be conducted and BOPE will remain in use until completion of drilling operations. The BOP will be inspected and operated daily to ensure mechanical integrity and the inspection will be recorded on the daily drilling report.
   Will test the BOPE to 3,000 PSI with a third party testing company before drilling below shoe as per BLM Onshore Oil and Gas Order #2.

4. Unit Petroleum Company proposes to drill a vertical wellbore to 1,888'. We will then kick off to horizontal @ 2,600' TVD. The well will be drilled to 6,912' MD (2,600 TVD). (See attached directional plan)

5. Proposed casing and cementing program:

   A. Casing Program

Hole Size	O.D. Casing	Interval	Wt	Collar Type	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
12-1/4"	9-5/8" (New)	0-1000'	36#	LT&C	J-55	1.125	1.125	1.6
8-3/4"	7" (New)	0-2000'	26#	LT&C	J-55	1.125	1.125	1.6
8-3/4"	7" (New)	2000-3008'	26#	HDL	N-80	1.125	1.125	1.6
6-1/8"	4-1/2" (New)	2808-6912'	11.6#	LT&C	N-80	1.125	1.125	1.6

B. Cementing Program:

i. Surface Casing: 470 sacks class "C" w/2% CaCl2. Yield at 1.34 cuft/sk. Cmt circulated to surface with 100% excess.

ii. Production Casing: 150 sacks Class C *light cement with additives. Yield at 2.05 cuft/sk. 250 sacks Class C cement w/ fluid loss additives. Yield at 1.33 cuft/sk. Cmt circulated to surface with 25% excess.

iii. Production Liner: This will be a cemented liner completion from TD up inside 7" casing with packer type liner hanger. 400 sx class "C" mixed at a yield of 1.28 ft^3/sk. 5% kcl, 0.3% retarder, 0.6% fluid loss control and 0.1% suspension agent.

*Referring to above blends of light cement: (wt% fly ash: wt% cement: wt% bentonite of the total of first two numbers). Generic names of additives are used since the availability of specific company and products are unknown at this time.

6. Mud Program:

Interval	Type System	Weight	Viscosity	Fluid Loss
0-1000'	FW spud mud	8.4-9.2	29-34	NA
1000-6928'	FW/cut brine	8.3-9.2	29-32	NA

*The necessary mud products for weight addition and fluid loss control will be on location at all times.

7. Evaluation Program:

Samples: 10' samples from intermediate casing to TD
Logging: Gamma Ray in lateral. Gyro from 1,000' to surface.

8. Downhole Conditions

Zones of abnormal pressure: None anticipated
Zones of lost circulation: Anticipated in surface and intermediate holes
Maximum bottomhole temp: 100 degree F
Maximum bottomhole pressure: 8.4 lbs/gal gradient or less

9. Anticipated Starting Date:

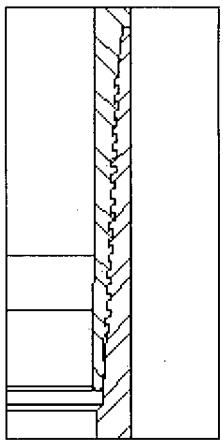
Unit Petroleum Company intends to drill this well as soon as possible after receiving approval with approximately 15 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

Technical Specifications

Connection Type:	Size(O.D.):	Weight (Wall):	Grade:
HD-L Casing	7 in	26.00 lb/ft (0.362 in)	N-80
Standard			

	Material	
N-80	Grade	
80,000	Minimum Yield Strength (psi)	
100,000	Minimum Ultimate Strength (psi)	
	Pipe Dimensions	
7.000	Nominal Pipe Body O.D. (in)	
6.276	Nominal Pipe Body I.D.(in)	
0.362	Nominal Wall Thickness (in)	
26.00	Nominal Weight (lbs/ft)	
25.69	Plain End Weight (lbs /ft)	
7.549	Nominal Pipe Body Area (sq in)	
	Pipe Body Performance Properties	
604,000	Minimum Pipe Body Yield Strength (lbs)	
5,410	Minimum Collapse Pressure (psi)	
7,240	Minimum Internal Yield Pressure (psi)	
6,600	Hydrostatic Test Pressure (psi)	
	Connection Dimensions	
7.000	Connection O.D. (in)	
6.200	Connection I.D. (in)	
6.151	Connection Drift Diameter (in)	
3.34	Make-up Loss (in)	
3.793	Critical Area (sq in)	
50.2	Joint Efficiency (%)	
	Connection Performance Properties	
303,000 (1)	Joint Strength (lbs)	
379,000 (2)	Reference Minimum Parting Load (lbs)	
8,430	Reference String Length (ft) 1.4 Design Factor	
303,000	Compression Rating (lbs)	
5,410	Collapse Pressure Rating (psi)	
7,240	Internal Pressure Rating (psi)	
26.3	Maximum uniaxial bend rating [degrees/100 ft]	
	Recommended Torque Values	
5,500 (3)	Minimum Final Torque (ft-lbs)	
6,300 (3)	Maximum Final Torque (ft-lbs)	

VAM USA
4424 W. Sam Houston Pkwy. Suite 150
Houston, TX 77041
Phone: 713-479-3200
Fax: 713-479-3234
E-mail: VAMUSAsales@vam-usa.com



1) Joint strength is the elastic limit or yield strength of the connection.
2) Reference minimum parting load is the ultimate strength or parting load of the connection.
3) Torque values are recommended and can be affected by field conditions.

Unit Petroleum

Eddy County, New Mexico [NAD 83]
Section 34-19S-25E
Pan Canadian #6H

OH

Plan: Design #1

Standard Planning Report

12 March, 2014

INWELL INC.

Unit Petroleum Company

Unit Petroleum
Project: Eddy County, New Mexico [NAD 83]
Site: Section 34-19S-25E
Well: Pan Canadian #6H
Wellbore: OH
Design: Design #1
Lat: 32° 37' 11.485 N
Long: 104° 27' 53.889 W
Pad GL: 3507.00
KB: WELL @ 3507.00usft (Original Well Elev)

INWELL INC.

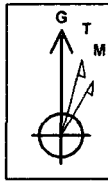
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1883.80	0.00	0.00	1883.80	0.00	0.00	0.00	0.00	0.00	Kickoff Pt_Start DLS 8.00°/100'
3008.80	90.00	271.02	2600.00	12.77	-716.08	8.00	271.02	716.20	Penetration Pt/Start 3939.44 hold at 3008.80 MD
6948.24	90.00	271.02	2600.00	83.01	-4654.90	0.00	0.00	4655.64	Terminus Pt at 6948.24

PROJECT DETAILS: Eddy County, New Mexico [NAD 83]

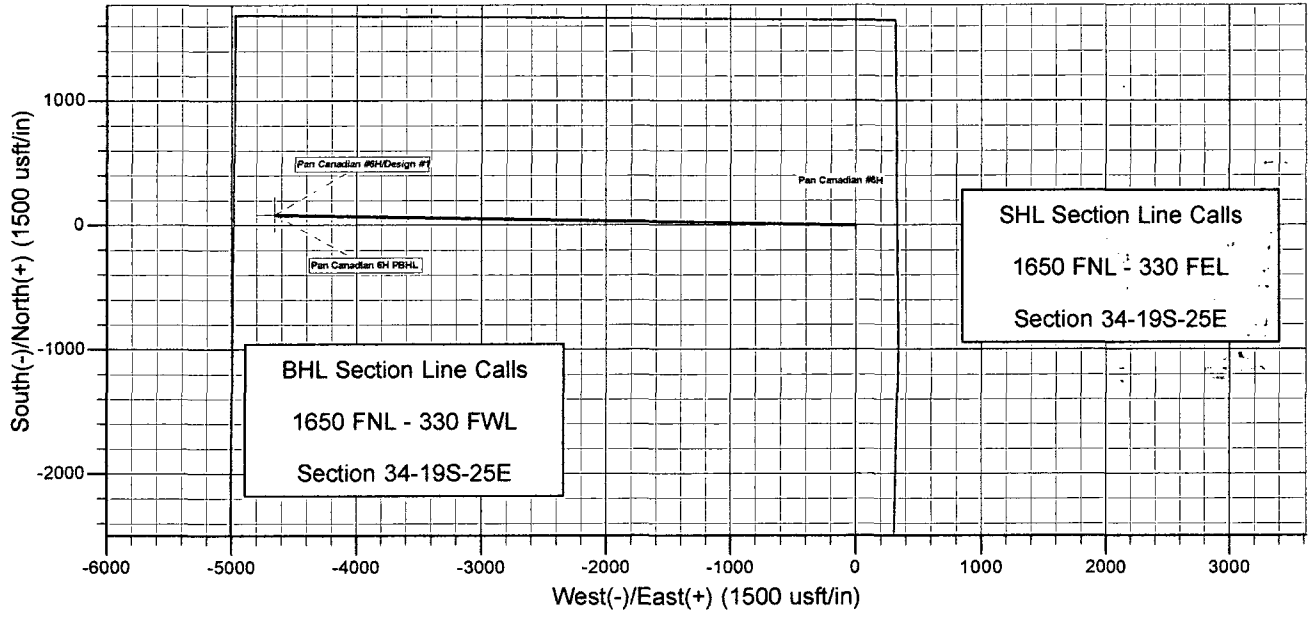
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

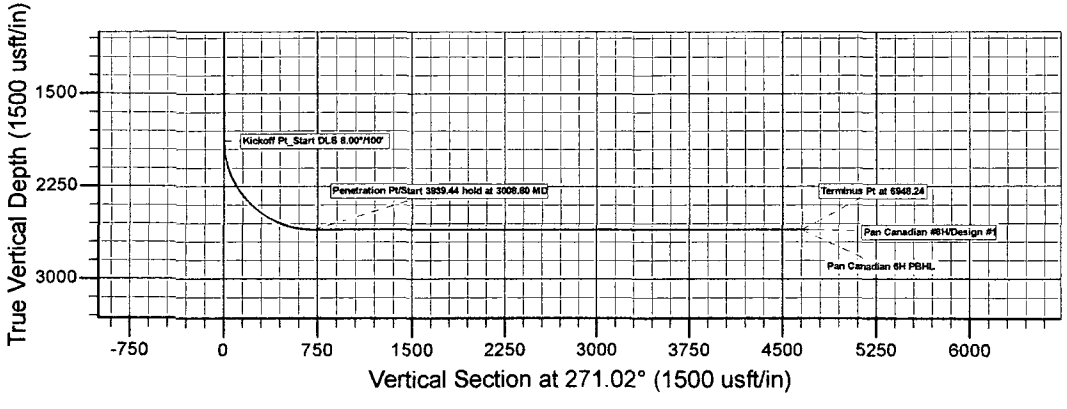
System Datum: Mean Sea Level



Azimuths to Grid North
True North: 0.07°
Magnetic North: 7.76°

Magnetic Field
Strength: 48481.1snT
Dip Angle: 60.33°
Date: 3/12/2014
Model: IGRF2010





WELL DETAILS: Pan Canadian #6H

Ground Level: 3507.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	589259.90	500808.87	32° 37' 11.485 N	104° 27' 53.889 W	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pan Canadian 6H PBHL	2600.00	83.01	-4654.90	589342.91	496154.38	Point

Plan: Design #1 (Pan Canadian #6H/OH)

Created By: Derek Stephens Date: 15:10, March 12 2014

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Pan Canadian #6H
Company:	Unit Petroleum	**TVD Reference:**	WELL @ 3507.00usft (Original Well Elev)
Project:	Eddy County, New Mexico [NAD 83]	**MD Reference:**	WELL @ 3507.00usft (Original Well Elev)
Site:	Section 34-19S-25E	**North Reference:**	Grid
Well:	Pan Canadian #6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Project Eddy County, New Mexico [NAD 83]

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site Section 34-19S-25E

Site Position:		**Northing:**	589,259.90 usft	**Latitude:**	32° 37' 11.485 N
From:	Map	**Easting:**	500,808.87 usft	**Longitude:**	104° 27' 53.889 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.07 °

Well Pan Canadian #6H

Well Position	**+N/-S**	0.00 usft	**Northing:**	589,259.90 usft	**Latitude:**	32° 37' 11.485 N
	+E/-W	0.00 usft	**Easting:**	500,808.87 usft	**Longitude:**	104° 27' 53.889 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,507.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/12/2014	7.69	60.33	48,481

Design Design #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	271.02

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,883.80	0.00	0.00	1,883.80	0.00	0.00	0.00	0.00	0.00	0.00	
3,008.80	90.00	271.02	2,600.00	12.77	-716.08	8.00	8.00	-7.91	271.02	
6,948.24	90.00	271.02	2,600.00	83.01	-4,654.90	0.00	0.00	0.00	0.00	Pan Canadian 6H PBl

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Pan Canadian #6H
Company:	Unit Petroleum	**TVD Reference:**	WELL @ 3507.00usft (Original Well Elev)
Project:	Eddy County, New Mexico [NAD 83]	**MD Reference:**	WELL @ 3507.00usft (Original Well Elev)
Site:	Section 34-19S-25E	**North Reference:**	Grid
Well:	Pan Canadian #6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,883.80	0.00	0.00	1,883.80	0.00	0.00	0.00	0.00	0.00	0.00
Kickoff Pt_Start DLS 8.00°/100'									
1,900.00	1.30	271.02	1,900.00	0.00	-0.18	0.18	8.00	8.00	0.00
1,950.00	5.30	271.02	1,949.91	0.05	-3.06	3.06	8.00	8.00	0.00
2,000.00	9.30	271.02	1,999.49	0.17	-9.40	9.41	8.00	8.00	0.00
2,050.00	13.30	271.02	2,048.51	0.34	-19.19	19.20	8.00	8.00	0.00
2,100.00	17.30	271.02	2,096.73	0.58	-32.38	32.39	8.00	8.00	0.00
2,150.00	21.30	271.02	2,143.91	0.87	-48.90	48.90	8.00	8.00	0.00
2,200.00	25.30	271.02	2,189.83	1.22	-68.66	68.67	8.00	8.00	0.00
2,250.00	29.30	271.02	2,234.25	1.63	-91.58	91.60	8.00	8.00	0.00
2,300.00	33.30	271.02	2,276.97	2.10	-117.55	117.57	8.00	8.00	0.00
2,350.00	37.30	271.02	2,317.77	2.61	-146.43	146.45	8.00	8.00	0.00
2,400.00	41.30	271.02	2,356.45	3.18	-178.08	178.11	8.00	8.00	0.00
2,450.00	45.30	271.02	2,392.84	3.79	-212.36	212.39	8.00	8.00	0.00
2,500.00	49.30	271.02	2,426.74	4.44	-249.09	249.13	8.00	8.00	0.00
2,550.00	53.30	271.02	2,458.00	5.14	-288.09	288.14	8.00	8.00	0.00
2,600.00	57.30	271.02	2,486.46	5.87	-329.18	329.24	8.00	8.00	0.00
2,650.00	61.30	271.02	2,511.99	6.64	-372.16	372.22	8.00	8.00	0.00
2,700.00	65.30	271.02	2,534.45	7.43	-416.81	416.88	8.00	8.00	0.00
2,750.00	69.30	271.02	2,553.74	8.26	-462.92	462.99	8.00	8.00	0.00
2,800.00	73.30	271.02	2,569.78	9.10	-510.26	510.34	8.00	8.00	0.00
2,850.00	77.30	271.02	2,582.46	9.96	-558.61	558.70	8.00	8.00	0.00
2,900.00	81.30	271.02	2,591.75	10.84	-607.72	607.82	8.00	8.00	0.00
2,950.00	85.30	271.02	2,597.58	11.72	-657.36	657.46	8.00	8.00	0.00
3,000.00	89.30	271.02	2,599.94	12.61	-707.29	707.40	8.00	8.00	0.00
3,008.80	90.00	271.02	2,600.00	12.77	-716.08	716.20	8.00	8.00	0.00
Penetration Pt/Start 3939.44 hold at 3008.80 MD									
3,100.00	90.00	271.02	2,600.00	14.40	-807.27	807.40	0.00	0.00	0.00
3,200.00	90.00	271.02	2,600.00	16.18	-907.25	907.40	0.00	0.00	0.00
3,300.00	90.00	271.02	2,600.00	17.96	-1,007.24	1,007.40	0.00	0.00	0.00
3,400.00	90.00	271.02	2,600.00	19.75	-1,107.22	1,107.40	0.00	0.00	0.00
3,500.00	90.00	271.02	2,600.00	21.53	-1,207.21	1,207.40	0.00	0.00	0.00
3,600.00	90.00	271.02	2,600.00	23.31	-1,307.19	1,307.40	0.00	0.00	0.00
3,700.00	90.00	271.02	2,600.00	25.10	-1,407.17	1,407.40	0.00	0.00	0.00
3,800.00	90.00	271.02	2,600.00	26.88	-1,507.16	1,507.40	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Pan Canadian #6H
Company:	Unit Petroleum	**TVD Reference:**	WELL @ 3507.00usft (Original Well Elev)
Project:	Eddy County, New Mexico [NAD 83]	**MD Reference:**	WELL @ 3507.00usft (Original Well Elev)
Site:	Section 34-19S-25E	**North Reference:**	Grid
Well:	Pan Canadian #6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,900.00	90.00	271.02	2,600.00	28.66	-1,607.14	1,607.40	0.00	0.00	0.00
4,000.00	90.00	271.02	2,600.00	30.44	-1,707.13	1,707.40	0.00	0.00	0.00
4,100.00	90.00	271.02	2,600.00	32.23	-1,807.11	1,807.40	0.00	0.00	0.00
4,200.00	90.00	271.02	2,600.00	34.01	-1,907.09	1,907.40	0.00	0.00	0.00
4,300.00	90.00	271.02	2,600.00	35.79	-2,007.08	2,007.40	0.00	0.00	0.00
4,400.00	90.00	271.02	2,600.00	37.58	-2,107.06	2,107.40	0.00	0.00	0.00
4,500.00	90.00	271.02	2,600.00	39.36	-2,207.05	2,207.40	0.00	0.00	0.00
4,600.00	90.00	271.02	2,600.00	41.14	-2,307.03	2,307.40	0.00	0.00	0.00
4,700.00	90.00	271.02	2,600.00	42.93	-2,407.01	2,407.40	0.00	0.00	0.00
4,800.00	90.00	271.02	2,600.00	44.71	-2,507.00	2,507.40	0.00	0.00	0.00
4,900.00	90.00	271.02	2,600.00	46.49	-2,606.98	2,607.40	0.00	0.00	0.00
5,000.00	90.00	271.02	2,600.00	48.28	-2,706.97	2,707.40	0.00	0.00	0.00
5,100.00	90.00	271.02	2,600.00	50.06	-2,806.95	2,807.40	0.00	0.00	0.00
5,200.00	90.00	271.02	2,600.00	51.84	-2,906.94	2,907.40	0.00	0.00	0.00
5,300.00	90.00	271.02	2,600.00	53.62	-3,006.92	3,007.40	0.00	0.00	0.00
5,400.00	90.00	271.02	2,600.00	55.41	-3,106.90	3,107.40	0.00	0.00	0.00
5,500.00	90.00	271.02	2,600.00	57.19	-3,206.89	3,207.40	0.00	0.00	0.00
5,600.00	90.00	271.02	2,600.00	58.97	-3,306.87	3,307.40	0.00	0.00	0.00
5,700.00	90.00	271.02	2,600.00	60.76	-3,406.86	3,407.40	0.00	0.00	0.00
5,800.00	90.00	271.02	2,600.00	62.54	-3,506.84	3,507.40	0.00	0.00	0.00
5,900.00	90.00	271.02	2,600.00	64.32	-3,606.82	3,607.40	0.00	0.00	0.00
6,000.00	90.00	271.02	2,600.00	66.11	-3,706.81	3,707.40	0.00	0.00	0.00
6,100.00	90.00	271.02	2,600.00	67.89	-3,806.79	3,807.40	0.00	0.00	0.00
6,200.00	90.00	271.02	2,600.00	69.67	-3,906.78	3,907.40	0.00	0.00	0.00
6,300.00	90.00	271.02	2,600.00	71.46	-4,006.76	4,007.40	0.00	0.00	0.00
6,400.00	90.00	271.02	2,600.00	73.24	-4,106.74	4,107.40	0.00	0.00	0.00
6,500.00	90.00	271.02	2,600.00	75.02	-4,206.73	4,207.40	0.00	0.00	0.00
6,600.00	90.00	271.02	2,600.00	76.80	-4,306.71	4,307.40	0.00	0.00	0.00
6,700.00	90.00	271.02	2,600.00	78.59	-4,406.70	4,407.40	0.00	0.00	0.00
6,800.00	90.00	271.02	2,600.00	80.37	-4,506.68	4,507.40	0.00	0.00	0.00
6,900.00	90.00	271.02	2,600.00	82.15	-4,606.66	4,607.40	0.00	0.00	0.00
6,948.24	90.00	271.02	2,600.00	83.01	-4,654.90	4,655.64	0.00	0.00	0.00

Terminus Pt at 6948.24

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Pan Canadian 6H PBHL - plan hits target center - Point	0.00	360.00	2,600.00	83.01	-4,654.90	589,342.91	496,154.39	32° 37' 12.246 N	104° 28' 48.313 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,883.80	1,883.80	0.00	0.00	Kickoff Pt_Start DLS 8.00°/100'
3,008.80	2,600.00	12.77	-716.08	Penetration Pt/Start 3939.44 hold at 3008.80 MD
6,948.24	2,600.00	83.01	-4,654.90	Terminus Pt at 6948.24

Notes Regarding Blowout Preventer
Unit Petroleum Company
Pan Canadian #6H
SHL: 1600' FNL & 330' FEL; Sec. 34-19S-25E
BHL: 1600' FNL & 330' FWL; Sec. 34-19S-25E
Eddy County, New Mexico

I. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with a minimum internal diameter equal to blowout preventer bore.

II. Blowout preventer and all fittings must be in good condition with a minimum 2000 psi working pressure on 9-5/8" and 7" casing.

III. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 2000 psi working pressure.

IV. Equipment through which bit must pass shall be at least as large as internal diameter of the casing.

V. A kelly cock shall be installed on the Kelly at all times.

Blowout preventer closing equipment to include an accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit and meet all other API specifications.

Unit Petroleum Company
Pan Canadian #6H
Eddy County, NM

Unit Petroleum Company

Proposed Blowout Preventor Stack

Valve Nomenclature
1) 2-1/16" -- 5 M Check Valve
2) 2-1/16" -- 5 M Manual Gate Valve
3) 2-1/16" -- 5 M Manual Gate Valve
4) 4-1/16" -- 5 M Hydraulic Gate Valve
5) 4-1/16" -- 5 M Manual Gate Valve
6) 2-1/16" -- 5 M Manual Gate Valve

