

District I
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Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
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District III
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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

Rec'd 11/02/2020 - NMOCD
State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
⁴ Property Code 320516	⁵ Property Name GHOST RIDER 22 15 FEDERAL COM	⁶ Well Number 101H
⁷ OGRID NO. 873	⁸ Operator Name APACHE CORPATION	⁹ Elevation 3580

10 Surface Location

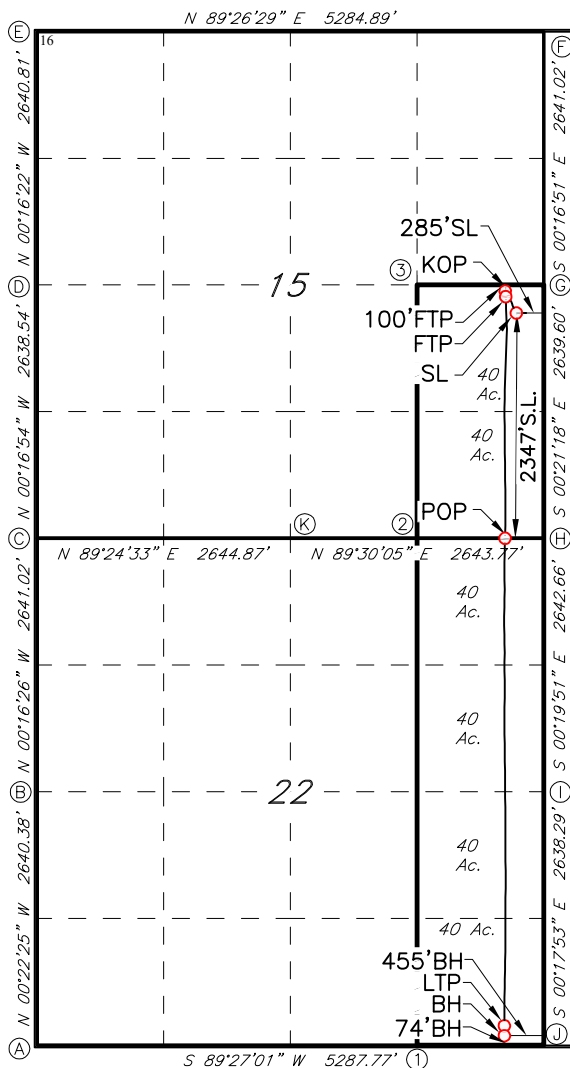
UL or lot no. I	Section 15	Township 24S	Range 32E	Lot Idn	Feet from the 2347	North/South line SOUTH	Feet From the 285	East/West line EAST	County LEA
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11 Bottom Hole Location If Different From Surface

UL or lot no. P	Section 22	Township 24S	Range 32E	Lot Idn	Feet from the 74	North/South line SOUTH	Feet from the 455	East/West line EAST	County LEA
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¹² Dedicated Acres 240	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.



GEODETIC DATA
NAD 83 GRID - NM EAST

SURFACE LOCATION (SL)
N 443263.6 - E 751153.7
LAT: 32.216788° N
LONG: 103.654886° W

KICK OFF POINT (KOP)
2590' FSL & 397' FEL (Sec.15)
N 443505.4 - E 751040.9
LAT: 32.2174542° N
LONG: 103.6552463° W
MD: 9462.0 - TVD: 9450.7

FIRST TAKE POINT (FTP)
2540' FSL & 392' FEL (Sec.15)
N 443455.2 - E 751045.6
LAT: 32.2173162° N
LONG: 103.6552323° W
MD: 9644.0 - TVD: 9624.2

POINT OF PENETRATION (POP)
418' FEL
N 440915.6 - E 751035.4
LAT: 32.2103357° N
LONG: 103.6553170° W
MD: 12295.4 - TVD: 9935.4

LAST TAKE POINT (LTP)
100' FSL & 455' FEL (Sec.22)
N 435735.1 - E 751027.4
LAT: 32.1960961° N
LONG: 103.6554484° W
MD: 17474.1 - TVD: 9935.0

BOTTOM HOLE (BH)
N 435709.2 - E 751027.1
LAT: 32.1960250° N
LONG: 103.655449° W
MD: 17500.0 - TVD: 9934.7

CORNER DATA
NAD 83 GRID - NM EAST

A: FOUND BRASS CAP "1916"
N 435588.7 - E 746196.0

B: FOUND BRASS CAP "1916"
N 438228.5 - E 746178.8

C: FOUND BRASS CAP "1916"
N: 440869.0 - E: 746166.1

D: FOUND BRASS CAP "1916"
N 443506.9 - E 746153.2

E: FOUND BRASS CAP "1916"
N 446147.2 - E 746140.6

F: CALCULATED CORNER
N: 446198.7 - E: 751424.1

G: FOUND BRASS CAP "1916"
N 443558.2 - E 751437.1

H: FOUND BRASS CAP "1916"
N 440919.2 - E 751453.4

I: FOUND BRASS CAP "1916"
N 438277.2 - E 751468.7

J: FOUND BRASS CAP "1916"
N 435639.5 - E 751482.4

K: FOUND BRASS CAP "1916"
N 440896.2 - E 748810.3

CALCULATED POINTS
1: N 435626.8 - E 750160.8
2: N 440907.7 - E 750131.9
3: N 443545.4 - E 750117.6

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name _____

E-mail Address _____

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

3-27-2019

Date of Survey _____

Signature and Seal of Professional Surveyor _____

19680

Certificate Number _____

REV: 4/16/20 AS DRILL

Job No.: LS19030394AD



Weatherford®

End of Well Report

Well Planning & Operations

Apache Corporation

Rig: H&P 482
Well: Ghost Rider 22-15 FC 101H
County: Eddy
State: New Mexico
Date: 16-Mar-2020
Report By: Russell Joyner

Start Date: 21-Feb-2020

End Date: 13-Mar-2020

Apache



CONTENTS

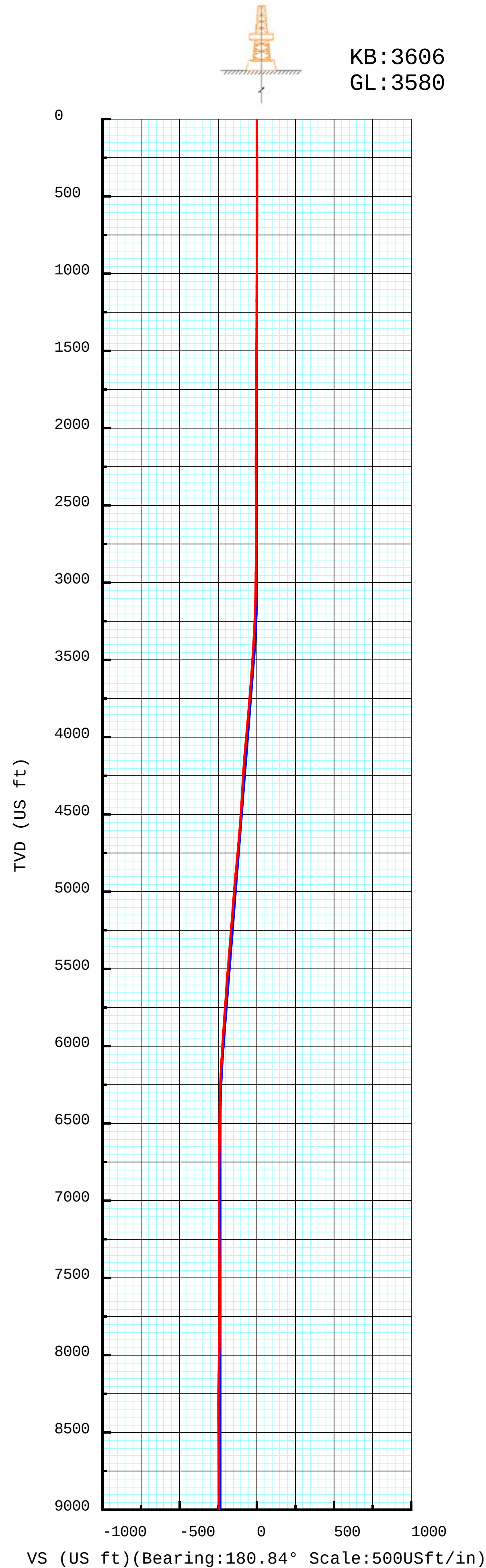
1. WELL PLAN
2. PLAN VS ACTUAL & SURVEYS
3. PERFORMANCE CHARTS
4. DAILY REPORTS
5. BHA REPORTS
6. SLIDE SHEETS
7. ADDITIONAL INFORMATION

WELL PLAN PLAN REPORT & DRAWING

SECTION 1



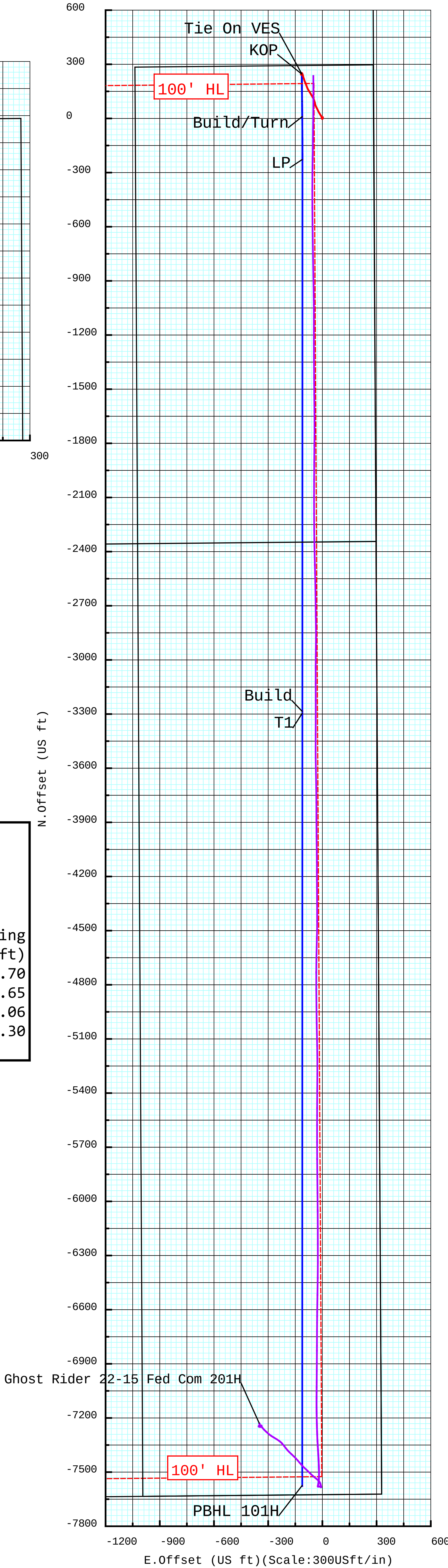
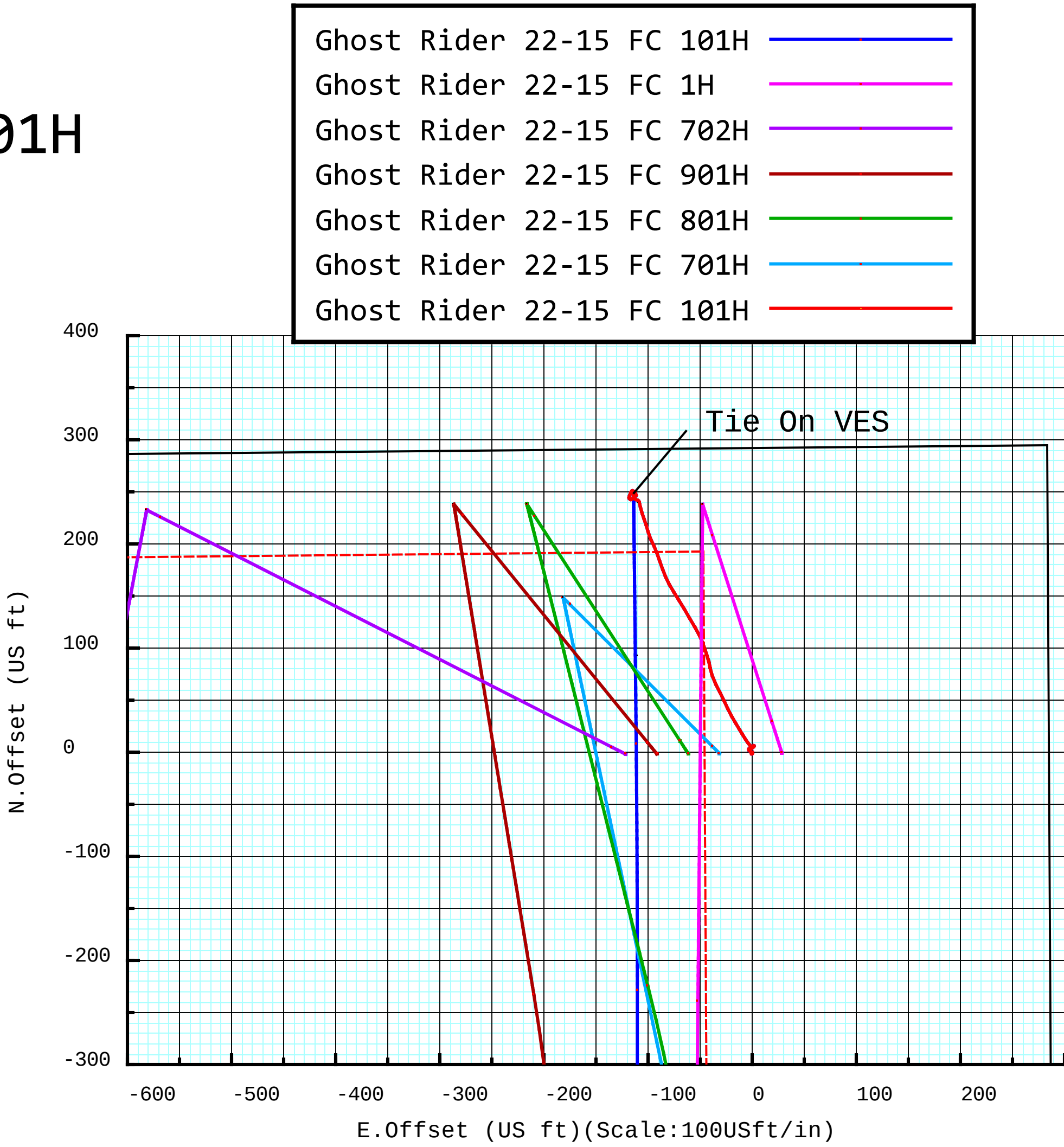
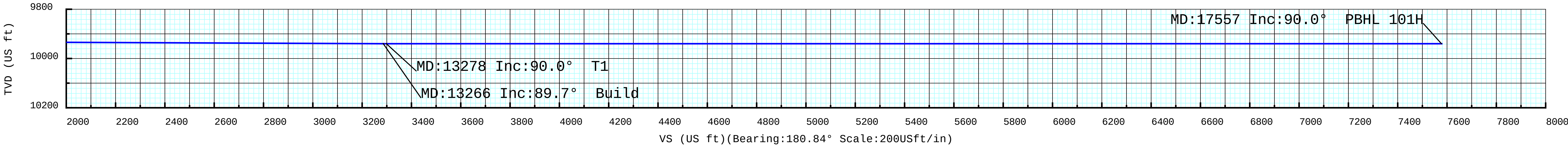
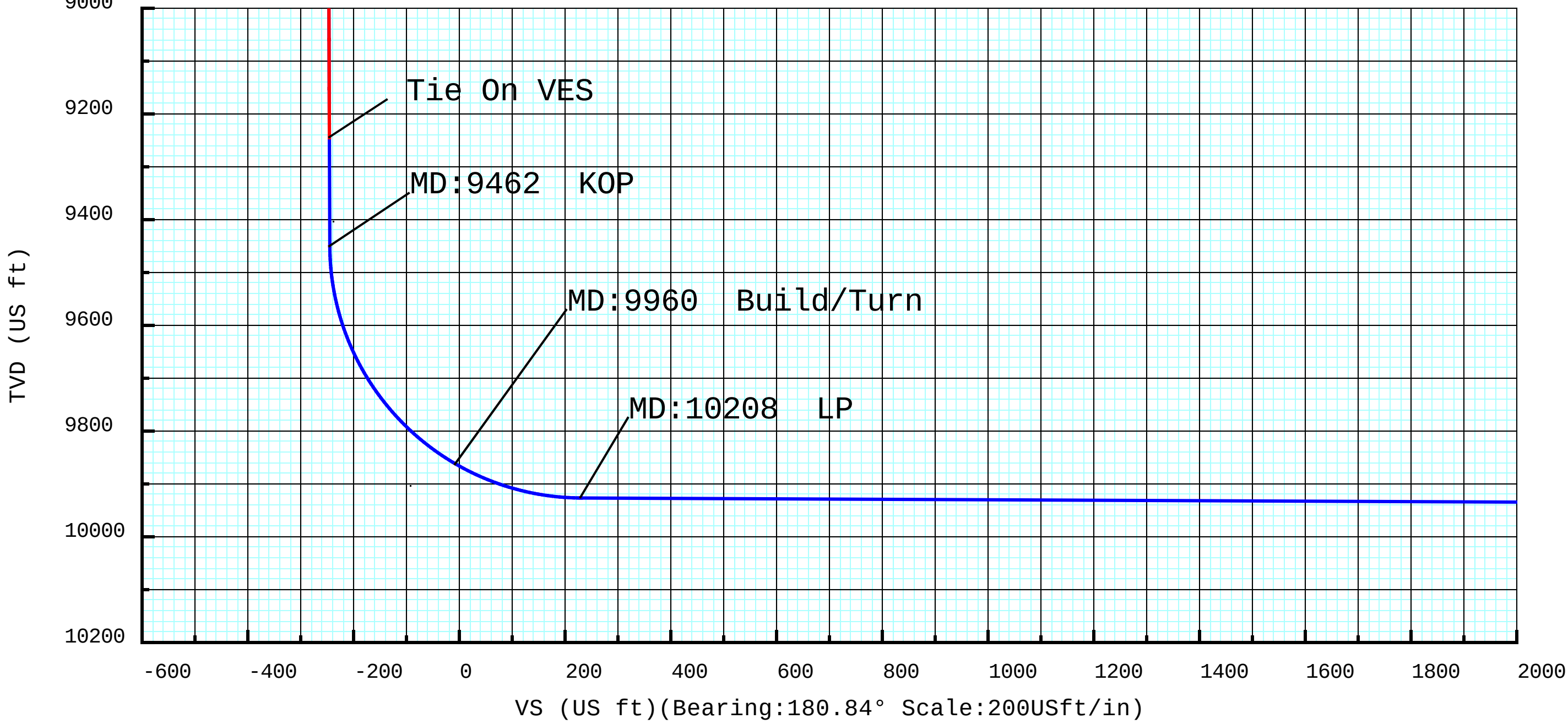
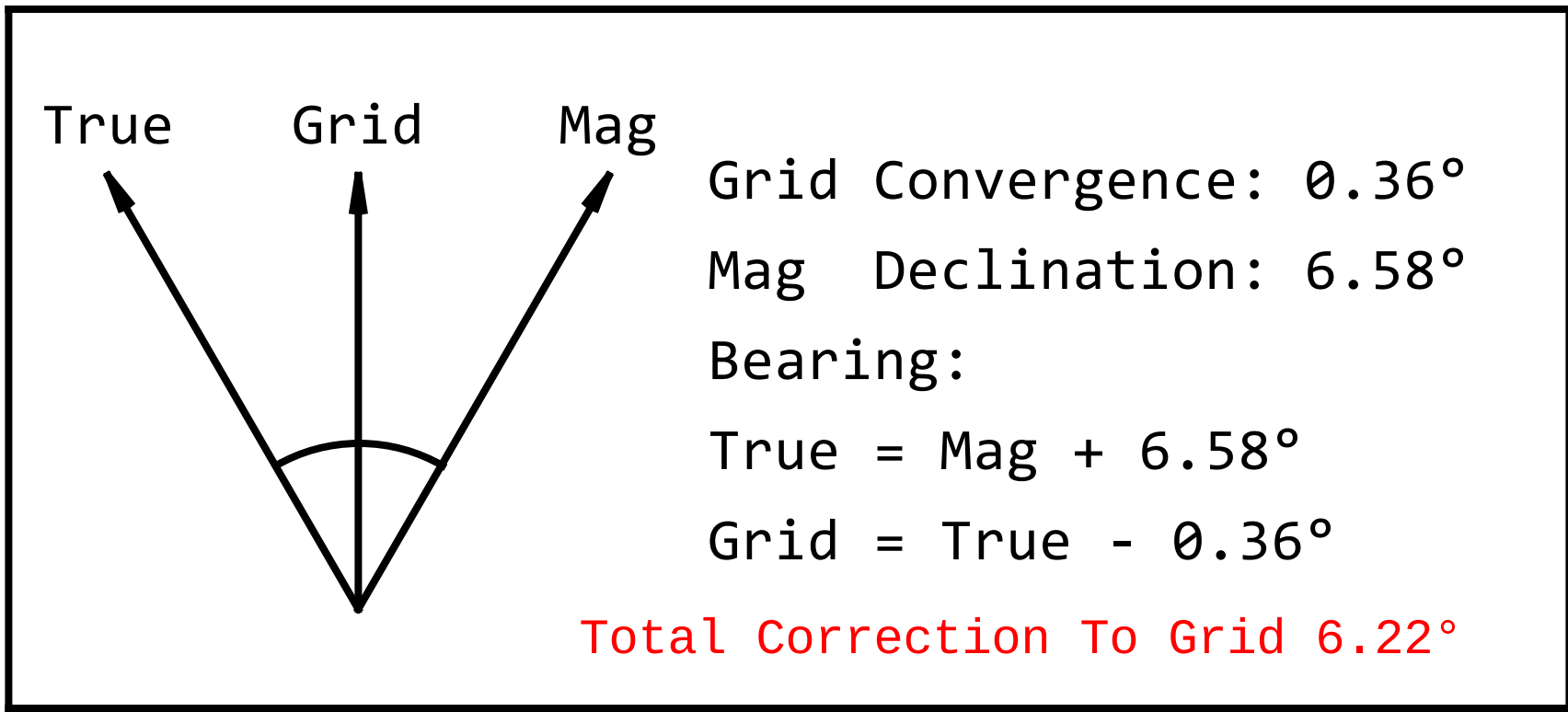
Apache Corporation
Ghost Rider 22-15 FC 101H
Lea Co, New Mexico
Plan vs Actual



