

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

Form C-101

May 27, 2004

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address THOMPSON, J. CLEO P.O. BOX 12577 ODESSA, TX 79768-2577		² OGRID Number 11181
³ Property Code 32551		⁴ API Number 30-015-22169
⁵ Property Name MESA ARRIBA		⁶ Well No. 1
⁹ Proposed Pool 1 EAST HAPPY VALLEY (BONE SPRINGS)		¹⁰ Proposed Pool 2 2ND BONE SPRINGS CARBONATE

7 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/Westline	County
H	10	22-S	26-E		1980'	NORTH	660'	EAST	EDDY

8 Proposed 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/Westline	County

Additional Well Information

¹¹ Work Type Code P	¹² Well Type Code X O 1	¹³ Cable/Rotary ROTARY	¹⁴ Lease Type Code P	¹⁵ Ground Level Elevation 3179
¹⁶ Multiple	¹⁷ Proposed Depth	¹⁸ Formation	¹⁹ Contractor	²⁰ Spud Date
Depth to Groundwater 250		Distance from nearest fresh water well 200		Distance from nearest surface water LESS THAN A 1000
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 12 mil thick Clay <input type="checkbox"/> Pit Volume: 100 bbls Drilling Method:				
Closed-Loop System <input type="checkbox"/> Fresh Water <input checked="" type="checkbox"/> Brine <input type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2	13 3/8	48/54	300	300 SX (CIRC.)	
9 5/8	9 5/8	36	2228	2100 SX (CIRC.)	
8 3/4	5 1/2	17	11497	1625 SX	

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone.

Describe the blowout prevention program, if any. Use additional sheets if necessary.

PLUGBACK AND PERFORATE THE BONE SPRINGS

1. TEMPORARILY ABANDON THE STRAWN BY SETTING CIBP +/- 10,000' (ABOVE STRAWN PERFS)

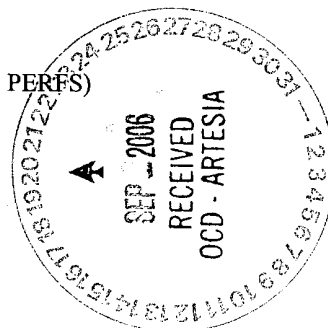
2. RU WIRELINE & RUN CBL/GR FROM 10,000 FEET UP TO 3000'.

3. SQUEEZE CEMENT AS NEEDED TO ISOLATE 2ND BONE SPRINGS @ +/- 6300 FEET.

4. PERFORATE @ 6292 - 6340, 48', 96 HOLES (2SPF)

5. PRODUCTION TEST 2ND BONE SPRINGS

(NOTE: WE MAY GO BACK TO STRAWN AT A LATER DATE)



²³ 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 ☐.

Printed name: JIM STEVENS

Title: OPERATIONS MANAGER

E-mail Address: jstevens@jcleo.com

Date: 09/18/2006

Phone: (432)550-8887

OIL CONSERVATION DIVISION

Approved by:

BRYAN G. ARANT

Title:

DISTRICT II GEOLOGIST

Approval Date:

SEP 28 2006

Expiration Date:

SEP 28 2007Conditions of Approval Attached ☐

Arrant, Bryan, EMNRD

From: Arrant, Bryan, EMNRD
Sent: Tuesday, September 26, 2006 10:14 AM
To: 'jstevens@jcleo.com'
Subject: RE: Mesa Arriba # 1/API # 30-015-22169

I'm sorry Jim. I see that you are anticipating this to be gas well???
I will need a current C-102.
The Happy Valley; Bone Spring, East Pool is an oil pool, not gas.

From: Arrant, Bryan, EMNRD
Sent: Tuesday, September 26, 2006 10:10 AM
To: 'jstevens@jcleo.com'
Subject: Mesa Arriba # 1/API # 30-015-22169

Dear Jim,

For further review and/or approval for the above well, I need the following:

Well bore diagrams before and after.
H2S well contingency plan
Distance to nearest public dwelling.
What type of pressure control device (BOPs) are to be used and how your company plans to test such devices on the re-entry of this well.
Please call if you have any questions.
Yours truly,

Bryan G. Arrant
District II Geologist
NMOCD-Artesia
505-748-1283 ext. 103

9/26/2006

J. CLEO THOMPSON & JAMES CLEO THOMPSON, JR., L.P.
WEST TEXAS DIVISION OFFICE
P.O. BOX 12577
ODESSA, TEXAS 79768
(432)550-8887



September 26, 2006

Mr. Bryan G Arrant
District II Geologist
NMOCD - Artesia

RE: MESA ARRIBBA #1 (API NO. 30-015-22169)

Dear Mr. Arrant:

Please find enclosed the requested information for the Mesa Arriba #1. A CIBP will be set 50' above the existing perforations before the Bone Springs is tested. Additionally, J. Cleo Thompson personnel will be using a 5000 PSI hydraulically operated BOP stack. The stack consists of pipe rams on top and blind rams on bottom. They will be function tested daily.

If there is anything else I can help you with, please feel free to call or email me at jstevens@jcleo.com.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. E. Stevens".

J. E. Stevens
Operations Manager
J. Cleo Thompson

MESA ARRIBA #1
1980' FNL & 660' FEL
UL-H, Sec 10
T-22-S, R-26-E
Eddy Co., New Mexico

PROPOSED

API No: 30-015-22169
TD 11,500'

Ready Date: 11/12/2003

13-3/8" @ 300'
300 SXS TOC: surface (circ)

9-5/8" @ 2228'
2100 SXS TOC: surface (circ)

DV Tool

Proposed Bone Spring Perfs
6292' - 6340'

CIBP @ 9984'
Strawn Perfs.
10034' - 10299'

5 1/2" @ 11,497'
1625 SXS DVD Tool @ 4995'

MESA ARRIBA #1
1980' FNL & 660' FEL
U.L-H, Sec 10
T-22-S, R-26-E
Eddy Co., New Mexico

API No: 30-015-22169
TD 11,500'

Ready Date: 11/12/2003

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Strawn Perfs.
10034' - 10299'

5/2" @ 11,497'
1625 SXS DVD Tool @ 4995'

H2S CONTINGENCY PLAN

J. Cleo Thompson
Mesa Arriba #1
1980' FNL & 660' FEL
Unit H: Section 10
T-22-S, R-26-E
Eddy County, New Mexico

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SCOPE

This plan establishes **J. Cleo Thompson** guidelines for all company and contract employees whose duties may involve exposure to hydrogen sulfide gas (H₂S) on the **Mesa Arriba #1. This well is located 1980' FNL & 660' FEL in Unit H, Section 10 of Township 22-S, Range 26-E of Eddy County, New Mexico.** This plan also establishes procedure for isolation of the work site and evacuating the public on the condition that:

- A. There is a release of H₂S that encompasses the radius of exposure (ROE) in this plan and,
- B. There are persons and/or roads within the ROE and,
- C. There is the endangerment of human or animal life within the ROE.

OBJECTIVE

The objective of the **J. Cleo Thompson Company** is to:

- A. Prevent any and all accidents, and to prevent the uncontrolled release of H₂S into the atmosphere and,
- B. Provide proper evacuation procedures to cope with emergencies and,
- C. Provide immediate and adequate medical attention should an injury occur.

It should be noted that J. Cleo Thompson does not expect there top be any release of H₂S into the atmosphere but has taken the necessary steps to react properly to and control any hazards encountered on any of our facilities.

GENERAL EMERGENCY ACTION

In the event of an emergency, the following action should be initiated,

1. All personnel shall immediately evacuate to an up-wind and up-hill "*safe breathing*" area.
2. Those who must enter the hazard area must wear positive pressure self-contained breathing apparatus and must use other appropriate safety equipment as outlined on page 10.
3. Isolate the well, if possible.
4. Use the "Buddy System" at all times.
5. Account for all personnel and take appropriate action as necessary for personnel safety.
6. Display the appropriate color warning flag to describe the type of emergency.
7. Contact ***J. Cleo Thompson*** personnel at the earliest time available according to the emergency call out list on Page 4.

The ***J. Cleo Thompson*** supervisor will assess the situation and assign duties to various persons to bring the situation under control. The ***J. Cleo Thompson*** supervisor will assign the notification of local emergency response agencies and residents. Media inquiries are to be referred to:

J. Cleo Thompson
325 North St. Paul, Suite 4300
Dallas, Texas 75201

J. Cleo Thompson
Emergency Call Out Numbers

NAME	OFFICE NUMBER	CELLULAR NUMBER	HOME NUMBER
Johnnie Holder Drilling Foreman	(432) 550-8887	(432) 556-9325	(432) 363-8054
Jim Stevens Operations Manger	(432) 550-8887	(432) 664-2917	(432) 563-5504
Amador Pando Production Foreman	(505) 677-2396	(505) 746-7324	(505) 677-2396
Gary Moreau Pumper	(505) 677-2396	(505) 631-5643	

J. Cleo Thompson is aware and will abide by city; county and state burn ban policies.

**Emergency Notification Numbers
Eddy, County**

Organization or Agency	Phone Number
New Mexico State Police	(505) 885-3137
Eddy County Sheriff's Department	(505) 887-7551
Emergency Medical Service (Ambulance)	911
Eddy County Emergency Management	(505) 887-9511
State Emergency Response Center (SERC) Max Johnson (Chairman)	(505) 476-9620
Carlsbad Fire Department	911 or (505) 885-3125
Oil Conservation Division (District II)	(505) 748-1283
City of Carlsbad, New Mexico	(505) 887-1191
National Response Center (NRC)	(800) 424-8802
Chemtrec	(800) 424-9300
Midland Safety & Health	(432) 520-3838
Krishna Marker (MM Safety Inc.)	(432) 425-8262

Mesa Arriba #1

Carlsbad Eddy County Contacts:

Eddy County Offices

County Offices 101 Greene Street 505-887-9511
County Manager: Steve Massey
Commissioner: Lucky Briggs Cell: 505-706-1425
Emergency Coordinator: Joel Arwine Cell: 505-361-3404
*****Please contact Joel on any emergency*****

City Of Carlsbad, New Mexico Offices:

City of Carlsbad 101 N. Halaqueno Street 505-887-1191
Mayor Bob Forrest 505-887-1191
Harry Burgess / City Administrator 505-887-1191
Cell: 505-200-6360

City Emergency Management Coordinator:

Liz Baggs Office: 505-887-1191
Home: 505-885-6564
Cell: 505-361-0860

Carlsbad Youth Sports Complex:

City Administrator Office: 505-887-1191
Access to Complex:
Public Works Director / Luis Camero Home: 505-885-8624
Cell: 505-706-2270

Neighboring Residents to Mesa Arriba #1

Roger Armstrong 3514 W. Lea Street Contact: 505-887-1937
Ben Jenkins 4023 W. Lea Street Contact: 505-887-2755

**EMERGENCY PROCEDURES FOR UNCONTROLLABLE
RELEASE OF HYDROGEN SULFIDE GAS (H₂S)**

1. Secure and don self-contained breathing apparatus.
2. Remove all personnel to up-wind and up-hill "safe breathing" zone.
3. Contact all concerned employees and immediate supervisor for instructions.
4. Take steps to protect and/or remove the general public to an upwind area away from the source of H₂S.
5. Deny entry to unnecessary personnel.
6. Notify necessary public safety personnel:
 - a. State Police if on or near a **state road**
 - b. Sheriff's Department if on or near a **county road***(For assistance in the evacuation of the general public and to help maintain roadblocks)*
7. Contact the Oil Conservation Division. (OCD)
8. While attempting to control the release, maintain tight security and safety procedures
9. Use the "Buddy System" when entering any hazardous area.

The responsibility of this plan is with the J. Cleo Thompson supervisor(s) who shall be in complete command during the emergency.

IGNITION PROCEDURES FOR UNCONTROLLABLE WELL CONDITIONS

The decision to ignite the well is the decision of the company supervisor(s). This decision should be made only as a last resort and in a situation where it is determined that:

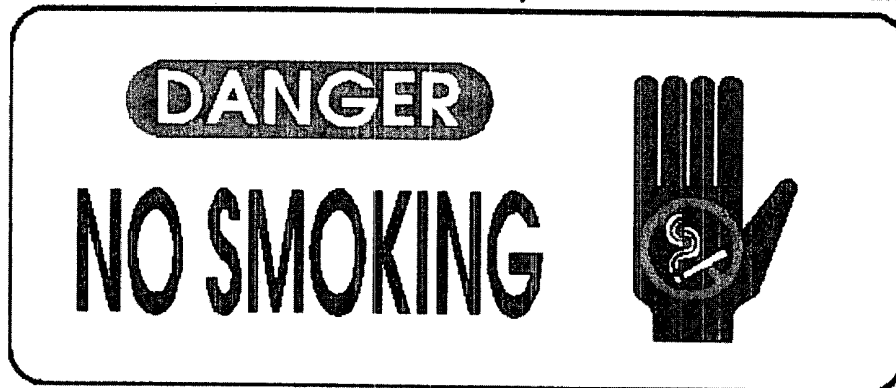
- Human life and/or property are endangered
- There is no hope of controlling the blowout under the prevailing conditions at the well.

INSTRUCTIONS FOR IGNITING THE RELEASE

1. Two personnel are required for the ignition operation. They **must** wear positive pressure self-contained breathing apparatus and a D-ring style full body safety harness with a non-flammable safety rope attached. **(Must be an OSHA approved body harness)**
2. One (safety) person will test the atmosphere for explosive gases with an approved Triple-range (H_2S , O_2 , LFL) monitor. The other person (company supervisor) is responsible for igniting the well.
3. Primary method of ignition shall be with the 25mm flare gun with range of approximately 500 feet.
4. Ignite up-wind and do not approach any closer than is warranted.
5. Select a safe ignition site, which offers ultimate egress.
6. Before activating flare gun, check for presence of combustible gas.
7. After ignition, continue emergency action and procedure as before.
8. All unassigned personnel will limit their actions to those directed by the company supervisor.

After the well is ignited, burning H_2S will produce SO_2 , which is also highly toxic. **Do not assume the area is safe after the well is ignited.**

A **NO SMOKING POLICY** shall be strictly enforced on location at all times.



EMERGENCY EQUIPMENT REQUIREMENTS

1. Respiratory Protection

- **Rescue Units (SCBA's):** One (1) unit shall be placed at each briefing area and 2 shall be stored in the safety trailer.
- **Work/Escapes Units:** Four (4) units shall be stored on the rig floor connected to the safety trailer with sufficient hose to allow workers to adequately perform duties with minimal restriction.
- **Emergency Escape Units:** Four (4) units shall be stored in the top dog house for emergency evacuation purposes.

2. Signs and Flags

- **One (1) Condition Sign shall be placed at location entrance with the following language:**

**DANGER
H₂S**

POTENTIAL DANGER (Green)

MODERATE DANGER (Yellow or Orange)

EXTREME DANGER (Red)

- **Condition Flags shall be displayed at the sign in one of the following designations:**

Green / normal conditions
H₂S Present

Yellow or Orange / potential danger

Red/ danger,

3. **Briefing Area:** Two (2) briefing areas, designated by signs, shall be located perpendicular to each other and be easily visible and readily accessible.
4. **Windsocks:** Two (2) windsocks shall be strategically placed where they are easily visible from all points.

5. Hydrogen Sulfide Detectors and Alarms:

- One (1) stationary H₂S monitor with three sensors shall be located on the rig in the top dog house. The H₂S monitor shall be calibrated to alarm at 10PPM for the low alarm (visual alarm) and 15 PPM for the high alarm (audible alarm). Calibrations shall be checked every 30 days or as needed. The sensors shall be located as follows:

#1 – Rig floor

#2 – Bell Nipple

#3 – Flow line or where the well bore fluid is discharged

- A gas sampling pump, with detector tubes capable of measuring H₂S gas, shall be located in the safety trailer.

6. Additional Rescue Equipment

- One Hundred Feet (100') of 5/8" OSHA approved rope.
- Two (2) OSHA approved full body harness
- One (1) Stretcher

7. Fire Extinguishers:

- One (1) 20#, Class ABC fire extinguisher shall be located in the safety trailer.

8. Communication:

- Cellular Phones/Mobile Phones or two- way radios shall be available via the vehicles on location and on the rig floor.

TOXIC EFFECTS OF HYDROGEN SULFIDE

Hydrogen sulfide (H₂S) is extremely toxic. The acceptable ceiling concentration for an eight (8) hour exposure is 10 PPM, which is .001% by volume. Hydrogen sulfide (H₂S) is colorless. Hydrogen Sulfide (H₂S) is heavier than air; the specific gravity is equal to 1.19, which is 20% heavier than ambient temp air, which is 1.00. Hydrogen sulfide (H₂S) can form an explosive mixture with air between 4.3% and 46.0%. By volume hydrogen sulfide (H₂S) is as toxic as hydrogen cyanide and is between 5-6 times more toxic than carbon monoxide.

TOXICITY OF VARIOUS GASES

<i>Common Name</i>	<i>Chemical Formula</i>	<i>Specific Gravity</i>	<i>Threshold Limit¹</i>	<i>Hazardous Limit²</i>	<i>Lethal Concentration³</i>
Hydrogen Cyanide	HCN	0.94	10 PPM	150 PPM/Hr	300 PPM
Hydrogen Sulfide	H ₂ S	1.189	10 PPM ⁴ 15 PPM ⁵	100 PPM/Hr	600 PPM
Sulfur Dioxide	SO ₂	2.21	2 PPM	N/A	100 PPM
Chlorine	CL ₂	2.45	1 PPM	4 PPM/Hr	1000 PPM
Carbon Monoxide	CO	0.97	50 PPM	400 PPM/Hr	1000 PPM
Carbon Dioxide	CO ₂	1.52	5000 PPM	5%	10%
Methane	CH ₄	0.55	90,000 PPM	Combustible @ 5%	N/A

- (1) Threshold limit – Concentration at which it is believed that all workers may be repeatedly exposed, day after day with out adverse effects also referred to as Time Weighted Average (TWA).
- (2) Hazardous limit – Concentration that may cause death
- (3) Lethal concentration – Concentrations that will cause death with short-term exposure
- (4) Threshold limit – 10PPM – NIOSH guide to chemical hazards
- (5) Short- term threshold limit – Concentration higher than Threshold limit with limits placed on time one can be exposed. Exposure time is limited to 15 minutes followed by one (1) hour in fresh air. This cycle can be repeated for (4) times during a normal eight (8) hour workday.

PHYSICAL EFFECTS OF HYDROGEN SULFIDE (H₂S)

(Concentrations are calculated @ 15.00 psia and 60 degrees F.)

Concentrations		Physical Effects
0.001%	10 PPM	Obvious & unpleasant odor. Safe for an eight (8) hour exposure
0.005%	50 PPM	Can cause some flu-like symptoms and can cause pneumonia.
0.01%	100 PPM	IDLH ⁽¹⁾ . Kills the sense of smell in 3 to 15 minutes. May irritate eyes and throat.
0.02%	200 PPM	Kills the sense of smell rapidly. Severely irritates eyes and throat. Severe flu-like symptoms after 4 or more hours may cause lung damage and/or death.
0.06%	600 PPM	Loss of consciousness quickly, death will result if not rescued promptly.

(1) Immediately dangerous to life or health

TOXICITY OF HYDROGEN SULFIDE

H ₂ S Per Cent (PPM)	0 - 2 Minutes	0 - 15 Minutes	15 - 30 Minutes	30 Minutes to 1 Hour	1 - 4 Hours	4 - 8 Hours	8 - 48 Hours
0.005 (50 ppm) 0.010 (100 ppm)				Mild Conjunctivitis; Respiratory Tract Irritation			
0.010 (100 ppm) 0.015 (150 ppm)		Coughing; Irritation of Eyes; Loss of Sense of Smell	Disturbed Respiration; Pain in Eyes; Sleepiness	Throat	Salivation & Mucous Discharge; Sharp Pain in Eyes; Coughing	Increased Symptoms*	Hemorrhage & Death*
0.015 (150 ppm) 0.020 (200 ppm)		Loss of Sense of Smell	Throat & Eye Irritation	Throat & Eye Irritation	Difficult Breathing; Blurred Vision; Light & Shy	Serious Irritating Effects	Hemorrhage & Death*
0.025 (250 ppm) 0.035 (350 ppm)	Irritation of Eyes; Loss of Sense of Smell	Irritation of Eyes	Painful Secretion of Tears; Weariness	Light & Shy; Nasal Catarrh; Pain in Eyes; Difficult Breathing	Hemorrhage & Death		
0.035 (350 ppm)		Irritation of Eyes; Loss of Sense of Smell	Difficult Respiration; Coughing; Irritation of Eyes	Increased Irritation of Eyes & Nasal Tract; Dull Pain Head; Weariness; Light & Shy	Dizziness; Weakness; Increased Irritation; Death*		
0.050 (500 ppm)	Coughing Collapse & Unconsciousness	Respiratory Disturbances; Irritation of Eyes; Collapse	Serious Eye Irritation; Palpitation of Heart; Few Cases of Death*	Severe Pain in Eyes and Head; Dizziness; Trembling of Extremities; Great Weakness & Death*			
0.060 (600 ppm) 0.070 (700 ppm) 0.080 (800 ppm) 0.100 (1000 ppm) 1.150 (1500 ppm)	Collapse* Unconsciousness Death*	Collapse* Unconsciousness Death*					

* Data secured from experiments of dogs, which have susceptibility similar to men/women. **PPM parts per million

THE USE OF SELF-CONTAINED BREATHING AIR EQUIPMENT

SCBA should be worn when:

- Working near the top or on top of any 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 of H₂S has been detected.
- At any time there is a doubt as to the H₂S level in the area to be entered.

Air quality testing shall be continuous throughout the entire operation if a container is breeched or in a hazardous location.

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 use.

Contact lenses are never allowed with the use of SCBA.

The SCBA shall be inspected monthly.

After each use, the SCBA shall be cleaned, disinfected, serviced, inspected and refilled to proper specifications.

**RESCUE & FIRST AID FOR VICTIMS OF HYDROGEN
SULFIDE (H₂S) POISONING**

Do not panic!

Remain calm and think with your head and not your heart.

Don breathing apparatus.

Protect yourself, then remove victim to fresh air as quickly as possible.
When evacuating: walk not run, upwind and uphill from the source or
crosswind to achieve upwind.

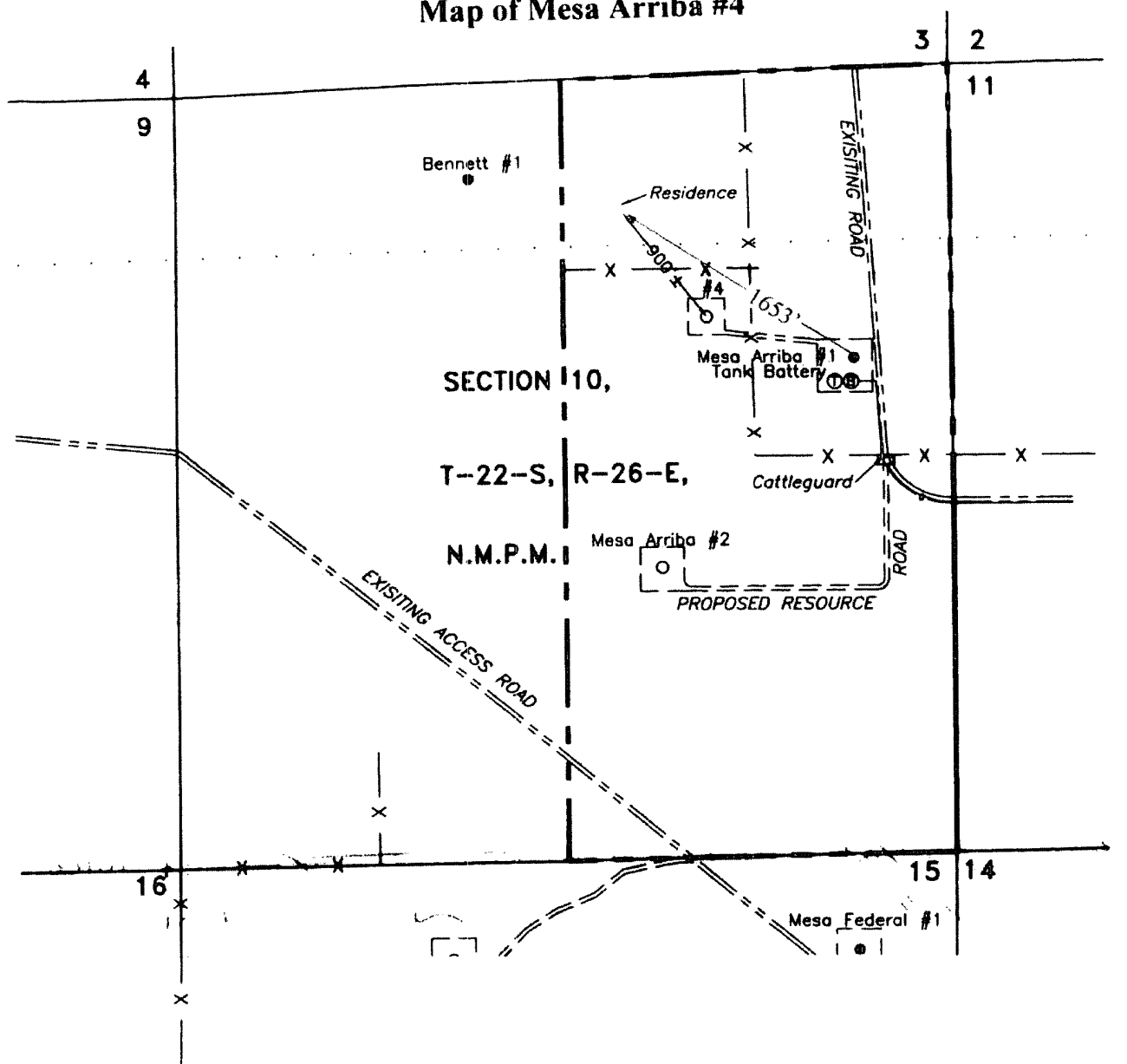
Notify emergency response personnel

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.

Map of Mesa Arriba #4



LEGEND OF SYMBOLS

- = Access Road
- = Resource Road on Lease
- = Resource Road on State Land
- = Resource Road on Private Land
- = Resource Road on Federal Land
- = Proposed Resource Road
- o = Staked Well Location
- o = Found 1" Iron Pipe with Brass Cap
- = Found 2" or 3" Iron Pipe with Brass Cap

EXHIBIT "A" ACCESS ROAD MAP

J. Cleo Thompson & James Cleo Thompson, Jr., L.P.

MESA ARRIBA NO. 1
Located 1980' FNL & 660' FEL, Section 10,
T-22-S, R-26-E, NMPM, Eddy County, NM

Drawn by: Gene M. Rodriguez

Scale: 1" = 1000'

Date: July 10, 2008