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	2. OGRID Number
Mescalero Energy, LLC 510 Bering Dr. Ste.430, Houston, TX 77057	370198
	3. API Number 30-025- 43059

4. Property Code	5. Property Name	6. Well No.
315965	McCasland SWD	2

7. Surface Location
(To be verified by field survey)

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
H	10	20S	38E		1723	FNL	590	FEL	LEA

8. Proposed Bottom Hole Location
(To be verified by field survey)

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
H	10	20S	38E		1723	FNL	590	FEL	LEA

9. Pool Information

Pool Name	Pool Code
SWD; San Andres	96121

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	SWD	R	P	3597'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
No	5520'	San Andres	To Be Determined	~2/01/2016

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water
30'	~2000'	n/a

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

SWD 1606

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	12.25"	9.625"	4.0 lb/ft	1650'	650	Surface
Production	8.75"	7.0"	23.0/26.0 lb/ft	4600'	775	Surface
Tubing	NA	4.5"	9.5 lb/ft	4520'	NA	NA

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Hydraulic/Blinds, Pipe	3000	5000	Shaffer (Equivlent)

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 ☐ and/or 19.15.14.9 (B) NMAC ☐, if applicable.** Signature: Ben Stone	OIL CONSERVATION DIVISION Approved By:
Printed name: Ben Stone	Title: Petroleum Engineer
Title: Agent for Mescalero Energy, LLC	Approved Date: 01/29/16 Expiration Date: 01/29/18
E-mail Address: ben@sosconsulting.us	
Date 12/14/2015 Phone: 903-488-9850	Conditions of Approval Attached

JAN 29 2016

30 025-43059

Mescalero Energy, LLC
McCasland SWD Well No.2
1723' FNL & 590' FEL
Section 10, Twp 20-S, Rng 38-E
Lea County, New Mexico

Well Program - New Drill

Objective: Drill new well for commercial salt water disposal into the San Andres formation on private surface and minerals.

1. **Geologic Information** – San Andres Formation.

The San Andres formation is overall a thick, porous dolomite exhibiting excellent porosity. Offset logs indicated porosities are generally in the 15-20% range. These porosity zones are very suitable to allow for the disposal of produced water. Sufficient barriers exist in the upper and lower portion of the San Andres formation to prevent vertical migration upwards or downwards into over or underlying producing formations.

The San Andres is overlain by the Grayburg and upwards to the Queen. It is underlain by the Glorieta, Blinebry, Drinkard and Tubb formations.

Fresh water in the area is generally available from the Ogallala formation. State Engineer's records show water wells in the area to have an average depth of 61 feet and a minimum of 30 feet. There are 2 water wells located within one mile of the proposed SWD. Average depth to water in these wells is 73 feet.

Estimated Formation Tops:

FORMATION	DEPTH
T/Fresh Water	30
T/Rustler	1627
Yates	3146
Queen	3714
Grayburg	3944
San Andres	4303
TOTAL DEPTH	5520
Glorieta	5607
Blinebry	6051

2. **Drilling Procedure**

a. MIRU drilling rig and associated equipment. Set up H_2S wind direction indicators; brief all personnel on Emergency Evacuation Routes.
b. All contractors conduct safety meeting prior to current task. All equipment inspected daily. Repair / replace as required.
c. Well spud operations commence.
d. Mud logger monitoring returns; cuttings & waste hauled to specified facility. CRI - LEA COUNTY
e. After surface casing set/drilled; if H_2S levels >20ppm detected, implement H_2S Plan accordingly. (e.g., cease operations, shut in well, employ H_2S safety trailer & personnel safety devices, install flare line, etc. - refer to plan.)
f. 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.
g. Sundry forms filed as needed - casing, cement, etc. - operations continue to completion.

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Well Program - New Drill (cont.)

3. **Casing program** - Casing designed as follows:

STRING	HOLE SZ	DPTH	CSG SZ	COND	WT/GRD	CLLPS/BUR	TENSN
Surface	12.25" hole	2000'	9.625"	New	40.0# L-80 ST&C	3090/5750	1.86
Long String	8.75" hole	0'-5375'	7.0"	New	23/26.0# J-55 LT&C	3270/4360	1.3
Tubing	(ID 7.0" Csg.)	0'-4520'	4.5" IPC	New	9.5# K-55	3310/4380	1.3

Notes:

- ✓ While running all casing strings, the pipe will be kept a minimum of 1/3 full at all times to avoid approaching the collapse pressure of casing.

4. **Cementing Program:**

Surface – LEAD 500 sx (13.5#; 1.75 ft^3/sk) Class C + 2% $Cacl_2$;
TAIL 150 sx (14.8#; 1.34 ft^3/sk) Class C + 2% $CaCl_2$; 100% excess - circulated to surface.

Long String
Prod/Disposal – LEAD 550 sx (14.2#; 1.27 ft^3/sk) Class C + 2% $Cacl_2$;
TAIL 225 sx (14.8#; 1.34 ft^3/sk) Class C + 2% $CaCl_2$; 100% excess - circulated to surface.

- ✓ Cement volumes may be revised based on caliper measurement.

5. **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 drilling operations shall be 3000 psi. The NMOCD Hobbs 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 NMOCD Hobbs 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 Program & Monitoring** - Mud will be balanced for all operations as follows:

DEPTH	MUD TYPE	WEIGHT	VISC.	Ph
0-1650'	FW Spud Mud	8.5-9.2	70-40	10.0
1650'-4600'	Brine Water	9.8-10.2	28-32	10.0
4600'-5520'	FW/Gel	8.7-9.0	28-32	9.5-10.5

- ✓ Mud and all cuttings monitored w/ cuttings recovered for disposal. Returns shall be visually and electronically monitored. In the event of H_2S, mud shall be adjusted appropriately by weight and H_2S scavengers.

7. **Auxiliary Well Control and Monitoring** - Hydraulic remote BOP operation, mudlogging to monitor returns.

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Well Program - New Drill (cont.)

8. **H_2S Safety** - There is a low risk of H_2S in this area. The operator will comply with the provisions of 19.15.11 NMAC. All personnel will wear monitoring devices and a wind direction sock will be placed on location.

9. **Logging, Coring and Testing** – Mescalero Energy, LLC expects to run a standard porosity log (CNL or better) from TD to approximately 4000'. A bond log (CBL or CET) may be run on the long string. 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 with the exception of drilling into the target disposal zone. All personnel will be familiar with the safe operation of the equipment being used to drill this well.

The maximum anticipated bottomhole pressure is 2500 psi and the maximum anticipated bottomhole temperature is 110° F.

11. **Waste Management** - All drill cuttings and other wastes associated with and drilling operations will be transported to a CRI facility permitted by the Environmental Bureau of the New Mexico Oil Conservation Division.

12. **Anticipated Start Date** - Upon approval of all permits for SWD, operations would begin within 30 days. Completion of the well operations will take six to seven 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, and subject to the availability of the drilling contractor, the anticipated start date is:

February 1, 2016.

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 completion 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 maximum volume is 5,000 bpd and average of 7,500 bpd at a maximum surface injection pressure of 920 psi. If satisfactory disposals rates cannot be achieved at default pressure of .2 psi/ft, Mescalero Energy, LLC will conduct a step-rate test and apply for an injection pressure increase 50 psi below parting pressure.

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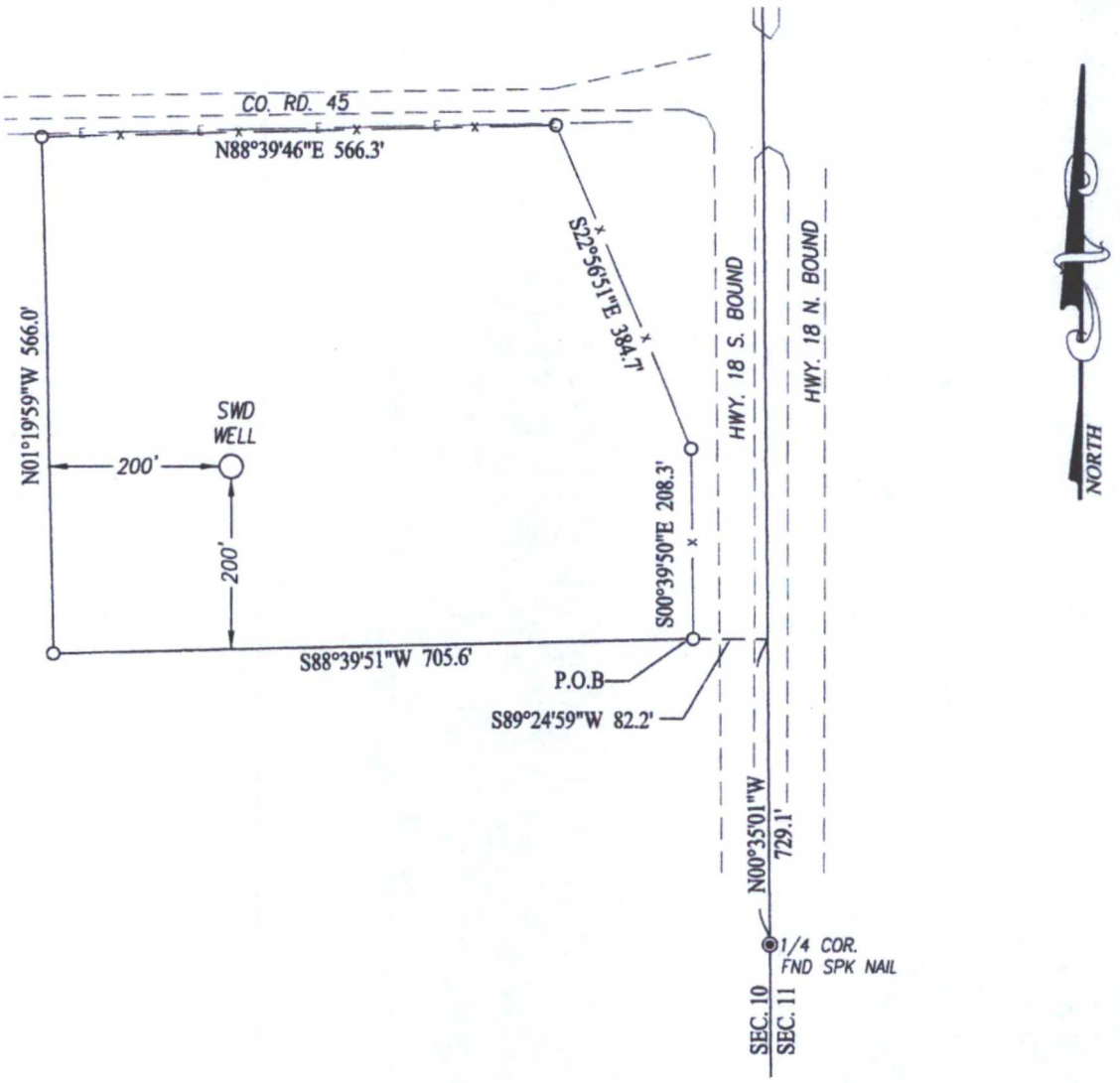

LEGEND

- ◉ DENOTES FOUND CORNER AS NOTED
- ○ DENOTES SET SPIKE NAIL

NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 3239, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RONALD J. EIDSON Ronald J. Eidson

DATE: 02/25/2015

DESCRIPTION:

A PROPOSED WELL PAD SITUATED IN THE SE/4 NE/4 OF SECTION 10, TOWNSHIP 20 SOUTH, RANGE 38 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF THE PROPOSED TRACT WHICH LIES N00°35'01"W 729.1 FEET AND S89°24'59"W 82.2 FEET FROM THE EAST QUARTER CORNER; THEN S88°39'51"W 705.6 FEET; THEN N01°19'59"W 566.0 FEET; THEN N88°39'46"E 566.3 FEET; THEN S22°56'51"E 384.7 FEET; THEN S00°39'50"E 208.3 FEET TO THE POINT OF BEGINNING AND CONTAINING 8.61 ACRES MORE OR LESS.

200 0 200 400 Feet

Scale: 1"=200'

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

MESCALERO ENERGY LLC,

SURVEY FOR A TRACT FOR A SWD WELL
SITUATED IN THE NE/4 OF SECTION 10,
TOWNSHIP 20 SOUTH, RANGE 38 EAST, N.M.P.M.
LEA COUNTY, NEW MEXICO

Survey Date: 2/16/15	CAD Date: 2/25/15	Drawn By: LSL
W.O. No.: 15110241	Rev:	Rel. W.O.:	Sheet 1 of 1

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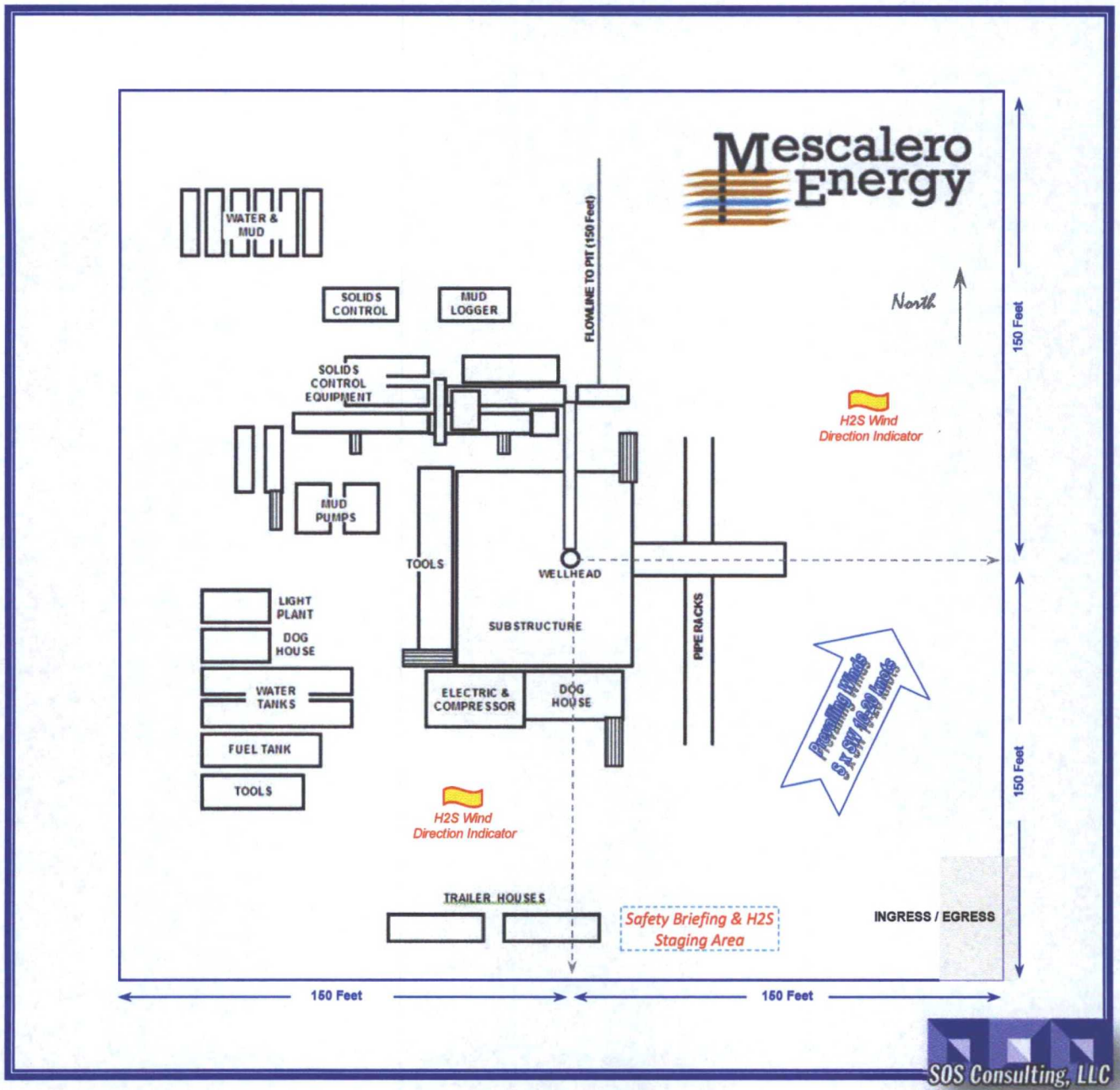
RIG LAYOUT & SITE DIAGRAM

McCasland SWD No.2

1723' FNL & 590' FEL; Section 10, Twp 20-S, Rng 38-E

ALL OPERATIONS CONDUCTED WITHIN SURVEYED PAD SITE 600' X 600' - ORIENTATION PER BEST FIT.

1. MIRU Drilling and drilling support contractors / equipment.
2. Set up H2S wind direction indicators; brief all personnel on Emergency Evacuation Routes.
3. All contractors conduct safety meeting prior to current task.
4. If H2S levels >20ppm 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.)
5. All equipment inspected daily. Repair / replace as required.
6. Mud logger monitoring returns; cuttings & waste hauled to specified facility. CRI - LEA COUNTY
7. 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.
8. Sundry forms filed as needed - casing, cement, etc. - operations continue to completion.



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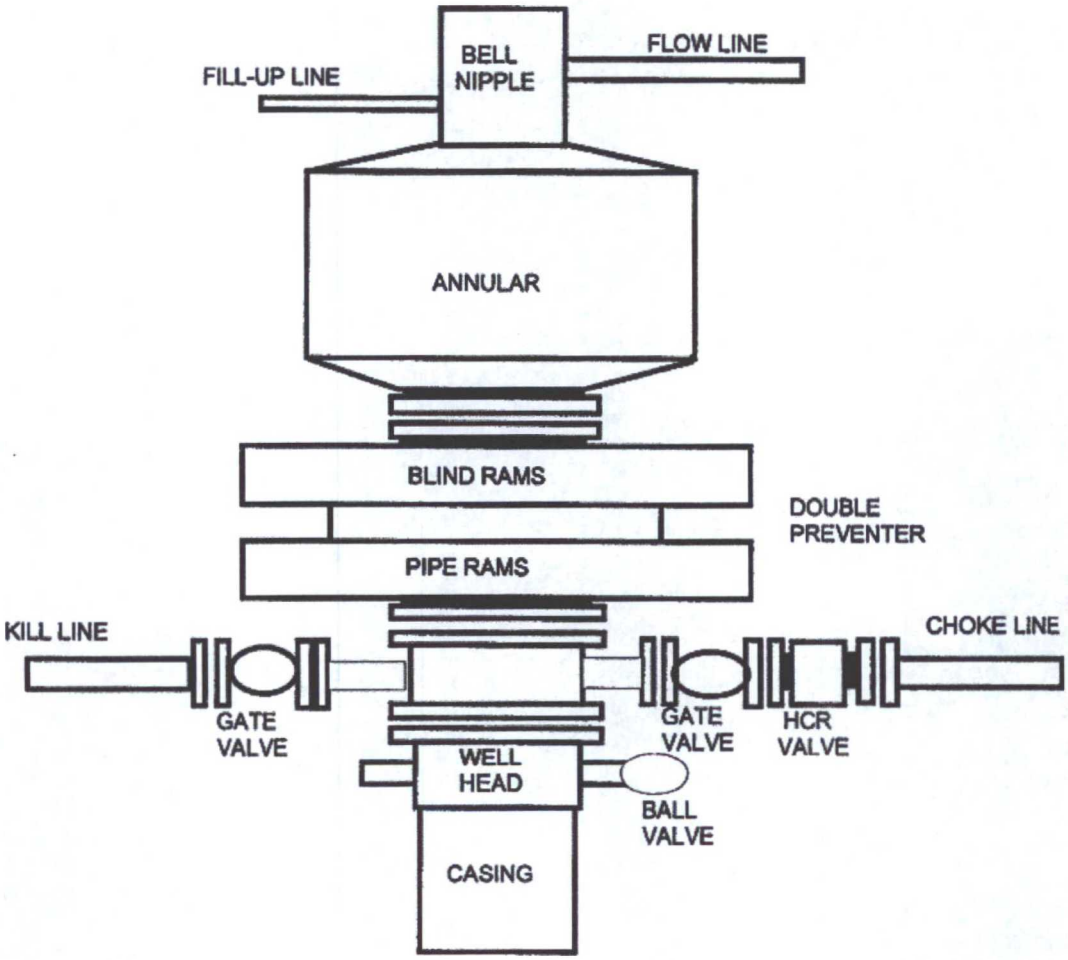
Blow Out Preventer Diagram

3000 PSI WORKING PRESSURE



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Mescalero Energy

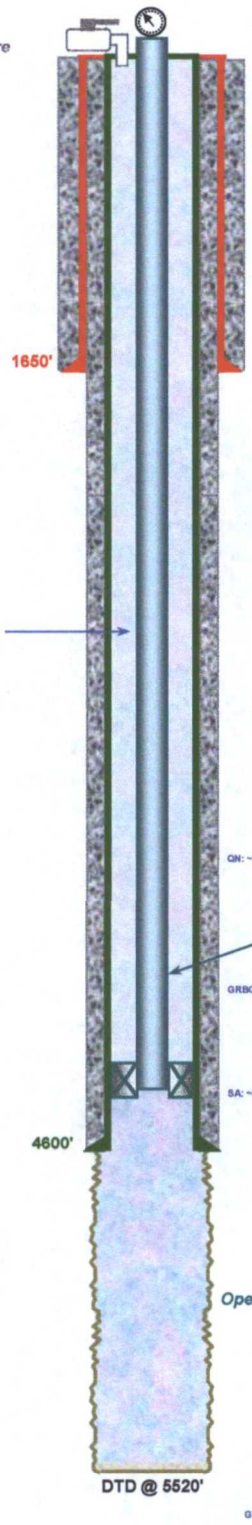
WELL SCHEMATIC - PROPOSED
Mescalero SWD Well No.2

API 30-025-00000 (TBD)
1723' FNL & 590' FEL, SEC. 10-T20S-R38E
LEA COUNTY, NEW MEXICO

Pool: 96121; SWD; San Andres
Spud Date: 7/15/2015

Annulus Monitored or open to atomosphere

Injection Pressure Regulated and Volumes Reported 920 psi Max Surface



Mescalero Energy, LLC

Spud and Complete well as descibed in APD.
Run CNL or Equiv. Logs from TD to 4200'.
Run & Set 7.0" per Log Evaluation or APD Approval.
Cement 2 stages w/ ~500 - 275 sx - Circulate to Surface.
Run PC Tubing and PKR - Conduct MIT.
Commence Disposal Operations per SWD Order.

Surface Casing
9.625", 40.0# Csg. (12.25" Hole) @ 1650'
650 sx Cls 'C' + Additives - Circulate to Surface

Long String Casing
7.0", 23.0/26.0# Csg. (8.75" hole) - Surface to 4600'
Est. 775 sx w/ excess - Circulate to Surface
2 stage w/ DV ~3000'

All Cement Volumes May Be Adjusted to Caliper.

SOS Consulting, LLC
Drawn by: Ben Stone, Rvs'd 10/16/2015