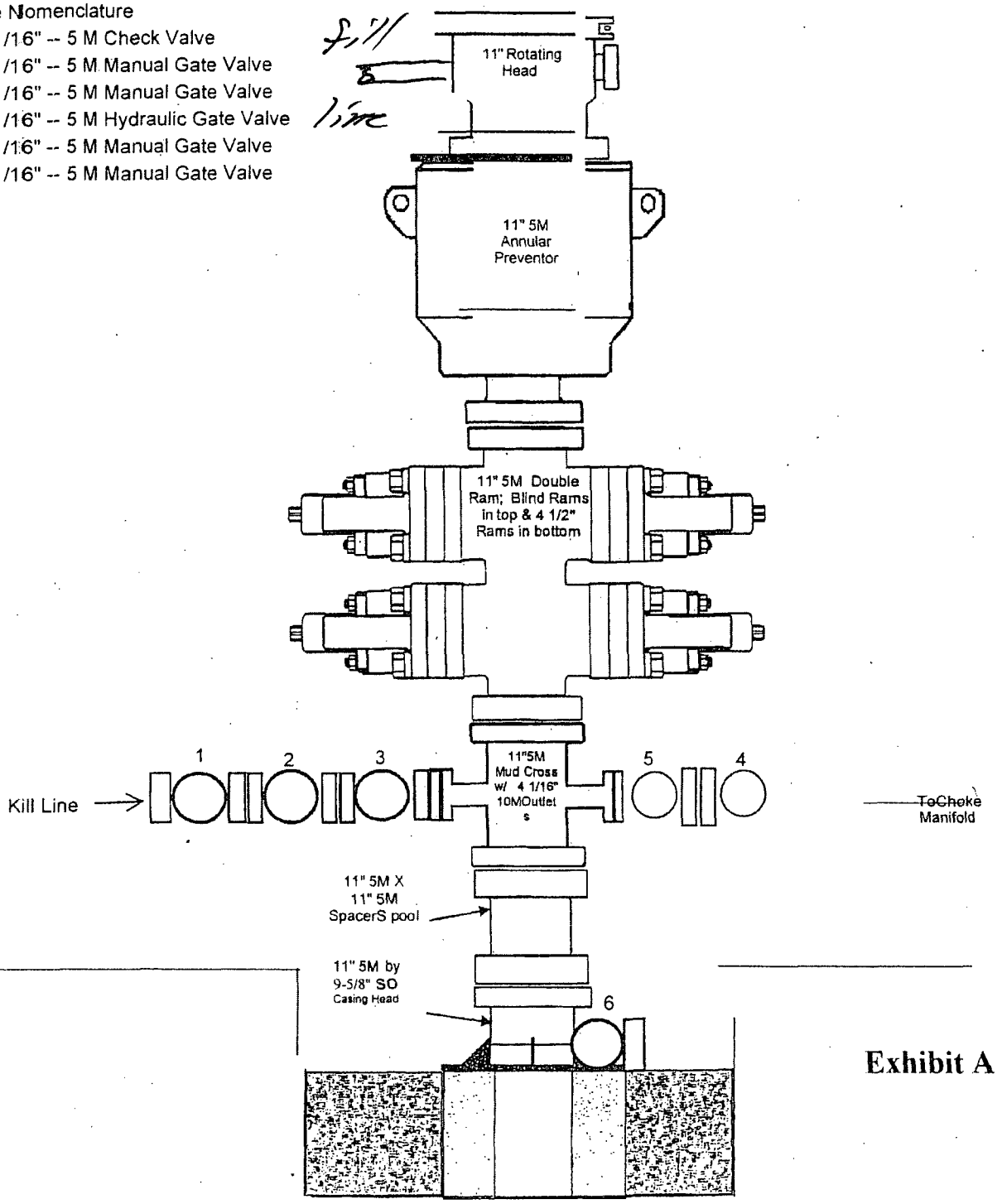
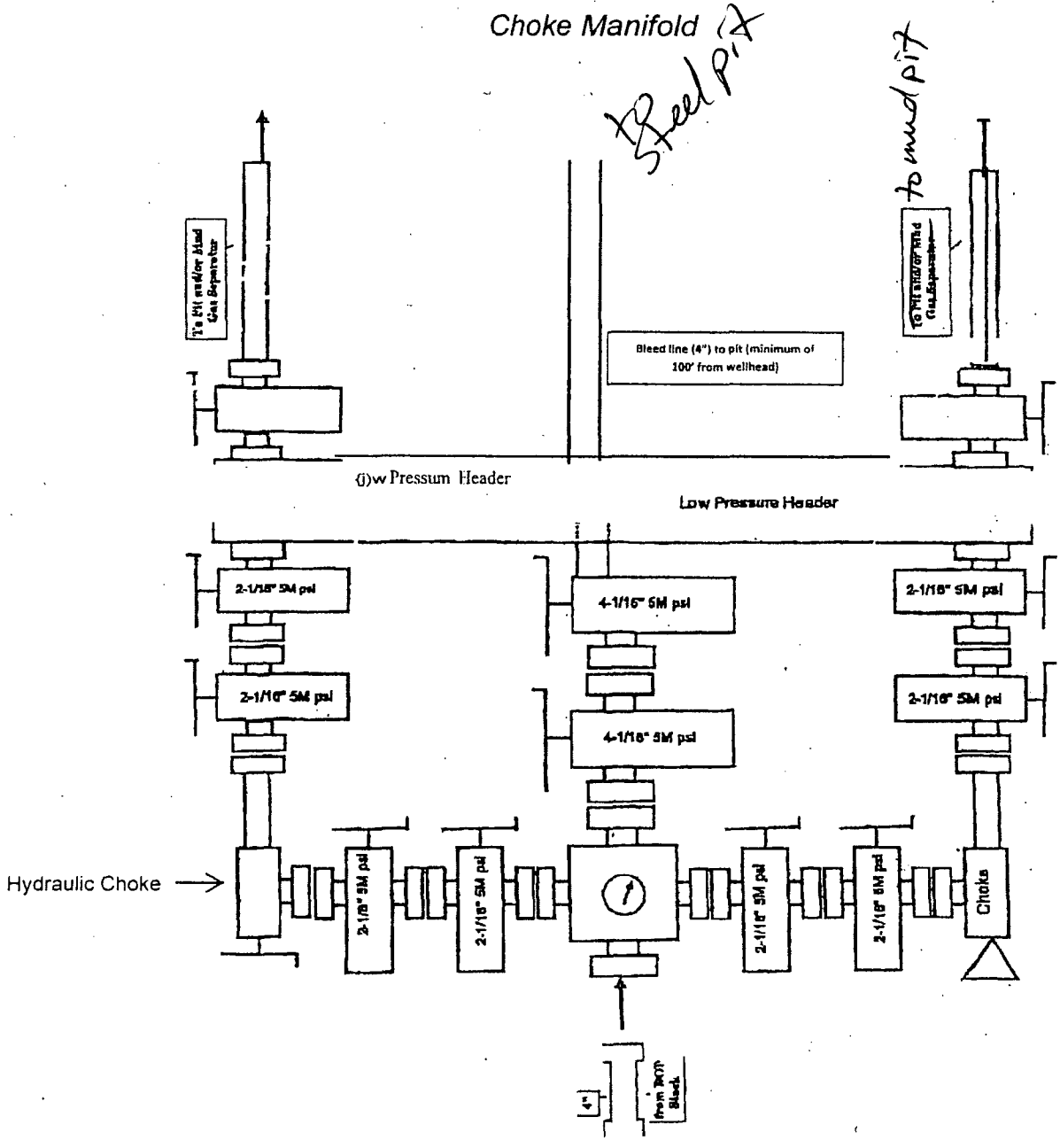


Exhibit A

Unit Petroleum Company
Pan Canadian #6H
Eddy County, NM



Mason, Jennifer <jamason@blm.gov>

Request to amend permit; Pan Canadian #5H and #6H

1 message

Brent Keys <brent.keys@unitcorp.com> Thu, Aug 21, 2014 at 12:02 PM
To: jamason@blm.gov

Jennifer,

This email is to notify you of the following information for Canadian #5H and #6H; Eddy County, New Mexico

One choke line will go to the gas separator and one choke line will go to the mud pit.

