RAILROAD COMMISSION OF TEXAS

Form W-2

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Status: Approved
Date: 01/10/2018
Tracking No.: 179130

OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT, AND LOG

OPERATOR INFORMATION

Operator Name: PERISCOPE OPERATING LLC **Operator No.:** 653787
Operator Address: 115 E VIRGINIA ST SUITE 201 MCKINNEY, TX 75069-0000

WELL INFORMATION

API No.: 42-371-39502 **County:** PECOS
Well No.: 1903H **RRC District No.:** 08
Lease Name: CUNNING WOLF UL **Field Name:** WOLFBONE (TREND AREA)
RRC Lease No.: 43061 **Field No.:** 98359800
Location: Section: 19, Block: 23, Survey: UL, Abstract: U182

Latitude: 30.82024 **Longitude:** -102.7013
This well is located 12 **miles in a** SE **direction from** FORT STOCKTON, **which is the nearest town in the county.**

FILING INFORMATION

Purpose of filing: Initial Potential
Type of completion: New Well
Well Type: Producing **Completion or Recompletion Date:** 06/12/2017

Type of Permit	Date	Permit No.
Permit to Drill, Plug Back, or Deepen	03/20/2017	824286
Rule 37 Exception		
Fluid Injection Permit		
O&G Waste Disposal Permit		
Other:		

COMPLETION INFORMATION

Spud date: 03/30/2017 **Date of first production after rig released:** 06/12/2017
Date plug back, deepening, recompletion, or drilling operation commenced: 03/30/2017 **Date plug back, deepening, recompletion, or drilling operation ended:** 06/11/2017
Number of producing wells on this lease in this field (reservoir) including this well: 3 **Distance to nearest well in lease & reservoir (ft.):** 330.0
Total number of acres in lease: 10240.00 **Elevation (ft.):** 2956 GL
Total depth TVD (ft.): 7856 **Total depth MD (ft.):** 17572
Plug back depth TVD (ft.): **Plug back depth MD (ft.):** 17427
Was directional survey made other than inclination (Form W-12)? Yes **Rotation time within surface casing (hours):** 280.0
Is Cementing Affidavit (Form W-15) attached? Yes
Recompletion or reclass? No **Multiple completion?** No
Type(s) of electric or other log(s) run: Gamma Ray (MWD)
Electric Log Other Description:

Location of well, relative to nearest lease boundaries of lease on which this well is located: 3376.0 **Feet from the** West **Line and** 360.0 **Feet from the** South **Line of the** CUNNING WOLF UL **Lease.** **Off Lease :** No

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.

Field & Reservoir	Gas ID or Oil Lease No.	Well No.	Prior Service Type

PACKET: N/A

W2: N/A

FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:

GAU Groundwater Protection Determination **Depth (ft.):** 1550.0 **Date:** 09/09/2017

SWR 13 Exception **Depth (ft.):**

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION

Date of test: 08/28/2017 **Production method:** Flowing

Number of hours tested: 24 **Choke size:** 48/64

Was swab used during this test? No **Oil produced prior to test:** 14029.83

PRODUCTION DURING TEST PERIOD:

Oil (BBLS): 870.00 **Gas (MCF):** 525

Gas - Oil Ratio: 603 **Flowing Tubing Pressure:** 325.00

Water (BBLS): 1825

CALCULATED 24-HOUR RATE

Oil (BBLS): 870.0 **Gas (MCF):** 525

Oil Gravity - API - 60.: 40.0 **Casing Pressure:** 1160.00

Water (BBLS): 1825

CASING RECORD

Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage Tool Depth (ft.)	Multi - Stage Shoe Depth (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
1	Surface	13 3/8	17 1/2	1505			C	1280	2118.6	SURFACE	Circulated to Surface
2	Intermediate	9 5/8	12 1/4	6680			C	1350	3035.5	SURFACE	Calculation
3	Conventional Production	5 1/2	8 1/2	17520			VERSACEM	2775	3399.0	5600	Calculation

LINER RECORD

Row	Liner Size (in.)	Hole Size (in.)	Liner Top (ft.)	Liner Bottom (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By

N/A

TUBING RECORD

Row	Size (in.)	Depth Size (ft.)	Packer Depth (ft.)/Type
1	2 7/8	7227	7212 / AS1X

PRODUCING/INJECTION/DISPOSAL INTERVAL

Row	Open hole?	From (ft.)	To (ft.)
1	No	L1 17259	17402.0
2	No	L1 17063	17208.0
3	No	L1 16867	17012.0
4	No	L1 16671	16820.0
5	No	L1 16475	16620.0
6	No	L1 16279	16424.0
7	No	L1 16084	16228.0
8	No	L1 15882	16027.0
9	No	L1 15686	15831.0
10	No	L1 15490	15635.0
11	No	L1 15294	15443.0
12	No	L1 15098	15243.0

13	No	L1 14902	15047.0
14	No	L1 14710	14851.0
15	No	L1 14510	14655.0
16	No	L1 14314	14459.0
17	No	L1 14118	14263.0
18	No	L1 13922	14067.0
19	No	L1 13726	13875.0
20	No	L1 13530	13675.0
21	No	L1 13334	13481.0
22	No	L1 13142	13283.0
23	No	L1 12942	13087.0
24	No	L1 12744	12891.0
25	No	L1 12550	12695.0
26	No	L1 12351	12499.0
27	No	L1 12207	12349.0
28	No	L1 12011	12156.0
29	No	L1 11815	11960.0
30	No	L1 11619	11764.0
31	No	L1 11423	11568.0
32	No	L1 11227	11372.0
33	No	L1 11031	11176.0
34	No	L1 10835	10980.0
35	No	L1 10639	10784.0
36	No	L1 10443	10588.0
37	No	L1 10247	10393.0
38	No	L1 10051	10196.0
39	No	L1 9855	10003.0
40	No	L1 9661	9804.0
41	No	L1 9463	9608.0
42	No	L1 9267	9412.0
43	No	L1 9071	9216.0
44	No	L1 8875	9020.0
45	No	L1 8679	8824.0
46	No	L1 8483	8628.0
47	No	L1 8287	8432.0
48	No	L1 8091	8236.0
49	No	L1 7895	8040.0

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.

Was hydraulic fracturing treatment performed? Yes

Is well equipped with a downhole actuation sleeve? No

If yes, actuation pressure (PSIG):

Production casing test pressure (PSIG) prior to hydraulic fracturing treatment: 8450

Actual maximum pressure (PSIG) during hydraulic fracturing: 7946

Has the hydraulic fracturing fluid disclosure been reported to FracFocus disclosure registry (SWR29)? Yes

Row	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)
N/A			

FORMATION RECORD

Formations	Encountered	Depth TVD (ft.)	Depth MD (ft.)	Is formation isolated?	Remarks
TOBORG	No			No	TOO SHALLOW TO LOG
SOMA	No			No	TOO SHALLOW TO LOG
RUSTLER	Yes	1170.0	1170.0	Yes	
YATES	Yes	2180.0	2180.0	Yes	
SEVEN RIVERS	No			No	NOT ENCOUNTERED
GRAYBURG	No			No	NOT ENCOUNTERED
O'BRIEN	No			No	NOT ENCOUNTERED
GLORIETA	No			No	NOT ENCOUNTERED
TUBB	No			No	NOT ENCOUNTERED
QUEEN	No			No	NOT ENCOUNTERED
SAN ANDRES - USABLE QUALITY WATER ZONE; LOW VOLUME	No			No	NOT ENCOUNTERED
PERMIAN GENERAL	No			No	NOT ENCOUNTERED
CLEARFORK	No			No	NOT ENCOUNTERED
SULLIVAN	No			No	NOT ENCOUNTERED
WICHITA ALBANY	No			No	NOT ENCOUNTERED
DELAWARE	Yes	4160.0	4160.0	Yes	
MONTOYA	No			No	NOT ENCOUNTERED
WADDELL	No			No	NOT ENCOUNTERED
CANYON	No			No	NOT ENCOUNTERED
BONE SPRINGS	Yes	5340.0	5340.0	Yes	
BONE SPRINGS	Yes	6380.0	6380.0	Yes	
BONE SPRINGS	Yes	7192.0	7200.0	Yes	
BONE SPRINGS SHALE	Yes	7590.0	7760.0	No	PRODUCING FROM THE HORIZONTAL PORTION OF THE WELLBORE
CABBALLOS	No			No	NOT ENCOUNTERED
STRAWN	No			No	NOT ENCOUNTERED
ZONE - UNIDENTIFIED	No			No	NOT ENCOUNTERED
MULTIPAY - UNIDENTIFIED	No			No	NOT ENCOUNTERED
WOLFCAMP	No			No	NOT ENCOUNTERED
PENNSYLVANIAN	No			No	NOT ENCOUNTERED

MISSISSIPPIAN	No		No	NOT ENCOUNTERED
ATOKA	No		No	NOT ENCOUNTERED
ELLENBURGER	No		No	NOT ENCOUNTERED
DEVONIAN	No		No	NOT ENCOUNTERED

Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm (SWR 36)? No

Is the completion being downhole commingled (SWR 10)? No

REMARKS

TMD 17572

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2017-10-18 13:26:46.526] EDL=9507 feet, max acres=640, WOLFBONE (TREND AREA) oil well

CASING RECORD :

TUBING RECORD:

PRODUCING/INJECTION/DISPOSAL INTERVAL :

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION

Printed Name: Sherrie Cannon **Title:** regulatory analyst

Telephone No.: (469) 698-6411 **Date Certified:** 01/10/2018

RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

CEMENTING REPORT

Form W-15
Rev. 08/2014

Cementer: Fill in shaded areas.
Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: Periscope Operating LLC	Operator P-5 No.: 653787
Cementer Name: Basic Energy Services	Cementer P-5 No.: 054313

WELL INFORMATION

District No.: 8	County: Pecos	
Well No.: 1903H	API No.: 42-371-.39502	Drilling Permit No.: 824286
Lease Name: Cunning Wolf UL	Lease No.: 43061	
Field Name: Wolfbone (Trend Area)	Field No.: 98359800	

I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☒ Surface ☐ Intermediate ☐ Liner ☐ Production

Drilled hole size (in.): 17.5	Depth of drilled hole (ft.): 1507	Est. % wash-out or hole enlargement: 10%
Size of casing in O.D. (in.): 13 3/8	Casing weight (lbs/ft) and grade: 48# H-40	No. of centralizers used: 9
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☒ YES ☐ NO If no for surface casing, explain in Remarks.	Setting depth shoe (ft.): 1506.5	Top of liner (ft.):
		Setting depth liner (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.): surface	Cementing date: 4-2-17

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	780	C	See Remarks	1458.6	2099.91
2	500	C	See Remarks	660	950.18
3					
Total	1280			2118.6	3050.09

II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		Setting depth shoe (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		Setting depth tool (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

Class C with 6% Gel + 5% salt + 1/4PPS Celloflake + .2% C-41P. Circulated 145 BBLS (435 Sacks) to surface.

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

Christy Weseman, Staff Assistant — Name and title of cementer's representative

Basic Energy Services — Cementing Company

Signature

P. O. Box 10451 — Address

Midland — City,

TX — State,

79702 — Zip Code

432-687-1994 — Tel: Area Code Number

4-2-17 — Date: mo. day yr.

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

SHERRIE CANNON — Typed or printed name of operator's representative

Regulatory & Proration Analyst — Title

Signature

115 E Virginia St, STE 201 — Address

McKinney, TX — City, State,

75069 — Zip Code

469/698-6411 — Tel: Area Code Number

06/15/17 — Date: mo. day yr.

Instructions for Form W-15, Cementing Report

NOTICE: The Form W-15 must be submitted as an attachment to a Form G-1 (Gas Well Back Pressure Test, Completion or Recompletion Report, and Log), Form W-2 (Oil Well Potential Test, Completion or Recompletion Report, and Log), Form W-3 (Plugging Record), or Form W-4 (Application for Multiple Completion), any time cement is pumped in a wellbore.

A. **What to file:** An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form.

The Form W-15 should be filed with the Form W-3, Plugging Record, unless the Form W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form W-15, in addition to Form W-3, to show any casing cemented in the hole.

B. **How to file:** An oil and gas completion report and Form W-15 may be filed online using the Commission's Online System (https://webapps.rrc.state.tx.us/security/login.do) or a paper copy of the form may be mailed to the Commission in Austin (P.O. Box 12967, Austin, Texas 78711-2967).

C. **Surface casing:** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

To plug and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14 (http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=14). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.

D. **Estimated % wash-out:** If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show how the estimated % wash-out was obtained.

E. **Multi-stage cement:** An operator must report the multi-stage cement shoe in II. Casing Cementing Data section by selecting the type of casing **and** Multi-stage cement shoe. The operator must report the multi-stage cement tool in III. Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.

F. **Multiple parallel strings:** An operator should file the Form W-15 as an attachment to the Form W-4, Application for Multiple Completion. An operator may be required to submit multiple Form W-15s to show all data for multiple parallel strings.

G. **Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

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CEMENTING REPORT

Form W-15
Rev. 08/2014

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Operator: Fill in other items.

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Operator Name: Periscope Operating LLC	Operator P-5 No.: 653787
Cementer Name: Basic Energy Services	Cementer P-5 No.: 054313

WELL INFORMATION

District No.: 8	County: Pecos	
Well No.: 1903H	API No.: 42-371-.39502	Drilling Permit No.: 824286
Lease Name: Cunning Wolf UL	Lease No.: 43061	
Field Name: Wolfbone (Trend Area)	Field No.: 98359800	

I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☐ Surface ☒ Intermediate ☐ Liner ☐ Production

Drilled hole size (in.): 12 1/4	Depth of drilled hole (ft.): 6685	Est. % wash-out or hole enlargement: 20%
Size of casing in O.D. (in.): 9 5/8	Casing weight (lbs/ft) and grade: 40# J-55	No. of centralizers used: 33
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☒ YES ☐ NO If no for surface casing, explain in Remarks.	Setting depth shoe (ft.): 6680	Top of liner (ft.): / Setting depth liner (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.): surface	Cementing date: 4-12-17

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	1150	50/50 C/Poz	See Remarks	2771.5	8107
2	200	C	See Remarks	264	714
3					
Total	1350			3035.5	8821

II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		Setting depth shoe (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		Setting depth tool (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

Class C 50/50 with 10% Gel + 5% salt + 1/4PPS Celloflake + .2% C-41P.
Class C cement with 0.3% C-15
Returned 9 Bbls of cement to surface.

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

Steve Stromberg Cement Superintendant	Basic Energy Services	Steve Stromberg
Name and title of cementer's representative	Cementing Company	Signature

P. O. Box 10451	Midland	TX	79702	432-687-1994		4-12-17
Address	City,	State,	Zip Code	Tel: Area Code	Number	Date: mo. day yr.

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

SHERRIE CANNON	Regulatory Analyst	Sherrie Cannon
Typed or printed name of operator's representative	Title	Signature

115 E. Virginia St., Ste 201, McKinney, TX 75069			469.698.6411		06/15/17
Address	City,	State, Zip Code	Tel: Area Code	Number	Date: mo. day yr.

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B. **How to file:** An oil and gas completion report and Form W-15 may be filed online using the Commission's Online System (https://webapps.rrc.state.tx.us/security/login.do) or a paper copy of the form may be mailed to the Commission in Austin (P.O. Box 12967, Austin, Texas 78711-2967).

C. **Surface casing:** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

To plug and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14 (http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=14). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.

D. **Estimated % wash-out:** If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show how the estimated % wash-out was obtained.

E. **Multi-stage cement:** An operator must report the multi-stage cement shoe in II. Casing Cementing Data section by selecting the type of casing **and** Multi-stage cement shoe. The operator must report the multi-stage cement tool in III. Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.

F. **Multiple parallel strings:** An operator should file the Form W-15 as an attachment to the Form W-4, Application for Multiple Completion. An operator may be required to submit multiple Form W-15s to show all data for multiple parallel strings.

G. **Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

CEMENTING REPORT

Form W-15
Rev. 08/2014

Cementer: Fill in shaded areas.
Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: PERISCOPE OPERATING LLC	Operator P-5 No.: 653787
Cementer Name: HALLIBURTON	Cementer P-5 No.: 347151

WELL INFORMATION

District No.: 08	County: PECOS	
Well No.: 1903H	API No.: 42-371-39502	Drilling Permit No.: 824286
Lease Name: CUNNING WOLF UL	Lease No.: 43061	
Field Name: Wolfbone (Trend Area)	Field No.: 98359800	

I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☐ Surface ☐ Intermediate ☐ Liner ☑ Production

Drilled hole size (in.): 8 1/2	Depth of drilled hole (ft.): 17572	Est. % wash-out or hole enlargement: 5%
Size of casing in O.D. (in.): 5 1/2	Casing weight (lbs/ft) and grade: 23# L-80	No. of centralizers used: 30
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☑ NO If no for surface casing, explain in Remarks.	Setting depth shoe (ft.): 17520	Top of liner (ft.): / Setting depth liner (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date: 05/03/2017

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	2775	VersaCem™ H	0.40 % Halad(R)-344 Pre-Mix Dry	3399	12147
2			0.35 % HR-601 Pre-Mix Dry		
3					
Total	2775			3399	12147

II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		Setting depth shoe (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total	0			0	0

III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		Setting depth tool (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total	0			0	0

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

ALI ELKADRI / SUPERVISOR	Halliburton			
Name and title of cementer's representative	Cementing Company	Signature		
6155 W. Murphy St.	Odessa, TX, 79763	432-571-8600		05/03/2017
Address	City, State, Zip Code	Tel: Area Code	Number	Date: mo. day yr.

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

Sherrie Cannon	Regulatory and Production Analyst			
Typed or printed name of operator's representative	Title	Signature		
115 E Virginia St, Ste 201	McKinney, TX 75069	214.263.0364 / 469.698.6411 Cell		06/15/17
Address	City, State, Zip Code	Tel: Area Code	Number	Date: mo. day yr.

Instructions for Form W-15, Cementing Report

NOTICE: The Form W-15 must be submitted as an attachment to a Form G-1 (Gas Well Back Pressure Test, Completion or Recompletion Report, and Log), Form W-2 (Oil Well Potential Test, Completion or Recompletion Report, and Log), Form W-3 (Plugging Record), or Form W-4 (Application for Multiple Completion), any time cement is pumped in a wellbore.

A. **What to file:** An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form.

The Form W-15 should be filed with the Form W-3, Plugging Record, unless the Form W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form W-15, in addition to Form W-3, to show any casing cemented in the hole.

B. **How to file:** An oil and gas completion report and Form W-15 may be filed online using the Commission's Online System (https://webapps.rrc.state.tx.us/security/login.do) or a paper copy of the form may be mailed to the Commission in Austin (P.O. Box 12967, Austin, Texas 78711-2967).

C. **Surface casing:** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 *feet below the specified depth without prior approval from the Commission.*

To plug and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14 (http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=14). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.

D. *Estimated % wash-out: If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show* how the estimated % wash-out was obtained.

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F. *Multiple parallel strings: An operator should file the Form W-15 as an attachment to the Form W-4, Application for Multiple Completion. An operator may be* required to submit multiple Form W-15s to show all data for multiple parallel strings.

G. **Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

ELECTRIC LOG STATUS REPORT

FORM L-1

Tracking No.: 179130

This facsimile L-1 was generated electronically from data submitted to the RRC.

Instructions

When to File Form L-1:
- with Forms G-1, W-2, and GT-1 for new and deepened gas, oil, and geothermal wells
- with Form W-3 for plugged dry holes
- when sending in a log which was held under a request for confidentiality and the period for confidentiality has not yet expired.

When is Form L-1 NOT required:
- with Forms W-2, G-1, and GT-1 filed for injection wells, disposal wells, water supply wells, service wells, re-test wells, re-classifications, and plugbacks of oil, gas or geothermal wells
- with Form W-3 for plugging of other than a dry hole

Where to File Form L-1:
- with the appropriate Commission district office

Filling out Form L-1:
- Section I and the signature section must be filled out for all wells
- complete only the appropriate part of Section II

Type of log required:
- any wireline survey run for the purpose of obtaining lithology, porosity, or resistivity information
- no more than one such log is required but it must be of the subject well
- if such log is NOT run on the subject well, do NOT substitute any other type of log; just select Section II, Part A below

SECTION I. IDENTIFICATION

Operator Name: PERISCOPE OPERATING LLC	District No. 08	Completion Date: 06/12/2017
Field Name WOLFBONE (TREND AREA)	Drilling Permit No. 824286	
Lease Name CUNNING WOLF UL	Lease/ID No. 43061	Well No. 1903H
County PECOS	API No. **42-** 371-39502	

SECTION II. LOG STATUS (Complete either A or B)

☐ A. BASIC ELECTRIC LOG NOT RUN

☒ B. BASIC ELECTRIC LOG RUN. (Select one)

☒ 1. Confidentiality is requested and a copy of the header for each log that has been run on the well is attached.

☐ 2. Confidentiality already granted on basic electric log covering this interval (applicable to deepened wells only).

☐ 3. Basic electric log covering this interval already on file with Commission (applicable to deepened wells only).

☐ 4. Log attached to (select one):

☐ (a) Form L-1 (this form). If the company/lease name on log is different from that shown in Section I, please enter name on log here: _____

Check here if attached log is being submitted after being held confidential. ☐

☐ (b) Form P-7, Application for Discovery Allowable and New Field Designation.

☐ (c) Form W-4, Application for Multiple Completion:

Lease or ID No(s). _____

Well No(s). _____

Sherrie Cannon Signature	regulatory analyst Title
PERISCOPE OPERATING LLC Name (print)	(469) 698-6411 Phone 11/06/2017 Date

-FOR RAILROAD COMMISSION USE ONLY-

BASIN WELL LOGGING
PERFORATING - WIRELINE SERVICES

RADIAL CEMENT BOND LOG
GAMMA RAY, VDL AND CASING COLLARS

Company Periscope Operating
Well Cunning Wolf #1903H
Field Wolfbone (Trend Area)
County Pecos State Tx

Location: API # : 42-371-39502

SEC TWP RGE

Other Services

Elevation
K.B. 2981
D.F.
G.L. 2956

Permanent Datum Elevation
Log Measured From GL
Drilling Measured From GL

Company Periscope Op ng
Well Cunning Wolf #1903H
Field Wolfbone (Trend Area)
County Pecos
State Tx

Date	05-11-17		
Run Number	ONE		
Depth Driller	N/A		
Depth Logger	7750		
Bottom Logged Interval	7750		
Top Log Interval	4500		
Open Hole Size	N/A		
Type Fluid	Water		
Density / Viscosity	8.6		
M Recorded Temp	N/A		
L ated Cement Top	5600		
Time Well Ready	12:00		
Time Logger on Bottom	12:45		
Equipment Number	122		
Location	Midland		
Recorded By	K.Swank		
Witnessed By	B.Stanley		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	13-3/8	48	Surface	1505
Prot. String	9-5/8	40	Surface	6680
Production String	5.5	23#	Surface	TD
Liner				

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Log Correlated toMarker Joint at 6966

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			CHD-STNDRD Standard Cable Head	1.00	1.44	10.00
HeadVolt	16.67					

DIRECTIONAL, LLC

GAMMA-RAY

1" = 100'

FEET MD

COMPANY : PERISCOPE OPERATING
WELL : CUNNING WOLF UL #1903H
FIELD : WOLFBONE/PERMIAN BASIN
COUNTY : PECOS
STATE : TX
COUNTRY : U.S.A.
API WELL No.: 42-371-39502

COMPANY : PERISCOPE OPERATING
WELL : CUNNING WOLF UL #1903H
FIELD : WOLFBONE/PERMIAN BASIN
COUNTY : PECOS
STATE : TX
COUNTRY : U.S.A.
API No.: 42-371-39502

WELL LOCATION
LAT:30°49'13"N LON:102°42'6"W
X:1,553,210'Y:10,270,024'NAD83
SEC: 19 TWP: 23 RANGE: UB12

OTHER SERVICES
DIRECTONAL
ROP

DEPTH REF. : ROTARY TABLE
ELEVATION : 28.00 ft (ROTARY TABLE - GROUND LEVEL)
ALTITUDE : 2981.00 ft (GROUND LEVEL - MEAN SEA LEVEL)

BOREHOLE RECORD

HOLE SIZE in	FROM ft	TO ft
17 1/2	0	1507
12 1/4	1507	6685
8 1/2	6685	17572

DEVIATION RECORD

INCLINATION deg	FROM ft	TO ft
00 - 05	0	6939
05 - 90	6939	8163
90+/-07	8163	17572

CASING RECORD

CASING SIZE in	FROM ft	TO ft
13 3/8	0	1505
9 5/8	0	6680
5 1/2	0	17520

DRILLING Co.: PRECISION
RIG : 104
LWD UNIT No.: TRAILER DISTRICT : CONROE
SPUD DATE : 30-MAR-17
LWD START DATE : 04-APR-17 DEPTH : 1507 ft
LWD END DATE : 30-APR-17 DEPTH : 17572 ft
TOTAL DEPTH : 17572 ft

RUN DATA

RUN NUMBER	1	2	3	4	5	6
START DATE	04-APR-17	9-APR-17	9-APR-17	13-APR-17	16-APR-17	20-APR-17
START TIME	21:00	15:30	21:30	05:15	3:30	01:40
END DATE	09-APR-17	9-APR-17	11-APR-17	16-APR-17	20-APR-17	24-APR-17
END TIME		19:45	04:15	02:00	00:15	10:15
DEPTH IN ft	1507	6024	6024	6685	7274	8884
DEPTH OUT ft	6024	6024	6685	7274	8884	12730
LOG TOP ft	1507	5977	5977	6638	7220	8834
LOG BOTTOM ft	5977	5977	6638	7220	8834	12680
HOLE SIZE in	12 1/4	12 1/4	12 1/4	8 1/2	8 1/2	8 1/2
MUD DATA @ ft	5226	1507	6405	7113	8884	12730
MUD TYPE	WBM	WBM	WBM	OBM	OBM	OBM
DENSITY lb/gal	8.90	8.90	9.20	9.90	10.20	10.00
VISCOSITY s/qt	29	29	29	42	39	45
pH	10.0	10.0	9.0			
FLUID LOSS cm3/30						
SALINITY ppm	86000	65000	34000	33000	14200	30000
Rm ohmm @ deg F	@	@	@	@	@	@
Rmf ohmm @ deg F	@	@	@	@	@	@

DIRECTIONAL, LLC

GAMMA-RAY

1" = 100'

FEET TVD

COMPANY : PERISCOPE OPERATING
WELL : CUNNING WOLF UL #1903H
FIELD : WOLFBONE/PERMIAN BASIN
COUNTY : PECOS
STATE : TX
COUNTRY : U.S.A.
API WELL No.: 42-371-39502

COMPANY : PERISCOPE OPERATING
WELL : CUNNING WOLF UL #1903H
FIELD : WOLFBONE/PERMIAN BASIN
COUNTY : PECOS
STATE : TX
COUNTRY : U.S.A.
API No.: 42-371-39502

WELL LOCATION
LAT:30°49'13"N LON:102°42'6"W
X:1,553,210'Y:10,270,024'NAD83
SEC:19 TWP:23 RANGE:0812

OTHER SERVICES
DIRECTONAL
ROP

DEPTH REF. : ROTARY TABLE
ELEVATION : 28.00 ft (ROTARY TABLE - GROUND LEVEL)
ALTITUDE : 2981.00 ft (GROUND LEVEL - MEAN SEA LEVEL)

BOREHOLE RECORD

HOLE SIZE in	FROM ft	TO ft
17 1/2	0	1507
12 1/4	1507	6685
8 1/2	6685	17572

DEVIATION RECORD

INCLINATION deg	FROM ft	TO ft
00 - 05	0	6939
05 - 90	6939	8163
90+/-07	8163	15572

CASING RECORD

CASING SIZE in	FROM ft	TO ft
13 3/8	0	1505
9 5/8	0	6680
5 1/2	0	17520

DRILLING Co.: PRECISION
RIG : 104
LWD UNIT No.: TRAILER DISTRICT : CONROE
SPUD DATE : 30-MAR-17
LWD START DATE : 04-APR-17 DEPTH : 1507 ft
LWD END DATE : 30-APR-17 DEPTH : 17572 ft
TOTAL DEPTH : 17572 ft

RUN DATA

RUN NUMBER	1	2	3	4	5	6
START DATE	04-APR-17	9-APR-17	9-APR-17	13-APR-17	16-APR-17	20-APR-17
START TIME	21:00	15:30	21:30	05:15	3:30	01:40
END DATE	09-APR-17	9-APR-17	11-APR-17	16-APR-17	20-APR-17	24-APR-17
END TIME		19:45	04:15	02:00	00:15	10:15
DEPTH IN ft	1507	6024	6024	6685	7274	8884
DEPTH OUT ft	6024	6024	6685	7274	8884	12730
LOG TOP ft	1507	5977	5977	6638	7220	8834
LOG BOTTOM ft	5977	5977	6638	7220	8834	12680
HOLE SIZE in	12 1/4	12 1/4	12 1/4	8 1/2	8 1/2	8 1/2
MUD DATA @ ft	5226	1507	6405	7113	8884	12730
MUD TYPE	WBM	WBM	WBM	OBM	OBM	OBM
DENSITY lb/gal	8.90	8.90	9.20	9.90	10.20	10.00
VISCOSITY s/qt	29	29	29	42	39	45
pH	10.0	10.0	9.0			
FLUID LOSS cm3/30						
SALINITY ppm	86000	65000	34000	33000	14200	30000
Rm ohmm @ deg F	0	0	0	0	0	0
Rmf ohmm @ deg F	0	0	0	0	0	0

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION
CERTIFICATE OF COMPLIANCE STATEWIDE RULE 36

FORM H-9
12/12/77

FILE WITH DISTRICT OFFICE IN TRIPLICATE

1. Operator: Periscope Operating, LLC	2. Operator Number (See Instruction 13): 653787		3. RRC Dist.: 08
4. Street or P. O. Box No.: 115 East Virginia St, Ste 201	5. City: McKinney	6. State: TX	7. Zip Code: 75069
8. Name of Lease, Facility or Operation: Cunning Wolf UL	9. Field or Area Name: Wolfbone (Trend Area) (Field No. 98359800)		10. County: Pecos

11. General Operation Type — Circle One:

[A] A - Oil Field Production B - Gas Field Production
C - Pipeline or Gathering Sys. D - Gasoline Plant
E - Drilling or Workover F - Sweetening Unit
G - Combination (explain) H - Other (explain)

Other Explanation: Completed and producing Horizontal Well (1903H) on existing RRC Lease 43061 Cunning Wolf UL

12. RRC ID# of Operation(s) to be Covered by This Certificate	Type ID Code (See Instruction 12)	Indicate if Filing for Storage Facility Only YES	NO
43061	1	X	

13. Hydrogen Sulfide Concentration: 10 PPM
14. Maximum Escape Volume: 525 MCF/Day
15. 100 PPM Radius of Exposure (ROE): 0 Ft.
16. 500 PPM Radius of Exposure (ROE): 0 Ft.
17. Operation is: Existing [X] New [ ]
18. Modification Resulting in Certificate Change: Yes [ ] No [X]
19. Workover or Drilling Well with 100 PPM ROE Greater than 3000 feet on Rule 36 Certified Well/Lease: Yes [ ] No [X]
20. Previous Certificate Number if Available (For Amended Certificates): N/A
21. The 100 PPM ROE includes any part of a public area except a public road: Yes [ ] No [X]
22. The 500 PPM ROE includes any part of a public road: Yes [ ] No [X]
23. Injection of fluid containing Hydrogen Sulfide (See Instruction 14): Yes [ ] No [X]
24. Date (or Depth) of Compliance with all applicable provisions of Rule 36: 06 / 12 / ~~19~~ 2017 (Mo / Day / Year)
Depth of Compliance for Drilling Operation: _____ Ft. from Surface

25. Contingency Plan Location of Plan (See Instruction 15)
Has been prepared: Yes [ ] No [X]

26. Location of data used to prepare this certificate (See Instruction 15)

115 East Virginia Street, Ste 201, McKinney, Texas 75069

CERTIFICATE

I declare under penalties prescribed in Section 91.143, Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision, and that I am qualified to make this certification by virtue of my training and experience, and by my analysis of the operation being certified, or by the analysis of qualified person working under my supervision, and that the data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Sherrie Cannon — Regulatory and Production Analyst — 469.698.6411 (Cell) — 09/15/2017

Representative of Company: Sherrie Cannon | Title | Phone No. | Date

RAILROAD COMMISSION USE ONLY

This operation and the equipment used therein is approved on the basis of the above certification and is subject to further Commission audit for compliance with the required provisions of Statewide Rule 36. This approval may be cancelled if investigation determines that the operation does not comply with the provisions of Statewide Rule 36.

APPROVED BY: _____ DATE: _____

REMARKS: CERTIFICATION NUMBER: _____

RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Form P-16
Page 1
Rev. 01/2016

Acreage Designation

SECTION I. OPERATOR INFORMATION

Operator Name:	Periscope Operating LLC	**Operator P-5 No.:**	653787
Operator Address:	115 East Virginia Street, Suite 201, McKinney, Texas 75069		

SECTION II. WELL INFORMATION

District No.:	08	**County:**	Pecos	**Purpose of Filing:**
Well No.:	1903H	**API No.:**		☒ Drilling Permit Application (Form W-1)
Total Lease Acres:	10240.0	**Drilling Permit No.:**		☐ Completion Report (Form G-1/W-2)
Lease Name:	Cunning Wolf UL	**Lease No.:**	43061	
Field Name:	Wolfbone (Trend Area)	**Field No.:**	653787	

Filer is the owner or lessee, or has been authorized by the owner or lessee, of all or an undivided portion of the mineral estate under each tract for which filer is listed as operator below. For all leases operated by other entities, the number of assigned acres shown are reflected on current Commission records or the filer has been authorized by the current operator to change the assigned acreage of that operator as shown below.

SECTION III. LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER

RRC ID No. or Lease No.	Well No.	H-Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
43061	601	V	Cunning Wolf UL	37138886	160	N	Periscope Operating LLC
43061	602H	H	Cunning Wolf UL	37139028	220	N	Periscope Operating LLC
43061	701	V	Cunning Wolf UL	37138985	160	N	Periscope Operating LLC
43061	702	V	Cunning Wolf UL	37139146	160	N	Periscope Operating LLC
43061	801H	H	Cunning Wolf UL	37139070	220	N	Periscope Operating LLC
43061	802	V	Cunning Wolf UL	37139238	160	N	Periscope Operating LLC
43061	1801	V	Cunning Wolf UL	37139151	160	N	Periscope Operating LLC
43061	1901	V	Cunning Wolf UL	37139301	160	N	Periscope Operating LLC
43061	1902	V	Cunning Wolf UL	37139344	160	N	Periscope Operating LLC
43061	1903H	H	Cunning Wolf UL		220	N	Periscope Operating LLC

Total Well Count >	10	660	**< A. Total Assigned Horiz. Acreage**	1780	**< C. Total Assigned Acreage**
		9580	**< Total Remaining Horiz. Acreage**	8460	**< Total Remaining Acreage**
		1120	**< B. Total Assigned Vert./Dir. Acreage**		
		9120	**< Total Remaining Vert./Dir. Acreage**		

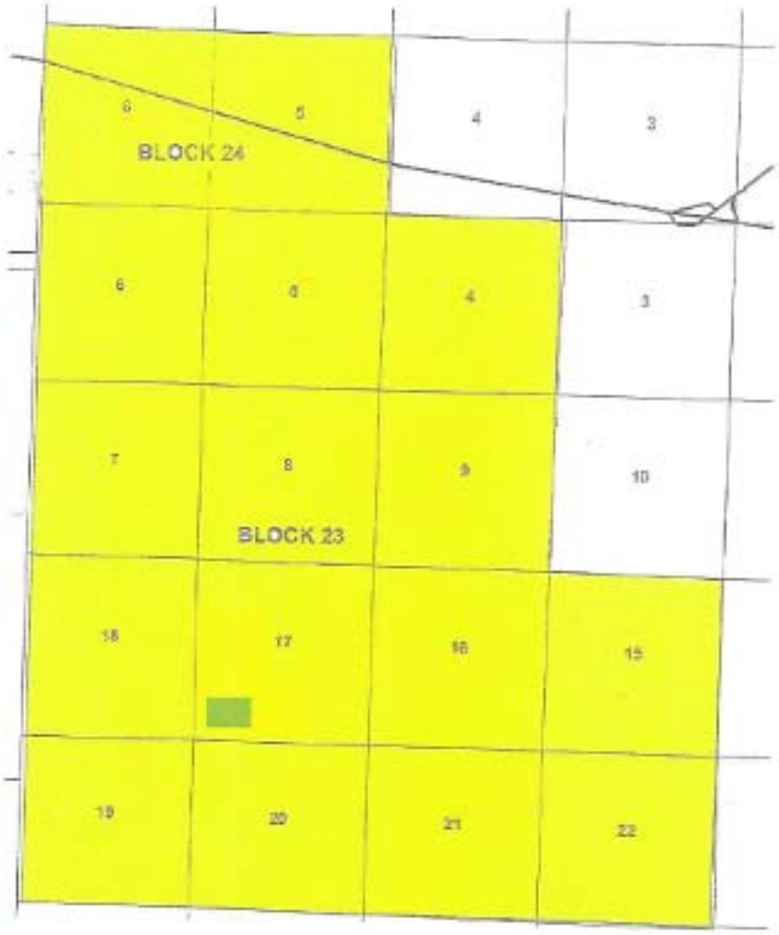
SECTION IV. REMARKS / PURPOSE OF FILING (see instructions)

Attach Additional Pages As Needed. ☒ No additional pages ☐ Additional Pages: _____ (No. of additional pages)

CERTIFICATION: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that this report was prepared by me or under my supervision or direction, that I am authorized to make this report, and that the information contained in this report is true, correct, and complete to the best of my knowledge.

Signature	Sherrie Cannon, Regulatory and Compliance Analyst	scannon@periscopeoperating.com
	Name and title (type or print)	Email (include email address *only* if you affirmatively consent to its public release)

115 E Virginia St, Ste 201	McKinney, Texas 75069	469.698.6411 Cell		03/09/2017
Address	City, State, Zip Code	Tel: Area Code	Number	Date: mo. day yr.



PERISCOPE OPERATING LLC
Operator ID 653787

LEASE PLAT
Dist. 08 RRC Lease 43061
Cunning Wolf UL
10,240 Acres

Sections 5 & 6 Block24
Sections 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21 & 22 Block 23
40 Acres in Section 17 Block 23 is below 8090'

Sherrie Cannon

Sherrie Cannon, Regulatory Analyst

Dated 11/3/2017

GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Groundwater Advisory Unit

Date Issued:	09 March 2017	**GAU Number:**	168630

Attention: PERISCOPE OPERATING LLC
115 E VIRGINIA ST SUITE 201
MCKINNEY, TX 75069

Operator No.: 653787

API Number:	
County:	PECOS
Lease Name:	Cunning Wolf UL
Lease Number:	43061
Well Number:	1903H
Total Vertical Depth:	7700
Latitude:	30.820244
Longitude:	-102.701397
Datum:	NAD27

Purpose: New Drill

Location: Survey-UL; Abstract-U182; Block-23; Section-19

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

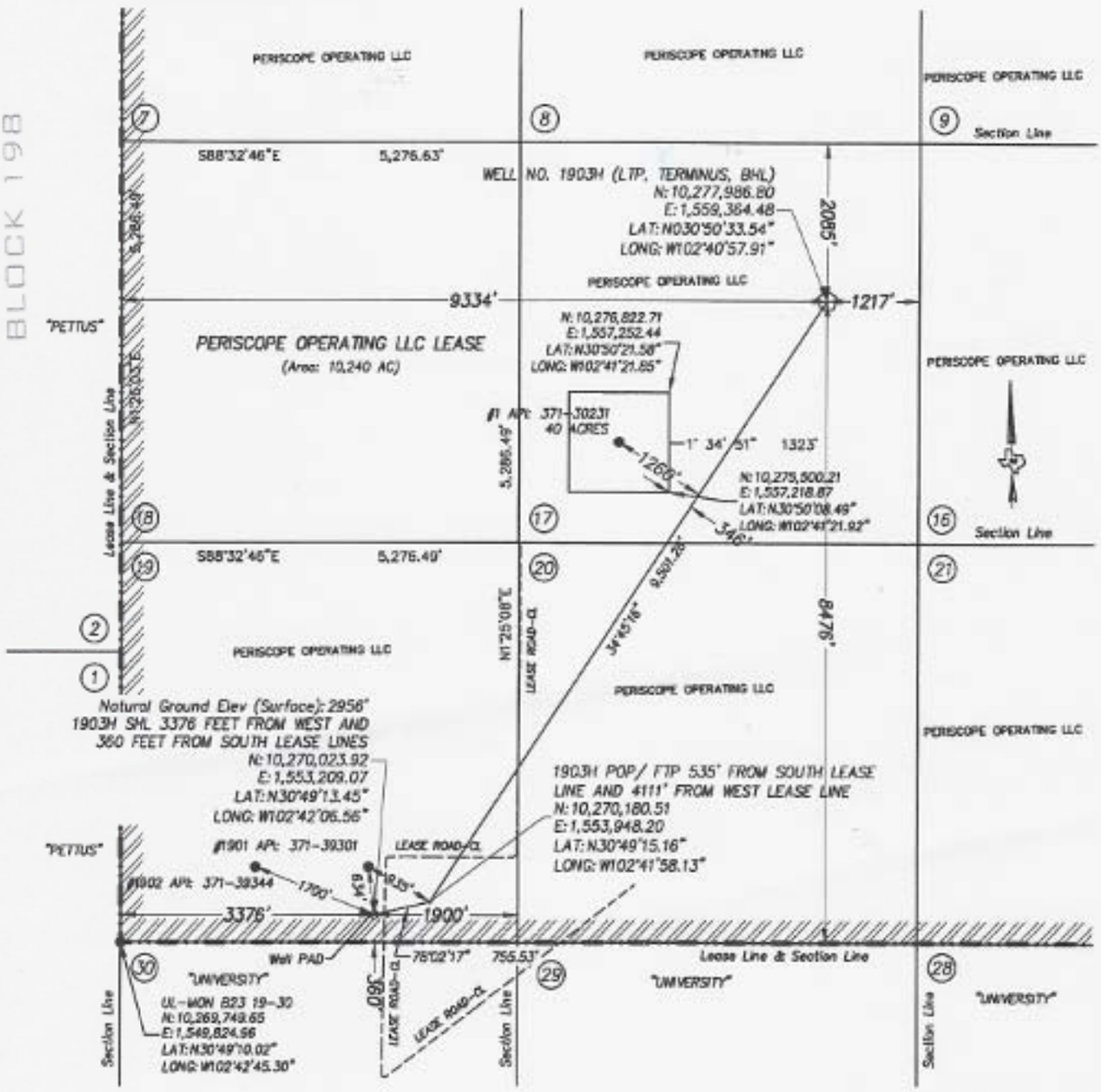
The interval from the land surface to a depth of 750 feet, and the Rustler, the top of which is estimated to occur from 1150 to 1200 feet depth and the base of which is estimated to occur from 1500 to 1550 feet depth by reconnaissance-level evaluation, must be protected.

This recommendation is applicable for all wells drilled in this S/2 of sec. 19.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 03/09/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division



NOTE:

COURSES, DISTANCES AND COORDINATES SHOWN HEREON ARE LAMBERT GRID AND CONFORM TO THE "TEXAS COORDINATE SYSTEM", TEXAS CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983. ALL DISTANCES AND COORDINATES ARE SHOWN IN GRID FEET.

GRAPHIC SCALE

0 2000' 4000'

(IN FEET)
1 inch = 2000 ft.

THIS WELL IS TO BE LOCATED 12.3 MILES IN A SOUTHEAST DIRECTION FROM FT. STOCKTON WHICH IS THE NEAREST TOWN IN THE COUNTY OF THE WELL SITE.

THE UNDERSIGNED DOES HEREBY CERTIFY THAT THIS LOCATION WAS THIS DAY MADE ON THE GROUND BY ME OR UNDER MY SUPERVISION AND THAT THIS PLAT IS A CORRECT REPRESENTATION THEREOF.

DATED THIS 9th DAY OF MARCH, 2017

RJ DAUM
TEXAS RPLS 4826

STATE OF TEXAS REGISTERED RJ DAUM 4826 PROFESSIONAL LAND SURVEYOR

4-03-2017 Rev. (40 ACRE OFFSET)
3-31-2017 Rev. (Well Bore Location)

SCHUMANN ENGINEERING CO., INC.

REGISTERED PROFESSIONAL LAND SURVEYORS — REGISTERED PROFESSIONAL CIVIL ENGINEERS

Civil Engineering ~ Land Surveying

TEXAS FIRM No. F1880 — TEXAS FIRM No. 10149500

408 N. PECOS STREET - P. O. BOX 504
MIDLAND, TEXAS 79702-0504

Office (432) 684-5548
Fax (432) 684-6973

LOCATION PLAT

PERISCOPE OPERATING LLC

WELL NO. 1903H
CUNNING WOLF UL LEASE
SURFACE LOCATION:
360 FEET FROM THE SOUTH LINE AND
1900 FEET FROM THE EAST LINE
SECTION 19, A-U182, BLOCK 23
UNIVERSITY LANDS SURVEY
BOTTOM HOLE LOCATION:
2085 FEET FROM THE NORTH LINE AND
1217 FEET FROM THE EAST LINE
SECTION 17, A-U180, BLOCK 23
UNIVERSITY LANDS SURVEY

PECOS COUNTY, TEXAS

QUAD: EAST MESA SW
SCALE: 1" = 2000'

PROJECT: 75534PR
JOB NO: 75,534AR-4