HIGH CAVEKARST

SECRETARY'S POTASH

OMB No. 1004-0137 Expires October 31, 2014

ATS-12-1179

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

	NMNN	1 0241	60 8	2 054863
6	If Indian	Allotee	or Tri	he Name

Tes	
900	p012
1/2	1

·					7	
la. Type of work: X DRILL REENTE	ER			7 If Unit or CA Agree	ment, Name and No.	
lb. Type of Well. X Oil Well Gas Well Other	Sin	gle Zone Multip	le Zone	8. Lease Name and W PARKWAY 35	rell No. FEDERAL COY	
2 Name of Operator				9. API Well No.		
SM ENERGY COMPANY				30-015-3 9838		
^{3a.} Address 3300 N "A" ST BLDG 7-200 MIDLAND, TX 79705		(include area code)		10. Field and Pool, or E	•	
MIDLAND, TX 79705	(432)68	38-1709		PARKWAY BO		
4. Location of Well (Report location clearly and in accordance with an	ty State requireme	mts.*)		11. Sec., T. R. M. or Bl	•	
At surface 2090' FSL & 330 FWL (SL) UNIT L				SEC 35 - T19S	- K29E	
At proposed prod. zone 1980' FSL & 330' FEL (BHL)	UNIT I					
4. Distance in miles and direction from nearest town or post office* 8 MILES SOUTH OF LOCO HILLS, NM				12. County or Parish EDDY	13. State NM	
5. Distance from proposed* 330'	16. No. of ac	eres in lease	17. Spacir	ig Unit dedicated to this w	eli	
location to nearest property or lease line, ft. (Also to nearest drig, unit line, if any)	280		160			
8. Distance from proposed location* 330'	19. Proposed	•		/BIA Bond No. on file		
to nearest well, drilling, completed, applied for, on this lease, fi	12521'	MD 8247' TVD	NMB	000805		
. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approxin	nate date work will sta	rt*	23. Estimated duration		
3325' GL	09/14/	2012		40 DAYS		
	24. Attac	hments				
ne following, completed in accordance with the requirements of Onshor	re Oil and Gas (Order No.1, must be a	tached to th	is form:		
. Well plat certified by a registered surveyor.		4. Bond to cover to Item 20 above).	he operation	ons unless covered by an o	existing bond on file (see	
. A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office).	Lands, the	Operator certific Such other site BLM.		ormation and/or plans as	may be required by the	
5. Signature Mallole Vilian		(Printed/Typed) LCOLM KINTZ	ING		Date 08/29/2012	
tle RESERVOIR ENGINEER	- L. v.					
pproved by (Signature)	Name	(Printed/Typed)			Date	
STATE DIRECTOR	Office	NM STA	TE O	EEICH		
STATE DIRECTOR Application approval does not warrant or certify that the applicant hold conduct operations thereon. Conditions of approval, if any, are attached.	ds legal or equit			bject lease which would en		
itle 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a c tates any false, fictitious or fraudulent statements or representations as	rime for any pe to any matter w	rson knowingly and				

CAPITAN CONTROLLED WATER BASIN

(Continued on page 2)

SEE ATTACHED FUR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS **ATTACHED**

*(Instructions on page 2)

DISTRICT I 1625 N. French Dr., Hobbs, NM 88240 DISTRICT II

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102 Revised July 16, 2010

☐ AMENDED REPORT

Elevation 3325'

Submit one copy to appropriate District Office

1301 W. Grand Avenue, Artesia, NM 88210 DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

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

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

Property Code

OGRID No.

54903

WELL	LOCATION	AND	ACREAGE	DEDICATION	PLAT		
4	Pool Code 9 622		Pas	-Kwax	Pool Name	Spring	
•		Pro	perty Name			Well Number	
		PARK	WAY "35"			3H	

SM ENERGY Surface Location

Operator Name

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	35	19 S	29 E		2090	SOUTH	330	WEST	EDDY

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
	35	19 S	29 E		1980	SOUTH	330	EAST	EDDY
Dedicated Acres	Joint o	r Infill Co	nsolidation	Code Or	der No.				
160									

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED

01	R A NON-STANDARD UNIT HAS BEE	N APPROVED BY TH	E DIVISION
SURFACE LOCATION Lat - N 32'36'56.34" Long - W 104'03'11.08" NMSPCE - N 587817.938 NMSPCE - E 627627.871 (NAD-83)		PROPOSED BOTTOM HOLE LOCATION Lat = N 32"36"54.83" Long = W 104"02"17.07" NMSPCE = N 587678.176 E 632248.078 (NAD-83)	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 agreement or a contract with an account of the pooling agreement or a contract with a mineral pooling agreement or a compulsory pooling agreement or a contract with an account of the pooling agreement or a contract with a mineral pooling agreement or a contract with an account of the pooling agreement or a contract with an account of the pooling agreement or a contract with an account of the pooling agreement or a contract with an account of the pooling agreement or a contract with an account of the pooling agreement or a contract with an account of the pooling agreement or a contract with an account of the pooling agreement or a contract with a contrac
3321.6' 3317.1'		, og 6 , og 6	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 supervison, and that the same is true and correct to the best of my belief Date surveyed. Signature & Seal of Professional surveyer. Certificate No. Gary L. Jones 7977

Drilling program

SM Energy Company Parkway 35 Federal Com 3H 2090 FSL & 330 FWL (SHL) 1980 FSL & 330 FEL (BHL) Sec 35-T19S-R29E Eddy County, New Mexico

The estimated tops of geologic markers are as follows

Rustler	221'
Top of Salt	390'
Base of Salt	1100'
*Yates	1341'
Capitan	2336'
*Cherry Canyon	3470'
*Delaware	4061'
*Bone Spring	5706'
*Wolfcamp	9470'

Estimated depths of anticipated fresh water, oil, or gas

Fresh water is expected at 75' and will be protected by setting surface casing at 250' and cementing to surface.

Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as required.

Pressure and control equipment

A 2M diverter system will be installed after running 20" casing.

The BOP system used to drill the intermediate hole will consist of a 13-5/8" 3M Double Ram and Annular preventer. The BOP system will be tested be test by a third party as per BLM onshore oil and gas order No. 2 as a 3M system prior to drilling out the surface casing shoe. In addition to the rams and annular preventer, additional BOP accessories including a Kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi work pressure will be used.

Proposed casing and cementing program

A. Casing program:

Hole Size	Casing Size	Casing #/foot	<u>Grade</u>	Setting Depth	Collar
26"	20" (new)	94	J55	0-250'	BTC
17.5"	13 3/8" (new)	54.5	J55	0-1500'	STC
12 1/4"	9 5/8" (new)	36	J55	0-3300'	LTC
8 3/4"	7" (new)	26	P110	0-8432'	LTC
6 1/8"	4.5" (new)	11.6	P110	8,250'-12,503'	LTC

Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8. *Subject to casing availability

SM Energy Company proposes drilling an 8-3/4" vertical pilot hole to 10,000 MD and plug back to KOP. The cement plug details are included below in the Cementing program.

B. Cementing Program:

- 1. Surface conductor pipe: 190 sx class C light cement 35:65 with salt and LCM additives. Yield of 2.0cuft/sx. 280 sx Class C cement with 2% CaCl2. Yield of 1.34 cuft/sx. Cmt circulated to surface w/100% excess.
- II. <u>Surface casing:</u> 525 sx 35:65 Class C light cement with salt and LCM additives. Yeild at 2.0 cuft/sx. 780 sx class C cement containing 2% CaCl. Yield 1.34 cuft/sx. Cmt circulated to surface w/100% excess.
- III. <u>Intermediate Casing:</u> 550 sx 35:65 Class C light cement with salt and LCM additives. Yeild at 2.0 cuft/sx. 410 sx class C cement containing 2% CaCl. Yield 1.34 cuft/sx. Cmt circulated to surface w/50% excess.
- IV. <u>Deep intermediate Casing:</u> 456 sx Class H light cement 35:65 with fluid loss, LCM, & salt additives. Yield at 2.12 cuft/sx. 205 sx class H cement containing fluid loss additives. Yield at 1.18 cuft/sx. Cmt circulated to 2000' w/25% excess.
- V. <u>Production Casing:</u> plans are to use a sliding sleeve, frac port and packer system with 4 ½" liner. No cement required.

VI. Pilot Hole Plugs:

i. Plug 1: 300 sx Class H Cement, 15.6, 1.18 cuft/sx

Top of plug
 9,000 ft
 Bottom of plug
 10,000 ft

ii. Plug 2: 350 sx Class H Cement, 18 ppg, 0.90 cuft/sx

1. **Top of plug** 7,500 ft 2. **Bottom of plug** 8,000 ft *SM Energy Company reserves the right to change cement designs as hole conditions may warrant.

Mud Program

<u>Interval</u>	mud type	weight	Viscosity	Fluid loss
0-250'	Fresh water spud mud	8.6-9.4	32-34	No Control
250'-1500'	Brine	10	28-30	No Control
1500'-3300'	Fresh water	8.4	28-30	No Control
3300'-8433'	Cut bine	8.4-8.6	28-30	No Control
8433'-TD MD	Cut brine w/polymer	8.4-8.6	32-40	No Control

Evaluation Program

- I. Mud log samples will be taken in 10' intervals after drilling out the surface casing.
- II. Open hole logs will be run from pilot hole TD to intermediate casing. Open hole logs include a Dual laterolog, compensated neutron-density, Gamma Ray and Caliper.
- III. Gamma Ray will be used to drill lateral hole.
- IV. No Drill stem tests or coring is planned at this time.
- V. Additional testing may be initiated based on log evaluation and geological sample shows.

Downhole Conditions

Zones of abnormal pressure: None anticipated

Zones of lost circulation: Anticipated in surface and intermediate holes

Maximum bottom hole temperature: 130 degrees F
Maximum bottom hole pressure: .433 psi/ft gradient

Anticipated Starting Date

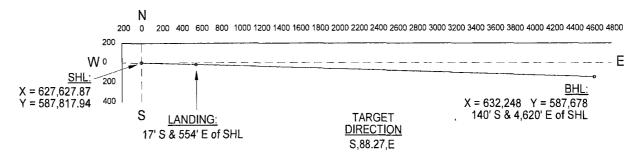
SM Energy Company intends to drill this well early 2012 with approximately 40 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

SM ENERGY COMPANY

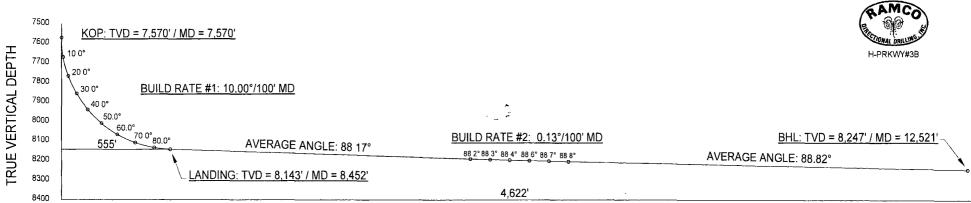
PARKWAY 35 FEDERAL COM WELL #3-H SECTION 35, T-19-S, R-29-E EDDY COUNTY, NEW MEXICO

(08/28/12)

HORIZONTAL PROJECTION



VERTICAL PROJECTION







8/28/2012

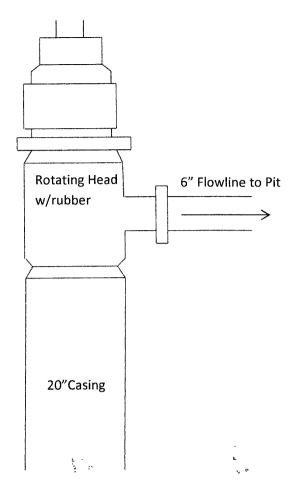
PARKWAY 35 FEDERAL COM WELL #3H SECTION 35, T-19-S, R-29-E EDDY COUNTY, NEW MEXICO

		RKB = 3343		Est. (GL =					<u>SI</u>	HL: X: 627,6		87,817.94'	
		σ.	Obj =		S	88.27	E			NAD 8		Madiaal	D1
Type	<u>#</u>	SU MD	JRVEY ANG	Azımuth		DIR		<u>CL</u>	TVD	(+)North (-)South	(+)East <u>(-)West</u>	Vertical Section	Dogleg /100'
9-5/8" CASING		3550.00	0 00	91.73	s	88.27	Ε		3550.00	0.00	0.00	0.00	TI-IN
КОР	1	7570.33	0.00	91 73	S	88.27	E	4020	7570.33	0.00	0.00	0.00	0.00
	2	7602.33	3 20	91.73	s	88 27	Ε	32	7602.32	-0 03	0 89	0 89	10.00
	3	7634 33	6 40	91.73	s	88 27	Ε	32	7634 20	-0.11	3.57	3.57	10 00
	4	7666 33	9 60	91.73	s	88 27	Ε	32	7665.89	-0.24	8 02	8 02	10.00
	5	7698.33	12.80	91 73	s	88.27	Ε	32	7697 27	-0.43	14 23	14.24	10 00
	6	7730.33	16.00	91.73	S	88 27	Ε	32	7728 26	-0 67	22.19	22.20	10.00
	7	7762 33	19.20	91.73	S	88.27	Ε	32	7758.76	-0 96	31 86	31.87	10 00
	8	7794 33	22 40	91.73	S	88.27	Ε	32	7788.67	-1.31	43.21	43 23	10.00
	9	7826 33	25 60	91 73	S	88 27	Ε	32	7817.90	-1 70	56 22	56.25	10.00
	10	7858 33	28.80	91 73	s	88 27	Ε	32	7846.36	-2.14	70.84	70.87	10.00
	11	7890.33	32.00	91.73	S	88.27	E	32	7873.96	-2.63	87 02	87 06	10.00
	12	7922 33	35 20	91.73	S	88.27	Ε	32	7900.61	-3.17	104 72	104.77	10 00
	13	7954 33	38 40	91 73	S	88.27	Ε	32	7926.23	-3 75	123.88	123.93	10.00
	14	7986.33	41.60	91.73	s	88 27	Ε	32	7950.74	-4 37	144.44	144 50	10.00
	15	8018.33	44.80	91.73	S	88.27	Ε	32	7974.06	-5.03	166 33	166 40	10 00
	16	8050.33	48.00	91.73	s	88.27	Ε	32	7996 12	-5.73	189.49	189.57	10.00
	17	8082.33	51.20	91.73	s	88.27	Ε	32	8016.86	-6 47	213.84	213 94	10.00
•	18	8114.33	54 40	91 73	s	88 27	E	32	8036.21	-7 24	239 32	239.43	10.00
7a. 5	19	8146 33	57 60	91 73	S.	88.27	Ε	32	8054 10	-8.04	265.83	265 95	10.00
	20	8178.33	60.80	91.73	S	88.27	Ε	32	8070 48	-8 87	293.30	293.43	10.00
	21	8210.33	64.00	91.73	S	88 27	Ε	32	8085 31	-9.73	321 64	321.79	10.00
	22	8242 33	67.20	91.73	S	88 27	Ε	32	8098 52	-10 61	350.77	350.93	10.00
	23	8274.33	70 40	91 73	s	88 27	Ε	32	8110.09	-11.51	380 58	380 76	10 00
	24	8306 33	73.60	91.73	S	88 27	Ε	32	8119 98	-12.43	411.00	411.19	10.00
	25	8338.33	76 80	91.73	S	88.27	Ε	32	8128.15	-13 37	441.92	442.12	10 00
	26	8370 33	80 00	91.73	S	88 27	Ε	32	8134.59	-14 32	473.25	473 46	10.00
	27	8402.33	83.20	91.73	S	88.27	Ε	32	8139.26	-15.27	504.89	505 12	10.00
	28	8434.33	86.40	91 73	S	88.27	Ε	32	8142 16	-16.24	536 74	536.98	10.00
LANDING	29	8452.03	88.17	91.73	S	88.27	Ε	18	8143.0000	-16.77	554.41	554.66	10 00
	30	8484.03	88.17	91.73	S	88 27	Ε	32	8144.02	-17.74	586 38	586.64	0.00
	31	8984.03	88.17	91.73	S	88 27	Ε	500	8159.99	-32.85	1085 89	1086.39	0.00
	32	9484 03	88.17	91.73	S	88 27	Ε	500	8175 97	-47 96	1585.41	1586.13	0 00
	33	9984 03	88 17	91 73	S	88.27	Ε	500	8191.94	-63.07	2084.93	2085 88	0.00
	34	10484.03	88 82	91.73	S	88.27	Ε	500	8205.08	-78.18	2584 52	2585.70	0.13
	35	10984 03	88.82	91.73	S	88.27	Ε	500	8215 37	-93.30	3084.19	3085.60	0 00
	36	11484 03	88.82	91.73	S	88.27	Ε	500	8225 67	-108.41	3583.85	3585.49	0 00
	37	11984.03	88.82	91.73	S	88 27	Ε	500	8235.96	-123.53	4083.52	4085 39	0.00
	38	12484.03	88.82	91.73	S	88 27	E	500	8246 26	-138.64	4583.18	4585 28	, 0.00
BHL	39	12521.08	88.82	91.73	S	88.27	E	37	8247.02	-139.76	4620.21	4622.32	0 00
LATERAL		4069.05								-139:76	4620.21	4622.32	ļ

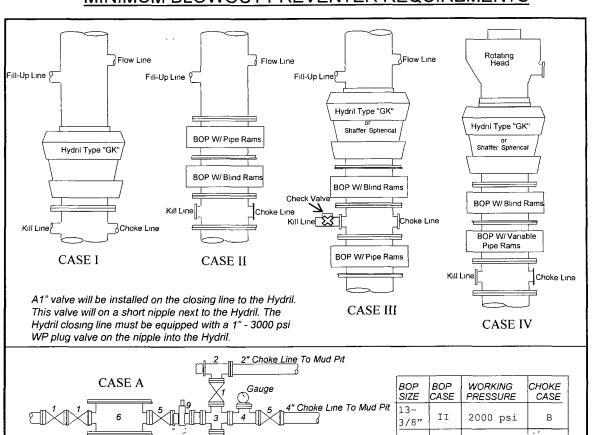
PARKWAY 35 #3-H PLAN

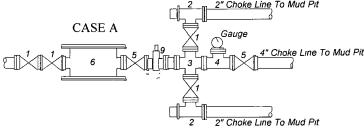
Page 1

Diverter System



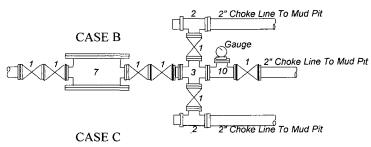
SM Energy Company MINIMUM BLOWOUT PREVENTER REQUIREMENTS

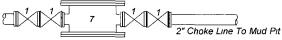




BOP SIZE	BOP CASE	WORKING PRESSURE	CHOKE CASE
13- 3/8"	II	2000 psi	В
9-5/8"	III	3000 psi	В

*Rotating head required





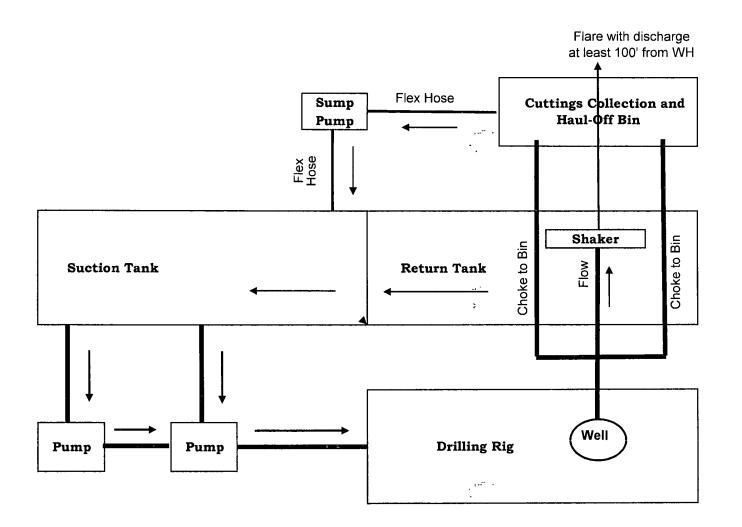
- 1 2" flanged all steel valve must be either Cameron "F", Halliburton Low Torque or Shaffer Flo-Seal
- 2 2" flanged adjustable chokes, min. 1" full opening & equiped with hard trim
- 3 4" x 2" flanged steel cross 4. 4" flanged steel tee
- 5 4" flanged all steel valve (Type as in no. 1)
- 6 Drilling Spool with 2" x 4" flanged outlet
- 7 Drilling Spool with 2" x 2" flanged outlet
- 8. 2" x 2" flanged steel cross
- 9. 4" pressure operated gate valve.
- 10. 2" flanged steel tee.

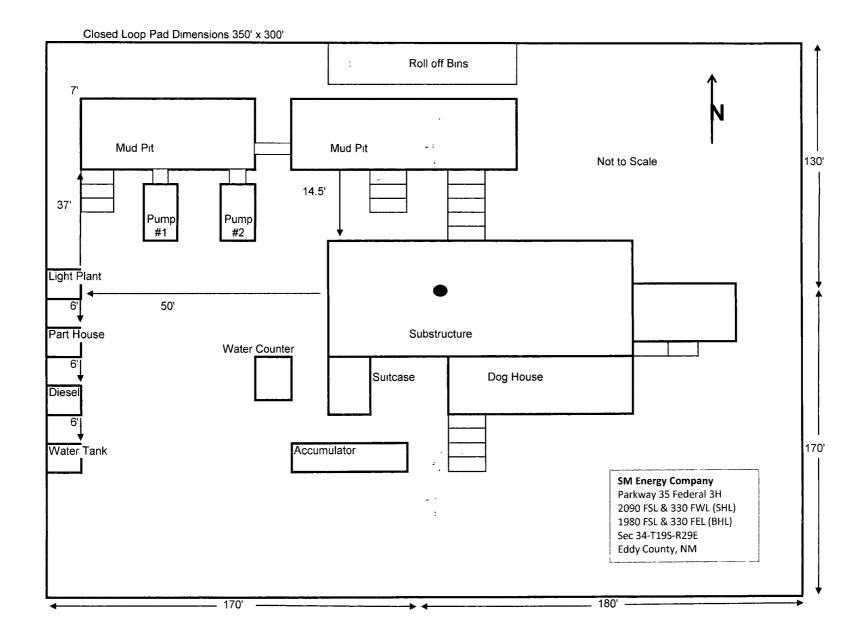
Notes

Choke manifold may be located in any convenient position. Use all steel fittings throughout. Make 90° turns with bull plugged tees only. No field welding will be permitted on any of the components of the choke manifold and related equipment upstream of the chokes. The choke spool and all lines and fittings must be at least equivalent to the test pressure of the preventers required. Independent closing control unit with clearly marked controls to be located on derrick floor near driller's position.

(10-31-96) WTXBOPS PPT

Choke Manifold Schematic for Closed Loop System





SM Energy Company 3300 N. A Street, Suite 200 Midland, TX 79705 (432) 688-3125 (Office) (432) 682-1701 (Fax)

Parkway 35Federal 3H 2090 FSL & 330 FWL (SHL) 1980 FSL & 330 FEL (BHL) Sec 35-T19S-R29E Eddy County, New Mexico Rule 118 H2S Exposure

SM Energy Company has evaluated this well and we do not expect to encounter hydrogen sulfide. However, we will employ a third party monitoring system. We will begin monitoring prior to the Yates Formation and will continue monitoring the remainder of the well.

Please contact me if you have any additional questions.

Sincerely,

Malcolm Kintzing Engineer

Hydrogen Sulfide Drilling Operations Plan

- 1. Company and Contract personnel admitted on location should be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S.
 - B. Physical Effects and Hazards.
 - C. Proper Use of Safety Equipment and Life Support Systems.
 - D. Principle and Operation of H₂S Detectors, Warning System and Briefing.
 - E. Evacuation Procedure, Routes and First Aid.
 - F. Proper Use of 30 minute Pressure Demand Air Pack.

2. H₂S Detection and Alarm Systems

- A. H₂S Detectors and Audio Alarm System to be Located at Bell Nipple, End of Blooie Line (mud pit) and on Derrick floor or doghouse.
- 3. Windsock and/or Wind Streamers
 - A. Windsock at Mud Pit Area Should be High Enough to be Visible.
 - B. Windsock at Briefing Area Should be High Enough to be Visible.
 - C. There Should be a Windsock at Entrance to Location.
- 4. Condition Flags and Signs
 - A. Warning Sign on Access Road to Location.
 - B. Flags to be Displayed on Sign at Entrance to Location.
 - 1. Green Flag, Normal Safe Condition.
 - 2. Yellow Flag, Indicates Potential Pressure and Danger.
 - 3. Red Flag, Danger H₂S Present in Dangerous Concentration Only Emergency Personnel Admitted to Location.
- 5. Well Control Equipment
 - A. See Attached Diagram.
- 6. Communication

? ;

- A. While Working Under Masks Chalkboards Will be Used for Communication.
- B. Hand Signals will be Used Where Chalk Board is Inappropriate.
- C. Two Way Radio or Cell Phone will be Used to Communicate off Location in Case of Available at Most Drilling Foreman's Trailer or Living Quarters.
- 7. Drillstem Testing
 - A. Exhausts will be Watered.
 - B. Flare Line will be Equipped with an Electric Igniter or a propane pilot light in case gas reaches the surface.
 - C. If Location is near any Dwelling a Closed DST will be Performed.
- 8. Drilling Contractor Supervisor will be Required to be Familiar with the Effects H₂S has on tubular goods and other mechanical equipment.
- 9. If H₂S Encountered, Mud system will be Altered if Necessary to Maintain Control of Formation. A Mud Gas Separator will be Brought into Service Along with H₂S Scavengers if Necessary.

Emergency Contacts

Eddy County Sheriff's Office 911 or 575-887-7551

Carlsbad Fire Department 911 or 575-885-2111

Columbia Medical Center of Carlsbad 575 or 575-677-3266

SM Energy Company (Midland office)

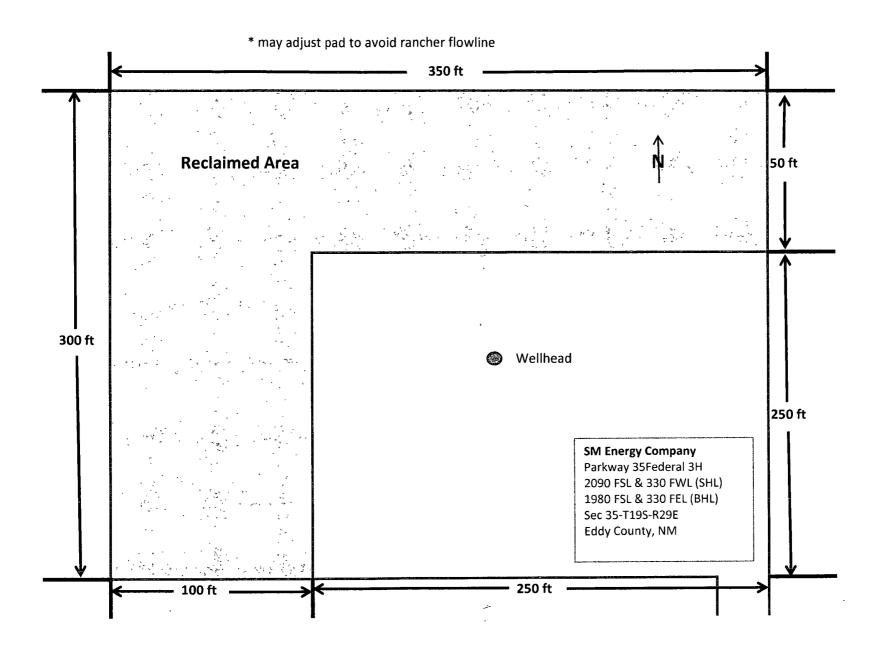
Phone 432-688-1700

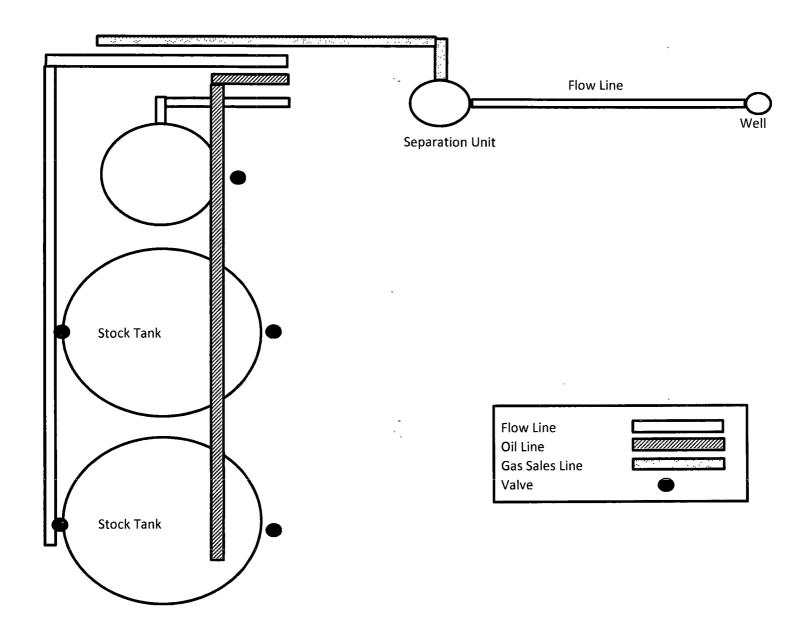
Fax 432-688-1701

Contract Pumper Jackie Herron 575-746-7601

Field Superintend Bill Hearne 432-230-6054

Operations Manager Mark Bondy 432-557-9049





PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME: SM ENERGY COMPANY
LEASE NO.: NM-54865
WELL NAME & NO.: PARKWAY 35 FEDERAL COM #3H
SURFACE HOLE FOOTAGE: 2090' FSL & 330' FWL
BOTTOM HOLE FOOTAGE 1980' FSL & 330' FEL
LOCATION: Section 35, T.19 S., R.29 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
Avoidance of water line/contact allottee
Cave/Karst
Communitization Agreement ⁷
Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
Road Section Diagram
☐ Drilling
Secretary's Potash
High Cave/Karst
H2S – Onshore Order 6 Requirements
Logging Requirements
Waste Material and Fluids
Production (Post Drilling)
Well Structures & Facilities
Pipelines
Electric Lines
☐ Interim Reclamation
⊠ Final Abandonment & Reclamation