Thanks

Brent A. Keys

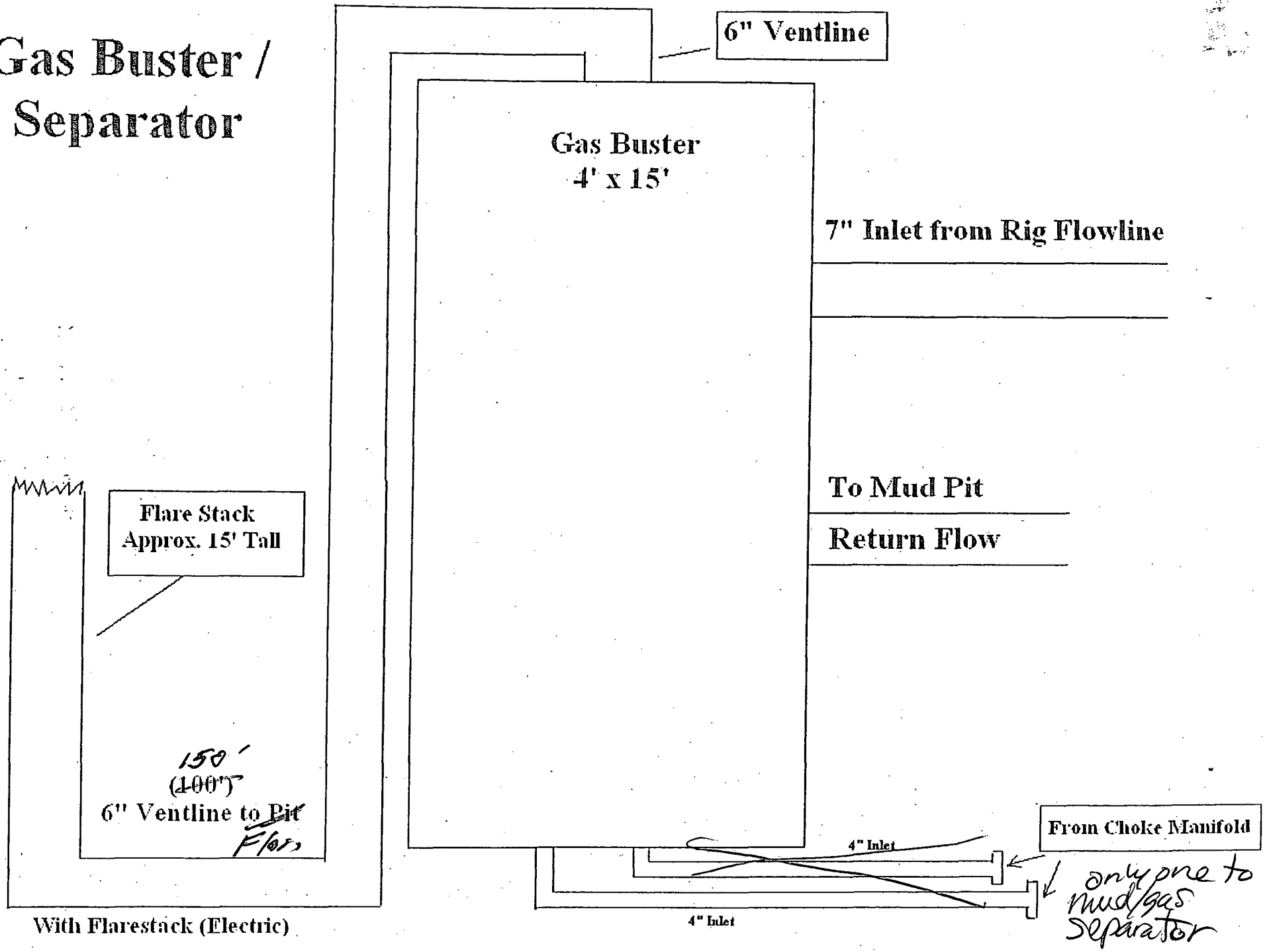
District Engineer

Unit Petroleum

918-477-4510

brent.keys@unitcorp.com

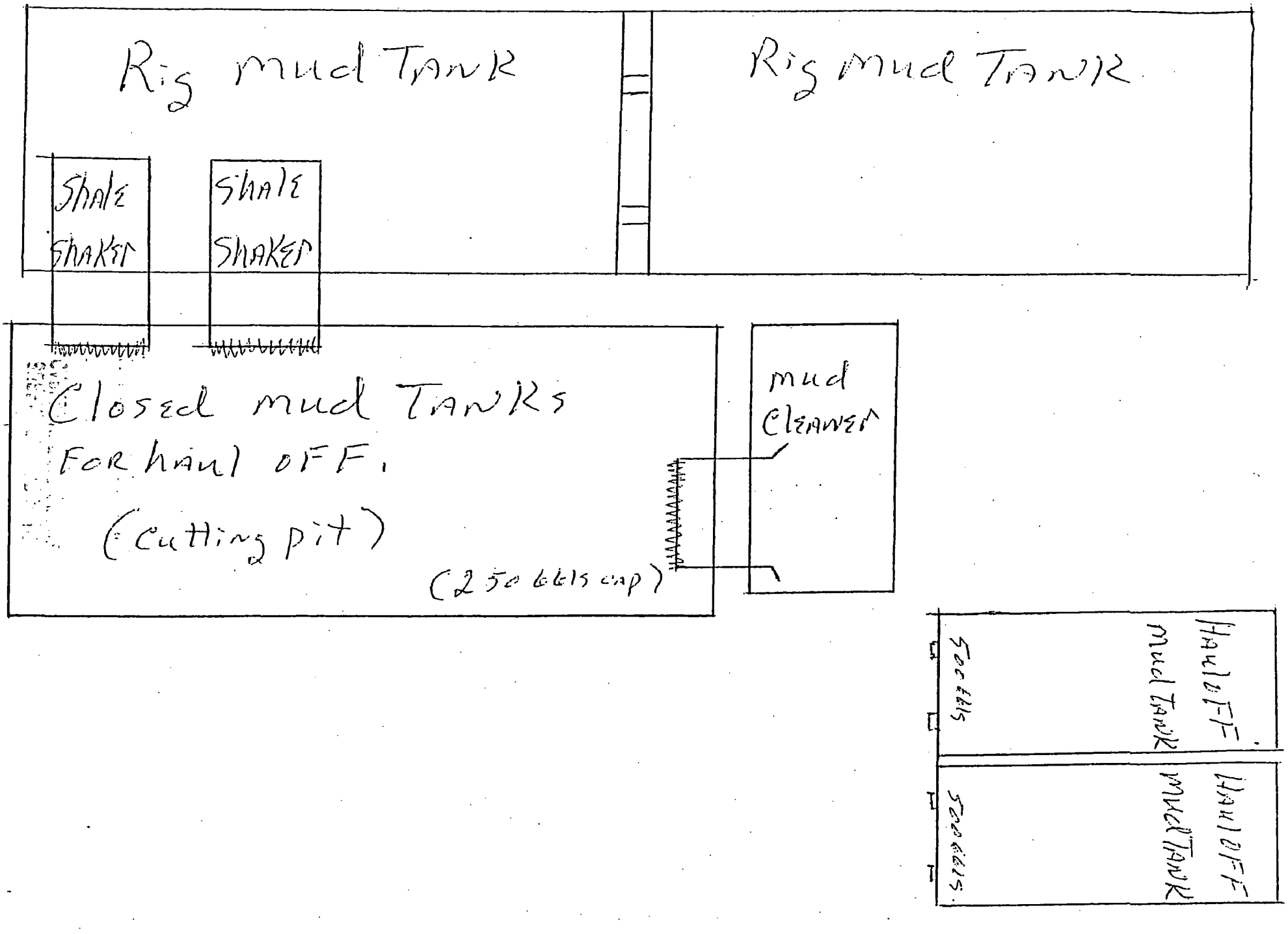
Gas Buster / Separator



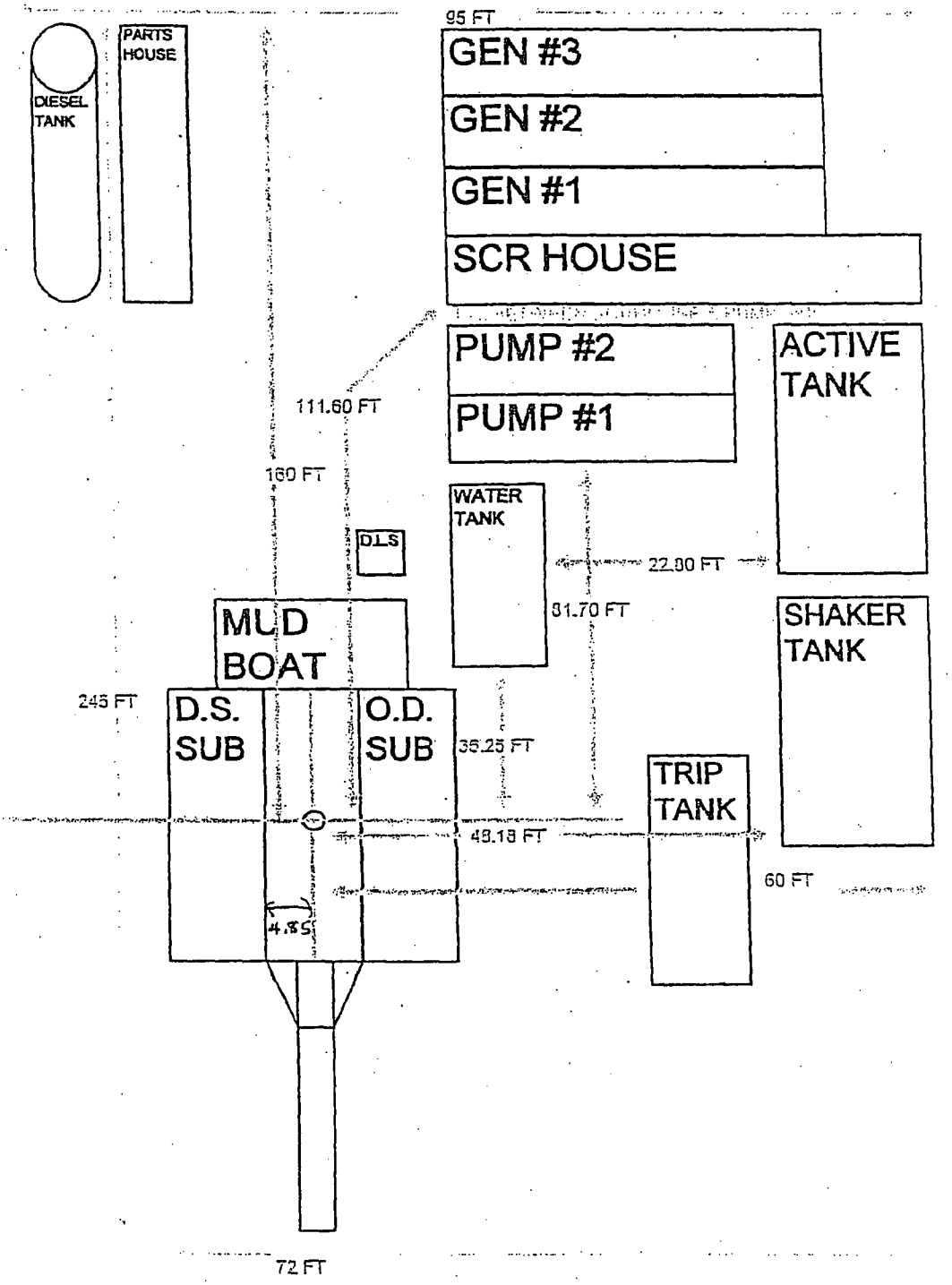
With Flarestack (Electric)

Panic line and flare stack cannot be the same line.

Closed Loop Schematic



UDI RIG 224


95 FT
GEN #3
GEN #2
GEN #1
SCR HOUSE
PARTS HOUSE
DIESEL TANK
PUMP #2
PUMP #1
ACTIVE TANK
111.60 FT
160 FT
WATER TANK
DLS
22.80 FT
31.70 FT
MUD BOAT
SHAKER TANK
245 FT
D.S. SUB
O.D. SUB
35.25 FT
TRIP TANK
48.18 FT
60 FT
4.85
72 FT

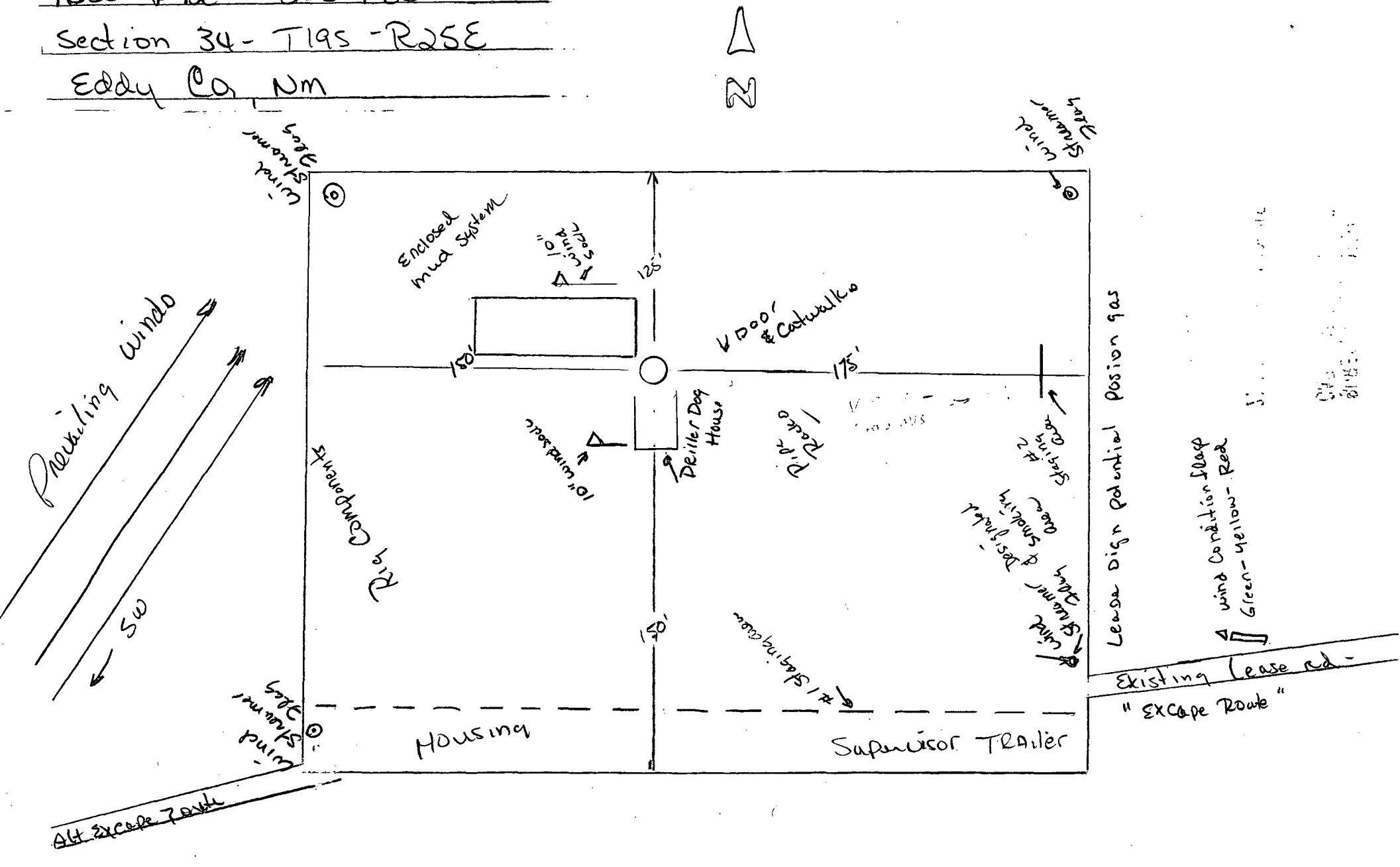
Unit Petroleum Company

Pan Canadian #6H

1650' FNL - 330' FEL

Section 34 - T19S - R25E

Eddy Co, NM



UNIT PETROLEUM COMPANY
7130 SOUTH LEWIS, SUITE 1000
TULSA, OKLAHOMA 74136

HYDROGEN SULFIDE (H_2S) Contingency Plan

For

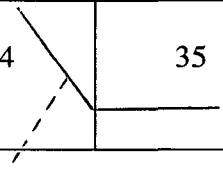
Pan Canadian # 6H
1,650' FNL – 330' FEL
Section 34, T19S- R25E
Eddy County, New Mexico

Pan Canadian # 6H

This is an open drill site, H2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H2S, including warning signs, wind indicators and H2S monitor.

N

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



Escape:

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated South on lease road or flagged alternate route onto county road. Crews should block county road and lease road to location so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the **ROE.** There are no homes or buildings in or near the **ROE.**

Emergency Procedures:

In the case of a release of gas containing H_2S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responders(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H_2S, measures for protection against the gas, equipment used for protection and emergency response. Additionally responders must be equipped with H_2S monitors and air packs in order to control the release. Use the "buddy system" to ensure no injuries during the response.

Ignition of Gas Source:

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H_2S and SO_2:

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	**H_2S**	**1.189 Air = 1**	**10 ppm**	**100 ppm/hr**	**600 ppm**
Sulfur Dioxide	**SO_2**	**2.21 Air = 1**	**2 ppm**	**N/A**	**1000 ppm**

Contacting Authorities

Unit Petroleum Company personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location or release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Unit Petroleum Company response must be in coordination with the State of New Mexico's Hazardous Materials Emergency Response Plan. (HMER)

Unit Petroleum Company Call List:

Tulsa District:

District Engineer	Brent A. Keys	(918) 477-4510
Area Foreman	Harvey Wetzel	(432) 664-3217
Safety Director	Skip Wedel	(918) 477-4574

Agency Call List: Lea County Area Code (575)

Hobbs:

State Police.....575-392-5588
City Police.....575-397-9265
Sheriff's Office.....575-393-2515
Ambulance.....911
Fire Department.....575-397-9308
LEPC (Local Emergency Planning Committee)..... 575-393-2970
NMOCD.....575-393-6161
US Bureau of Land Management.....575-393-3612

Carlsbad: Eddy County Area Code (575)

State Police.....575-885-3137
City Police.....575-885-2111
Sheriff's Office.....575-887-7551
Ambulance.....911
Fire Department.....575-885-2111
LEPC (Local Emergency Planning Committee)..... 575-887-3798
US Bureau of Land Management.....575-887-6544
New Mexico Emergency Response Commission (Santa Fe)..... 575-476-9600
24 HR..... 575-827-9126
National Emergency Response Center (Washington, DC)..... (800) 424-8802

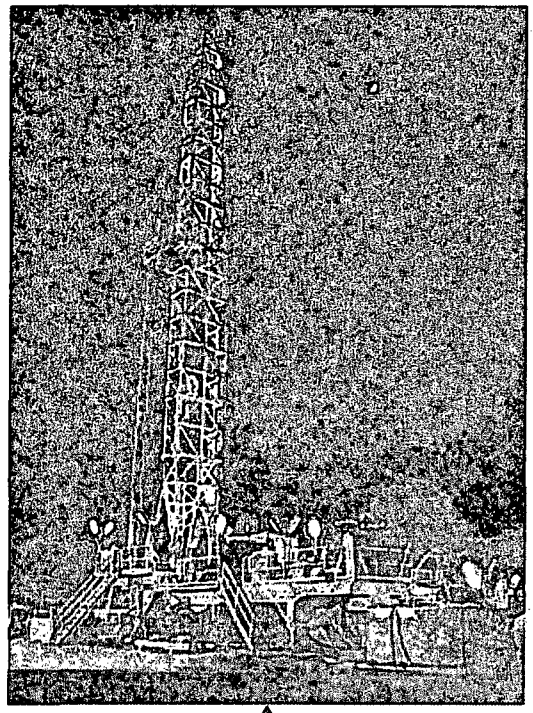
Emergency Services:

Boots & Coots IWC.....1-800-256-9688 or (281) 931-8884
Cudd Pressure Control.....(915) 699-0139 or (915) 563-3356
Halliburton.....(505) 746-2757
B.J. Services.....(505) 746-3569

Give GPS Position:

Flight For Life – Lubbock, Texas.....(806) 743-9911
Aerocare – Lubbock,Texas.....(806) 747-8923
Med Flight Air Ambulance – Albuquerque, NM.....(505) 842-4433
Lifeguard Air Med Svc., Albuquerque, NM..... (505) 272-3115

H_2S
"Contingency Plan"



SAFETY SOLUTIONS, LLC.

Safety Solutions, LLC **(432) 563-0400**
7907 Industrial **Midland, TX 79706**

Emergency Assistance Telephone List

PUBLIC SAFETY:	**911 or**
Eddy Nm County Sheriff's Department	(575) 887-7551
Fire Department:	
Eddy County	(575) 628-5451
Carlsbad	(575) 885-3125
Hospitals:	
Carlsbad Medical Center	(505) 887-4100
Artesia General Medical	(505) 748-3333
Dept. of Public Safety/Carlsbad NM	(575) 887-7551
NM Dept. of Transportation	(505) 827-5100

NM Railroad Commission	(817) 307-7210
U.S. Dept. of Labor	(806) 743-7681
AirMed/ Care Star	(877) 264-3570

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X. **General Information**

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H_2S CONTINGENCY PLAN SECTION

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release, or following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H_2S).

Objective:

Prevent any and all accidents, and prevent the uncontrolled release of H_2S into the atmosphere.

Provide proper evacuation procedures to cope with emergencies.

Provide immediate and adequate medical attention should an injury occur.

Discussion of Plan:

Suspected Problem Zones:

Implementation: This plan, with all details, is to be fully implemented 1000' before drilling into the first sour zone.

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 1000' before drilling into the first sour zone.

Emergency call list: Included are the telephone numbers of all persons that would need to be contacted, should an H_2S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

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

Check Lists: Status check lists and procedural check lists have been included to ensure adherence to the plan.

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

EMERGENCY PROCEDURES SECTION

I. In the event of any evidence of H_2S level above 10ppm, 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 New Mexico Oil Conservation Division 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 measures.

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*

i. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.

ii. Check status of other personnel (buddy system).

iii. Secure breathing apparatus.

iv. Wait for orders from supervisor.

b. *Drilling Foreman*

i. Report to the upwind Safe Briefing Area.

ii. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).

iii. Determine the concentration of H_2S.

iv. Assess the situation and take appropriate control measures.

c. *Tool Pusher*

i. Report to the upwind Safe Briefing Area.

ii. Don Breathing Apparatus and return to the point of release with the Drilling Foreman or the Driller (buddy system).

iii. Determine the concentration of H_2S.

iv. Assess the situation and take appropriate control measures.

d. *Driller*

i. Check the status of other personnel (in a rescue attempt, always use the buddy system).

ii. Assign the least essential person to notify the Drilling Foreman and Tool Pusher, in the event of their absence.

iii. Assume the responsiblility of the Drilling Foreman and the Tool Pusher until they arrive, in the event of their absence.

e. *Derrick Man and Floor Hands*

i. Remain in the upwind Safe Briefing Area until otherwise instructed by a supervisor.

f. *Mud Engineer*

i. Report to the upwind Safe Briefing Area.

ii. When instructed, begin check of mud for pH level and H_2S level.

g. *Safety Personnel*

i. Don Breathing Apparatus.

ii. Check status of personnel.

iii. Wait for instructions from Drilling Foreman or Tool Pusher.

II. Taking a Kick

a. All Personnel report to the upwind 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 the 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

i. Sound the alarm immediately.

ii. Stop the rotary and hoist Kelly joint above the rotary table.

iii. Stop the circulatory pump.

iv. Close the drill pipe rams.

v. Record casing and drill pipe shut-in pressures and pit volume increases.

b. Drill No. 2 – Tripping Drill Pipe

i. Sound the alarm immediately.

ii. Position the upper tool joint just above the rotary table and set the slips.

iii. Install a full opening valve or inside blowout preventer tool in order to close the drill pipe.

iv. Close the drill pipe rams.

v. Record the shut-in annular pressure.

II. Crew Assignments

a. Drill No. 1 – Bottom Drilling

i. Driller

1. Stop the rotary and hoist Kelly joint above the rotary table.
2. Stop the circulatory pump.
3. Check Flow.
4. If flowing, sound the alarm immediately
5. Record the shit-in drill pipe pressure
6. Determine the mud weight increase needed or other courses of action.

ii. Derrickman

1. Open choke line valve at BOP.
2. Signal Floor Man #1 at accumulator that choke line is open.
3. Close choke and upstream valve after pipe tam have been closed.
4. Read the shut-in annular pressure and report readings to Driller.

iii. Floor Man #1

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

iv. Floor Man #2

1. Notify the Tool Pusher and Operator representative of the H_2S alarms.
2. Check for open fires and, if safe to do so, extinguish them.
3. Stop all welding operations.
4. Turn-off all non-explosions proof lights and instruments.
5. Report to Driller for further instructions.

v. Tool Pusher

1. Report to the rig floor.
2. Have a meeting with all crews.

3. Compile and summarize all information.

4. Calculate the proper kill weight.

5. Ensure that proper well procedures are put into action.

vi. Operator Representative

1. Notify the Drilling Superintendent.

2. Determine if an emergency exists and if so, activate the contingency plan.

b. Drill No. 2 – Tripping Pipe

i. Driller

1. Sound the alarm immediately when mud volume increase has been detected.

2. Position the upper tool joint just above the rotary table and set slips.

3. Install a full opening valve or inside blowout preventer tool to close the drill pipe.

4. Check flow.

5. Record all data reported by the crew.

6. Determine the course of action.

ii. Derrickman

1. Come down out of derrick.

2. Notify Tool Pusher and Operator Representative.

3. Check for open fires and, if safe to do so , extinguish them.

4. Stop all welding operations.

5. Report to Driller for further instructions.

iii. Floor Man #1

1. Pick up full opening valve or inside blowout preventer tool and stab into tool joint above rotary table (with Floor Man #2).

2. Tighten valve with back-up tongs.

3. Close pipe rams after signal from Floor Man #2.

4. Read accumulator pressure and check for possible high pressure fluid leaks in valves or piping.

5. Report to Driller for further instructions.

iv. Floor Man #2

1. Pick-up full opening valve or inside blowout preventer tool and stab into tool joint above rotary table (with Floor Man #1).

2. Position back-up tongs on drill pipe.

3. Open choke line valve at BOP.

4. Signal Floor Man #1 at accumulator that choke line is open.

5. Close choke and upstream valve after pipe rams have been closed.

6. Check for leaks on BOP stack and choke manifold.

7. Read annular pressure.

8. Report readings to the Driller.

v. Tool Pusher

1. Report to the rig floor.

2. Have a meeting with all of the crews.

3. Compile and summarize all information.

4. See that proper well kill procedures are put into action.

vi. Operator Representative

1. Notify Drilling Superintendent

2. Determine if an emergency exists, and if so, activate the contingency plan.

IGNITION PROCEDURES

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 must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, 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.

TRAINING PROGRAM

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

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

Service company personnel and visiting personnel must be notified if the zone contains H_2S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

EMERGENCY EQUIPMENT REQUIREMENTS

Lease Entrance Sign:

Should be located at the lease entrance with the following information:

CAUTION- POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITIANCE WITHOUT AUTHORIZATION

Well Control Equipment:

- Flare line with continuous pilot
- Choke manifold with a minimum of one remote choke
- Blind rams and pipe rams to accommodate all sizes with properly sized closing unit
- Auxiliary equipment to include: annular preventer, mud-gas separator, rotation head and flare gun and flares as needed

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the safe briefing areas and should include the following:
- Two SCBA's at each briefing area.
- Enough airline units to operate safely, anytime the H_2S concentration reaches the IDLH level (100 ppm).
- Cascade system with enough breathing air hose and manifolds to reach the rig floor, the derrick man and the other operation areas.

Windsocks or Wind Streamers:

- A minimum of two 10" windsocks located at strategic locations so that they may be seen from any point on location.
- Wind streamers (if preferred) should be placed at various locations on the well site to ensure wind consciousness at all times: (Corners of location).

Hydrogen Sulfide Detector and Alarms:

- 1 - Four channel H_2S monitor with alarms.
- Four (4) sensors located as follows: #1 - Rig Floor, #2 - Bell Nipple, #3 - Shale Shaker, #4 - Mud Pits.
- Gastec or Draeger pump with tubes.
- Sensor test gas.

Well Condition Sign and Flags:

The Well Condition Sign w/flags should be placed a minimum of 150' before you enter the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN – Normal Operating Conditions
YELLOW – Potential Danger
RED – Danger, H_2S Gas Present

Auxiliary Rescue Equipment:

- Stretcher
- 2 – 100' Rescue lines.
- First Aid Kit properly stocked.

Mud Inspection Equipment:

Garret Gas Train or Hach Tester for inspection of Hydrogen Sulfide in the drilling mud system.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations.

Blowout Preventer:

- The well shall have hydraulic BOP equipment for the anticipated BHP.
- The BOP should be tested upon installation.
- BOP, Choke Line and Kill Line will be tested as specified by Operator.

Confined Space Monitor:

There should be a portable multi-gas monitor with at least 3 sensors (O_2, LEL H_2S). This instrument should be used to test the atmosphere of any confined space before entering. It should also be used for atmospheric testing for LEL gas before beginning any type of Hot Work. Proper calibration documentation will need to be provided.

Communication Equipment:

- Proper communication equipment such as cell phones or 2-way radios should be available at the rig.
- Radio communication shall be available for communication between the company man's trailer, rig floor and the tool pusher's trailer.

- Communication equipment shall be available on the vehicles.

Special Control Equipment:

- Hydraulic BOP equipment with remote control on the ground.
- Rotating head at the surface casing point.

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:

Parking and Visitor area:

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

Safe Briefing Areas:

- 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.
- Personal protective equipment should be stored at both briefing areas or if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

Note:

- Additional equipment will be available at the Safety Solutions, LLC office.
- Additional personal H_2S monitors are available for all employees on location.
- Automatic Flare Igniters are recommended for installation on the rig.

CHECK LISTS

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. SCBA's 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 for refilling air bottles. _____
8. Cascade system and hose line hook up. _____
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 tested (before drilling out surface casing). _____
12. Mud engineer on location with equipment to test mud for H_2S. _____
13. Safe Briefing Areas set-up _____
14. Well Condition sign and flags on location and ready. _____
15. Hydrogen Sulfide detection system hooked -up & tested. _____
16. Hydrogen Sulfide alarm system hooked-up & tested. _____
17. Stretcher on location at Safe Briefing Area. _____
18. 2 – 100' Life Lines on location. _____
19. 1 – 20# Fire Extinguisher in safety trailer. _____
20. Confined Space Monitor on location and tested. _____
21. All rig crews and supervisor trained (as required). _____

22. Access restricted for unauthorized personnel. _____

23. Drills on H_2S and well control procedures. _____

24. All outside service contractors advised of potential H_2S on the well. _____

25. NO SMOKNG sign posted. _____

26. H_2S Detector Pump w/tubes on location. _____

27. 25mm Flare Gun on location w/flares. _____

28. Automatic Flare Igniter installed on rig. _____

Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to insure that they have not been tampered with.
3. Check pressure on the supply air bottles to make sure they are capable of recharging.
4. Make sure all of the Hydrogen Sulfide detection systems are operative.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that they are fully charged and operational. This requires that the air cylinder be opened and the mask assembly be put on and tested to make sure that the regulators and masks are properly working. Negative and Positive pressure should be conducted on all masks.
2. BOP skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all breathing air mask assemblies to see that straps are loosened and turned back, ready for use.
5. Check pressure on cascade air cylinders to make sure they are fully charged and ready to use for refill purposes if necessary.
6. Check all cascade system regulators to make sure they work properly.
7. Perform breathing drills with on-site personnel.
8. Check the following supplies for availability:
    - Stretcher
    - Safety Belts and Ropes
    - Spare air Bottles
    - Spare Oxygen Bottles (if resuscitator required)
    - Gas Detector Pump and Tubes
    - Emergency telephone lists
9. Test the Confined Space Monitor to verify the batteries are good

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 Tool Pushers
Rig Drillers
Mud Engineer
All Safety Personnel
Key Service Company Personnel

Purpose: Review and discuss the well program, step-by-step, to insure complete understanding of assignments and responsibilities.

EVACUATION PLAN

General Plan

The direct lines of action prepared by SAFETY SOLUTIONS, LLC to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Foreman, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the area map.

2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists and evacuation needs to be implemented.

3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.

4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" safety personnel will determine when the area is safe for re-entry.

See Emergency Action Plan

Affected Notification List

(within a 65' radius of exposure @100ppm)

The geologic zones that will be encountered during drilling are known to contain hazardous quantities of H_2S. The accompanying map illustrates the affected areas of the community. The residents within this 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: **THERE ARE NO RESIDENTS WITHIN 3000' ROE.**

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.

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

Toxic Effects of H_2S Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity – 1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic than Carbon Monoxide. Occupational exposure limits for Hydrogen Sulfide and other gases are compared below in Table 1. Toxicity table for H_2S and physical effects are shown in Table 2.

Table 1
Permissible Exposure Limits of Various Gases

Common Name	Symbol	Sp. Gravity	TLV	STEL	IDLH
Hydrogen Cyanide	HCN	.94	4.7 ppm	C	
Hydrogen Sulfide	H_2S	1.192	10 ppm	15 ppm	100 ppm
Sulfide Dioxide	SO_2	2.21	2 ppm	5 ppm	
Chlorine	CL	2.45	.5 ppm	1 ppm	
Carbon Monoxide	CO	.97	25 ppm	200 ppm	
Carbon Dioxide	CO_2	1.52	5000 ppm	30,000 ppm	
Methane	CH_4	.55	4.7% LEL	14% UEL	

Definitions

A. TLV – Threshold Limit Value is the concentration employees may be exposed based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Governmental Hygienists) and regulated by OSHA.

B. STEL – Short Term Exposure Limit is the 15 minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupational Exposure Limit). The OEL for H_2S is 19 PPM.

C. IDLH – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H_2S is 100 PPM.

D. TWA – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed based on an TWA.

TABLE 2

Toxicity Table of H_2S

Percent %	PPM	Physical Effects
.0001	1	Can smell less than 1 ppm.
.001	10	TLV for 8 hours of exposure.
.0015	15	STEL for 15 minutes of exposure.
.01	100	Immediately Dangerous to Life & Health. Kills sense of smell in 3 to 5 minutes.
.02	200	Kills sense of smell quickly, may burn eyes and throat.
.05	500	Dizziness, cessation of breathing begins **in a few minutes.**
.07	700	Unconscious quickly, death will result if not rescued promptly.
.10	1000	Death will result unless rescued promptly. Artificial resuscitation may be necessary.

PHYSICAL PROPERTIES OF H_2S

The properties of all gases are usually described in the context of seven major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a fairly complete picture of the properties of the gas.

COLOR – TRANSPARENT

Hydrogen Sulfide is colorless so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence. In fact that makes this gas extremely dangerous to be around.

ODOR – ROTTEN EGGS

Hydrogen Sulfide has a distinctive offensive smell, similar to "rotten eggs". For this reason it earned its common name "sour gas". However, H_2S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192

Hydrogen Sulfide is heavier than air so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H_2S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.3% TO 46%

Mixed with the right proportion of air or oxygen, H_2S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY

Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO_2), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER

Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H_2S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H_2S may release the gas into the air.

BOILING POINT – (-76 degrees Fahrenheit)

Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

RESPIRATOR USE

The Occupational Safety and Health Administration (OSHA) regulate the use of respiratory protection to protect the health of employees. OSHA's requirements are written in the Code of Federal Regulations, Title 29, Part 1910, Section 134, Respiratory Protection. This regulation requires that all employees who might be required to wear respirators, shall complete a OSHA mandated medical evaluation questionnaire. The employee then should be fit tested prior to wearing any respirator while being exposed to hazardous gases.

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.

Respirators shall be inspected prior to and after each use to make sure that the respirator has been properly cleaned, disinfected and that the respirator works properly. The unit should be fully charged prior to being used.

Anyone who may use respirators shall be properly 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.

Respirators shall 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 H_2S.

B. When breaking out any line where H_2S can reasonably be expected.

C. When sampling air in areas where H_2S may be present.

D. When working in areas where the concentration of H_2S exceeds the Threshold Limit Value for H_2S (10 ppm).

E. At any time where there is a doubt as to the H_2S level in the area to be entered.

EMERGENCY RESCUE PROCEDURES

DO NOT PANIC!!!

Remain Calm – Think

1. Before attempting any rescue you must first get out of the hazardous area yourself. Go to a safe briefing area.

2. Sound alarm and activate the 911 system.

3. Put on breathing apparatus. At least two persons should do this, when available use the buddy system.

4. Rescue the victim and return them to a safe briefing area.

5. Perform an initial assessment and begin proper First Aid/CPR procedures.

6. Keep victim lying down with a blanket or coat, etc.., under the shoulders to keep airway open. Conserve body heat and do not leave unattended.

7. If the eyes are affected by H_2S, wash them thoroughly with potable water. For slight irritation, cold compresses are helpful.

8. In case a person has only minor exposure and does not lose consciousness totally, it's best if he doesn't return to work until the following day.

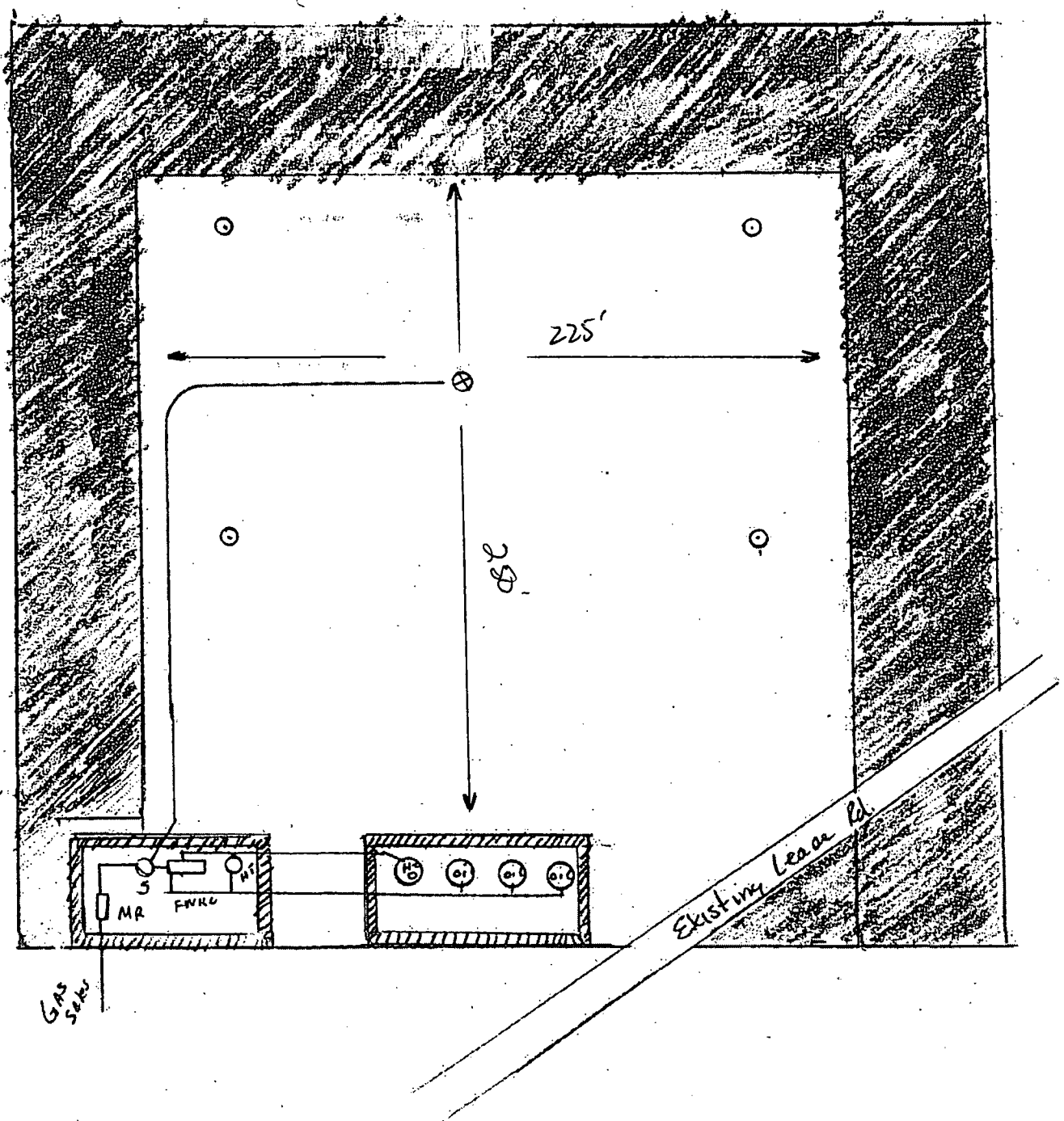
9. Any personnel overcome by H_2S should always be examined by medical personnel. They should always be transported to a hospital or doctor.

PAN CANADIAN #6 H

1650' FNL - 330' FEL

Section 34 T19S - R25E

Eddy CO. NM



Burm WALL

Reclaimed Area

⊗ well

⊙ Anchors

Equipment

3-400 BBL OIL TANKS

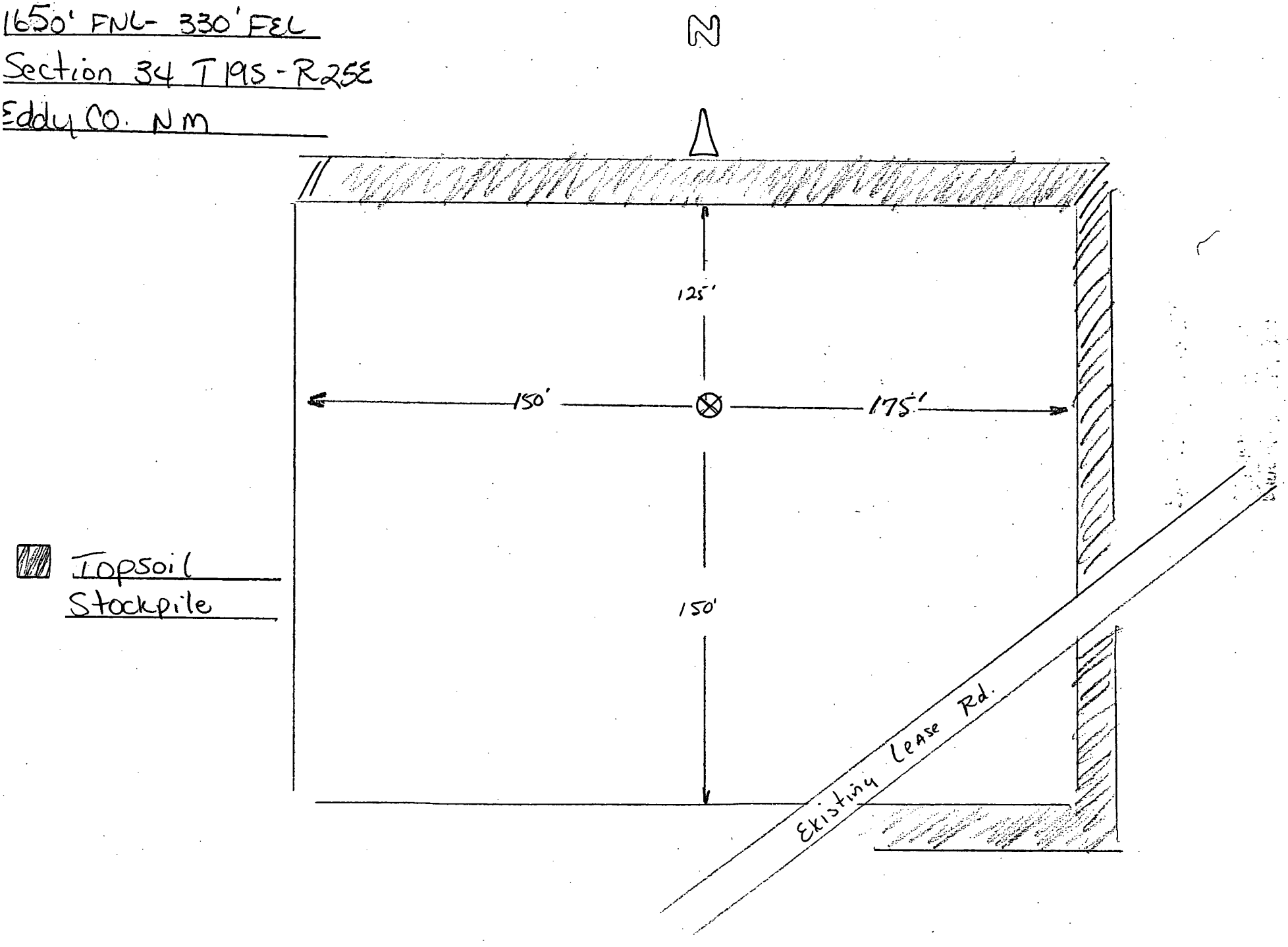
1-500 BBL H2O TANK

1-30"X10' 2.0 Sep.

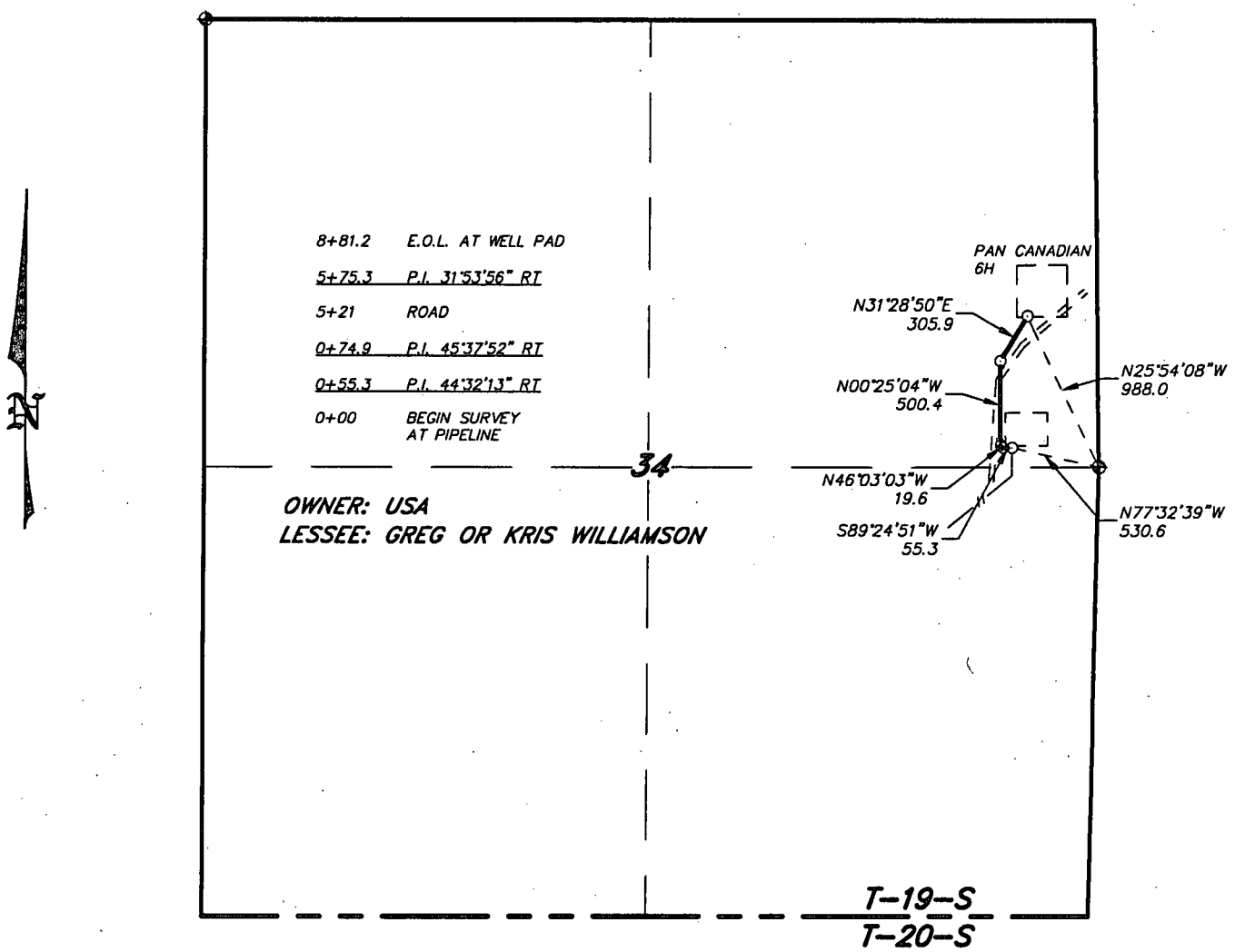
1-4'X10' 2Ø FWKO

1-6'X20' 3Ø H.T

PAN CANADIAN #6H
1650' FNL - 330' FEL
Section 34 T19S - R25E
Eddy Co. NM



SECTION 34, TOWNSHIP 19 SOUTH, RANGE 25 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 34, TOWNSHIP 19 SOUTH, RANGE 25 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

SECTION 34 = 881.2 FEET = 53.41 RODS = 0.17 MILES = 0.61 ACRES

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES — No. 7977
TEXAS P.L.S. — No. 5074

1000 0 1000 2000 FEET

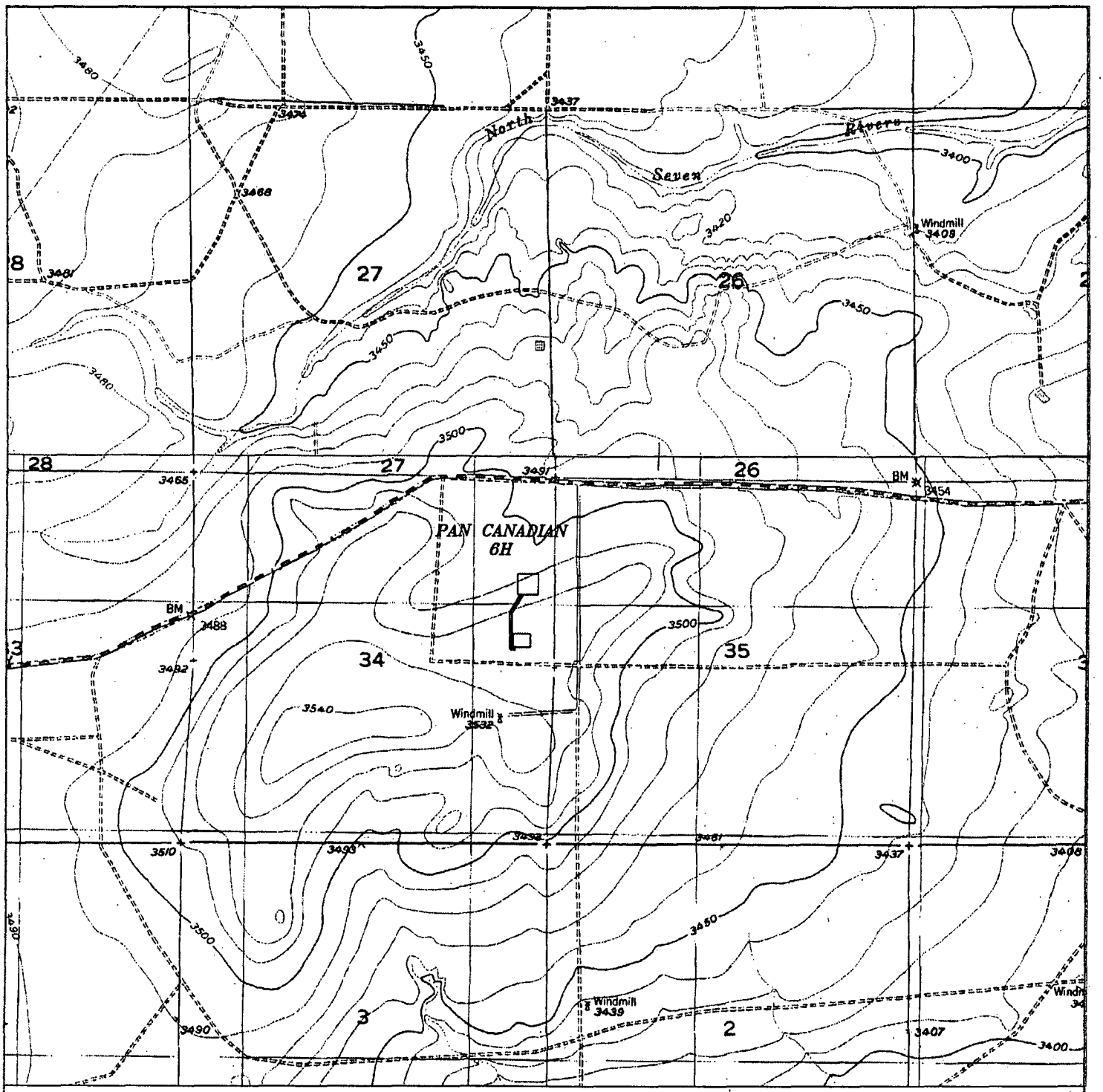
UNIT PETROLEUM COMPANY

REF: PROPOSED PIPELINE TO THE PAN CANADIAN 6H

A PIPELINE CROSSING USA LAND IN
SECTION 34, TOWNSHIP 19 SOUTH, RANGE 25 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 26950	Drawn By: J. M. SMALL		
Date: 06-27-2012	Disk: JMS 26950	Survey Date: 06-20-2012	Sheet 1 of 1 Sheets



PROPOSED PIPELINE TO THE PAN CANADIAN 6H
Section 34, Township 19 South, Range 25 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 26950
Survey Date:	06-20-2012
Scale:	1" = 2000'
Date:	06-27-2012

N

UNIT PETROLEUM COMPANY

SURFACE USE PLAN
Unit Petroleum Company
PAN CANADIAN # 6H
Surface Location: 1,650' FNL & 330' FEL Section 34, T19S-R25E
Bottom Hole Location: 1,650' FNL & 330' FWL Section 34, T19S-R25E

1. **Existing Roads:**
   a. The will site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Basin Surveys.
   b. All roads to the drill site are depicted on Exhibit 3
   c. Driving directions to the drill site: At the intersection of Hwy 285 and 524 North of Carlsbad, NM, go approximately 13 miles North on Hwy 285 to CR 21. turn West go 2.8 miles, turn South on primary road, go 3/10 mile, turn right on secondary lease road, follow to drill pad, or from Artesia, NM at the intersection of Hwy 82 and Hwy 285, go South on Hwy. 285 approximately 15 miles to CR 21, turn West go 2.8 miles, turn South on Primary road go 3/10 mile to secondary road, turn right onto secondary lease road to drill site.

2. **New Constructed Access or Lease Road:**
   a. The well site layout, Form C102 shows the proposed lease road.
   b. Access to the drill site will be from an existing lease road that crosses the South East corner of the drill pad, the drill site will be accessed from this existing road.
   c. Any repairs of the existing lease road will be of native caliche, this material will be obtained from a BLM approved pit nearest in proximity to the access road.
   No cattle guards, gates or fences will be required, no turn outs planned.

3. **Location of Existing Wells.**
   a. One Mile Radius Plat (aerial) show all the existing and proposed wells within a one mile radius of the proposed drill site. See attached plat.

4. **Location of Proposed Production Facilities:**
   a. In the event the well is found productive, a tank battery will be utilized and the necessary production equipment will be installed at the well site. See Enclosed Production Facilities Layout diagram.
   b. If necessary the well will be operated by means of electricity. Electric power poles will be run overhead adjacent the access road, or as directed by the BLM. If electric becomes necessary a sundry notice will be submitted as a request for an attachment to the permit.
   c. Flow line direction will be to the South West to an existing DCP pipeline and meter. The flow line will follow the designated survey route determined by BLM, and as shown on the included survey plat. The pipeline will be buried to a depth of (36) thirty six inches, the pipeline will be structured of steel, (4) four inches in diameter, .188 wall thickness, grade "B" seamless, a mill test

pressure of 3,850 psi, 12-14 ml. fusion bond coating, all field joints primed and taped to prevent corrosion, a working pressure of the pipeline of 1,500 psi, maximum flowing pressure should not exceed 500 psi, depending on the outcome of the well. Natural gas will be transported thru this pipeline to a DCP meter site. Installation of the pipeline will adhere to the guidelines of API Standards of welding, installing and maintenance of the pipeline.

1. A production pad of an approximate (250'X 225') area to accommodate production equipment and access to the tank battery will be retained, all unused areas of the drill pad will reclaimed, topsoil replaced and re-seeded by recommendations of the BLM.

5. Location and Types of Water Supply:

This well will be drilled using a combination of water mud systems (outlined in the drilling program). The water will be obtained from commercial water stations in the area and hauled to the drill site by transport truck using the existing and proposed roads chosen by the BLM. On occasion, water will be obtained from an pre-existing water well, running a pump directly to the drilling rig. In these cases where a poly line is used to transport water for drilling purposes, proper authorizations will be secured. If a poly line is used, the size, distance, and map showing the route will be provided to the BLM by Sundry Notice.

6. Construction Materials:

All caliche utilized for the drill pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the drill site during construction of the drill pad. All roads will be constructed of compacted and rolled caliche. Will use BLM recommended use of caliche from other locations close by for road construction, if available.

7. Methods of Handling Waste Materials:

a. Drill cuttings and fluids will be disposed at an authorized disposal site.
b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
c. The mud supplier, including broken sacks, will pick up slats remaining after completion of the well.
d. A Porto-John will be provided for the rig and construction crews, this equipment will be maintained during the drilling and completion operations and will be removed when all operations are complete.
e. Water produced during completion will be disposed of at an authorized disposal site. Oil and condensate produced will be put in a storage tank and sold.
f. Disposal of fluids to be transported by the following companies:
   Basic Energy Services, Carlsbad, NM
   Standard Oilfield Services, Carlsbad, NM
   L & E Service LLC, Loco Hills, NM

8. **Ancillary Facilities:**
   a. No campsite or other facilities will be constructed as a result of this well.

9. **Well Site Layout:**
   a. Exhibit D shows the proposed well site layout with dimensions of the pad layout, placement of drilling equipment and living quarters. A BMP approved by the BLM to control erosion and for construction of the drill pad and access road using proper equipment and qualified personnel to level and grade a stable ,safe, and useable drill site.
   b. A closed pit or loop system will be utilized, Unit Petroleum Company will comply with the NMOCD requirements 19.15.17 and submit a form C-144 CLEZ to the appropriate NMOCD District Office.

10. **Plans for Surface Reclamation:**
   a. After concluding the drilling and/or completion operations, if the well if found to be non-comercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road and drill site will be reclaimed as directed by the BLM.
   b. If the well is deemed commercially productive, caliche from the areas of the pad site not required for operations will be used to build berms around the production equipment or returned to a site chosen by the BLM. The unused areas of the drill pad will be contoured, as close as possible to match the existing or original topography. The original stockpiled topsoil will be returned to the reclaimed areas, all disturbed areas re-seeded and use BMP to enhance seed germination and control erosion.

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 use, sparse grass allows limited grazing of livestock and the production of oil and gas.
   b. The proposed road routes and the surface location will be restored as directed by the BLM.

12. **Other Information:**
   a. The area surrounding the well site is sparse grassland, the topsoil is sandy in nature, the vegetation is moderately sparse with native grass, sagebrush, Yucca and miscellaneous weeds. No wildlife was observed but it is likely that deer, rabbits, coyotes, bobcats and rodents traverse the area.
   b. There is no permanent live water in the general proximity of the location.
   c. There are no dwellings within 2 miles of the location.
   d. A Cultural Resources Examination has been completed by Boone Archaeological Services, and forwarded to the BLM office in Carlsbad, NM.

13. **Bond Coverage:**
   a. Bond coverage is Nationwide; Bond # is MTB000027-Nationwide.

Operators Representatives:

Unit Petroleum Company representatives responsible for insuring compliance of The surface use plan are listed below:

Brad Dewey
General Manager
Unit Petroleum Company
7130 South Lewis
Suite 1,000
Tulsa, Oklahoma 74136

Office (918) 477-4531
Cell (918) 284-0821

Brent A. Keys
Drilling Engineer
Unit Petroleum Company
7130 South Lewis
Suite 1,000
Tulsa, Oklahoma 74136

Office (918) 477-4510
Cell (918) 645-8812

Nick Price
Production Engineer
Unit Petroleum Company
7130 South Lewis
Suite 1,000
Tulsa, Oklahoma 74136

Office (918) 477-5792
Cell (918) 810-9740

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Unit Petroleum Company**
LEASE NO.:	**NMNM-0504364B**
WELL NAME & NO.:	**Pan Canadian 6H**
SURFACE HOLE FOOTAGE:	**1650' FNL & 0330' FEL**
BOTTOM HOLE FOOTAGE	**1650' FNL & 0330' FWL**
LOCATION:	**Section 34, T. 19 S., R 25 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Construction Mitigation

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD:

- In the event that any underground voids are encountered during construction activities, construction activities will be halted and the BLM will be notified immediately.
- No Blasting to prevent geologic structure instabilities.
- Pad Berming to minimize effects of any spilled contaminates.

Drilling Mitigation

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required.

- Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
- Directional Drilling allowed after at least 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost Circulation zones logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See Drilling COAs.

Production Mitigation

In order to mitigate the impacts from production activities and due to the nature of karst terrain, the following Conditions of Approval will apply to this APD:

- Tank battery liners and berms to minimize the impact resulting from leaks.
- Leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of line failures used in production or drilling.

Residual and Cumulative Mitigation

- Annual pressure monitoring will be performed by the operator. If the test results indicate a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Plugging and Abandonment Mitigation

Abandonment Cementing: Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Watershed Protection

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the

uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.

- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion
- See Cave/Karst Conditions of Approval for tank battery and leak detection requirements.

Reclamation of Original Access Road

The segment of the original access road, from the southwest edge of the well pad to the point where the rerouted access road ties in, will be reclaimed. The original access road on the northeast side of the pad will remain to serve as access to the well only. Unit Petroleum will be responsible removing the surfacing material, recontouring, and reseeding the portion of the road to be reclaimed. Unit Petroleum will also be responsible for preventing traffic from reusing the reclaimed road by installing signs, berms, or fencing to ensure traffic stays on the rerouted road.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

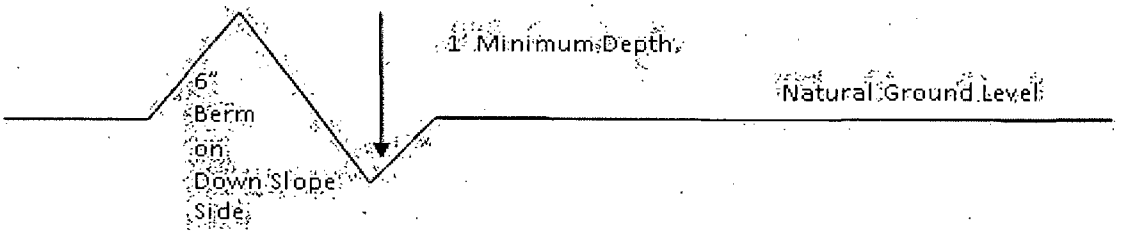
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

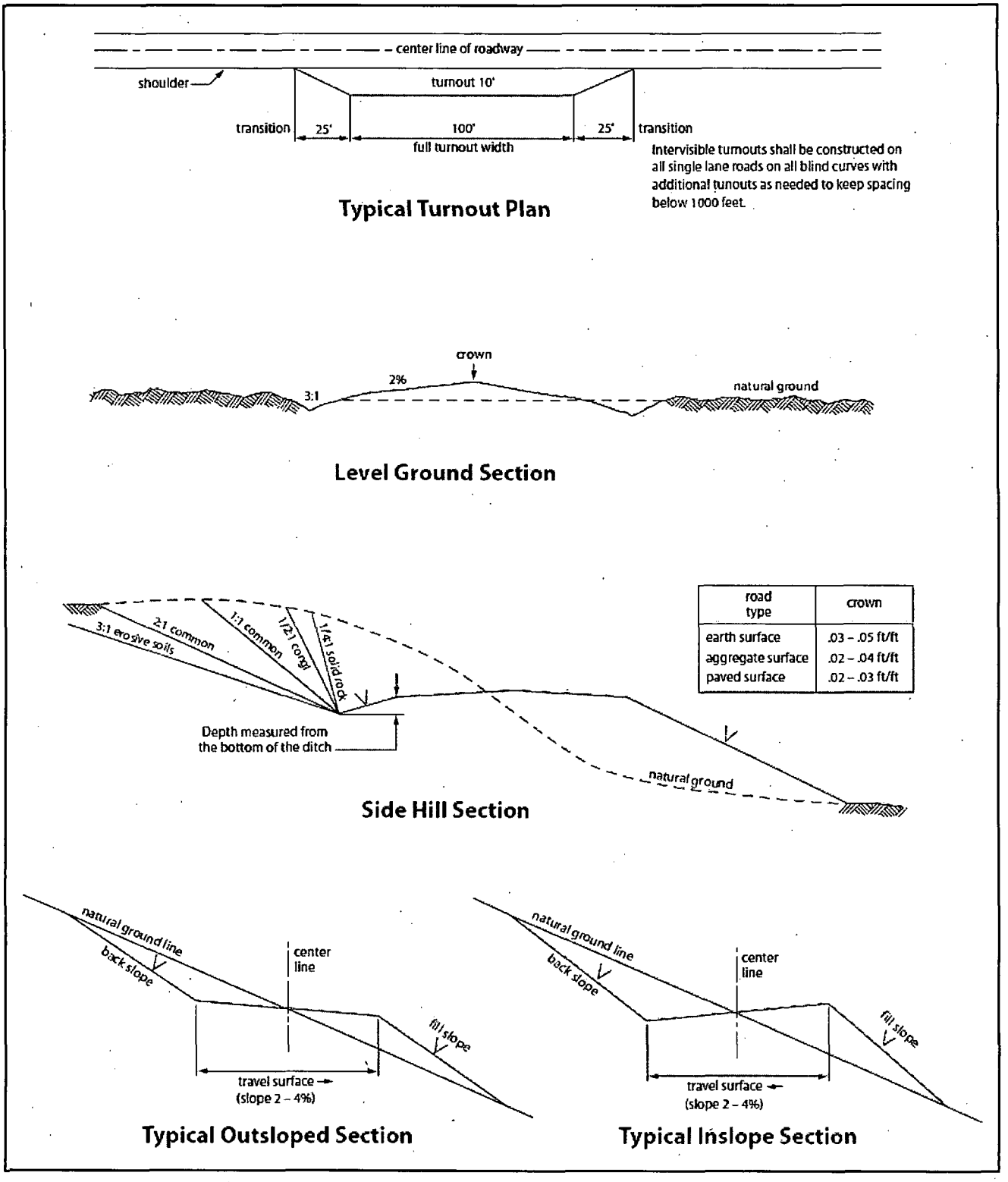


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

High Cave/Karst
Possibility of water flows in the San Andres.
Possibility of lost circulation in the San Andres.

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH.

CONTINGENCY CASING WILL BE REQUIRED IF LOST CIRCULATION (TOTAL LOSS) OCCURS WHILE DRILLING THE SURFACE HOLE. THE SURFACE HOLE WILL HAVE TO BE REAMED AND A LARGER CASING INSTALLED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. NOTE: A DEEP CONDUCTOR WILL BE TREATED AND CEMENTED AS A CONTINGENCY CASING.

ON TWO STRING DESIGN WHERE THE SURACE CASING HAD A SUCCESSFUL CEMENT JOB; IF LOST CIRCULATION (TOTAL LOSS) OCCURS WHILE DRILLING THE PRODUCTION (8-3/4) HOLE, THE CEMENT PROGRAM FOR THE PRODUCTION (7) CASING WILL NEED TO BE MODIFIED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. A DV TOOL WILL BE REQUIRED.

1. The **9-5/8** inch surface casing shall be set at approximately **1000** feet and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Centralizers required through the curve and a minimum of one every other joint.

2. The minimum required fill of cement behind the **7** inch production casing is:

    ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

3. The minimum required fill of cement behind the **4-1/2** inch production Liner is:

    ☒ Cement as proposed by operator. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi **(Installing 5M, testing to 3,000 psi)**.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other

pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to

match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

(X) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment

of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches that are not otherwise fenced, screened, or netted to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 1; for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed