13-691

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Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM-054184

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☐ DRILL ☒ REENTER

7. If Unit or CA Agreement, Name and No.:

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☒ Other SWD ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.: Fireweed 10 Federal SWD No.1 (40161)

2. Name of Operator: Ray Westall Operating, Inc.

9. API Well No.: 30-015-29165

3a. Address: P.O. Box 4, Loco Hills, NM 88255

3b. Phone No. *(include area code)*: 575-677-2372

10. Field and Pool, or Exploratory: SWD; Wolfcamp/Canyon (96136)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface: 1870' FNL & 860' FEL
At proposed prod. zone: Same (vertical well)

11. Sec., T. R. M. or Blk. and Survey or Area: Sec.10, Twp 18-S, Rng 28-E

14. Distance in miles and direction from nearest town or post office*: 11 miles W/SW from Loco Hills, NM

12. County or Parish: Eddy

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 860 feet

16. No. of acres in lease: 1781.21

17. Spacing Unit dedicated to this well: n/a

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 290 feet

19. Proposed Depth: 9500'

20. BLM/BIA Bond No. on file: NM-103853064

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3615.4 - GL

22. Approximate date work will start*: 6/01/2013

23. Estimated duration: 3 weeks for well / 60 days for facility

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature: Ben Stone | Name *(Printed/Typed)*: Ben Stone | Date: 3/08/2013

Title: Agent for Ray Westall Operating, Inc.

Approved by *(Signature)*: James A. Amos | Name *(Printed/Typed)* | Date: SEP 30 2013

Title: FIELD MANAGER | Office: CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

ROSWELL CONTROLLED WATER BASIN

Roswell Controlled Water Basin

Accepted for record
NMOCD
10/8/13

Closed Loop System Item 7.A.
Surface Use Plan

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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 August 1, 2011
Submit one copy to appropriate District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-29165	96136	SWD; Wolfcamp, ~~Canyon~~ Pool

[4] Property Code	[5] Property Name	[6] Well Number
40161	Fireweed '10' Federal (SWD)	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
18862	Ray Westall Operating, Inc.	3615.4'

[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
H	10	18 S	28E		1870'	North	860'	East	Eddy

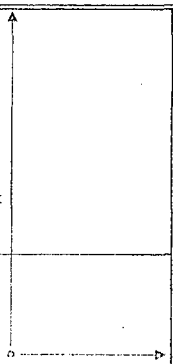
[11] Bottom Hole Location If Different From Surface

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			SWD-1383

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]



[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: 3/07/2013

Ben Stone
Printed Name

ben@sosconsulting.us
E-mail Address

[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.

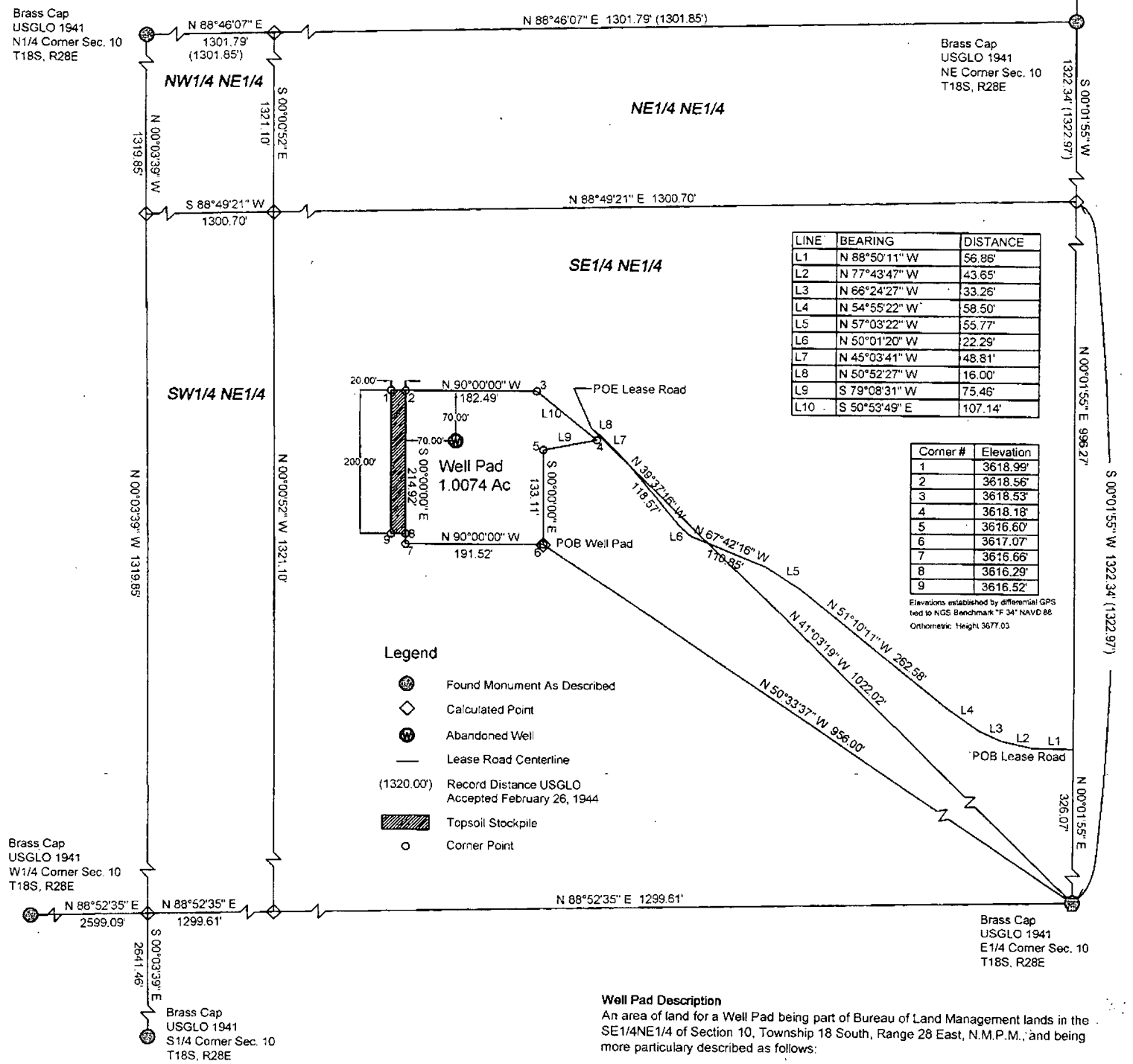
7/29/1996
Date of Survey

Signature and Seal of Professional Surveyor:

Larry A. Fisher - Cert. No.11013
Certificate Number

Miscellaneous Survey of Well Pad and Right-of-Way

Section 10, Township 18 South, Range 28 East, N.M.P.M., Eddy County, State of New Mexico



LINE	BEARING	DISTANCE
L1	N 88°50'11" W	56.86'
L2	N 77°43'47" W	43.65'
L3	N 66°24'27" W	33.26'
L4	N 54°55'22" W	58.50'
L5	N 57°03'22" W	55.77'
L6	N 50°01'20" W	22.29'
L7	N 45°03'41" W	48.81'
L8	N 50°52'27" W	16.00'
L9	S 79°08'31" W	75.46'
L10	S 50°53'49" E	107.14'

Corner #	Elevation
1	3618.99'
2	3618.56'
3	3618.53'
4	3618.18'
5	3616.60'
6	3617.07'
7	3616.66'
8	3616.29'
9	3616.52'

Elevations established by differential GPS tied to NGS Benchmark "F 34" NAVD 88. Orthometric Height 3677.03

Legend

- Found Monument As Described
- Calculated Point
- Abandoned Well
- Lease Road Centerline
- (1320.00') Record Distance USGLO Accepted February 26, 1944
- Topsoil Stockpile
- Corner Point

Basis Of Bearing

The basis of bearing used on this plat was established with concurrent static observations of CORS stations TXKM, TXPC, and P027, and is determined as grid North of New Mexico State Plane East, NAD83 (2011) (EPOCH:2010.0000)

All dimensions on this plat are ground distances and match record unless noted otherwise.

Surveyor's Certificate
State of New Mexico
County of Chaves

I, Jackie D. Atkins, licensed under the laws of the State of New Mexico, hereby certify that I am the Professional Land Surveyor who prepared the above map from field notes of actual surveys conducted by me or under my direction, and that the same is true and correct to the best of my knowledge and belief. I also certify that the above plat meets the minimum standards of surveying in New Mexico as adopted by the New Mexico State Board of Licensure for Professional Engineers and Professional Surveyors.

JACKIE D. ATKINS

Well Pad Description
An area of land for a Well Pad being part of Bureau of Land Management lands in the SE1/4NE1/4 of Section 10, Township 18 South, Range 28 East, N.M.P.M., and being more particulary described as follows:

Beginning at a point that lies N 50°33'37" W a distance of 956.00 feet from the E1/4 Corner of said Section 10 being a USGLO Brass Cap dated 1941, thence N 90°00'00" W a distance of 191.52 feet, thence N 00°00'00" W a distance of 214.92 feet, thence N 90°00'00" E a distance of 182.49 feet, thence S 50°53'49" E a distance of 107.14 feet, thence S 79°08'31" W a distance of 75.46 feet, thence S 00°00'00" E a distance of 133.11 feet to the point of beginning.

Containing an area of 1.0074 Acres more or less.

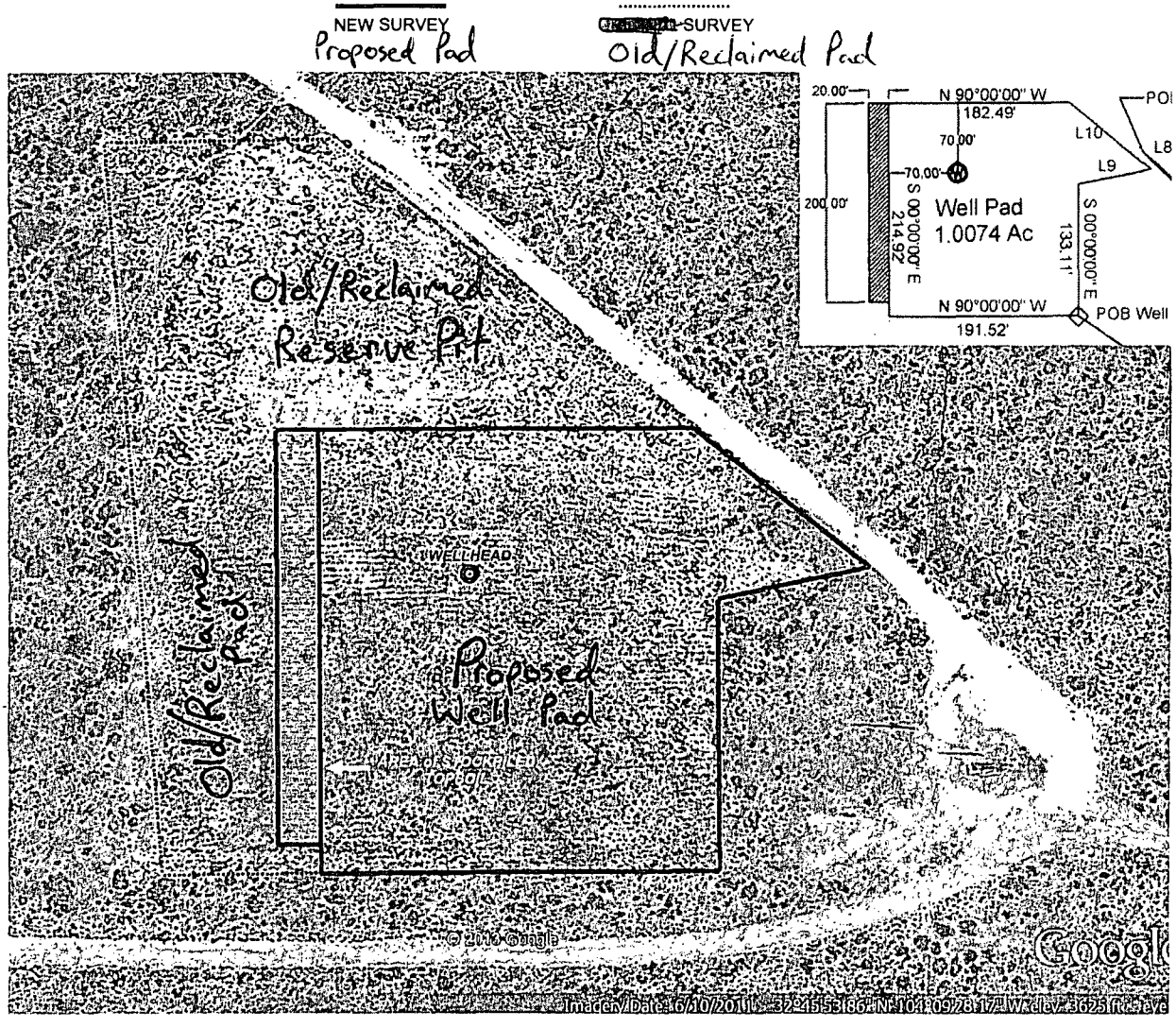
Lease Road Description
An area of land for a 16-foot wide lease road on Bureau of Land Management lands in the SE1/4NE1/4 of Section 10, Township 18 South, Range 28 E, N.M.P.M., being 8 feet wide either side of centerline described as follows:

Beginning at a point on the East section line of said Section 10 that lies N 00°01'55" E a distance of 326.07 feet from the E1/4 Corner of said Section 10 being a USGLO Brass Cap dated 1941, thence N 88°50'11" W a distance of 56.86 feet, thence N 77°43'47" W a distance of 43.65 feet, thence N 66°24'27" W a distance of 33.26 feet, thence N 54°55'22" W a distance of 58.50 feet, thence N 51°10'11" W a distance of 262.58 feet, thence N 57°03'22" W a distance of 55.77 feet, thence N 67°42'16" W a distance of 110.85', thence N 50°01'20" W a distance of 22.29 feet, thence N 39°37'16" W a distance of 118.57' thence N 45°03'41" W a distance of 48.81 feet, thence N 50°52'27" W a distance of 16.00 feet to the point of ending which lies N

Ray Westall Operating, Inc.

Aerial View of Fireweed 10 SWD No.1

(Approximation of Survey Boundaries over Satellite Photo)



Per BLM recommendations, the size of the site was reduced and resurveyed on 5/06/13.

All operations including re-entry workover, construction and operation of SWD facility will occur within the existing well site pad and immediate adjacent areas historically disturbed during past operations. The illustrated boundaries represent the exact area for which the BLM SWD right-of-way is being sought. Ingress/egress will be from the lease road which boarders the northeast angled boundary.

TN
5/17/13

Fireweed 10 Federal SWD No.1
Standard Operating Procedure & Site Setup - Re-entry

ALL OPERATIONS CONDUCTED WITHIN EXISTING PAD SITE
NOT EXCEEDING SURVEYED SITE. ORIENTATION PER BEST FIT.

1. Set up H2S wind direction indicators; brief all personnel on Emergency Evacuation Routes.

2. All contractors conduct safety meeting prior to current task.

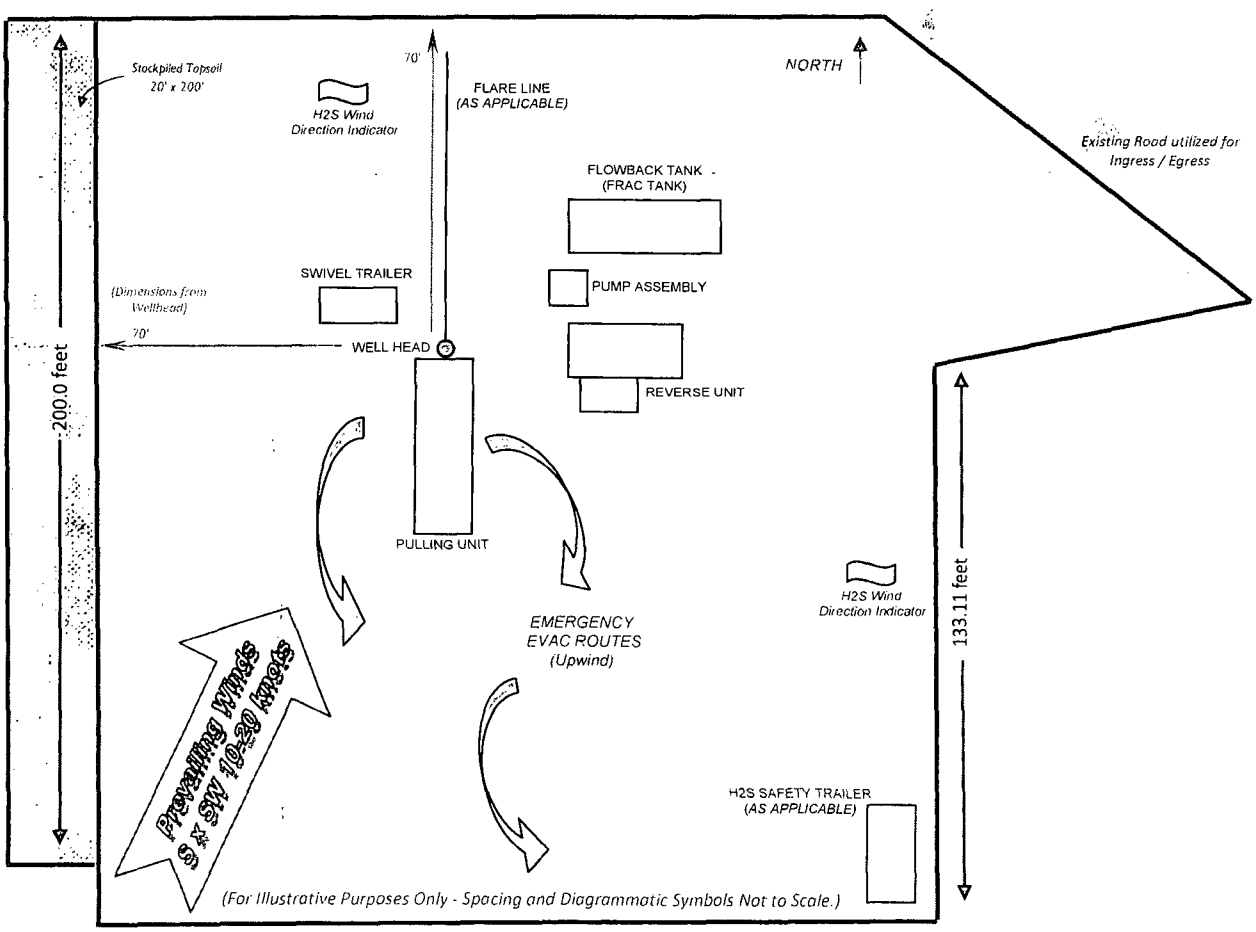
3. If H2S levels >10ppm detected, implement H2S Plan *accordingly*. (E.g., cease operations, shut in well, employ H2S safety trailer & personnel safety devices, install flare line, etc. - Refer to Plan.)

4. All equipment inspected daily. Repair / replace as required.

5. Visual on returns; cuttings & waste hauled to specified facility. CRI - LEA COUNTY

6. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD and BLM within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.

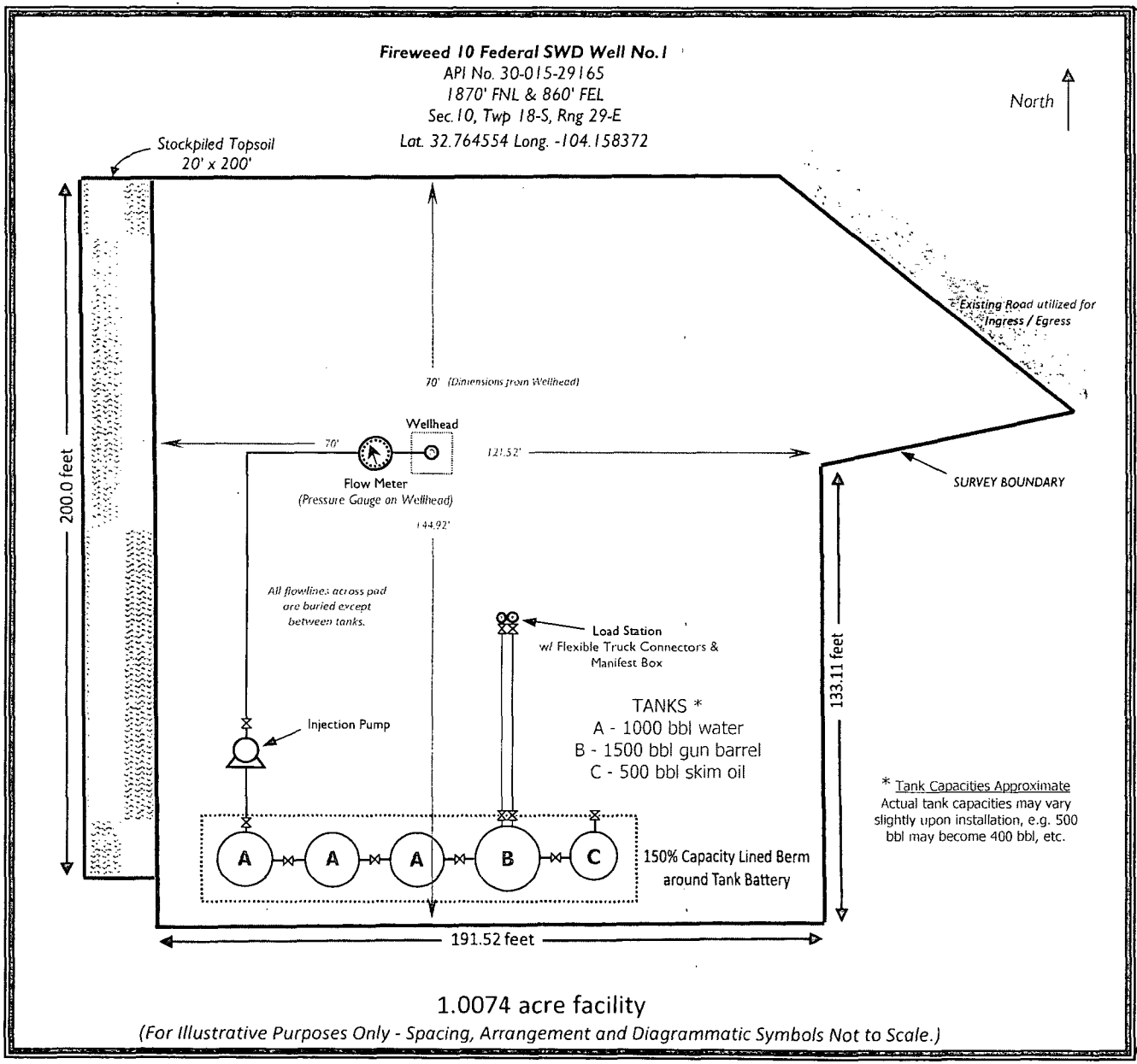
7. Subsequent sundry / forms filed as needed - well returned to service.



Fireweed 10 Federal SWD No.1 Site Diagram

Well and Tank Battery on 1.0074 Acre Easement

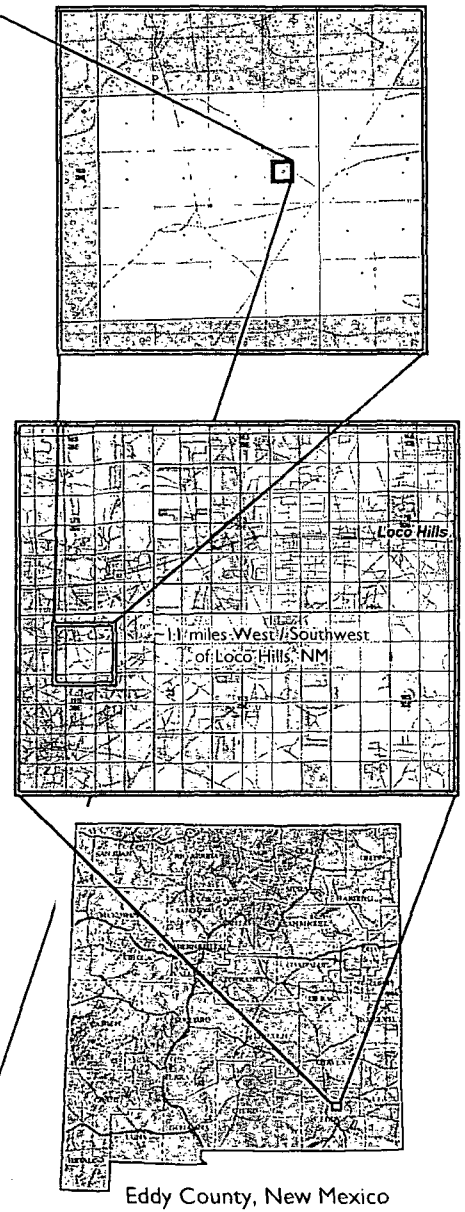
(Attachment to BLM SF-299 Application for SWD Right-of-Way)



1.0074 acre facility

(For Illustrative Purposes Only - Spacing, Arrangement and Diagrammatic Symbols Not to Scale.)

Sec.10, Twp 18-S, Rng 29-E



Eddy County, New Mexico

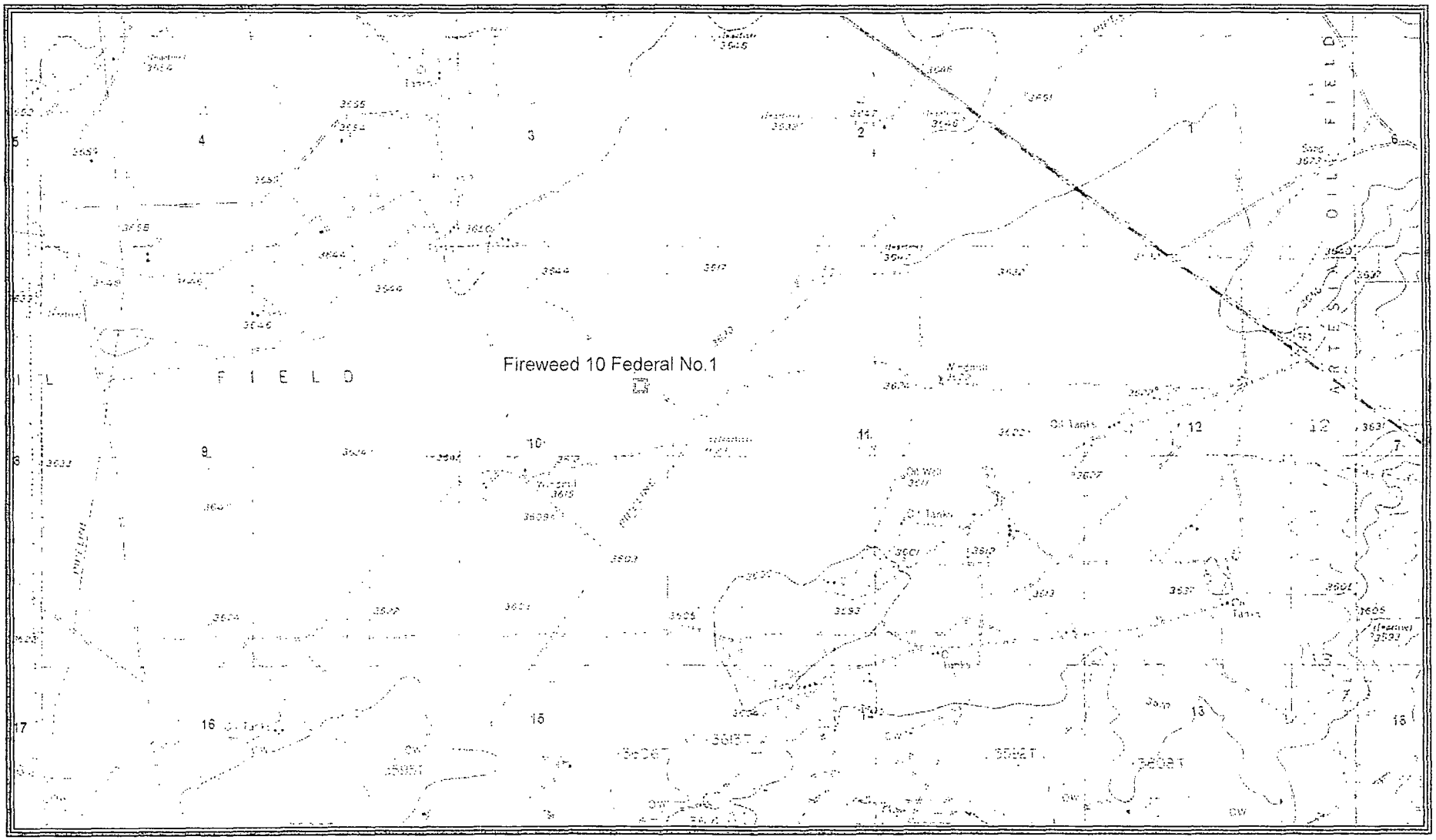
Ray Westall Operating, Inc.

Revised 5/13/2013

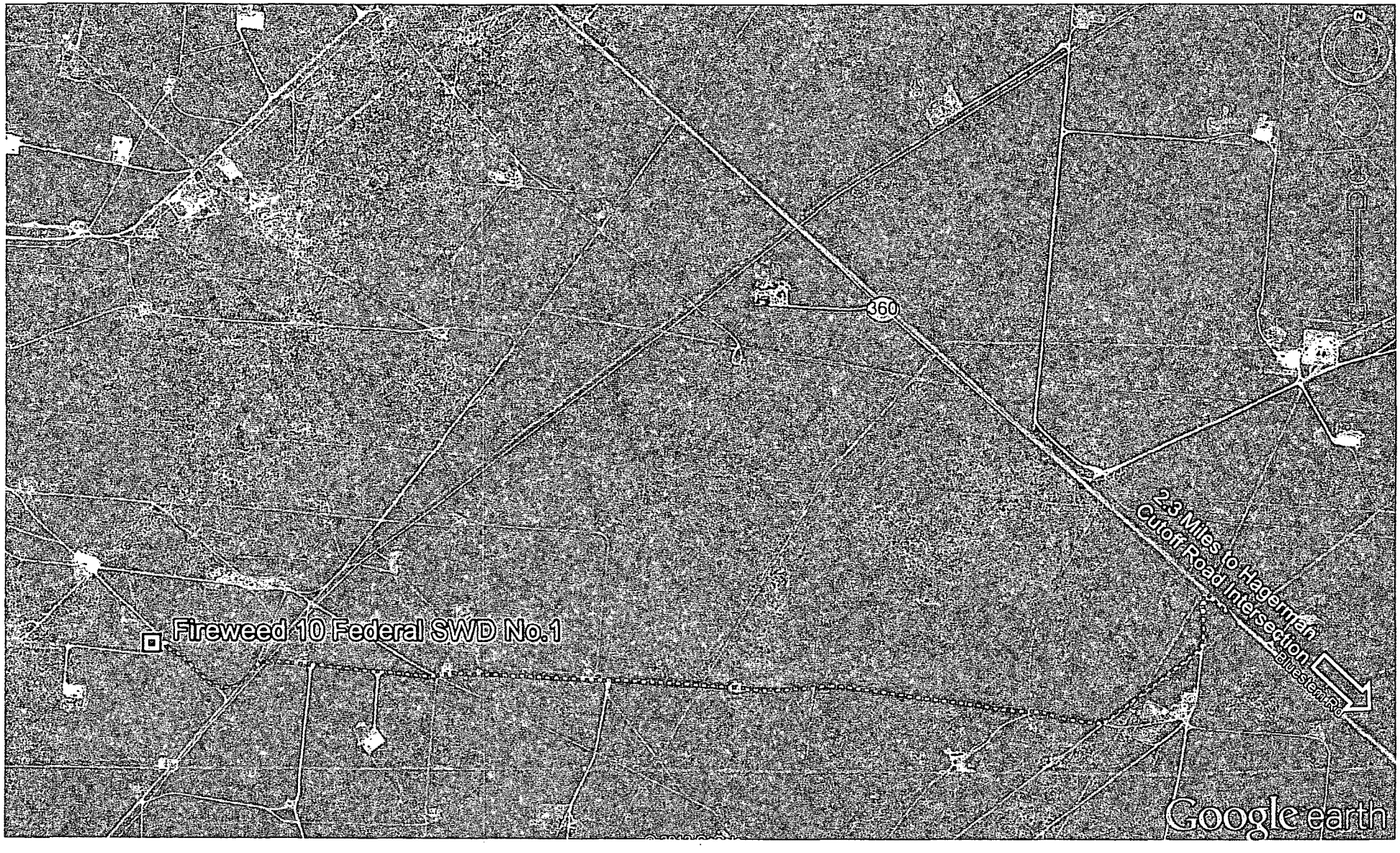
SOS Consulting, LLC

Fireweed '10' Federal Well No.1 - Area Topographic Map

Section 10, Township 18 South, Range 28 East



Access Route to Fireweed 10 Federal SWD No.1 - Lease Road Detail

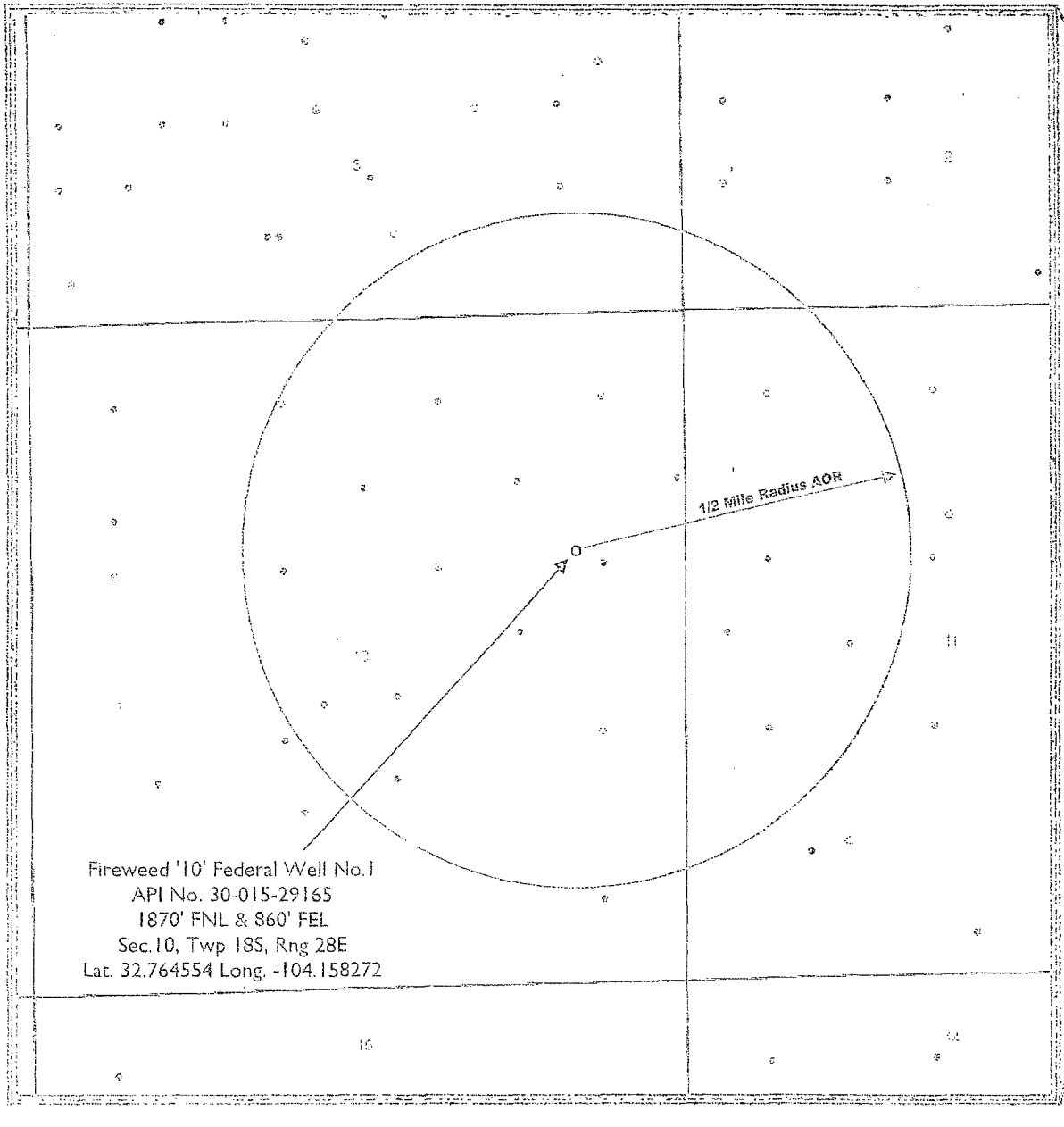


(Amended per BLM Recommendation)

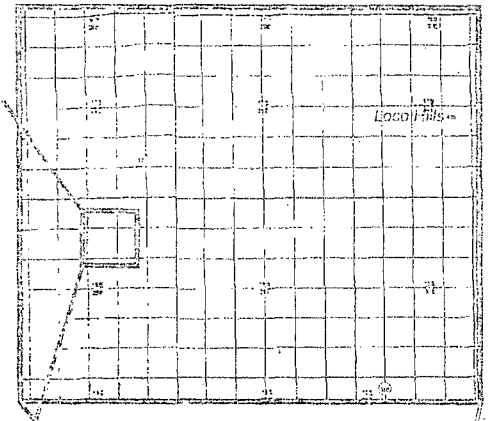
Access Route to Fireweed 10 Federal SWD No.1 - From Loco Hills, NM

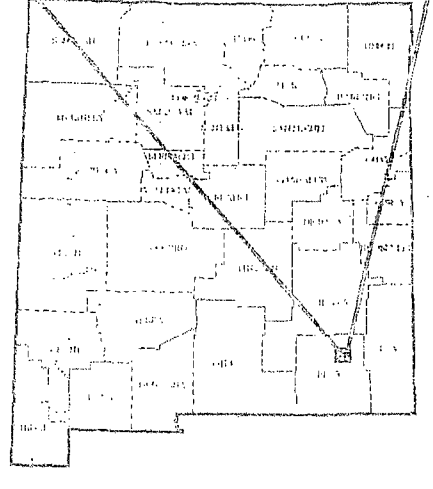
Fireweed '10' Federal Well No.1 - Area of Review / Overview Map

(Attachment to NMOCD Form C-108, Application for Authority to Inject.)



~11.0 miles West / Southwest of Loco Hills, NM





Eddy County, New Mexico

Ray Westall Operating, Inc.

SOS Consulting, LLC

OPERATIONAL NARRATIVE
(Well Re-entry Program)

and

SURFACE USE PLAN
(with Operator's Certification)

Ray Westall Operating, Inc.
Fireweed '10' Federal SWD Well No.1
API No.30-015-29165
Section 10, Twp 18-S, Rng 28-E
Eddy County, New Mexico

Well Re-entry Program

Objective: Re-enter the existing wellbore by drilling out all plugs, clean out to TD, log and perforate intervals and run new tubulars to configure for salt water disposal.

1. **Geologic Information** - (Roy E. Johnson, Consulting Geologist) - The Wolfcamp and Cisco Formations in this area consist of light gray-brown fine to medium crystalline fossiliferous limestone with inter-crystalline vug porosity interbedded with gray shale. Average porosity's are from 2 to 8% with permeability's averaging 18 to 35 Md. A review of the electric logs on this well indicated that the porosity's are within the averages and that the hydrocarbon bearing zones are some what limited. The previous operators (Amoco, Louis Dreyfus, and Dominion) have tested the porosity zones in these formations that had potential hydrocarbon potential with uneconomical results. State records show the well's only production was from the Wolfcamp resulting in a cumulative production of 523 BO and 6,300 Mcf. The last effort by Dominion attempted a completion in the upper Wolfcamp with no production which resulted with the well being plugged and abandoned.

In conclusion this well typifies the nature of the Wolfcamp and Cisco formations in this area as the reservoirs are usually limited and most often not contiguous. In my opinion to convert this well to a disposal well it would not be a waste issue for hydrocarbons or impose a correlative rights issue to offsetting operations.

Formation Tops:

FORMATION	DEPTH	PRODUCTION / HISTORICAL
	130	Fresh Water
Salado	662	
Yates	790	1 active sec.34
Seven River	1110	None in TWP
Queen	1780	Most significant oil development in area
San Andres	2570	
Bone Spring	5340	Tried in TWP - all plugged out
Wolfcamp	7696	Some historical in TWP but miles away - most converted to SWD
Cisco (Bough C)	8655	Few tried - now SWD
Strawn	9448	2 active - 1 in sec.7, 1 in sec.28
(CIBP @ 9500')		
Atoka	10088	3 in TWP, miles away
Mississippian	10762	None in TWP

2. **Completion Procedure** - MIRU pulling unit, reverse unit and associated equipment. Install BOP. RIH with bit end collars to drillout plugs and two (2) CIBPs at 8547' and at 9350'. Set CIBP @ 9500' and cap with 35' cement. Selectively perforate Wolfcamp, Cisco and Canyon formations between 7696' and 9448' - exact depths to be determined. (Exact depths will be specified on NOI sundry prior to completion operation.)

See COA
Additional
Plug

Well Re-entry Program (cont.)

3. **Tubular program** - The well casing is set and the design originally approved by BLM. (Unable to locate the APD in the well file but the well obviously met BLM standards lest there be fault in the design and casing specs.) (See attached Proposed Well Schematic) 2-3/8" or 2-7/8" internally coated tubing will be run and set in a packer located at approximately 7590' (within 100' of the uppermost injection perforations). The as-built casing specification table is recreated here for the satisfaction of additional BLM requests.

CSG	Size	Weight	Grade	I.D.	Collapse	Int Yld PSI	Body Yld. 1K#
SURF	13-3/8"	54.5#	J-55	12.615	1130	2730	853
INT	9-5/8"	36.0#	K-55	8.921	2020	3520	564
PROD	7.0"	26.0#	J-55	6.276	4320	4980	415

Casing Design Factors - Minimums As originally approved by BLM, all casing strings were designed to meet or exceed the following Design and Safety Factors:

Factor	*Minimum*
Burst	1.000
Collapse	1.125
Joint Strength	1.800
Body Strength	2.000

4. **Cementing Program** - Existing casing strings were all approved by BLM, *circulated to surface during the original well drilling* and completion operations as follows:

SURF	13.375"	54.5#	17.5" hole	574'	600sx 'C' w/ 2% cacl	Circ to Surf
INT	9.625"	36.0#	12.25" hole	2835'	Lead 992sx 35:65 Poz C w/ addtv's & Tail w/ 526sx 'C'	Circ to Surf
PROD	7.0"	26.0#	8.75" hole	10044'	Lead 675sx Poz H & Tail w/ 550sx 'H'	Circ to Surf
Set CIBP	6.276"	Sized to Casing		Set @ 9500'	Cap w/ 35' cement	

5. **Pressure Control** - BOP diagram is attached to this application. All BOP and related equipment shall comply with well control requirements as described in Onshore Oil & Gas Order No.1 and API RP 53, Section 17. Minimum working pressure of the BOP and related equipment required for the drillout shall be 5000 psi. The BLM Carlsbad field office shall be notified a minimum of 4 hours in advance for a representative to witness BOP pressure tests. The test shall be performed by an independent service company utilizing a test plug (no cup or J-packer). The results of the test shall be recorded on a calibrated test chart submitted to the Carlsbad field office. The BOP test(s) will be conducted at:

a) Installation;
b) after equipment or configuration changes;
c) at 30 days from any previous test, and;
d) anytime operations warrant, such as well conditions

6. **Mud Circulation System** - the plugs will be drilled with 8.4 lb/gal fresh water looped through the reverse unit with all cutting recovered for disposal. Visual inspection will be made by personnel while reverse unit is in operation so cement plug cuttings and potential losses are witnessed and acted upon.

7. **Auxiliary Well Control and Monitoring** - Not Applicable

Well Re-entry Program (cont.)

8. **H_2S Safety** - THIS WELL HAS BEEN DOCUMENTED TO BE IN A NON-H2S AREA.

This well and related facilities are not expected to have H2S releases. However, there may be H2S in the area. There are no private residences or pubic facilities in the area but a contingency plan has been developed. Ray Westall Operating, Inc. will have a company representative available to personnel throughout all operations. If H2S levels greater than 10ppm are detected or suspected, the H2S Contingency Plan will be implemented at the appropriate level.

H2S Safety - There is a low risk of H2S in this area. The operator will comply with the provisions of Onshore Oil and Gas Order #6.

a) Monitoring - all personnel will wear monitoring devices.

b) Warning Sign - a highly visible H2S warning sign will be placed for obvious viewing at the vehicular entrance point onto location.

c) Wind Detection - two (2) wind direction socks will be placed on location.

d) Communications - will be via cellular phones and/or radios located within reach of the driller, the rig floor and safety trailer when applicable.

e) Alarms - will be located at the rig floor, circulating pump / reverse unit area and the flareline and will be set for visual (red flashing light) at 15 ppm and visual and audible (115 decibel siren) at 20 ppm.

f) Mud program - If H2S levels require, proper mud weight, safe drilling practices and H2S scavengers will minimize potential hazards.

g) Metallurgy - all tublars, pressure control equipment, flowlines, valves, manifolds and related equipment will be rated for H2S service if required.

The H2S Contingency Plan is included as attachment to the APD and will be implemented if levels greater than 10ppm H2S are detected.

9. **Logging, Coring and Testing** - Ray Westall Operating is not anticipating running additional logs. No corings or drill tests will be conducted. (The well may potentially be step rate tested in the future if additional injection pressures are required.)

10. **Potential Hazards** - No abnormal pressures or temperatures are expected.

No loss of circulation is expected to occur. All personnel will be familiar with the safe operation of the equipment being used to drillout and reenter this well.

The maximum anticipated bottom hole pressure is 4200 psi and the maximum anticipated bottom hole temperature is 120 F.

11. **Waste Management** - All drill cuttings and other wastes associated with the re-entry and drill out operations will be transported to a commercial surface waste disposal facility permitted by the Environmental Bureau of the New Mexico Oil Conservation Division.

Well Re-entry Program (cont.)

12. **Anticipated Start Date** - Upon approval of all permits including the BLM right-of-way for SWD, operations would begin within 30 days. Completion of the well operations will take two to three weeks. Installation of the tank battery, berms, plumbing and other and associated equipment would be occurring

during the same interval. In any event, it is not expected for the construction phase of the project to last more than 60 days, depending on availability of contractors and equipment. At the time of this submittal, the anticipated start date is:

~~June 1, 2013~~ October 15, 2013

13. **Configure for Salt Water Disposal** - Prior to commencing any work, an NOI sundry(ies) will be submitted to configure the well for SWD and will detail the following tasks: drillout and workover including all work otherwise described above, any change to the procedure noted herein and to perform mechanical integrity pressure test per BLM test procedures. (Notify BLM and NMOCD 24 hours prior.) The casing/tubing annulus will be monitored for communication with injection fluid or loss of casing integrity. Anticipated daily volume is ~1000 bpd at a maximum surface injection pressure of 1539 psi.

Ray Westall Operating, Inc.
Fireweed '10' Federal SWD Well No.1

Surface Use Plan

1. **Existing Roads**

A. Existing roads will be maintained in as good or better condition as they existed prior to commencement of the exploration program. All equipment and vehicles will be confined to the routes shown on the Access Route Aerial Photo & Map attached hereto (Exhibit Updated per BLM recommendation). Maintenance of the access roads will performed by current lessees and/or operators however, Ray Westall will provide routine maintenance and repairs as necessary due to use of the SWD facility and will continue until abandonment and reclamation proposed SWD facility.

B. After well completion, travel to the well site would include daily visits by the operator and up to 3 produced water trucks per day. Additional traffic will include one maintenance truck visiting each well site approximately 10 days per year. Well service trips would be rescheduled or postponed during periods of wet weather when vehicle travel could cause rutting.

C. All equipment and vehicles will be confined to the travel routes laid out on the Overview and Site Maps attached hereto.

D. Dust will be controlled as necessary on the roads during construction and drilling.

2. **New Roads** - None

Surface Use Plan (cont.)

3. **Location of Existing Wells** - This well is located 1870' FNL and 860' FEL, Section 10, Twp 18 South, Rng 28 E, NMPM, Eddy County New Mexico. There are 19 existing wells within 1/2 mile of the proposed SWD. All well spots are shown on the Area of Review / Overview Map, attached hereto.

4. **Location of Proposed Facilities** - SWD related equipment such as tanks and pumps will be located within the right-of-way and configured for ease of operation and minimum footprint. Specifics will be included with the Right-of-Way application and future sundries.

Equipment and facilities located on the SWD site include the wellhead, three (3) 750 to 1000 bbl water tanks, one 400 to 750 bbl oil tank and one 750 to 1000 bbl gun barrel tank, re-circulating pump, fluid screens and filters and the injection pump. All equipment will be painted per BLM NTL 87-1.

5. **Location and Type of Water Supply** - All water required for the workover will be trucked from Loco Hills and/or other area providers.

6. **Construction Activities** - Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities. Any gravel, caliche road-base or other fill use for roads and/or berms used during construction will be weed free. No remediation or reseeding is anticipated until the SWD facility and site is decommissioned.

7. **Methods for Handling Waste**

A. Cuttings - Ray Westall will utilize closed loop drilling systems and will not construct reserve pits. Any non-recycled drilling fluids will be land-farmed with the drill cuttings or disposed of at an NMOCD permitted and approved facility.

B. Produced Fluids - Liquid hydrocarbons and other fluids produced during well completion operations will be placed in tanks on the well location. Any unintentional release of oil, gas, salt water, or other potentially hazardous substances will be cleaned immediately and removed to an approved disposal site. Any release will be immediately cleaned up and reported as necessary to BLM and the OCD.

C. Sewage - Portable, self-contained chemical toilets will be provided for human waste disposal. The toilets will be maintained by the vendor and waste handled accordingly.

D. Garbage and Other Waste Materials - All handled per NTL 92-1. All garbage and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, especially to eliminate attracting wildlife. At the end of workover and completion operations, or as needed, the accumulated trash will be hauled off-site to an approved garbage collection system and/or contractor. No trash pits will be used under any circumstance.

E. Debris - Immediately after removal of the workover unit, all debris and other waste materials not contained in the trash cage will be cleaned and removed from the well location. No potential adverse materials or substances will be left on location.

F. Hazardous Materials Management - None anticipated. Ray Westall Operating, Inc. and its contractors will comply with all applicable Federal, State and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any hazardous material, as defined in this paragraph, that will be used, produced, transported or stored on the oil and gas lease, "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the CERCLA of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulation. The

definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the RCRA of 1976, as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous material also includes any nuclear or nuclear by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.C.S. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101 (14), 42 U.S.C. 9601 (14) nor does the term include natural gas.

No hazardous substances or wastes will be stored on the location after completion of the well. Chemicals brought to location will be on the Toxic Substance Control Act (TSCA) approved inventory list. All hazardous substances brought to the location will have a Material Safety Data Sheet (MSDS), and will be property handled so as to not cause harm to the environment or to people. All MSDSs will be kept on location until the hazardous material is properly disposed of in accordance with federal law.

Ray Westall maintains a file, per 29 CFR 1910.1200 (g) containing current MSDSs for all chemicals, compounds, and/or substances which will be used during the course of construction, drilling, completion, and production operations for this project. Hazardous materials (substances) which may be found at the site may include drilling mud and cementing products which are primarily inhalation hazards, fuels (flammable and/or combustible), materials that may be necessary for well completion/stimulation activities such as flammable or combustible substances and acids/gels (corrosives). The opportunity for Superfund Amendments and Reauthorization Act (SARA) listed Extremely Hazardous Substances (EHS) at the site is generally limited to proprietary treating chemicals. All hazardous and Extremely Hazardous Substances and commercial preparations will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

All undesirable events (fires, accidents, blowouts, spills, discharges) as will be reported to the BLM Carlsbad field office. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production (form 3160-6). Reporting of any releases will be duplicated to the NMOCD on their form C-141.

8. **Ancillary Facilities** - There are none and nothing associated with the SWD operation or facility will be located out side the designated well site as explained below.

9. **Well Site Layout** - A site diagram is attached hereto. The existing well pad and site encompass 2.06 acres. The ROW and proposed SWD facility will be constructed and operated within this exact area.

10. **Interim Reclamation** - During the life of the development, all disturbed areas not needed for active support of the salt water disposal facility shall undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses. Ray Westall personnel will work with BLM surface management specialists to devise the best strategies to accomplish this. The location and facility site sizes will be minimized and allow for safe and efficient operations of the SWD facility. During reclamation, removing caliche as possible will allow for increased success of revegetating the site. (Ray Westall may utilized the reclaimed, contaminate-free caliche for other operations or sites.) If it is necessary to drive, park or operate on restored interim vegetation, the areas will be monitored incase further revegetation efforts are required. Note: All reclamation areas will be prepared and reseeded with the seed mixture specified by BLM for the immediate area.

All reclamation efforts will be reported on BLM sundry notice, form 3160-5.

Surface Use Plan (cont.)

11. **Plans for Surface Reclamation** - Within six (6) months of decommissioning of the SWD facility and final abandonment of the well location, gravel will be removed from the access road surface and well location (as directed by the BLM AO), water diversion installed as needed, and both the access road and well location will be restored to approximately the original ground contour(s) by pushing the fill material back into the cut and up over the backslope. No depressions will be left that would trap water or form ponds. All disturbed surfaces (including the access road and well pad areas) will be re-seeded and re-vegetated sites will be monitored to ensure that desired species are thriving and invasive/noxious weeds are not present.

12. **Surface Ownership** - The surface owner is the U.S. Department of the Interior, Bureau of Land Management. The existing BLM lease is NMNM-054184 and is held collectively by Khody Land & Minerals, Marathon Oil Company, Yates Petroleum Corporation and ZPZ Delaware. All interested parties were notified via U.S. certified mail when the NMOCD form C-108 was submitted. Public notice was also published in the Artesia Daily Press. All notifications took place on or about November 28, 2012.

13. **Other Information**

Surveying - A survey of the well pad location was completed by a registered professional land surveyor. A copy is attached hereto.

Cultural Resources - Ray Westall has no plans to do any additional surveys for archeological or cultural resource inventories as applicable assessments would have been conducted in accordance with state and federal requirements during the original drill and completion of the subject well. If discovered, Ray Westall will suspend all operations that further disturb such materials and immediately contact the BLM Carlsbad field office. Operations will not resume until authorization to proceed is issued by the BLM.

Standard Operating Procedure & Site Setup - Re-entry

ALL OPERATIONS CONDUCTED WITHIN EXISTING PAD SITE
NOT EXCEEDING SURVEYED SITE. ORIENTATION PER BEST FIT.

1. Set up H2S wind direction indicators; brief all personnel on Emergency Evacuation Routes.

2. All contractors conduct safety meeting prior to current task at Briefing Area.

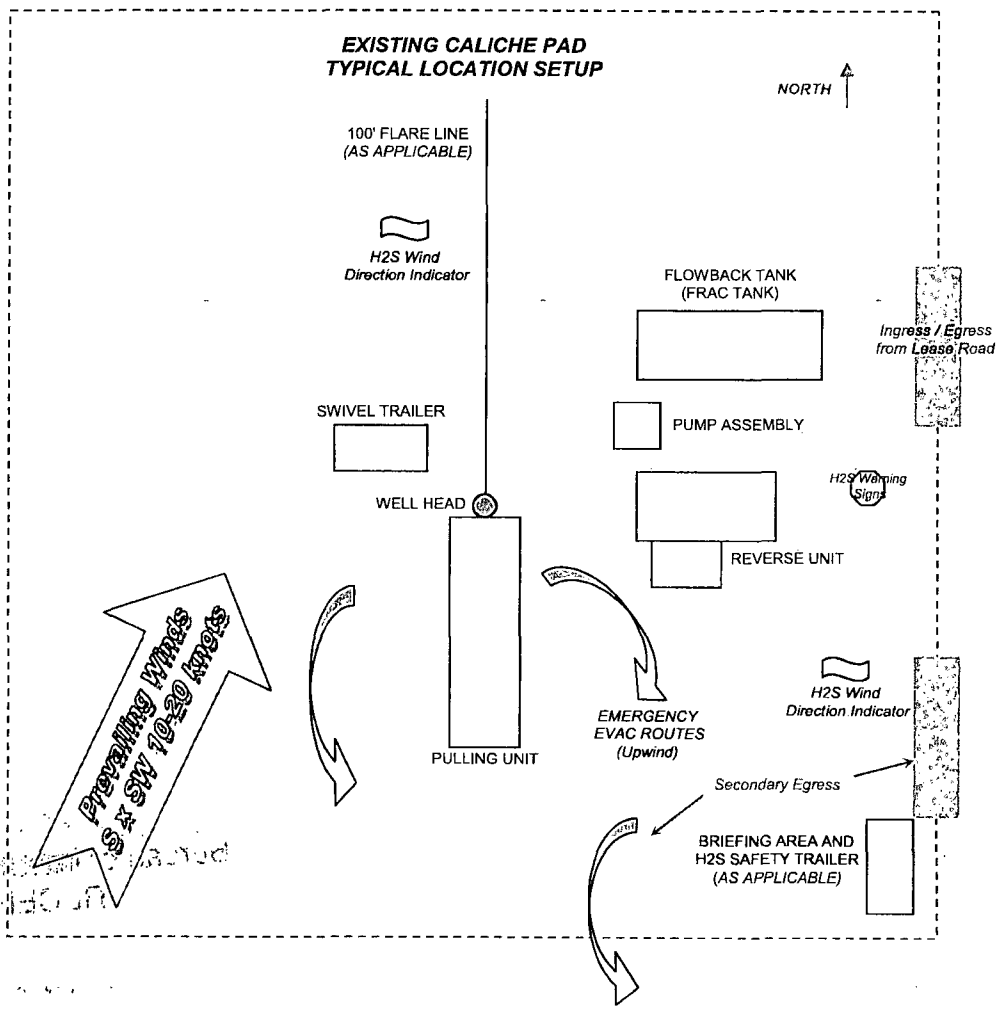
3. If H2S levels >10ppm detected, implement H2S Plan *accordingly*. (E.g., cease operations, shut in well, employ H2S safety trailer & personnel safety devices, install flare line, etc. - Refer to Plan.)

4. All equipment inspected daily. Repair / replace as required.

5. Visual on returns (losses); cuttings & waste hauled to specified facility. CRI - LEA COUNTY

6. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD and BLM within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.

7. Subsequent sundry / forms filed as needed - well returned to service.



Standard Operating Procedure - Re-entry
Closed-Loop Reverse Unit Diagram

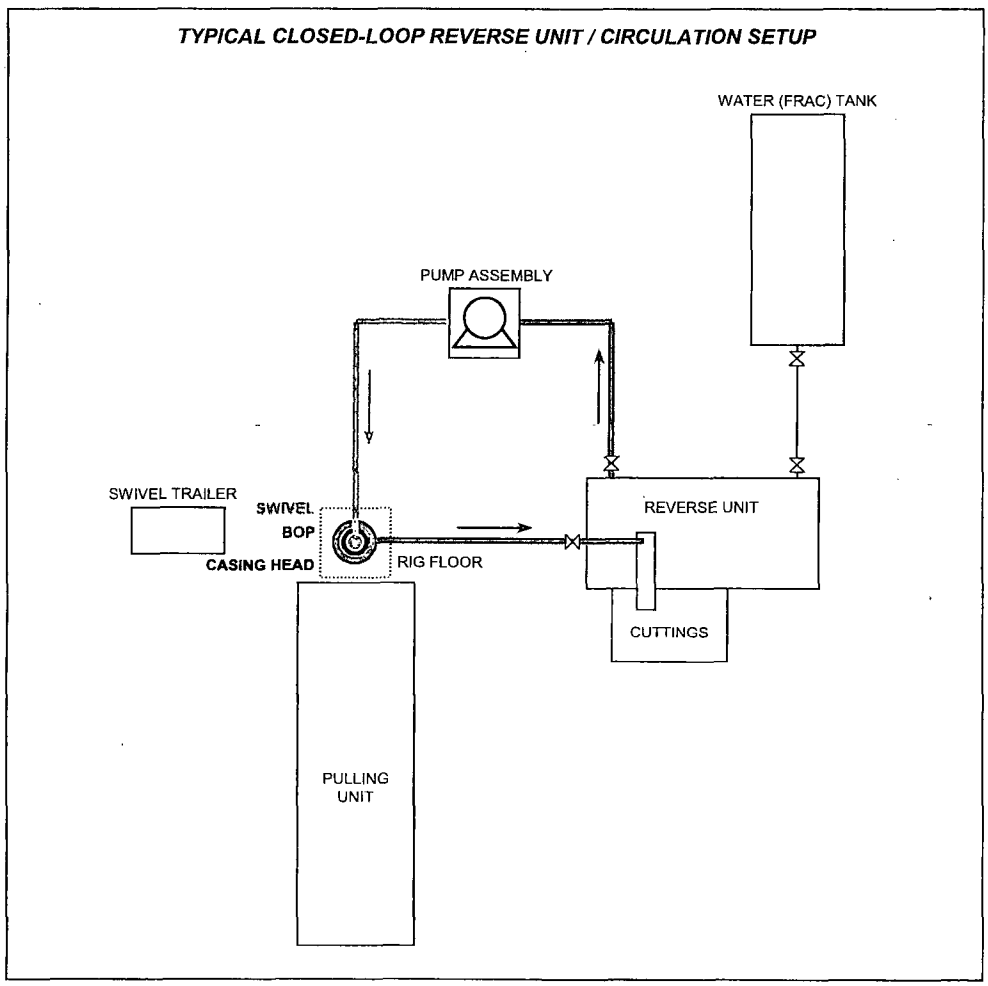
1. Blow Out Preventer tested prior to any operations. Notify BLM at least 4 hours prior.

2. Visual monitoring maintained on returns. Proceed with drillout operations accordingly.

3. Cuttings / waste hauled to specified facility. CRI - LEA COUNTY

4. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD and BLM within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.

5. Subsequent sundry / forms filed as needed - well returned to service.



CURRENT CONFIGURATION

PLUGGED WELL SCHEMATIC
Fireweed '10' Federal Well No.1

API 30-015-29165
1870' FNL & 860' FEL, SEC. 10-T18S-R28E
EDDY COUNTY, NEW MEXICO

Spud Date: 11/02/1996
P&A Date: 1/30/2003

Well plugged by:
Dominion, Oklahoma Texas E&P

<PLUGGING ITEMS LISTED LEFT>

PLUGS:

Shot Sqz Holes @ 50'
Sqz & Circ.
20 sx to Surface

Shot Sqz Holes @ 634'
Sqz w/ 75 sxs
(Tag @ 480')

Attempt Csg Cut @ 2759'
Unable to Pull
Sqz w/ 75 sxs
(Tag @ 2556')

Spot 35 sx Cmt
5406'-5191'

Circulated Hole w/ Mud

Spot 40 sx Cmt
7643'-7348'

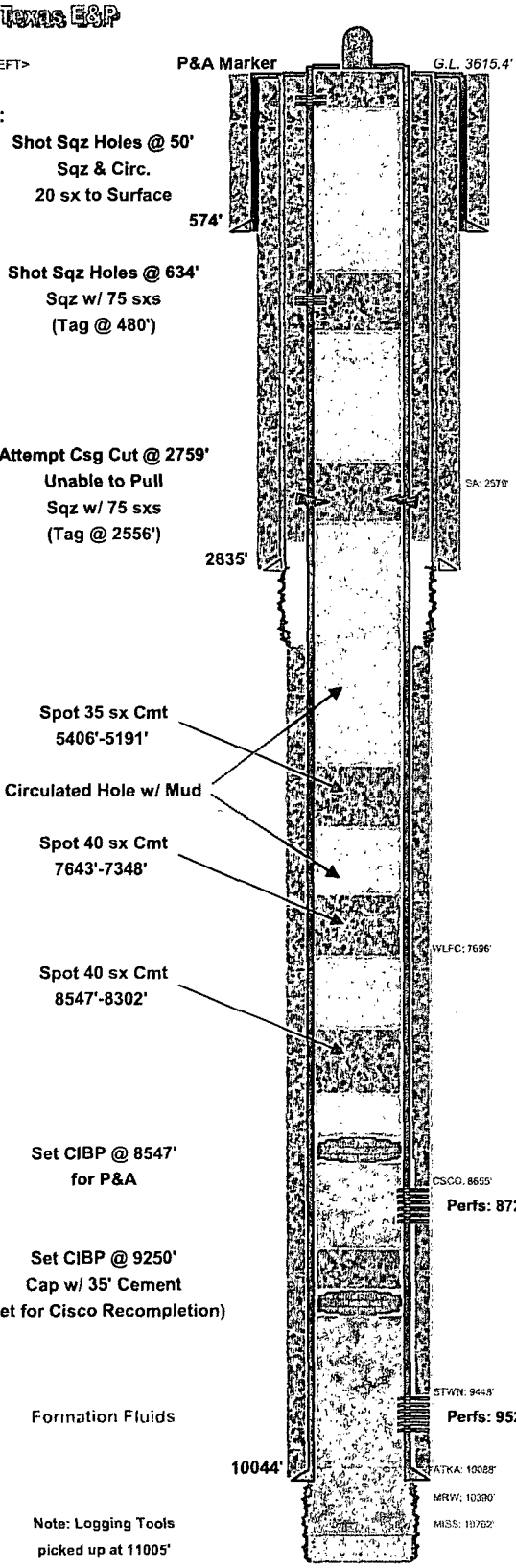
Spot 40 sx Cmt
8547'-8302'

Set CIBP @ 8547'
for P&A

Set CIBP @ 9250'
Cap w/ 35' Cement
(Set for Cisco Recompletion)

Formation Fluids

Note: Logging Tools picked up at 11005'



<PRE-P&A EXISTING ITEMS LISTED RIGHT>

Surface Casing
13.375", 54.5# csg. (17.5" Hole) @ 574'
600 sxs - Circulated to Surface

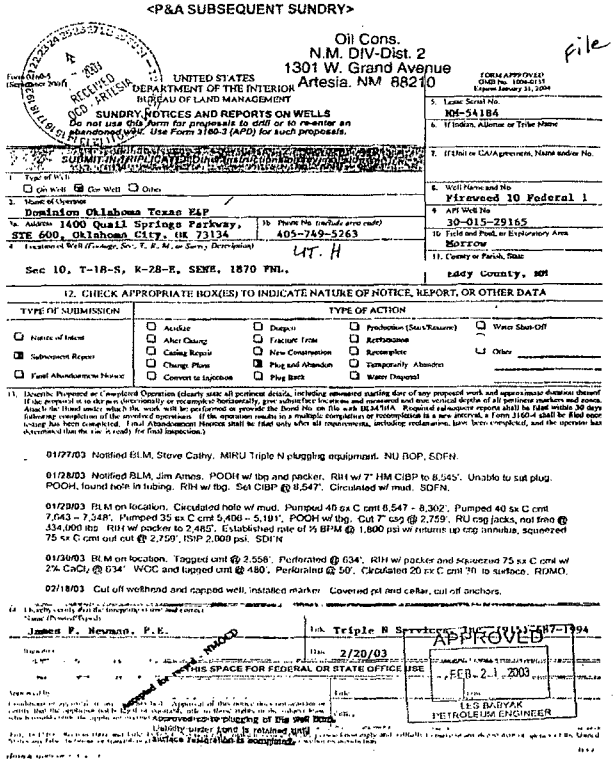
Intermediate Casing
9.625", 36.0# csg. (12.25" Hole) @ 2835'
1518 sxs - Circulated to Surface

Perfs: 8720'- 8866'

Perfs: 9528'- 9699'

Production Casing
7.0", 26.0# Csg (8.75" Hole) @ 10044'
1225 sxs - TOC @ 3500' by Temp

<P&A SUBSEQUENT SUNDRY>



Oil Cons.
N.M. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

File

RECEIVED
OCD - ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires January 31, 2004

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

5. Lease Serial No.: NM-54184
6. If Indian, Allottee or Tribe Name:
7. If Unit or CA/Agreement, Name and/or No.:
1. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other
8. Well Name and No.: Fireweed 10 Federal 1
2. Name of Operator: Dominion Oklahoma Texas E&P
9. API Well No.: 30-015-29165
3a. Address: 1400 Quail Springs Parkway, STE 600, Oklahoma City, OK 73134
3b. Phone No. (include area code): 405-749-5263
10. Field and Pool, or Exploratory Area: Morrow
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): UT. H
11. County or Parish, State: Sec 10, T-18-S, R-28-E, SENE, 1870 FNL, Eddy County, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Other
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	
	☐ Change Plans	☒ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

01/27/03 Notified BLM, Steve Cathy. MIRU Triple N plugging equipment. NU BOP. SDFN.

01/28/03 Notified BLM, Jim Ames. POOH w/ tbg and packer. RIH w/ 7" HM CIBP to 8,545'. Unable to set plug. POOH, found hole in tubing. RIH w/ tbg. Set CIBP @ 8,547'. Circulated w/ mud. SDFN.

01/29/03 BLM on location. Circulated hole w/ mud. Pumped 40 sx C cmt 8,547 - 8,302'. Pumped 40 sx C cmt 7,643 – 7,348'. Pumped 35 sx C cmt 5,406 – 5,191'. POOH w/ tbg. Cut 7" csg @ 2,759'. RU csg jacks, not free @ 334,000 lbs. RIH w/ packer to 2,485'. Established rate of ½ BPM @ 1,800 psi w/ returns up csg annulus, squeezed 75 sx C cmt out cut @ 2,759', ISIP 2,000 psi. SDFN

01/30/03 BLM on location. Tagged cmt @ 2,556'. Perforated @ 634'. RIH w/ packer and squeezed 75 sx C cmt w/ 2% CaCl, @ 634'. WOC and tagged cmt @ 480'. Perforated @ 50'. Circulated 20 sx C cmt to surface. RDMO.

02/18/03 Cut off wellhead and capped well, installed marker. Covered pit and cellar, cut off anchors.

James F. Newman, P.E. for Triple N Services, Inc. 505-397-3994

Date: 2/20/03

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED
FEB 21 2003
LES BABYAK
PETROLEUM ENGINEER

Accepted for record - NMOCD

Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Approved for plugging of the well bore. Liability under bond is retained until surface reclamation is completed.

SOS Consulting, LLC

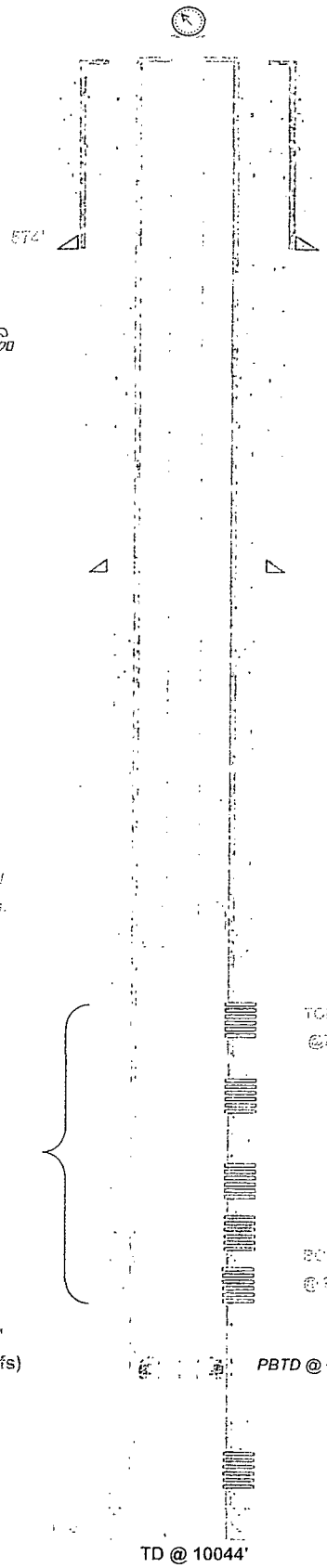
Drawn by: Ben Stone, revised 1/11/2013

WELL SCHEMATIC - PROPOSED
Fireweed '10' Federal Well No.1

API 30-015-29165

1870' FNL & 860' FEL, SEC. 10-T18S-R28E
EDDY COUNTY, NEW MEXICO

Spud Date: 7/26/1999



Ray Westall Operating, Inc.

Surface Casing
13.375", 54.5# Csg. (17.5" Hole) @ 574'
600 sx Class 'C' - Circulated

Convert to SWD: D/O & C/O Existing Plugs.
Set CIBP @ 9500' w/ 30' Cmt Cap.
Perforate Specific Intervals within Permitted Depths.
Run PC Tubing and PKR - Conduct MIT.
Commence Disposal Operations.

9.625", 36# Csg.(12.25" Hole) @ 2835'
1518 sxs Class 'C' - Circulated

NOTE: Existing perfs within permitted interval may or may not be utilized as specific intervals.

PROPOSED DISPOSAL INTERVALS
(Selectively Perforated Intervals TO BE DETERMINED.)

TOP of INTERVAL
@7498' - Wolfcamp

7.0" 26.0# Csg. (8.75" Hole) @ 10044'
1225 sxs Class 'H' - Cement to Surface

New Perfs To Be Determined Within Permitted Interval.

BOTTOM of INTERVAL
@ 9448' - (Pennsylvanian) Canyon

Set CIBP @ ~9500'
(Isolate Existing Perfs)
Cap w/ 30' Cmt.

PBTD @ ~9470'

TD @ 10044'

SOS Consulting, LLC

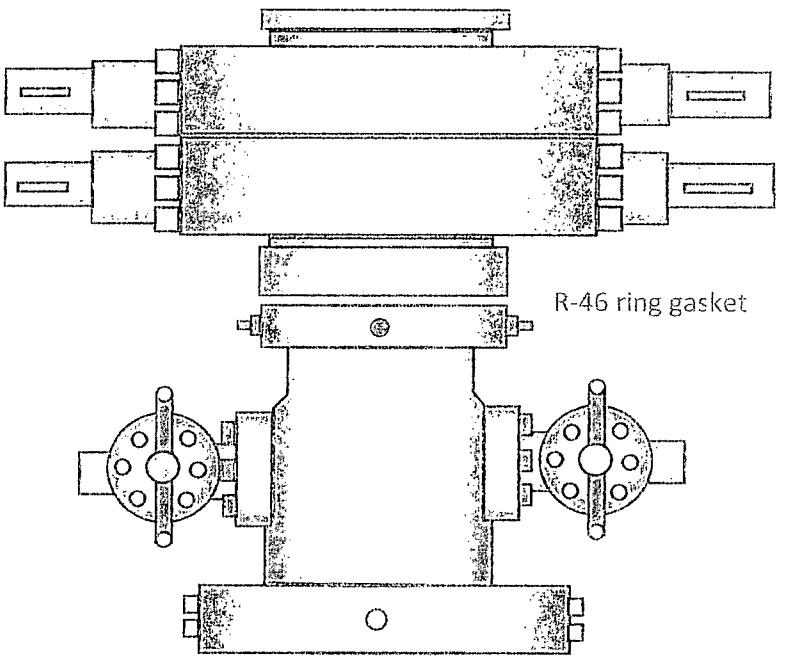
Drawn by: Ben Stone, 11/28/2012

Ray Westall Operating, Inc

Fireweed 10 #1 SWD

BOP DIAGRAM

7-1/16" Townsend 5000# Hyd. BOP



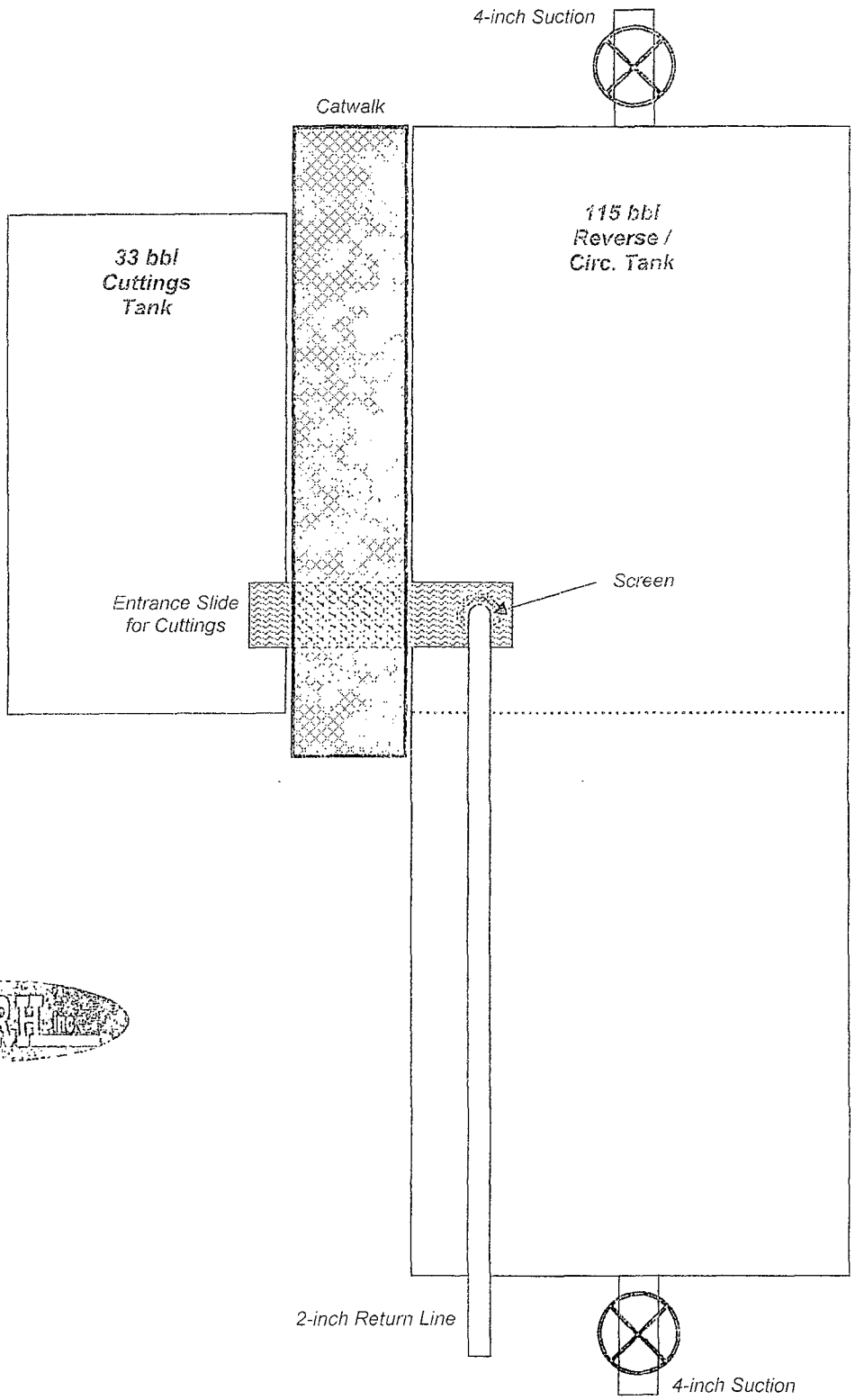
Pipe Rams

Blind Rams

R-46 ring gasket

Casing Adapter
7-1/16" 5000 x 11"
3000 or 5000

Reverse / Circulation Tank for Workovers & Drillouts



State of New Mexico
Energy, Minerals and Natural Resources Department

Administrative Order SWD-1383
January 13, 2013

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of 19.15.26.8B NMAC, Ray Westall Operating Inc. seeks an administrative order to re-enter and utilize its Fireweed 10 Federal Well No. 1 (API 30-015-29165) located 1870 feet from the North line and 860 feet from the East line, Unit letter H of Section 10, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico, for produced water disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of 19.15.26.8B NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, Ray Westall Operating Inc., is hereby authorized to utilize its Fireweed 10 Federal Well No. 1 (API 30-015-29165) located 1870 feet from the North line and 860 feet from the East line, Unit letter H of Section 10, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico, for disposal of oil field produced water (UIC Class II only) into the Wolfcamp and Cisco/Canyon formations through perforations from 7696 feet to 9448 feet through internally coated tubing and a packer set within 100 feet of the permitted interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.

JAMI BAILEY
Director

JB/wvjj

cc: Oil Conservation Division – Artesia District Office
Bureau of Land Management – Carlsbad Field Office

Standard Operating Procedure & Site Setup - Re-entry

ALL OPERATIONS CONDUCTED WITHIN EXISTING PAD SITE
NOT EXCEEDING SURVEYED SITE. ORIENTATION PER BEST FIT.

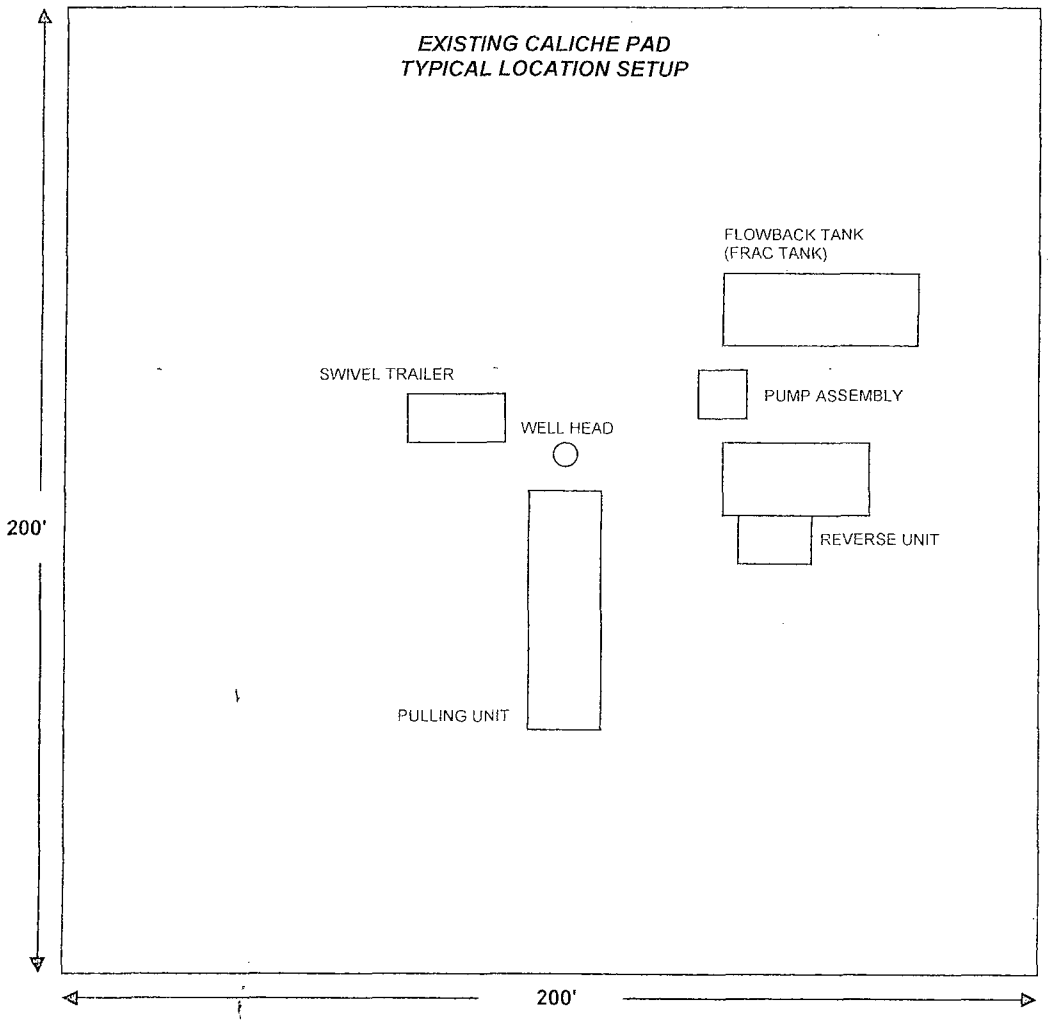
1. All contractors conduct safety meeting prior to task.

2. All equipment inspected daily. Repair as required.

3. Cuttings / waste hauled to specified facility. CRI - LEA COUNTY

4. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD and BLM within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.

5. Subsequent sundry / forms filed as needed - well returned to service.



H2S STATEMENT

and

H2S CONTINGENCY PLAN

Ray Westall Operating, Inc.

Fireweed '10' Federal Well No. 1 SWD
30-015-29165

This well a related facilities are not expected to have H2S releases. However, there may be H2S in the area. There are no private residences or pubic facilities in the area but a contingency plan has been developed. Ray Westall Operating, Inc. will have a company representative available to personnel throughout all operations. If H2S is detected or suspected, the following plan will be implemented at the appropriate level.

Ray Westall Operating, Inc.

H2S Concerns and Operations

Fireweed '10' Federal Well No.1 SWD
30-015-29165

THIS WELL HAS BEEN DOCUMENTED TO BE IN A NON-H2S AREA.
(See Attached.)

This well and related facilities are not expected to have H2S releases. However, there may be H2S in the area. There are no private residences or pubic facilities in the area but a contingency plan has been developed. Ray Westall Operating, Inc. will have a company representative available to personnel throughout all operations. If H2S is detected or suspected, the H2S Contingency Plan will be implemented at the appropriate level.

H_2S Safety - There is a low risk of H2S in this area. The operator will comply with the provisions of Onshore Oil and Gas Order #6.

a) Monitoring - all personnel will wear monitoring devices.

b) Warning Sign - a highly visible H2S warning sign will be placed for obvious viewing at the vehicular entrance point onto location.

c) Wind Detection - two (2) wind direction socks will be placed on location.

d) Communications - will be via cellular phones and/or radios located within reach of the driller, the rig floor and safety trailer when applicable.

e) Alarms - will be located at the rig floor, circulating pump / reverse unit area and the flareline and will be set for visual (red flashing light) at 15 ppm and visual and audible (115 decibel siren) at 20 ppm.

f) Mud program - If H2S levels require, proper mud weight, safe drilling practices and H2S scavengers will minimize potential hazards.

g) Metallurgy - all tublars, pressure control equipment, flowlines, valves, manifolds and related equipment will be rated for H2S service if required.

The H2S Contingency Plan is included as attachment to the APD and will be implemented if levels greater than 10ppm H2S are detected.

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pro Well Testing & Wireline
Attention: Mr. Merv Buecker
P. O . Box 791
Hobbs, New Mexico 88241

SAMPLE:
IDENTIFICATION: Fireweed 10 #1
COMPANY: Louis Dreyfus .
LEASE:
PLANT:

SAMPLE DATA:
DATE SAMPLED: 8/2/99 10:00 am
ANALYSIS DATE: 8/3/99
PRESSURE – PSIG 90
SAMPLE TEMP. °F
ATMOS. TEMP. °F

GAS (XX) LIQUID ( )
SAMPLED BY: Pro Well
ANALYSIS BY: Vickie Walker

REMARKS: Taken @ the meter run.

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)		
Nitrogen	(N2)	1.872	
Carbon Dioxide	(CO2)	1.075	
Methane	(C1)	74.739	
Ethane	(C2)	11.705	3.123
Propane	(C3)	6.069	1.668
I-Butane	(iC4)	0.775	0.253
N-Butane	(NC4)	1.985	0.626
I-Pentane	(iC5)	0.467	0.170
N-Pentane	(NC5)	0.504	0.182
Hexane Plus	(C6+)	0.755	0.310
		100.000	6.332

BTU/CU.FT. – DRY	1280
AT 14.650 DRY	1276
AT 14.650 WET	1254
AT 14.73 DRY	1283
AT 14.73 WET	1261

MOLECULAR WT. 22.1474

SPECIFIC GRAVITY –
CALCULATED 0.765
MEASURED

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N. M. Oil C[illegible]. Division
811 S. [illegible] ST.
ARTESIA, NM 88210-2834

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

c/s F

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: NM 54184

6. If Indian, Allottee or Tribe Name:

7. If Unit or CA, Agreement Designation:

1. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.: Fireweed Fed 10-1

2. Name of Operator: Louis Dreyfus Natural Gas

9. API Well No.: 30-015-29165

3. Address and Telephone No.: 14000 Quail Springs Pkwy., Suite 600 Oklahoma City, OK 73134

10. Field and Pool, or Exploratory Area:

4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 1870' FNL & 860' FEL Sec 10 T18S R28E

11. County or Parish, State: Eddy County, NM

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☒ Other H2S Report	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

In compliance with ONSHORE ORDER NO. 6. this well does not produce (H2S) Hydrogen Sulfide Gas.

ACCEPTED FOR RECORD
OCT 1 1999

RECEIVED
OCD - ARTESIA

1999 SEP 21 A 11:29

14. I hereby certify that the foregoing is true and correct

Signed [signature] Title Environmental & Safety Director Date 9-21-99

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

Ray Westall Operating, Inc.

H_2S Contingency Plan

For Operations in Southeast New Mexico

Developed by
SOS Consulting, LLC
March 2013

SOS Consulting, LLC

HYDROGEN SULFIDE CONTINGENCY PLAN

POLICY OF

RAY WESTALL OPERATING, INC.

FOR OPERATIONS IN SOUTHEAST NEW MEXICO

MUST BE REVIEWED BY ALL PERSONNEL PRIOR TO COMMENCEMENT OF OPERATIONS

PREFACE

PLAN ACTIVATION

AT A MINIMUM, THE PLAN MUST BE ACTIVATED WHENEVER A RELEASE MAY CREATE A CONCENTRATION OF H2S OF MORE THAN 100 PPM IN ANY PUBLIC AREA, 500 PPM AT ANY PUBLIC ROAD OR 100 PPM 3,000 FEET FROM THE SITE OF RELEASE.

OPERATIONAL DISTINCTION OF CONDITION

FOR ALL OPERATIONS, RAY WESTALL OPERATING, INC. WILL APPLY THESE CRITERIA TO DETERMINE THE OPERATIONAL CONDITION:

A. **NORMAL / LOW CONDITIONS:** KNOWN H2S ***IS AT OR LESS THAN 10 PPM.***

PURSUANT TO NMOCD RULES AND REGULATIONS, RAY WESTALL OPERATING, INC. MAY PETITION THE NEW MEXICO OIL CONSERVATION DIVISION DIRECTOR FOR AN ***EXEMPTION*** TO ANY REQUIREMENT OF THIS SECTION.

FOR NORMAL / LOW CONDITION OPERATIONS, OTHER THAN AN AWARNESS OF THIS PLAN AND BASIC MONITORING AND WIND DIRECTION INDICATORS, AN EXEMPTION WILL BE REQUESTED AND DETAILED INFORMATION NOT OTHERWISE PROVIDED FOR IN THE NORMAL REGULATORY PERMITTING PROCESS MAY BE OMITTED.

B. **HIGH RISK CONDITIONS:** KNOWN H2S ***MAY APPROACH OR BE MORE THAN 100 PPM.***

IMPLEMENTATION

THIS PLAN DETAILS PROCEDURES AND ACTIVITIES PARTICULARY GEARED TOWARDS HIGH RISK OPERATIONAL CONDITIONS .

ADDITIONAL INFORMATION SHALL BE FURHISHED IN THE FORM OF SITE SPECIFICS AND MAPS WHEN THE OPERATIONAL CONDITION IS DERTIMINED TO BE HIGH RISK.

PREFACE (continued)

A. NOTIFICATION / COORDIATION OF EMERGENCY SERVICES

PRIOR TO COMMENCING ACTIVITIES AT A HIGH RISK SITE, THE APPROPIRATE EMERGENCY PERSONNEL FOR THE AREA WILL BE ALERTED TO THE ACTIVITY INCLUDING DATES, ANTICIPATED WORK TIMES, A COPY OF THIS PLAN AND THE FOLLOWING ITEMS SUCH THAT EMERGENCY PERSONNEL IS FULLY APPRISED OF THE OPERATION AND POTENTIAL OCURRANCES NO MATTER HOW UNLIKELY. *(REFER TO EMERGENCY TELEPHONE LIST IN SECTION 5 OF THE PLAN, PAGES 8-9.)*

B. SITE SPECIFICS SHALL INCLUDE:

WELL OR FACILTIY NAME, LOCATION (INCLUDING GIS COORDINATES) TYPE, DEPTH, ANTICIPATED OR MEASURED H2S CONCENTRATION, WELL OR LINE PRESSURES, PRESSURE AND FLOW CONTROL EQUIPMENT AND A SCHEMATIC DIAGRAM.

C. MAPS SHALL INDICATE:

1. LOCATION OF WELL OF FACILITY WITH LOCATION IN RELATION TO ROADS, PUBLIC AREAS AND TOWNS AS APPLICABLE.
DIRECTION AND SPEED OF PREVAILING WINDS AT THE SITE, AS CURRENT AS POSSIBLE.

2. INGRESS / EGRESS TO THE SITE AS WELL AS TYPICAL ACCESS ROUTES FROM THE NEAREST TOWN WITH EMERGENCY SERVICES.

3. POTENTIAL ROAD CLOSURE AREAS SHALL BE COORDINATED WITH EMERGENCY PERSONNEL AND MAPPED BASED ON CRITERIA ABOVE.

PLAN DEVELOPMENT

THIS PLAN HAS BEEN DEVELOPED IN ACCORDANCE WITH TITLE 19 NATURAL RESOURCES AND WILDLIFE CHAPTER 15 OIL AND GAS PART 11 HYDROGEN SULFIDE GAS AND ALL PARTS CONTAINED THEREIN.

IT FURTHER MEETS AS APPLICABLE, OSHA REQUIREMENTS AND API H2S PUBLICATIONS:

- 'RECOMMENDED PRACTICE FOR OIL AND GAS WELL SERVICING AND WORKOVER OPERATIONS INVOLVING HYDROGEN SULFIDE', RP-68 (API);
- 'RECOMMENDED PRACTICES FOR DRILLING AND WELL SERVICING OPERATIONS INVOLVING WELLS CONTAINING HYDROGEN SULFIDE', RP-49 (API);
- 'H2S AT CRUDE OIL PUMP STATIONS, PRODUCING WELLS, TANK BATTERIES AND ASSOCIATED PRODUCTION FACILITIES, PIPELINES, REFINERIES, GAS PLANTS AND COMPRESSOR STATIONS', RP-55 (API)

HYDROGEN SULFIDE CONTINGENCY PLAN

POLICY OF

RAY WESTALL OPERATING, INC.

FOR OPERATIONS IN SOUTHEAST NEW MEXICO

MUST BE REVIEWED BY ALL PERSONNEL PRIOR TO COMMENCEMENT OF OPERATIONS

SCOPE

THIS CONTINGENCY PLAN ESTABLISHES GUIDELINES FOR ALL COMPANY AND CONTRACTOR PERSONNEL WHO'S WORK ACTIVITIES MAY INVOLVE EXPOSURE TO HYDROGEN SULFIDE (H2S) GAS. GUIDELINES ADDRESSING PUBLIC SAFETY ARE INCLUDED.

OBJECTIVE

1. PREVENT ANY AND ALL ACCIDENTS, AND PREVENT THE UNCONTROLLED RELEASE OF HYDROGEN SULFIDE INTO THE ATMOSPHERE.

2. PROVIDE PROPER PROCEDURES TO HANDLE EMERGENCIES AND POSSIBLE EVACUATION.

3. PROVIDE IMMEDIATE AND ADEQUATE MEDICAL ATTENTION SHOULD AN INJURY OCCUR.

IMPLEMENTATION

THIS PLAN WITH ALL DETAILS IS TO BE FULLY IMPLEMENTED BEFORE OPERATIONS COMMENCE PURSUANT TO THE CONDITION BEING:

NORMAL / LOW CONDITIONS: KNOWN H2S ***IS AT OR LESS THAN 10 PPM.***

HIGH RISK CONDITIONS: KNOWN H2S ***MAY APPROACH OR BE MORE THAN 100 PPM.***

OVERVIEW OF PLAN

1.	PERSONNEL RESPONSIBILITY **(PAGES 2-3)**	THIS SECTION SHOWS SPECIFIC RESPONSIBILITIES FOR ALL PERSONNEL PRESENT - BY TITLE OR JOB DUTIES.
2.	NORMAL / LOW H2S CONDITIONS **(PAGES 3-4)**	THIS SECTION OUTLINES PROCEDURES DURING NORMAL OPERATIONS WHEN EXPECTATIONS OF AN H2S ENVIRONMENT ARE REASONABLY LOW.

3. EMERGENCY RESPONSE PROCEDURES (PAGES 4-6)	THIS SECTION OUTLINES THE CONDITIONS PROCEDURE AND DENOTES STEPS TO BE TAKEN IN THE EVENT OF AN EMERGENCY OR HIGH RISK LEVELS OF H2S ARE IMMINENT.
4. HIGH RISK / EMERGENCY EQUIPMENT (PAGES 6-7)	THIS SECTION OUTLINES THE USE OF EMERGENCY EQUIPMENT THAT WILL BE REQUIRED FOR THE DRILLING OR WORKOVER OF THIS WELL.
5. EMERGENCY TELEPHONE NUMBERS (PAGES 8-9)	ALL PARTIES TO BE CONTACTED SHOULD AN EMERGENCY EXIST.
6. SAFETY BRIEFING (PAGE 9)	THIS SECTION DEALS WITH THE BRIEFING OF ALL PEOPLE INVOLVED IN THE DRILLING OPERATION.
7. EVACUATION / PUBLIC SAFETY (PAGES 9-10)	THIS SECTION DEALS WITH THE EVACUATION OF PERSONNEL AND PUBLIC SAFETY IN THE EVENT OF AN EMERGENCY.

APPENDICES

A. TRAINING REQUIREMENTS AND FIRST AIDE (PAGE 11-12)	ALL COMPANIES WILL INSURE THAT ALL PERSONNEL AT THE WELL SITE WILL HAVE HAD ADEQUATE TRAINING IN H2S SAFETY PROCEDURES. FIRST AIDE FOR H2S.
B. CHECK LISTS (PAGES 13-14)	A STATUS CHECK LIST AND A PROCEDURAL CHECK LIST HAVE BEEN INCLUDED TO INSURE ADHERENCE TO THE PLAN.
C. EFFECTS, LEVELS, RADIUS OF EXPOSURE, THRESHOLDS (PAGES 15-18)	A GENERAL INFORMATION SECTION HAS BEEN INCLUDED TO SUPPLY SUPPORT INFORMATION INCLUDING EFFECTS OF H2S, LEVELS AND RADIUS OF EXPOSURE & REGULATORY THRESHOLDS.

I. PERSONNEL RESPONSIBILITY

COMPANY FOREMAN / DESIGNATED PERSONNEL	SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THIS PLAN.
	SHALL BE IN COMPLETE COMMAND DURING ANY EMERGENCY.
	SHALL DESIGNATE A BACK-UP.

ALL PERSONNEL	1. ON ALARM, DON ESCAPE UNIT AND REPORT IN UP WIND BRIEFING AREA. 2. CHECK STATUS OF PERSONNEL (BUDDY SYSTEM). 3. SECURE BREATHING EQUIPMENT. 4. AWAIT ORDERS FROM SUPERVISOR.
DRILLING FOREMAN / RIG OPERATOR	1. REPORT TO UP WIND BRIEFING AREA. 2. DON BREATHING EQUIPMENT AND RETURN TO POINT OF RELEASE WITH TOOL PUSHER OR DRILLER (BUDDY SYSTEM). 3. DETERMINE H2S CONCENTRATIONS. 4. ASSESS SITUATION AND TAKE CONTROL MEASURES.
TOOL PUSHER	1. REPORT TO UP WIND SAFETY BRIEFING AREA. 2. DON BREATHING EQUIPMENT AND RETURN TO POINT OF RELEASE WITH DRILLING FOREMAN OR DRILLER (BUDDY SYSTEM). 3. DETERMINE H2S CONCENTRATION. 4. ASSESS SITUATION AND TAKE CONTROL MEASURES.
DRILLER	1. DON ESCAPE UNIT. 2. CHECK MONITOR FOR POINT OF RELEASE. 3. REPORT TO BRIEFING AREA. 4. CHECK STATUS OF PERSONNEL (IN AN ATTEMPT TO RESCUE, USE THE BUDDY SYSTEM). 5. ASSIGNS LEAST ESSENTIAL PERSON TO NOTIFY DRILLING FOREMAN AND TOOL PUSHER BY QUICKEST MEANS IN CASE OF THEIR ABSENCE. 6. ASSUMES THE RESPONSIBILITIES OF THE DRILLING FORMAN AND TOOL PUSHER UNTIL THEY ARRIVE SHOULD THEY BE ABSENT.
DERRICK MAN FLOOR MAN #1 FLOOR MAN #2	WILL REMAIN IN SAFETY BRIEFING AREA UNTIL INSTRUCTED BY SUPERVISOR.
MUD ENGINEER	1. REPORT TO BRIEFING AREA. 2. WHEN INSTRUCTED, BEGIN CHECK OF MUD FOR PH AND H2S LEVEL.
SAFETY PERSONNEL	1. MASK UP AND CHECK STATUS OF ALL PERSONNEL AND SECURE OPERATIONS AS INSTRUCTED BY DRILLING FOREMAN AND REPORT TO BRIEFING AREA.

2. NORMAL / LOW H2S CONDITION

CONDITIONS ARE CONSIDERED NORMAL WHEN THERE ARE REASONABLE EXPECTATIONS THAT NONE OR LOW CONCENTRATIONS OF H2S WILL BE ENCOUNTERED DURING ALL PHASES OF THE CURRENT OPERATIONS. (SEE APPENDIX 'C', THRESHOLDS, PRGPH.3)

1. LOW H2S - LEVELS ARE KNOWN TO CONSISTENTLY BE AT OR **BELOW 10 PPM**.

2. NORMAL CONDIDTION EXPECTATIONS ARE BASED ON HISTORICAL EVIDENCE OF THE AREA, GEOLOGIC FORMATIONS AND TYPE OF OPERATIONS WITH REGARD TO FLUIDS BEING UTILIZED FOR DRILLIING AND/OR WORKOVER TASKS.

3. OPERATING IN A NORMAL CONDITION DOES NOT RELIEVE ANY PERSONNEL OF THEIR RESPONSIBILITY, NOR SHOULD IT LESSEN THEIR ATTENTION TO KNOWING THE SAFETY PROCEDURES THAT WILL IMMEDIATELY BE IMPLEMENTED UPON ANY EVIDENCE OF CHANGING H2S LEVELS.

4. ALL PERSONNEL WORKING ON SITE WILL DON PERSONAL H2S DETECTORS.

5. A WINDSOCK OR OTHER WIND DIRECTION INDICATOR WILL BE ON LOCATION AND EASILY VISIBLE FROM ALL AREAS.

6. ALL PERSONNEL WILL HAVE A CURRENT H2S TRAINING CARD.

7. ALL PERSONNEL WILL HAVE VIEWED THIS H2S CONTINGENCY PLAN.

3. EMERGENCY RESPONSE PROCEDURES

NOTICE: FOR ALL SITES AND OPERATIONS WHERE REASONABLE EXPECTATIONS ARE THAT H2S LEVELS MAY BE **ABOVE 100 PPM**, ALL SERVICE COMPANY PERSONNEL HAVE READ THIS H2S CONTINGENCY PLAN AND WILL VERBALLY INDICATE STRICT ADHERENCE TO WITH ALL PROCEDURES ESPECIALLY WITH REGARD TO THEIR JOB TITLE AND DUTIES ON THIS LOCATION.

IMMEDIATE PROCEDURES

A. IN THE EVENT OF ANY EVIDENCE OF H2S LEVEL **ABOVE 100 PPM**, (OR IS APPROACHING 100 PPM) TAKE THE FOLLOWING STEPS:

1. SECURE BREATHING EQUIPMENT.

2. ORDER NON-ESSENTIAL PERSONNEL OUT OF DANGER ZONE.

3. TAKE STEPS TO DETERMINE IF THE H2S LEVEL CAN BE CORRECTED OR SUPPRESSED AND, IF SO, PROCEED IN NORMAL OPERATION.

B. IF UNCONTROLLABLE CONDITIONS OCCUR:

1. TAKE STEPS TO PROTECT AND/OR REMOVE ANY PUBLIC IN THE DOWN-WIND AREA FROM THE RIG - PARTIAL EVACUATION AND ISOLATION. NOTIFY NECESSARY PUBLIC SAFETY PERSONNEL AND THE BUREAU OF LAND MANAGEMENT OF THE SITUATION.

2. REMOVE ALL PERSONNEL TO SAFE BREATHING AREA.

3. NOTIFY PUBLIC SAFETY PERSONNEL TO SAFE BREATHING AREA.

4. PROCEED WITH BEST PLAN (AT THE TIME) TO REGAIN CONTROL OF THE WELL. MAINTAIN TIGHT SECURITY AND SAFETY PROCEDURES.

EMERGENCY ACTIONS

WELL BLOWOUT - IF EMERGENCY

1. EVACUATE ALL PERSONNEL IF POSSIBLE.

2. IF SOUR GAS - EVACUATE RIG PERSONNEL.

3. IF SOUR GAS - EVACUATE PUBLIC WITHIN 3000 FT RADIUS OF EXPOSURE.

4. DON SCBA AND RESCUE.

5. CALL 911 FOR EMERGENCY HELP (FIRE DEPT AND AMBULANCE) AND NOTIFY COMPANY FOREMAN / DESIGNATED PERSONNEL.

6. GIVE FIRST AID.

PERSON DOWN LOCATION / FACILITY

1. IF IMMEDIATELY POSSIBLE, CONTACT 911. GIVE LOCATION AND WAIT FOR CONFIRMATION.

2. DON SCBA AND RESCUE.

AS APPLICABLE FOR TODAY'S CURRENT OPERATIONS / EVENTS

TAKING A KICK

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

OPEN-HOLE LOGGING

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

RUNNING CASING OR PLUGGING

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

WELL OUT OF CONTROL

THE DECISION TO IGNITE THE WELL IS THE RESPONSIBILITY OF COMPANY FOREMAN. IN THE EVENT HE IS INCAPACITATED, IT BECOMES THE RESPONSIBILITY OF THE CONTRACT RIG TOOL PUSHER. THE DECISIONSHOULD BE MADE ONLY AS A LAST RESORT AND IN A SITUATION WHEREIT IS CLEAR THAT:

1. HUMAN LIFE AND PROPERTY ARE ENDANGERED.

2. THERE IS NO HOPE CONTROLLING THE BLOWOUT UNDER THE PREVAILING CONDITIONS AT THE WELL.

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

INITIATE EVACUATION PLAN.

IGNITION PROCEDURES

INSTRUCTIONS FOR IGNITING THE WELL

1. TWO PEOPLE ARE REQUIRED FOR THE ACTUAL IGNITING OPERATION. THEY MUST WEAR SELF-CONTAINED BREATHING APPARATUS (SCBA) UNITS AND HAVE SAFETY ROPE ATTACHED. ONE MAN (TOOL PUSHER OR SAFETY ENGINEER) WILL CHECK THE ATMOSPHERE FOR EXPLOSIVE GASES WITH THE EXPLOSIMETER. THE OTHER MAN (DRILLING FOREMAN) IS RESPONSIBLE FOR IGNITING THE WELL.

2. PRIMARY METHOD TO IGNITE: 25 MM FLARE GUN WITH RANGE OF APPROXIMATELY 500 FEET.

3. IGNITE UP WIND AND DO NOT APPROACH ANY CLOSER THAN IS WARRANTED.

4. SELECT THE IGNITION SITE BEST FOR PROTECTION, AND WHICH OFFERS AN EASY ESCAPE ROUTE.

5. BEFORE FIRING, CHECK FOR PRESENCE OF COMBUSTIBLE GAS.

6. AFTER LIGHTING, CONTINUE EMERGENCY ACTION AND PROCEDURE AS BEFORE.

7. ALL UNASSIGNED PERSONNEL WILL LIMIT THEIR ACTIONS TO THOSE DIRECTED BY THE DRILLING FOREMAN.

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

4. HIGH RISK / EMERGENCY EQUIPMENT REQUIREMENTS

A. SIGNS

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

(LEASE) CAUTION - POTENTIAL POISON GAS HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

B. WINDSOCK- WIND STREAMERS

1. ONE 36" (IN LENGTH) WINDSOCK LOCATED AT PROTECTION CENTER, AT HEIGHT VISIBLE FROM RIG FLOOR.

2. ONE 36" (IN LENGTH) WINDSOCK LOCATED AT HEIGHT VISIBLE FROM PIT AREAS.

C. HYDROGEN SULFIDE DETECTOR AND ALARMS

1. H2S MONITORS WITH ALARMS WILL BE LOCATED ON THE RIG FLOOR, AT THE BELL NIPPLE, AND AT THE FLOW LINE. ***THESE MONITORS WILL BE SET TO ALARM AT 15 PPM WITH RED LIGHT, AND TO ALARM AT 20 PPM WITH RED LIGHT AND AUDIBLE ALARM.***

2. HAND OPERATED DETECTORS WITH TUBES.

3. H2S MONITOR TESTER.

D. CONDITION FLAGS

1. ONE EACH OF ORANGE, YELLOW, AND RED CONDITION FLAGS TO BE DISPLAYED TO DENOTE CONDITIONS:

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

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

E. AUXILIARY RESCUE EQUIPMENT

1. STRETCHER

2. 100' LENGTH OF 5/8" NYLON ROPE.

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

G. FIRE EXTINGUISHER - ADEQUATE FIRE EXTINGUISHERS SHALL BE LOCATED AT STRATEGIC LOCATIONS.

H. BLOW OUT PREVENTION EQUIPMENT - THE WELL SHALL HAVE HYDRAULIC BOP EQUIPMENT FOR THE ANTICIPATED BOTTOM HOLE PRESSURE. EQUIPMENT IS TO BE TESTED ON INSTALLATION.

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

J. BOP TESTING - BOP AND CHOKE LINE AND KILL LINE WILL BE TESTED.

K. AUDIO SYSTEM - RADIO COMMUNICATION WILL BE AVAILABLE AT THE ***RIG, RIG FLOOR*** OR ***TRAILER*** AND ***VEHICLES***.

L. SPECIAL CONTROL EQUIPMENT - MAKE SURE OF HYDRAULIC BOP EQUIPMENT WITH REMOTE CONTROL ON GROUND AND ROTATING HEAD.

5. EMERGENCY TELEPHONE NUMBERS

CONTACT PARTY	OFFICE
RAY WESTALL, INC.	OFFICE: 575-677-2372
DONNIE MATHEWS	CELL: 575-626-4344
STATE POLICE	
EDDY COUNTY	575-748-9718
LEA COUNTY	575-392-5588
SHERIFF	
EDDY COUNTY	575-746-2701
LEA COUNTY	575-396-3611
EMERGENCY MEDICAL	
EDDY COUNTY	911 OR 575-746-2701
LEA COUNTY	911 OR 575-394-3258
EMERGENCY RESPONSE	
EDDY COUNTY	575-746-9620
LEA COUNTY	575 396-8602
FIRE DEPARTMENTS	
ARTESIA	575-746-5001
CARLSBAD	575-885-3125
HOBBS	575-397-9308
EUNICE	575-394-3258
JAL	575-395-2221
POLICE DEPARTMENTS	
ARTESIA	575-746-5001
CARLSBAD	575-885-2111
LOCO HILLS	575-677-2349
HOBBS	575-397-3365
EUNICE	575-394-0112
JAL	575-395-2501

CONTACT PARTY	OFFICE
CALLAWAY SAFETY EDDY & LEA COUNTIES	575-392-2973
WILD WELL CONTROL MIDLAND, TX	OFFICE: 432-550-6202 CELL: 432-553-1166

6. SAFETY BRIEFING

SERVICE COMPANY AND VISITING PERSONNEL

A. EACH SERVICE COMPANY THAT WILL BE ON THIS WELL WILL BE NOTIFIED IF THE ZONE CONTAINS H2S.

B. EACH SERVICE COMPANY MUST PROVIDE FOR THE TRAINING AND EQUIPMENT OF THEIR EMPLOYEES BEFORE THEY ARRIVE AT THE WELL SITE.

C. EACH SERVICE COMPANY WILL BE EXPECTED TO ATTEND A SAFETY BRIEFING.

7. EVACUATION PLAN

GENERAL REQUIREMENTS

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

1. DESIGNATED AREA

A. PARKING AND VISITOR AREA: ALL VEHICLES ARE TO BE PARKED AT A PRE-DETERMINED AND SAFE DISTANCE FROM THE WELLHEAD. THIS WILL BE THE DESIGNATED SMOKING AREA.

B. TWO BRIEFING AREAS ON EITHER SIDE OF THE LOCATION AT THE MAXIMUM ALLOWABLE DISTANCE FROM THE WELL BORE SO THEY OFFSET PREVAILING WINDS PERPENDICULARLY, OR AT A 45-DEGREE ANGLE IF WIND DIRECTION TENDS TO SHIFT IN THE AREA.

C. IF A MOVABLE H2S SAFETY TRAILER IS USED, IT SHOULD BE DEPT UPWIND OF EXISTING WINDS. WHEN WIND IS FROM THE PREVAILING DIRECTIONS, BOTH PROTECTION CENTERS SHOULD BE ACCESSIBLE.

2. EVACUATION IMPLEMENTATION AND PUBLIC SAFETY

TO PROTECT THE PUBLIC FROM HAZARDOUS GAS SITUATIONS ARE AS FOLLOWS:

(NOTE: REFER ALSO TO APPENDIX 'C', POTENTIALLY HAZARDOUS VOLUMES.)

1. WHEN THE COMPANY APPROVED SUPERVISOR (DESIGNATED PERSONNEL, I.E., DRILLING FOREMAN, CONSULTANT, RIG PUSHER, OR DRILLER) DETERMINES THE H2S GAS CANNOT BE

LIMITED TO THE WELL LOCATION AND THE PUBLIC WILL BE INVOLVED, HE WILL ACTIVATE THE EVACUATION PLAN. ESCAPE ROUTES ARE NOTED ON AREA MAP.

2. COMPANY FOREMAN OR DESIGNATED PERSONNEL WILL NOTIFY LOCAL GOVERNMENT AGENCY THAT A HAZARDOUS CONDITION EXISTS AND EVACUATION NEEDS TO BE IMPLEMENTED.

3. COMPANY SAFETY PERSONNEL THAT HAVE BEEN TRAINED IN THE USE OF H2S DETECTION EQUIPMENT AND SELF-CONTAINED BREATHING EQUIPMENT WILL MONITOR H2S CONCENTRATIONS, WIND DIRECTIONS, AND AREA OF EXPOSURE. THEY WILL DELINEATE THE OUTER PERIMETER OF THE HAZARDOUS GAS AREA. EXTENSION TO THE EVACUATION AREA WILL BE DETERMINED FROM INFORMATION GATHERED.

4. LAW ENFORCEMENT PERSONNEL (STATE POLICE, POLICE DEPT., FIRE DEPT., AND SHERIFF'S DEPT.) WILL BE CALLED TO AID IN SETTING UP AND MAINTAINING ROAD BLOCKS. ALSO, THEY WILL AID IN EVACUATION OF THE PUBLIC IF NECESSARY.

IMPORTANT: LAW ENFORCEMENT PERSONNEL WILL NOT BE ASKED TO COME INTO A CONTAMINATED AREA. THEIR ASSISTANCE WILL BE LIMITED TO UNCONTAMINATED AREAS. CONSTANT RADIO CONTACT WILL BE MAINTAINED WITH THEM.

5. AFTER THE DISCHARGE OF GAS HAS BEEN CONTROLLED, COMPANY SAFETY PERSONNEL WILL DETERMINE WHEN THE AREA IS SAFE FOR RE-ENTRY.

IT IS THE RESPONSIBILITY OF EVERY CONTRACTOR EMPLOYED BY RAY WESTALL OPERATING, INC. TO HAVE ALL THIER EMPLOYEES CERTIFIED IN H2S SAFETY.

ALL PERSONNEL ON A RAY WESTALL OPERATING. INC. SITE WILL BE REQUIRED TO HAVE ON THEIR PERSON (OR ON SITE) AN H2S TRAINING CERTIFICATE CARD THAT IS VALID FOR THE CURRENT DATE.

APPENDIX 'A'

TRAINING REQUIREMENTS

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

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

IT IS THE RESPONSIBILITY OF EVERY CONTRACTOR EMPLOYED BY RAY WESTALL OPERATING, INC. TO HAVE ALL THIER EMPLOYEES CERTIFIED IN H2S SAFETY.

ALL PERSONNEL ON A RAY WESTALL OPERATING, INC. SITE WILL BE REQUIRED TO HAVE ON THEIR PERSON AN H2S TRAINING CERTIFICATE CARD THAT IS VALID FOR THE CURRENT DATE.

APPENDIX 'A' (continued)

FIRST AID FOR H2S POISONING

DO NOT PANIC - REMAIN CALM - THINK!

1. HOLD YOUR BREATH. (DO NOT INHALE FIRST - JUST STOP BREATHING.)

2. PUT ON BREATHING APPARATUS.

3. REMOVE VICTIM(S) TO FRESH AIR AS QUICKLY AS POSSIBLE. (GO UP-WIND FROM SOURCE OR AT RIGHT ANGLE TO THE WIND - NOT DOWNWIND.)

4. YELL (!) ***"SOMEONE CALL 911".***

5. BRIEFLY APPLY CHEST PRESSURE - ARM LIFT METHOD OF ARTIFICIAL RESPIRATION TO CLEAN THE VICTIM'S LUNGS AND TO AVOID INHALING ANY TOXIC GAS DIRECTLY FROM THE VICTIM'S LUNGS.

6. PROVIDE FOR PROMPT TRANSPORTATION TO THE HOSPITAL, AND CONTINUE GIVING ARTIFICIAL RESPIRATION IF NEEDED.

7. HOSPITAL(S) OR MEDICAL FACILITIES NEED TO BE INFORMED, BEFORE-HAND, OF THE POSSIBILITY OF H2S GAS POISONING - NO MATTER HOW REMOTE THE POSSIBILITY IS.

8. NOTIFY EMERGENCY ROOM PERSONNEL THAT THE VICTIM(S) HAS BEEN EXPOSED TO H2S GAS.

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

EVERYONE NEEDS TO MASTER THESE NECESSARY SKILLS.

APPENDIX 'B'

STATUS CHECK LIST

APPLICABLE TO ALL OPERATIONS WHEN LEVELS ARE EXPECTED THAT APPROACH OR ARE ABOVE 100 PPM H2S.

NOTE: ALL ITEMS ON THIS LIST MUST BE COMPLETED BEFORE DRILLING TO PRODUCTION CASING POINT.

1. SIGN AT LOCATION ENTRANCE.

2. TWO (2) WINDSOCKS LOCATED AS REQUIRED.

3. TWO (2) 30-MINUTE PRESSURE DEMAND AIR PACKS ON LOCATION FOR ALL RIG PERSONNEL AND MUD LOGGERS.

4. AIR PACK INSPECTED FOR READY USE.

5. CASCADE SYSTEM AND HOSE LINE HOOK-UP.

6. CASCADE SYSTEM FOR REFILLING AIR BOTTLES.

7. SAFE BREATHING AREAS SETUP.

8. CONDITION FLAG ON LOCATION AND READY FOR USE.

9. H2S DETECTION SYSTEM HOOKED UP.

10. H2S ALARM SYSTEM HOOKED UP AND READY.

11. OXYGEN RESUSCITATOR ON LOCATION AND TESTED FOR USE.

12. STRETCHER ON LOCATION AT SAFETY TRAILER.

13. 1 - 100' LENGTH OF NYLON ROPE ON LOCATION.

14. ALL RIG CREW AND SUPERVISORS TRAINED AS REQUIRED.

15. ALL OUTSIDE SERVICE CONTRACTORS ADVISED OF POTENTIAL H2S HAZARD ON WELL.

16. NO SMOKING SIGN POSTED.

17. HAND OPERATED H2S DETECTOR WITH TUBES ON LOCATION AND CHECKED BY DATE IS WITHIN CURRENT TIME FRAME.

APPENDIX 'B' (continued)

PROCEDURAL CHECK LIST

PERFORM DURING EACH TOUR:

1. CHECK FIRE EXTINGUISHERS TO SEE THAT THEY HAVE THE PROPER CHARGE.

2. CHECK BREATHING EQUIPMENT TO ENSURE THAT IT HAS NOT BEEN TAMPERED WITH.

3. MAKE SURE ALL THE H2S DETECTION SYSTEM IS OPERATIVE. PERFORM EACH WEEK:

4. CHECK EACH PIECE OF BREATHING EQUIPMENT TO MAKE SURE THAT DEMAND REGULATOR IS WORKING. THIS REQUIRES THAT THE BOTTLE BE OPENED AND THE MASK ASSEMBLY BE PUT ON TIGHT ENOUGH SO THAT WHEN YOU INHALE, YOU RECEIVE AIR.

5. BLOW OUT PREVENTER SKILLS ARE APPROPRIATELY COVERED BY CREW.

6. CHECK SUPPLY PRESSURE ON BOP ACCUMULATOR STAND BY SOURCE.

7. CHECK ALL SCBA UNITS FOR OPERATION:

DEMAND REGULATOR

ESCAPE BOTTLE AIR VOLUMES

SUPPLY BOTTLE OF AIR VOLUME

8. CHECK BREATHING EQUIPMENT MASK ASSEMBLY TO SEE THAT STRAPS ARE LOOSENED AND TURNED BACK, READY TO PUT ON.

9. CHECK PRESSURE ON BREATHING EQUIPMENT AIR BOTTLES TO MAKE SURE THEY ARE CHARGED TO FULL VOLUME.

10. CONFIRM PRESSURE ON ALL SUPPLY AIR BOTTLES.

11. PERFORM BREATHING EQUIPMENT DRILLS WITH ON-SITE PERSONNEL.

12. CHECK THE FOLLOWING FOR AVAILABILITY:

EMERGENCY TELEPHONE LIST

HAND OPERATED H2S DETECTORS AND TUBES

APPENDIX 'C'

GENERAL INFORMATION

TOXIC EFFECTS OF HYDROGEN SULFIDE

HYDROGEN SULFIDE IS EXTREMELY TOXIC. THE ACCEPTABLE CEILING CONCENTRATION FOR EIGHT-HOUR EXPOSURE IS 10 PPM, WHICH IS .001% BY VOLUME.

HYDROGEN SULFIDE IS HEAVIER THAN AIR (SPECIFIC GRAVITY - 1.192) AND COLORLESS. IT FORMS AN EXPLOSIVE MIXTURE WITH AIR BETWEEN 4.3 AND 46.0 PERCENT BY VOLUME.

HYDROGEN SULFIDE IS ALMOST AS TOXIC AS HYDROGEN CYANIDE AND IS BETWEEN FIVE AND SIX TIMES MORE TOXIC THAN CARBON MONOXIDE.

TOXICITY DATA FOR HYDROGEN SULFIDE AND VARIOUS OTHER GASES ARE COMPARED IN TABLE I.

PHYSICAL EFFECTS AT VARIOUS HYDROGEN SULFIDE EXPOSURE LEVELS ARE SHOWN IN TABLE II.

TABLE I

TOXICITY OF VARIOUS GASES

COMMON NAME	*CHEMICAL FORMULA*	*SPECIFIC GRAVITY*	*THRESHOLD LIMIT (1)*	*HAZARDOUS LIMIT (2)*	*LETHAL CONCENTRATION (3)*
HYDROGEN SULFIDE	**H2S**	**1.19**	**10 PPM**	**100 PPM/HR**	**600 PPM**
HYDROGEN CYANIDE	**HCN**	**0.94**	**10 PPM**	**150 PPM/HR**	**300 PPM**
SULFUR DIOXIDE	**SO2**	**2.21**	**2 PPM**	**N/A**	**1000 PPM**
CHLORINE	**CL2**	**2.45**	**1 PPM**	**150 PPM/HR**	**1000 PPM**
CARBON MONOXIDE	**CO**	**0.97**	**50 PPM**	**150 PPM/HR**	**1000 PPM**
CARBON DIOXIDE	**CO2**	**1.52**	**5000 PPM**	**5%**	**10%**
METHANE	**CH4**	**0.55**	**90,000 PPM**	**COMBUSTIBLE @ 5% IN AIR**	**N/A**

(1) THRESHOLD LIMIT - CONCENTRATION AT WHICH IT IS BELIEVED THAT ALL WORKERS MAY BE REPEATEDLY EXPOSED DAY AFTER DAY WITHOUT ADVERSE EFFECTS.

(2) HAZARDOUS LIMIT - CONCENTRATION THAT MAY CAUSE DEATH WITH PROLONGED EXPOSURE.

(3) LETHAL CONCENTRATION - CONCENTRATION THAT WILL CAUSE DEATH WITH SHORT-TERM EXPOSURE.

APPENDIX 'C' (continued)

TABLE II

PHYSICAL EFFECTS OF HYDROGEN SULFIDE

CONCENTRATION	*PHYSICAL EFFECTS*
0.001 or 10 PPM	OBVIOUS AND UNPLEASANT ODOR. SAFE FOR 8 HOURS OF EXPOSURE.
0.002 or 20 PPM	MAY STING EYES AND THROAT. MAY CAUSE FLU-LIKE SYMPTOMS.
0.010 or 100 PPM	KILLS SMELL IN 3 - 15 MINUTES. STINGS EYES AND THROAT. MAY HAVE SOME DIZZINESS AFTER PROLONGED EXPOSURE.
0.050 or 500 PPM	DIZZINESS; BREATHING CEASES IN A FEW MINUTES; NEEDS PROMPT RESUSCITATION. MAY CAUSE LUNG DAMAGE OR DEATH AFTER 4 HOURS EXPOSURE.
0.070 or 700 PPM	UNCONSCIOUS QUICKLY; DEATH WILL RESULT IF NOT RESCUED PROMPTLY.
0.100 or 1000 ppm	UNCONSCIOUS AT ONCE; FOLLOWED BY DEATH WITHIN MINUTES.

SCBA'S SHOULD BE WORN WHEN...

A. ANY EMPLOYEE WORKS NEAR THE TOP OR ON TOP OF ANY TANK UNLESS TESTS REVEAL LESS THAN 10 PPM OF H2S.

B. WHEN BREAKING OUT ANY LINE WHERE H2S CAN REASONABLY BE EXPECTED.

C. WHEN SAMPLING AIR IN AREAS TO DETERMINE IF TOXIC CONCENTRATIONS OF H2S EXISTS.

D. WHEN WORKING IN AREAS WHERE OVER 100 PPM H2S HAS BEEN DETECTED.

E. AT ANY TIME THERE IS A DOUBT AS TO THE H2S LEVEL IN THE AREA TO BE ENTERED.

APPENDIX 'C' (continued)

POTENTIALLY HAZARDOUS VOLUMES

THIS IS THE VOLUME OF H2S GAS OF SUCH CONCENTRATION THAT:

1. THE 100-PPM RADIUS OF EXPOSURE (1) INCLUDES A PUBLIC AREA (2);

2. THE 500-PPM RADIUS OF EXPOSURE INCLUDES A PUBLIC ROAD (3);

3. THE 100-PPM RADIUS OF EXPOSURE EXCEEDS 3000 FEET.

(1) RADIUS OF EXPOSURE MEANS THE RADIUS CONSTRUCTED WITH THE POINT OF ESCAPE AS ITS STARTING POINT AND ITS LENGTH.

(2) PUBLIC AREA IS A BUILDING OR STRUCTURE THAT IS NOT ASSOCIATED WITH THE WELL, FACILITY OR OPERATION FOR WHICH THE RADIUS OF EXPOSURE IS BEING CALCULATED AND THAT IS USED AS A DWELLING, OFFICE, PLACE OF BUSINESS, CHURCH, SCHOOL, HOSPITAL OR GOVERNMENT BUILDING, OR A PORTION OF A PARK, CITY, TOWN, VILLAGE OR DESIGNATED SCHOOL BUS STOP OR OTHER SIMILAR AREA WHERE MEMBERS OF THE PUBLIC MAY REASONABLY BE EXPECTED TO BE PRESENT.

(3) PUBLIC ROAD MEANS A FEDERAL, STATE, MUNICIPAL OR COUNTY ROAD OR HIGHWAY.

RADIUS OF EXPOSURE

THE RADIUS OF EXPOSURE IS CALCULATED USING THE FOLLOWING PASQUILL-GIFFORD DERIVED EQUATION (OR BY OTHER SUCH METHOD) AS FOLLOWS:

A. FOR DETERMINING THE 100-PPM RADIUS OF EXPOSURE:

$$X = [(1.589)(\text{H2S CONCENTRATION})(Q)]^{(0.6258)}$$

WHERE "X" IS THE RADIUS OF EXPOSURE IN FEET, THE H2S CONCENTRATION IS THE DECIMAL EQUIVALENT OF THE MOLE OR VOLUME FRACTION OF H2S IN THE GASEOUS MIXTURE;

AND "Q" IS THE ESCAPE RATE EXPRESSED IN CUBIC FEET PER DAY (CORRECTED FOR STANDARD CONDITIONS OF 14.73 PSI ABSOLUTE AND 60 DEGREES FAHRENHEIT)

B. FOR DETERMINING THE 500-PPM RADIUS OF EXPOSURE:

$$X = [(0.4546)(\text{H2S CONCENTRATION})(Q)]^{(0.6258)}$$

WHERE "X" IS THE RADIUS OF EXPOSURE IN FEET, THE H2S CONCENTRATION IS THE DECIMAL EQUIVALENT OF THE MOLE OR VOLUME FRACTION OF H2S IN THE GASEOUS MIXTURE;

AND "Q" IS THE ESCAPE RATE EXPRESSED IN CUBIC FEET PER DAY (CORRECTED FOR STANDARD CONDITIONS OF 14.73 PSI ABSOLUTE AND 60 DEGREES FAHRENHEIT)

C. FOR A WELL BEING DRILLED, COMPLETED, RECOMPLETED, WORKED OVER OR SERVICED IN AN AREA WHERE INSUFFICIENT DATA EXISTS TO CALCULATE A RADIUS OF EXPOSURE BUT WHERE H2S COULD REASONABLY BE EXPECTED TO BE PRESENT IN CONCENTRATIONS IN EXCESS OF 100 PPM IN THE GASEOUS MIXTURE, A 100 PPM RADIUS OF EXPOSURE EQUAL TO 3000 FEET IS ASSUMED.

APPENDIX 'C' (continued)

REGULATORY THRESHOLD

A. DETERMINATION OF H2S CONCENTRATION

1. THE H2S CONCENTRATION IN THE GASEOUS MIXTURE WITHIN WELLS, FACILITIES OR OPERATIONS SHALL BE DETERMINED EITHER BY TESTING, TESTING A REPRESENTATIVE SAMPLE OR USING PROCESS KNOWLEDGE IN LIEU OF TESTING. IF THE PERSON USES A REPRESENTATIVE SAMPLE OR PROCESS KNOWLEDGE, THE CONCENTRATION DERIVED FROM THE REPRESENTATIVE SAMPLE OR PROCESS KNOWLEDGE SHALL BE REASONABLY REPRESENTATIVE OF THE H2S CONCENTRATION WITHIN THE WELL OR FACILITY.

2. THE TESTS USED TO MAKE THE DETERMINATION SHALL BE CONDUCTED IN ACCORDANCE WITH APPLICABLE ASTM OR GPA STANDARDS OR BY STANDARDLY ACCEPTED METHOD.

3. IF A CHANGE OR ALTERATION MAY MATERIALLY INCREASE THE H2S CONCENTRATION IN A WELL, FACILITY OR OPERATION, TESTING SHALL BE CONDUCTED TO MAKE A NEW DETERMINATION.

B. CONCENTRATIONS DETERMINED TO BE BELOW 100 PPM - IF THE H2S CONCENTRATION IN A GIVEN WELL, FACILITY OR OPERATION IS LESS THAN 100 PPM, NO FURTHER ACTIONS SHALL BE REQUIRED ***EXCEPT AS PROVIDED IN THIS H2S CONTINGENCY PLAN CONCERNING "NORMAL / LOW H2S CONDITIONS".***

C. CONCENTRATIONS DETERMINED TO BE ABOVE 100 PPM

1. IF THE H2S CONCENTRATION IN A GIVEN WELL, FACILITY OR OPERATION IS DETERMINED TO BE 100 PPM OR GREATER, THEN THE RADIUS OF EXPOSURE SHALL BE CALCULATED TO COMPLY WITH APPLICABLE REQUIREMENTS OF STATE AND FEDERAL LAW.

2. IF CALCULATION OF-THE RADIUS OF EXPOSURE REVEALS THAT A POTENTIALLY HAZARDOUS VOLUME IS PRESENT, THE RESULTS OFTHE H2S CONCENTRATION DETERMINATION AND THE CALCULATION OF THE RADIUS OF EXPOSURE SHALL BE PROVIDED TO NMOCD AND BLM. FOR A WELL, FACILITY OR OPERATION, THE ACCOMPLISH THE DETERMINATIONS, CALCULATIONS AND SUBMISSIONS WILL BE MADE BEFORE OPERATIONS BEGIN.

D. RECALCULATION - OF THE RADIUS OF EXPOSURE SHALL BE PERFORMED IF:

1. THE H2S CONCENTRATION IN A WELL, FACILITY OR OPERATION INCREASES TO 100 PPM OR GREATER.

2. THE CONCENTRATION OF H2S INCREASES BY A FACTOR OF 25% IN AN AREA THAT PREVIOUSLY HAD A H2S CONCENTRATION OF 100 PPM OR GREATER.

IF A POTENTIALLY HAZARDOUS VOLUME IS PRESENT, THE RESULTS SHALL BE PROVIDED TO THE NMOCD AND BLM WITHIN 60 DAYS.

Ray Westall Operating, Inc.
Fireweed '10' Federal Well No.1 SWD

Surface Use Plan

1. **Existing Roads**

A. Existing roads will be maintained in as good or better condition as they existed prior to commencement of the exploration program. All equipment and vehicles will be confined to the routes shown on the Access Route Aerial Photo & Map attached hereto. Maintenance of the access roads will performed by current lessees and/or operators however, Ray Westall will provide routine maintenance and repairs as necessary due to use of the SWD facility and will continue until abandonment and reclamation proposed SWD facility.

B. After well completion, travel to the well site would include daily visits by the operator and up to 10 produced water trucks per day. Additional traffic will include one maintenance truck visiting each well site approximately 10 days per year. Well service trips would be rescheduled or postponed during periods of wet weather when vehicle travel could cause rutting.

C. All equipment and vehicles will be confined to the travel routes laid out on the Overview and Site Maps attached hereto.

D. Dust will be controlled as necessary on the roads during construction and drilling.

2. **New Roads** - None

3. **Location of Existing Wells** - This well is located 1870' FNL and 860' FEL, Section 10, Twp 18 South, Rng 28 E, NMPM, Eddy County New Mexico. There are 19 existing wells within 1/2 mile of the proposed SWD. All well spots are shown on the Area of Review / Overview Map, attached hereto.

4. **Location of Proposed Facilities** - SWD related equipment such as tanks and pumps will be located within the right-of-way and configured for ease of operation and minimum footprint. Specifics will be included with the Right-of-Way application and future sundries.

Equipment and facilities located on the SWD site include the wellhead, three (3) 750 to 1000 bbl water tanks, one 400 to 750 bbl oil tank and one 750 to 1000 bbl gun barrel tank, re-circulating pump, fluid screens and filters and the injection pump. All equipment will be painted per BLM NTL 87-1.

5. **Location and Type of Water Supply** - All water required for the workover will be trucked from Loco Hills and/or other area providers.

6. **Construction Activities** - Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities. Any gravel, caliche road-base or other fill use for roads and/or berms used during construction will be weed free. No remediation or reseeding is anticipated until the SWD facility and site is decommissioned.

7. **Methods for Handling Waste**

A. Cuttings - Ray Westall will utilize closed loop drilling systems and will not construct reserve pits. Any non-recycled drilling fluids will be land-farmed with the drill cuttings or disposed of at an NMOCD permitted and approved facility.

B. Produced Fluids - Liquid hydrocarbons and other fluids produced during well completion operations will be placed in tanks on the well location. Any unintentional release of oil, gas, salt water, or other potentially hazardous substances will be cleaned immediately and removed to an approved disposal site. Any release will be immediately cleaned up and reported as necessary to BLM and the OCD.

C. Sewage - Portable, self-contained chemical toilets will be provided for human waste disposal. The toilets will be maintained by the vendor and waste handled accordingly.

D. Garbage and Other Waste Materials - All handled per NTL 92-1. All garbage and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, especially to eliminate attracting wildlife. At the end of workover and completion operations, or as needed, the accumulated trash will be hauled off-site to an approved garbage collection system and/or contractor. No trash pits will be used under any circumstance.

E. Debris - Immediately after removal of the workover unit, all debris and other waste materials not contained in the trash cage will be cleaned and removed from the well location. No potential adverse materials or substances will be left on location.

F. Hazardous Materials Management - None anticipated. Ray Westall Operating, Inc. and its contractors will comply with all applicable Federal, State and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any hazardous material, as defined in this paragraph, that will be used, produced, transported or stored on the oil and gas lease, "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the CERCLA of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulation. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the RCRA of 1976, as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous material also includes any nuclear or nuclear by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.C.S. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101 (14), 42 U.S.C. 9601 (14) nor does the term include natural gas.

No hazardous substances or wastes will be stored on the location after completion of the well. Chemicals brought to location will be on the Toxic Substance Control Act (TSCA) approved inventory list. All hazardous substances brought to the location will have a Material Safety Data Sheet (MSDS), and will be property handled so as to not cause harm to the environment or to people. All MSDSs will be kept on location until the hazardous material is properly disposed of in accordance with federal law.

Ray Westall maintains a file, per 29 CFR 1910.1200 (g) containing current MSDSs for all chemicals, compounds, and/or substances which will be used during the course of construction, drilling, completion, and production operations for this project. Hazardous materials (substances) which may be found at the site may include drilling mud and cementing products which are primarily inhalation hazards, fuels (flammable and/or combustible), materials that may be necessary for well completion/stimulation activities such as flammable or combustible substances and acids/gels (corrosives). The opportunity for Superfund Amendments and Reauthorization Act (SARA) listed Extremely Hazardous Substances (EHS) at the site is generally limited to proprietary treating chemicals. All hazardous and Extremely Hazardous Substances and commercial preparations will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

All undesirable events (fires, accidents, blowouts, spills, discharges) as will be reported to the BLM Carlsbad field office. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production (form 3160-6). Reporting of any releases will be duplicated to the NMOCD on their form C-141.

8. **Ancillary Facilities** - There are none and nothing associated with the SWD operation or facility will be located out side the designated well site as explained below.

9. **Well Site Layout** - A site diagram is attached hereto. The existing well pad and site encompass 2.06 acres. The ROW and proposed SWD facility will be constructed and operated within this exact area.

10. **Plans for Surface Reclamation** - Upon decommissioning of the SWD facility and final abandonment of the well location, gravel will be removed from the access road surface and well location (as directed by the BLM AO), water diversion installed as needed, and both the access road and well location will be restored to approximately the original ground contour(s) by pushing the fill material back into the cut and up over the backslope. No depressions will be left that would trap water or form ponds. All disturbed surfaces (including the access road and well pad areas) will be re-seeded and re-vegetated sites will be monitored to ensure that desired species are thriving and invasive/noxious weeds are not present.

10. **Surface Ownership** - The surface owner is the U.S. Department of the Interior, Bureau of Land Management. The existing BLM lease is NMNM-054184 and is held collectively by Khody Land & Minerals, Marathon Oil Company, Yates Petroleum Corporation and ZPZ Delaware. All interested parties were notified via U.S. certified mail when the NMOCD form C-108 was submitted. Public notice was also published in the Artesia Daily Press. All notifications took place on or about November 28, 2012.

11. **Other Information**

Surveying - A survey of the well pad location was completed by a registered professional land surveyor. A copy is attached hereto.

Cultural Resources - Ray Westall has no plans to do any additional surveys for archeological or cultural resource inventories as applicable assessments would have been conducted in accordance with state and federal requirements during the original drill and completion of the subject well. If discovered, Ray Westall will suspend all operations that further disturb such materials and immediately contact the BLM Carlsbad field office. Operations will not resume until authorization to proceed is issued by the BLM.

Ray Westall Operating, Inc.
Fireweed '10' Federal Well No. 1 SWD
Section 10, Twp 18-S, Rng 28-E
Eddy County, New Mexico

12. Lessee or Operator's Certification

Ray Westall Operating, Inc. hereby certifies that said company is authorized to conduct operations on the above-described land under the terms and conditions of Federal Oil and Gas Lease NMNM-054184. Bond coverage, as required by 43 CFR 3104 is provided by Ray Westall Operating, Inc. The applicable bond number is [Travelers] 103853064, a statewide oil and gas lease bond in the amount of $25,000.00.

I hereby certify that I, or persons under my direct supervision, have inspected the area and am familiar with the general area of the proposed drill site locations and access roads; that I am familiar with the conditions which presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct and that the work associated with the operations proposed herein will be performed by Ray Westall Operating, Inc., its agents, contractors, and subcontractors in conformity with the plan and the terms and conditions under which it is approved. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Ray Westall Operating, Inc.

Signed: _____

Donnie Mathews, General Manager

Ray Westall Operating, Inc.
P.O. Box 4
Loco Hills, NM 88255

Phone: 575-677-2372
Cell: 575-626-4344
Email: mathewsad@hotmail.com

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RAY WESTALL OPERATING, INC
LEASE NO.:	NM054184
WELL NAME & NO.:	1-FIREWEED 10 FEDERAL SWD
SURFACE HOLE FOOTAGE:	1870' FNL & 860' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 10, T. 18 S., R 28 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

☐ **General Provisions**
☐ **Permit Expiration**
☐ **Archaeology, Paleontology, and Historical Sites**
☐ **Noxious Weeds**
☒ **Special Requirements**
- Facilities Fencing Requirement
- ROW Approval Required

☒ **Construction**
- Notification
- Topsoil
- Closed Loop System
- Federal Mineral Material Pits
- Well Pads
- Roads

☐ **Road Section Diagram**
☒ **Drilling**
- Logging Requirements
- Waste Material and Fluids
- Production test

☐ **Production (Post Drilling)**
- Well Structures & Facilities

☐ **Interim Reclamation**
☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Facilities Fencing Requirement:

All facilities located on the proposed well pad must have a perimeter fence to exclude livestock. This includes the secondary containment berm around the storage facilities. The following are fence requirements:

1. Construction of the fence shall consist of steel and/or wooden posts set firmly into the ground.
2. All corners shall be braced.
3. Use a fence with five separate wires (smooth or barbed) or hog panel (16 ft. length by 50 in. height) with connectors such as fence staples, clips, hog rings, hose clamps, twisted wire, etc. The fencing must be secured to the posts.
4. The wire (if used) must be stretched tightly and spaced evenly to effectively exclude animals. Minimum 42" high.
5. Do not use electric fences.
6. The erected fence shall be maintained in adequate condition until final abandonment.
7. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

Right of Way

Approval is granted for disposal of water being produced on the same lease/communitization agreement/unit agreement only. If additional sources of water from off the lease/communitization agreement/unit agreement are to be disposed of in this well, prior approval is required. The approval request must include proper authorization from the surface owner.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

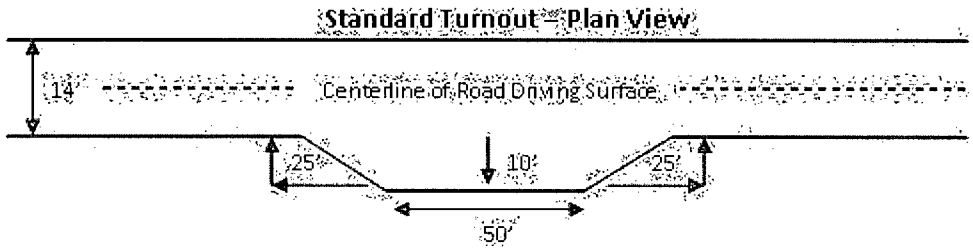
Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

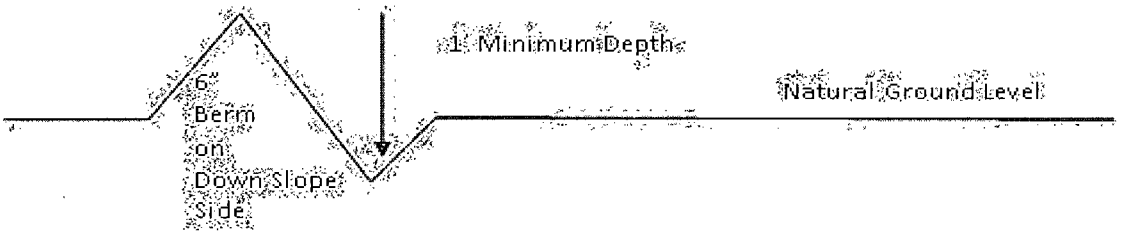
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattleguards

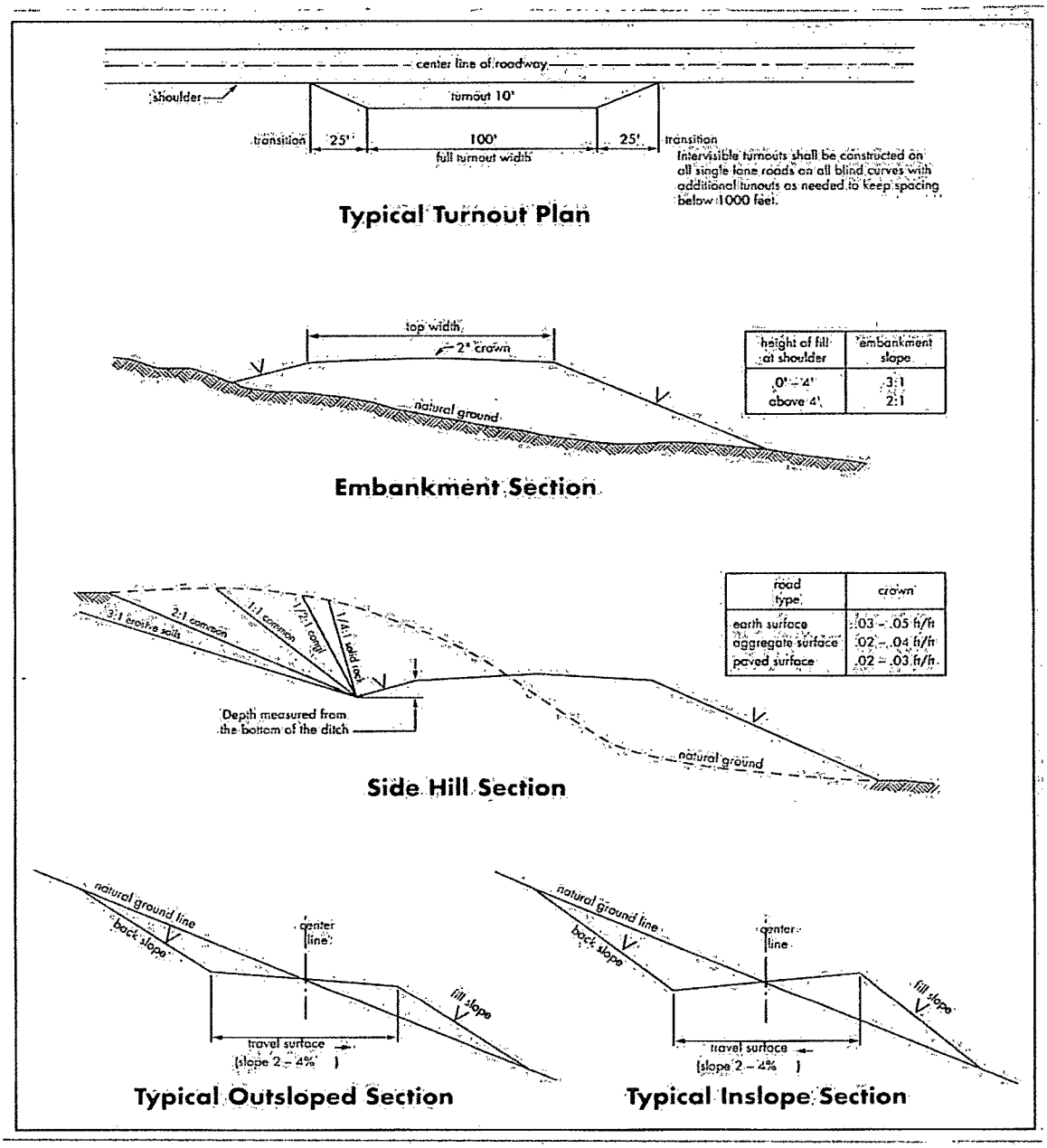
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING—RE-ENTRY

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:

a. Spudding well
b. CIT test
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Hydrogen Sulfide has been reported as a hazard in formations deeper than the proposed depth. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation. This will also be applicable if an un-cemented completion liner is run and a liner top seal, or equivalent, has not been established before the rig move.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD of the vertical portion of hole to surface shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

1. The **13-3/8** inch surface casing was set at 574' with cement circulated to surface.
2. The **9-5/8** inch intermediate casing was set at 2834' with cement circulated to surface.
3. The **7** inch production casing was set at 10044' with cement top recorded at 3500' by Temp survey.

A CIT is to be performed on the 7 inch casing per Onshore Oil and Gas Order 2.III.B.1.h prior to drilling the shoe plug. Test pressure to be 1539 psi.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface plug shall be **5000 (5M)** psi. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The results of the test shall be reported to the appropriate BLM office.

    d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

F. WELL COMPLETION

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to restrict the injection fluid to the approved formation.

CRW 092613

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed