

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 and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

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

¹ Operator Name and Address Ray Westall Operating, Inc. P.O. Box 4, Loco Hills, NM 88255		² OGRID Number 119305
		³ API Number 30-015-34001
⁴ Property Code TBD	⁵ Property Name Saguaro 28 State SWD	⁶ Well No. 1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
L	28	18 S	28 E		1606'	South	518'	West	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

9. Pool Information

Pool Name	Pool Code
SWD; Wolfcamp-Penn	96138

Additional Well Information

¹¹ Work Type E	¹² Well Type S	¹³ Cable/Rotary R	¹⁴ Lease Type S	¹⁵ Ground Level Elevation 3542'
¹⁶ Multiple N	¹⁷ Proposed Depth 8350' PBTD	¹⁸ Formation Wolfcamp-Penn	¹⁹ Contractor TBD	²⁰ Spud Date 9/15/2021
Depth to Ground water ~300'		Distance from nearest fresh water well ~ 0.75 miles		Distance to nearest surface water n/a

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

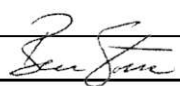
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	17.5"	13.375"	48.0#	468'	595 'C'	Circ. to Surf.
Intermediate	11.0"	8.625"	32.0#	3107'	910 'C'	Circ. to Surf.
Production *	7.875"	5.5"	17.0#	10860'	540 'H'	~3000'

Casing/Cement Program: Additional Comments

*Drill out plugs to apprx. 8400' (Set CIBP @ 8400' w/ 50' cement cap.)

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Hydraulic or Man./ Dbl. Blind Ram	3000 psi	5000 psi	Shaffer/ Hydril or equivalent

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that I have complied with 19.15.14.9 (A) NMAC <input type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input type="checkbox"/> , if applicable. Signature:  Printed name: Ben Stone Title: Agent for Ray Westall Operating, Inc. E-mail Address: ben@sosconsulting.us Date: 8/23/2021 Phone: 903-488-9850	OIL CONSERVATION DIVISION	
	Approved By: Kurt Simmons	
	Title: NMOCD, Santa Fe	
	Approved Date: 10/01/2021	Expiration Date: 10/01/2023
	Conditions of Approval Attached	

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 30-015-34001	² Pool Code 96138	³ Pool Name SWD; Wolfcamp-Penn
⁴ Property Code TBD	⁵ Property Name Saguaro 28 State	⁶ Well Number 1
⁷ OGRID No. 119305	⁸ Operator Name Ray Westall Operating, Inc.	⁹ Elevation 3542'

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
L	28	18S	28E		1606'	FSL	518'	FWL	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
same									

¹² Dedicated Acres n/a	¹³ Joint or In fill	¹⁴ Consolidation Code	¹⁵ Order No. SWD-1674
--------------------------------------	--------------------------------	----------------------------------	-------------------------------------

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>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.</i> Signature 8/23/2021 Date Ben Stone Printed Name ben@sosconsulting.us E-mail Address
				¹⁸ SURVEYOR CERTIFICATION <i>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.</i> November 30, 2004 Date of Survey Signature and Seal of Professional Surveyor:
				Macon McDonald 12185 Certificate Number

**Ray Westall Operating, Inc.
Saguaro 28 State SWD Well No. 1
Section 28, Twp 18-S, Rng 28-E
Eddy County, New Mexico**

Well Re-entry Program

Objective: Re-enter the existing wellbore by drilling out plugs, squeeze old perms, circulate clean, set CIBP w/ cement cap to new PBTD of 8350', perforate, acidize and run new tubulars to configure for salt water disposal.

1. Geologic Information - The Wolfcamp is a light gray-brown fine to medium crystalline fossiliferous limestone with inter-crystalline vugular porosity interbedded with gray shale. Additional porosity can be found when the well bore encounters detrital carbonates which were shed off shelf and foreslope areas and transported down the Wolfcamp paleoslope. The Penn formation (Cisco/Canyon) similar to the Wolfcamp, is a gray micritic (fine grained) fossiliferous limestone with vugular porosity. The reservoirs in this area are usually limited in size with up dip porosity loss due to shelf margin carbonate build up. The porosity zones in these formations can be limited, averaging 2% to 9% but permeability can be fairly high. The combined zones offer good porosity in the proposed injection interval located from 8066' to 8271' with very good porosity interspersed throughout the overall interval.

The Wolfcamp is overlain by the Bone Spring and the Penn is underlain by the Strawn and Atoka. (See Pool Map and Data exhibit included.)

Fresh water in the area is generally available from the Santa Rosa formation (Capitan Basin). Based on State Engineer's records for a water well in Twp 19S, Rng 28E, groundwater is at a depth to water of 300 feet or greater.

Formation Tops

Seven Rivers	948'
Queen	1544'
San Andres	2305'
3 rd Bone Spring	7742'
Wolfcamp	8032'
Penn	8504'
Strawn	9330'
Atoka	9988'
Morrow	10302'

2. Reentry Prep and Procedure

- a) Excavate around the cutoff casing at the surface and constructing cellar.
- b) Expose surface casing or conductor by cutting back exterior casing stubs and removing cement between them, as required.
- c) Extend the surface casing to the surface or to the platform wellhead deck.
- d) Install new wellhead with the as sized (grade/ weight) and bradenhead valves.
- e) Test wellhead and casing extension with pressure sufficient to assure that the reconstructed well segment can contain expected surface pressures.
- f) Nipple up and test BOP.

Well Re-entry Program (cont.)**3. Completion Procedure**

- a) MIRU WSU, reverse unit and associated equipment. Install B.O.P. RIH with bit and collars to drill out plugs.
- b) D/O & C/O plugs to apprx. 8400'. Spot 50' Cmt for 8350' PBTD.
- c) Acidize w/ ~2500 gals HCl. Swab and/or circulate hole clean.
- d) RIH with nickel plated 5.5" or equiv. VFE retrievable packer or equivalent on 2.875" or 3.5" IPC or equiv. tubing w/ PKR @ 7966'+, pump clean fresh water containing corrosion inhibitor, biocide and oxygen scavenger down annulus, set packer. Prepare to run MIT test and notify OCD to witness 24 hours in advance.
- e) Build injection facility and start water disposal. Per SWD-1674; limit injection pressure to 1613 psi.

4. **Tubular program** - The well casing is set as described above. (See attached Proposed Well Schematic) 2-7/8" (3.5" optionally) internally coated tubing will be run and set in a packer located at approximately 7966' (within 100' of the uppermost injection perforation).

5. **Cementing Program** - Existing Surface and Intermediate casing strings were all circulated to surface during the original well drilling and completion operations as follows:

Surface	13.375"	48.0#	17.5" hole	468'	595 sx 'C'	Circ to Surf
Intermediate	8.625"	32.0#	11.0" hole	3107'	910 sx 'C'	Circ to Surf
Production	5.5"	17.0#	7.875" hole	10860'	540 sx 'H'	TOC 3000' by Calc.
Set CIBP @ 8400' - Spot 50 ft cement for estimated 8350' PBTD						

6. **Pressure Control** - BOP diagram is attached to this application. All BOP and related equipment shall comply with well control requirements as described NMOCD rules and regulations. Minimum working pressure of the BOP and related equipment required for the drillout shall be 3000 psi. OCD will be notified a minimum of 4 hours prior to 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 OCD Artesia district 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

7. **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.

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

9. **H₂S Safety** - There is a low risk of H₂S in this area. The operator will comply with the provisions of company H₂S contingency plan as applicable. All personnel will wear monitoring devices and a wind direction sock will be placed on location.

Well Re-entry Program (cont.)

10. **Logging, Coring and Testing** - Ray Westall Operating shall conduct a swab test of the new perforations for hydrocarbon potential analysis of hydrocarbon content. The Division's District II office shall be noticed prior to this test and given the opportunity to witness the swab test. The operator shall supply the Division's District II office and Santa Fe Engineering Bureau office a Sundry notice with the results of the swab test prior to commencing injection.

The operator shall run a CBL (or equivalent) across the 5 ½ -inch production casing from approximately 8350 feet to 2500 feet to demonstrate a good cement across the production casing and good bond between the production casing and the 8-5/8 -inch casing .

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.

11. **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 3700 psi and the maximum anticipated bottom hole temperature is 125° F.

12. **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.

13. **Anticipated Start Date** – Ready now – MIRU 9/15/2021. 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.

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:

September 15, 2021.

14. **Configure for Salt Water Disposal** – SWD Permit No. SWD-1674. 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 OCD test procedures. (Notify 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 ~3,500 bpd at a maximum surface injection pressure of 1613 psi.

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**

(Revised March 2021)

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 H ₂ S CONDITIONS
(PAGES 3-4) | THIS SECTION OUTLINES PROCEDURES DURING NORMAL OPERATIONS WHEN EXPECTATIONS OF AN H ₂ S ENVIRONMENT ARE REASONABLY LOW. |

H₂S Contingency Plan (continued)

- | | |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 H ₂ S 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 H ₂ S SAFETY PROCEDURES. FIRST AIDE FOR H ₂ S. |
| 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 H ₂ S, 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.

H₂S Contingency Plan (continued)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)

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

H₂S Contingency Plan (continued)

2. NORMAL CONDITION EXPECTATIONS ARE BASED ON HISTORICAL EVIDENCE OF THE AREA, GEOLOGIC FORMATIONS AND TYPE OF OPERATIONS WITH REGARD TO FLUIDS BEING UTILIZED FOR DRILLING 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.

H₂S Contingency Plan (continued)

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 DECISIONS SHOULD BE MADE ONLY AS A LAST RESORT AND IN A SITUATION WHERE IT IS CLEAR THAT:

H₂S Contingency Plan (continued)

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**

H₂S Contingency Plan (continued)

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.

H₂S Contingency Plan (continued)**5. EMERGENCY TELEPHONE NUMBERS**

(Revised March 2021)

<u>CONTACT PARTY</u>	<u>OFFICE</u>
<u>RAY WESTALL, INC.</u>	
DONNIE MATHEWS	OFFICE: 575-677-2372 CELL: 575-626-4344
<u>STATE POLICE</u>	
ROSWELL, NM	575-827-9312
EDDY COUNTY	575-885-3138
<u>SHERIFF</u>	
EDDY COUNTY	575-887-7551
LEA COUNTY	575-396-3611
<u>EMERGENCY MEDICAL</u>	
EDDY COUNTY	911 OR 575-746-2701
LEA COUNTY	911 OR 575-394-3258
<u>EMERGENCY RESPONSE</u>	
EDDY COUNTY	575-746-9620
LEA COUNTY	575 396-8602
<u>FIRE DEPARTMENTS</u>	
ARTESIA	575-746-5051
CARLSBAD	575-682-5450
HOBBS	575-397-9308
EUNICE	575-394-3258
JAL	575-395-2221
<u>POLICE DEPARTMENTS</u>	
ARTESIA	575-746-5000
CARLSBAD	575-885-2111
LOCO HILLS	575-677-2349
HOBBS	575-397-3365
EUNICE	575-394-0112

H₂S Contingency Plan (continued)

<u>CONTACT PARTY</u>	<u>OFFICE</u>
JAL	575-395-2501
<u>CALLAWAY SAFETY</u> EDDY & LEA COUNTIES	575-392-2973
<u>WILD WELL CONTROL</u> ODESSA, TX	OFFICE: 281-784-4700 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.)

H₂S Contingency Plan (continued)

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 THEIR 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.**



This plan was developed exclusively for Ray Westall Operating, Inc.
No part of the content may be copied or used for
other purposes by any other entity without the consent of
SOS Consulting, LLC | 903-488-9850 | info@sosconsulting.us

H₂S Contingency Plan (continued)

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.**

H₂S Contingency Plan (continued)

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.

H₂S Contingency Plan (continued)

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.

H₂S Contingency Plan (continued)

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 LOOSENEED 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

H₂S Contingency Plan (continued)**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	H ₂ S	1.19	10 PPM	100 PPM/HR	600 PPM
HYDROGEN CYANIDE	HCN	0.94	10 PPM	150 PPM/HR	300 PPM
SULFUR DIOXIDE	SO ₂	2.21	2 PPM	N/A	1000 PPM
CHLORINE	CL ₂	2.45	1 PPM	150 PPM/HR	1000 PPM
CARBON MONOXIDE	CO	0.97	50 PPM	150 PPM/HR	1000 PPM
CARBON DIOXIDE	CO ₂	1.52	5000 PPM	5%	10%
METHANE	CH ₄	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.

H₂S Contingency Plan (continued)**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.

H₂S Contingency Plan (continued)**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:

$$X = [(1.589)(\text{H}_2\text{S CONCENTRATION})(Q)]^{(0.6258)}$$

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:

$$X = [(0.4546)(\text{H}_2\text{S CONCENTRATION})(Q)]^{(0.6258)}$$

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.

H₂S Contingency Plan (continued)**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 OF THE 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.

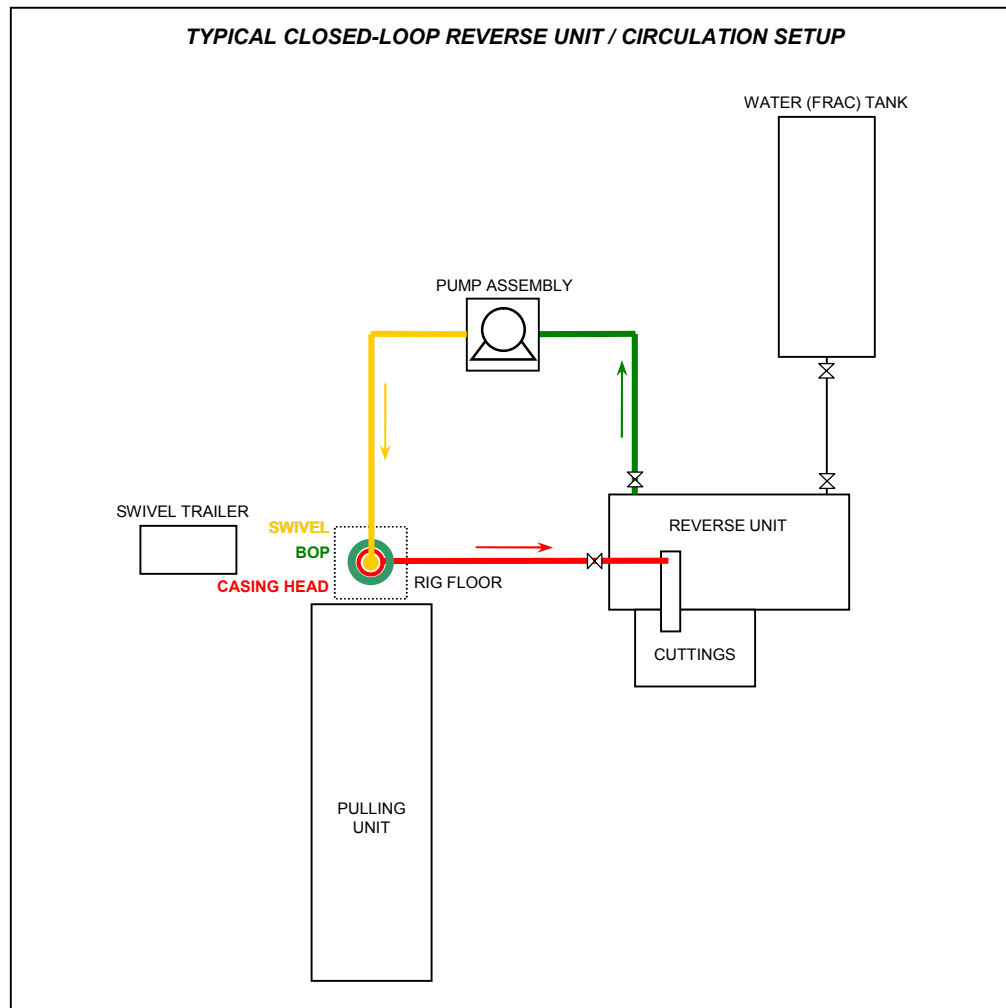
IF A POTENTIALLY HAZARDOUS VOLUME IS PRESENT, THE RESULTS SHALL BE PROVIDED TO THE NMOCD AND BLM WITHIN 60 DAYS.



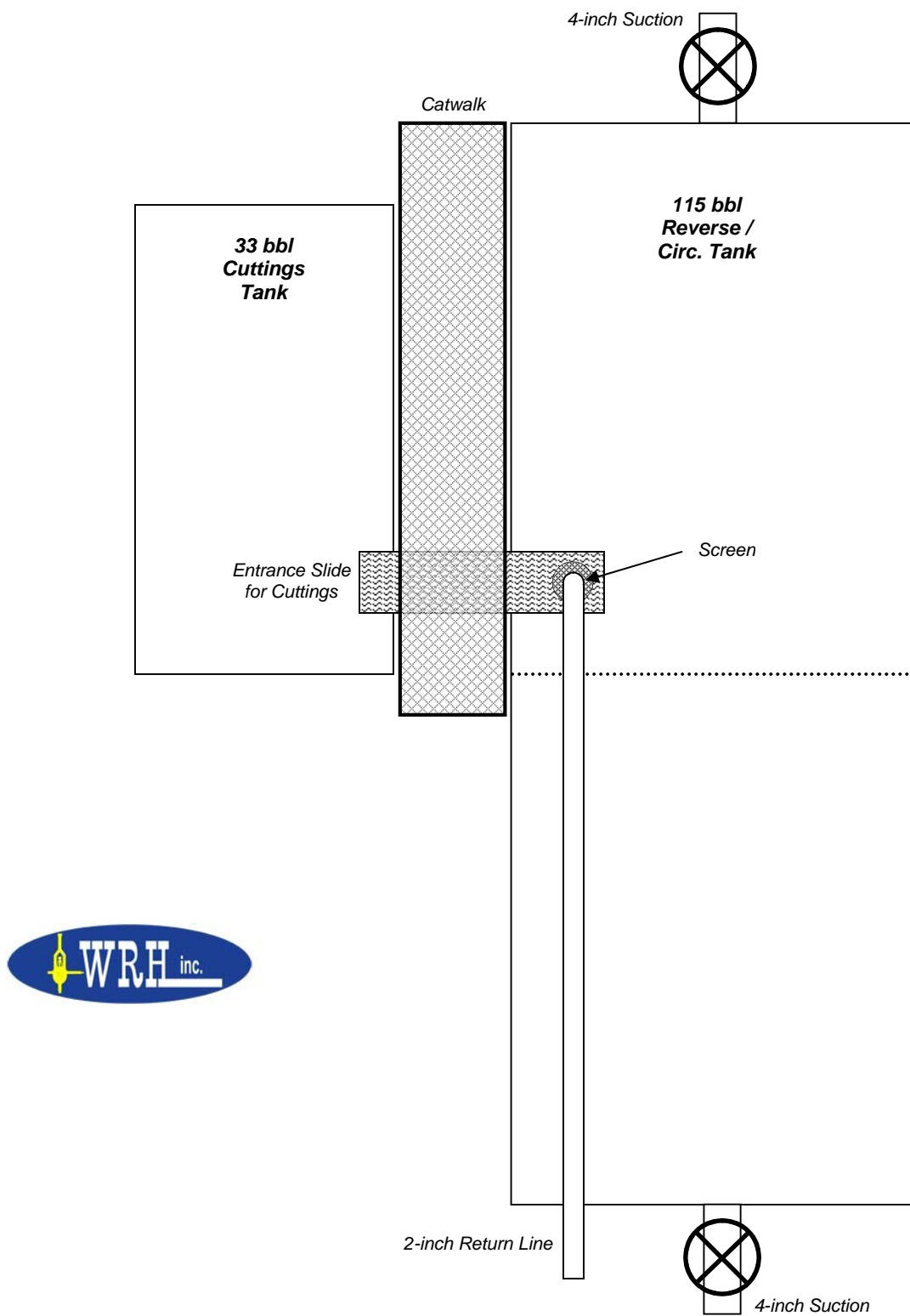
This plan was developed exclusively for Ray Westall Operating, Inc.
No part of the content may be copied or used for
other purposes by any other entity without the consent of
SOS Consulting, LLC | 903-488-9850 | info@sosconsulting.us

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

1. Blow Out Preventer tested prior to any operations. Notify OCD 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 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.

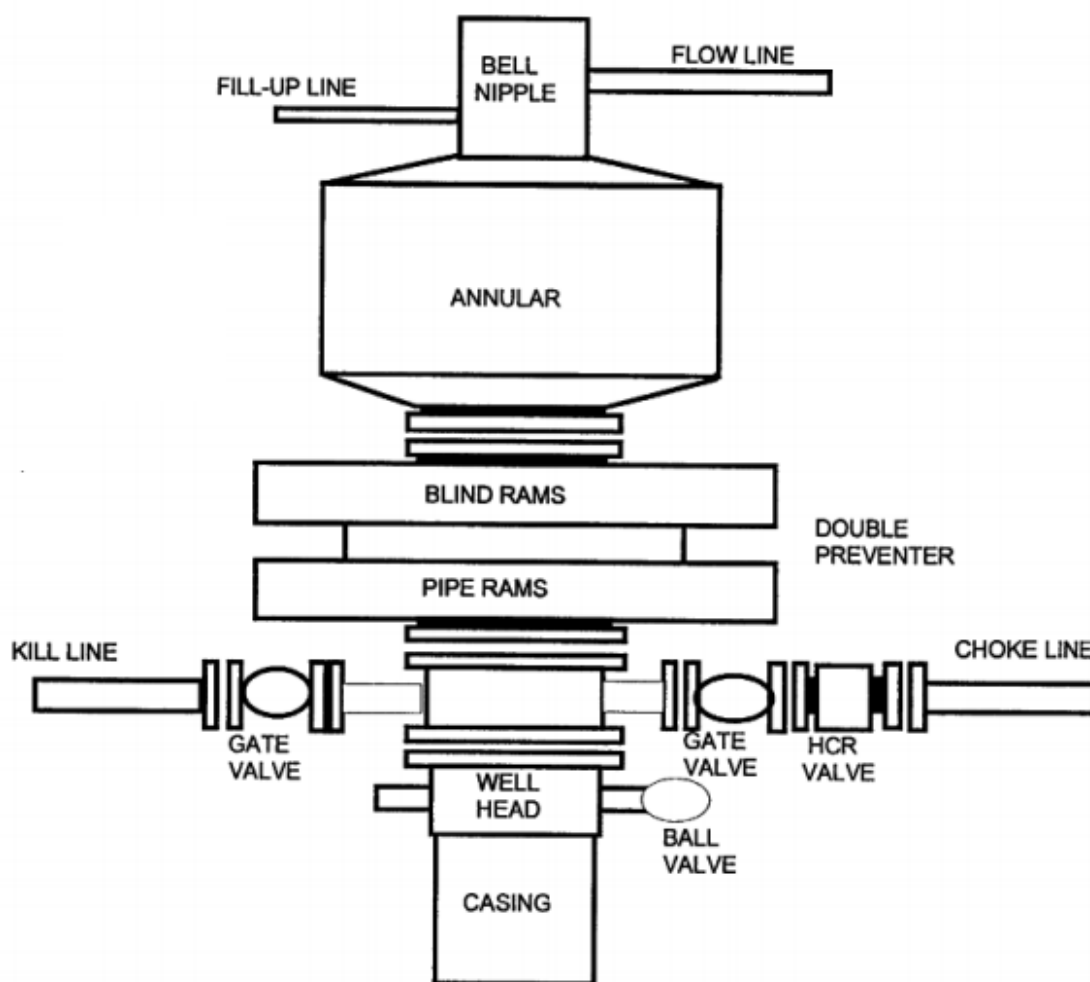


Reverse / Circulation Tank for Workovers & Drillouts



BLOWOUT PREVENTER DIAGRAM

3000 PSI WORKING PRESSURE



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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 43773

COMMENTS

Operator: RAY WESTALL OPERATING, INC. P.O. Box 4 Loco Hills, NM 88255	OGRID: 119305
	Action Number: 43773
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 9/28/2021	9/28/2021
kpickford	SWD-1674	9/28/2021

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 Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 43773

CONDITIONS

Operator: RAY WESTALL OPERATING, INC. P.O. Box 4 Loco Hills, NM 88255	OGRID: 119305
	Action Number: 43773
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Notify OCD 24 hours prior to casing & cement	9/28/2021
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	9/28/2021
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	9/28/2021
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	9/28/2021