3R-417

Cathodic Well Plugging Procedure and Associated Information

Date

August 21, 2009

Scanned into the Environmental 3R-417 file and the well file of the closest Oil and Gas well which is the Mcclanahan #18 well file, API # 30-045-07513

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

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
June 19, 2008

	WELL API NO. Nearest Producing Well **30-045-07513**
	5. Indicate Type of Lease Federal BLM **FEDERAL xxx** STATE ☐ FEE ☐
	6. State Oil & Gas Lease No. **N/A**
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	7. Lease Name or Unit Agreement Name **EPCO Cathodic Protection Station**
1. Type of Well: Oil Well ☐ Gas Well ☒ Other	8. Well Number **1989**
2. Name of Operator Enterprise Field Services, LLC	9. OGRID Number **N/A**
3. Address of Operator 1100 Louisiana Street, Houston, TX 77002-5227	10. Pool name or Wildcat **N/A**
4. Well Location CPS 1989 Unit Letter_A_____: 620 est feet from the _North_____ line and _60 est_____feet from the East East line	
Section 13 Township 28N Range 10W NMPM County San Juan	
	11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 5696 GR

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

BP
KJ
KE

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☒	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
OTHER:	☐			OTHER:	☐		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Enterprise Field Services, LLC (Enterprise) shall properly plug and abandon Cathodic Protection Well CPS-1989 by drilling out the concrete surface plug, and removing cables, anodes and coke breeze to a depth of 500 feet (the total depth of the existing well). If insurmountable field conditions prevent reaching the total well depth, the NMOCD will be contacted to determine if a lesser depth is approvable. In no case will interconnected groundwater zones fail to be properly isolated. An experienced drilling contractor (A-Plus Well Service) has been retained for this project, and a plugging rig with a closed loop drilling fluids system will be utilized. Details are provided in an attachment to this form. Enterprise has received verbal approval for the road detours necessary from the Bureau of Land Management (BLM), and will properly control access to the site. These detours are within existing pipeline right-of-ways. A water sample will be obtained from the one-inch cathodic well vent tube while rigging up. This sample will be tested for pH, in order to allow a comparison with the existing pH measurements. Upon reaching the total well depth (or, a lesser depth as approved by the NMOCD), open hole logs will be used to identify water-bearing zones. Enterprise, in conjunction with the NMOCD, is evaluating the most appropriate well plugging material(s). Upon approval, either bentonite, or Class B cement, will be utilized to properly plug the well (see attachments). An approved plugged and abandonment marker will be set at the former well location, including the ~~API number for the nearest well~~. Enterprise will properly dispose of all liquid and solid waste material at a permitted facility. The location will be re-contoured and reclaimed as required by the surface owner (BLM).

ATTACHMENTS: 3R#2/17

Procedure with bentonite and cement plug
Procedure with cement plug only

Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE [signature] TITLE Senior Environmental Scientist DATE 7/22/09

Type or print name : David R. Smith E-mail address: drsmith@epco.com PHONE: (713) 381-2286

For State Use Only

APPROVED BY: [signature] TITLE SUPERVISOR DISTRICT # 3 DATE AUG 2 1 2009

Conditions of Approval (if any): ARe Attached

NMOCD CONDITIONS OF APPROVAL

3R#417

Cathodic Protection Station # 1989

UL A, S-13-T-28N-RNG-10W

1) All further correspondence for this well shall be submitted under Well name 3R #417. Use this number on the plug and abandonment marker in lieu of the API Number.
2) Notify NMOCD Aztec District Office 24 hours prior to beginning operations.
3) Notify Jim Lovato (505-599-6367) or Steve Mason (505-599-6364) of the BLM Farmington Field Office 24 hours prior to beginning operations.
4) Test PH before operations begin.
5) Utilize the Bentonite method proposed for the plugging of the wellbore, surface plug to be 75'cmt plug to surface.
6) P & A marker will be above ground and will have an outlet (collar, nipple and valve) for future monitoring.

Enterprise should not construe approval to mean that once plugging operations have been completed the situation will be resolved. Additional work may be required to further investigate and remediate impacted groundwater. Enterprise should make efforts during the re-entry procedure to acquire relevant data as it could be of value to future corrective action. Further investigation and remediation performed will be coordinated with the NMOCD Environmental Bureau with copies of plans, information, and work performed supplied to the Aztec district office and BLM Farmington office.

Also, this approval does not relieve Enterprise of liability should operations result in pollution of surface water, ground water or the environment. Nor does the approval relieve Enterprise of its responsibility to comply with any other applicable governmental authority's rules and regulations.

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
3R-417	N/A	N/A

4 Property Code	5 Property Name	6 Well Number
N/A	Cathodic Protection Station 1989	1989

7 OGRID No.	8 Operator Name	9 Elevation
	Enterprise Field Services, LLC	5696

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	13	28N	10W		620	North	50	East	San Juan

11 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

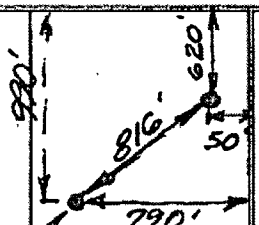
12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
N/A			

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.

16

N89°56'E - 5280'

C.P.S. 1989
LAT: 36°39'58.61"
LONG: 107°50'28.63"



CLOSEST A.P.I. WELL

N0°01'W ~ 5280'

SOUTH ~ 5280'

S89°59'W ~ 5291.22'

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 7/29/09

David R Smith
Printed Name

EPCO, GHS VT

18 SURVEYOR CERTIFICATION

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

Date of Survey

Signature and Seal of Professional Surveyor:

ROBERT L. BOURDON
NEW MEXICO
6846
PROFESSIONAL SURVEYOR

Certificate Number 6846

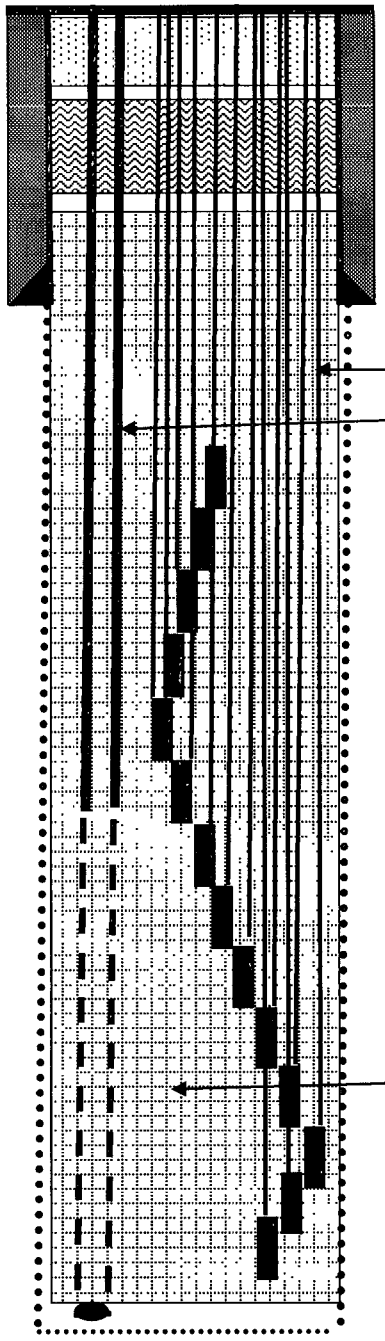
Cathodic Protection Station #1989

Current

Section 13, T-28-N, R-10-W, San Juan County, NM

Trunk & Lat 2B-28

Today's Date: **7/17/09**
Drilled: 10/1/04
Elevation: 5388' GL



Surface Cement – reported 8 sxs Portand
(from surface to approximately 25')

Betonite Plugs – reported 10 – 50 lb sacks
(from 65' to 45' then cemented)

Surface Pipe" 100' of 8" PVC
Cemented with 28 sxs cement

Lead wires from 30 anodes (to surface)

1" PVC Vent pipe from 500' to surface
With perforations at 340'

30 Anodes from 190' – 480'
(2" OD by 60" long)

Coke Breeze – from 500' to 65'
(7800 lbs of Asbury)

7.875" Hole

500' TD

Plug & Abandonment Procedure

Cathodic Protection Station #1989

Section 13, T28N, R10W, San Juan County, New Mexico
Trunk & Lat 2B-28
Lat: 36° 39' 58.61" / Long: 107° 50' 28.63"

Pre Mobilization Work:

a. Contact San Juan County about restricting road access.
b. This project requires the Well Owner to obtain an approved NMOCD C-144 CLEZ Closed-Loop System Permit for the use of steel tanks to hold waste fluids circulated from the well and cement wash up.

Well Site Preparation:

1. Remove existing surface equipment from the location. Also remove power pole that is approximately 15' north of the well. Power has been disconnected.

2. Restrict and / or re-direct vehicle travel around the worksite. Place barricades and lights as appropriate. Install rig anchors next to the road and in or next to the arroyo (may need to cement into place due to poor soil conditions). Block off or restrict use of the road to the south of the well where the rig guy lines will cross the road.

3. Dig out around the 8" PVC pipe approximately 6' deep. May need a super sucker to reduce the water level while digging around the 8" PVC pipe depending on water level (note: this well is located next to wash). Extend the 8" PVC pipe up to be approximately 6' above ground level.

4. Then install a 9-5/8" steel riser pipe (approximately 14' long) with a 24" washer on the base over the 8" PVC so the washer sets on dirt to support the pipe above ground level. Then cement the outside of the 9-5/8" pipe and washer with 10 to 20 yards of redi-mix concrete. WOC and then backfill. Also seal the annulus between the 8" PVC and 9-5/8" riser pipe with cement or epoxy.

5. Wellhead outlet will be a 9" or 11" rotating head with a 7" outlet connected to a 7" blooie line that will flow to the mud pit.

Rig Mobilization:

6. Comply with all NMOCD, BLM, and well owner's safety regulations. MOL and RU a daylight pulling unit. Conduct safety meeting for all personnel on location. Set the following equipment: fresh water tank, mud circulating pit; steel waste pit; cat-walk with 6- 3-1/2" drill collars on top; pipe racks to hold 500' of 2-7/8" tubing work string; a power swivel and cementing equipment.

7. Install a companion flange on the 9-5/8" riser pipe and then NU a drilling spool or rotating head that has a 7" outlet. Install a 7" relief line from the drilling spool to the mud pit. Also lay a relief line to the steel waste fluid pit. Install a stripping head on the top of the drilling spool. Rig up the mud pump and pit to circulate fluid down a tubing string and up the 8" PVC / 9-5/8" riser to drill out this well.

Well Clean Out:

8. Pick up a 6-3/4" bit and one 3-1/2" drill collar and start drilling the anode wires and 1" PVC vent tube. Note: any changes in the well's water flow while drilling out the wires and reaming down. Try different bits and mills to determine the most effective bottom hole assembly to facilitate drilling.

9. If the anode cable lines and the bodies of the anodes can not be effectively drilled, then pick up a 20' section of 6-3/4" washover pipe the drill collars and 2-7/8" workstring. Work this washover pipe down over the anodes and 1" vent pipe. Fish out the anodes and lines to as deep as possible.

10. Pull and recover the 1" PVC vent tube (500' deep) and anodes (30 anodes setting from 190' to 480' with lead wires to surface). Note: any changes in the well's water flow while cleaning out the well.

11. Run an electric log from total depth to the shoe of the 8" PV pipe. Identify the better water bearing zones. The geologic review anticipates a bottom water sand from 330' to 350' and a middle water sand from 120' to 140'. Block off the rotating head outlet and rig down the 7" relief line to the mud pit. Re-configure an outlet to the steel waste pit.

Well Plug and Abandonment:

12. **Plug # 1 (7.875" Open Hole, 500'- 75):** RIH with open ended tubing to 450' or as deep as possible. Drop 20 cubic feet of "plug it" (bentonite gel balls, sufficient to fill 50' of 7.875" open hole) down the tubing and allow this material time to settle. Wait 1 to 3 hours and then tag top of the gel plug. Repeat this procedure until the shallowest water sand (identified from the logs) is covered with 50' of gel. TOH and LD tubing. Shut well in and wait on the gel over night. TIH and tag the gel plug.

13. **Plug # 2 (7.875" Open Hole and 8" PVC surface pipe, approximately 75' to Surface):** After tagging the gel plug, then mix approximately 25 sxs Class B cement and spot a balance plug from the top of the gel plug to surface. TOH and LD tubing. Shut well in and WOC. TIH and tag cement top. Fill the casing as necessary.

14. ND BOP and cut off the surface pipe below surface. Install an underground marker with cement to mark this well's location. RD and MOL. Clean up and restore the location as necessary.

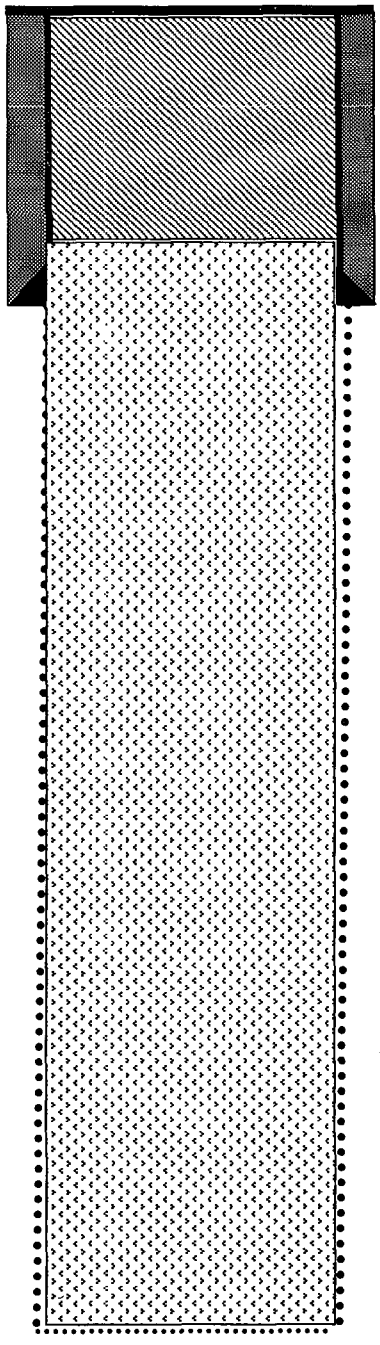
Cathodic Protection Station #1989

Proposed Plugged Well

Section 13, T-28-N, R-10-W, San Juan County, NM

Trunk & Lat 2B-28

Today's Date: **7/17/09**
Drilled: 10/1/04
Elevation: 5388' GL



Surface Cement – reported 8 sxs Portand
(from surface to approximately 25')

Plug #2 75' - Surface
fill 7 875" Hole and 8" PVC
with 25 sxs cement

Surface Pipe" 100' of 8" PVC
Cemented with 28 sxs cement

Plug #1 500' – 75'
fill 7.875" Hole with betonite gel
plugs in 30 to 50' stages

7.875" Hole

500' TD

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State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144 CLEZ
July 21, 2008

For closed-loop systems *that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure*, submit to the appropriate NMOCD District Office.

Closed-Loop System Permit or Closure Plan Application

(that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

Type of action: ☐ Permit ☐ Closure

Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.

Operator: EPCO, Inc. OGRID #:

Address: 2727 North Loop West, Houston, TX 77008-1044

Facility or well name: Cathotic Well CPS #1989, located near the Burlington, McClanahan #18 Well

API Number: 30-045-07513 OCD Permit Number:

U/L or Qtr/Qtr Unit A, NE NE Section 13 Township 28 N Range 10W County: San Juan

Center of Proposed Design: Latitude 36° 39' 58.61" Longitude 107° 50' 28.63" NAD: ☐1927 ☐ 1983

Surface Owner: ☐X Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.

☐X **Closed-loop System:** Subsection H of 19.15.17.11 NMAC

Operation: ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) ☐X P&A

☐X Above Ground Steel Tanks or ☐ Haul-off Bins

3.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.3.103 NMAC

4.

Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐X Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC

☐X Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC

☐X Closure Plan (Please complete Box 5) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number:

☐ Previously Approved Operating and Maintenance Plan API Number:

5.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: Envirotech Disposal Facility Permit Number: NM-01-0011

Disposal Facility Name: Basin Disposal Disposal Facility Permit Number: NM-01-005

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐X Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐X Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

6.

Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): David R. Smith Title: Senior Environmental Scientist

Signature: Date: July 20, 2009

e-mail address: drsmith@epco.com Telephone: 713-803-2286

7.
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only)

OCD Representative Signature: Brandon Powell **Approval Date:** 8-21-09

Title: Enviro/Spec **OCD Permit Number:**

8.
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:**

9.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: Disposal Facility Permit Number:

Disposal Facility Name: Disposal Facility Permit Number:

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

10.
Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Title:

Signature: Date:

e-mail address: Telephone:

ENTERPRISE FIELD SERVICES, LLC.
Closed-Loop System Plan: Workover or P&A

In accordance with Rule 19.15.17 NMAC, the following plan describes the general Design, Operating & Maintenance, and Closure of the proposed Closed-Loop systems for this well.

Closed-Loop Design Plan:
The Closed-Loop System will consist of one or more temporary above-ground steel tank(s) or waste pit(s) suitable for holding all cuttings and fluids circulated from the well during the planned rig operations. The tank(s) will be of sufficient volume to maintain a safe free-board between disposal of the liquids and solids from rig operations. Additional design considerations include:

1. This Closed-Loop System will not use a drying pad, temporary pit, below-grade tank or sump.
2. Fencing is not required for an above-ground closed-loop system.
3. It will be signed in compliance with 19.15.17.11.C NMAC.
4. A frac tank will be on location to store fresh or KCl water.
5. Tanks will be placed on active and disturbed areas of the well location and within the existing ROW footprint.

Closed-Loop Operating Plan:
The Closed-Loop System will be operated and maintained: to contain liquids and solids, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. The following steps will be followed to attain this goal:

1. The liquids in the steel tank(s) will be vacuumed out and disposed of at one of the following facilities depending on the proximity of the well and the disposal volumes: Auga Moss – Pretty Lady (Permit 30-045-30922); Basin Disposal (Permit: NM-01-0005); Sunco Disposal #1 (NM 01-009) or T-N-T Environmental (NM 01-008).
2. Solids in the Closed-Loop tank will be vacuumed out and disposed of at one of the following facilities depending on the proximity of the well and the disposal volumes: Envirotech (Permit Number NM-01-0011); Industrial Ecosystems Inc (Permit NM 1-10-B) or T-N-T Environmental (NM 01-008) on a periodic basis as necessary to prevent over topping.
3. No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the tank(s). Only fluids or cutting intrinsic to, used or generated by rig operations will be placed or stored in the tank(s).
4. The Division District office will be notified immediately of the discovery of compromised integrity of the Closed-Loop System. Upon discovery of the compromised tank, repairs will be enacted immediately.
5. All of the above operations will be inspected each day and any irregularities will be recorded, signed and dated. During rig operations the inspection will be daily.

Closed-Loop Closure Plan:

The Closed-Loop System will be closed in accordance with 19.15.17.13.
This will be done by:

1. Each load or tank will be tested for pH. Any load testing less than six will be treated to reduce acidity before transport to any disposal facility.
2. Liquids will be hauled to one of the following facilities depending on the proximity of the disposal well and disposal volumes: Auga Moss – Pretty Lady (Permit 30-045-30922); Basin Disposal (Permit: NM-01-0005); Sunco Disposal #1 (NM 01-009) or T-N-T Environmental (NM 01-008).
3. Non Exempt fluids will be tested and transported Sunco Disposal #1 (NM 01-009) or T-N-T Environmental (NM 01-008).

4. Solids and sludge will be transported to an approved facility: Envirotech (Permit Number NM-01-0011); Industrial Ecosystems Inc (Permit NM 1-10-B) or T-N-T Environmental (NM 01-008) as reasonable as possible after the rig activities.
5. Removal of the tank(s) from the well location after the rig activities has been completed.
6. At the time of well abandonment, the site will be reclaimed and re-vegetated per BLM requirements as allowed by the NMOCD/BLM memorandum of understanding.

SITE HEALTH AND SAFETY PLAN

Project and Location:

Plugging and Abandoning
Enterprise Holdings, LLC Cathodic Protection Station Well 1989
Latitude 36°39'58.61", Longitude 107°50'28.63"
San Juan County, NM

PREPARED FOR:

Enterprise Holdings, LLC
1100 Louisiana Street
Houston, TX 77210-5227

PREPARED BY:
Souder Miller & Associates
612 East Murray Drive
FARMINGTON, NM
(505) 325-5667

DATE: 7/27/09

TABLE OF CONTENTS

I. INTRODUCTION:

The health and safety of *Souder Miller & Associates (SMA)* employees, SMA subcontractors and their employees, and the general public is of primary importance. The inherent danger involved in the handling of hazardous materials, working around drilling and heavy equipment, and danger associated with any job site requires that all participants in this project become familiar with the contents of this Health and Safety plan and abide by its provisions.

II. SITE DESCRIPTION

Date: 7/27/09

Location: **EPCO Cathodic Protection Well CPS 1989**
Latitude 36°39'58.61", Longitude 107°50'28.63"

NENE Section 13-T28N-R10W, NMPM San Juan County, New Mexico

Hazards: Potential hazards on the job site include: heavy equipment, operating drilling rig, acidic produced water (pH < 3), country road traffic, overhead hazards, falling tripping hazards, and heat stress. Other hazards may be identified as job progresses and will be discussed at that time.

Area affected: Cathodic Protection Well CPS 1989 Pad and immediate vicinity
(Site Description)
The specific areas of interest are the well pad and associated bermed area, tank and other fluids storage containers.

Surrounding population: The surrounding area consists of the following: Rural and distant Rural Residential

III. OBJECTIVES

Task 1 Well Pad Construction and removal of tanks and barrels

Task 2 Re-entering, decommissioning, and plugging the well

Task 3 Disposal of fluids and solids

Task 4 Reclaim and re-seed the location as required

IV. ON-SITE ORGANIZATION & COORDINATION

The following personnel are designated to carry out the stated job functions on site. (*Note: one person may carry out more than one job function.)*

Souder Miller & Associates :

PROJECT TEAM LEADER/ON-SITE COORDINATOR: Denny Foust

FIELD TEAM LEADER: Thomas Long

ALTERNATES: Denny Foust, Cynthia Gray

OWNER: Enterprise Holdings, LLC

FEDERAL AGENCIES: Bureau of Land Management

STATE or TRIBAL AGENCIES: New Mexico Oil Conservation Division

Other Agencies: San Juan County

V. ON-SITE CONTROL

The occupancy of the area will be minimal. Only key personnel will be in attendance. Representatives of involved agencies may include the following: SMA and Subcontractors, Bureau of Land Management, New Mexico Oil Conservation Division.

Control boundaries are limited to the well pad and access road. All personnel involved in the project will be required to adhere to all boundaries and rules regarding the project.

VI. HAZARDS EVALUATION

Tables 1 and 2 list several potential hazards that might be associated with execution of this project. This list is by no means all inclusive and other unforeseen hazards may exist contingent upon conditions.

Table 1
Possible Chemical Hazards

Substances Involved	Concentration	Fire	Eyes	Skin	Respiratory
Acidic Produced Water pH <4	Variable	N/A	**Mod**	**Mod.**	Slt.
Gasoline	Variable	**Mod.**	Slt,	Slt.	Slt.
Diesel	Variable	**Mod.**	Slt.	Slt.	Slt.
Grease	Variable	Slt	Slt.	Slt.	Slt.
Anti-Freeze	Ethylene Glycol Variable	NA	Slt.	Slt	Slt.
Used Oil	Variable	Slt.	Slt.	Slt.	Slt.
Solvent/Cleaners pH Approximate Range 3.5 To 11 (Irritating Liquids)	Variable	**Mod.**	Slt.	Slt.	Slt.

Legend :

Slt.	Slight
Mod	Moderate .
Hi.	High
IDLH	Immediately Dangerous to Life and Health
NA	Not Applicable

Table 2
Potential Health and Safety Hazards

Hazard	Task 1:	Task 2:	Task 3	Task 4
Inhalation Hazard	Slt	Slt	Slt	NA
Acidic Produced Water	**Mod**	**Mod**	**Mod**	NA
Noise	**Mod**	**Mod**	Slt	Slt
Heat/Cold Stress	**Mod**	**Mod**	Slt	Slt
Overhead Lines	Slt	Slt	Slt	Slt
Potential Fire/Explosion	Slt	Slt	Slt	N/A
High Pressure Petroleum	NA	NA	NA	NA
Collapsing Of Sidewalls	NA	NA	NA	NA
Confined Spaces	NA	Slt	NA	NA
Physical Injury	Slt	Slt	Slt	Slt
Buried Piping/Tanks	**Mod**	NA	NA	**Mod**
Skin Hazards	Slt	**Mod**	**Mod**	Slt
Ventilation Problems	NA	Slt	Slt	NA
Vandalism	Slt	Slt	Slt	NA
Heavy Equipment/Trucking	**Mod**	**Mod**	**Mod**	**Mod**
Air Monitoring	NA	NA	NA	NA

VII. PERSONAL PROTECTIVE EQUIPMENT

A. Air Monitoring:

As no airborne volatile organics or other chemical hazards have been identified in conjunction with the tasks to be performed, no air monitoring will be required.

B. Produced Water pH Monitoring:

The primary chemical/physical hazard identified associated with the entire project is low pH water being produced by the CPS 1989 Cathodic Well. pH levels as low as 2.0 have been previously recorded in the flowing water from the well. Due to potential hazards to skin and eyes, pH levels of the water and associated drilling fluids returned to the surface during operations will require monitoring. Such monitoring will be performed using either an electronic meter or appropriate pH paper at intervals to be determined. The results will determine the level of PPE required for those with potential exposure.

C. Personal Protective Equipment Matrix:

	COVERALL	HARDHAT	GLOVES	SAFETY BOOTS	NOMEX	HEARING PROTECTION	SAFETY GLASSES W/SIDE SHIELDS	OTHER
TASK 1 CONSTRUCTION OF PAD		X	X	X			X	
TASK 2 PLUGGING OF WELL		X	X	X		X	X	Rubber gloves, rubber overboots, face shields contingent on pH
TASK 3 DISPOSAL OF FLUIDS AND SOLIDS		X	X	X			X	Rubber gloves, rubber overboots, face shields contingent on pH
TASK 4 RECLAMATION & RESEEDING		X	X	X			X	

During Tasks 2 & 3, a fresh water washing station will be established. Sufficient fresh water will be at the station to wash a minimum of six personnel at all times. After washing, a neutralizing solution will be available for application to any skin exposed to acidic water.

VIII. PROTOCOL

The following briefly describes the protocol to be followed for any soil, water, or chemical samples to be taken at a site. A working knowledge of applicable EPA SW-846, sampling and analytical procedures and proper use of field testing equipment necessary.

A. Water samples:

Laboratory pH for documentation – Using new Nitrile or similar acid-resistant gloves, catch and place sample in a 40 mL VOA glass vial with Teflon closure, no airspace present, and no preservative. Keep cool with ice in cooler, use chain-of-custody sampling procedures, and transport to laboratory.

IX. SITE WORK PLAN

This project will be completed in the Tasks outlined in Section B. The following section outlines the key personnel and their responsibilities:

Project Team Leader: Denny Foust
Souder Miller & Associates
Farmington, NM (505) 325-5667

Alternates:

Cynthia Gray (SMA)

Thomas Long (SMA)

Field Drilling Supervisor: Phillip Fitzpatrick (A Plus Well Service)

The Project Team Leader will function as the Project Manager, Site Health & Safety Officer, Site Supervisor, and sampler for this Project.

Tailgate safety meetings will be held daily and all personnel will be briefed on the contents of this plan prior to initiating any efforts. Tailgates will also cover any safety and/or health issues not anticipated or addressed in this plan. The Project Manager will be responsible for briefing and record keeping.

X. COMMUNICATION PROCEDURES

Radio communication is not anticipated to be essential for this project. Personnel in the Exclusion Zone should be in visual contact of the Project Team Leader.

The following standard hand signals will be used:

Grip partner's wrist or both hands around waist	Leave area immediately
Hands on top of head	Need assistance
Thumbs up	OK, I'm all right, I understand
Thumbs down	NO, Negative

Others as needed while handling, moving, or loading materials or operating equipment, are acceptable provided that all personnel involved agree to their meaning.

Telephone communication will be available in the Staging Area by mobile phone.

XI. DECONTAMINATION PROCEDURES

The following are a brief summary of decontamination procedures. Common sense should be used at all times.

A. Personal Decontamination:

The following procedure assumes level "D" Personal Protective Equipment (PPE). Prior to entering a vehicle and leaving the site, coveralls are to be doffed and placed in appropriate laundry/duffel bags in the reduction zone, and hands and face are to be washed.

For all other levels of PPE, PPE are to be doffed in the reduction zone, Tyvek and other disposables will be placed with the waste for off-site disposal, and all other reusable PPE will be washed with brushes or soapy rags and rinsed by hand sprayers. All exposed skin to be washed in reduction zone also.

XII. CONTINGENCIES

A. FIRST AID MEASURES/MEDICAL EMERGENCIES

The nearest hospital is located **San Juan Regional Hospital, 801 West Maple, Farmington, NM . Ambulance and Air Care emergency medical response are available through the San Juan County 911 Dispatch Center**

In the event that personnel exposure symptoms occur, the following procedures will be used:

Prior to removing victim from hot zone or administering first aid, decontamination procedures will be performed.

B. PETROLEUM PRODUCTS / ACIDIC LIQUIDS:

1. Eye contact:

Flush eye immediately with copious amounts of water and repeat until irritation is eliminated. If prolonged irritation occurs for more than 15 minutes, seek medical attention.

2. Skin contact:

Wash exposed area with soap and water. If dermatitis or severe reddening occurs, seek medical attention.

3. Inhalation:

Remove person into fresh air. If symptom occurs for more than 15 minutes, seek medical attention.

4. Ingestion:

Do not induce vomiting, seek medical attention.

C. PHONE LIST:

AMBULANCE	**911**
POLICE, FIRE & RESCUE	**911**
STATE POLICE	
POISON CONTROL	1-800-362-0101
CHEMTREC	1-800-424-8802

First aid and emergency fire equipment will be available in company vehicles.

D. ENVIRONMENTAL MONITORING

The following environmental monitoring instruments will be used on site:

A pH meter will be available on site to measure the acidity of fluids brought to the surface.

E. EMERGENCY PROCEDURES (to be modified as required for incident)

The following standard emergency procedures will be used by on site personnel. The Site Safety Officer shall be notified of any on site emergencies and be responsible for ensuring that the appropriate procedures are followed.

1. Personal Injury in the Work Zone:

Upon notification of an injury in the Work Zone, all site personnel shall assemble in the Support Zone. The rescue team will enter the Work Zone (if required) to remove the injured person to the hotline. Rescue team and victim will be decontaminated prior to leaving the Work Zone. The Site Safety Officer and Project Team Leader shall evaluate the nature of the injury, prior to movement to the Support Zone. Appropriate first aid will be initiated, and contact should be made for an ambulance and with the designated medical facility (if required). No persons shall reenter the Work Zone until the cause of the injury or symptoms are determined.

2. Personal Injury in the Support Zone:

Upon notification of an injury in the Work Zone, the Project Team Leader and Site Safety Officer will assess the nature of the injury. If the cause of the injury or loss of the injured

person does not affect the performance of remaining personnel, operations may continue. If the injury increases the risk to others, the designated emergency signal horn shall be sounded and all site personnel shall move to the Support Zone for further instructions.

In any case, the appropriate first aid will be initiated with necessary follow-up as stated above.

3. Fire / Explosion:

Upon notification of a fire or explosion on site, all site personnel will assemble at the Support Zone. The fire department shall be alerted and all personnel moved to a safe distance from the involved area. *Fire extinguishers shall be used with discretion to minimize the risk of fire and explosion that would result in injuries.*

4. Personal Protective Equipment Failure:

If any worker experiences a failure or alteration of protective equipment that affects the protection factor, the affected person shall immediately leave the Work Zone. Reentry shall not be permitted until the equipment has been repaired or replaced.

5. Other Equipment Failure:

If any other equipment fails to operate properly, the Project Team Leader shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the Work Zone until the situation is evaluated and appropriate actions taken.

In all situations, when an on site emergency results in evacuation of the Work Zone, personnel shall not reenter until:

1. ***The hazards have been reassessed.***
2. ***The conditions resulting in the emergency have been corrected.***
3. ***The Safety Plan has been reviewed, and personnel have been briefed on any changes in the Safety Plan.***

XIII. CLOSURES AND SIGNATURES

This plan has been reviewed and has the full approval of the following Management.

Owner: _____
NAME: David Smith, P.G.
Enterprise Holdings, Inc.
TITLE: Senior Environmental Scientist
DATE:

Consultant/Contractor _____
NAME: Denny Foust/Team Leader
Souder Miller & Associates
TITLE: Senior Scientist
DATE:

All site personnel have read the above plan and are familiar with its provisions.

	Print Name	Signature
Safety Officer	Thomas Long	_____
Project Team Leader	Denny Foust	_____
Other Personnel	_____	_____

Appendix A:

Cathodic Protection Well 1989 Plugging Plan

Plug & Abandonment Procedure

Cathodic Protection Station #1989

Section 13, T28N, R10W, San Juan County, New Mexico
Trunk & Lat 2B-28
Lat: 36° 39' 58.61" / Long: 107° 50' 28.63"

Pre Mobilization Work:

a. Contact San Juan County about restricting road access.
b. One Call the worksite, notify NMOCD and BLM of start-up date
c. This project requires the Well Owner to obtain an approved NMOCD C-144 CLEZ Closed-Loop System Permit for the use of steel tanks to hold waste fluids circulated from the well and cement wash up.

Well Site Preparation:

Perform pre-work Job Hazard Assessment confirmation. Review JHA and Site Specific Health and Safety Plan with all on-location workers. Review evacuation plan and designate assembly area with same.

1. Remove existing surface equipment from the location. Also remove power pole that is approximately 15' north of the well. Power has been disconnected.
2. Restrict and / or re-direct vehicle travel around the worksite. Place barricades and lights as appropriate. Install rig anchors next to the road and in or next to the arroyo (may need to cement into place due to poor soil conditions). Block off or restrict use of the road to the south of the well where the rig guy lines will cross the road.

3. Dig out around the 8" PVC pipe approximately 6' deep. May need a super sucker to reduce the water level while digging around the 8" PVC pipe depending on water level (note: this well is located next to wash). Extend the 8" PVC pipe up to be approximately 6' above ground level.

4. Then install a 9-5/8" steel riser pipe (approximately 14' long) with a 24" washer on the base over the 8" PVC so the washer sets on dirt to support the pipe above ground level. Then cement the outside of the 9-5/8" pipe and washer with 10 to 20 yards of redi-mix concrete. WOC and then backfill. Also seal the annulus between the 8" PVC and 9-5/8" riser pipe with cement or epoxy.

5. Wellhead outlet will be a 9" or 11" rotating head with a 7" outlet connected to a 7" blooie line that will flow to the mud pit.

Rig Mobilization:

6. Comply with all NMOCD, BLM, and well owner's safety regulations. MOL and RU a daylight pulling unit. Conduct safety meeting for all personnel on location. Set the following equipment: fresh water tank, mud circulating pit; steel waste pit; cat-walk with 6- 3-1/2" drill collars on top; pipe racks to hold 500' of 2-7/8" tubing work string; a power swivel and cementing equipment.

7. Install a companion flange on the 9-5/8" riser pipe and then NU a drilling spool or rotating head that has a 7" outlet. Install a 7" relief line from the drilling spool to the mud pit. Also lay a relief line to the steel waste fluid pit. Install a stripping head on the top of the drilling spool. Rig up the mud pump and pit to circulate fluid down a tubing string and up the 8" PVC / 9-5/8" riser to drill out this well.

Well Clean Out:

8. Pick up a 6-3/4" bit and one 3-1/2" drill collar and start drilling the anode wires and 1" PVC vent tube. Note: any changes in the well's water flow while drilling out the wires and reaming down. Try different bits and mills to determine the most effective bottom hole assembly to facilitate drilling.

9. If the anode cable lines and the bodies of the anodes can not be effectively drilled, then pick up a 20' section of 6-3/4" washover pipe the drill collars and 2-7/8" workstring. Work this washover pipe down over the anodes and 1" vent pipe. Fish out the anodes and lines to as deep as possible.

10. Pull and recover the 1" PVC vent tube (500' deep) and anodes (30 anodes setting from 190' to 480' with lead wires to surface). Note: any changes in the well's water flow while cleaning out the well.

11. Run an electric log from total depth to the shoe of the 8" PV pipe. Identify the better water bearing zones. The geologic review anticipates a bottom water sand from 330' to 350' and a middle water sand from 120' to 140'. Block off the rotating head outlet and rig down the 7" relief line to the mud pit. Re-configure an outlet to the steel waste pit.

Well Plug and Abandonment:

12. **Plug # 1 (7.875" Open Hole, 500'- 75):** RIH with open ended tubing to 450' or as deep as possible. Drop 20 cubic feet of "plug it" (bentonite gel balls, sufficient to fill 50' of 7.875" open hole) down the tubing and allow this material time to settle. Wait 1 to 3 hours and then tag top of the gel plug. Repeat this procedure until the shallowest water sand (identified from the logs) is covered with 50' of gel. TOH and LD tubing. Shut well in and wait on the gel over night. TIH and tag the gel plug.

13. **Plug # 2 (7.875" Open Hole and 8" PVC surface pipe, approximately 75' to Surface):** After tagging the gel plug, then mix approximately 25 sxs Class B cement and spot a balance plug from the top of the gel plug to surface. TOH and LD tubing. Shut well in and WOC. TIH and tag cement top. Fill the casing as necessary.

14. ND BOP and cut off the surface pipe below surface. Install an underground marker with cement to mark this well's location. RD and MOL. Clean up and restore the location as necessary.

Appendix B:

A-Plus, Inc. Drilling Safety Program

A PLUS WELL SERVICE

HEALTH, SAFETY AND ENVIRONEMENTAL POLICY

COMMITMENT:

A-Plus Well Service is deeply committed to protecting the health and safety of it employees and the environment in which it conducts operations. Each employee and sub-contractor we utilize has a responsibility to contribute to a safe and healthful workplace and to protect the environment. **Each employee of A-Plus or any sub-contractor is empowered to halt any activity or operation they see unsafe or environmentally unsound. It is the policy of A-Plus Well Service for all to promote and maintain safe working conditions.**

COMPLIANCE:

A-Plus Well Service will conduct its operations and business in compliance with the letter and spirit of applicable laws, regulations, and standards. Management is committed to accomplish the objectives of this Health, Safety, and Environmental Program. **All employees are expected to comply with applicable laws, regulations, and standards of operations and business. Failure to do so may result in disciplinary action, including termination of employment.**

PERFORMANCE:

A-Plus Well Service believes compliance with its Health, Safety, and Environmental Policy is an area of accountability for all employees, and is thus committed to compensating employees for their efforts towards excellence in the health, safety and environmental workplace record. A-Plus Well Service continually strives to improve our workplace environment for the betterment of our employees, their families, our customers and our community.

HEALTH, SAFETY AND ENVIRONMENTAL GOALS

Overall, the annual goals of all A-Plus Well Service employees are: ZERO injury incidents and ZERO environmental incidents; prompt and accurate reporting of all events including near misses, personal injury and spills. Individual commitment to these goals is expected and required from each employee.

William F. Clark
President

Kevin Jones
Safety Coordinator

SAFETY IS THE RESULT OF DOING THINGS RIGHT!

Table of Contents

Section 1: Job Classifications

The following job classifications are on A-Plus Well Service. Inc. Well Servicing Units:

- FIELD SUPERVISOR: Supervises the operator and crew members. Instructs and trains operators and crew members in proper use of equipment. Conducts or participates in JSA and tailgate safety meetings. Anticipates, plans and directs well site/rig move activities. Calculates, records and reports daily activities and costs to office. Calculates and then directs cement jobs, typically operates cement pump truck when pumping cement slurries. Acts as a liaison between the operators's Company Man, the jurisdictional agency representative and A-Plus Well Service management.

- OPERATOR: Conducts or assigns a crew member to conduct daily safety meetings, operates unit and supervises crew members in all activities. Is in charge of maintaining and training crew members how to safely operate and maintain equipment. Is in charge of training crew members in safe and workmanlike practices. Keep records of operations and work hours if this is not done by the Field Supervisor.

- DERRICK MAN: Works in derrick and is the assistant to the operator, helps in the overall operation and maintenance of equipment.

- FLOORHAND: Works on the well servicing unit floor during trips; operates power tongs and back-up; and helps in overall operation and maintenance of unit.

- FLOORHAND TRAINEE: Trainee's objective is to learn the responsibilities of the floor hand and become proficient at performing those duties. Trainee should become familiar with the responsibilities of the derrick man and the operator and should become familiar with overall rig safety and workmanlike practices.

During cement operations job duties are:

- FIELD SUPERVISOR: Operates cementing unit and directs the operator and crew.
- OPERATOR: Will change the water valves and operate brake handle on unit. He is responsible to insure cleaning and maintenance of the cementing equipment is done.
- DERRICK MAN & FLOORHANDS: Dump cement from bulk truck and stirs the mixing tub. Weighs cement slurry as required. Clean out the hopper. Will clean and maintain all the cementing equipment.

During Wireline operations the job duties are:

- FIELD SUPERVISOR: Is present in the wireline unit. Observes pick up and slack off weights. Directs activity depth and observes the operation for safety concerns.
- RIG CREW: Raises and lowers sheave with blocks. Lay down tools and guides tools when picking up. Guide tools in/out of the well.

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DRUG AND ALCOHOL TESTING – CDL EMPLOYEES:

DRUGS AND OTHER CONTROLLED SUBSTANCES: Are considered to be a detriment to safety and employee welfare, their use and/or possession while on duty is prohibited. The following drugs are controlled and will be tested for according to DOT guidelines: Marijuana, Cocaine, Opiates, Phencyclidine, and Amphetamines. A-Plus Well Service, or its designated representative, reserves the right to observe the drug test in accordance with DOT regulations.

PRESCRIPTION DRUGS: Prescription drugs as prescribed by a physician to the specific employee, must be verified as not to interfere with safety sensitive operations. Employees must notify their supervisor of any prescribed drug that an employee is using and provide information if such prescribed drug usage might interfere with the employee's capability to perform safety sensitive tasks.

DRUG TEST RECORDS RELEASE: A-Plus Well Service, in compliance with DOT, requires that all prospective CDL employees to furnish a release of past employer's drug and alcohol testing results. The release will be confidential and will be maintained in accordance with DOT regulations in the employee's personnel file.

PRE-EMPLOYMENT: A-Plus Well Service requires new CDL employees to have a pre-employment drug test before performing any safety sensitive tasks.

POST ACCIDENT: In the event that an employee, during the performance of DOT-regulated duties, is involved in an accident where one of the following three conditions is meet, the employee must be tested for breath alcohol as well as controlled substances within the time limits allowed by DOT regulations:

- A life was lost;
- You are cited for a moving violation and the incident involved an injury requiring medical treatment away from the scene;
- You are cited for a moving violation and the incident involved the towing of one or more vehicles from the scene.

In addition to the above DOT regulations, in accordance with A-Plus' overall Drug and Alcohol Policy, a CDL driver may be required to take a drug and / or alcohol test after any incident, accident or significant near miss.

RANDOM: Testing is to be done periodically under DOT regulations for all CDL employees. Testing shall be unannounced and random, based on a scientifically valid method that ensures each employee shall have an equal chance of being selected each time selections are made.

REASONABLE SUSPICION: An employee may be required to submit to an alcohol and/or controlled substances test when a trained supervisor believes that an employee may be under the influence of alcohol and/or drugs.

Section 3: General Rules

These are several general safety rules that are designed to prevent injuries.
Rules do not prevent injuries, people thinking and observing the rules prevents injuries.

1. **All employees will be given a copy of the A-Plus Well Service, Inc. Health, Safety and Environmental Program. Upon receipt the employee will read/review the program and sign a receipt for the program. The receipt will be returned to and kept in their personnel file.**

2. **Communication:**

   A. Prior to performing different jobs during the work day, crews shall hold a brief safety meeting (JHA) discussing the upcoming work events. **Hazards should be identified and mitigated appropriately.** If a deviation from the planned job occurs, or you feel a new plan is in order for safety, stop work as soon as possible and conduct an additional JHA that address why the deviation was made, or should be made, and if necessary made a new plan to complete the scope of work at hand.

   B. Report all accidents, incidents, injuries, near misses and potential hazards, no matter how small, to your immediate supervisor as soon as possible. You and your supervisor will fill out an incident/accident report and submit it to the Safety Coordinator.

   C. Report all fires, leaks and spills to your immediate supervisor. The supervisor will fill out a fire/spill report and submit it to the Safety Coordinator and the appropriate other parties.

   D. Immediately report any unsafe working or environmental condition to your immediate supervisor. Your are empowered to halt any activity or operation you see unsafe or environmentally unsound.

   E. Isolation of energy sources must be communicated through a lock out/tag out procedure. See lock out and tag out in Section 4 - Safe Working Practices.

   F. All visitors on an A-Plus work / well site must report to the A-Plus supervisor or operator's Company Man before entering.

   G. Place no smoking signs at all A-Plus well sites. Designate a safe smoking area outside of the rig guylines and upwind of any ignitable source.

   H. When spotting heavy vehicles on location hazards must be communicated to the driver through the use of a spotter. Agree on hand signals prior to spotting equipment.

   I. When electric line operations are ongoing all cell phones and radios must be turned off. This must be communicated to all visitors at the entrance to any A-Plus Well Service work site while electric line is present through a sign. Prior to rigging up with explosives verify all phones are off.

6. Safety Equipment: It is the responsibility of all personnel to learn how to use all safety equipment in the correct manner.
   A. Fire Extinguishers
      i. One will be placed in every vehicle.
      ii Place one at each anchor while rigging up well servicing rig.
      iii Check and log status of fire extinguishers on a monthly basis.
   B. Safety Belts and Harnesses-each rig has a fall arrest system, derrick climber and safety belt.
      i It is each person's responsibility to use these safety devices at all times when climbing in the derrick.
      ii All personnel Shall wear a full body harness connected to the Fall Protection when more than 6' above ground level.
      iii. Safety Belts and Harnesses shall be inspected prior to each use.
   C. Geronimo Escape Trolley
      i. Have rigged up to the tubing or rod board when derrick man is present in basket.
   D. BOP: Accumulator Unit and Blowout Preventers.
      i. Blind and pipe rams in BOP's will be tested to 250 psi low and 2,000 psi high and charted a minimum of every 6 months. Sign and date the chart. Place the original with the Safety Coordinator and keep an updated copy with the rig at all times.
      ii. Know location and function of accumulator levers for the blind and pipe rams.
      iii. Casing valves and relief lines are to remain open, and all pressures must be bled off, during wellhead nippling down and while installing the blowout preventer. ALL BOP BOLTS MUST BE INSTALLED and tightened before any donut hold down pins (Jam Nuts) are backed out.
   E. First Aid Kits and eye wash stations will be located in the dog house and every vehicle
      i. It is the responsibility of the vehicle driver to check for the presence and the contents of the first aid kit. If kit needs replenishing contact Safety Coordinator.
      ii It is the responsibility of the rig operator to check for the presence and contents of the first aid kit in the dog house. If kit needs replenishing contact Safety Coordinator.
   F. Guy lines
      i. Use proper pattern for derrick and secure with 3 clamps. Flag each line with three flags within 6'-8' of the dead men for visibility.

7. HSE, JSA or Pre Job Hazard Identification:
   A. HSE, JSA or Pre Job Hazard Identification forms will be filled out daily by each rig crew. All A-Plus Well Service employees and personal on location will be required to sign the sheet, Field Supervisors or Operators are required to turn them in daily with their work reports.

8. Rig and equipment inspections:
   A. Once per quarter all rigs and pump trucks will be inspected by the designated inspector.
   B. All other vehicles will be inspected annually by the mechanic staff.
   C. Inspections will be kept on file with the Safety Coordinator.
   D. Action items will be addressed ASAP depending upon severity of item. Inspections reports will be visited during Monday morning safety meetings.

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Lock out – tag out continued:

Procedure: The individual authorized to shut off equipment/machines shall. Locate and identify all energizing devices. Notify all affected employees that a lock-out/tag-out of equipment/machines is going to take place. Know and follow the shutdown procedure for equipment that is to be serviced. Install lock-out/tag-out devices so as to prevent the equipment from being started or activated during servicing. Install tag-out tag/devices at the same locations where each lockout device is installed. Try to activate the equipment/machine before beginning work activity at the equipment's off-on switch.

If the equipment/machine fails to become energized upon trying and all above instructions have been completed, the equipment/machine is considered locked out of service. Upon completion of work, check the following to ensure that nonessential items have been removed, equipment components are operationally intact, all employees have been safely removed, and affected employees are notified that the lock-out/tag-out devices will be removed.

Ensure that the lock-out/tag-out devices are removed only by the employee(s) who applied the devices. Have the supervisor remove any devices, which were applied by an employee who is no longer available, PROVIDING that the supervisor makes a reasonable effort to locate the employee. Ensure that the supervisor notifies the employee that his/her tag has been removed as soon as that employee returns to work. Energize the equipment/machine to ensure that it is operating properly. If more than one individual is required to lockout equipment, each person shall place a personal lock and tag on the isolating device. When multiple lock hasps can be used.

Definitions:

Affected Employee – An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tag-out. Or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Energized – Connected to an energy source or containing residual or stored energy.

Lockout – The placement of a lockout device on an energy isolation device, in accordance with an established procedure, insuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device – A device that utilized a positive means such as lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment.

Servicing and/or Maintenance – Workplace activities such as construction, installing, setting up, adjusting, inspecting, modifying, and/or serving machines or equipment. These activities include lubrication, cleaning or UN-jamming of machi8nes or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energy or startup of the equipment or release of hazardous energy.

Tag-out - The placement of a tag-out device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tag-out device is removed.

Tag-out Device – A prominent warning device, such as a tag and a means of attachment. Which can be securely fastened to an energy-isolating device in accordance with established procedures, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tag-out device is removed.

6. Winch operations

When using a winch line to pick up a load ensure the line, winch, and ginpole are rated to pick up the item. Ensure the item is securely fastened with a harness, chain or other device. Never stand under a load or between a suspended load and another object.
When possible tie off a tag line on heavy loads to help control while picking up and moving.
Prior to picking up loads center the load directly underneath the hoist or in front of the winch.
If load is to be moved, place load as close to the ground as possible prior to moving load.

7. Lifting operations

Proper methods of lifting and handling protect against injury, and make work easier. You need to "think" about what you are going to do before bending to pick up an object. Over time, safe lifting technique should become a habit.

Following are the basics steps of safe lifting and handling

A. Size up the load and check overall conditions. Don't attempt the lift by yourself if the load appears to be too heavy or awkward. Check that there is enough space for movement, and that the footing is good. "Good housekeeping" ensures that you won't trip or stumble over and obstacle.
B. Make certain that your balance is good. Feet should be shoulder width apart, with one foot beside and the other foot behind the object that is to be lifted.
C. Bend (he knees; don't stoop. Keep the back straight, but not vertical. (There is a difference. Tucking in the chin straightens the back.)
D. Grip the load with the palms of your hands and your fingers. The palm grip is much more secure. Tuck in the chin again to make certain your back is straight before starting to lift.
E. Use your body weight to start the load moving, and then lift by pushing up with the legs. This makes full use of the strongest set of muscles.
F. Keep the arms and elbows close to the body while lifting.
G. Carry the load close to the body. Don't twist your body while carrying the load. To change direction, shift your foot position and turn your whole body.
H. Watch where you are going!
I. To lower the object, bend the knees. Don't stoop. To deposit the load on a bench or shelf, place it on the edge and push it into position. Make sure your hands and feet are clear when placing the load.

Make it a habit to follow the above steps when lifting anything-even a relatively light object.

Team lifting must be coordinated:

If the weight, shape, or size of an object makes the job too much for one person, ask for help. Ideally, workers should be of approximately the same size for team lifting. One individual needs to be responsible for control of the action to ensure proper coordination. If one worker lifts too soon, shifts the load, or lowers it improperly, either they or the person working with them may be injured.

10. Loading and hauling:

A. Secure loads with chains, boomers, slings, straps and other load securing devices, a minimum of every 10 foot. Load securing devices should be sized according to load requirements and be in good condition.
B. When loading and hauling tubular goods use at least two stakes per side of the tubing float, properly chock the bottom row of tubing, and prior to hauling properly secure tubing with chains and boomers. Do not overload a float – know how much tubing or casing can be legally placed on a float prior to loading. If necessary use multiple floats to haul tubing.
C. Drivers are responsible for ensuring the truck and trailer is road-worthy. Check all loads before hauling and perform a pre-trip inspection prior to departure.

11. Tank and truck loading and unloading:

A. An operator must be present at all times while taking on or offloading fluid from a water truck/tank.
B. Prior to loading or unloading the brake must be set and wheels chocked.
C. Prior to loading or unloading ensure lines are properly attached, valves are positioned correctly to prevent over-pressuring, and there is over pressure/vacuum protection on vessels and tanks being filled or emptied if appropriate.
D. Smoking in loading/unloading zone is prohibited.
E. Prior to departure inspects work area to ensure all lines are disconnected, valves are in the correct position, chocks are removed, and adequate room exits for truck to pass.

12. Transportation:

A. Driver must be trained and certified to operate the class of vehicle and have a valid driver's license at the time of operation.
B. Driver has a current medical examiners card on his/her person while operating a commercial vehicle.
C. All persons in the vehicle will use seat belts at all times. It is the responsibility of the driver to ensure the passengers are wearing their seat belts.
D. Prior to departure a pre-trip inspection will be performed on all commercial vehicles. The inspection is to be turned into the shop as soon as possible.
E. At the completion of the day a post-trip inspection will be performed on all commercial vehicles. The inspection is to be turned into the shop as soon as possible.
F. Trailers will be towed with a hitch of the proper size and rating. All trailers being towed will be secured with safety chains.
G. All loads, regardless of how short the trip, will be secured in accordance to part 393 of the Federal Motor Carrier Safety Regulations.
    i. At least one tie-down assembly for every 10 linear feet of lading. At a minimum there shall be no less than two tie-downs.
    ii. Loads consisting of metal articles that either individually, or as a combination of articles banded together, weight more than 2000 lbs shall be secured by at least one tie-down assembly over its top for every 8' in length and at least two tie-downs securing each individual article.
H. All loads exceeding the legal size and weight limitations shall have oversize load signs properly displayed on the front and back. Place 12" red flags to the front right and left of the transport vehicle and on each corner of the load.

SECTION 5: TRAINING

1. Monthly safety training meetings:
   A. A-Plus Well Service will provide monthly safety meeting to provide training on typical work topics. Employees are encouraged to suggest safety topics pertinent to home as well as the work place.

2. Commercial drivers license:
   A. A-Plus Well Service will provide the training necessary to obtain a commercial drivers license.

3. Well control:
   A. A-Plus Well Service will either send its well site supervisors to well control school or train them in house.

4. On the job:
   A. Most of the training for new hire employees will come on the job from the rig operator and well site supervisor.

5. Basic safety:
   A. Basic safety training is accomplished at San Juan College Regional Training Center, or other provider, for all new employees.

SECTION 6: COMPANY VEHICE USE POLICY:

Summary:
Company vehicles are to only be driven by employees of A-Plus Well Service. If your wife, child, friend or relative drives the vehicle there is no insurance coverage.

Company vehicles are provided for business purposes. Personal use of the company vehicle is to be limited to the immediate area around Farmington, New Mexico when you are on call during non-working hours. The use of a company car may be revoked at any time, without notice by the company.

Specific Rules:
The following restrictions and prohibitions apply to the use of company vehicles:

1. It is offered only to authorize drivers that have a valid driver's license. You must also have an acceptable Motor Vehicle Department record.
2. To drive a company vehicle, you must be an employee of the company. No wives, girlfriends, children, relatives or anyone else without the specific the permission of Bill Clark may drive the vehicle. The employee to whom the vehicle is assigned is the only person allowed to drive the vehicle.
3. Driving the company vehicle while under the influence of alcohol or any controlled substance is strictly forbidden.

SECTION: 7 COMPANY CELL PHONE POLICY & GUIDELINES

Please read and follow the following policy.

Studies have shown that using a cell phone while driving a vehicle increases the potential for vehicle accidents. When driving a vehicle for our company (company owned or personal), you have one and only one responsibility, and that is driving the vehicle. Safe driving requires 100% attention to the operation of the vehicle. If you are using a cell phone while driving it could put you and others at risk.

Do not use cell phones when conditions are hazardous.

Hazardous conditions may include:

1. **Heavy Traffic** – construction zones, pedestrians, bicycles, schools, and farm equipment.
2. **Terrain / Road Conditions** – narrow two lane, steep, curves, wildlife, no shoulders, one-lane bridges.
3. **Weather** – snow, fog, rain, ice, hail, bright sun.
4. **Environment – Explosion Possibility** – oil and gas well sites, gas stations, compressor stations, flammable liquids (turn off cell phone before exiting the vehicle).

If possible, cell phones should not be used while operating a vehicle. Advise customers and regular callers of A-Plus cell phone policy to limit cell phone use when driving.

- If you are driving, let the voice mail handle the call for you.
- If there are 2 people in the vehicle, let the passenger answer the call and relay the caller's information, requests or questions to the driver.
- If possible do not place calls while driving. Pull over or have a passenger place the call.
- Never pick the phone up off the floor while driving. Pull over and park first.
- If you are alone in the vehicle and must use the phone, then:
  - If on the highway, slow down to 50 mph or less and do not pass other vehicles.
  - If the traffic is light, maintain at least 4 seconds behind the vehicle in front of you.
  - Answer the phone and tell the caller you are going to pull over before beginning the conversation. Place the phone on the seat, and use both hands on the wheel while parking.
  - Or tell the caller you will call him/her after you have parked the vehicle.

You need to understand and comply with this company policy.

Section 9: A-Plus Well Service Emergency Plan

Emergency Response Duties

The following descriptions outline the responsibilities of key personnel for incident response:

Field Supervisor

1) Immediate emergency actions:
   A). Warn personnel
   B). Initiate evacuation of onsite personnel, and the public.
   C). Assure well and surrounding area is secure.
2. Evaluate the situation:
   A). Account for all personnel.
   B). Record pertinent data.
   C). Assess present, and potential for further damage.
3. Establish safe distances and places for refuge for affected personnel.
4. Arrange for emergency treatment, and first aid.

Upon completion for his initial action steps, the Field Supervisor will notify the Rig Superintendent and/or Bill Clark. The Field Supervisor will advise actions taken, his evaluation of the situation, and any immediate need for assistance.

The Field Supervisor and Operator will take further agreed upon actions. The Field Supervisor will act as On-Scene Incident Commander until the Rig Superintendent or other company representative arrives at the scene. Once the Field Supervisor is relieved of his duties as Incident Commander, he will assist with implementing/coordinating operations with other personnel.

The Field Supervisor may relinquish the responsibility of contacting the following personnel to the Rig Superintendent and/or Bill Clark.

1. Local Emergency Response Organizations
2. Environmental/Safety Representatives

Potential Emergencies

Personnel Injury/Death

1) Administer first aid, if trained to do so. Do not move victim unless environment or some other situation creates an imminent danger to the victim or responder. In the event or serious injury or accidental death, the accident scene should not be disturbed, nor operations resumed until receiving approval from management.

2) Call Emergency Medical Services (EMS) and be prepared to provide the following information:

   a). Identify yourself.
   b). State your emergency (How many people injured).
   c). Give accurate directions to the location. Use landmarks or preferably sent someone from the rig to meet responders at a designated place.
   d). Provide a number where you can be reached.
   e). Do not hang up until all information is given to EMS dispatcher.

Note:

Well Procedure will provide Section, Township, and Range for land vehicles, as well as, Latitude and Longitude coordinates for Air Care. Driving instructions to the location are also included.

3) If Air Care responds to the emergency, several conditions must be addressed prior to arrival:

Preparing the Landing Zone (LZ)

1. Air Care needs an area of at least 100' X 100' to safely land.
2. The landing zone (LZ) surface should be as flat and firm as possible, and free of debris that could be blown into the rotor system.
3. Be sure the (LZ) area is free of aboveground wire and other obstructions.
4. Avoid excess people or vehicles in the (LZ) area.
5. Refrain from using flares to designate the (LZ).

Wind Direction

1. Air Care needs to approach and depart the (IZ) into the wind. Plan for this.
2. Be sure the approach and departure path is clear of trees, utility poles, wires. Etc.
3. If there are any potentially hazardous obstacles within the approach/departure corridor, inform the Air Care team during initial radio call.
4. A windsock should be used if available to assist pilot in determining wind direction.

Section 10:

Temporary Record for Employee's Personnel File

Employee Receipt of Health, Safety, and Environmental Program

Today I received this manual and will read it and discuss it with my co-worker and supervisor.

Date:_____ Name:_____

****

Permanent Record for Employee's Personnel File

Employee Safety Commitment:

- I have read this manual (or had it read to me). I have discussed the items that were unclear to me with my immediate supervisor and / or co-workers.
- I understand at any time I can ask questions and will not suffer any adverse consequences.
- I have reviewed this manual with the Safety Coordinator or other appropriate person.
- I will think about my personnel safety all the time,
- I will maintain an outlook for the safety of my-coworkers at all times.
- I will follow the policies and procedures outlined in this manual to help create a safe work environment for myself and my co-workers.
- I understand that if I fail to abide by the rules and policies outlined in this program that I may be terminated.

I am committed to an Awareness for Safety at all times.
I am committed to a Safe Attitude 100% of the time.
I am committed to Safe Actions each and every minute.

_____ _____

Date Employee Signature

Appendix C:

Jet West Safety Program

Job Safety Analysis

Work Activity (job) Description:	**Well Logging**	**JSA #5 WELL LOGGING**
Members of Work Team:		**Date**
Work Sequence (Job Steps)	**Hazards or Potential Accidents**	**Recommendations to Eliminate or Replace Hazard Potential**
Conduct Pre-Job Hazard Assessment	Check-off the hazards that apply to the job	Visually survey work area and identify hazards associated
Conduct Pre-Job Safety Meeting	Discuss the hazards associated with job steps	Review scope of job to be performed
Rig up wire line unit	Overhead work , pinch points, falling heavy objects, possible gas,., Congested work area	Hard hat, safety boots or shoes, watch overhead lifts, use proper rigging, and gloves., Look up and make sure that nothing is above location., Use spotters to set up
Run logs	pinch points, people in work area	Wear gloves and watch hand placement. Flag off area to keep people out while work is ongoing.
Remove logging tools from well	Heavy lifts and pinch points	Wear gloves and watch hand placement. Use two people to lift and set tool on stands.
Rig down wire line unit	Overhead work , pinch points, falling heavy objects, congested area	Hard hat, safety boots or shoes, watch overhead lifts, use proper rigging, and gloves. Use spotters
Personal Protective Equipment	Safety Equipment	Other Equipment or Personnel
[ ] Hard Hat [ ] Safety Glasses w/Side Shields [ ] Steel Toe Safety Boots [ ] Gloves [ ] Hearing Protection where required	[ ] Full Body Harness w/ Shock absorb. Lanyard [ ] Fire Extinguisher(s) [ ] Barricades/Flags [ ] Gas Monitor [ ] SCBA	[ ] Man Lift [ ] Spotter, flag man [ ] Safety [ ] Additiional Supervision [ ] Other specify:

SEPCO PERMIT TO WORK SYSTEMS

Job Safety Analysis

Mahogany Demonstration Project

Work Activity (job) Description: **Task:**	**JSA #**
Members of Work Team:	**Date:**

Work Sequence (Job Steps)	**Hazards or Potential Accidents**	**Recommendations to Eliminate or Replace Hazard Potential**

Personal Protective Equipment	Safety Equipment	Other Equipment or Personnel
[X] Hard Hat	[ ] Full Body Harness w/ Shock absorb. Lanyard	[ ] Man Lift
[X] Safety Glasses w/Side Shields	[ ] Fire Extinguisher(s)	[ ] Spotter
[X] Steel Toe Safety Boots	[ ] Barricades/Flags	[ ] Safety
[X] Gloves	[ ] Gas Monitor	[ ] Additiional Supervision
[X] Hearing Protection where required	[ ] SCBA	[ ] Other specify: