District II 1301 W. Grand Ave., Artesia, NM 88210 Phone: (505) 748-1283 Fax: (505) 748-9720

State of New Mexico

Energy, Minerals and Natural Resources

Oil Conservation Division

1220 S. St Francis Dr. Santa Fe, NM 87505 Form C-101 Permit 55475

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

1. Opera BOL	2. OGRID Number 233545	
1	5 WEST WALL LAND , TX 79701	3. API Number 30 - 015 - 35696
4. Property Code 36597	5. Property Name HUMBLE GRACE COM #2	6. Well No. 002

7. Surface Location

UL -	Section	Township	Range	Lot	Feet	N/S	Feet	E/W	County
Lot	3	23S	26E	Idn	From	Line	From	Line	EDDY
I				I	1980	S	330	Е	

8. Pool Information

CARLSBAD;MORROW, SOUTH (PRO GAS) 73960

Additional Well Information

9. Work Type New Well	10. Well GAS		11. Cable/Rotary	12. Leas Type	se	13. Ground Level Elevation
				State		3281
14. Multiple N		posed Depth 12072	16. Formation Morrow	17. Contra	ctor	18. Spud Date
Depth to Group 248	nd water	Distance	from nearest fresh wate > 1000	r well	D	istance to nearest surface water > 1000
Liner: Synthetic Closed Loo	□ 12 p System	mils Clay	Volume:F	_	∃Bri	ne 🗆 Diesel/Oil-

19. Proposed Casing and Cement Program

			Troposta casing			
Туре	Hole Size	Casing Type	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	48 ල	500 \$50	475	0
Int1	12.25	9.625	36	1900	850	0
Int2	8.75	7	26	8900	1100	V8400
Prod	6.125	4.5	13.5	12072	260	

Casing/Cement Program: Additional Comments

Bold Energy, LP respectfully submits this application to Directionally Drill & Complete this 12,072 MD well in the Carlsbad; Morrow, South (Pro Gas) Pool (73960). Please see attached Drilling Prognosis with a detailed plan for Casing/Cement, Mud Program and BOPE Schematic (13 5/8" - 5K Stack). Also a copy of the Drill Plan Report.

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
DoubleRam	3000	3000	SRRAG
DoubleRam	5000	5000	SRRAG

is true and complet and belief. I further certify the constructed accor □, a general permi	I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines □, a general permit □, or an (attached) alternative OCD-approved plan □.		SERVATION DIVISION BRYAN G. ARRANT DISTRICT II GEOLOGIST
Printed Name:		Title:	
Title:		Approved Datel	
Email Address:		, म । ।	T T T
Date:	Phone:		•

Operator to set surface casing above the Salade. Please refer to offset geology for more information.

DISTRICT I 1625 N. French Dr., Hobbs, NM 88240 DISTRICT II 1501 W. Grand Avenue, Artesia, NM 88210

1000 Rio Brazos Rd., Aztec, NM 87410

1220 S. St. Francis Dr., Santa Pc. NM 87505

DISTRICT III

DISTRICT IV

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

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

☐ AMENDED REPORT

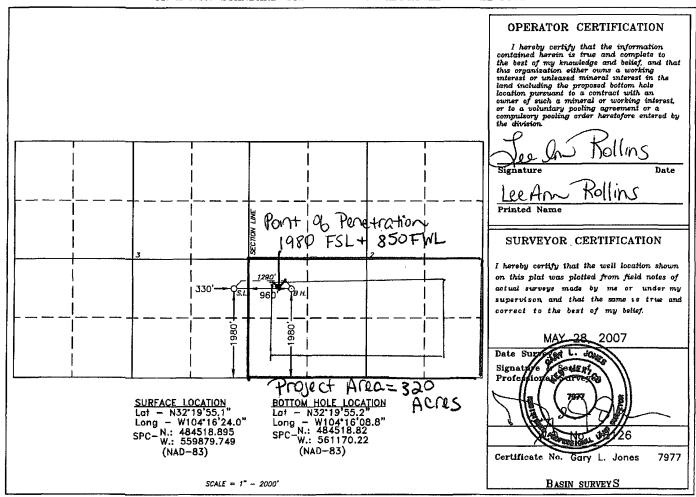
WELL LOCATION AND ACREAGE DEDICATION PLAT

API	Number		٦	Pool Code) (Carlsba	d. Mor	row Sout	L	
Property Code			Property Name) HUMBLE GRACE COM						Well Number	
OGRID N	о.		Operator Name BOLD ENERGY, LP						Elevation 3281'	
					Surface Lo	cation				
UL or lot No.	Section	Township	Range	Lot ldn	Feet from the	North/South line	Feet from the	East/West line	County	
l	3	23 S	26 E		1980	SOUTH	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
L	2	23 S	26 E		1980	SOUTH	960	WEST	EDDY
Dedicated Acre	Joint o	r Infill Co	nsolidation (Code Or	ier No.				

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



Permit Comments

Operator: BOLD ENERGY, L.P., 233545 Well: HUMBLE GRACE COM #2 #002

API:

Created By	Comment	Comment Date
PKERR	Mud Program, Interval TYPE MW VID FL 0-450,FW-Spud,8.4-8.8, 29-40,NC 450-1900,FW, 8.4-10.2, 29-32, NC 1900-8900,FW-Cut Brine, 8.4-9.0,29,NC 8900-10100,Cut Brine/Starch-Polymer, 10.0-10.5, 34-40, 6-8	6/14/2007
PKERR	Edit to Mud Program Interval, TYPE, MW VIS FL 8900-10,300 Cut Brine 8.4-9.0 29 NC 10,300-12072 TD Cut Brine/Starch-Polymer 10.0-10.5 34.40 6-8	6/21/2007
PKERR	We are not expecting H2S however due to the proximity to the airport and the general public we will be submitting a plan prepared by Safety Internationl. It will be forwarded by e-mail on Friday, July 22, 2007.	6/21/2007
PKERR	Lee Ann Rollins/Gray Surface Specialties is an Agent for Bold Energy. If there are any questions on this permit you may contact me at 432-685-9158, leeann@graysurfacespecialties.com	6/21/2007
PKEKK	Dedicated Acreage for Bottom Hole is 320 Acres in the S/2 of Section 2, T23S, R26E, Eddy Co., NM. Surface Location is off lease on state lands, Section 3, T23S, R26E, Eddy Co., of which a well placement permit for right-of-way is being obtained.	6/21/2007

Geological Data

Geologist: John Worrall 505 / 622-5893 office 432 / 230-9431 cell 505 / 622-2768 home

Projected Formation Tops: (TVD w/ GL = 3281')

Formation	TVD	Formation	TVD
Delaware	1777'	Strawn	10,417'
Cherry Canyon	2610	Atoka	10,924'
Brushy Canyon	3644	Morrow	11,380'
Bone Springs LS	5400	Barnett	11,870
3 rd BS Lime	8320	TD	11,950'
Wolfcamp	8706'		

Logging - Coring - Testing Program

Mud Logs: 1950' to TD Mud Logger: WOODCO Logging / Paul Amancio 505 / 361-2300

Phone: Jim Wood 505 / 887-2469 office 505 / 361-3059 cell

Internet Access: www.woodcologging.com User: ID woodco103 Password:

DST / Coring Intervals: None Anticipated

E-Log Suite: Triple Combo w/ GR NGT from TD to 7" shoe - pull GR-N surface. RFT's and/or SWC's

may be taken in zones of interest. Note: not planning to log at intermediate casing points.

Logging Company: Halliburton Contact: Richard Kelley

Location: Hobbs, New Mexico Phone: ___505 / 914-0324 cell 505 / 392-0776 office

Completion

4½" production casing set from 0' - TD. A single completion in the Morrow is expected - selectively perfed and fraced down casing. Completion procedure to follow evaluation of drilling results and open hole logs.

Notifications / Area Contacts

Sierra Engineering	Drilling Superintendent	Russ Ginanni	432 / 425-7450 cell 432 / 683-8000 off
Bold Energy, LP	Operations Engineering Manager	Shannon Klier	432 / 296-8602 cell 432 / 686-1100 off
Bold Energy, LP	Production Supt.	Donny Money	432 / 661-8803 cell 432 / 686-1100 off
Sierra Engineering	HSE Manager	Montie Low	432 / 559-8950 cell 432 / 683-8000 off
NMOCD	District 2 - Artesia	Notifications - Office After Hours	505 / 748-1283 505 / 748-1283 ext 104

Directions

From the intersection of US Highways 62/180 and CR 765 (1) go west on CR 765 for 1.0 mile to lease road; (2) turn south (left) onto lease road for 0.7 mile as it winds to the west; (3) continue on lease road for 1.9 miles as it winds northeast until intersecting new newly constructed road; (4) turn right and follow into location.



NEW MEXICO STATE LAND OFFICE

APPLICATION FOR RIGHT-OF-WAY EASEMENT

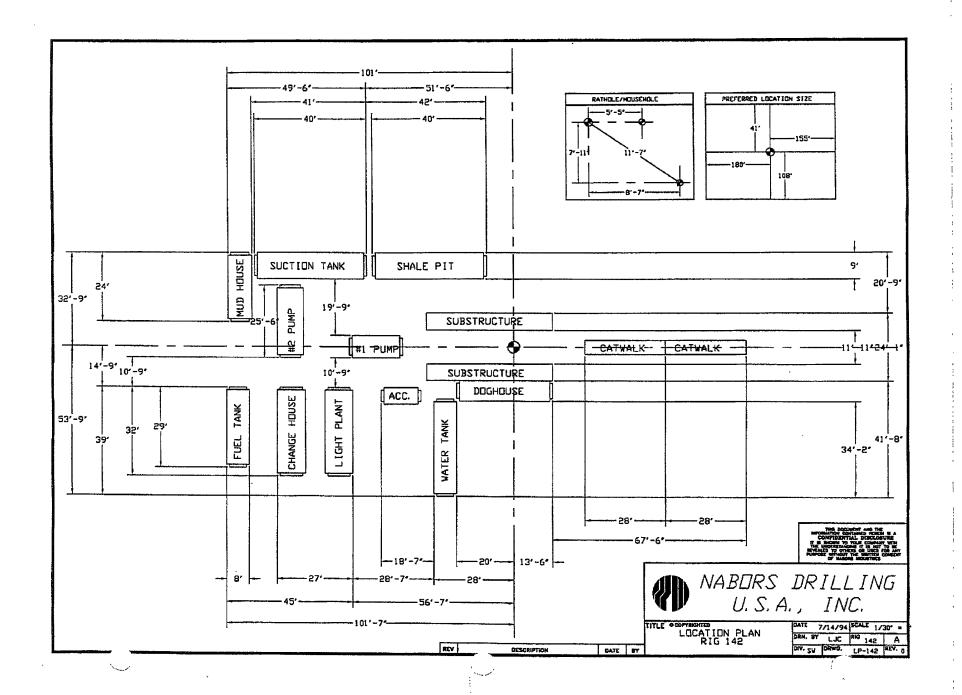
(Highways, Roads, Telephone and Telegraph, Pipelines, Saltwater Disposal, etc.)

Commissioner of Public Lands State Land Office P.O. Box 1148 Santa Fe, New Mexico 87504-1148 Dear Commissioner: Bold Energy, LP (Name of Applicant) W. Wall Street, Suite 500 Midland, TX 79701 (Address) hereby applies for a right-of-way easement for construction and location of a <u>placement of a well pad location</u>, being approximately 300 x 300 in size and associated pits to be off lease in Section 3, T23S, R26E, Eddy Co. to obtain state minerals associated with the Humble Grace Com #2 (Type of line or facility, for pipeline give o.d.) If a pipeline is applied for, please check the following: ? Buried Surface It is requested that the right-of-way be feet wide as indicated on the attached two copies of survey maps or plats, shown in red, (except for saltwater disposal well easement applications,) the survey centerline and the length of the right-of-way measured in rods. Also, enclosed is the legal description of the proposed right-of-way allocated by 40-acre tracts and a computation of the number of acres included in the proposed right-of-way. If the right-of-way is desired for a period other than thirty-five years, state the duration for which the grant is sought. One of the following is enclosed to cover payment for damages that might occur to the state land improvements of a surface lessee: A bond in the amount of \$500.00 for a single right-of-way. \mathbf{Q} A blanket bond in a minimum amount of \$2,500.00 is already on file with the State Land Office. Applicant desires to have bond waived by consent of the Commissioner of Public Lands. A waiver of property damage bond by the current surface lessee is enclosed. 5,175.00 for 300 x 300 well Places Profit Enclosed is a check in the amount of \$ per (acre) (rod), plus \$100.00 application fee and \$75.00 appraisement fee. (If applicable) 07/15/07 The approximate dates for construction of facilities on the right of way are from 01/15/08 Applicant covenants and agree to abide by all laws and regulations of the Land Office and to hold harmless, indemnify, and defend the Commissioner, his agents and lessees, in their official and individual capacities of and from any and all liability, claims, losses, or damages arising out of or alleged to arise out of or indirectly conflected with operations under any grant made by the Commissioner. Applicant Lee Ann Rollins By: Title: Agent for Bold Energy, LP (Page 1 of 1) Revised: 1/26/2004

		ACKNOWLEDGMENT FOR C	ORPORATION	
STATE OF	TEXAS)) ss.		
COUNTY OF	MIDLAND)		
The fore	egoing instrument was a	cknowledged before me this Collins,	8 day of	JUNE Fnerov I P
	(Name of Of	ficer)	(Title of Off	icer)
		ledging)	(State of Incorpora	ation)
corporation, on b	ehalf of said corporatio	n.	122	0 1
My Commission	Expires:		43	1/10
	STEVEN L. GILLETTI Notary Public, State of My Commission Exp January 09, 2011	Texas ires	NOTA	RY PUBILIC
	ACK	NOWLEDGEMENT FOR NAT	TURAL PERSONS	
STATE OF)		
COUNTY OF) ss.)		
The fore	egoing instrument was a	cknowledged before me this	day of	
		,		
My Commission	Expires:			
-			NOTAL	RY PUBLIC

(Page 2 of 2)

Revised: 1/26/2004



BOLD ENERGY, LP

Carlsbad Area Wells - Cementing Program

13 3/8" Surface casing

Cement surface casing with 450 sx Class "C" w/ 2% CaCl₂ and ¼ PPS cello flake (14.8 ppg, 1.34 yield) and displace wiper plug with freshwater. Pump sufficient cement to circulate to surface - add additional LCM if needed and adjust excess based on cementer's experience in area.

9 5/8" Intermediate Casing

Circulate hole clean prior to cementing (at least one complete circulation). RU BJ Services, test lines and cement 95/8" casing w/ 615 sx 50:50 POZ - Class "C" with 5% salt, 10% gel, ¼ PPS cello-flake and 3 PPS LCM - 1 (11.8 ppg, 2.44 yield) followed by 200 sx Class "C" with 2% calcium chloride (14.8 ppg, 1.34 yield).

7" Intermediate Casing

RU cementer, test lines and cement 7" casing w/ 1110 sx 50:50 Poz : Class H with 10% Gel & 0.5% FL-52A (11.9 ppg, 2.23 yield) followed by 250 sx 15:61:11 Poz : Class H : CSE-2 (13.2 ppg, 1.60 yield). Desired TOC is 200' - 500' above the 95/8" csg shoe.

4½" Casing

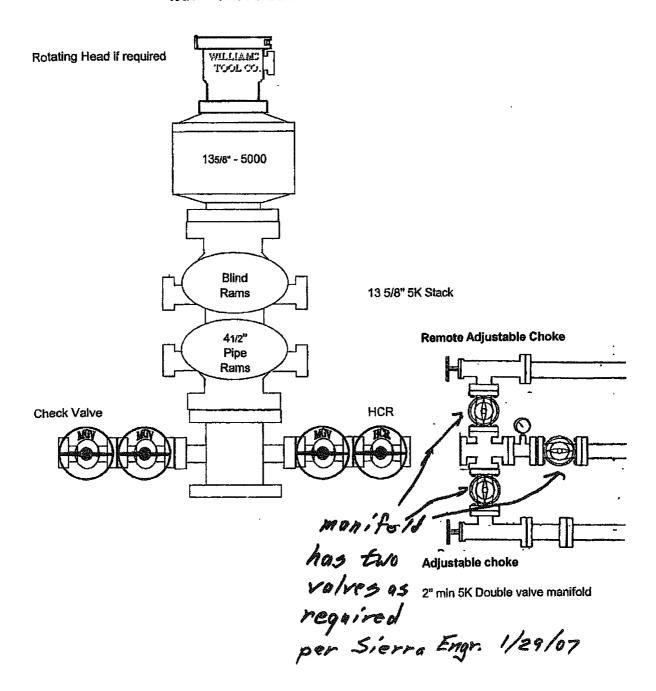
RU cementer, test lines and <u>batch mix weighted spacer and cement slurry</u>. Pump a <u>minimum</u> of 30 barrels of a weighted spacer (at least 0.5 ppg above system mud weight) followed by 265 sx 15:61:11 Poz : Class H : CSE-2 with 2% bwow Salt, 5 PPS LCM-1, 0.6% bwoc FL-25 & 0.6% bwoc FL-52A (13.2 ppg and 1.60 yield).

BOPE Schematic

Humble Grace Com #2

Surface: Section 3, T23S, R26E Bottom: Section 2, T23S, R26E BHL: 660' FWL & 1980' FSL SL: 330 ' FEL & 1980' FSL Eddy Co., NM

135/8" - 5000 PSI Stack

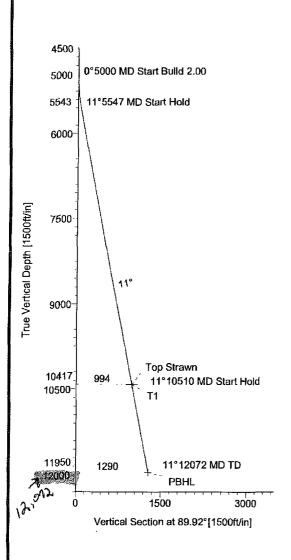


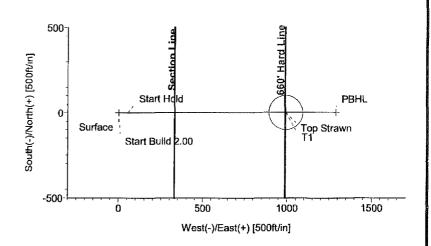
BOLD ENERGY, LP Field: Eddy County, NM Site: Humble Grace Com Well: #2 Wellpath: OH Plan: Plan #2



Azimuths to Gnd North True North: -0.03° Magnetic North: 8.35°

> Magnetic Field Strength: 49051nT Dip Angle: 60.27° Date: 5/30/2007 Model: igrf200510





FORMATION TOP DETAILS

No. TVDPath MDPath Formation

1 10417.00 10510.43 Top Strawn

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Eas	ting	Latitude	L	ongitude	Shape
Surface T1 PBHL	0.00 10417.00 11950.00	0.00 1.45 1.89	0.00 993.54 1289.70	484493.74 484495.20 484495.63	51952	7.61 3299)'55,110N '55,119N '55,1 21N	104"16'1	2.400W	Point Circle (Radius: 100) Point
				s	ECTION D	ETAILS				
	Sec ME) Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
	1 0.00 2 5000.00 3 5546.71 4 10510.43 5 12071.77	0.00 1 10.93 3 10.93	89.92 89.92 89.92 89.92 89.92	0.00 5000.00 5543.40 10417.00 11950.00	0.00 0.00 0.08 1.45 1.89	0.00 0.00 52.01 993.54 1289.70	0.00 0.00 2.00 0.00 0.00	0.00 0.00 89.92 0.00 0.00	0.00 0.00 52.01 993.54 1289.70	T1



LEAM DRILLING SYSTEMS, INC. 101 Industrial Court Conroe, Texas 77301 Phone: 936-756-7577 Fax: 936-756-7595 BOLD ENERGY, LP Field: Carlsbad; Morrow, South (Pro Gas) Operator: Humble Grace Com #2 API: 30 - 015 - Pending Well: APD: NMOCD Approval: Pending AFE: Pending General Information Directionally drilled: KOP = 5000', Build Rate = 2° / 100' to Max Angle = 10.93° Location: Hold angle at azimuth of 89.92° to TD of 12,072' MDTD = 11,950' TVD. 1980' FSL & 330' FEL UL "I" Sec 3 - T23S - R26E Eddy County, NM Surface: 1980' FSL & 960' FWL UL "L" Sec 2 - T23S - R26E Eddy County, NM BHL: Elevation: 3281' GL TD: 12,072' MD 11,950' TVD **RKB:** 18.0' Objective: Morrow 11,380' - TD 432 / 550-7808 Contractor Office: **Superintendent:** Don Nelson (664-9990) Cell: Toolpushers: Roy Brumfield / Martin Alvarado 432 / 664-9942

Sierra Supervisors: Tony Vickery / Greg Fore Drilling Program (4) 1884 and 1894 and 1895 and

Cell: 432 / 557-1223 Trailer

The state of the state of

Weight Grade Connect Cement TOC **Hole Size** Depth Casing 171/2" 450' 133/8" 48 H-40 STC 475 sx Surface 1900' J-55 STC Surface 12¼" 95/8" 36 850 sx 8900' MD 8835' TVD 7" P-110 LTC 1100 sx 1700' 8¾" 26 LTC 8500' 61/8" 12,072' MD 11,950' TVD 13.5 P-110 260 sx 4½"

Wellhead / BOPE

Wellhead	135/8" - 3K SOW	13 5/8" - 3K x 11" - 5K	11" - 5K x 71/16" - 10K
BOPE	135/8" - 5K Stack	135/8" - 5K Stack	71/16" – 10K
	SRRAG	SRRAG	SRRRAG

The hour from the

Mud Program

Interval	Туре	MW	VIS	FL
0' - 450'	FW – Spud	8.4 – 8.8	29 -40	NC
450' - 1900'	FW	8.4 – 10.2	29 - 32	NC
1900' - 8900'	FW – Cut Brine	8.4 ~ 9.0	29	NC
8900' - 10,100'	Cut Brine	9.0 – 9.5	29	NC
10,100' - 12,072' TD	Cut Brine / Starch - Polymer	10.0 – 10.5	34 - 40	6 - 8

 Company:
 NOVA MUD, INC.
 432 / 570-6663
 Office:
 Dale Welch / Tech Advisor
 432 / 557-1228

Engineer: Rick Rippy 505 / 631-9597 . **Warehouse:** 800 / 530-8786

JUN 25 2007 OCD-ARTESIA

CONTINUENCY PLAN

FOR

DRILLING OPERATIONS

BOLD ENERGY, LP.

HUMBLE GRACE COM #2

SECTION 3, TOWNSHIP 23 SOUTH, RANGE 26 EAST

EDDY COUNTY, NEW MEXICO

JUNE 20, 2007



Safety International

a DXP Company

Safety Compliance Rental · Safety Education Specialists

Safety Consultants

HEADQUARTERS TRAINING CENTER • 2348 E. I-20 SOUTH SERVICE RD • ODESSA, TEXAS 79766

MAILING ADDRESS • P.O. BOX 12060-2060 (432) 580-3770 • FAX (432) 332-9223



Safety International a DXP Company

"Your Total Safety Company"

2148 East I-20, So. Serv. Rd. Odessa, Texas 79766 432-580-3770

1-800-749-7233

P.O. Box 12060 Odessa, Texas 79768 Fax: 432-332-9223

June 20, 2007

Transmittal Letter

RE: CONTINGENCY PLAN FOR BOLD ENERGY, LP. HUMBLE GRACE COM #2 EDDY COUNTY, NEW MEXICO

Gentleman:

Attached please find the emergency procedures, personnel and equipment plan. In the event of an emergency, the identified individuals should be notified immediately.

Sincerely,

Reggie Phillips Vice President

CONTINGENCY PLAN

INDEX

- 1. LOCATION INFORMATION
- 2. EMERGENCY NOTIFICATION
- 3. EMERGENCY PROCEDURES AND RESPONSIBILITIES
- 4. IGNITING THE WELL
- 5. LOCATION LAYOUT AND EQUIPMENT
- 6. TRAINING PROCEDURES AND MATERIALS
- 7. CHECK LIST
- 8. WELL CONTROL WORKSHEET

SAFETY

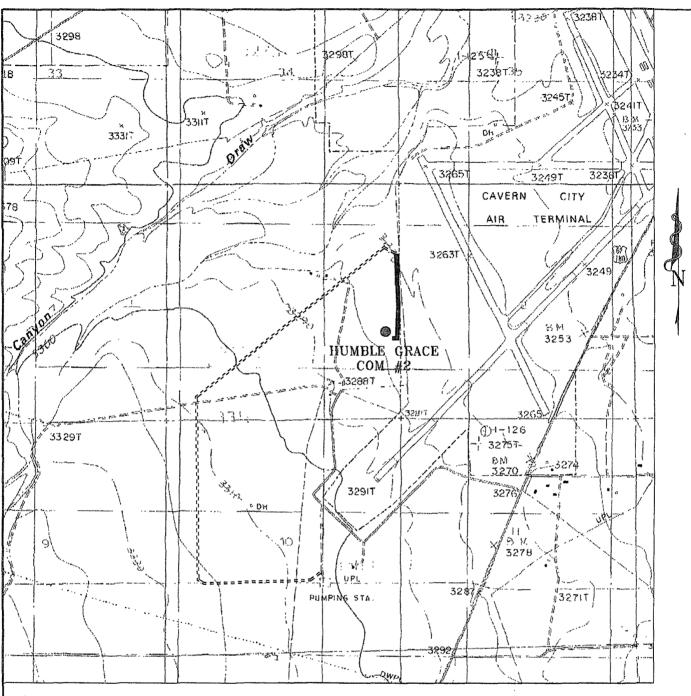
It is the BOLD ENERGY, LP. policy in all operations to do everything possible to insure the safety of its employees and the contractor's employees on the job site; additionally, to provide for the safety and comfort of persons near the operation by protecting the environment to the fullest degree possible.

The primary purpose of the procedures outlined herein is to guide the personnel on location in the event that Hydrogen Sulfide (H₂S) reaches the surface

TO PROTECT THEIR OWN SAFETY AND THE SAFETY OF OTHERS, ALL PERSONNEL ON THE JOB SITE WILL RIGIDLY ADHERE TO THIS PLAN

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF US HIGHWAYS 62/180 AND CR 765 GO WEST ON CR 765 FOR 1.0 MILE TO LEASE ROAD; TURN SOUTH (LEFT) ONTO LEASE ROAD FOR 0.7 MILE AS IT WINDS TO THE WEST; CONTINUE ON LEASE ROAD FOR 1.9 MILES AS IT WINDS NORTHWEAST UNTIL INERSECTING NEWLY CONSTRUCTED ROAD; TURN RIGHT AND FOLLOW INTO LOCATION.



HUMBLE GRACE COM #2 Located at 1980' FSL AND 330' FEL Section 3, Township 23 South, Range 26 East, N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (505) 393—7316 — Office (505) 392—3074 — Fax basinsurveys.com

W.O. Number: 18126T

Survey Date: 05-28-2007

Scale: 1" = 2000'

Date: 05-30-2007

BOLD ENERGY L.P.

DISTRICT I
1625 N. French Dr., Hobbs, NM 68240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 68210

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies Fee Lease - 3 Copies

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

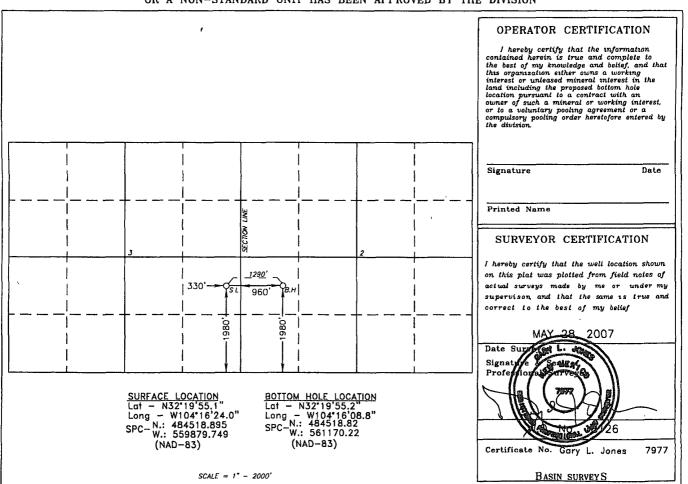
DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

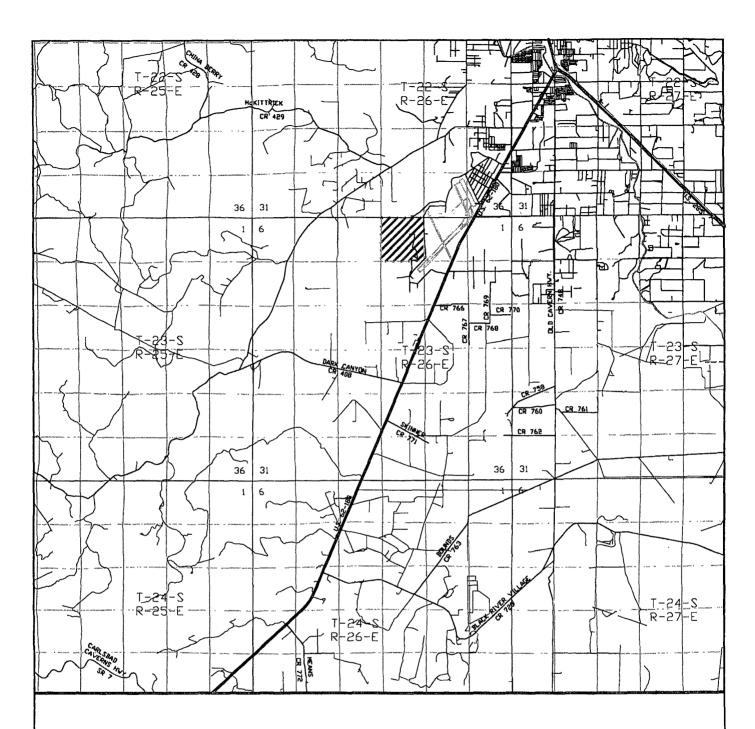
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number			1	Pool Code		Pool Name			
Property Code			Property Name HUMBLE GRACE COM				Well Number		
OGRID No.				Operator Name BOLD ENERGY, LP			Elevation 3281'		
					Surface Loca	tion			
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	3	23 S	26 E		1980	SOUTH	330	EAST	EDDY
			Bottom	Hole Loc	cation If Diffe	rent From Sur	face		
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	2	23 S	26 E		1980	SOUTH	960	WEST	EDDY
Dedicated Acre	s Joint o	r Infill Con	nsolidation (Code Or	der No.				

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





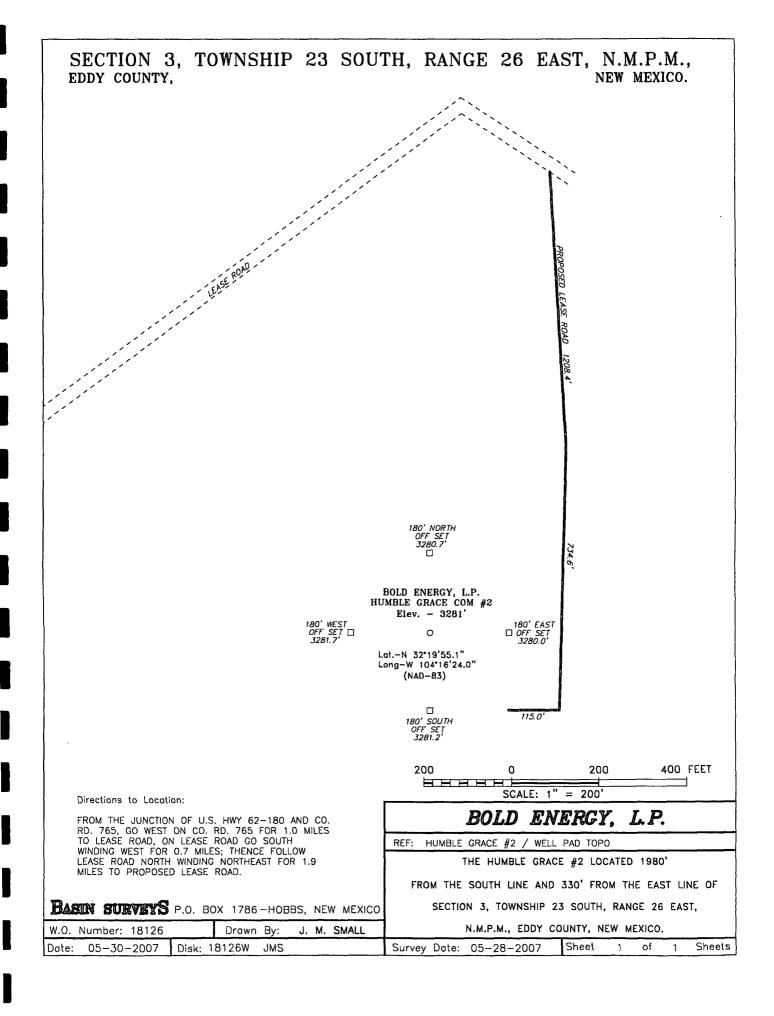
HUMBLE GRACE COM #2 Located at 1980' FWL AND 330' FEL Section 3, Township 23 South, Range 26 East, N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (505) 393—7316 — Office (505) 392—3074 — Fax basinsurveys.com

	W.O. Number: J	MS 18126TR
	Survey Date: (05-28-2007
	Scale: 1" = 2 M	ILES
I	Date: 05-30-20	007

BOLD ENERGY, L.P.



EMERGENCY NOTIFICATION

EVACUATION PLAN

The following general plan has been developed in the event that any public evacuation becomes necessary.

- 1. BOLD ENERGY, LP. has requested and has been assured the support of the various public safety entities in the area.
- 2. Any evacuation will be conducted by the EDDY County Sheriff's Department and supported by the New Mexico Department of Public Safety, Highway Patrol Division.
- 3. Assistance from other public safety entities may be requested if required.
- 4. The included maps detail the area of the well site including the inventory of the public within the radius of exposure of the well.
- 5. In the event that there is any suspected problem on the well, the well site supervisor will notify the EDDY County Sheriff's Office at 911 or (505-887-7551) for ALERT STATUS.
- 6. ALERT STATUS will require that available public support personnel will proceed to the EDDY County Sheriff's Office in CARLSBAD, NEW MEXICO and standby for instructions.
- 7. If isolation and evacuation are necessary, then units will be dispatched to points marked on the map with instructions to maintain roadblocks.
- 8. Evacuation teams will then proceed to sectors to be evacuated. Evacuation procedure will follow appropriate consideration for wind conditions.
- 9. Personnel from Safety International, Inc. will establish safe perimeters using H₂S Detectors.
- 10. The NMOCD and other authorities will be notified as soon as possible.
- 11. Other supplemental contractors will be contacted and called in as needed.

EMERGENCY CALL LIST BOLD ENERGY, LP. 214 WEST TEXAS AVE, STE. 400 P.O. BOX 2071 MIDLAND, TX 79701

NAME	TITLE	PHONE NUMBERS
RUSS GINANNI	SUPERINTENDENT	CELL: 432-425-7450 HOME: 432-218-6473
MIKE LANGFORD	SUPERINTENDENT	CELL: 432-557-4698 HOME: 432-367-5599
DAN DODD	DRILLING ENGINEER	CELL: 432-889-2202 HOME: 432-689-7610
PAT DRENNON	DRILLING ENGINEER	CELL: 432-559-2975 HOME: 432-686-0136
TONY VICKERY	SITE SUPERVISOR	CELL: 432-557-1223
GREG FORE	SITE SUPERVISOR	CELL: 432-557-1223
DONNY MONEY	PRODUCTION SUPERINTENDENT	OFFICE: 432-686-1100 CELL: 432-661-8803
SHANNON KLIER	MANAGER OPERATIONS ENGINEER	CELL: 432-296-8602 OFFICE: 432-686-1100

EMERGENCY CALL LIST NABORS DRILLING 2500 OREGON ODESSA, TX 79764 432-550-7808

NAME	TITLE	PHONE NUMBERS
SUPERINTENDENT	NABORS DRILLING	CELL: 432-664-9990
ROY BRUMFIELD	TOOLPUSHER	CELL: 432-664-9942
MARTIN ALVARADO	TOOLPUSHER	CELL: 432-664-9942
NABORS RIG 142		SAT: 281-605-2569

PUBLIC SAFETY

AGENCY	<u>LOCATION</u>	TELEPHONE #
Sheriff's Department	CARLSBAD, NM	911 OR 505/887-7551
Police	CARLSBAD,NM	911 OR 505/885-2774
State Police	CARLSBAD, NM	911 OR 505/885-3137
Fire Department	CARLSBAD, NM	911 OR 505/885-2111
NMOCD DISTRICT 2	1301 W. GRAND AVENUE ARTESIA, NNM 88210	505/748-9720

MEDICAL SUPPORT

AGENCY LOCATION TELEPHONE #

Hospitals CARLSBAD MEDICAL CENTER 505-887-6633

CARLSBAD, NM

Ambulance CARLSBAD,NM 911 OR 505-885-2111

Helicopter Ambulance 432/640-2642 Care Star ODESSA, TX OR 888/624-3571

SUPPLEMENTAL EQUIPMENT

<u>MUD</u>

NOVA MUD, INC.

432-570-6663

SAFETY COMPANY

SAFETY, INTERNATIONAL, INC.

OFFICE: 432/580-3770

RESIDENTS WITHIN 3000 FEET RADIUS OF EXPOSURE FOR (WILDCAT) WELL

EMERGENCY PROCEDURES

RESPONSIBILITY

In the event of a release of potentially hazardous amounts of H₂S, all personnel will immediately proceed upwind to the nearest designated safe area and don their protective breathing equipment. The BOLD ENERGY, LP. representative will immediately, upon assessing the situation, set this plan into action by taking the proper procedures to contain the gas and notify the appropriate people and agencies.

If the BOLD ENERGY, LP. representative is incapacitated or not on Location, this responsibility will fall to the NABORS DRILLING Toolpusher.

BOLD ENERGY, LP.

- 1. In an emergency situation, the Drilling Foreman on duty will have complete responsibility and will take whatever action is deemed necessary in an emergency situation to insure the personnel's safety, to protect the well and to prevent property damage.
- 2. Advise the Superintendent when procedures as specified herein have been met, will inform of emergencies and deviation from the plan, and see that procedures are observed at all times.
- 3. Advise each contractor, service company, and all others entering the site that Hydrogen Sulfide may be encountered and the potential hazards that may exist.
- 4. Authorize the evacuation of local residents if Hydrogen Sulfide threatens their safety.
- 5. Keep the number of persons on location to a minimum during hazardous operations.
- 6. Assess the situation when alarm sounds, and issue work orders. When conditions warrant, order all personnel to "Safe Briefing Areas".
- 7. Direct corrective actions to control flow of gas.
- 8. Has full responsibility for the decision to ignite the well. The decision will be made only as a last resort.

NABORS DRILLING

- 1. The Toolpusher will assume all responsibilities of the Drilling Foreman in an emergency situation in the event that the Drilling Foreman becomes incapacitated.
- 2. The Toolpusher will order the Driller to secure the rig, if time permits.

EMERGENCY PROCEDURES

DRILLING CREW ACTIONS

- 1. All personnel will don their protective breathing apparatus. The drilling crew will take necessary precaution as indicated in OPERATING PROCEDURES.
- 2. The "Buddy System" will be implemented. All personnel will act upon directions from the Operator's Representative.
- 3. If there are nonessential personnel on location, they will move off location.
- 4. Entrance to the location will be patrolled, and the proper well condition flag will be displayed at the entrance to the location.

IN THE EVENT OF AN ACCIDENTAL RELEASE OF POTENTIALLY HAZARDOUS VOLUME OF H₂S, THE FOLLOWING PROCEDURES WILL BE TAKEN:

- 1. All personnel on location will be accounted for and emergency search should begin for any missing.
- 2. All search missions will be conducted under fresh air masks in teams of two. Should the search team need to approach the well, safety harness and rope should be used.
- 3. All individual companies and agencies should be contacted according to the EMERGENCY CALL LIST.
- 4. An assigned crewmember will blockade the entrance to the location. No unauthorized personnel will be allowed entry into the location.
- 5. The Operator's Representative will remain on location and attempt to regain control of the well.
- 6. The Company's designated representatives will begin evacuation of those persons in immediate danger.

TEMPORARY SERVICE PERSONNEL

All service personnel, such as cementing crews, logging crews, specialists, mechanics and welders will furnish their own safety equipment as required to comply with OSHA and BOLD ENERGY, LP.

VISITORS

Visitors and nonessential personnel will be prohibited from remaining in, or entering a contaminated area where Hydrogen Sulfide concentration in the atmosphere exceeds 15ppm.

EMERGENCY PROCEDURES

NOTE:

WHEN HYDROGEN SULFIDE MIGHT BE ENCOUNTERED, NO PERSONNEL ON LOCATION WILL BE PERMITTED TO SLEEP IN VEHICLES.

INSTRUCTIONS FOR IGNITING THE WELL

THE DECISION TO IGNITE THE WELL IS THE RESPONSIBILITY OF THE BOLD ENERGY, LP. REPRESENTATIVE. In the event he is incapacitated or unavailable, it becomes the responsibility of the NABORS DRILLING RIG SUPERINTENDENT.

The decision to ignite the well should be made only as a last resort and in the situation where it is clear that:

- 1. Human life is in danger
- 2. There is no hope of controlling the well under current conditions.

The BOLD ENERGY, LP. Corporate Office should be notified as soon as possible. The first phase of evacuation should be initiated immediately.

Once the decision has been made the following procedures should be followed:

- 1. Four (4) people, wearing self-contained breathing apparatus will be needed for the actual lighting of the well. They must first establish the flammable perimeter by using an explosimeter. This should be established at 30% to 40% of the lower flammable limits.
- 2. After the flammable perimeter has been established and everyone removed from the area, the ignition team should select a site upwind of the well, from which to ignite. This site should offer the maximum protection and have a clear path for retreat from the area.
- 3. The ignition team should have safety belts and lanyards attached and manned before attempting ignition. If the leak is not ignited on the first attempt, move in 20 to 30 feet and fire again. Continue to monitor with the explosimeter and never fire from an area with over 75% of the Lower explosive Limit (LL). If having trouble igniting the well, try firing 40 degrees to 90 degrees on either side of the well.
- 4. After ignition or attempted ignition, the toxic perimeter must be established and evacuation continued until the well is contained.
- 5. All personnel will act only as directed by the person in charge of the operations.

REMEMBER:

After the well is ignited, burning Hydrogen Sulfide (H₂S) will convert to Sulfur Dioxide (SO₂), which is also a highly toxic gas.

DO NOT ASSUME THE AREA IS SAFE AFTER THE WELL IS IGNITED

EMERGENCY CONDITIONS

Operating Conditions

- A. Emergency Procedures and Definition of Warning Flags
 - 1. Condition: YELLOW -- NORMAL OPERATION
 - 2. Condition: ORANGE -- POTENTIAL DANGER, CAUTION
 - a. Cause for condition:
 - * Circulating up drilling breaks
 - * Trip gas after trip
 - * Circulating out gas on choke
 - * Poisonous gas present, but below threshold concentrations
 - b. Safety actions:
 - * Check safety equipment and keep it with you
 - * Be alert for a change in conditions
 - * Follow instructions
 - 3. **Condition**: RED -- EXTREME DANGER
 - a. Cause for condition:
 - * Uncontrolled flow from the well with lethal concentrations of H₂S
 - b. Safety actions:
 - * Masks On. All personnel will have protective breathing equipment with them. All personnel will stay in safe briefing area unless instructed to do otherwise.
 - * The decision to ignite the well is the responsibility of the company representative and should be made only as a last resort, when it is clear that:
 - I. Human life is endangered
 - ii There is no hope of controlling the well under prevailing conditions
 - * Order evacuation of local people within the danger zone.

THE USE OF SELF CONTAINED BREATHING EQUIPMENT

- 1. Respirators shall be inspected frequently at random, to insure that they are properly used, cleaned and maintained
- 2. Anyone who may use the respirators shall be trained in how to insure proper face piece to face seal. They shall wear respirators in normal air and then wear it in a test atmosphere. (Note: such items, as facial hair beard or sideburns and eyeglass temple pieces will not allow a proper seal). Anyone who may be reasonably 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.
- 3. Maintenance and care of respirators:
 - A. A program for maintenance and care of respirators shall include the following:
 - * Inspection for defects, including leak checks
 - * Cleaning and disinfecting
 - * Repair
 - * Storage
 - B. Inspection: Self contained breathing apparatus for emergency use shall be inspected monthly for the following and a permanent record kept of these

monthly for the following and a permanent record kept of these

inspections.

- * Fully charged cylinders
- * Regulator and warning devise operation
- * Condition of face piece and connections
- * Elastic or rubber parts shall be stretched or massaged to keep them pliable and prevent deterioration.
- C. Routinely used respirators shall be collected, cleaned and disinfected as frequently as necessary to insure proper protection is provided.
- 4. A person assigned a task that requires use of self contained breathing equipment, should be certified, physically fit for breathing equipment usage by the local physician at least annually.
- 5. Respirators should be worn:
 - A. When breaking out any line where H_2S can reasonably be expected.
 - B. When sampling air in areas to determine if toxic concentrations of H_2S exist.
 - C. When working in areas where over 15 ppm H_2S has been detected.
 - D. At any time there is a doubt as to the H_2S concentration in the zone to be entered.

PHYSICAL EFFECTS OF HYDROGEN SULFIDE POISONING

THE PRINCIPAL HAZARD IS DEATH BY INHALATION

When the amount of gas absorbed into the bloodstream exceeds that which is readily oxidized, systemic poisoning results, with a general action on the nervous system. Labored respiration occurs shortly and respiratory paralysis may follow immediately at concentrations of 700 ppm and above. This condition may be reached almost without warning as the originally detected odor of H_2S may have disappeared due to olfactory paralysis. Death then occurs from asphyxiation unless the exposed person is removed immediately to fresh air and breathing is stimulated by artificial respiration. Other levels of exposure may cause the following symptoms individually or in combination:

- 1. Headache
- 2. Dizziness
- 3. Excitement
- 4. Nausea or gastro-intestinal disturbances
- 5. Dryness and sensation of pain in nose, throat, and chest
- 6. Coughing
- 7. Drowsiness

All personnel should be alerted to the fact that detection of H_2S solely by sense of smell is highly dangerous, as the sense of smell is rapidly paralyzed by the gas. 10 ppm of H_2S detected should be treated as if it were 700 ppm.

TREATMENT OF HYDROGEN SULFIDE POISONING

INHALATION

As Hydrogen Sulfide in the blood oxidizes rapidly, symptoms of acute poisoning pass off when inhalation of the gas ceases. It is important, therefore, to get the victim of poisoning to fresh air as quickly as possible. He should be kept at rest and chilling should be prevented. If respiration is slow, labored or impaired, artificial respiration may be necessary.

Most persons overcome by Hydrogen Sulfide may be revived if artificial respiration is applied before heart action ceases. Victims of poisoning should be under the care of a physician as soon as possible. Irritation due to subacute poisoning may lead to serious complications such as pneumonia. Under those conditions, treatment by the physician necessarily would be symptomatic. The patient should be kept in fresh air.

CONTACT WITH EYES

Eye contact with liquid and/or gas containing Hydrogen Sulfide will cause painful irritation (conjunctivitis). Keep patient in a darkened room, apply ice compresses to eyes, put ice on forehead, and send for a physician. The irritation caused by exposure to Hydrogen Sulfide requires treatment by a physician, preferably an eye specialist. The prognosis for recovery in these cases is usually good.

CONTACT WITH SKIN

Skin absorption is very low. Skin discoloration is possible after contact with liquids containing Hydrogen Sulfide. If such skin contact is suspected, the area should be thoroughly washed.

CHARACTERISTICS OF HYDROGEN SULFIDE

- 1. Extremely toxic (Poisonous)
- 2. Heavier than air and colorless
- 3. Has the odor of rotten eggs, in small amounts
- 4. Burns with a blue flame and produces Sulphur Dioxide (SO₂) Gas, which is very irritating to eyes and lungs. The SO₂ is as toxic as H₂S, but the severe discomfort at low concentrations acts as a barrier to human exposure to toxic levels of this gas.
- 5. H_2S forms explosive mixture with air between 4.3% and 46% by volume
- 6. H₂S is soluble in water but becomes less soluble as the water temperature increases.
- 7. The toxicity of Hydrogen Sulfide is second only to Hydrogen Cyanide and is between 5 and 6 times more toxic than Carbon Monoxide.
- 8. Produces irritation to eyes, throat and respiratory tract.

EFFECTS OF HYDROGEN SULFIDE ON METAL

Hydrogen Sulfide dissolves in water to form a weak acid that can cause some pitting, particularly in the presence of Oxygen and/or Carbon Dioxide. However, the most significant action of H_2S is its contribution to a form of Hydrogen embrittlement known as Sulfide Stress Cracking. Sulfide Stress Cracking is a result of metals being subjected to high stress levels in a corrosive environment where H_2S is present. The metal will often fail in a brittle manner. Sulfide stress cracking of steel is dependent upon and determined by:

- 1. Strength (hardness) of the steel-the higher the strength, the greater the susceptibility to sulfide stress cracking. Steels having yield strengths up to 95,000 psi and hardness up to Rc22 are generally resistant to sulfide stress cracking. These limitations can be extended slightly higher for properly quenched and tempered materials.
- 2. Total member stress (load) higher the stress level (load) the greater the susceptibility to sulfide stress cracking.
- 3. Corrosive environment corrosive reactions, acids, bacterial action, thermal degradation of low Ph fluid environment.

Toxicity

Common Name	Chemical Formula	Specific Gravity(SG) Air=1	Threshold ¹ Limit	Hazard ² Limit	Lethal ³ Concentration
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	<u>H₂S</u>	1.18	10 ppm ⁴ 15 ppm ⁵	250 ppm/hr	<u>600 ppm</u>
Sulfur Dioxide	SO ₂	2.21	2 ppm		1,000 ppm
Chlorine	Cl ₂	2.45	1 ppm	4 ppm/hr	1,000 ppm
Carbon Monoxide	со	0.97	50 ppm	400 ppm/hr	1,000 ppm
Carbon Dioxide	CO ₂	1.52	5,000 ppm	5%	10 %
Methane	CH₄	0.55	90,000 ppm	Compustible Above 5% in Air	

¹Threshold Limit – Concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.

²Hazardous Limit – Concentration that may cause death.

³Lethal Concentration – Concentration that will cause death with short-term exposure.

⁴Threshold Limit = 10 ppm – 1972 ACGIH (American Conference of Governmental Industrial Hygienist).

⁵Threshold Limit = 15 ppm – 1989 ANSI acceptable Ceiling concentration for eight-hour exposure (based on 40-hour work week) is 15 ppm. OSHA Rules and regulations (Federal Register, Volume 54, No. 12, dated January 19,1989)

DRILLSITE LOCATION

- 1. The drilling rig should be situated on location such that the prevailing winds blow across the rig toward the reserve pit or at right angles to a line from the rig to the reserve pit.
- 2. The entrance to the location should be designed so that it can be barricaded if Hydrogen Sulfide emergency conditions arise. An auxiliary exit (or entrance) should be available in case of a catastrophe; a shift in wind direction would not preclude escape from the location. Appropriate warning signs and flags should be placed at all location entrances.
- 3. Once H₂S safety procedures are established on location, no beards or facial hair which will interfere with face seal or mask will be allowed on location.
- 4. A minimum of two BRIEFING AREAS will be established, not less than 250 feet from the wellhead and in such location that at least one area will be up-wind from the well at all times. Upon recognition of an emergency situation, all personnel should assemble at the designated briefing areas for instructions.
- 5. A safety equipment trailer will be stationed at one of the briefing areas.
- 6. Windsocks will be installed and wind streamers (6 to 8 feet above ground level) placed at the location entrance. Windsocks shall be illuminated for nighttime operations. Personnel should develop wind direction consciousness.
- 7. The mud-logging trailer will be located so as to minimize the danger from gas that breaks out of the drilling fluid.
- 8. Shale shaker mud tanks will be located so as to minimize the danger from gas that breaks out of the drilling fluid.
- 9. Electric power plant(s) will be located as far from the well bore as practical so that it may be used under conditions where it otherwise would have to be shut down.
- 10. When approaching depth where Hydrogen Sulfide may be encountered, appropriate warning signs will be posted on all access roads to the location and at the foot of all stairways to the derrick floor.
- 11. Appropriate smoking areas will be designated and smoking will be prohibited elsewhere.

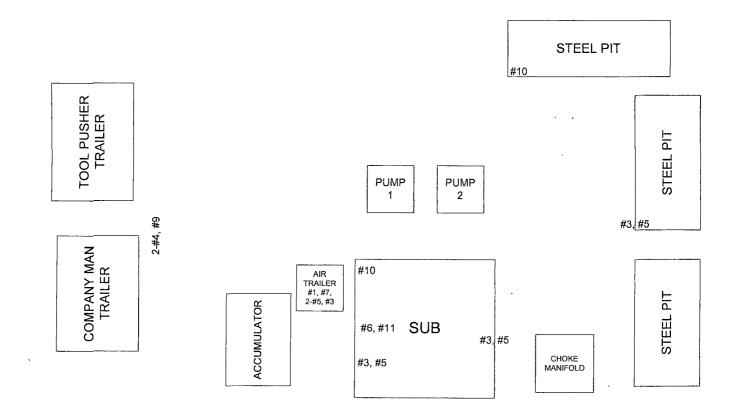
EQUIPMENT TO BE PROVIDED BY SAFETY INTERNATIONAL

SAFETY TRAILER PACKAGE # 2

- 1.) One (1) Safety Trailer Containing a 6-Bottle Breathing Air Cascade System.
- 2.) 750 Feet of Air Line Hose
- 3.) Four (4) Breathing Air Manifolds
- 4.) Four (4) 30-Minute Rescue Units
- 5.) Five (5) Work Units
- 6.) Five (5) Escape Capsules
- 7.) One (1) Filler Hose for the Work/Escape and Rescue Units
- 8.) One (1) Location Sign with Flags
- 9.) Two (2) Briefing Area Signs
- 10.) Two (2) Windsocks
- 11.) One (1) Electronic Monitor with Three (3) Sensor Heads, Warning Light and Siren

RIG LOCATION MAP BOLD ENERGY HUMBLE GRACE COM #2





A Charles

Geological Data

Geologist: <u>John Worrall</u> <u>505 / 622-5893 office</u> <u>432 / 230-9431 cell</u> <u>505 / 622-2768 home</u>

Projected Formation Tops: (TVD w/ GL = 3281')

Formation	TVD	Formation	TVD	Formation	TVD
Delaware	1777'	3 rd BS Lime	6810'	Mid Mrw Sds	11,615' - 20'
Cherry Canyon	2610'	3 rd BS Sand	8310'	Mid Mrw Sds	11,650' - 60'
B. Manzanita	2710'	Wolfcamp	8706'	Mid Mrw Sds	11,675' - 85'
Bone Springs LS	5160'	Strawn	10,417'	L. Mrw Sds	11,730' - 40'
1 st BS Sand	6130'	Atoka	10,924'	L. Mrw Sds	11,840' - 50'
2 nd BS Lime	6380'	Morrow	11,380'	Barnett	11,870'
2 nd BS Sand	6630'	Mid Mrw Sds	11,540' – 90'	TD	11,950'

Logging - Coring - Testing Program

Mud Logs: 1900' to TD Mud Logger: WOODCO Logging / Paul Amancio 505 / 361-2300

Phone: Jim Wood 505 / 887-2469 office 505 / 361-3059 cell

STATE OF STATE

Internet Access: www.woodcologging.com User: ID woodco103 Password:

DST / Coring Intervals: None Anticipated

E-Log Suite: Triple Combo w/ GR NGT from TD to 7" shoe - pull GR-N surface. RFT's and/or SWC's

may be taken in zones of interest. Note: not planning to log at intermediate casing points.

Na Parakanakanakan

Logging Company: Halliburton Contact: Richard Kelley

Location: Hobbs, New Mexico Phone: 505 / 914-0324 cell 505 / 392-0776 office

G TO FARMAN

Completion

4½" production casing set from 0' - TD. A single completion in the Morrow is expected - selectively perfed and fraced down casing. Completion procedure to follow evaluation of drilling results and open hole logs.

Notifications / Area Contacts

Sierra Engineering Drilling Superintendent		Russ Ginanni	432 / 425-7450 cell 432 / 683-8000 off	
Bold Energy, LP	Operations Engineering Manager	Shannon Klier	432 / 296-8602 cell 432 / 686-1100 off	
Bold Energy, LP	Production Supt.	Donny Money	432 / 661-8803 cell 432 / 686-1100 off	
Sierra Engineering	HSE Manager	Montie Low	432 / 559-8950 cell 432 / 683-8000 off	
NMOCD	District 2 - Artesia	Notifications - Office After Hours	505 / 748-1283 505 / 748-1283 ext 104	

Directions with the second of the second of

From the intersection of US Highways 62/180 and CR 765 (1) go west on CR 765 for 1.0 mile to lease road; (2) turn south (left) onto lease road for 0.7 mile as it winds to the west; (3) continue on lease road for 1.9 miles as it winds northeast until intersecting new newly constructed road; (4) turn right and follow into location.

Operator: BOLD ENERGY, LP____

Field: Carlsbad; Morrow, South (Pro Gas)

Well:

Humble Grace Com #2

API: 30 - 015 - Pending

APD:

NMOCD Approval: Pending

AFE: Pending

General Information

Location: Directionally drilled: KOP = 5000', Build Rate = 2°/100' to Max Angle = 10.93°

Hold angle at azimuth of 89.92° to TD of 12,072' MDTD = 11,950' TVD.

Surface: 1980' FSL & 330' FEL UL "I" Sec 3 – T23S – R26E Eddy County, NM

BHL: 1980' FSL & 960' FWL UL "L" Sec 2 - T23S - R26E Eddy County, NM

Elevation: 3281' GL TD: 12,072' MD 11,950' TVD RKB: 18.0'

Objective: Middle Morrow Sd 11,540' - 11,685' L. Morrow Sds 11,730' - 11,850'

Contractor Office: 432 / 550-7808 Superintendent: Don Nelson (664-9990)

Toolpushers: Roy Brumfield / Martin Alvarado Cell: 432 / 664-9942

Sierra Supervisors: Tony Vickery / Greg Fore Cell: 432 / 557-1223 Trailer

Drilling Program

Hole Size	Depth	Casing	Weight	Grade	Connect	Cement	TOC
17½"	450'	133/8"	48	H-40	STC	475 sx	Surface
121⁄4"	1900'	9 5/8"	36	J-55	STC	850 sx	Surface
8¾"	8760' MD 8700' TVD	7"	26	P-110	LTC	1100 sx	1700'
61/8"	12,072' MD 11,950' TVD	4½"	13.5	P-110	LTC	260 sx	8500'

Wellhead / BOPE

Wellhead	135/8" - 3K SOW	13 5/8" - 3K x 11" - 5K	11" - 5K x 71/16" - 10K
воре	135/8" - 5K Stack	135/8" - 5K Stack	71/16" - 10K
	SRRAG	SRRAG	SRRRAG

Mud Program

Interval	Туре	MW	VIS	FL
0' - 450'	FW – Spud	8.4 8.8	29 -40	NC
450' - 1900'	FW	8.4 – 10.2	29 - 32	NC
1900' - 8900'	FW – Cut Brine	8.4 – 9.0	29	NC
8900' - 10,300'	Cut Brine	9.0 – 9.5	29	NC
10,300' - 12,072' TD	Cut Brine / Starch - Polymer	10.0 – 10.5	34 - 40	6 - 8

Company: NOVA MUD, INC. 432 / 570-6663 Office: Dale Welch / Tech Advisor 432 / 557-1228

Engineer: Rick Rippy 505 / 631-9597 Warehouse: 800 / 530-8786

BLOWOUT PREVENTION EQUIPMENT

- 1. A kill line of ample strength and length will be laid to a safe point to allow pumping into the well in an emergency situation.
- 2. The closing unit should be located a safe distance from the well bore and positioned for maximum utilization based on the prevailing wind direction.
- 3. BOP equipment will be tested in accordance with standard company practice.

SPECIAL EQUIPMENT

- 1. Flare lines should be as long as practical, securely staked.
- 2. An electronic Hydrogen Sulfide monitor will be installed with a combination visual and audible alarm system located where it can be seen and/or heard throughout the drilling location.
- 3. The electronic Hydrogen Sulfide monitoring system will be calibrated to actuate the low alarm (visual alarm) at a concentration of 10 ppm Hydrogen Sulfide in the atmosphere and the high alarm at a concentration of 15 ppm Hydrogen Sulfide in the atmosphere.
- 4. Extra equipment will be available if required to provide adequate respiratory protection for all personnel on location.

DRILL STEM TEST

- 1. All drill stem tests of Hydrogen Sulfide zones will be approved by the NMOCD.
- 2. Drill stem testing of Hydrogen Sulfide zones will be permitted only during daylight hours.
- 3. All nonessential personnel will be moved to "Safe Briefing Area".
- 4. Put on air mask before formation fluids are expected at the surface and continue "MASKS ON" until flares are lighted and work areas test no more than 10 ppm Hydrogen Sulfide and the area has been declared safe.

TRAINING

Every person working in any capacity on the lease will be required to review the emergency procedures and will participate in the training program.

BOLD ENERGY, LP. will provide personnel to direct the training program and in doctrinate all authorized persons on the lease in the proper use of the safety equipment.

The training personnel will work individually with each member until they are satisfied that the crew member is familiar with the emergency procedures and the training program. This should be accomplished prior to an individual's work operation.

Training will include hands-on use of all equipment in order to familiarize the trainees with the safety equipment.

SAFETY TRAINING

- 1. Hydrogen Sulfide Safety Training will be provided to all personnel at 1,000 feet above the expected H₂S formation. The training sessions will cover, but will not be limited to the following
 - a. General information on H_2S and SO_2 gas
 - b. Hazards of H₂S and SO₂ gas
 - c. Safety equipment on location
 - d. Proper use and care of personal protective equipment
 - e. Operational procedures in dealing with H₂S gas
 - f. Evacuation procedures
 - g. Chemicals to be used in mud to control H₂S
 - h. First aid, reviving an H_2S victim, toxicity, etc.
 - I. Designated safe briefing areas (S.B.A.)
 - j. Metallurgical considerations

NOTE: Once H₂S Safety Procedures are established on location, no beards or facial hair which will interfere with face seal or mask will be allowed on location.

- 2. When H_2S alarm is activated:
 - a. Mask up
 - b. Raise tool joints above the rotary table and shut down pump
 - c. Close in hydril
 - d. Go to Safe Briefing Area

SAFETY INTERNATIONAL FIELD SUPERVISOR QUALIFICATIONS

Safety International, Inc. is proud of the training and qualifications of our staff of field personnel. We know that our customers are provided with the best service available in the H_2S safety business. We also know that we have by far, the most rigid requirements for basic qualifications, and the most extensive training program of any H_2S company.

Safety International, Inc. personnel will be qualified in Basic H₂S Safety Training, which includes the maintenance of equipment, training of personnel, and general oil field safety. Specifically, all are trained in Basic First Aid and Cardiopulmonary Resuscitation (CPR).

Safety International, Inc. will provide all needed materials for training of personnel on location as required.

CORPORATE OFFICE

2348 East I-20 South Service Road Odessa, TX 79766 (432) 580-3770 FAX: (432) 332-9223

FIELD OFFICE

2412 East I-20 South Service Road Odessa, TX 79766

PROCEDURAL CHECK LIST

PERFORM EACH TOUR BY THE DRILLING CONTRACTOR PERSONNEL

- 1. Check fire extinguishers to see that they have the proper charge.
- 2. Check pressure on breathing air cascade system to make sure they are charged to full volume.
- 3. Check pump pressure on stand pipe gauge and choke manifold gauge to assure proper communication between gauges and also comparison of pressure reading on each gauge.
- 4. Make a visual check of H₂S monitoring system.

PERFORM EACH WEEK BY DRILLING CONTRACTOR PERSONNEL:

- 1. Blowout preventer drills
- 2. Check nitrogen supply pressure on BOP accumulator standby

PERFORM EACH WEEK BY SAFETY INTERNATIONAL PERSONNEL OR DAILY ON SUPERVISION

- 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 get air.
- 2. Check butane supply for burn pit for volume and to make sure 1" line is not plugged. Check automatic ignition system.
- 3. Check all SKA pac units for operation; demand regulator, escape bottle air volume, supply bottle air volume.
- 4. Check breathing equipment mask assembly to see that straps are loosened and turned back ready to put on.
- 5. Check pressure on breathing equipment air bottles to make sure they are charged to full volume.
- 6. Confirm pressure on all supply air bottles
- 7. Perform breathing equipment drills with onsite personnel.

FOR CONTRACTORS USE ONLY

SURFACE KILL SHEET PRERECORDED INFORMATION

DATE		TIME	MUD WEIG	НТ
CASING:	SIZE	O.D	I.D. WEIGHT	PPF GRADE
	SHOE TVI)	80% BURST	
DRILL PI	PE: SIZE	O.D	I.D. WEIGHT	PPR GRADE
	CA	PACITY	B	BBL/FT
HOLE:	SIZE	NAME OF THE PROPERTY OF THE PR	TOTAL CONTROL OF THE	
PUMPS: #	1	PSI @	STKS/MIN	BBL/SKT
#	2	PSI @	STKS/MIN	BBLS/STK
DEPTH;	TD		TVD	
			MEASURED @ SHUT IN	
SHUT IN	DRILL PIP	E PRESSURE (SI	[DPP)	P
SHUT IN	CASING PR	ESSURE		p
PIT GAIN				В
KILL MUD	WEIGHT (KMW)		
20 X SID	PP ()	TVD () +	ORIGINAL MUD WEIGH	TT (OMW) ()
		_ P		
INITIAL	CIRCULATI	NG PRESSURE (1	ICP)	(
KILL RAT	E PRESSUR	E () + S	SIDPP () =	PSI
FINAL CI	RCULATING	PRESSURE (FCF	P)	
KRP () X KMW	() DMW	() =	PSI

FOR CONTRACTORS USE ONLY

SURFACE TO BIT STROKES (SBS)	
DRILL PIPE CAPACITY (BBL/FT) () X TD () BBL/STK ()
=STKS STKS ()	SPM () = MIN.
PRESSURE A	AND DROP CHART (WAIT & WEIGHT)
ICP () - FCP () =	PSI PRESSURE DROP (PD)
PD () 5 =	_UNITS PRESSURE DROP
SBS () 5 =	_UNITS STKS/PRESSURE DROP
SUBTRACT UNITS PRESSURE DROP FOR EACH LINE	ADD STKS/PRESSURE DROP FOR EACH LINE
CIRCULATING PUMP PRESSURE	@ ACCUMULATED STROKES
(ICP)	@STKS
	@STKS
	STKS
	@STKS
	@STKS
(FCP)	@ (SBS)STKS