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

CEMENT TO COVER ALL OIL, GAS AND WATER BEARING ZONES

Form C-101 May 27, 2004

Submit to appropriate District Office

1220 South St. Francis Dr.

rces

AMENDED DEPORT

20 S. St. Francis Dr., San				Santa Fe, 1	M 875	05 D			AMENDED REI OR I	
APPLICATIO	ON FOR	PERMIT Operator Name a	TO DRILL	L, RE-ENT	ER. DE	EPEN	, PLUGBAC	CK, OR A	ADD A ZONE	
		CĤI OPERATI	NG, INC	•	MATE		004378			
P.O. BOX MIDLAND, TE			1 199 (AS 79702	WAY	- P-WF-9 P-A	700	- O	API Num		
³ Property Code	1			³ Property Name	· · · · · · · · · · · · · · · · · · ·		30 - O	<u> </u>	455 4	
28059				WC "4"	. '£	· •••		<u> </u>	4	
•		oposed Pool 1					10 Prop	posed Pool 2	y mandage	
	Нарру	Valley Morrov		Confort Land	4:					
IL or lot no. Section	Township	Range	Lot Idn	Surface Loca	North/Se	muth lime	Feet from the	East/West li	ne County	
H 4	22S	26E	LOC IGH	2490		RTH	1150	EAST	EDDY	
		8 Propos	sed Bottom H	ole Location If	Different	t From S	urface			
TL or lot no. Section	Township	Range	Lot Idn	Feet from the	3	outh line	Feet from the	East/West li	ne County	
			المنادة ٨	anal Wall Ind						
11 Work Type Code	1	12 Well Type Code		onal Well Inf Cable/Rotary			Lease Type Code	1	Ground Level Elevation	
N		G 🕔		R		a. That office	P		3201'	
¹⁶ Multiple		17 Proposed Depth	1	18 Formation MORROW			19 Contractor		²⁰ Spud Date 8/1/06	
Depth to Groundwater		11700	Distance from n	nearest fresh water v		L	Distance from	n nearest surfac		
. 117'			<u></u>	250+	250+			NA		
it: Liner: Synthetic 🛛	_	Clay L	Pit Volume:_ ろいて	bbls		g Method:	—			
Closed-Loop System	<u> </u>	21					Diesel/Oil-based	LL Gas/Air	Ц	
			Proposed (Casing and C	ement I	Progran	n			
Hole Size	Casin	g Size	Casing weigh	ht/foot	Setting D	epth	Sacks of C	ement	Estimated TOC	
17 1/2	13	3/8	48.5		500		±400)	SURFACE	
12 1/4	9 :	5/8	36	36)	±600		"	
8 3/4"	5	1/2	20/17		11700		±500)	±8000	
								<u> </u>		
Describe the proposed progen he blowout prevention pro Notify OCD, spud & to save a substantial CaCl2+ .25 pps CF, fresh wtr mud, run p & brine mud system,	gram, if any. drill surfa amount of Tail: "C"+ ipe and cn	Use additional since hole with money. Sur-2% CaCl2+nt to surface.	fresh wtr mu frace slurries .25 pps CF). While WOO	y. ud, run pipe a s meet compre NU and tst a C 18 hrs, NU a	nd cmt to ssive stre nnular & and tst B	surface ength of csg. to	While WOO 500 psi in 12 1 500# for 30 m	C 12 hrs (Rehrs. Lead:	equesting this in ord "C"+4% gel+2% ntermediate hole wi	
•	•	<u></u>	<i>3</i>		4				F SPUD &	
Nearest dwelling 301'. Attatched: H2S contingency plan. NO H2S ANTICIPATED. W					MONITO	OR.		O WITN		
²³ I hereby certify that the information given above is true and complete to the best						OIL (F SURFACE &	
	C T Carabbase a			_	roved by:	<u> </u>	HIA H ICKN	YLLLULAL I	E CASING	
of my knowledge and belie		uidelines 🖂 🧸	general nermit i	L.J. OF AN 1 ^						
of my knowledge and belie constructed according to (attached) alternative O	NMOCD g		general permit (L., or an App	roved by:		DAVA	# A ===	9 A 5 man	
of my knowledge and belie constructed according to (attached) alternative	NMOCD gr		general permit				BRYAI	G. ARI	EOLOGISTI	
of my knowledge and belie constructed according to (attached) alternative of Printed name: JOHN W	NMOCD gr		general permit	Title			DISTR	ict II G	EOLOGIST	
of my knowledge and belie constructed according to (attached) alternative Of Printed name: JOHN W.	NMOCD gr		general permit	Title		JUL 2	DISTR	G. ARI	EOLOGIST	
of my knowledge and belie constructed according to (attached) alternative of Printed name: JOHN W	NMOCD gr		M	Title App	e:	UL 2	7 2006	ict II G	EOLOGIST	

State of New Mexico

DISTRICT I 1625 N. FRENCE DR., HOBBS, NM 68240

Energy, Minerals and Natural Resources Department

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION

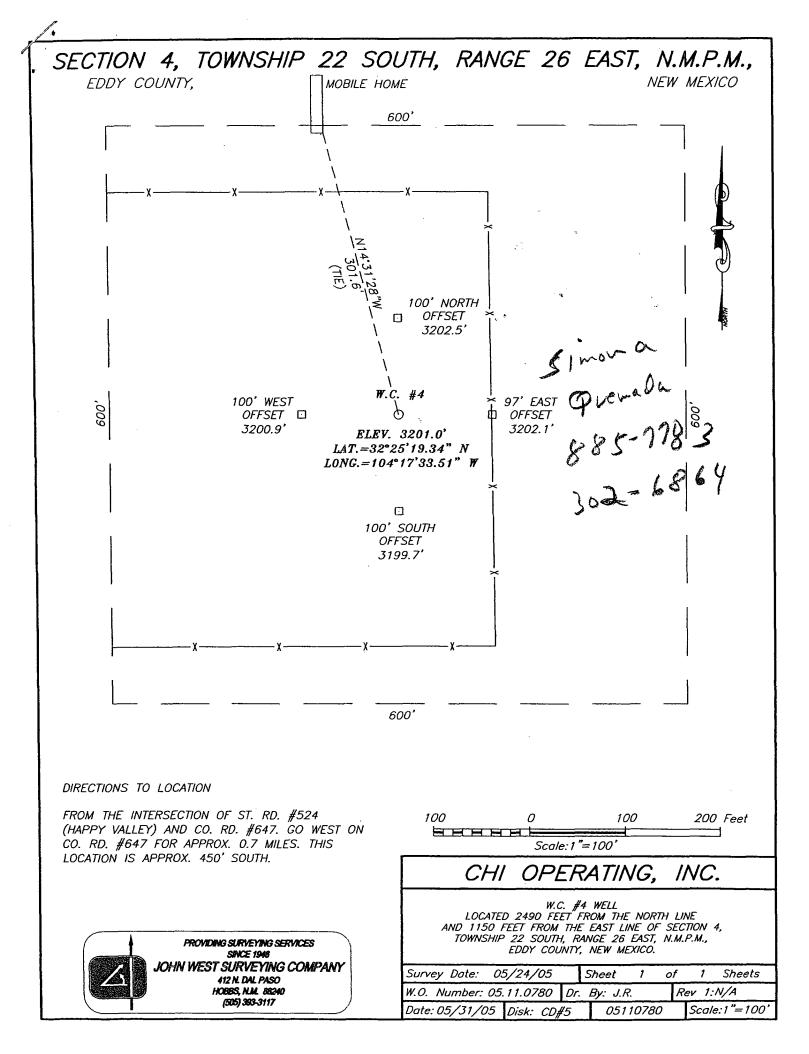
Form C-102 Revised JUNE 10, 2003 Submit to Appropriate District Office

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410 1220 SOUTH ST. FRANCIS DR. Santa Fe, New Mexico 87505

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT IV 1220 S. ST. FRANCIS I	DR., SANTA FR,	NM 87505	WELL LO	CATION	AND ACREA	AGE DEDICATI	ON PLAT	□ AMENDI	ED REPOR
API	Number			Pool Code 8060		Happy	Pool Name Valley:	Morrew	
Property (Code				Property Nam W.C.	ae "4"	37	Well Num	aber
OGRID N	0.			CHI	Operator Nam OPERATIN			Elevation 320	
	Surface Location								
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Н	1724	22-S	26-E		2490	NORTH	1150	EAST	EDDY
			Bottom	Hole Loc	cation If Diffe	erent From Su	face		,
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acre	s Joint	or Infill Co	onsolidation	Code Or	der No.				1
					· · · · · · · · · · · · · · · · · · ·			•	
NO ALLO	OWABLE V					UNTIL ALL INTE: APPROVED BY		BEEN CONSOLIDA	ATED

LOT 4	LOT 3	LOT 2	1	LOT 1	OPERATOR CERTIFICATION
į					I hereby certify the the information
			1		contained herein is true and complete to the best of my knowledge and belief.
	, ,				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	<u>'</u>				
	1		490,		Signature
					DOTTO IN WOLLD
1					Printed Name
	1				Title
	<u>'</u>		,		7/11/06
					Date
·	1		6	1150' 	SURVEYOR CERTIFICATION
			_		I hereby certify that the well location shown
			1		on this plat was plotted from field notes of
			İ		actual surveys made by me or under my supervison, and that the same is true and
	<u>'</u>				correct to the best of my belief.
	· 		·		MAY 24, 2005
					Date Surveyed JR Signature & Seal Control
	GEODETIC CO	ORDINATES	-		Professional Surveyor
	NAD 27		1		WE JC
	Y=51725				Ban blackmi 4/2/05
	' <i>X=51255</i> I	56.3 E	1		05.11.0780
	LAT.=32*25'				Certificate No. GARY BIDSON 12641
	LONG. = 104°17	/ 33.51" W 			AND PROFESSIONALES



RECEIVED JUL 1 7 2006 OCD-ANTERIA

CHI OPERATING, INC HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN FOR DRILLING/COMPLETING/WORKOVER/FACILITY WITH THE EXPECTATION OF H2S IN EXCESS OF 100 PPM

WELL/FACILITY IN QUESTION
WC "4" #4
NEW WELL DRILL
SECTION 4-T22S-R26E
2490 FNL & 1150 FEL
EDDY COUNTY, N.M.

This well/facility is not expected to have H2S, but due to the sensitive location,

The following is submitted as requested

TABLE OF CONTENTS

GENERAL EMERGENCY PLAN	Page 1
EMERGENCY PROCEDURE FOR UNCONTROLLED RELEASE OF H2S	Page 1
EMERBENCY NUMBERS OF NOTIFICATION	Page 2
LOCATION MAP	Page 3
PROTECTION OF THE GENERAL (ROE) RADIUS OF EXPOSURE	Page 4
PUBLIC EVACUATION PLAN	Page 4
PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION:	
INSTRUCTIONS FOR IGNITION:	Page 5
REQUIRED EMERGENCY EQUIPMENT	Page 5-6
USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA):	Page 6
RESCUE & FIRST AID FOR VICTOMS OF HYDROGEN SULFIDE (H2S) POISONING:	Page 7
H2S TOXIC EFFECTS	Page 8
H2S PHYSICAL EFFECTS	Page 8

In the event of an H2S emergency, the following plan will be initiated.

- 1) All personnel will immediately evacuate to an up-wind and if possible up-hill "safe area".
- 2) If for any reason a person must enter the hazardous area, they must wear a SCBA (Self contained breathing apparatus)
- 3) Always use the "buddy system"
- 4) Isolate the well/problem if possible
- 5) Account for all personnel
- 6) Display the proper colors warning all unsuspecting personnel of the danger at hand.
- Contact the Company personnel as soon as possible if not at the location.
 (use the enclosed call list as instructed)

At this point the company representative will evaluate the situation and co-ordinate the necessary duties to bring the situation under control, and if necessary, the notification of emergency response agencies and residents.

EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H2S

- 1) All personnel will don the self-contained breathing apparatus.
- 2) Remove all personnel to the "safe area". (always use the "buddy system"
- 3) Contact company personnel if not on location.
- 4) Set in motion the steps to protect and or remove the general public to an upwind "safe area". Maintain strict security & safety procedures while dealing with the source.
- 5) No entry to any unauthorized personnel.
- Notify the appropriate agencies: City Police-City street(s)

 State Police-State Rd

 Count Sheriff-County Rd.

 (will assist in general public evacuation/safety while maintaining roadblocks)
- 7) Call the NMOCD

If at this time the supervising person determines the release of H2S cannot be contained to the site location and the general public is in arms way he will take the necessary steps to

Page 2

EMERGENCY CALL LIST: (Start and continue until ONE of these people have been reached)

	<u>OFFICE</u>	MOBILE		<u>HOME</u>		
Chi Operating, Inc.	432-685-5001					
Sonny Mann	505-365-2338	432-694-7062	2	505-365-2722		
John Wolf	432-685-5001	432-634-7061	1	432-682-4905		
Bill Bergman	432-685-5001	432-557-8773	3	432-689-4011		
EMERGENCY RES	PONSE NUMBERS:	Eddy County, 1		exico 48-9718		
			303-1	40-9/10		
Eddy County Sheriff	•		505-7	46-2701		
Emergency Medical	Service (Ambulance)		911 or 505-746-2701			
Eddy County Emergency Management (Harry Burgess) 505-887-9511						
State Emergency Res)	505-476-9620				
Artesia Police Depar Artesia Fire Departm		505-746-5001 505-746-5001				
Carlsbad Police Depart Carlsbad Fire Depart		505-885-2111 505-885-3125				
Loco Hills Fire Depart	artment		505-6	77-2349		
(NMOCD) New Mex District I (Lea, Roo District II (Eddy, Ch		93-6161 48-1283				
Callaway Safety Indian Fire & Safety BJ Services			800-5	92-2973 30-8693 46-3146		

Carlsbad, NM

WC "4" #4 SEC 4-T22S-R26E **EDDY COUNTY, NM →** Hwy -524 .7 mile Harmond Rd. (CR – 647) **HAPPY VALLEY** Jones Rd Lea St.

In the event greater than 100 ppm H2S is present, the ROE (Radius Of Exposure) calculations will be done to determine if the following is warranted:

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road which the general public may travel)
- 100 ppm radius of 3000' will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H2S could be present in concentrations greater than 100 ppm in the gas mixture.

Calculation for the 100 ppm ROE:

```
(H2S concentrations in decimal form:) 10,000 \text{ ppm} + = .01
```

X = [(1.589) (concentration) (Q)] (0.6258)

1,000 ppm + 0.0011,000 ppm + 0.001

Calculation for the 500 ppm ROE:

10 ppm + 0.0001

X = [(0.4546) (concentration) (Q)] (.06258)

EXAMPLE: If a well/facility has been determined to have 150 ppm H2S in the gas mixture and the well/facility is producing at a gas rate of 200 MCFPD then:

ROE for 100 PPM X=[(1.589)(.00010)(200,000)] (0.6258)

 $X = 8.8^{\circ}$

ROE for 500 PPM X=[(.4546)(.00050)(200,000)] (0.6258)

X = 10.9'

(These calculations will be forwarded to the appropriate District NMOCD office when applicable)

PUBLIC EVACUATION PLAN:

(When the supervisor has determined that the General Public will be involved, the following plan will be implemented)

- 1) Notification of the emergency response agencies of the hazardous condition and Implement evacuation procedures.
- 2) A trained person in H2S safety, shall monitor with detection equipment the H2S Concentration, wind and area of exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. (All monitoring equipment shall be UL approved, for use in class I groups A,B,C, & D, Division I, hazardous locations. All monitors will have a minimum capability of measuring H2S, oxygen, and flammable values.)
- 3) Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
- 4) The company supervising personnel shall stay in communication with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION:

The decision to ignite a well should be a last resort and one if not both of the following pertain.

- 1) Human life and/or property are in danger.
- 2) There is no hope of bring the situation under control with the prevailing conditions at the site.

INSTRUCTIONS FOR IGNITION:

- 1) Two people are required. They must be equipped with positive pressure; self contained breathing apparatus and a "D"-ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.
- 2) One of the people will be a qualified safety person who will test the atmosphere for H2S, Oxygen, & LFL. The other person will be the company supervisor; he is responsible for igniting the well.
- 3) Ignite up-wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25mm flare gun shall be used, with a ±500' range to ignite the gas.
- 4) Prior to ignition, make a final check for combustible gases.
- 5) Following ignition, continue with the emergency actions & procedures as before.

REQUIRED EMERGENCY EQUIPMENT:

- 1) Breathing Apparatus:
 - Rescue Packs (SCBA) 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
 - Work/Escape Packs 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
 - Emergency Escape Packs 4 packs shall be stored in the doghouse for emergency evacuation
- 2) Signage & Flagging:
 - One Color Code Condition Sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - A Colored Condition flag will be on display, reflecting the condition at the site at that time.
- 3) Briefing Area: Two, perpendicular areas will be designated by signs and readily accessible.

- 4) Wind Socks: Two windsocks will be placed in strategic locations, visible from all angles.
- 5) H2S Detectors and Alarm: The stationary detector with three (3) sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 15 ppm. Calibrate a minimum of every 30 days or as needed. The 3 sensors will be placed in the following places: (Gas sample tubes will be stored in the safety trailer)
 - Rig Floor
 - Bell Nipple
 - End of Flow line or where well bore fluid are being discharged.
- 6) Auxiliary Rescue Equipment:
 - Stretcher
 - Two OSHA full body harness
 - 100' of 5/8" OSHA approved rope
 - 1 20# Class ABC fire extinguisher
 - Communication via cell phones on location and vehicles on location.

USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA):

SCBA should be worn when any of the following are performed:

- Working near the top or on top of a tank.
- Disconnecting any line where H2S can reasonably be expected.
- Sampling air in the area to determine if toxic concentrations of H2S exist.
- Working in areas where over 10 ppm on H2S has been detected.
- At any time there is a doubt as the level of H2S in the area.

All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.

Facial hair and standard eyeglasses are not allowed with SCBA.

Contact lenses are never allowed with SCBA.

Air quality shall continuously be checked during the entire operation.

After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected.

All SCBA shall be inspected monthly.

RESCUE & FIRST AID FOR VICTOMS OF HYDROGEN SULFIDE (H2S) POISONING:

Do not panic.

Remain calm & think.

Get on the breathing apparatus.

Remove the victim to the safe breathing area as quickly as possible. Upwind an uphill from source or cross wind to achieve upwind.

Notify emergency response personnel.

Provide artificial respiration and /or CPR, as necessary.

Remove all contaminated clothing to avoid further exposure.

A minimum of two (2) personnel on location shall be trained in CPR and First Aid.

H2S is extremely toxic. The acceptable ceiling for eight hours of exposure is 10 ppm, which is .001% by volume. H2S is approximately 20% heavier than air (Sp.Gr=1.19 / Air=1) and color less. It forms an explosive mixture with air between 4.3% and 46.0%. By volume hydrogen sulfide (H2S) is almost as toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

Various Gases

Common Name	Chemical Abbrev.	Sp. Gr.	Threshold Limits	Hazardous Limits	Lethal Concentration
Tame	7100101.		Dillits	Billits	Concontitution
Hydrogen Sulfide	H2S	1.19	10 ppm 15 ppm	100 ppm/ hr	600 ppm
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/ hr	300 ppm
Sulfur Dioxide	SO2	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL2	2.45	1 ppm	4 ppm / hr	1000 ppm
Carbon Monoxide	СО	0.97	50 ppm	400 ppm / hr	1000 ppm
Carbon Dioxide	CO2	1.52	5000 ppm	5 %	10 %
Methane	CH4	0.55	90,000	Combustible @ 5%	N/A

- 1 Threshold limit Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without Adverse effects.
- 2 Hazardous limit Concentration that may cause death
- 3 Lethal concentration Concentration that will cause death with short-term exposure.
- 4 Threshold limit 10 ppm NIOSH guide to chemical hazards
- 5 Short-term threshold limit.

PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCE	TRATIONS	PYSICAL EFFECTS
.001%	10 ppm	Obvious and unpleasant odor. Safe for 8hr exposure
.005%	50 ppm	Can cause some flu-like symptoms and can cause pneumonia
.01%	100 ppm	Kills the sense of smell in 3 –15 minutes. May irritate eyes and throat.
.02%	200 ppm	Kills the sense of smell rapidy. Severly irritates eyes and throat. Severe flu-like symptoms after 4 or more hours. May cause lung damage and/or death.
.06%	600 ppm	Loss of consciousness quickly, death will result in not rescued promptly.



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

July 26, 2006 Chi Operating, Inc. P.O. Box 1799 Midland, TX 79702

Attn: Mr. John Wolf or To Whom It May Concern

RE: Condition of Approval for Chi Operating, Inc.: Application to drill the WC "4" # 4, that is to be located in Unit H of Section 4, Township 22 South, Range 26 East, Eddy County, NM

Dear Mr. Wolf or To Whom It may Concern,

In regards to the above noted well, the New Mexico Oil Conservation Division (NMOCD) has reviewed your application to drill the above noted well. A condition of approval (in part) is for representatives with Chi Operating, Inc. ("Chi") to verify levels of chlorides in the drilling mud (every 100') from the flow line. Chloride readings from the drilling mud are to taken after 13 3/8" casing is set and continue to taking test samples down to the setting depth of the 9 5/8" casing which is to be @ 2130'. Results of these tests are to be submitted to the NMOCD office in Artesia before drilling to total depth of the well. The NMOCD also notes your detailed mud program and only fresh water mud is to be used in drilling the Capitan Reef section of the well bore. In addition Chi is to follow option 1 of NMOCD Rule 19.15.3.107 for the cementing of the surface and intermediate wait on cement time. Please call our office if there are any questions regarding this matter.

Respectfully yours,

Bryan G. Arrant Petroleum Engineer Specialist/NMOCD-District II 505-748-1283 ext. 103

CC: Well file

EM: Tim Gum, District II Supervisor

Arrant, Bryan, EMNRD

From: John Wolf [johnw@chienergyinc.com]

Sent: Wednesday, July 26, 2006 9:18 AM

To: Arrant, Br

Arrant, Bryan, EMNRD

Subject: Re: Chi Operating, Inc: WC "4" # 4 APD

Volume on the pit will be +/-3000 bbls. The Administrated Order NSL - 5225. See BOP function test letter attached. Your letter states the chloride tests will be submitted to the OCD prior to drilling to total depth. I assume this means prior to drilling out below intermediate?????

---- Original Message ---From: Arrant, Bryan, EMNRD
To: johnW@ChiEnergyInc.Com

Cc: Gum, Tim, EMNRD; Stogner, Michael, EMNRD

Sent: Wednesday, July 26, 2006 9:03 AM Subject: Chi Operating, Inc: WC "4" # 4 APD

Hi John,

Please find the attached letter detailing the conditions of approval (in part) for the drilling of this well. Please be aware that this well location is non-standard for a gas well Wolfcamp or deeper in Eddy County, NM. Also, I need to know the pit liner thickness and the volume of fluid to be in the pit as it has been left blank on the C-101.

I also need a letter of statement on how your company intends to test the BOPs on a daily basis.

Thanks and I'll visit w/you later,

Bryan

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P.O. Box 1799 Midland, Tx. 79702

7/25/06

Mr. Bryan Arrant NMOCD Artesia, NM

Re:

WC "4" #4

Sec. 4-T22S-R26E Eddy County, N.M.

Dear Bryan,

The BOP pipe rams will be function tested on a daily basis and the blind rams will be function tested on all trips due to the close proximity of dwellings as per Mr. Gum's request. This of course will follow the NU and testing of the BOPE.

Sincerely,

ohn W. Wolf

Cc/file