District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III

State of New Mexico

Energy Minerals and Natural Resources

Oil Conservation Division

State of New Mexico

123456

Form C-101

Revised June 10, 2003

SURFACE & INTERMEDIATE

CASING

1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505					1220	1220 South St. Francis Dr. Santa Fe, NM 87505			RECEIVED OCD ARTE	SIA S	/ د	ate Lease ee Lease	- 5 (	Copies
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			Operator Name a		8				015050	OGRID 212226		r		İ
			Preston Explora P. O. Box	-						<sup>3</sup> API N		~ ~		
			The Woodlands,						30 - G1	5 - 3	33	530		
<sup>3</sup> Prope	rty Code				<sup>5</sup> Pro	operty Name					<sup>6</sup> We	li No.		
34	114	5		F	Roughne	eck Red "2	9"					<u> </u>		
					<sup>7</sup> Surf	face Locat	ion			T				
UL or lot no.	Section	Township	Range	Lot Ida	n (40)	Feet from the	North/S	outh line	Feet from the	East/Wes	st line	(	County	,
D	29	178	26E		1095	1,905	NO	RTH	1,104	WES	ST	E	DD	<u>Y</u>
			<sup>8</sup> Proposed I	Bottom	Hole L	ocation If	Diffe	rent Fron	m Surface	<del> </del>		1		
UL or lot no.	Section	Township	Range	Lot Ide	<b>n</b> :	Feet from the	North/S	South line	Feet from the	East/Wes	st line	,	County	,
F	29	17S	26E			1,480	NO	RTH	1,980	WES	ST	E	'DD'	Y
		9 F	Proposed Pool 1						10 Prop	osed Pool 2	2			İ
Uni	des.	Eag	gle Creek, G	toka-	Mo+10	w, Easi								
11	Type Code	<del></del>	12 Well Type Code	т	- · · · · · · · · · · · · · · · · · · ·	13 Cable/Rotary		14 -	ease Type Code	<u> </u>	15.0	17 17	71 4	
	N		G Well Type Code		R		S		15 Ground Level Elevation 3403'		ion			
	ultiple		17 Proposed Depth	n	24	18 Formation	L\	I .	19 Contractor			<sup>20</sup> Spud Da		
<u>r</u>	No		8,800° 21	Propose		row (or Ato ing and Ce			<u>Unknown</u>			ıly 3, 20	<u>104</u>	
Hole S	ize	Casi	ng Size		weight/foo	l l	Setting D	1	Sacks of Co	ement		Estimate	d TO	<u></u>
17-1/			3-3/8		48		400	1			Surf			
12-1/			-5/8		36		1,400		450			Surf		
8-1/2			-1/2		17		8,800		400	-	5,000°			
Coer		drill			•	ermed		hole		101				
4	Paosh	wate		only	30		•		30, 4					
22 Describe th			this application i	s to DEEPI			e the dat	ta on the pre	sent productive z	one and pr	oposed	new prod	uctiv	e zone.
Describe the	blowout pr	evention prog	gram, if any. Use	additional	sheets if r	necessary.		-						•
			lorrow (Primary o n 13-5/8" x 3000		r Atoka (S	Secondary obje	ctive) for	rmation	CEMI	ENT TO	0 C(	DVER	AL	L OII
DOI 3 IIICIUU			/8" x 3000 psi	psi .					GAS A	W QNA	ATI	CR BE	AR	ING
	3) Chol	ke Manifold 4	" x 3000 psi						ZONI	ES				
U2C contingo			nulator closing ur idland Safety and				1							
Mud program			program attached			38). ——————								
<sup>23</sup> I hereby cer	tify that th	e information	given above is tr	ue and con	nplete to th	he //		OIL CO	NSERVAT	LION D	JVIS	ION		
best of my kn	owledge ar	nd belief.	9			PY	/	OIL CC	Denn 6					
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Printed name:	San	dra Nobles	S			Title:		ин на	LATARET	Syl	ARR	ssv)		
Title:		Consultant	<u> </u>			Аррго	val Date:	JUN	2 6 200¢	Expiration I	Date:	JUN	2 (	6 2009
E-mail Addre	ss: S	Sandra@rkt	ford.com						<del></del>					
Date:			Phone:			Condi	ions of A	pproval:	₽1≪tain n~~	/ <b>^ ~</b> ~ =	. m ~ = -			1
June 23, 2004 (432) 682-0440					Attach	ed 🗆		NOTIFY — WITNES					E TO	

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

### State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 For drilling and production facilities, submit to appropriate NMOCD District Office.

For downstream facilities, submit to Santa Fe

office

Form C-144

March 12, 2004

Pit or Below-Grade Tank Registration or Closure
Is pit or below-grade tank covered by a "general plan"? Yes \( \) No \( \)

Type of action: Registration of a pit of	or below-grade tank 🔲 Closure of a pit or below-gra	ide tank					
Operator: Preston Exploration  Address: R. K. Ford & Associates (Agent) 4  Facility or well name: Roughneck Red 29 #1API #: County: Eddy Latitude 32'48'37.44"N 10	15 11 Na 11 Cuita 1700 Mid	17S <sub>k</sub> 26E wner Federal ☐ State ☐ Private					
Pit	Below-grade tank	2004 2004 2004 2004					
Type: Drilling Production Disposal	Volume:bbl Type of fluid:	Allow Solution					
Workover    Emergency	Construction material:	02: 111					
Lined Dunlined Thickness 12 mil Clay Volume	Double-walled, with leak detection? Yes 🔲 If not	t, explain why not. RECLIPTES					
bbl		(20 points) (10 points) (10 points) (10 points)					
	Less than 50 feet	(20 points)					
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) Per State Engineers	50 feet or more, but less than 100 feet	(10 points) 10					
•	100 feet or more	( 0 points)					
records for that quarter section							
Wellhead protection area: (Less than 200 feet from a private domestic	Yes	(20 points)					
water source, or less than 1000 feet from all other water sources.)	No NO	( 0 points)					
Distance to surface water: (horizontal distance to all wetlands, playas,	Less than 200 feet	(20 points)					
irrigation canals, ditches, and perennial and ephemeral watercourses.)	200 feet or more, but less than 1000 feet	(10 points)					
rrigation canais, inches, and perennial and epitemeral watercourses.)	1000 feet or more	( 0 points) 0					
	Ranking Score (Total Points)	10					
If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location:  onsite  offsite  If offsite, name of facility  (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No Yes If yes, show depth below ground surface  ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.							
I hereby certify that the information above is true and complete to the best of r been/will be constructed or closed according to NMOCD guidelines [X], a Date: 6-25-04  Printed Name/Title Randell K. Ford - Consultant  Your certification and NMOCD approval of this application/closure does not r otherwise endanger public health or the environment. Nor does it relieve the or regulations.  Approval: JUL 07 2004  Date: Printed Name/Title	general permit [], or an (attached) alternative OC  Signature	D-approved plan □.					

#### State of New Mexico

DISTRICT I P.O. Box 1980, Hobbs, NM 88241-1980

Energy, Minerals and Natural Resources Department

Form C-102 Revised February 10, 1994 Submit to Appropriate District Office State Lease - 4 Copies

DISTRICT II P.O. Drawer DD, Artesia, NM 68211-0719

#### OIL CONSERVATION DIVISION P.O. Box 2088

Fee Lease - 3 Copies

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410 Santa Fe, New Mexico 87504-2088

DISTRICT IV P.O. BOX 2088, SANTA FE, N.M. 87504-20	well location and acreage	E DEDICATION PLAT	☐ AMENDED REPORT
API Number	Pool Code	Pool Name	
Property Code	Property Name ROUGHNECK RED	"29"	Well Number
OGRID No. 212226	Operator Name PRESTON EXPLORA	ATION	Elevation 3403'

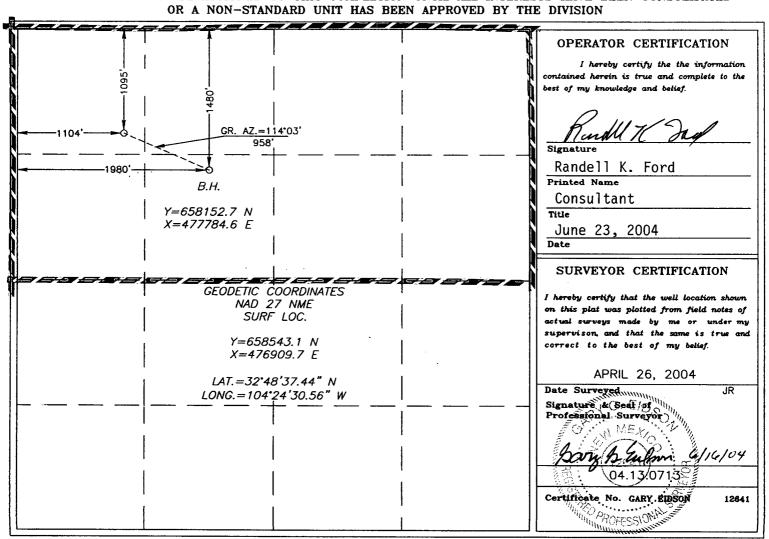
#### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	29	17-S	26-E		1095'	NORTH	1104'	WEST	EDDY

#### Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	29	17-S	26-E		1480'	NORTH	1980'	WEST	EDDY
Dedicated Acres   Joint or Infill   Consolidation Code   Order					der No.				
320									

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED



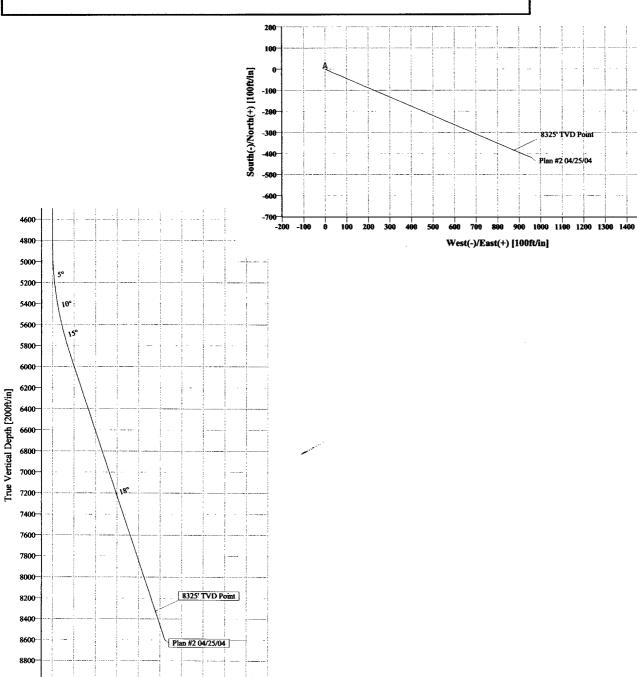
### Preston Explortation Roughneck Red 29 #1 Eddy County, New Mexico

600 800 1000 1200 1400 1600 1800 2000

Vertical Section at 113.73° [200ft/in]



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	113.73	0.00	0.00	0.00	0.00	0.00	0.00	
2	4846.25	0.00	113.73	4846.25	0.00	0.00	0.00	0.00	0.00	
3	5905.07	18.00	113.73	5887.74	-66.37	151.01	1.70	113.73	164.96	
4	8467.76	18.00	113.73	8325.00	-385.00	876.00	0.00	0.00	956.87	8325' TVD Point
5	8756.91	18.00	113.73	8600.00	-420.95	957.80	0.00	0.00	1046.22	



### **PathFinder Planning Report**

Plan:

Company: Preston Exploration

Roughneck Red 29 #1 Roughneck Red 29 #1

Site: Well: Original

Roughneck Red 29 #1 "S-well" Wellpath:

Date: 6/25/2004

Section (VS) Reference:

Time: 10:07:18

Page: Co-ordinate(NE) Reference: Site: Roughneck Red 29 #1, True North

Vertical (TVD) Reference:

System: Mean Sea Level Well (0.00N,0.00E,113.73Azi)

Plan #2 04/25/04

Field:

Field:

Roughneck Red 29 #1

Sec. 29 T17S R26E

Map System: US State Plane Coordinate System 1927

Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level

Map Zone:

New Mexico, Eastern Zone

**Coordinate System:** Geomagnetic Model: Site Centre igrf2000

Site:

Roughneck Red 29 #1

Eddy Co. N.M.

Sec. 29 T17S R26E

**Site Position:** Lease Line

Northing: Easting:

Latitude: ft

Longitude:

Slot Name:

True

**Position Uncertainty: Ground Level:** 

0.00 ft 0.00 ft North Reference: **Grid Convergence:** 

0.00 deg

Well:

Wellpath:

**Current Datum:** 

**Magnetic Data:** 

Field Strength:

Vertical Section:

From:

Original

Well Position: +N/-S 0.00 ft Northing: 0.00 ft Easting:

0.00 ft Latitude: 30 59 24.512 N

+E/-W **Position Uncertainty:** 

Roughneck Red 29 #1 "S-well"

Depth From (TVD)

0.00

4/2/2004

0.00 ft

Longitude:

Above System Datum:

105 55 44.137 W

0.00 ft

0 nT

**Drilled From:** 

Height 0.00 ft

Surface

0.00 ft Mean Sea Level

+N/-S

0.00

Declination: Mag Dip Angle:

Tie-on Depth:

0.00 deg 0.00 deg

+E/-W

Direction

deg

ft 0.00

113.73

Plan:

Plan #2 04/25/04

SITE

**Date Composed:** Version:

4/2/2004

Principal: Yes

Tied-to:

From Surface

#### **Plan Section Information**

	MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100fl	Build deg/100f	Turn deg/100ft	TFO deg	Target
	0.00	0.00	113.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	4846.25	0.00	113.73	4846.25	0.00	0.00	0.00	0.00	0.00	0.00	
	5905.07	18.00	113.73	5887.74	-66.37	151.01	1.70	1.70	0.00	113.73	
	8467.76	18.00	113.73	8325.00	-385.00	876.00	0.00	0.00	0.00	0.00	8325' TVD Point
L	8756.91	18.00	113.73	8600.00	-420.95	957.80	0.00	0.00	0.00	0.00	



### Newpark Drilling Fluids, LLC



#### Preston Exploration, LLC Roughneck Red "29" No.1

Section 29, T-17-S, R-26-E Eddy County, New Mexico

### **Mud Program Summary**

<u>Depth</u>	Casing	Hole Size	Mud Wt.	<u>Viscosity</u>	<u>Fluid</u> Loss	Hq
0' - 420'	13-3/8"	17-1/2"	8.6-8.7	34-36	N/C	N/C
420' - 1,400'	9-5/8"	12-1 <i>[</i> 4"	8.4-8.5	28-29	N/C	9-10
1,400' - 6, 000'	-	8-1/2"	8.4-8.5	28-29	N/C	9-10
6,000' - 7, 200'	-	8-1/2"	8.4-9.0	28-29	N/C	9-10
7,200' - 8, 460'	5-1/2"	8-1/2"	9.0-9.4	32-38	12-8	9-10

### **Potential Problems**

#### Surface Interval 0 - 420'

- · Severe lost circulation.
- Losses may require dry drilling.
- · Poorly consolidated formations, may require higher than normal viscosity.

#### Intermediate interval 420' - 1,400'

- · Severe seepage.
- Severe lost circulation.

#### 1<sup>st</sup> Open Hole Interval 1,400' - 6,000'

- Moderate/severe seepage.
- Abnormal pressure possible in Wolfcamp.

### 2<sup>nd</sup> Open Hole interval 6,000' - 7,200'

- Moderate seepage.
- Sensitive shales.

#### Production Hole Interval 7,200' - 8,460'

- Moderate/severe seepage.
- · Abnormal pressure possible in Atoka and Morrow.
- Water Sensitive sands in Morrow.

### **CONTINGENCY PLAN**

JUL 2.6 2004

OCD-ARTESIA

Preston Exploration, LLC.

# Roughneck Red \*29 \*\* #1

1,095' FNL & 1,104 FW Section 29: T-17-S R 26-E Eddy County, New Mexico

Prepared For: Date Prepared:

Preston Exploration, LLC

July 23, 2004

Prepared By:

**INDIAN** 

Fire & Safety, Inc.

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#### HYDROGEN SULFIDE CONTINGENCY PLAN

#### **SCOPE**

THIS CONTINGENCY PLAN ESTABLISHES GUIDELINES FOR THE PUBLIC, ALL COMPANY EMPLOYEES WHO'S WORK ACTIVITIES MAY INVOLVE EXPOSURE TO HYDROGEN SULFIDE (H2S) GAS.

#### **OBJECTIVE**

- 1. PREVENT ANY AND ALL ACCIDENTS, AND PREVENT THE UNCONTROLLED RELEASE OF HYDROGEN SULFIDE INTO THE ATMOSPHERE.
- 2. PROVIDE PROPER EVACUATION PROCEDURES TO COPE WITH EMERGENCIES.
- 3. PROVIDE IMMEDIATE AND ADEQUATE MEDICAL ATTENTION SHOULD AN INJURY OCCUR.

#### **DISCUSSION**

**GEOLOGICAL PROGNOSIS** 

IMPLEMENTATION: THIS PLAN WITH ALL DETAILS IS TO BE

FULLY IMPLEMENTED AFTER DRILLING TO

<u>INTERMEDIATE CASING POINT.</u>

**EMERGENCY RESPONSE** 

PROCEDURE:

THIS SECTION OUTLINES THE CONDITIONS AND DENOTES STEPS TO BE TAKEN IN THE

EVENT OF AN EMERGENCY.

**EMERGENCY EQUIPMENT** 

PROCEDURE:

THIS SECTION OUTLINES THE SAFETY AND EMERGENCY EQUIPMENT THAT WILL BE

REQUIRED FOR THE DRILLING OF THIS WELL.

TRAINING PROVISIONS:

THIS SECTION OUTLINES THE TRAINING PROVISIONS THAT MUST BE ADHERED TO PRIOR TO DRILLING TO INTERMEDIATE

CASING POINT.

DRILLING EMERGENCY

CALL LISTS:

INCLUDED ARE THE TELEPHONE NUMBERS OF ALL PERSONS TO BE CONTACTED SHOULD

AN EMERGENCY EXIST.

BRIEFING: THIS SECTION DEALS WITH THE BRIEFING OF

ALL PEOPLE INVOLVED IN THE DRILLING

OPERATION.

PUBLIC SAFETY: PUBLIC SAFETY PERSONNEL WILL BE MADE

AWARE OF THE DRILLING OF THIS WELL.

CHECK LISTS: STATUS CHECK LISTS AND PROCEDURAL

CHECK LISTS HAVE BEEN INCLUDED TO

INSURE ADHERENCE TO THE PLAN.

GENERAL INFORMATION: A GENERAL INFORMATION SECTION HAS

BEEN INCLUDED TO SUPPLY SUPPORT

INFORMATION.

#### **EMERGENCY PROCEDURES**

- A. IN THE EVENT OF ANY EVIDENCE OF H2S LEVEL ABOVE 10 PPM, TAKE THE FOLLOWING STEPS:
  - 1. SECURE BREATHING EQUIPMENT.
  - 2. ORDER NON-ESSENTIAL PERSONNEL OUT OF DANGER ZONE.
  - 3. TAKE STEPS TO DETERMINE IF THE H2S LEVEL CAN BE CORRECTED OR SUPPRESSED AND, IF SO, PROCEED IN NORMAL OPERATION.
- B. IF UNCONTROLLABLE CONDITIONS OCCUR:
  - 1. TAKE STEPS TO PROTECT AND/OR REMOVE ANY PUBLIC IN THE DOWN-WIND AREA FROM THE RIG PARTIAL EVACUATION AND ISOLATION. NOTIFY NECESSARY PUBLIC SAFETY PERSONNEL AND THE BUREAU OF LAND MANAGEMENT OF THE SITUATION.
  - 2. REMOVE ALL PERSONNEL TO SAFE BREATHING AREA.
  - 3. NOTIFY PUBLIC SAFETY PERSONNEL TO SAFE BREATHING AREA.
  - 4. PROCEED WITH BEST PLAN (AT THE TIME) TO REGAIN CONTROL OF THE WELL. MAINTAIN TIGHT SECURITY AND SAFETY PROCEDURES.

#### C. RESPONSIBILITY:

- 1. DESIGNATED PERSONNEL.
  - a. SHALL BE RESPONSIBLE FOR THE TOTAL IMPLEMENTATION OF THIS PLAN.
  - b. SHALL BE IN COMPLETE COMMAND DURING ANY EMERGENCY.
  - c. SHALL DESIGNATE A BACK-UP.

#### **EMERGENCY PROCEDURES**

\*(Procedures are the same for both Drilling and Tripping)

#### ALL PERSONNEL:

- 1. ON ALARM, DON ESCAPE UNIT AND REPORT IN UP WIND BRIEFING AREA.
- 2. CHECK STATUS OF PERSONNEL (BUDDY SYSTEM).
- 3. SECURE BREATHING EQUIPMENT.
- 4. AWAIT ORDERS FROM SUPERVISOR.

#### **DRILLING FOREMAN:**

- 1. REPORT TO UP WIND BRIEFING AREA.
- 2. DON BREATHING EQUIPMENT AND RETURN TO POINT OF RELEASE WITH TOOL PUSHER OR DRILLER (BUDDY SYSTEM).
- 3. DETERMINE H2S CONCENTRATIONS.
- 4. ASSESS SITUATION AND TAKE CONTROL MEASURES.

#### **TOOL PUSHER:**

- 1. REPORT TO UP WIND BRIEFING AREA.
- 2. DON BREATHING EQUIPMENT AND RETURN TO POINT OF RELEASE WITH DRILLING FOREMAN OR DRILLER (BUDDY SYSTEM).
- 3. DETERMINE H2S CONCENTRATION.
- 4. ASSESS SITUATION AND TAKE CONTROL MEASURES.

#### DRILLER:

- 1. DON ESCAPE UNIT.
- 2. CHECK MONITOR FOR POINT OF RELEASE.
- 3. REPORT TO BRIEFING AREA.
- 4. CHECK STATUS OF PERSONNEL (IN AN ATTEMPT TO RESCUE, USE THE BUDDY SYSTEM).
- 5. ASSIGNS LEAST ESSENTIAL PERSON TO NOTIFY DRILLING FOREMAN AND TOOL PUSHER BY QUICKEST MEANS IN CASE OF THEIR ABSENCE.
- 6. ASSUMES THE RESPONSIBILITIES OF THE DRILLING FORMAN AND TOOL PUSHER UNTIL THEY ARRIVE SHOULD THEY BE ABSENT.

#### **EMERGENCY PROCEDURES**

DERRICK MAN FLOOR MAN #1 FLOOR MAN #2 1. WILL REMAIN IN BRIEFING AREA UNTIL INSTRUCTED BY SUPERVISOR.

MUD ENGINEER:

- 1. REPORT TO BRIEFING AREA.
- 2. WHEN INSTRUCTED, BEGIN CHECK OF MUD FOR PH AND H2S LEVEL. (GARETT GAS TRAIN.)

SAFETY PERSONNEL:

1. MASK UP AND CHECK STATUS OF ALL PERSONNEL AND SECURE OPERATIONS AS INSTRUCTED BY DRILLING FOREMAN AND REPORT TO BRIEFING AREA.

#### TAKING A KICK

WHEN TAKING A KICK DURING AN H2S EMERGENCY, ALL PERSONNEL WILL FOLLOW STANDARD BOP PROCEDURES AFTER REPORTING TO BRIEFING AREA AND MASKING UP.

#### **OPEN-HOLE LOGGING**

ALL UNNECESSARY PERSONNEL OFF FLOOR. DRILLING FOREMAN AND SAFETY PERSONNEL SHOULD MONITOR CONDITION, ADVISE STATUS AND DETERMINE NEED FOR USE OF AID EQUIPMENT.

#### **RUNNING CASING OR PLUGGING**

FOLLOWING THE SAME "TRIPPING" PROCEDURE AS ABOVE. DRILLING FOREMAN AND SAFETY PERSONNEL SHOULD DETERMINE IF ALL PERSONNEL HAVE ACCESS TO PROTECTIVE EQUIPMENT.

#### **IGNITION PROCEDURES**

THE DECISION TO IGNITE THE WELL IS THE RESPONSIBILITY OF COMPANY FOREMAN. IN THE EVENT HE IS INCAPACITATED, IT BECOMES THE RESPONSIBILITY OF THE CONTRACT RIG TOOL PUSHER. THE 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 CONTROLLING THE BLOWOUT UNDER THE PREVAILING CONDITIONS AT THE WELL.

NOTIFY THE DISTRICT OFFICE IF TIME PERMITS, BUT DO NOT DELAY IF HUMAN LIFE IS IN DANGER.

INITIATE FIRST PHASE OF EVACUATION PLAN.

#### **IGNITION PROCEDURES**

#### INSTRUCTIONS FOR IGNITING THE WELL

- 1. TWO PEOPLE ARE REQUIRED FOR THE ACTUAL IGNITING OPERATION. THEY MUST WEAR SELF-CONTAINED BREATHING UNITS AND HAVE SAFETY ROPE ATTACHED. ONE MAN (TOOL PUSHER OR SAFETY ENGINEER) WILL CHECK THE ATMOSPHERE FOR EXPLOSIVE GASES WITH THE EXPLOSIMETER. THE OTHER MAN (DRILLING FOREMAN) IS RESPONSIBLE FOR IGNITING THE WELL.
- 2. PRIMARY METHOD TO IGNITE: 25 MM FLARE GUN WITH RANGE OF APPROXIMATELY 500 FEET.
- 3. IGNITE UP WIND AND DO NOT APPROACH ANY CLOSER THAN IS WARRANTED.
- 4. SELECT THE IGNITION SITE BEST FOR PROTECTION, AND WHICH OFFERS AN EASY ESCAPE ROUTE.
- 5. BEFORE FIRING, CHECK FOR PRESENCE OF COMBUSTIBLE GAS.
- 6. AFTER LIGHTING, CONTINUE EMERGENCY ACTION AND PROCEDURE AS BEFORE.
- 7. ALL UNASSIGNED PERSONNEL WILL LIMIT THEIR ACTIONS TO THOSE DIRECTED BY THE DRILLING FOREMAN.

**REMEMBER**: AFTER WELL IS IGNITED, BURNING HYDROGEN SULFIDE WILL CONVERT TO SULFUR DIOXIDE, WHICH IS ALSO HIGHLY TOXIC. <u>DO NOT ASSUME</u> THE AREA IS SAFE AFTER THE WELL IS IGNITED.

#### TRAINING REQUIREMENTS

WHEN WORKING IN AN AREA WHERE HYDROGEN SULFIDE GAS (H2S) MIGHT BE ENCOUNTERED, DEFINITE TRAINING REQUIREMENTS MUST BE CARRIED OUT. ALL COMPANIES WILL INSURE THAT ALL PERSONNEL AT THE WELL SITE WILL HAVE HAD ADEQUATE TRAINING IN THE FOLLOWING:

- 1. HAZARDS AND CHARACTERISTICS OF H2S.
- PHYSICAL EFFECTS OF HYDROGEN SULFIDE ON THE HUMAN BODY.
- 3. TOXICITY OF HYDROGEN SULFIDE AND SULFUR DIOXIDE.
- 4. H2S DETECTION.
- 5. EMERGENCY RESCUE.
- 6. RESUSCITATORS.
- 7. FIRST AID AND ARTIFICIAL RESPIRATION.
- 8. EFFECTS OF H2S ON METALS.
- 9. LOCATION SAFETY.

#### SERVICE COMPANY AND VISITING PERSONNEL

- A. EACH SERVICE COMPANY THAT WILL BE ON THIS WELL WILL BE NOTIFIED IF THE ZONE CONTAINS H2S.
- B. EACH SERVICE COMPANY MUST PROVIDE FOR THE TRAINING AND EQUIPMENT OF THEIR EMPLOYEES BEFORE THEY ARRIVE AT THE WELL SITE.
- C. EACH SERVICE COMPANY WILL BE EXPECTED TO ATTEND A WELL SITE BRIEFING.

#### **BLOWOUT PREVENTION DRILLS:**

A. BLOWOUT PREVENTION DRILLS SHOULD BE HELD WITH EACH CREW ON A REGULAR BASIS. AT LEAST ONE DRILL PER DAY, SHALL BE PREFORMED, ROTATING THE CREWS PERFORMING THE DRILLS.

#### **EMERGENCY EQUIPMENT REQUIREMENTS**

#### 1. SIGNS

A. ONE SIGN LOCATED AT LOCATION ENTRANCE WITH THE FOLLOWING LANGUAGE:

#### (LEASE)

# CAUTION – POTENTIAL POISON GAS HYDROGEN SULFIDE NO ADMITTANCE WITHOUT AUTHORIZATION

#### 2. WIND SOCK – WIND STREAMERS

- A. ONE 36" (IN LENGTH) WIND SOCK LOCATED AT PROTECTION CENTER, AT HEIGHT VISIBLE FROM RIG FLOOR.
- B. ONE 36" (IN LENGTH) WIND SOCK LOCATED AT HEIGHT VISIBLE FROM PIT AREAS.

#### 3. HYDROGEN SULFIDE DETECTOR AND ALARMS

- A. H2S MONITORS WITH ALARMS WILL BE LOCATED ON THE RIG FLOOR, AT THE BELL NIPPLE, AND AT THE FLOW LINE. THESE MONITORS WILL BE SET TO ALARM AT 10 PPM WITH RED LIGHT, AND TO ALARM AT 15 PPM WITH RED LIGHT AND AUDIBLE ALARM.
- B. HAND OPERATED DETECTORS WITH TUBES.
- C. H2S MONITOR TESTER.

#### 4. CONDITION FLAGS

A. ONE EACH OF GREEN, YELLOW, AND RED CONDITION FLAGS TO BE DISPLAYED TO DENOTE CONDITIONS.

GREEN – NORMAL CONDITIONS YELLOW – POTENTIAL DANGER RED – DANGER, H2S PRESENT

B. CONDITION FLAG SHALL BE POSTED AT LOCATION SIGN ENTRANCE.

#### **EMERGENCY EQUIPMENT REQUIREMENTS**

- 5. <u>AUXILIARY RESCUE EQUIPMENT</u>
  - A. STRETCHER
  - B. 100' LENGTH OF 5/8" NYLON ROPE.
- 6. MUD INSPECTION DEVICES

GARRETT GAS TRAIN OR HACH TESTER FOR INSPECTION OF SULFIDE CONCENTRATION IN MUD SYSTEM.

7. FIRE EXTINGUISHER

ADEQUATE FIRE EXTINGUISHERS SHALL BE LOCATED AT STRATEGIC LOCATIONS.

8. BLOW OUT PREVENTION EQUIPMENT

THE WELL SHALL HAVE HYDRAULIC BOP EQUIPMENT WHICH WILL BE TESTED UPON INSTALLATION. TEXT PRESSURE SHALL BE 5000 PSI, OR RATING OF ATTACHING FLANGE, OR 70% OF CASING COLLAPSE, WHICHEVER IS LESS.

9. COMBUSTIBLE GAS DETECTOR

THERE SHALL BE ONE COMBUSTIBLE GAS DETECTOR ON LOCATION AT ALL TIMES.

10. AUDIO SYSTEM

RADIO COMMUNICATION WILL BE AVAILABLE AT THE RIG.

- A. RIG FLOOR OR TRAILER
- B. VEHICLE
- 11. SPECIAL CONTROL EQUIPMENT
  - A. HYDRAULIC BOP EQUIPMENT WITH REMOTE CONTROL ON GROUND.
  - B. ROTATING HEAD

#### **EMERGENCY EQUIPMENT REQUIREMENTS**

#### 12. EVACUATION PLAN

EVACUATION ROUTES SHOULD BE ESTABLISHED PRIOR TO SPUDDING EACH WELL AND DISCUSSED WITH ALL RIG PERSONNEL.

#### 13. DESIGNATED AREA

- A. PARKING AND VISITOR AREA: ALL VEHICLES ARE TO BE PARKED AT A PREDETERMINED SAFE DISTANCE FROM THE WELLHEAD. THIS WILL BE THE DESIGNATED SMOKING AREA.
- B. TWO BRIEFING AREAS ON EITHER SIDE OF THE LOCATION AT THE MAXIMUM ALLOWABLE DISTANCE FROM THE WELL BORE SO THEY OFFSET PREVAILING WINDS PERPENDICULARLY, OR AT A 45-DEGREE ANGLE IF WIND DIRECTION TENDS TO SHIFT IN THE AREA.
- C. PROTECTION CENTERS OR IF A MOVABLE TRAILER IS USED, IT SHOULD BE DEPT UPWIND OF EXISTING WINDS. WHEN WIND IS FROM THE PREVAILING DIRECTIONS, BOTH PROTECTION CENTERS SHOULD BE ACCESSIBLE.

#### STATUS CHECK LIST

NOTE: ALL ITEMS ON THIS LIST MUST BE COMPLETED BEFORE DRILLING TO 2,000'.

- 1. SIGN AT LOCATION ENTRANCE.
- 2. TWO (2) WIND SOCKS LOCATED AS REQUIRED.
- 3. TWO (2) 30-MINUTE PRESSURE DEMAND AIR PACKS ON LOCATION FOR ALL RIG PERSONNEL AND MUD LOGGERS.
- 4. AIR PACK INSPECTED FOR READY USE.
- 5. CASCADE SYSTEM AND HOSE LINE HOOK-UP.
- 6. CASCADE SYSTEM FOR REFILLING AIR BOTTLES.
- 7. SAFE BREATHING AREAS SET UP.
- 8. CONDITION FLAG ON LOCATION AND READY FOR USE.
- 9. H2S DETECTION SYSTEM HOOKED UP.
- 10. H2S ALARM SYSTEM HOOKED UP AND READY.
- 11. OXYGEN RESUSCITATOR ON LOCATION AND TESTED FOR USE.
- 12. STRETCHER ON LOCATION AT SAFETY TRAILER.
- 13. 1 100' LENGTH OF NYLON ROPE ON LOCATION.
- 14. ALL RIG CREW AND SUPERVISORS TRAINED AS REQUIRED.
- 15. ALL OUTSIDE SERVICE CONTRACTORS ADVISED OF POTENTIAL H2S HAZARD ON WELL.
- 16. NO SMOKING SIGN POSTED.
- 17. HAND OPERATED H2S DETECTOR WITH TUBES ON LOCATION.

CHECKED BY:	DATE:	
		$\overline{}$ (12)

#### PROCEDURAL CHECK LIST

#### **PERFORM EACH TOUR:**

- 1. CHECK FIRE EXTINGUISHERS TO SEE THAT THEY HAVE THE PROPER CHARGE.
- 2. CHECK BREATHING EQUIPMENT TO ENSURE THAT IT HAS NOT BEEN TAMPERED WITH.
- 3. MAKE SURE ALL THE H2S DETECTION SYSTEM IS OPERATIVE.

#### **PERFORM EACH WEEK:**

- 1. CHECK EACH PIECE OF BREATHING EQUIPMENT TO MAKE SURE THAT DEMAND REGULATOR IS WORKING. THIS REQUIRES THAT THE BOTTLE BE OPENED AND THE MASK ASSEMBLY BE PUT ON TIGHT ENOUGH SO THAT WHEN YOU INHALE, YOU RECEIVE AIR.
- 2. BLOW OUT PREVENTER SKILLS.
- 3. CHECK SUPPLY PRESSURE ON BOP ACCUMULATOR STAND BY SOURCE.
- 4. CHECK ALL SKA-PAC UNITS FOR OPERATION: DEMAND REGULATOR, ESCAPE BOTTLE AIR VOLUMES, SUPPLY BOTTLE OF AIR VOLUME.
- 5. CHECK BREATHING EQUIPMENT MASK ASSEMBLY TO SEE THAT STRAPS ARE LOOSENED AND TURNED BACK, READY TO PUT ON.
- 6. CHECK PRESSURE ON BREATHING EQUIPMENT AIR BOTTLES TO MAKE SURE THEY ARE CHARGED TO FULL VOLUME.
- 7. CONFIRM PRESSURE ON ALL SUPPLY AIR BOTTLES.
- 8. PERFORM BREATHING EQUIPMENT DRILLS WITH ON-SITE PERSONNEL.
- 9. CHECK THE FOLLOWING SUPPLIES FOR AVAILABILITY.
  - A. EMERGENCY TELEPHONE LIST.
  - B. HAND OPERATED H2S DETECTORS AND TUBES.

#### **GENERAL EVACUATION PLAN**

THE DIRECT LINES OF ACTION PREPARED BY INDIAN FIRE & SAFETY, INC. TO PROTECT THE PUBLIC FROM HAZARDOUS GAS SITUATIONS ARE AS FOLLOWS:

- 1. WHEN THE COMPANY APPROVED SUPERVISOR (DRILLING FOREMAN, CONSULTANT, RIG PUSHER, OR DRILLER) DETERMINES THE H2S 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 AREA MAP.
- 2. "COMPANY MAN" OR DESIGNEE WILL NOTIFY LOCAL GOVERNMENT AGENCY THAT A HAZARDOUS CONDITION EXISTS AND EVACUATION NEEDS TO BE IMPLEMENTED.
- 3. COMPANY SAFETY PERSONNEL THAT HAVE BEEN TRAINED IN THE USE OF H2S DETECTION EQUIPMENT AND SELF-CONTAINED BREATHING EQUIPMENT WILL MONITOR H2S CONCENTRATIONS, WIND DIRECTIONS, AND AREA OF EXPOSURE. THEY WILL DELINEATE THE OUTER PERIMETER OF THE HAZARDOUS GAS AREA. EXTENSION TO THE EVACUATION AREA WILL BE DETERMINED FROM INFORMATION GATHERED.
- 4. LAW ENFORCEMENT PERSONNEL (STATE POLICE, POLICE DEPT., FIRE DEPT., AND SHERIFF'S DEPT.) WILL BE CALLED TO AID IN SETTING UP AND MAINTAINING ROAD BLOCKS. ALSO, THEY WILL AID IN EVACUATION OF THE PUBLIC IF NECESSARY.

IMPORTANT: 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.

#### **EMERGENCY ACTIONS**

#### WELL BLOWOUT – IF EMERGENCY

- 1. EVACUATE ALL PERSONNEL IF POSSIBLE.
- 2. IF SOUR GAS EVACUATE RIG PERSONNEL.
- 3. IF SOUR GAS EVACUATE PUBLIC WITHIN 1 HOUR RADIUS OF EXPOSURE.
- 4. DON SCBA AND RESCUE.
- 5. CALL 911 FOR EMERGENCY HELP (FIRE DEPT AND AMBULANCE) AND NOTIFY SR. DRILLING FOREMAN AND DISTRICT FOREMAN.
- 6. GIVE FIRST AID.

#### PERSON DOWN LOCATION/FACILITY

- 1. IF IMMEDIATELY POSSIBLE, CONTACT 911. GIVE LOCATION AND WAIT FOR CONFIRMATION.
- 2. DON SCBA AND RESCUE.

### **EMERGENCY PHONE LIST**

### **GOVERNMENTAL AGENCIES**

Eddy County Sheriff's Office	911
Non emergency	505-746-6988
Fire Department	911
Non emergency	505-746-5050
State Police Department	911
Non emergency	505-437-1313
Ambulance	911
Artesia – Non emergency	505-746-5050
Hospital – Artesia	505-748-3333
AFROCARE	806-747-8923

### **Emergency Contact List**

#### R.K. Ford & Associates

#### Randy Ford:

Home: 432-570-7216 Cell: 432-559-2222 Alt. Cell: 432-559-3351 Office: 432-682-0440

#### Court Adkins:

Home: 432-687-3002 Cell: 432-664-1070 Office: 432-682-0440

#### Preston Exploration, LLC.

#### Doug Sprague:

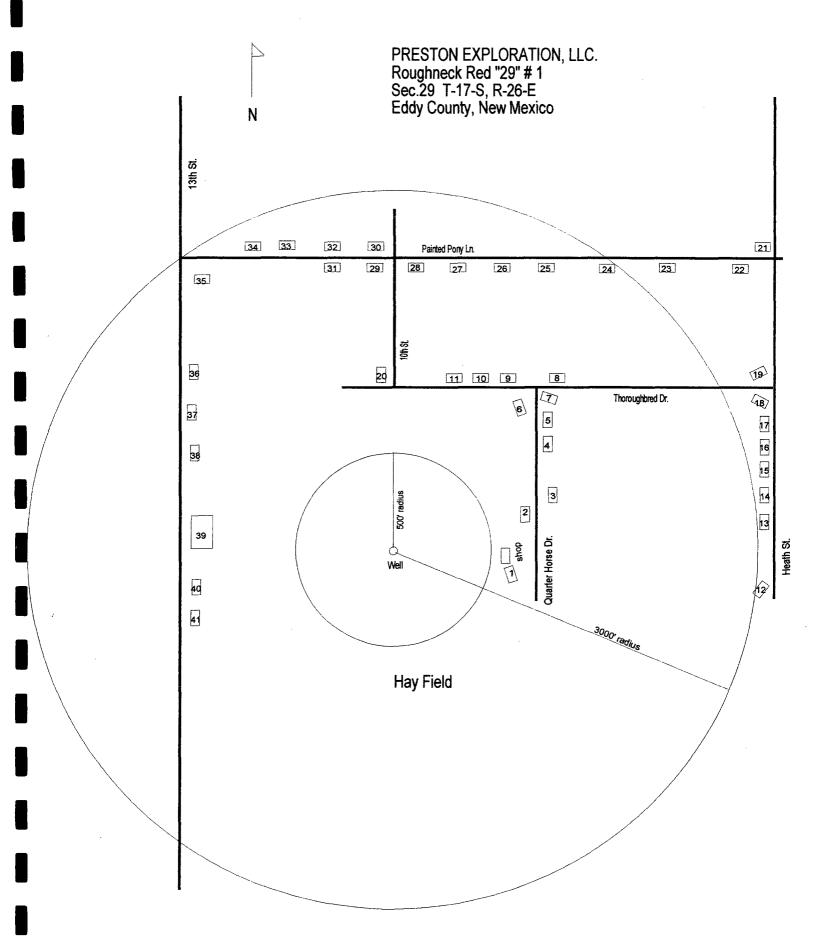
Home: 281-360-0238 Office: 800-364-8697 Cell: 281-615-4170

#### Indian Fire & Safety, Inc.

3317 W. County Road 505-393-3093 - office 800-530-8693 - toll free 505-392-6274 - fax

#### **Personnel Contact List**

	Truck Phone	Cell Phone	<b>Home Phone</b>
James Spurgeon		390-8582	492-9354
Jerry Davis	631-9713	631-9726	393-8146
Scott Dudenhoeffer	631-9752	631-9753	392-4833
Steve Henry	631-9715	631-9704	393-8688
Sam Abney	631-9754	631-9712	393-5427
Mickey Byrd	631-9755	631-9716	396-2157
Curtis Newton		631-1255	393-3762
Chris Spurgeon		806-215-1087	806-592-0079
Joe Lynn Spurgeon	631-9759	631-9756	806-592-8429
Steven Grandon	631-9757	631-9758	806-790-9127



#### Residential Emergency Contact List

MAP#	STREET ADDRESS	NAME	PHONE #
1	2708 Quarter Horse Dr.	Parker	748-1604
2	2614 Quarter Horse Dr.	Grant	746-1895
3	2613 Quarter Horse Dr.	Duncan	746-1328
4	2513 Quarter Horse Dr.	Hope Enterprises	-746-4947
5	2503 Quarter Horse Dr.	Brewer	746-4153
6	2504 Quarter Horse Dr.		
7 .	2501 Quarter Horse Dr.	Golden	746-3285
8	804 Thoroughbred Dr.		
9	808 Thoroughbred Dr.	Simons	746-2641
10	902 Thoroughbred Dr.	Panzer	746 6493
11	904 Thoroughbred Dr.		
12	2716 Heath St	the state of the s	
13	2702 Heath St.	Sadler	748-9832
14		Vaughan	748-3778
15	2614 Heath St.		
16	2612 Heath St		748-3964
17	2506 Heath St.	Joiner	746-4675
18	2502 Heath St	Annual Control of the	746-4069
19	708 Thoroughbred Dr.	Reno	748-3873
20	2404 S. 10th		
21	702 Painted Pony Ln.	Kidd	748-2952
22	711 Painted Pony In.	Hornberger	746-2996
23	803 Painted Pony Ln.	Green	746-1213
24	805 Painted Pony Ln.	Meinke	746-9632
25	807 Painted Pony Ln.	Rowland	746-4828
26	903 Painted Pony Ln.	Lykins	746-6075
27	907 Painted Pony Ln.	New Home	
28	911 Painted Pony Ln	Sullivan	746-8717
29	1005 Painted Pony Ln.	Caraved	748-9772
30	1002 Painted Pony Ln.	Fuller	746-9852
31	1011 Painted Pony Ln.	Juarez	746-6080
32	1006 Painted Pony Ln.	and the second s	748-2410
33	1008 Painted Pony Ln.	Brandon	746-6645
THE RESIDENCE OF THE PROPERTY	1102 Painted Pony Ln.	Sanchez	746-9408
35	1205 Painted Pony Ln.	Jackson	746-4356
Shirten shringing in the state of the state	2411 S. 13th St		
37	2507 S. 13th St.	Helping Hand Thrift	746-0532
	2601 S. 13th St.		746-1606
39	S. 13th St.	Eddy Co. Rd. Maint.	746-9540
the manufacture of the state of	S.13th St		and the same of th
41	2901 S. 13th St.	Riley	746-3631

#### State of New Mexico

DISTRICT I P.O. Box 1980, Hobbs, NM 88241-1980

Energy, Minerals and Natural Resources Department

Form C-102 Revised February 10, 1994

Submit to Appropriate District Office

#### DISTRICT II P.O. Drawer DD, Artesia, NM 88211-0719

### OIL CONSERVATION DIVISION

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

P.O. Box 2088 Santa Fe, New Mexico 87504-2088

DISTRICT IV P.O. BOX 2088, SANTA	TE NU 870	880 <b>4 – 2</b> 088	WELL LO	CATIO	N AND	ACREA	GE DEDICATI	ON PLAT	□ AMENDI	ED REPORT		
	lumber	300	1	Pool Code		Pool Name						
Property Co			Property Name ROUGHNECK RED "29"  Operator Name						CK RED "29" 1			
212226				PR			RATION		3403			
					Surfa	ce Loca	ation					
UL or lot No.	Section	Township	Range	Lot Idn		om the	North/South line	Feet from the	East/West line	County		
D	29	17-S	26-E	_ · · · · · · · · · · · · · · · · · · ·	10	95'	NORTH	1104'	WEST	EDDY		
			<del>,</del>				rent From Sur					
UL or lot No.	Section	Township	Range	Lot Idn	ı	om the	North/South line	Feet from the	East/West line	County		
F Dedicated Acres	29	17-S	26-E			80'	NORTH	1980'	WEST	EDDY		
Dedicated Acres	Joint or	r IMILII Co	nsolidation (	ode	Order No.							
NO ALLOW	VABLE W						NTIL ALL INTER		EEN CONSOLIDA	ATED		
1104'	1980'-	8.1 Y=65813 X=4777	GR. AZ.=11 958' 		ATES			Signature Randell Printed Name Consultative June 23, Date	nt 2004 R CERTIFICAT	ION		
			Y=6585 X=4769 LAT.=32*48 DNG.=104*2	7 NME LOC. 43.1 N 09.7 E	N			on this plat we actual surveys supervison, and correct to the APR Date Surveye Signature & Professional	Seal of Surveyor  Lufm 4,13.0713	notes of under my true and		

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

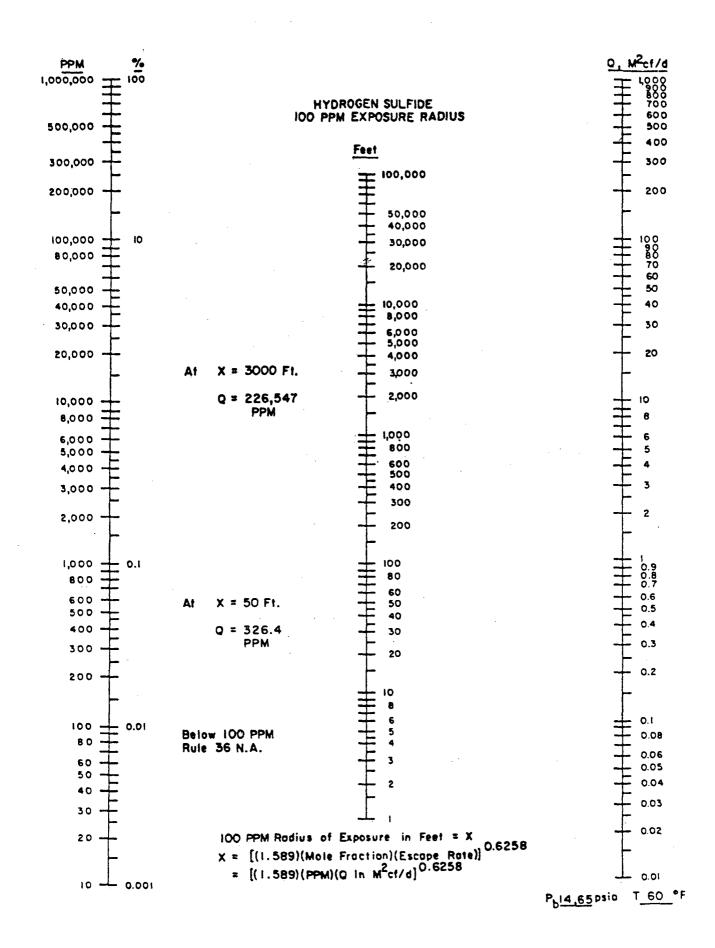
## State of New Mexico Energy Minerals and Natural Resources

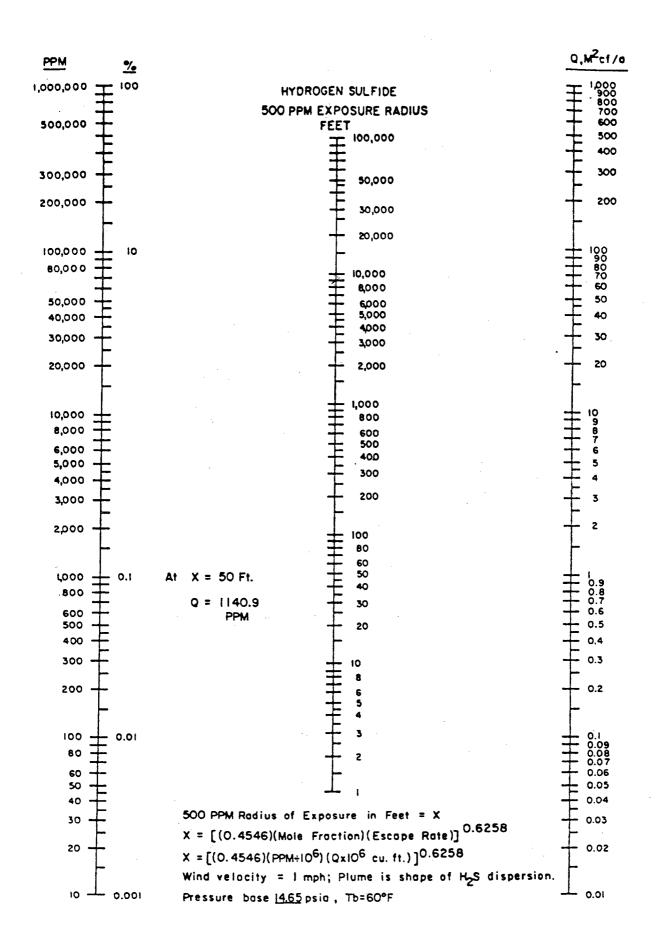
Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Revised June 10, 2003
Submit to appropriate District Office

Submit to appropriate District Office State Lease - 6 Copies Fee Lease - 5 Copies

Form C-101

<sup>1</sup> Operator Name and Address Preston Exploration, LLC										<sup>2</sup> OGR 2122	LID Numbe 226	r 
P. O. Box 7520											I Number	
3 D	erty Code		The Woodlands,	TX 7738	<sup>5</sup> Propert	- Nīama			30 -	<del></del>	<sup>6</sup> We	11 N <sub>O</sub>
Prope	arty Code				Roughneck	•	9"				WC	и No. 1
					<sup>7</sup> Surfac							
UL or lot no.	Section	Township	Range	Lot	Idn Feet	from the		outh line	Feet from the	East/	West line	County
D	29	17S	26E		101	,985 ,985	NO	RTH	1,104	_ w	EST	EDDY
			<sup>8</sup> Proposed 1	Bottom	ı Hole Loc	ation If	Diffe	rent Fr	om Surface	~~~		
UL or lot no.	Section	Township	Range	Lot		from the		outh line	Feet from the	East/	West line	County
F	29	178	26E		1	,480	NO	RTH	1,980	<u> </u>	EST	EDDY
	<u></u>	9	Proposed Pool 1	<del></del> -					<sup>10</sup> Pr	oposed Po	ol 2	
		<u>Ea</u>	gle Creek, East	·								
11 -u.y. s					13.0			14	<del></del>	<del></del>	15	
	Type Code N		12 Well Type Cod G	e		ble/Rotary R	tary 14 Lease Type Code S				15 Ground Level Elevation 3403°	
<sup>16</sup> M	fultiple		17 Proposed Depti	h		ormation	19 Contractor				20 Spud Date	
	No		8,800° 21	D-ONOG	Morrow sed Casing	or Atol		D <sub>max</sub> arra	<u>Unknown</u>		Ju	ıly 3, 2004
Hole S		Cas	sing Size			1			Sacks of	O-mant		Estimated TOC
17-1/			3-3/8	Casıng	g weight/foot 48		etting De	ерш	Sacks of		_	Surface
12-1/			9-5/8		36		1,400	<u> </u>	45			Surface
8-1/2			5-1/2		17		8,800		40			5,000'
									1			7
Describe the Drill, case and BOP'S includ	blowout pred complete value: 1) Hydril 2) Doub 3) Chok 4) Five S ncy plan pre	evention pro well in the M Ill double Ra ble Ram 13-5 te Manifold Station accu epared by M	f this application i gram, if any. Use Morrow (Primary o m 13-5/8" x 3000 5/8" x 3000 psi 4" x 3000 psi mulator closing un idland Safety and I program attached	additiona bjective) psi nit with re Health (4	al sheets if neces or Atoka (Secon	ssary.			resent productive	zone and	proposed r	new productive zone.
<sup>23</sup> I hereby certify that the information given above is true and complete to the							OIL C	ONSERVA	TION	DIVISI	ON	
best of my knowledge and belief.					Approv							
Signature: Ondia Mallo					<del></del>	————						
Printed name: Sandra Nobles					Title:							
Title:		Consultan				Approv	al Date:		1	Expiration	n Date:	· · · · · · · · · · · · · · · · · · ·
E-mail Addres	is: Di	andra@rk							<del></del>			
Date:			Phone:			Conditions of Approval:						
June 23, 2	004 (432) 682-0440					Attached						





#### TOXIC EFFECTS OF HYDROGEN SULFIDE

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 COLORLESS. IT FORMS AN EXPLOSIVE MIXTURE WITH AIR BETWEEN 4.3 AND 46.0 PERCENT BY VOLUME. HYDROGEN SULFIDE IS ALMOST AS TOXIC AS HYDROGEN CYANIDE AND IS BETWEEN FIVE AND SIX TIMES MORE TOXIC THAN CARBON MONOXIDE. TOXICITY DATA FOR HYDROGEN SULFIDE AND VARIOUS OTHER GASES ARE COMPARED IN TABLE I. PHYSICAL EFFECTS AT VARIOUS HYDROGEN SULFIDE EXPOSURE LEVELS ARE SHOWN IN TABLE II.

TABLE I TOXICITY OF VARIOUS GASES

COMMON	CHEMICAL	SPECIFIC	THRESHOLD	HAZARDOUS	LETHAL
NAME	<b>FORMULA</b>	GRAVITY	LIMIT	LIMIT	CONCENTRATION
		(SC=1)	(1)	(2)	(3)
HYDROGEN	HCN	0.94	10 PPM	150 PPM/HR	300 PPM
CYANIDE					
HYDROGEN	H2S	1.18	10 PPM	250 PPM/HR	600 PPM
SULFIDE					
SULFUR	SO2	2.21	5 PPM	-	1000 PPM
DIOXIDE					
CHLORINE	CL2	2.45	1 PPM	4 PPM/HR	1000 PPM
CARBON	CO	0.97	50 PPM	400 PPM/HR	1000 PPM
MONOXIDE					
CARBON	CO2	1.52	5000 PPM	5%	10%
DIOXIDE					
METHANE	CH4	0.55	90,000 PPM	COMBUSTIBLE	E ABOVE 5% IN AIR

- 1) THRESHOLD LIMIT CONCENTRATION AT WHICH IT IS BELIEVED THAT ALL WORKERS MAY BE REPEATEDLY EXPOSED DAY AFTER DAY WITHOUT ADVERSE EFFECTS.
- 2) HAZARDOUS LIMIT CONCENTRATION THAT WILL CAUSE DEATH WITH SHORT-TERM EXPOSURE.
- 3) LETHAL CONCENTRATION CONCENTRATION THAT WILL CAUSE DEATH WITH SHORT-TERM EXPOSURE.

#### **TOXIC EFFECTS OF HYDROGEN SULFIDE**

TABLE II PHYSICAL EFFECTS OF HYDROGEN SULFIDE

PERCENT (%)	<u>PPM</u>	CONCENTRATION GRAINS 100 STD. FT3*	PHYSICAL EFFECTS
0.001	10	00.65	Obvious and unpleasant odor.
0.002	20	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kill smell in $3 - 15$ minutes. May sting eyes and throat.
0.020	200	12.96	Kills smell shortly; Stings eyes and throat.
0.050	500	32.96	Dizziness; Breathing ceases in a few minutes; Needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; Death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; Followed by death within minutes.

<sup>\*</sup>AT 15.00 PSIA AND 60'F.

#### **USE OF SELF-CONTAINED BREATHING EQUIPMENT**

- 1. WRITTEN PROCEDURES SHALL BE PREPARED COVERING SAFE USE OF SCBA'S IN DANGEROUS ATMOSPHERE, WHICH MIGHT BE ENCOUNTERED IN NORMAL OPERATIONS OR IN EMERGENCIES. PERSONNEL SHALL BE FAMILIAR WITH THESE PROCEDURES AND THE AVAILABLE SCBA.
- 2. SCBA'S SHALL BE INSPECTED FREQUENTLY AT RANDOM TO INSURE THAT THEY ARE PROPERLY USED, CLEANED, AND MAINTAINED.
- 3. ANYONE WHO MAY USE THE SCBA'S SHALL BE TRAINED IN HOW TO INSURE PROPER FACE-PIECE TO FACE SEAL. THEY SHALL WEAR SCBA'S IN NORMAL AIR AND THEN WEAR THEM IN A TEST ATMOSPHERE. (NOTE: SUCH ITEMS AS FACIAL HAIR {BEARD OR SIDEBURNS} AND EYEGLASSES WILL NOT ALLOW PROPER SEAL.) ANYONE THAT MAY BE REASONABLY EXPECTED TO WEAR SCBA'S SHOULD HAVE THESE ITEMS REMOVED BEFORE ENTERING A TOXIC ATMOSPHERE. A SPECIAL MASK MUST BE OBTAINED FOR ANYONE WHO MUST WEAR EYEGLASSES OR CONTACT LENSES.
- 4. MAINTENANCE AND CARE OF SCBA'S:
  - A. A PROGRAM FOR MAINTENANCE AND CARE OF SCBA'S SHALL INCLUDE THE FOLLOWING:
    - 1. INSPECTION FOR DEFECTS, INCLUDING LEAK CHECKS.
    - 2. CLEANING AND DISINFECTING.
    - 3. REPAIR.
    - 4. STORAGE.
  - B. INSPECTION; SELF-CONTAINED BREATHING APPARATUS FOR EMERGENCY USE SHALL BE INSPECTED MONTHLY FOR THE FOLLOWING PERMANENT RECORDS KEPT OF THESE INSPECTIONS.
    - 1. FULLY CHARGED CYLINDERS.
    - 2. REGULATOR AND WARNING DEVICE OPERATION.
    - 3. CONDITION OF FACE PIECE AND CONNECTIONS.
    - 4. ELASTOMER OR RUBBER PARTS SHALL BE STRETCHED OR MASSAGED TO KEEP THEM PLIABLE AND PREVENT DETERIORATION.
  - C. ROUTINELY USED SCBA'S SHALL BE COLLECTED, CLEANED AND DISINFECTED AS FREQUENTLY AS NECESSARY TO INSURE PROPER PROTECTION IS PROVIDED. (22)

#### **USE OF SELF-CONTAINED BREATHING EQUIPMENT**

- 5. PERSONS ASSIGNED TASKS THAT REQUIRES USE OF SELF-CONTAINED BREATHING EQUIPMENT SHALL BE CERTIFIED PHYSICALLY FIT FOR BREATHING EQUIPMENT USAGE BY THE LOCAL COMPANY PHYSICIAN AT LEAST ANNUALLY.
- 6. SCBA'S SHOULD BE WORN WHEN:
  - A. ANY EMPLOYEE WORKS NEAR THE TOP OR ON TOP OF ANY TANK UNLESS TEST REVEALS LESS THAN 10 PPM OF H2S.
  - B. WHEN BREAKING OUT ANY LINE WHERE H2S CAN REASONABLY BE EXPECTED.
  - C. WHEN SAMPLING AIR IN AREAS TO DETERMINE IF TOXIC CONCENTRATIONS OF H2S EXISTS.
  - D. WHEN WORKING IN AREAS WHERE OVER 10 PPM H2S HAS BEEN DETECTED.
  - E. AT ANY TIME THERE IS A DOUBT AS TO THE H2S LEVEL IN THE AREA TO BE ENTERED.

#### RESCUE FIRST AID FOR H2S POISONING

#### DO NOT PANIC!

#### **REMAIN CALM - THINK!**

- 1. HOLD YOUR BREATH. (DO NOT INHALE FIRST; STOP BREATHING.)
- 2. PUT ON BREATHING APPARATUS.
- 3. REMOVE VICTIM(S) TO FRESH AIR AS QUICKLY AS POSSIBLE. (GO UP-WIND FROM SOURCE OR AT RIGHT ANGLE TO THE WIND. NOT DOWN WIND.)
- 4. BRIEFLY APPLY CHEST PRESSURE ARM LIFT METHOD OF ARTIFICIAL RESPIRATION TO CLEAN THE VICTIM'S LUNGS AND TO AVOID INHALING ANY TOXIC GAS DIRECTLY FROM THE VICTIM'S LUNGS.
- 5. PROVIDE FOR PROMPT TRANSPORTATION TO THE HOSPITAL, AND CONTINUE GIVING ARTIFICIAL RESPIRATION IF NEEDED.
- 6. HOSPITAL(S) OR MEDICAL FACILITIES NEED TO BE INFORMED, BEFORE-HAND, OF THE POSSIBILITY OF H2S GAS POISONING NO MATTER HOW REMOTE THE POSSIBILITY IS.
- 7. NOTIFY EMERGENCY ROOM PERSONNEL THAT THE VICTIM(S) HAS BEEN EXPOSED TO H2S GAS.

BESIDES BASIC FIRST AID, EVERYONE ON LOCATION SHOULD HAVE A GOOD WORKING KNOWLEDGE OF ARTIFICIAL RESPIRATION, AS WELL AS FIRST AID FOR EYES AND SKIN CONTACT WITH LIQUID H2S. EVERYONE NEEDS TO MASTER THESE NECESSARY SKILLS.



### Newpark Drilling Fluids, LLC



### DRILLING FLUIDS PROGRAM

#### PREPARED FOR:

Roughneck Red "29" No.1

Section 29, T-17-S, R-26-E Eddy County, New Mexico

### SUBMITTED TO:

Mr. Randy Ford

Preston Exploration, LLC 410 W. Wall Suite 1700 Midland, Texas 79701

PREPARED BY:

Ken Anthony

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### Newpark Drilling Fluids, LLC



February 20, 2004

Mr. Randy Ford Preston Exploration, LLC 410 W. Wall Suite 1700 Midland, Texas 79701

Dear Mr. Ford:

Enclosed are our drilling fluids recommendations for your Roughneck Red "29" No. 1 in section 29, T-17-S, R-26-E, Eddy County, New Mexico. They are derived from information from your office, offset well data, and our knowledge of the area.

Estimated mud cost is \$ 25,138.86 based on 17 total days with ideal conditions.

Material	\$ 28,045.04
Discount	-5,609.01
Drayage	1,279.87
Tax	1,422.95
Total	\$ 25,138.86

For questions or comments call (800) 592-4627 or (432) 697-8661. Both are 24-hour numbers.

Sincerely,

Ken Anthony



### Newpark Drilling Fluids, LLC



### Preston Exploration, LLC Roughneck Red "29" No.1

Section 29, T-17-S, R-26-E Eddy County, New Mexico

### **Anticipated Formation Tops**

San Andres	825'
Glorietta	2,250'
Tubb	3,640'
Abo	4,190'
Wolfcamp	5,585'
Upper Cisco	6,590'
Lower Cisco	6,760'
Canyon	7,255'
Strawn	7,720'
Atoka	7,960'
Morrow	8,110'
Barnett Shale	8,350'
Chester	8,400'