Plan Data for Ghost Rider 22-15 FC 101H											
Plan Point Information:											
DogLeg Severity Unit: °/100.00ft Position offsets from Slot centre											
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS	Comments	
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)		
9256.00	0.23	168.77	9244.98	247.43	-114.11	443511.03	751039.59	-245.73	0.13	Tie On VES	
9462.01	0.23	168.77	9450.99	246.62	-113.95	443510.22	751039.75	-244.92	0.00	KOP	
9960.13	60.00	179.43	9862.60	7.90	-111.37	443271.50	751042.33	-6.27	12.00	Build/Turn	
10208.08	89.75	180.01	9926.58	-228.77	-110.29	443034.83	751043.41	230.37	12.00	LP	
13265.50	89.75	180.01	9939.97	-3286.17	-110.64	439977.43	751043.06	3287.44	0.00	Build	
13278.05	90.00	180.01	9940.00	-3298.72	-110.64	439964.88	751043.06	3299.99	2.00	T1	
17557.11	90.00	180.01	9940.00	-7577.78	-111.40	435685.82	751042.30	7578.60	0.00	PBHL 101H	

Plan Data for Ghost Rider 22-15 FC 101H											
Field: Apache NM (Nad 83 NMEZ)											
Map Unit: USFt Vertical Reference Datum (VRD): Mean Sea Level											
Projected Coordinate System: NAD83 / New Mexico East (ftUS)											
Site: Ghost Rider 22-15 FC Pad-NE											
Unit: USFeet TVD Reference:											
Company Name: Apache Corporation											
Position:											
Northing: 443185.21USft Latitude: 32.216577°											
Easting: 750867.80USft Longitude: -103.655813°											
North Reference: Grid Grid Convergence: 0.36°											
Elevation Above VRD: 3618.99USft											
Comment: Lea Co., NM											
Slot: Ghost Rider 22-15 FC 101H											
Position:											
Offset is from Site centre											
+N/-S: 78.39USft Northing: 443263.60USft Latitude: 32.216788°											
+E/-W: 285.90USft Easting: 751153.70USft Longitude: -103.654887°											
Elevation Above VRD: 3580.00USft											
Well: Ghost Rider 22-15 FC 101H											
Type: Main-Well											
File Number:											
Plan Folder: P2 Plan: P2:V1											
Vertical Section: Position offset of origin from Slot centre:											
+N/-S: 0.00USft Azimuth: 180.84°											
+E/-W: 0.00USft											
Magnetic Parameters:											
Model: Field Strength: Declination: Dip: Date:											
IFR 47820(nT) 6.58° 59.82° 2020-02-21											

Plan Data for Ghost Rider 22-15 FC 101H						
Target Set Information:						
Name: GR 22-15 FC 101H						
Position offsets from Slot centre						
Name	TVD	Elevation	+N/-S	+E/-W	Northing	Easting
	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)
NP	9404.99	-5798.99	238.80	-110.00	443502.40	751043.70
FTP	9906.00	-6300.00	92.62	-110.05	443356.22	751043.65
T1	9940.00	-6334.00	-3298.72	-110.64	439964.88	751043.06
PBHL 101H	9940.00	-6334.00	-7577.78	-111.40	435685.82	751042.30



Drawing By: RWJ Date: 11 February 2020
Office Name: Weatherford - Drilling Services
Address: 10000 West County Road 116
Midland, Texas 79711 USA
+1.432.561.8892 Main
Russell.Joyner@Weatherford.com
Phone: Cell 713-303-5511

**5D Plan Report**

Apache Corporation

Field Name: *Apache NM (Nad 83 NMEZ)*
Site Name: *Ghost Rider 22-15 FC Pad-NE*
Well Name: *Ghost Rider 22-15 FC 101H*
Plan: *P2:V1 (Current plan)*

1 March 2020





Ghost Rider 22-15 FC 101H

Field Name: Apache NM (Nad 83 NMEZ)	Map Units: US ft		Company Name: Apache Corporation	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			
Site: Ghost Rider 22-15 FC Pad-NE	Units: US ft	North Reference: Grid	Convergence Angle: 0.36	
	Position:	Northing: 443185.21 US ft	Latitude: 32.216577164	
		Easting: 750867.80 US ft	Longitude: -103.655812553	
	Elevation above MSL:3618.99 US ft			
Comment: Lea Co., NM				
Slot: Ghost Rider 22-15 FC 101H	Position (Relative to Site Centre)			
	+N/-S: 78.39 US ft	Northing: 443263.60 US ft	Latitude: 32.216787678	
	+E/-W: 285.90 US ft	Easting: 751153.70 US ft	Longitude: -103.654886545	
	Elevation above MSL: 3580.00 US ft			
Comment:				
Well: Ghost Rider 22-15 FC 101H	Type:Main well		UWI:	Plan:P2:V1 (Current plan)
	File Number:	Comment:		
	Closure Distance:7578.6US ft		Closure Azimuth:180.84°	
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00 US ft		+E/-W: 0.00 US ft	Az: 180.84°
	Magnetic Parameters:			
	Model: IFR	Field Strength: 47820.2nT	Declination: 6.58°	Dip: 59.82° Date: 21/Feb/2020

Drill floor: Plan: P2:V1 (Current plan)

Rig Height (Well TVD Reference): Elevation above MSL: 3606.00 US ft **Inclination:** 0.00° **Azimuth:** 0.00°
26.00 US ft

Target set: GR 22-15 FC 101H Comment:

Target Name:	Shape:	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (USft)	Easting (USft)	C.Pt.Distance (US ft)	Comment
NP	Point	9404.99	238.80	-110.00	443502.40	751043.70	8.94	
FTP	Point	9906.00	92.62	-110.05	443356.22	751043.65	82.35	
T1	Point	9940.00	-3298.72	-110.64	439964.88	751043.06	0.00	
PBHL 101H	Point	9940.00	-7577.78	-111.40	435685.82	751042.30	0.00	

Tie Point:

MD: 0.00 USft **Inclination:** 0.00° **Azimuth:** 0.00° **TVD:** - 0.00 USft **North Offset:** 0.00 USft **East Offset:** 0.00 USft

5D Plan Report

Survey Tool Ranges: (Using Anticipated Survey Programme)

Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD + IFR	0.00	9415.83	ASP
MWD + IFR + Sag Corr + MS	9415.83	17550.00	ASP
MWD	17550.00	17557.11	Default Tool

Casing Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)

Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)
13 3/8 in	1142.00	0.27	307.14	1141.99	0.73	-1.61	443264.33	751152.09
9 5/8 in	4185.00	4.28	347.71	4181.36	84.81	-41.08	443348.41	751112.62

Wellpath created using minimum curvature.**Salient Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)**

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	-0.00	-0.00	0.00	0.00	443263.60	751153.70	0.00	
59.89	0.37	173.25	59.89	0.19	-0.19	0.02	443263.41	751153.72	0.62	
152.78	0.25	147.12	152.78	0.66	-0.66	0.17	443262.94	751153.87	0.20	
245.67	0.24	224.02	245.67	0.97	-0.97	0.14	443262.63	751153.84	0.33	
338.56	0.23	223.80	338.56	1.25	-1.24	-0.12	443262.36	751153.58	0.01	
431.45	0.19	210.97	431.45	1.52	-1.51	-0.33	443262.09	751153.37	0.07	
524.34	0.20	342.26	524.34	1.50	-1.49	-0.46	443262.11	751153.24	0.38	
617.23	0.22	333.13	617.23	1.18	-1.18	-0.59	443262.42	751153.11	0.04	
710.12	0.22	338.02	710.11	0.86	-0.85	-0.74	443262.75	751152.96	0.02	
803.01	0.22	337.63	803.00	0.53	-0.52	-0.87	443263.08	751152.83	0.00	
895.90	0.23	337.76	895.89	0.20	-0.18	-1.01	443263.42	751152.69	0.01	
988.79	0.24	328.63	988.78	-0.14	0.16	-1.18	443263.76	751152.52	0.04	
1081.68	0.29	327.00	1081.67	-0.50	0.52	-1.41	443264.12	751152.29	0.05	
1174.57	0.27	295.78	1174.56	-0.79	0.81	-1.74	443264.41	751151.96	0.16	
1267.46	0.35	302.92	1267.45	-1.03	1.06	-2.17	443264.66	751151.53	0.10	
1360.35	0.49	326.04	1360.34	-1.51	1.54	-2.63	443265.14	751151.07	0.23	
1453.24	0.51	323.28	1453.22	-2.16	2.20	-3.10	443265.80	751150.60	0.03	
1546.13	0.80	33.37	1546.11	-3.03	3.08	-2.99	443266.68	751150.71	0.85	
1639.02	0.73	98.41	1638.99	-3.50	3.53	-2.05	443267.13	751151.65	0.89	
1731.91	0.65	57.89	1731.88	-3.71	3.73	-1.02	443267.33	751152.68	0.52	
1824.80	0.50	68.75	1824.76	-4.15	4.15	-0.19	443267.75	751153.51	0.20	
1917.69	0.57	42.84	1917.65	-4.65	4.64	0.50	443268.24	751154.20	0.27	
2010.58	0.42	56.07	2010.53	-5.18	5.17	1.10	443268.77	751154.80	0.20	
2103.47	0.37	24.83	2103.42	-5.65	5.63	1.50	443269.23	751155.20	0.23	
2196.36	0.17	331.88	2196.31	-6.05	6.02	1.57	443269.62	751155.27	0.32	
2289.25	0.18	159.89	2289.20	-6.03	6.01	1.55	443269.61	751155.25	0.38	
2382.14	0.45	210.64	2382.09	-5.58	5.56	1.42	443269.16	751155.12	0.39	
2475.03	0.40	231.04	2474.98	-5.05	5.04	0.98	443268.64	751154.68	0.17	
2567.92	0.38	262.79	2567.86	-4.80	4.80	0.42	443268.40	751154.12	0.23	
2660.81	0.39	197.37	2660.75	-4.46	4.46	0.02	443268.06	751153.72	0.45	
2753.70	0.54	306.30	2753.64	-4.41	4.41	-0.43	443268.01	751153.27	0.82	
2846.59	0.73	320.39	2846.52	-5.11	5.13	-1.16	443268.73	751152.54	0.26	
2939.48	0.91	325.27	2939.41	-6.16	6.19	-1.96	443269.79	751151.74	0.21	
3032.37	1.22	321.76	3032.28	-7.53	7.57	-2.99	443271.17	751150.71	0.34	
3125.26	1.95	323.23	3125.13	-9.55	9.62	-4.55	443273.22	751149.15	0.79	
3218.15	2.70	328.44	3217.95	-12.65	12.75	-6.64	443276.35	751147.06	0.84	
3311.04	3.34	327.65	3310.71	-16.76	16.90	-9.23	443280.50	751144.47	0.69	
3403.93	4.02	329.56	3403.40	-21.81	21.99	-12.33	443285.59	751141.37	0.74	
3496.82	4.55	328.33	3496.03	-27.70	27.93	-15.91	443291.53	751137.79	0.58	
3589.71	4.86	331.25	3588.61	-34.23	34.52	-19.74	443298.12	751133.96	0.42	
3682.60	5.03	334.40	3681.16	-41.29	41.64	-23.39	443305.24	751130.31	0.34	
3775.49	5.38	335.69	3773.66	-48.88	49.28	-26.94	443312.88	751126.76	0.40	
3868.38	5.59	331.74	3866.13	-56.78	57.24	-30.88	443320.84	751122.82	0.46	
3961.27	5.58	334.22	3958.58	-64.77	65.29	-34.98	443328.89	751118.72	0.26	

5D Plan Report

Salient Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
4054.16	5.68	341.15	4051.02	-73.13	73.70	-38.43	443337.30	751115.27	0.74	
4147.05	4.77	350.89	4143.52	-81.27	81.87	-40.53	443345.47	751113.17	1.36	
4239.94	3.61	341.63	4236.17	-87.83	88.46	-42.06	443352.06	751111.64	1.44	
4332.83	3.23	343.66	4328.89	-93.09	93.74	-43.72	443357.34	751109.98	0.43	
4425.72	3.63	341.48	4421.61	-98.37	99.04	-45.39	443362.64	751108.31	0.45	
4518.61	4.51	338.12	4514.27	-104.51	105.22	-47.69	443368.82	751106.01	0.98	
4611.50	5.19	334.60	4606.83	-111.65	112.41	-50.85	443376.01	751102.85	0.80	
4704.39	6.15	328.42	4699.26	-119.62	120.44	-55.26	443384.04	751098.44	1.22	
4797.28	6.21	330.38	4791.61	-128.15	129.05	-60.35	443392.65	751093.35	0.24	
4890.17	6.14	329.67	4883.96	-136.73	137.70	-65.34	443401.30	751088.36	0.11	
4983.06	6.03	327.44	4976.33	-145.05	146.10	-70.47	443409.70	751083.23	0.28	
5075.95	5.12	328.68	5068.78	-152.64	153.76	-75.25	443417.36	751078.45	0.99	
5168.84	5.19	329.86	5161.29	-159.75	160.93	-79.52	443424.53	751074.18	0.14	
5261.73	5.07	338.25	5253.81	-167.14	168.38	-83.15	443431.98	751070.55	0.82	
5354.62	5.01	339.02	5346.34	-174.69	175.97	-86.12	443439.57	751067.58	0.10	
5447.51	4.99	341.68	5438.88	-182.27	183.60	-88.84	443447.20	751064.86	0.25	
5540.40	4.73	340.23	5531.44	-189.68	191.04	-91.41	443454.64	751062.29	0.31	
5633.29	4.61	334.45	5624.02	-196.60	198.01	-94.31	443461.61	751059.39	0.52	
5726.18	4.42	334.72	5716.62	-203.16	204.61	-97.45	443468.21	751056.25	0.21	
5819.07	4.32	345.74	5809.24	-209.75	211.24	-99.84	443474.84	751053.86	0.91	
5911.96	4.09	341.89	5901.88	-216.26	217.78	-101.73	443481.38	751051.97	0.39	
6004.85	3.95	340.37	5994.54	-222.39	223.94	-103.84	443487.54	751049.86	0.19	
6097.74	3.43	342.90	6087.24	-228.04	229.61	-105.73	443493.21	751047.97	0.59	
6190.63	3.13	345.18	6179.98	-233.12	234.72	-107.20	443498.32	751046.50	0.35	
6283.52	2.35	348.04	6272.76	-237.42	239.03	-108.24	443502.63	751045.46	0.85	
6376.41	1.33	306.43	6365.61	-239.91	241.54	-109.50	443505.14	751044.20	1.74	
6469.30	1.09	286.22	6458.48	-240.77	242.42	-111.22	443506.02	751042.48	0.52	
6562.19	1.06	315.47	6551.35	-241.60	243.28	-112.67	443506.88	751041.03	0.59	
6655.08	0.95	337.09	6644.23	-242.91	244.60	-113.57	443508.20	751040.13	0.42	
6747.97	0.73	16.68	6737.11	-244.19	245.88	-113.70	443509.48	751040.00	0.65	
6840.86	0.68	65.05	6829.99	-245.00	246.68	-113.03	443510.28	751040.67	0.62	
6933.75	0.51	89.25	6922.88	-245.25	246.92	-112.12	443510.52	751041.58	0.32	
7026.64	0.15	130.70	7015.76	-245.18	246.84	-111.61	443510.44	751042.09	0.44	
7119.53	0.54	208.61	7108.65	-244.72	246.38	-111.73	443509.98	751041.97	0.57	
7212.42	0.49	235.63	7201.54	-244.10	245.77	-112.27	443509.37	751041.43	0.26	
7305.31	0.61	229.42	7294.42	-243.54	245.23	-112.97	443508.83	751040.73	0.14	
7398.20	0.62	234.42	7387.31	-242.92	244.61	-113.75	443508.21	751039.95	0.06	
7491.09	1.05	223.86	7480.19	-242.00	243.71	-114.75	443507.31	751038.95	0.49	
7583.98	0.80	254.09	7573.07	-241.19	242.91	-115.97	443506.51	751037.73	0.58	
7676.87	0.46	300.35	7665.95	-241.19	242.93	-116.91	443506.53	751036.79	0.63	
7769.76	0.46	322.08	7758.84	-241.66	243.41	-117.46	443507.01	751036.24	0.19	
7862.65	0.56	313.04	7851.73	-242.26	244.01	-118.02	443507.61	751035.68	0.14	
7955.54	0.99	15.30	7944.61	-243.34	245.10	-118.14	443508.70	751035.56	0.95	
8048.43	1.17	22.23	8037.48	-245.00	246.75	-117.57	443510.35	751036.13	0.24	
8141.32	1.11	21.54	8130.35	-246.72	248.46	-116.88	443512.06	751036.82	0.07	
8234.21	1.09	33.01	8223.23	-248.31	250.04	-116.07	443513.64	751037.63	0.24	
8327.10	0.57	85.35	8316.11	-249.10	250.82	-115.13	443514.42	751038.57	0.93	
8419.99	0.64	110.81	8408.99	-248.97	250.67	-114.19	443514.27	751039.51	0.30	
8512.88	0.86	129.17	8501.87	-248.36	250.05	-113.16	443513.65	751040.54	0.35	
8605.77	0.23	132.19	8594.76	-247.81	249.48	-112.48	443513.08	751041.22	0.68	
8698.66	0.37	260.34	8687.65	-247.63	249.31	-112.64	443512.91	751041.06	0.58	
8791.55	0.36	220.87	8780.54	-247.35	249.03	-113.13	443512.63	751040.57	0.27	
8884.44	0.34	253.73	8873.43	-247.05	248.74	-113.58	443512.34	751040.12	0.21	
8977.33	0.36	234.21	8966.31	-246.79	248.49	-114.08	443512.09	751039.62	0.13	
9070.22	0.25	192.55	9059.20	-246.42	248.12	-114.36	443511.72	751039.34	0.26	
9163.11	0.25	139.80	9152.09	-246.07	247.77	-114.28	443511.37	751039.42	0.24	
9256.00	0.23	168.77	9244.98	-245.73	247.43	-114.11	443511.03	751039.59	0.13	Tie On VES
9462.01	0.23	168.77	9450.99	-244.92	246.62	-113.95	443510.22	751039.75	0.00	KOP
9960.13	60.00	179.43	9862.60	-6.27	7.90	-111.37	443271.50	751042.33	12.00	Build/Turn

5D Plan Report

Salient Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
10208.08	89.75	180.01	9926.58	230.37	-228.77	-110.29	443034.83	751043.41	12.00	LP
13265.50	89.75	180.01	9939.97	3287.44	-3286.17	-110.64	439977.43	751043.06	0.00	Build
13278.05	90.00	180.01	9940.00	3299.99	-3298.72	-110.64	439964.88	751043.06	2.00	T1
17557.11	90.00	180.01	9940.00	7578.60	-7577.78	-111.40	435685.82	751042.30	0.00	PBHL 101H
Interpolated Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	-0.00	-0.00	0.00	0.00	443263.60	751153.70	0.00	
100.00	0.31	164.45	100.00	0.42	-0.43	0.07	443263.17	751153.77	0.20	
200.00	0.19	185.40	200.00	0.82	-0.83	0.22	443262.77	751153.92	0.33	
300.00	0.23	223.89	300.00	1.13	-1.13	-0.01	443262.47	751153.69	0.01	
400.00	0.20	215.87	400.00	1.43	-1.42	-0.27	443262.18	751153.43	0.07	
500.00	0.12	324.20	500.00	1.56	-1.55	-0.43	443262.05	751153.27	0.38	
600.00	0.22	334.69	600.00	1.24	-1.23	-0.56	443262.37	751153.14	0.04	
700.00	0.22	337.49	699.99	0.90	-0.89	-0.72	443262.71	751152.98	0.02	
800.00	0.22	337.64	799.99	0.54	-0.53	-0.87	443263.07	751152.83	0.00	
900.00	0.23	337.34	899.99	0.18	-0.17	-1.02	443263.43	751152.68	0.04	
1000.00	0.25	328.40	999.99	-0.18	0.20	-1.21	443263.80	751152.49	0.05	
1100.00	0.28	321.34	1099.99	-0.57	0.59	-1.46	443264.19	751152.24	0.16	
1142.00	0.27	307.14	1141.99	-0.71	0.73	-1.61	443264.33	751152.09	0.16	13 3/8 in
1200.00	0.29	298.12	1199.99	-0.84	0.87	-1.85	443264.47	751151.85	0.10	
1300.00	0.39	312.84	1299.99	-1.16	1.19	-2.34	443264.79	751151.36	0.23	
1400.00	0.50	324.83	1399.99	-1.78	1.83	-2.82	443265.43	751150.88	0.03	
1500.00	0.54	7.40	1499.98	-2.54	2.59	-3.20	443266.19	751150.50	0.85	
1600.00	0.64	70.08	1599.97	-3.46	3.49	-2.50	443267.09	751151.20	0.89	
1700.00	0.64	72.67	1699.97	-3.56	3.58	-1.34	443267.18	751152.36	0.52	
1800.00	0.54	65.27	1799.96	-4.06	4.07	-0.40	443267.67	751153.30	0.20	
1900.00	0.55	47.19	1899.96	-4.52	4.52	0.38	443268.12	751154.08	0.27	
2000.00	0.44	54.12	1999.95	-5.14	5.12	1.03	443268.72	751154.73	0.20	
2100.00	0.37	26.09	2099.95	-5.63	5.61	1.50	443269.21	751155.20	0.23	
2200.00	0.16	331.52	2199.95	-6.06	6.03	1.56	443269.63	751155.26	0.38	
2300.00	0.20	171.75	2299.95	-6.00	5.97	1.56	443269.57	751155.26	0.39	
2400.00	0.44	214.16	2399.95	-5.46	5.44	1.34	443269.04	751155.04	0.17	
2500.00	0.38	239.11	2499.95	-4.95	4.94	0.84	443268.54	751154.54	0.23	
2600.00	0.33	240.90	2599.94	-4.74	4.74	0.23	443268.34	751153.93	0.45	
2700.00	0.26	252.25	2699.94	-4.30	4.30	-0.11	443267.90	751153.59	0.82	
2800.00	0.63	314.38	2799.94	-4.71	4.72	-0.79	443268.32	751152.91	0.26	
2900.00	0.83	323.45	2899.93	-5.68	5.70	-1.61	443269.30	751152.09	0.21	
3000.00	1.11	322.76	2999.92	-7.02	7.05	-2.58	443270.65	751151.12	0.34	
3100.00	1.75	322.95	3099.89	-8.90	8.96	-4.06	443272.56	751149.64	0.79	
3200.00	2.55	327.66	3199.82	-11.95	12.04	-6.20	443275.64	751147.50	0.84	
3300.00	3.26	327.73	3299.68	-16.23	16.36	-8.89	443279.96	751144.81	0.69	
3400.00	3.99	329.49	3399.48	-21.57	21.75	-12.19	443285.35	751141.51	0.74	
3500.00	4.56	328.44	3499.20	-27.91	28.15	-16.04	443291.75	751137.66	0.42	
3600.00	4.88	331.61	3598.86	-34.99	35.29	-20.16	443298.89	751133.54	0.34	
3700.00	5.10	334.66	3698.49	-42.67	43.03	-24.05	443306.63	751129.65	0.40	
3800.00	5.43	334.62	3798.06	-50.96	51.38	-27.91	443314.98	751125.79	0.46	
3900.00	5.59	332.58	3897.60	-59.48	59.96	-32.32	443323.56	751121.38	0.26	
4000.00	5.61	337.14	3997.12	-68.19	68.73	-36.54	443332.33	751117.16	0.74	
4100.00	5.21	345.53	4096.65	-77.28	77.87	-39.69	443341.47	751114.01	1.36	
4185.00	4.28	347.71	4181.36	-84.20	84.81	-41.08	443348.41	751112.62	1.44	9 5/8 in
4200.00	4.10	346.25	4196.32	-85.26	85.88	-41.33	443349.48	751112.37	1.44	
4300.00	3.36	342.89	4296.11	-91.29	91.94	-43.18	443355.54	751110.52	0.43	
4400.00	3.52	342.03	4395.94	-96.85	97.52	-44.89	443361.12	751108.81	0.45	
4500.00	4.33	338.68	4495.71	-103.19	103.89	-47.16	443367.49	751106.54	0.98	
4600.00	5.10	334.98	4595.37	-110.72	111.47	-50.41	443375.07	751103.29	0.80	
4700.00	6.10	328.67	4694.90	-119.22	120.04	-55.01	443383.64	751098.69	1.22	
4800.00	6.21	330.36	4794.32	-128.40	129.30	-60.49	443392.90	751093.21	0.11	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
4900.00	6.13	329.44	4893.74	-137.63	138.61	-65.87	443402.21	751087.83	0.28	
5000.00	5.86	327.64	4993.18	-146.52	147.58	-71.41	443411.18	751082.29	0.99	
5100.00	5.14	328.99	5092.73	-154.46	155.59	-76.37	443419.19	751077.33	0.14	
5200.00	5.14	332.63	5192.33	-162.18	163.39	-80.87	443426.99	751072.83	0.82	
5300.00	5.05	338.57	5291.93	-170.26	171.51	-84.39	443435.11	751069.31	0.10	
5400.00	5.00	340.32	5391.55	-178.38	179.69	-87.50	443443.29	751066.20	0.25	
5500.00	4.84	340.88	5491.18	-186.51	187.86	-90.29	443451.46	751063.41	0.31	
5600.00	4.65	336.56	5590.84	-194.18	195.56	-93.20	443459.16	751060.50	0.52	
5700.00	4.47	334.64	5690.52	-201.34	202.78	-96.58	443466.38	751057.12	0.21	
5800.00	4.33	343.44	5790.23	-208.37	209.85	-99.46	443473.45	751054.24	0.91	
5900.00	4.12	342.41	5889.95	-215.45	216.96	-101.47	443480.56	751052.23	0.39	
6000.00	3.96	340.45	5989.70	-222.08	223.63	-103.73	443487.23	751049.97	0.19	
6100.00	3.42	342.95	6089.50	-228.16	229.74	-105.77	443493.34	751047.93	0.35	
6200.00	3.05	345.40	6189.33	-233.61	235.21	-107.32	443498.81	751046.38	0.85	
6300.00	2.12	343.79	6289.23	-238.04	239.66	-108.39	443503.26	751045.31	1.74	
6400.00	1.26	302.06	6389.19	-240.20	241.84	-109.94	443505.44	751043.76	0.52	
6500.00	1.05	295.61	6489.17	-240.96	242.63	-111.75	443506.23	751041.95	0.59	
6600.00	1.00	323.68	6589.15	-242.11	243.80	-113.11	443507.40	751040.59	0.42	
6700.00	0.80	353.53	6689.14	-243.56	245.26	-113.75	443508.86	751039.95	0.65	
6800.00	0.64	43.06	6789.13	-244.72	246.41	-113.41	443510.01	751040.29	0.62	
6900.00	0.56	78.82	6889.13	-245.21	246.88	-112.43	443510.48	751041.27	0.32	
7000.00	0.24	106.62	6989.12	-245.22	246.88	-111.69	443510.48	751042.01	0.44	
7100.00	0.43	204.54	7089.12	-244.87	246.53	-111.65	443510.13	751042.05	0.57	
7200.00	0.49	231.79	7189.12	-244.16	245.83	-112.18	443509.43	751041.52	0.26	
7300.00	0.60	229.71	7289.11	-243.58	245.26	-112.93	443508.86	751040.77	0.14	
7400.00	0.63	234.08	7389.11	-242.91	244.60	-113.77	443508.20	751039.93	0.49	
7500.00	1.02	226.04	7489.10	-241.88	243.59	-114.87	443507.19	751038.83	0.58	
7600.00	0.72	258.66	7589.09	-241.13	242.86	-116.17	443506.46	751037.53	0.63	
7700.00	0.45	305.71	7689.08	-241.28	243.03	-117.07	443506.63	751036.63	0.19	
7800.00	0.49	318.74	7789.08	-241.85	243.60	-117.62	443507.20	751036.08	0.14	
7900.00	0.63	347.15	7889.07	-242.58	244.34	-118.20	443507.94	751035.50	0.95	
8000.00	1.07	18.91	7989.06	-244.11	245.86	-117.91	443509.46	751035.79	0.24	
8100.00	1.14	21.86	8089.04	-245.97	247.71	-117.18	443511.31	751036.52	0.07	
8200.00	1.09	28.74	8189.02	-247.75	249.48	-116.41	443513.08	751037.29	0.24	
8300.00	0.65	62.52	8289.01	-249.02	250.74	-115.40	443514.34	751038.30	0.93	
8400.00	0.62	105.89	8389.00	-249.04	250.74	-114.39	443514.34	751039.31	0.30	
8500.00	0.83	127.23	8489.00	-248.48	250.16	-113.31	443513.76	751040.39	0.35	
8600.00	0.27	131.59	8588.99	-247.82	249.50	-112.50	443513.10	751041.20	0.68	
8700.00	0.37	259.83	8688.99	-247.63	249.30	-112.65	443512.90	751041.05	0.27	
8800.00	0.35	223.59	8788.99	-247.31	249.00	-113.16	443512.60	751040.54	0.21	
8900.00	0.34	250.34	8888.99	-247.02	248.71	-113.67	443512.31	751040.03	0.13	
9000.00	0.32	226.94	8988.98	-246.70	248.40	-114.19	443512.00	751039.51	0.26	
9100.00	0.23	176.26	9088.98	-246.29	248.00	-114.37	443511.60	751039.33	0.24	
9200.00	0.23	150.66	9188.98	-245.94	247.64	-114.19	443511.24	751039.51	0.13	
9256.00	0.23	168.77	9244.98	-245.73	247.43	-114.11	443511.03	751039.59	0.13	Tie On VES
9300.00	0.23	168.77	9288.98	-245.56	247.26	-114.07	443510.86	751039.63	0.00	
9400.00	0.23	168.77	9388.98	-245.17	246.86	-114.00	443510.46	751039.70	0.00	
9462.01	0.23	168.77	9450.99	-244.92	246.62	-113.95	443510.22	751039.75	0.00	KOP
9500.00	4.78	178.95	9488.93	-243.26	244.96	-113.90	443508.56	751039.80	12.00	
9600.00	16.78	179.31	9586.99	-224.59	226.28	-113.65	443489.88	751040.05	12.00	
9700.00	28.78	179.38	9679.02	-185.95	187.63	-113.22	443451.23	751040.48	12.00	
9800.00	40.78	179.41	9761.00	-129.02	130.69	-112.61	443394.29	751041.09	12.00	
9900.00	52.78	179.42	9829.34	-56.30	57.95	-111.87	443321.55	751041.83	12.00	
9960.13	60.00	179.43	9862.60	-6.27	7.90	-111.37	443271.50	751042.33	12.00	Build/Turn
10000.00	64.78	179.54	9881.08	29.04	-27.42	-111.05	443236.18	751042.65	12.00	
10100.00	76.78	179.77	9913.93	123.28	-121.67	-110.49	443141.93	751043.21	12.00	
10200.00	88.78	179.99	9926.47	222.29	-220.70	-110.29	443042.90	751043.41	12.00	
10208.08	89.75	180.01	9926.58	230.37	-228.77	-110.29	443034.83	751043.41	12.00	LP
10300.00	89.75	180.01	9926.98	322.28	-320.69	-110.30	442942.91	751043.40	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	
10400.00	89.75	180.01	9927.42	422.27	-420.69	-110.31	442842.91	751043.39	0.00	
10500.00	89.75	180.01	9927.86	522.25	-520.69	-110.32	442742.91	751043.38	0.00	
10600.00	89.75	180.01	9928.30	622.24	-620.69	-110.34	442642.91	751043.36	0.00	
10700.00	89.75	180.01	9928.73	722.23	-720.69	-110.35	442542.91	751043.35	0.00	
10800.00	89.75	180.01	9929.17	822.22	-820.69	-110.36	442442.91	751043.34	0.00	
10900.00	89.75	180.01	9929.61	922.21	-920.69	-110.37	442342.91	751043.33	0.00	
11000.00	89.75	180.01	9930.05	1022.20	-1020.69	-110.38	442242.91	751043.32	0.00	
11100.00	89.75	180.01	9930.49	1122.18	-1120.69	-110.39	442142.91	751043.31	0.00	
11200.00	89.75	180.01	9930.92	1222.17	-1220.69	-110.40	442042.91	751043.30	0.00	
11300.00	89.75	180.01	9931.36	1322.16	-1320.69	-110.41	441942.91	751043.29	0.00	
11400.00	89.75	180.01	9931.80	1422.15	-1420.68	-110.43	441842.92	751043.27	0.00	
11500.00	89.75	180.01	9932.24	1522.14	-1520.68	-110.44	441742.92	751043.26	0.00	
11600.00	89.75	180.01	9932.68	1622.13	-1620.68	-110.45	441642.92	751043.25	0.00	
11700.00	89.75	180.01	9933.11	1722.12	-1720.68	-110.46	441542.92	751043.24	0.00	
11800.00	89.75	180.01	9933.55	1822.10	-1820.68	-110.47	441442.92	751043.23	0.00	
11900.00	89.75	180.01	9933.99	1922.09	-1920.68	-110.48	441342.92	751043.22	0.00	
12000.00	89.75	180.01	9934.43	2022.08	-2020.68	-110.49	441242.92	751043.21	0.00	
12100.00	89.75	180.01	9934.87	2122.07	-2120.68	-110.51	441142.92	751043.19	0.00	
12200.00	89.75	180.01	9935.30	2222.06	-2220.68	-110.52	441042.92	751043.18	0.00	
12300.00	89.75	180.01	9935.74	2322.05	-2320.68	-110.53	440942.92	751043.17	0.00	
12400.00	89.75	180.01	9936.18	2422.03	-2420.67	-110.54	440842.93	751043.16	0.00	
12500.00	89.75	180.01	9936.62	2522.02	-2520.67	-110.55	440742.93	751043.15	0.00	
12600.00	89.75	180.01	9937.06	2622.01	-2620.67	-110.56	440642.93	751043.14	0.00	
12700.00	89.75	180.01	9937.50	2722.00	-2720.67	-110.57	440542.93	751043.13	0.00	
12800.00	89.75	180.01	9937.93	2821.99	-2820.67	-110.58	440442.93	751043.12	0.00	
12900.00	89.75	180.01	9938.37	2921.98	-2920.67	-110.60	440342.93	751043.10	0.00	
13000.00	89.75	180.01	9938.81	3021.97	-3020.67	-110.61	440242.93	751043.09	0.00	
13100.00	89.75	180.01	9939.25	3121.95	-3120.67	-110.62	440142.93	751043.08	0.00	
13200.00	89.75	180.01	9939.69	3221.94	-3220.67	-110.63	440042.93	751043.07	0.00	
13265.50	89.75	180.01	9939.97	3287.44	-3286.17	-110.64	439977.43	751043.06	0.00	Build T1
13278.05	90.00	180.01	9940.00	3299.99	-3298.72	-110.64	439964.88	751043.06	2.00	
13300.00	90.00	180.01	9940.00	3321.93	-3320.67	-110.64	439942.93	751043.06	0.00	
13400.00	90.00	180.01	9940.00	3421.92	-3420.67	-110.66	439842.93	751043.04	0.00	
13500.00	90.00	180.01	9940.00	3521.91	-3520.67	-110.68	439742.93	751043.02	0.00	
13600.00	90.00	180.01	9940.00	3621.90	-3620.67	-110.70	439642.93	751043.00	0.00	
13700.00	90.00	180.01	9940.00	3721.89	-3720.67	-110.71	439542.93	751042.99	0.00	
13800.00	90.00	180.01	9940.00	3821.88	-3820.67	-110.73	439442.93	751042.97	0.00	
13900.00	90.00	180.01	9940.00	3921.87	-3920.67	-110.75	439342.93	751042.95	0.00	
14000.00	90.00	180.01	9940.00	4021.86	-4020.67	-110.77	439242.93	751042.93	0.00	
14100.00	90.00	180.01	9940.00	4121.85	-4120.67	-110.79	439142.93	751042.91	0.00	
14200.00	90.00	180.01	9940.00	4221.84	-4220.67	-110.80	439042.93	751042.90	0.00	
14300.00	90.00	180.01	9940.00	4321.83	-4320.67	-110.82	438942.93	751042.88	0.00	
14400.00	90.00	180.01	9940.00	4421.82	-4420.67	-110.84	438842.93	751042.86	0.00	
14500.00	90.00	180.01	9940.00	4521.81	-4520.67	-110.86	438742.93	751042.84	0.00	
14600.00	90.00	180.01	9940.00	4621.80	-4620.67	-110.87	438642.93	751042.83	0.00	
14700.00	90.00	180.01	9940.00	4721.78	-4720.67	-110.89	438542.93	751042.81	0.00	
14800.00	90.00	180.01	9940.00	4821.77	-4820.67	-110.91	438442.93	751042.79	0.00	
14900.00	90.00	180.01	9940.00	4921.76	-4920.67	-110.93	438342.93	751042.77	0.00	
15000.00	90.00	180.01	9940.00	5021.75	-5020.67	-110.94	438242.93	751042.76	0.00	
15100.00	90.00	180.01	9940.00	5121.74	-5120.67	-110.96	438142.93	751042.74	0.00	
15200.00	90.00	180.01	9940.00	5221.73	-5220.67	-110.98	438042.93	751042.72	0.00	
15300.00	90.00	180.01	9940.00	5321.72	-5320.67	-111.00	437942.93	751042.70	0.00	
15400.00	90.00	180.01	9940.00	5421.71	-5420.67	-111.02	437842.93	751042.68	0.00	
15500.00	90.00	180.01	9940.00	5521.70	-5520.67	-111.03	437742.93	751042.67	0.00	
15600.00	90.00	180.01	9940.00	5621.69	-5620.67	-111.05	437642.93	751042.65	0.00	
15700.00	90.00	180.01	9940.00	5721.68	-5720.67	-111.07	437542.93	751042.63	0.00	
15800.00	90.00	180.01	9940.00	5821.67	-5820.67	-111.09	437442.93	751042.61	0.00	
15900.00	90.00	180.01	9940.00	5921.66	-5920.67	-111.10	437342.93	751042.60	0.00	
16000.00	90.00	180.01	9940.00	6021.65	-6020.67	-111.12	437242.93	751042.58	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
16100.00	90.00	180.01	9940.00	6121.64	-6120.67	-111.14	437142.93	751042.56	0.00	
16200.00	90.00	180.01	9940.00	6221.63	-6220.67	-111.16	437042.93	751042.54	0.00	
16300.00	90.00	180.01	9940.00	6321.62	-6320.67	-111.18	436942.93	751042.52	0.00	
16400.00	90.00	180.01	9940.00	6421.61	-6420.67	-111.19	436842.93	751042.51	0.00	
16500.00	90.00	180.01	9940.00	6521.60	-6520.67	-111.21	436742.93	751042.49	0.00	
16600.00	90.00	180.01	9940.00	6621.59	-6620.67	-111.23	436642.93	751042.47	0.00	
16700.00	90.00	180.01	9940.00	6721.57	-6720.67	-111.25	436542.93	751042.45	0.00	
16800.00	90.00	180.01	9940.00	6821.56	-6820.67	-111.26	436442.93	751042.44	0.00	
16900.00	90.00	180.01	9940.00	6921.55	-6920.67	-111.28	436342.93	751042.42	0.00	
17000.00	90.00	180.01	9940.00	7021.54	-7020.67	-111.30	436242.93	751042.40	0.00	
17100.00	90.00	180.01	9940.00	7121.53	-7120.67	-111.32	436142.93	751042.38	0.00	
17200.00	90.00	180.01	9940.00	7221.52	-7220.67	-111.34	436042.93	751042.36	0.00	
17300.00	90.00	180.01	9940.00	7321.51	-7320.67	-111.35	435942.93	751042.35	0.00	
17400.00	90.00	180.01	9940.00	7421.50	-7420.67	-111.37	435842.93	751042.33	0.00	
17500.00	90.00	180.01	9940.00	7521.49	-7520.67	-111.39	435742.93	751042.31	0.00	
17557.11	90.00	180.01	9940.00	7578.60	-7577.78	-111.40	435685.82	751042.30	0.00	PBHL 101H

GD4 Magnetic CheckSum Calculator for Spectrum/Core



Client: Apache Corporation

Well: Ghost Rider 22-15 FC 101H

Projected Coordinate System: NAD83 NME

Surface Hole Location Elevation Relative to MSL: 3606
Latitude: 32.21678768 Northing (Y): 443263.6
Longitude: -103.654886545 Easting (X): 751153.7

Azimuth Correction

Magnetic Declination:	<u>6.58</u> deg	Grid Convergence:	<u>0.36</u> deg
Magnetic Reference:	<u>Grid</u>	Total Correction:	<u>6.22</u> deg*
Magnetic Field (Bt):	<u>47820</u> nT	Dip Angle:	<u>59.82</u> deg
Azimuth Method:	<u>Long Collar</u>	Checksum:	<u>6671</u>

* Total Correction is automatically calculated from Declination and Convergence values

Correction Point Location: MD/TVD: 3606
Latitude: 32.21678768 Northing (Y): 443263.6
Longitude: -103.654886545 Easting (X): 751153.7

	Magnetic Model	Run Date
Magnetic Declination:	<u>Superior QC</u>	<u>2/21/2020</u>
Magnetic Field (Bt):	<u>Superior QC</u>	<u>2/21/2020</u>
Grid Convergence:	<u>Superior QC</u>	<u>2/21/2020</u>
Dip Angle:	<u>Superior QC</u>	<u>2/21/2020</u>

[Attach referenced Magnetic Calculator results for all data used in this report](#)

Magnetic Data			
Date (dd/mm/yyyy)	<u>21/Feb/2020</u>	Field Strength	<u>47820.2</u> nT
Model	<u>IFR</u>	Dip	<u>59.823</u> deg
Calculate		Declination	<u>6.578</u> deg
		North Reference:	<u>Grid</u>
		Convergence	<u>0.36</u> deg
		Total Correction	<u>6.218</u> deg
		Checksum	<u>6671</u>

Report Generated By: Russell Joyner

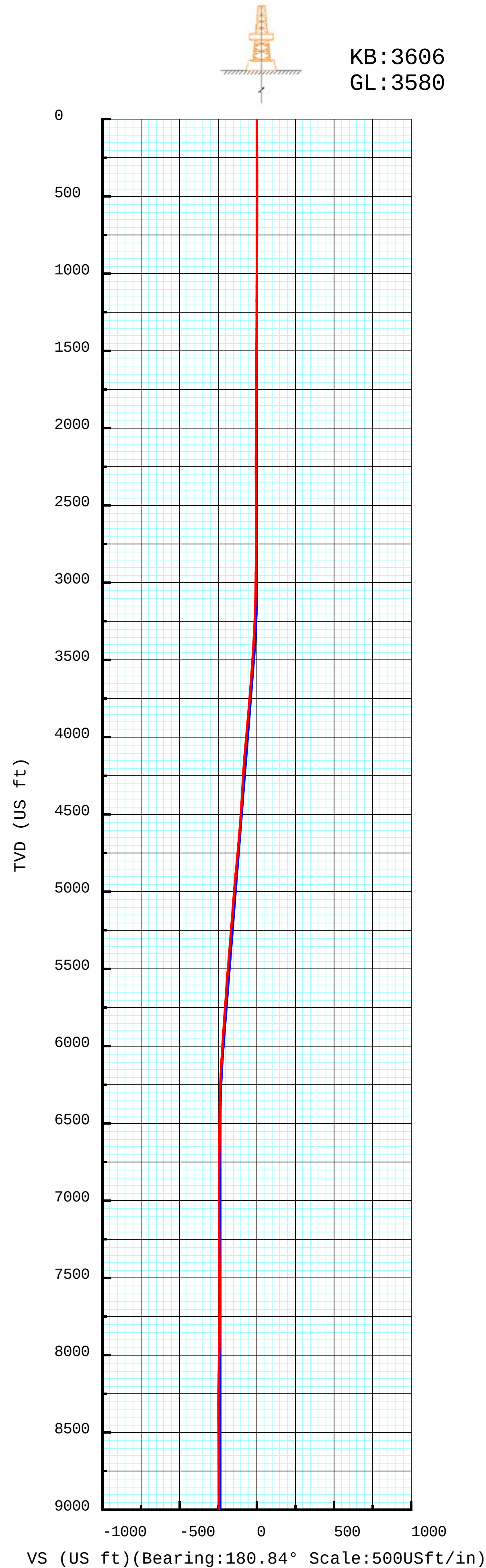
PLAN VERSUS ACTUAL DRAWING & FINAL SURVEYS

SECTION 2



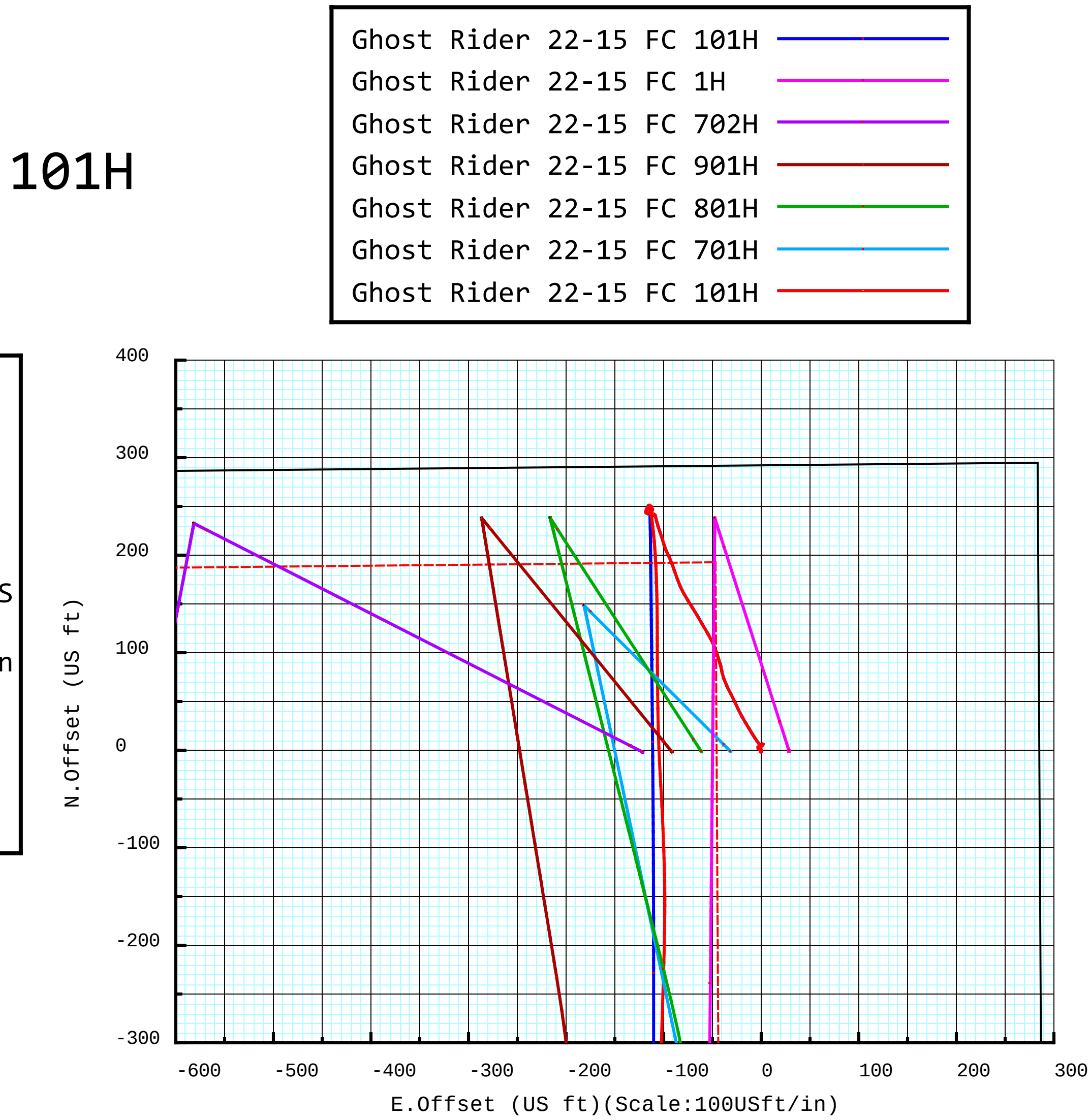


Apache Corporation
Ghost Rider 22-15 FC 101H
Lea Co, New Mexico
Plan vs Actual



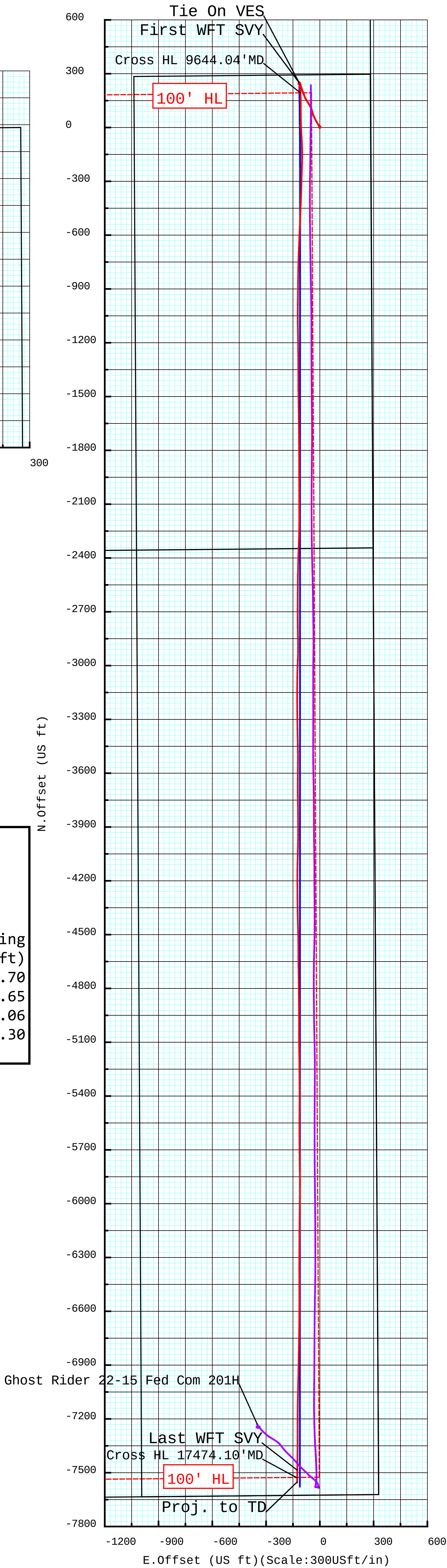
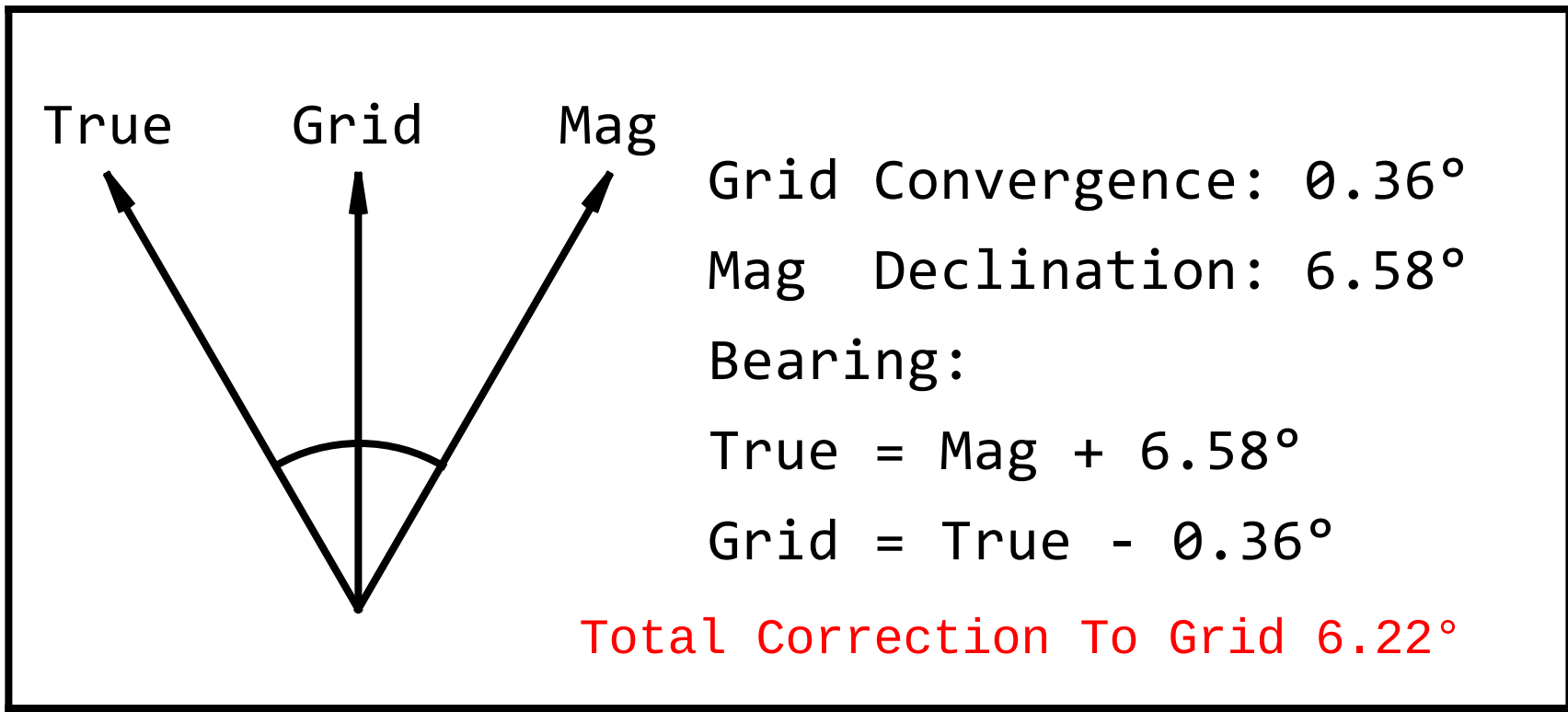
Plan Data for Ghost Rider 22-15 FC 101H										
Plan Point Information:										
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS	Comments
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)	
9256.00	0.23	168.77	9244.98	247.43	-114.11	443511.03	751039.59	-245.73	0.13	Tie On VES
9462.01	0.23	168.77	9450.99	246.62	-113.95	443510.22	751039.75	-244.92	0.00	KOP
9960.13	60.00	179.43	9862.60	7.90	-111.37	443271.50	751042.33	-6.27	12.00	Build/Turn
10208.08	89.75	180.01	9926.58	-228.77	-110.29	443034.83	751043.41	230.37	12.00	LP
13265.50	89.75	180.01	9939.97	-3286.17	-110.64	439977.43	751043.06	3287.44	0.00	Build
13278.05	90.00	180.01	9940.00	-3298.72	-110.64	439964.88	751043.06	3299.99	2.00	T1
17557.11	90.00	180.01	9940.00	-7577.78	-111.40	435685.82	751042.30	7578.60	0.00	PBHL 101H

Plan Data for Ghost Rider 22-15 FC 101H										
Field: Apache NM (Nad 83 NMEZ)										
Map Unit: USFt										
Vertical Reference Datum (VRD): Mean Sea Level										
Projected Coordinate System: NAD83 / New Mexico East (ftUS)										
Site: Ghost Rider 22-15 FC Pad-NE										
Unit: USFeet										
Company Name: Apache Corporation										
Position:										
Northing: 443185.21USft										
Latitude: 32.216577°										
Easting: 750867.80USft										
Longitude: -103.655813°										
North Reference: Grid										
Grid Convergence: 0.36°										
Elevation Above VRD: 3618.99USft										
Comment: Lea Co., NM										
Slot: Ghost Rider 22-15 FC 101H										
Position:										
Offset is from Site centre										
+N/-S: 78.39USft										
Northing: 443263.60USft										
Latitude: 32.216788°										
+E/-W: 285.90USft										
Easting: 751153.70USft										
Longitude: -103.654887°										
Elevation Above VRD: 3580.00USft										
Well: Ghost Rider 22-15 FC 101H										
Type: Main-Well										
File Number:										
Plan Folder: P2										
Plan: P2:V1										
Vertical Section: Position offset of origin from Slot centre:										
+N/-S: 0.00USft										
Azimuth: 180.84°										
+E/-W: 0.00USft										
Magnetic Parameters:										
Model: Field Strength: Declination: Dip: Date:										
IFR 47820(nT) 6.58° 59.82° 2020-02-21										



Plan Data for Ghost Rider 22-15 FC 101H										
Casing Point Information:										
Position offsets from Slot centre										
Name	MD	TVD	+N/-S	+E/-W	Northing	Easting				
	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)				
13 3/8 in	1142.00	1141.99	0.73	-1.61	443264.33	751152.09				
9 5/8 in	4185.00	4181.36	84.81	-41.08	443348.41	751112.62				

Plan Data for Ghost Rider 22-15 FC 101H						
Target Set Information:						
Name: GR 22-15 FC 101H						
Position offsets from Slot centre						
Name	TVD	Elevation	+N/-S	+E/-W	Northing	Easting
	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)
NP	9404.99	-5798.99	238.80	-110.00	443502.40	751043.70
FTP	9906.00	-6300.00	92.62	-110.05	443356.22	751043.65
T1	9940.00	-6334.00	-3298.72	-110.64	439964.88	751043.06
PBHL 101H	9940.00	-6334.00	-7577.78	-111.40	435685.82	751042.30



Drawing By: RWJ Date: 11 February 2020
Office Name: Weatherford - Drilling Services
Address: 10000 West County Road 116
Midland, Texas 79711 USA
+1.432.561.8892 Main
Russell.Joyner@Weatherford.com
Phone: Cell 713-303-5511

**5D Survey Report****Apache Corporation**

Field Name: *Apache NM (Nad 83 NMEZ)*
Site Name: *Ghost Rider 22-15 FC Pad-NE*
Well Name: *Ghost Rider 22-15 FC 101H*
Survey: *Definitive survey*

16 March 2020





Ghost Rider 22-15 FC 101H

Field Name: Apache NM (Nad 83 NMEZ)	Map Units: US ft	Company Name: Apache Corporation
	Vertical Reference Datum (VRD): Mean Sea Level	
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)	
	Comment:	

Site: Ghost Rider 22-15 FC Pad-NE	Units: US ft	North Reference: Grid	Convergence Angle: 0.36
	Position:	Northing: 443185.21 US ft	Latitude: 32.216577164
		Easting: 750867.80 US ft	Longitude: -103.655812553
	Elevation above MSL:3618.99 US ft		
Comment: Lea Co., NM			

Slot:	Position (Relative to Site Centre)		
	+N/-S: 78.39 US ft	Northing: 443263.60 US ft	Latitude: 32.216787678
	+E/-W: 285.90 US ft	Easting: 751153.70 US ft	Longitude: -103.654886545
	Elevation above MSL: 3580.00 US ft		
Ghost Rider 22-15 FC 101H	Comment:		

Well: Ghost Rider 22-15 FC 101H	Type: Main well	UWI:
	File Number:	Comment:
	Closure Distance: 7555.43 US ft	Closure Azimuth: 180.96°
	Vertical Section: Position of Origin (Relative to Slot centre)	
+N/-S: 0.00 US ft		+E/-W: 0.00 US ft
		Az: 180.84°

Drill floor: Survey Name: Definitive Survey

Rig Height (Well TVD Reference): Elevation above MSL: 3606.00 US ft **Inclination:** 0.00° **Azimuth:** 0.00°
26.00 US ft

Survey Name: Definitive Survey

Date: 19/Sep/2019 **Survey Tool:** See Survey Tool Ranges below. **Comment:** **Company:**

Magnetic Model:
Model Name: IFR **Date:** 21/Feb/2020 **Field Strength:** 47820.2 nT **Declination:** 6.58° **Dip:** 59.82°

Tie Point:
MD: 0.00 US ft **Inclination:** 0.00° **Azimuth:** 0.00° **TVD:** -0.00 US ft **North Offset:** 0.00 US ft **East Offset:** 0.00 US ft

Survey Tool Ranges:

Name	Start MD(USFt)	End MD(USFt)	Source Survey
VESSI GS2 V2	0.00	9256.00	VES Gyro
MWD+IFR1+SAG+FDIR	9256.00	10109.00	MWD+IFR1+SAG+FDIR_3
MWD+IFR1+SAG+FDIR	10109.00	17500.00	MWD+IFR1+SAG+FDIR_4

5D Survey Report

Casing Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)								
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)
13 3/8 in	1142.00	0.27	307.14	1141.99	0.73	-1.61	443264.33	751152.09
9 5/8 in	4185.00	4.28	347.71	4181.36	84.81	-41.08	443348.41	751112.62

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
0.00	0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	443263.60	751153.70	
59.89	0.37	173.25	59.89	0.19	-0.19	0.02	0.62	443263.41	751153.72	
152.78	0.25	147.12	152.78	0.66	-0.66	0.17	0.20	443262.94	751153.87	
245.67	0.24	224.02	245.67	0.97	-0.97	0.14	0.33	443262.63	751153.84	
338.56	0.23	223.80	338.56	1.25	-1.24	-0.12	0.01	443262.36	751153.58	
431.45	0.19	210.97	431.45	1.52	-1.51	-0.33	0.07	443262.09	751153.37	
524.34	0.20	342.26	524.34	1.50	-1.49	-0.46	0.38	443262.11	751153.24	
617.23	0.22	333.13	617.23	1.18	-1.18	-0.59	0.04	443262.42	751153.11	
710.12	0.22	338.02	710.11	0.86	-0.85	-0.74	0.02	443262.75	751152.96	
803.01	0.22	337.63	803.00	0.53	-0.52	-0.87	0.00	443263.08	751152.83	
895.90	0.23	337.76	895.89	0.20	-0.18	-1.01	0.01	443263.42	751152.69	
988.79	0.24	328.63	988.78	-0.14	0.16	-1.18	0.04	443263.76	751152.52	
1081.68	0.29	327.00	1081.67	-0.50	0.52	-1.41	0.05	443264.12	751152.29	
1174.57	0.27	295.78	1174.56	-0.79	0.81	-1.74	0.16	443264.41	751151.96	
1267.46	0.35	302.92	1267.45	-1.03	1.06	-2.17	0.10	443264.66	751151.53	
1360.35	0.49	326.04	1360.34	-1.51	1.54	-2.63	0.23	443265.14	751151.07	
1453.24	0.51	323.28	1453.22	-2.16	2.20	-3.10	0.03	443265.80	751150.60	
1546.13	0.80	33.37	1546.11	-3.03	3.08	-2.99	0.85	443266.68	751150.71	
1639.02	0.73	98.41	1638.99	-3.50	3.53	-2.05	0.89	443267.13	751151.65	
1731.91	0.65	57.89	1731.88	-3.71	3.73	-1.02	0.52	443267.33	751152.68	
1824.80	0.50	68.75	1824.76	-4.15	4.15	-0.19	0.20	443267.75	751153.51	
1917.69	0.57	42.84	1917.65	-4.65	4.64	0.50	0.27	443268.24	751154.20	
2010.58	0.42	56.07	2010.53	-5.18	5.17	1.10	0.20	443268.77	751154.80	
2103.47	0.37	24.83	2103.42	-5.65	5.63	1.50	0.23	443269.23	751155.20	
2196.36	0.17	331.88	2196.31	-6.05	6.02	1.57	0.32	443269.62	751155.27	
2289.25	0.18	159.89	2289.20	-6.03	6.01	1.55	0.38	443269.61	751155.25	
2382.14	0.45	210.64	2382.09	-5.58	5.56	1.42	0.39	443269.16	751155.12	
2475.03	0.40	231.04	2474.98	-5.05	5.04	0.98	0.17	443268.64	751154.68	
2567.92	0.38	262.79	2567.86	-4.80	4.80	0.42	0.23	443268.40	751154.12	
2660.81	0.39	197.37	2660.75	-4.46	4.46	0.02	0.45	443268.06	751153.72	
2753.70	0.54	306.30	2753.64	-4.41	4.41	-0.43	0.82	443268.01	751153.27	
2846.59	0.73	320.39	2846.52	-5.11	5.13	-1.16	0.26	443268.73	751152.54	
2939.48	0.91	325.27	2939.41	-6.16	6.19	-1.96	0.21	443269.79	751151.74	
3032.37	1.22	321.76	3032.28	-7.53	7.57	-2.99	0.34	443271.17	751150.71	
3125.26	1.95	323.23	3125.13	-9.55	9.62	-4.55	0.79	443273.22	751149.15	
3218.15	2.70	328.44	3217.95	-12.65	12.75	-6.64	0.84	443276.35	751147.06	
3311.04	3.34	327.65	3310.71	-16.76	16.90	-9.23	0.69	443280.50	751144.47	
3403.93	4.02	329.56	3403.40	-21.81	21.99	-12.33	0.74	443285.59	751141.37	
3496.82	4.55	328.33	3496.03	-27.70	27.93	-15.91	0.58	443291.53	751137.79	
3589.71	4.86	331.25	3588.61	-34.23	34.52	-19.74	0.42	443298.12	751133.96	
3682.60	5.03	334.40	3681.16	-41.29	41.64	-23.39	0.34	443305.24	751130.31	
3775.49	5.38	335.69	3773.66	-48.88	49.28	-26.94	0.40	443312.88	751126.76	
3868.38	5.59	331.74	3866.13	-56.78	57.24	-30.88	0.46	443320.84	751122.82	
3961.27	5.58	334.22	3958.58	-64.77	65.29	-34.98	0.26	443328.89	751118.72	
4054.16	5.68	341.15	4051.02	-73.13	73.70	-38.43	0.74	443337.30	751115.27	
4147.05	4.77	350.89	4143.52	-81.27	81.87	-40.53	1.36	443345.47	751113.17	
4239.94	3.61	341.63	4236.17	-87.83	88.46	-42.06	1.44	443352.06	751111.64	
4332.83	3.23	343.66	4328.89	-93.09	93.74	-43.72	0.43	443357.34	751109.98	
4425.72	3.63	341.48	4421.61	-98.37	99.04	-45.39	0.45	443362.64	751108.31	
4518.61	4.51	338.12	4514.27	-104.51	105.22	-47.69	0.98	443368.82	751106.01	
4611.50	5.19	334.60	4606.83	-111.65	112.41	-50.85	0.80	443376.01	751102.85	
4704.39	6.15	328.42	4699.26	-119.62	120.44	-55.26	1.22	443384.04	751098.44	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
4797.28	6.21	330.38	4791.61	-128.15	129.05	-60.35	0.24	443392.65	751093.35	
4890.17	6.14	329.67	4883.96	-136.73	137.70	-65.34	0.11	443401.30	751088.36	
4983.06	6.03	327.44	4976.33	-145.05	146.10	-70.47	0.28	443409.70	751083.23	
5075.95	5.12	328.68	5068.78	-152.64	153.76	-75.25	0.99	443417.36	751078.45	
5168.84	5.19	329.86	5161.29	-159.75	160.93	-79.52	0.14	443424.53	751074.18	
5261.73	5.07	338.25	5253.81	-167.14	168.38	-83.15	0.82	443431.98	751070.55	
5354.62	5.01	339.02	5346.34	-174.69	175.97	-86.12	0.10	443439.57	751067.58	
5447.51	4.99	341.68	5438.88	-182.27	183.60	-88.84	0.25	443447.20	751064.86	
5540.40	4.73	340.23	5531.44	-189.68	191.04	-91.41	0.31	443454.64	751062.29	
5633.29	4.61	334.45	5624.02	-196.60	198.01	-94.31	0.52	443461.61	751059.39	
5726.18	4.42	334.72	5716.62	-203.16	204.61	-97.45	0.21	443468.21	751056.25	
5819.07	4.32	345.74	5809.24	-209.75	211.24	-99.84	0.91	443474.84	751053.86	
5911.96	4.09	341.89	5901.88	-216.26	217.78	-101.73	0.39	443481.38	751051.97	
6004.85	3.95	340.37	5994.54	-222.39	223.94	-103.84	0.19	443487.54	751049.86	
6097.74	3.43	342.90	6087.24	-228.04	229.61	-105.73	0.59	443493.21	751047.97	
6190.63	3.13	345.18	6179.98	-233.12	234.72	-107.20	0.35	443498.32	751046.50	
6283.52	2.35	348.04	6272.76	-237.42	239.03	-108.24	0.85	443502.63	751045.46	
6376.41	1.33	306.43	6365.61	-239.91	241.54	-109.50	1.74	443505.14	751044.20	
6469.30	1.09	286.22	6458.48	-240.77	242.42	-111.22	0.52	443506.02	751042.48	
6562.19	1.06	315.47	6551.35	-241.60	243.28	-112.67	0.59	443506.88	751041.03	
6655.08	0.95	337.09	6644.23	-242.91	244.60	-113.57	0.42	443508.20	751040.13	
6747.97	0.73	16.68	6737.11	-244.19	245.88	-113.70	0.65	443509.48	751040.00	
6840.86	0.68	65.05	6829.99	-245.00	246.68	-113.03	0.62	443510.28	751040.67	
6933.75	0.51	89.25	6922.88	-245.25	246.92	-112.12	0.32	443510.52	751041.58	
7026.64	0.15	130.70	7015.76	-245.18	246.84	-111.61	0.44	443510.44	751042.09	
7119.53	0.54	208.61	7108.65	-244.72	246.38	-111.73	0.57	443509.98	751041.97	
7212.42	0.49	235.63	7201.54	-244.10	245.77	-112.27	0.26	443509.37	751041.43	
7305.31	0.61	229.42	7294.42	-243.54	245.23	-112.97	0.14	443508.83	751040.73	
7398.20	0.62	234.42	7387.31	-242.92	244.61	-113.75	0.06	443508.21	751039.95	
7491.09	1.05	223.86	7480.19	-242.00	243.71	-114.75	0.49	443507.31	751038.95	
7583.98	0.80	254.09	7573.07	-241.19	242.91	-115.97	0.58	443506.51	751037.73	
7676.87	0.46	300.35	7665.95	-241.19	242.93	-116.91	0.63	443506.53	751036.79	
7769.76	0.46	322.08	7758.84	-241.66	243.41	-117.46	0.19	443507.01	751036.24	
7862.65	0.56	313.04	7851.73	-242.26	244.01	-118.02	0.14	443507.61	751035.68	
7955.54	0.99	15.30	7944.61	-243.34	245.10	-118.14	0.95	443508.70	751035.56	
8048.43	1.17	22.23	8037.48	-245.00	246.75	-117.57	0.24	443510.35	751036.13	
8141.32	1.11	21.54	8130.35	-246.72	248.46	-116.88	0.07	443512.06	751036.82	
8234.21	1.09	33.01	8223.23	-248.31	250.04	-116.07	0.24	443513.64	751037.63	
8327.10	0.57	85.35	8316.11	-249.10	250.82	-115.13	0.93	443514.42	751038.57	
8419.99	0.64	110.81	8408.99	-248.97	250.67	-114.19	0.30	443514.27	751039.51	
8512.88	0.86	129.17	8501.87	-248.36	250.05	-113.16	0.35	443513.65	751040.54	
8605.77	0.23	132.19	8594.76	-247.81	249.48	-112.48	0.68	443513.08	751041.22	
8698.66	0.37	260.34	8687.65	-247.63	249.31	-112.64	0.58	443512.91	751041.06	
8791.55	0.36	220.87	8780.54	-247.35	249.03	-113.13	0.27	443512.63	751040.57	
8884.44	0.34	253.73	8873.43	-247.05	248.74	-113.58	0.21	443512.34	751040.12	
8977.33	0.36	234.21	8966.31	-246.79	248.49	-114.08	0.13	443512.09	751039.62	
9070.22	0.25	192.55	9059.20	-246.42	248.12	-114.36	0.26	443511.72	751039.34	
9163.11	0.25	139.80	9152.09	-246.07	247.77	-114.28	0.24	443511.37	751039.42	
9256.00	0.23	168.77	9244.98	-245.73	247.43	-114.11	0.13	443511.03	751039.59	Tie On VES
9369.00	0.30	111.90	9357.98	-245.40	247.10	-113.79	0.23	443510.70	751039.91	
9400.00	0.43	102.96	9388.98	-245.35	247.04	-113.60	0.46	443510.64	751040.10	
9495.00	9.76	173.71	9483.51	-237.27	238.94	-112.37	10.13	443502.54	751041.33	
9542.00	15.64	173.16	9529.34	-227.02	228.68	-111.18	12.51	443492.28	751042.52	
9589.00	20.96	174.82	9573.95	-212.38	214.01	-109.66	11.37	443477.61	751044.04	
9644.04	27.27	177.10	9624.16	-189.98	191.59	-108.14	11.58	443455.19	751045.56	Cross HL 9644.04'MD
9684.00	31.86	178.23	9658.91	-170.30	171.89	-107.35	11.58	443435.49	751046.35	
9778.00	44.09	179.91	9732.87	-112.60	114.17	-106.53	13.06	443377.77	751047.17	
9873.00	54.05	179.21	9795.03	-40.94	42.49	-105.94	10.50	443306.09	751047.76	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N. Offset (US ft)	E. Offset (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
9967.00	59.41	176.55	9846.59	37.51	-36.00	-102.98	6.17	443227.60	751050.72	
10062.00	70.69	178.47	9886.60	123.36	-121.91	-99.31	12.01	443141.69	751054.39	
10109.00	77.67	180.49	9899.40	168.53	-167.10	-98.91	15.42	443096.50	751054.79	
10178.00	84.18	181.82	9910.28	236.63	-235.19	-100.29	9.62	443028.41	751053.41	
10272.00	85.86	181.61	9918.44	330.26	-328.79	-103.10	1.80	442934.81	751050.60	
10366.00	87.61	182.11	9923.80	424.09	-422.58	-106.14	1.94	442841.02	751047.56	
10461.00	87.75	182.70	9927.64	518.98	-517.42	-110.13	0.64	442746.18	751043.57	
10555.00	86.92	182.49	9932.01	612.83	-611.22	-114.38	0.91	442652.38	751039.32	
10650.00	87.34	182.13	9936.77	707.68	-706.02	-118.20	0.58	442557.58	751035.50	
10744.00	87.61	180.89	9940.91	801.58	-799.90	-120.68	1.35	442463.70	751033.02	
10839.00	89.22	180.58	9943.54	896.54	-894.85	-121.89	1.73	442368.75	751031.81	
10933.00	90.20	180.85	9944.01	990.54	-988.84	-123.07	1.08	442274.76	751030.63	
11028.00	90.90	179.23	9943.10	1085.52	-1083.83	-123.13	1.86	442179.77	751030.57	
11122.00	91.39	178.99	9941.22	1179.46	-1177.80	-121.67	0.58	442085.80	751032.03	
11216.00	92.44	179.66	9938.08	1273.37	-1271.74	-120.57	1.32	441991.86	751033.13	
11311.00	90.62	180.17	9935.55	1368.32	-1366.70	-120.43	1.99	441896.90	751033.27	
11405.00	90.76	179.03	9934.41	1462.29	-1460.69	-119.77	1.22	441802.91	751033.93	
11500.00	91.32	179.35	9932.69	1557.23	-1555.67	-118.43	0.68	441707.93	751035.27	
11594.00	90.62	179.09	9931.10	1651.18	-1649.64	-117.15	0.79	441613.96	751036.55	
11689.00	89.57	179.52	9930.94	1746.15	-1744.63	-116.00	1.19	441518.97	751037.70	
11784.00	89.92	180.02	9931.36	1841.13	-1839.63	-115.61	0.64	441423.97	751038.09	
11878.00	89.64	179.63	9931.72	1935.11	-1933.63	-115.33	0.51	441329.97	751038.37	
11972.00	89.99	179.97	9932.03	2029.10	-2027.63	-115.00	0.52	441235.97	751038.70	
12067.00	89.43	179.69	9932.51	2124.08	-2122.63	-114.72	0.66	441140.97	751038.98	
12161.00	88.66	180.39	9934.08	2218.06	-2216.61	-114.78	1.11	441046.99	751038.92	
12256.00	90.06	182.32	9935.14	2313.04	-2311.57	-117.03	2.51	440952.03	751036.67	
12350.00	89.08	181.72	9935.84	2407.02	-2405.51	-120.34	1.22	440858.09	751033.36	
12445.00	89.22	180.91	9937.25	2502.00	-2500.47	-122.52	0.87	440763.13	751031.18	
12539.00	88.66	180.17	9938.99	2595.98	-2594.45	-123.41	0.99	440669.15	751030.29	
12634.00	89.71	180.21	9940.34	2690.97	-2689.44	-123.72	1.11	440574.16	751029.98	
12728.00	88.60	178.95	9941.73	2784.93	-2783.43	-123.03	1.79	440480.17	751030.67	
12823.00	88.94	179.26	9943.77	2879.86	-2878.39	-121.55	0.48	440385.21	751032.15	
12917.00	91.67	182.54	9943.27	2973.84	-2972.36	-123.03	4.54	440291.24	751030.67	
13012.00	89.36	180.83	9942.41	3068.82	-3067.30	-125.82	3.03	440196.30	751027.88	
13106.00	89.01	180.01	9943.75	3162.80	-3161.29	-126.51	0.95	440102.31	751027.19	
13201.00	88.94	179.54	9945.45	3257.77	-3256.27	-126.14	0.50	440007.33	751027.56	
13295.00	89.08	178.98	9947.07	3351.72	-3350.25	-124.92	0.61	439913.35	751028.78	
13390.00	89.57	178.63	9948.19	3446.65	-3445.22	-122.94	0.63	439818.38	751030.76	
13484.00	91.32	180.58	9947.46	3540.62	-3539.21	-122.29	2.79	439724.39	751031.41	
13579.00	90.69	180.30	9945.80	3635.60	-3634.19	-123.02	0.73	439629.41	751030.68	
13673.00	88.24	179.39	9946.67	3729.58	-3728.18	-122.77	2.78	439535.42	751030.93	
13768.00	88.24	179.41	9949.59	3824.50	-3823.13	-121.77	0.02	439440.47	751031.93	
13862.00	89.01	179.86	9951.85	3918.45	-3917.10	-121.17	0.95	439346.50	751032.53	
13957.00	92.16	181.48	9950.88	4013.43	-4012.07	-122.28	3.73	439251.53	751031.42	
14052.00	91.74	181.32	9947.64	4108.37	-4106.99	-124.60	0.47	439156.61	751029.10	
14146.00	89.29	179.56	9946.80	4202.36	-4200.97	-125.33	3.21	439062.63	751028.37	
14240.00	89.99	179.75	9947.39	4296.33	-4294.97	-124.76	0.77	438968.63	751028.94	
14335.00	89.15	178.88	9948.10	4391.30	-4389.96	-123.62	1.27	438873.64	751030.08	
14429.00	89.08	178.22	9949.56	4485.21	-4483.91	-121.25	0.71	438779.69	751032.45	
14524.00	91.74	180.08	9948.88	4580.15	-4578.89	-119.84	3.42	438684.71	751033.86	
14618.00	89.99	179.23	9947.46	4674.12	-4672.87	-119.27	2.07	438590.73	751034.43	
14712.00	89.71	179.05	9947.70	4768.08	-4766.86	-117.86	0.35	438496.74	751035.84	
14807.00	90.13	179.56	9947.84	4863.04	-4861.85	-116.71	0.70	438401.75	751036.99	
14902.00	90.13	179.75	9947.62	4958.02	-4956.85	-116.14	0.20	438306.75	751037.56	
14996.00	90.83	180.17	9946.83	5052.01	-5050.85	-116.07	0.87	438212.75	751037.63	
15091.00	89.01	178.96	9946.96	5146.98	-5145.84	-115.35	2.30	438117.76	751038.35	
15185.00	89.08	179.26	9948.53	5240.92	-5239.81	-113.89	0.33	438023.79	751039.81	
15280.00	89.64	179.63	9949.59	5335.89	-5334.80	-112.97	0.71	437928.80	751040.73	
15374.00	90.55	180.38	9949.44	5429.87	-5428.80	-112.98	1.25	437834.80	751040.72	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
15468.00	90.90	180.42	9948.25	5523.86	-5522.79	-113.63	0.37	437740.81	751040.07	
15563.00	89.43	179.74	9947.97	5618.85	-5617.79	-113.77	1.70	437645.81	751039.93	
15658.00	89.01	179.41	9949.27	5713.82	-5712.78	-113.06	0.56	437550.82	751040.64	
15752.00	88.59	178.67	9951.24	5807.75	-5806.74	-111.49	0.91	437456.86	751042.21	
15847.00	90.62	180.22	9951.89	5902.71	-5901.73	-110.57	2.69	437361.87	751043.13	
15941.00	91.60	180.88	9950.07	5996.69	-5995.70	-111.47	1.26	437267.90	751042.23	
16036.00	90.62	180.84	9948.23	6091.67	-6090.67	-112.89	1.03	437172.93	751040.81	
16130.00	89.36	180.09	9948.25	6185.67	-6184.67	-113.66	1.56	437078.93	751040.04	
16224.00	90.27	180.69	9948.55	6279.66	-6278.66	-114.30	1.16	436984.94	751039.40	
16318.00	89.64	179.74	9948.62	6373.66	-6372.66	-114.65	1.21	436890.94	751039.05	
16413.00	89.43	179.73	9949.39	6468.64	-6467.66	-114.21	0.22	436795.94	751039.49	
16508.00	89.85	180.27	9949.99	6563.62	-6562.65	-114.21	0.72	436700.95	751039.49	
16602.00	90.06	180.35	9950.06	6657.62	-6656.65	-114.72	0.24	436606.95	751038.98	
16697.00	90.20	181.13	9949.85	6752.62	-6751.64	-115.95	0.83	436511.96	751037.75	
16791.00	91.25	180.96	9948.66	6846.61	-6845.62	-117.66	1.13	436417.98	751036.04	
16886.00	92.37	181.40	9945.66	6941.56	-6940.55	-119.62	1.27	436323.05	751034.08	
16980.00	91.60	181.40	9942.40	7035.50	-7034.46	-121.91	0.82	436229.14	751031.79	
17075.00	91.25	180.67	9940.04	7130.47	-7129.42	-123.63	0.85	436134.18	751030.07	
17169.00	90.34	179.92	9938.74	7224.45	-7223.41	-124.11	1.25	436040.19	751029.59	
17264.00	90.48	180.11	9938.06	7319.44	-7318.40	-124.13	0.25	435945.20	751029.57	
17358.00	91.18	180.79	9936.69	7413.43	-7412.39	-124.87	1.04	435851.21	751028.83	
17430.00	90.69	180.66	9935.52	7485.42	-7484.38	-125.78	0.70	435779.22	751027.92	Last WFT SVY
17474.10	90.69	180.66	9934.99	7529.51	-7528.47	-126.29	0.00	435735.13	751027.41	Cross HL 17474.10'MD
17500.00	90.69	180.66	9934.68	7555.41	-7554.37	-126.59	0.00	435709.23	751027.11	Proj. to TD

PERFORMANCE CHARTS

DAYS VS DEPTH & FT./DAY

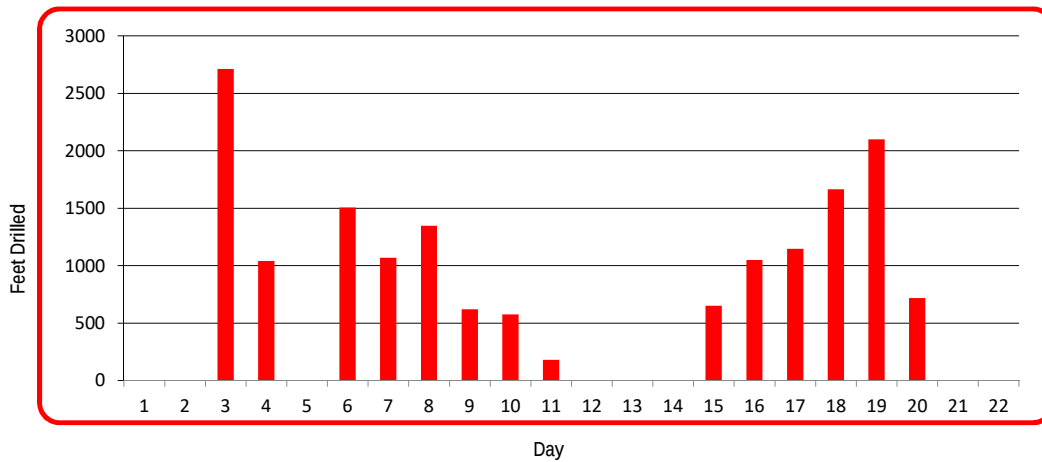
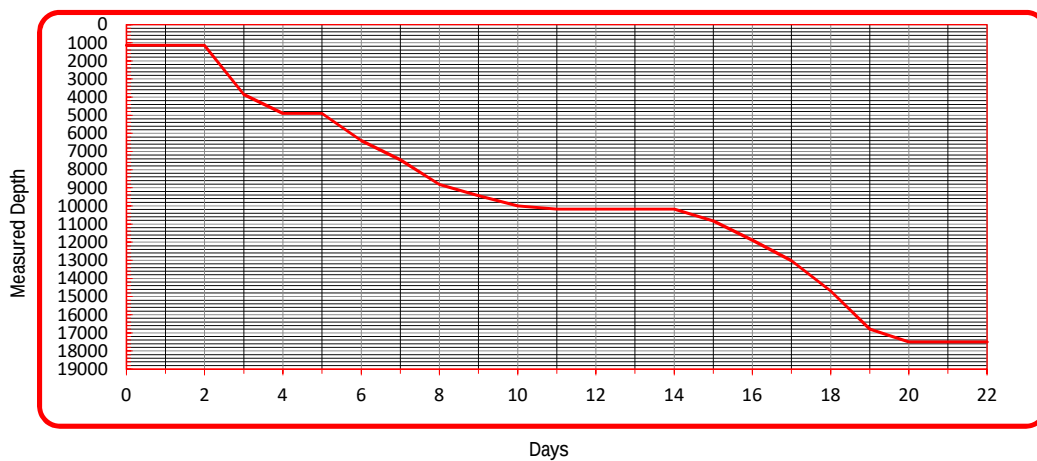
SECTION 3



Weatherford®

Performance Charts

Days vs Depth & Footage/Day



DAILY REPORTS

DAILY ACTIVITY DETAILS

SECTION 4



**Weatherford®**

Daily Activity Report

Drilling Services
v5.1.7322

Day 1 - 2020/02/21

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 1142.0 ft

END DEPTH: 1142.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Standby

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-18:00	Travel To Job	18.00	1142	n/a	18:00-24:00	Standby - Run surface Casing	6.00	1142	n/a

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 24.00
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.: MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: PZ-11	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE: PZ-11	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Arrived on location @1800

Standby while rig runs surface casing.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Day 2 - 2020/02/22**Drilling Services**
v5.1.7322**FILE #:** 14083591**JOB TYPE:** Horizontal**RIG & NO:** H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H**COMPANY:** Apache Corp**SURFACE LOCATION:** Lea County**SERVICE CO.:** Weatherford Drilling Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Delaware Basin Shelf / New Mexico /**Company Man:** Shannon Smith, Michael Rust**DIR Supervisor:** Kevin Moss, Jose Ulibarri**MWD Supervisor:** Chris Hinterlach**GROUND ELEV:** 3580 ft**KB ELEV:** 3606 ft**START DEPTH:** 1142.0 ft**END DEPTH:** 1142.0 ft**PROGRESS:** 0.0 ft**AVG. ROP.:** 0.0 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-22:00	Standby	22.00	1142	n/a	23:25-23:45	Shallow Test Tools	0.33	1142	1
22:00-22:15	Safety Meeting - P/U BHA	0.25	1142	n/a	23:45-24:00	Handle Directional Tools	0.25	1142	1
22:15-23:25	Handle Directional Tools	1.17	1142	1			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 24.00
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1	HOLE SIZE: 12.25 in	SECTION TYPE: 12.25" Nudge	SURVEY TYPE: Positive Pulse MWD
MANFCT.: SPERRY	STABILIZER: No	SERIAL#: 11854612	MODEL: 6/7 6.0 1.15
SETTING: 1.15 °	KICKPAD: No	SIZE: 8"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: 12.25" PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 0
IADC BIT GRADE: 3 / 4 / BT / A / X / I / WT / TD			MTR HRS TO DATE: 0
			NOZZLES: 0.994 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:	LIQUID RATE: 0 gal/min	GAS TYPE:	GAS RATE: 0 cu ft/min		

COMMENTS:

Standby:
Run surface casing
Cement
Nipple up and Test BOP's.

Hold safety meeting to P/U BHA

Shallow test:
STK=100 GPM= 388 PSI= 240

CUSTOMER SIGNATURE:

**Weatherford**

Daily Activity Report

Drilling Services
v5.1.7322**Day 3 - 2020/02/23****FILE #:** 14083591**JOB TYPE:** Horizontal**RIG & NO:** H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H**COMPANY:** Apache Corp**SURFACE LOCATION:** Lea County**SERVICE CO.:** Weatherford Drilling Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Delaware Basin Shelf / New Mexico /**Company Man:** Shannon Smith, Michael Rust**DIR Supervisor:** Kevin Moss, Jose Ulibarri**MWD Supervisor:** Chris Hinterlach**GROUND ELEV:** 3580 ft**KB ELEV:** 3606 ft**START DEPTH:** 1142.0 ft**END DEPTH:** 3853.0 ft**PROGRESS:** 2711.0 ft**AVG. ROP.:** 166.8 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	Handle Directional Tools	0.50	1142	1	14:00-14:15	Rotating With Motor	0.25	2657	1
00:30-02:40	RIH With Directional	2.17	1142	1	14:15-14:20	Circ & Accumulate Surveys - @ 2578	0.08	2657	1
02:40-03:20	Drill Out Flt, Shoe & Cmmt	0.67	1142	1	14:20-14:45	Rotating With Motor	0.42	2752	1
03:20-04:35	Rotating With Motor	1.25	1344	1	14:45-14:20	Circ & Accumulate Surveys - @ 2578	-0.42	2752	1
04:35-04:45	Circ & Accumulate Surveys - 1265' 0.71/322.65	0.17	1344	1	14:20-14:55	Rotating With Motor	0.58	2752	1
04:45-05:00	Rotating With Motor	0.25	1436	1	14:55-15:00	Circ & Accumulate Surveys - @ 2673	0.08	2752	1
05:00-05:10	Circ & Accumulate Surveys - 1357' 1.04/333.72	0.17	1436	1	15:00-15:15	Rotating With Motor	0.25	2846	1
05:10-05:15	Orienting With Motor - 10' @124MTF	0.08	1446	1	15:15-15:20	Circ & Accumulate Surveys - @ 2767	0.08	2846	1
05:15-05:30	Rotating With Motor	0.25	1527	1	15:20-15:45	Rotating With Motor	0.42	2941	1
05:30-05:35	Circ & Accumulate Surveys - 1448' 0.75/346.59	0.08	1527	1	15:45-15:50	Circ & Accumulate Surveys - @ 2862	0.08	2941	1
05:35-05:40	Rotating With Motor	0.08	1537	1	15:50-16:00	Rotating With Motor	0.17	3036	1
05:40-05:50	Orienting With Motor - 12' @140MTF	0.17	1549	1	16:00-16:05	Circ & Accumulate Surveys - @ 2957	0.08	3036	1
05:50-06:10	Rotating With Motor	0.33	1619	1	16:05-16:20	Rotating With Motor	0.25	3069	1
06:10-06:15	Circ & Accumulate Surveys - @ 1540	0.08	1619	1	16:20-16:40	Orienting With Motor - 14' @ 335M	0.33	3069	1
06:15-06:30	Rotating With Motor	0.25	1713	1	16:40-16:55	Rotating With Motor	0.25	3130	1
06:30-06:35	Circ & Accumulate Surveys - @ 1634	0.08	1713	1	16:55-17:00	Circ & Accumulate Surveys - @ 3051	0.08	3130	1
06:35-07:00	Rotating With Motor	0.42	1808	1	17:00-17:10	Rotating With Motor	0.17	3163	1
07:00-07:05	Circ & Accumulate Surveys - @ 1729	0.08	1808	1	17:10-17:30	Orienting With Motor - 12' @ 335M	0.33	3163	1
07:05-07:30	Rotating With Motor	0.42	1903	1	17:30-17:55	Rotating With Motor	0.42	3224	1
07:30-07:35	Circ & Accumulate Surveys - @ 1824	0.08	1903	1	17:55-18:00	Circ & Accumulate Surveys - @ 3145	0.08	3224	1
07:35-07:45	Rotating With Motor	0.17	1915	1	18:00-18:20	Rotating With Motor	0.33	3319	1
07:45-07:55	Orienting With Motor - 13' @ 230M	0.17	1928	1	18:20-18:25	Circ & Accumulate Surveys - 3240' 2.45/322.86	0.08	3319	1
07:55-08:20	Rotating With Motor	0.42	1997	1	18:25-18:35	Rotating With Motor	0.17	3329	1
08:20-08:25	Circ & Accumulate Surveys - @ 1918	0.08	1997	1	18:35-18:55	Orienting With Motor - 12' @335MTF	0.33	3341	1
08:25-08:50	Rotating With Motor	0.42	2091	1	18:55-19:25	Rotating With Motor	0.50	3413	1
08:50-11:10	Rig Repair - Change Saver Sub	2.33	2091	1	19:25-19:30	Circ & Accumulate Surveys - 3334' 3.30/321.37	0.08	3413	1
11:10-11:15	Circ & Accumulate Surveys - @ 2012	0.08	2091	1	19:30-20:05	Rotating With Motor	0.58	3508	1
11:15-11:20	Rotating With Motor	0.08	2111	1	20:05-20:15	Circ & Accumulate Surveys - 3429' 3.74/324.90	0.17	3508	1
11:20-11:30	Orienting With Motor - 10 @ 230 M	0.17	2121	1	20:15-20:20	Rotating With Motor	0.08	3513	1
11:30-12:00	Rotating With Motor	0.50	2186	1	20:20-20:40	Orienting With Motor - 12' @38MTF	0.33	3525	1
12:00-12:05	Circ & Accumulate Surveys - @ 2107	0.08	2186	1	20:40-21:20	Rotating With Motor	0.67	3602	1
12:05-12:30	Rotating With Motor	0.42	2280	1	21:20-21:25	Circ & Accumulate Surveys - 3523' 4.57/327.54	0.08	3602	1
12:30-12:35	Circ & Accumulate Surveys - @ 2201	0.08	2280	1	21:25-21:30	Rotating With Motor	0.08	3615	1
12:35-13:10	Rotating With Motor	0.58	2374	1	21:30-22:00	Orienting With Motor - 10' @50MTF	0.50	3625	1
13:10-13:15	Circ & Accumulate Surveys - @ 2295	0.08	2374	1	22:00-22:30	Rotating With Motor	0.50	3697	1
13:15-13:35	Rotating With Motor	0.33	2469	1	22:30-22:35	Circ & Accumulate Surveys - 3618' 4.61/331.37	0.08	3697	1
13:35-13:40	Circ & Accumulate Surveys - @ 2390	0.08	2469	1	22:35-23:25	Rotating With Motor	0.83	3792	1
13:40-13:55	Rotating With Motor	0.25	2563	1	23:25-23:30	Circ & Accumulate Surveys - 3713' 4.81/333.80	0.08	3792	1
13:55-14:00	Circ & Accumulate Surveys - @ 2484	0.08	2563	1	23:30-24:00	Rotating With Motor	0.50	3853	1

**Weatherford®**

Daily Activity Report

Drilling Services

v5.1.7322

Day 3 - 2020/02/23

TIME SUMMARY (hrs):			DRILLING PARAMETERS:		
MOTOR DRILL:	16.25	ORIENTING HRS:	2.42	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	13.83	MOTOR HRS:	19.00
MOTOR REAM:	0.00	TRIP:	2.17	ROTARY TORQUE:	13427 ft-lb
CIRC:	2.75	ROTARY DRILL:	0.00	WOB SLIDING (HI):	20000 lbf
MOTOR HRS:	19.00	OTHER:	2.83	WOB SLIDING (LO):	15000 lbf
DRILL HRS:	16.25	TOTAL HRS:	24.00	RPM (ROTARY):	45 rpm
				RPM (MOTOR):	153 rpm
				STRING WEIGHT	180000 lbs
				WOB ROTATE (HI):	30000 lbf
				WOB ROTATE (LO):	25000 lbf
				DRAG UP:	185000 lbf
				DRAG DN:	170000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1 **HOLE SIZE:** 12.25 in **SECTION TYPE:** 12.25" Nudge **SURVEY TYPE:** Positive Pulse MWD
MANFCT.: SPERRY **STABILIZER:** No **SERIAL#:** 11854612 **MODEL:** 6/7 6.0 1.15 **LOBE CFG.:** 6/7
SETTING: 1.15° **KICKPAD:** No **SIZE:** 8" **MTR HRS THIS DAY:** 19 **MTR HRS TO DATE:** 19
MANFCT: NOV **BIT TYPE:** 12.25" PDC Bit **TYPE:** SKC619M **NOZZLES:** 0.994 in² TFA
IADC BIT GRADE: 3 / 4 / BT / A / X / I / WT / TD

PUMP PARAMETERS

PRESSURE ON BTM: 3919 **PRESSURE OFF BTM:** 3208 **TOTAL FLOW RATE:** 799.47 gal/min
PUMP 1: TYPE: PZ-11 **EFF.:** 97.0% **SPM:** 105.00 **LINER:** 6.00 in **STROKE VOL.:** 3.9248 gal/stk
PUMP 2: TYPE: PZ-11 **EFF.:** 97.0% **SPM:** 105.00 **LINER:** 6.00 in **STROKE VOL.:** 3.9248 gal/stk
PUMP 3: TYPE: PZ-11 **EFF.:** 97.0% **SPM:** 0.00 **LINER:** 0.00 in **STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt **VISC:** 29 sec/qt **WTR LOSS:** 0 cc/30min **PV:** 1 cP **YP:** 0 lb/100 ft² **pH:** 9.5
DENSITY: 10 lb/gal **GEL 0/10:** 0.00 lb/100 ft² **SAND:** 0 **SOLIDS:** 2.8 **OIL:** 0 **TEMP:** 111 °F
LIQUID BASE: Water **LIQUID RATE:** 0 gal/min **GAS TYPE:** **GAS RATE:** 0 cu ft/min

COMMENTS:

DRL: F/1,142' - T/3,853'

Motor is yielding 7-9's and everything is going smooth no issues in the well this far.

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v5.1.7322

Day 4 - 2020/02/24

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 3853.0 ft

END DEPTH: 4892.0 ft

PROGRESS: 1039.0 ft

AVG. ROP.: 107.5 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:15	Rotating With Motor	0.25	3886	1	08:45-08:55	Rotating With Motor	0.17	4453	1
00:15-00:20	Circ & Accumulate Surveys - 3807' 5.11/337.38	0.08	3886	1	08:55-09:00	Circ & Accumulate Surveys - @ 4374	0.08	4453	1
00:20-01:10	Rotating With Motor	0.83	3981	1	09:00-09:10	Rotating With Motor	0.17	4460	1
01:10-01:15	Circ & Accumulate Surveys - 3902' 5.41/334.95	0.08	3981	1	09:10-09:40	Orienting With Motor - 22 @ 330 M	0.50	4482	1
01:15-01:20	Rotating With Motor	0.08	3989	1	09:40-09:55	Rotating With Motor	0.25	4548	1
01:20-01:45	Orienting With Motor - 8' @145MTF	0.42	3997	1	09:55-10:00	Circ & Accumulate Surveys - @ 4469	0.08	4548	1
01:45-02:15	Rotating With Motor	0.50	4075	1	10:00-10:05	Rotating With Motor	0.08	4555	1
02:15-02:20	Circ & Accumulate Surveys - 3996' 5.35/334.42	0.08	4075	1	10:05-10:35	Orienting With Motor - 33' @ 335 M	0.50	4585	1
02:20-02:25	Rotating With Motor	0.08	4085	1	10:35-10:50	Rotating With Motor	0.25	4628	1
02:25-02:55	Orienting With Motor - 12' @130MTF	0.50	4097	1	10:50-11:15	Orienting With Motor - 10' @ 335 M	0.42	4638	1
02:55-03:05	Rotating With Motor	0.17	4170	1	11:15-11:20	Rotating With Motor	0.08	4643	1
03:05-03:10	Circ & Accumulate Surveys - 4091' 4.68/339.44	0.08	4170	1	11:20-11:25	Circ & Accumulate Surveys - @ 4564	0.08	4643	1
03:10-03:30	Rotating With Motor	0.33	4255	1	11:25-12:20	Rotating With Motor	0.92	4737	1
03:30-06:45	Standby - H2S	3.25	4255	1	12:20-12:25	Circ & Accumulate Surveys - @ 4658	0.08	4737	1
06:45-06:50	Rotating With Motor	0.08	4264	1	12:25-12:30	Rotating With Motor	0.08	4745	1
06:50-07:00	Circulating - See Comments - SPR	0.17	4264	1	12:30-12:45	Orienting With Motor - 7' @ 55 M	0.25	4752	1
07:00-07:05	Circ & Accumulate Surveys - @ 4185	0.08	4264	1	12:45-13:30	Rotating With Motor	0.75	4831	1
07:05-07:15	Rotating With Motor	0.17	4276	1	13:30-13:35	Circ & Accumulate Surveys - @ 4752	0.08	4831	1
07:15-07:40	Orienting With Motor - 12@ 310 M	0.42	4288	1	13:35-14:00	Rotating With Motor	0.42	4892	1
07:40-08:10	Rotating With Motor	0.50	4359	1	14:00-15:30	Circ & Condition Hole	1.50	4892	1
08:10-08:15	Circ & Accumulate Surveys - @ 4280	0.08	4359	1	15:30-22:30	POOH - See Comments	7.00	4892	1
08:15-08:30	Rotating With Motor	0.25	4370	1	22:30-24:00	Lay Down Directional Tools	1.50	4892	1
08:30-08:45	Orienting With Motor - 15' @ 300 M	0.25	4385	1			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	9.67	ORIENTING HRS:	3.25	ROTARY DRILL:	0.00	ROTARY TORQUE:	21356 ft-lb	STRING WEIGHT	182000 lbs
TIME DRILL:	0.00	ROTATING HRS:	6.42	MOTOR HRS:	12.25	WOB SLIDING (HI):	25000 lbf	WOB ROTATE (HI):	45000 lbf
MOTOR REAM:	0.00			TRIP:	7.00	WOB SLIDING (LO):	15000 lbf	WOB ROTATE (LO):	30000 lbf
CIRC:	2.58	ROTARY DRILL:	0.00	OTHER:	4.75	RPM (ROTARY):	45 rpm	DRAG UP:	187000 lbf
MOTOR HRS:	12.25	DRILL HRS:	9.67	TOTAL HRS:	24.00	RPM (MOTOR):	153 rpm	DRAG DN:	170000 lbf

DRILLING PARAMETERS:

BHA / MOTOR / BIT INFORMATION:

BHA: 1	HOLE SIZE: 12.25 in	SECTION TYPE: 12.25" Nudge	SURVEY TYPE: Positive Pulse MWD
MANFCT.: SPERRY	STABILIZER: No	SERIAL#: 11854612	MODEL: 6/7 6.0 1.15
SETTING: 1.15 °	KICKPAD: No	SIZE: 8"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: 12.25" PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 12.25
IADC BIT GRADE: 3 / 4 / BT / A / X / I / WT / TD			MTR HRS TO DATE: 31.25
			NOZZLES: 0.994 in² TFA



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Day 4 - 2020/02/24

PUMP PARAMETERS

PRESSURE ON BTM: 3895

PRESSURE OFF BTM: 3225

TOTAL FLOW RATE: 852.77 gal/min

PUMP 1: TYPE: PZ-11

EFF.: 97.0%

SPM: 75.00

LINER: 6.00 in

STROKE VOL.: 3.9248 gal/stk

PUMP 2: TYPE: PZ-11

EFF.: 97.0%

SPM: 75.00

LINER: 6.00 in

STROKE VOL.: 3.9248 gal/stk

PUMP 3: TYPE: PZ-11

EFF.: 97.0%

SPM: 74.00

LINER: 6.00 in

STROKE VOL.: 3.9248 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt

VISC: 29 sec/qt

WTR LOSS: 0 cc/30min

PV: 1 cP

YP: 0 lb/100 ft²

pH: 9.5

DENSITY: 10 lb/gal

GEL 0/10: 0.00 lb/100 ft²

SAND: 0

SOLIDS: 2.8

OIL: 0

TEMP: 115 °F

LIQUID BASE: Water

LIQUID RATE: 0 gal/min

GAS TYPE:

GAS RATE: 0 cu ft/min

COMMENTS:

DRL F/3,853' - T/4892'

@ 4185' MD / 4181' TVD the ROP increased from 150' to 320' fphr. The angle started to drop out and the motor yields dropped from 8's to 2.5.

CUSTOMER SIGNATURE: _____

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Daily Activity Report

Drilling Services
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Day 5 - 2020/02/25

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 4892.0 ft

END DEPTH: 4892.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	Lay Down Directional Tools	0.50	4892	1	16:00-22:00	Cement Casing	6.00	4892	n/a
00:30-11:00	Run Casing	10.50	4892	n/a	22:00-24:00	Other - See Comments - PSI Test Casing	2.00	4892	n/a
11:00-16:00	Circulating - See Comments - Wait On Cement	5.00	4892	n/a			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 24.00
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1	HOLE SIZE: 12.25 in	SECTION TYPE: 12.25" Nudge	SURVEY TYPE: Positive Pulse MWD
MANFCT.: SPERRY	STABILIZER: No	SERIAL#: 11854612	MODEL: 6/7 6.0 1.15
SETTING: 1.15 °	KICKPAD: No	SIZE: 8"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: 12.25" PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 0
IADC BIT GRADE: 3 / 4 / BT / A / X / I / WT / TD			MTR HRS TO DATE: 31.25
			NOZZLES: 0.994 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Once casing was on bottom rig was circulating and lost returns therefore we had to wait on LCM cement to arrive on location to be pumped down the hole to try and get cement and returns back this was successful on the first try. Once this was completed we were able to go on with normal procedures and finish cementing and pressure testing casing.

22:00 -24:00 Laid out landing joint, Ran and installed packoff tool, Tested packoff tool, installed test plug. Tested upper pack off seals, installed wear bushing.

CUSTOMER SIGNATURE: _____

**Weatherford**

Daily Activity Report

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Day 6 - 2020/02/26

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 4892.0 ft

END DEPTH: 6396.0 ft

PROGRESS: 1504.0 ft

AVG. ROP.: 129.9 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	Other - See Comments	0.50	4892	n/a	17:20-17:30	Rotating With Motor	0.17	5680	2
00:30-00:45	Safety Meeting - P/U BHA #2	0.25	4892	n/a	17:30-17:45	Orienting With Motor - 12' @ 200M	0.25	5692	2
00:45-02:00	Handle Directional Tools	1.25	4892	2	17:45-18:10	Rotating With Motor	0.42	5762	2
02:00-02:20	Shallow Test Tools	0.33	4892	2	18:10-18:15	Circ & Accumulate Surveys - 5690' 4.68/333.64	0.08	5762	2
02:20-03:00	Handle Directional Tools - M/U Bit & NMDC's	0.67	4892	2	18:15-18:45	Rotating With Motor	0.50	5856	2
03:00-10:15	RIH With New BHA	7.25	4892	2	18:45-18:50	Circ & Accumulate Surveys - 5784' 4.56/325.72	0.08	5856	2
10:15-11:00	Circulating - See Comments - Drill Out Shoe	0.75	4892	2	18:50-18:55	Rotating With Motor	0.08	5870	2
11:00-12:30	Rotating With Motor	1.50	5006	2	18:55-19:15	Orienting With Motor - 12' @100MTF	0.33	5882	2
12:30-12:35	Circ & Accumulate Surveys - @ 4934	0.08	5006	2	19:15-19:40	Rotating With Motor	0.42	5951	2
12:35-12:45	Rotating With Motor	0.17	5019	2	19:40-19:45	Circ & Accumulate Surveys - 5879' 4.32/330.54	0.08	5951	2
12:45-13:00	Orienting With Motor - 14' @ 130M	0.25	5033	2	19:45-19:55	Rotating With Motor	0.17	5960	2
13:00-13:25	Rotating With Motor	0.42	5101	2	19:55-20:20	Orienting With Motor - 12' @114MTF	0.42	5972	2
13:25-13:30	Circ & Accumulate Surveys - @ 5029	0.08	5101	2	20:20-20:40	Rotating With Motor	0.33	6045	2
13:30-13:55	Rotating With Motor	0.42	5195	2	20:40-20:45	Circ & Accumulate Surveys - 5973' 4.05/341.56	0.08	6045	2
13:55-14:00	Circ & Accumulate Surveys - @ 5123	0.08	5195	2	20:45-21:10	Rotating With Motor	0.42	6140	2
14:00-14:25	Rotating With Motor	0.42	5290	2	21:10-21:15	Circ & Accumulate Surveys - 6068' 3.99/342.93	0.08	6140	2
14:25-14:30	Circ & Accumulate Surveys - @ 5218	0.08	5290	2	21:15-21:25	Rotating With Motor	0.17	6150	2
14:30-15:10	Rotating With Motor	0.67	5384	2	21:25-21:50	Orienting With Motor - 15' @160MTF	0.42	6165	2
15:10-15:20	Circulating - See Comments - SPR	0.17	5384	2	21:50-22:05	Rotating With Motor	0.25	6234	2
15:20-15:25	Circ & Accumulate Surveys - @ 5312	0.08	5384	2	22:05-22:10	Circ & Accumulate Surveys - 6162' 3.42/353.71	0.08	6234	2
15:25-15:30	Rotating With Motor	0.08	5405	2	22:10-22:20	Rotating With Motor	0.17	6244	2
15:30-15:50	Orienting With Motor - 12' @ 140M	0.33	5405	2	22:20-22:55	Orienting With Motor - 20' @231M	0.58	6264	2
15:50-16:15	Rotating With Motor	0.42	5479	2	22:55-23:10	Rotating With Motor	0.25	6329	2
16:15-16:20	Circ & Accumulate Surveys - @ 5407	0.08	5479	2	23:10-23:15	Circ & Accumulate Surveys - 6257' 2.38/348.49	0.08	6329	2
16:20-16:45	Rotating With Motor	0.42	5573	2	23:15-23:25	Rotating With Motor	0.17	6339	2
16:45-16:50	Circ & Accumulate Surveys - @ 5501	0.08	5573	2	23:25-23:45	Orienting With Motor - 12' @245M	0.33	6351	2
16:50-17:15	Rotating With Motor	0.42	5667	2	23:45-24:00	Rotating With Motor	0.25	6396	2
17:15-17:20	Circ & Accumulate Surveys - @ 5595	0.08	5667	2			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 11.58
TIME DRILL: 0.00
MOTOR REAM: 0.00
CIRC: 2.17
MOTOR HRS: 13.75

ORIENTING HRS: 2.92
ROTATING HRS: 8.67
ROTARY DRILL: 0.00
ROTARY DRILL: 0.00
DRILL HRS: 11.58

ROTARY DRILL: 0.00
MOTOR HRS: 13.75
TRIP: 7.25
OTHER: 3.00
TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 15092 ft-lb
WOB SLIDING (HI): 25000 lbf
WOB SLIDING (LO): 15000 lbf
RPM (ROTARY): 60 rpm
RPM (MOTOR): 151 rpm
STRING WEIGHT 205000 lbs
WOB ROTATE (HI): 35000 lbf
WOB ROTATE (LO): 30000 lbf
DRAG UP: 210000 lbf
DRAG DN: 200000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2
MANFCT.: NOV
SETTING: 1.15 °
MANFCT: Ulterra
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD

HOLE SIZE: 8.75 in
STABILIZER: 8 5/8"
KICKPAD: No
BIT TYPE: 8.75" PDC Bit

SECTION TYPE: 8.75" Vertical
SERIAL#: 675-36-294
SIZE: 7"
TYPE: RPS616

SURVEY TYPE: Positive Pulse MWD
MODEL: 7/8_5.7
MTR HRS THIS DAY: 13.75
NOZZLES: 1.04 in² TFA

LOBE CFG.: 7/8
MTR HRS TO DATE: 13.75

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Day 6 - 2020/02/26**PUMP PARAMETERS****PRESSURE ON BTM:** 3259**PRESSURE OFF BTM:** 2609**TOTAL FLOW RATE:** 647.19 gal/min**PUMP 1:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 85.00**LINER:** 6.00 in**STROKE VOL.:** 3.9248 gal/stk**PUMP 2:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 85.00**LINER:** 6.00 in**STROKE VOL.:** 3.9248 gal/stk**PUMP 3:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk**MUD RECORD****MUD TYPE:** NACL / WBM / Wa**VISC:** 32 sec/qt**WTR LOSS:** 88 cc/30min**PV:** 1 cP**YP:** 2 lb/100 ft²**pH:** 8**DENSITY:** 9.2 lb/gal**GEL 0/10:** 2.00 lb/100 ft²**SAND:** 0**SOLIDS:** 4.2**OIL:** 0**TEMP:** 88 °F**LIQUID BASE:** Water**LIQUID RATE:** 0 gal/min**GAS TYPE:****GAS RATE:** 0 cu ft/min**COMMENTS:**

00:00-00:30 Laid out landing joint, Ran and installed packoff tool, Tested packoff tool, installed test plug. Tested upper pack off seals, installed wear bushing.

Held safety meeting on picking up BHA# 2.

Shallow test MWD:

STK- 100 GPM-388 PSI-376

DRL F/4,892' - T/6,396'

CUSTOMER SIGNATURE:

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Daily Activity Report

Drilling Services

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Day 7 - 2020/02/27**FILE #:** 14083591**JOB TYPE:** Horizontal**RIG & NO:** H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H**COMPANY:** Apache Corp**SURFACE LOCATION:** Lea County**SERVICE CO.:** Weatherford Drilling Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Delaware Basin Shelf / New Mexico /**Company Man:** Shannon Smith, Michael Rust**DIR Supervisor:** Kevin Moss, Jose Ulibarri**MWD Supervisor:** Chris Hinterlach**GROUND ELEV:** 3580 ft**KB ELEV:** 3606 ft**START DEPTH:** 6396.0 ft**END DEPTH:** 7463.0 ft**PROGRESS:** 1067.0 ft**AVG. ROP.:** 107.6 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:10	Rotating With Motor	0.17	6423	2	05:40-06:00	Rotating With Motor	0.33	6896	2
00:10-00:15	Circ & Accumulate Surveys - 6351' @1.05/306.26	0.08	6518	2	06:00-06:05	Circ & Accumulate Surveys - @ 6824	0.08	6896	2
00:15-00:40	Rotating With Motor	0.42	6518	2	06:05-06:45	Rotating With Motor	0.67	6990	2
00:40-00:45	Circ & Accumulate Surveys - 6446' 1.14/278.65	0.08	6518	2	06:45-06:50	Circ & Accumulate Surveys - @ 6918	0.08	6990	2
00:45-00:55	Rotating With Motor	0.17	6528	2	06:50-06:55	Rotating With Motor	0.08	7005	2
00:55-01:20	Orienting With Motor - 12' @68M	0.42	6540	2	06:55-07:15	Orienting With Motor - 12' @ 260M	0.33	7117	2
01:20-01:50	Rotating With Motor	0.50	6613	2	07:15-07:45	Rotating With Motor	0.50	7085	2
01:50-01:55	Circ & Accumulate Surveys - 6541' 1.14/308.93	0.08	6613	2	07:45-07:50	Circ & Accumulate Surveys - @ 7013	0.08	7085	2
01:55-02:05	Rotating With Motor	0.17	6623	2	07:50-08:30	Rotating With Motor	0.67	7179	2
02:05-02:45	Orienting With Motor - 15' @102M	0.67	6638	2	08:30-08:55	Circ & Accumulate Surveys - SPR/ Rig Service	0.42	7179	2
02:45-03:15	Rotating With Motor	0.50	6707	2	08:55-09:00	Circ & Accumulate Surveys - @ 7107	0.08	7179	2
03:15-03:20	Circ & Accumulate Surveys - 6635' 1.31/336.82	0.08	6707	2	09:00-09:40	Rotating With Motor	0.67	7274	2
03:20-03:25	Rotating With Motor	0.08	6718	2	09:40-09:45	Circ & Accumulate Surveys - @ 7202	0.08	7274	2
03:25-04:25	Orienting With Motor - 10' @36M	1.00	6728	2	09:45-10:15	Rotating With Motor	0.50	7369	2
04:25-04:55	Rotating With Motor	0.50	6801	2	10:15-13:45	Rig Repair	3.50	7369	2
04:55-05:00	Circ & Accumulate Surveys - 6729' 1.17/14.72	0.08	6801	2	13:45-13:50	Circ & Accumulate Surveys - @ 7297	0.08	7369	2
05:00-05:10	Rotating With Motor	0.17	6811	2	13:50-14:45	Rotating With Motor	0.92	7463	2
05:10-05:40	Orienting With Motor - 11' @180M	0.50	6822	2	14:45-24:00	Rig Repair	9.25	7463	2

TIME SUMMARY (hrs):

MOTOR DRILL: 9.92	ORIENTING HRS: 2.92	ROTARY DRILL: 0.00	ROTARY TORQUE: 12507 ft-lb	STRING WEIGHT 237000 lbs
TIME DRILL: 0.00	ROTATING HRS: 7.00	MOTOR HRS: 11.25	WOB SLIDING (HI): 25000 lbf	WOB ROTATE (HI): 35000 lbf
MOTOR REAM: 0.00		TRIP: 0.00	WOB SLIDING (LO): 15000 lbf	WOB ROTATE (LO): 25000 lbf
CIRC: 1.33	ROTARY DRILL: 0.00	OTHER: 12.75	RPM (ROTARY): 60 rpm	DRAG UP: 250000 lbf
MOTOR HRS: 11.25	DRILL HRS: 9.92	TOTAL HRS: 24.00	RPM (MOTOR): 151 rpm	DRAG DN: 200000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: 8.75" Vertical	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: 8 5/8"	SERIAL#: 675-36-294	MODEL: 7/8_5.7
SETTING: 1.15 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 7/8
MANFCT: Ulterra	BIT TYPE: 8.75" PDC Bit	TYPE: RPS616	MTR HRS THIS DAY: 11.25
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD			MTR HRS TO DATE: 25
			NOZZLES: 1.04 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3127	PRESSURE OFF BTM: 2761	TOTAL FLOW RATE: 651.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 85.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 86.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:	LIQUID RATE: 0 gal/min	GAS TYPE:	GAS RATE: 0 cu ft/min		



Daily Activity Report

Drilling Services

v5.1.7322

Day 7 - 2020/02/27

COMMENTS:

DRL F/ 6,396' - T/7,463'

At 7463' MD we had stop drilling due to the rig's top-drive leaking hydro-fluid. Racked back one stand of drill pipe and waited on the new part to come from Midland.

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v5.1.7322

Day 8 - 2020/02/28

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Manuel Gonzalez

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 7463.0 ft

END DEPTH: 8809.0 ft

PROGRESS: 1346.0 ft

AVG. ROP.: 65.4 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:30	Rig Repair	1.50	7463	2	11:50-12:55	Rotating With Motor	1.08	8218	2
01:30-01:35	Circ & Accumulate Surveys - 7391' 0.56/204.22	0.08	7463	2	12:55-13:00	Circ & Accumulate Surveys - @ 8146	0.08	8218	2
01:35-02:35	Rotating With Motor	1.00	7557	2	13:00-14:15	Rotating With Motor	1.25	8312	2
02:35-02:40	Circ & Accumulate Surveys - 7485' 1.06/206.08	0.08	7557	2	14:15-14:45	Rig Service	0.50	8312	2
02:40-03:00	Rotating With Motor	0.33	7570	2	14:45-14:50	Circ & Accumulate Surveys - @ 8240	0.08	8312	2
03:00-04:00	Orienting With Motor - 13' @16M	1.00	7583	2	14:50-15:00	Rotating With Motor	0.17	8318	2
04:00-05:00	Rotating With Motor	1.00	7651	2	15:00-15:25	Orienting With Motor - 12' @ 200M	0.42	8318	2
05:00-05:05	Circ & Accumulate Surveys - 7579' 0.99/244.36	0.08	7651	2	15:25-16:20	Rotating With Motor	0.92	8406	2
05:05-05:15	Rotating With Motor	0.17	7661	2	16:20-16:30	Circulating - See Comments - SPR	0.17	8406	2
05:15-06:25	Orienting With Motor - 13' @64M	1.17	7674	2	16:30-16:35	Circ & Accumulate Surveys - @ 8334	0.08	8406	2
06:25-07:15	Rotating With Motor	0.83	7746	2	16:35-17:30	Rotating With Motor	0.92	8501	2
07:15-07:20	Circ & Accumulate Surveys - @ 7674	0.08	7746	2	17:30-17:35	Circ & Accumulate Surveys - 8428' 0.85/115.81	0.08	8501	2
07:20-08:10	Rotating With Motor	0.83	7840	2	17:35-19:05	Rotating With Motor	1.50	8596	2
08:10-08:15	Circ & Accumulate Surveys - @ 7768	0.08	7840	2	19:05-19:10	Circ & Accumulate Surveys - 8524' 1.01/133.28	0.08	8596	2
08:15-09:05	Rotating With Motor	0.83	7934	2	19:10-19:25	Rotating With Motor	0.25	8606	2
09:05-09:10	Circ & Accumulate Surveys - @ 7862	0.08	7934	2	19:25-20:00	Orienting With Motor - 14' @316M	0.58	8620	2
09:10-09:20	Rotating With Motor	0.17	7944	2	20:00-21:20	Rotating With Motor	1.33	8690	2
09:20-09:50	Orienting With Motor - 12' @ 60M	0.50	7944	2	21:20-21:25	Circ & Accumulate Surveys - 8618' 0.07/260.83	0.08	8690	2
09:50-10:40	Rotating With Motor	0.83	8029	2	21:25-23:25	Rotating With Motor	2.00	8785	2
10:40-10:45	Circ & Accumulate Surveys - @ 7957	0.08	8029	2	23:25-23:30	Circ & Accumulate Surveys - 8713' 0.16/224.26	0.08	8785	2
10:45-11:45	Rotating With Motor	1.00	8123	2	23:30-24:00	Rotating With Motor	0.50	8809	2
11:45-11:50	Circ & Accumulate Surveys - @ 8051	0.08	8123	2			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 20.58	ORIENTING HRS: 3.67	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 16.92	MOTOR HRS: 22.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 1.42	ROTARY DRILL: 0.00	OTHER: 2.00
MOTOR HRS: 22.00	DRILL HRS: 20.58	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 10792 ft-lb	STRING WEIGHT: 263000 lbs
WOB SLIDING (HI): 28000 lbf	WOB ROTATE (HI): 36000 lbf
WOB SLIDING (LO): 15000 lbf	WOB ROTATE (LO): 30000 lbf
RPM (ROTARY): 60 rpm	DRAG UP: 295000 lbf
RPM (MOTOR): 140 rpm	DRAG DN: 245000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: 8.75" Vertical	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: 8 5/8"	SERIAL#: 675-36-294	MODEL: 7/8_5.7
SETTING: 1.15 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 7/8
MANFCT: Ultrerra	BIT TYPE: 8.75" PDC Bit	TYPE: RPS616	MTR HRS THIS DAY: 22
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD			MTR HRS TO DATE: 47
			NOZZLES: 1.04 in² TFA

**Weatherford®**

Daily Activity Report

Drilling Services

v5.1.7322

Day 8 - 2020/02/28

PUMP PARAMETERS

PRESSURE ON BTM: 2521**PRESSURE OFF BTM:** 2219**TOTAL FLOW RATE:** 651.00 gal/min**PUMP 1: TYPE:** PZ-11**EFF.:** 97.0%**SPM:** 85.00**LINER:** 6.00 in**STROKE VOL.:** 3.9248 gal/stk**PUMP 2: TYPE:** PZ-11**EFF.:** 97.0%**SPM:** 86.00**LINER:** 6.00 in**STROKE VOL.:** 3.9248 gal/stk**PUMP 3: TYPE:** PZ-11**EFF.:** 97.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt**VISC:** 30 sec/qt**WTR LOSS:** 0 cc/30min**PV:** 0 cP**YP:** 0 lb/100 ft²**pH:** 10**DENSITY:** 9 lb/gal**GEL 0/10:** 0.00 lb/100 ft²**SAND:** 0**SOLIDS:** 0**OIL:** 0**TEMP:** 0 °F**LIQUID BASE:** Water**LIQUID RATE:** 0 gal/min**GAS TYPE:****GAS RATE:** 0 cu ft/min

COMMENTS:

DRL F/ 7,463' - T/8,809'

At 7463' MD we had stop drilling due to the rig's top-drive leaking hydro-fluid. Racked back one stand of drill pipe and waited on the new part to come from Midland.

Started losing returns pretty bad @7480' Slowed down GPM from 650 to 550. Started pumping sweeps. 12-15lbs fiber sweeps.

Due to the sweeps being pumped dif. pressure was all over the place making it harder to slide. Also came into a new formation (brushy canyon) @7480'

CUSTOMER SIGNATURE:

**Weatherford**

Daily Activity Report

Drilling Services
v5.1.7322

Day 9 - 2020/02/29

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Manuel Gonzalez

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 8809.0 ft

END DEPTH: 9429.0 ft

PROGRESS: 620.0 ft

AVG. ROP.: 53.9 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:35	Rotating With Motor	1.58	8879	2	08:25-08:30	Circ & Accumulate Surveys - @ 9184	0.08	9256	2
01:35-01:40	Circ & Accumulate Surveys - 8807' 0.00/41.28	0.08	8879	2	08:30-09:40	Rotating With Motor	1.17	9350	2
01:40-03:35	Rotating With Motor	1.92	8973	2	09:40-09:45	Circ & Accumulate Surveys - @ 9278	0.08	9350	2
03:35-03:40	Circ & Accumulate Surveys - 8901' 0.36/251.05	0.08	8973	2	09:45-10:45	Rotating With Motor	1.00	9409	2
03:40-05:15	Rotating With Motor	1.58	9068	2	10:45-12:00	Orienting With Motor - 20' @ 180	1.25	9429	2
05:15-05:20	Circ & Accumulate Surveys - 0.35/239.60	0.08	9068	2	12:00-12:05	Circ & Accumulate Surveys - @ 9357	0.08	9429	2
05:20-06:45	Rotating With Motor	1.42	9162	2	12:05-18:05	Circ & Condition Hole	6.00	9429	2
06:45-06:50	Circ & Accumulate Surveys - @ 9090	0.08	9162	2	18:05-24:00	POOH To Change BHA	5.92	9429	2
06:50-08:25	Rotating With Motor	1.58	9256	2			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 11.50	ORIENTING HRS: 1.25	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 10.25	MOTOR HRS: 18.08
MOTOR REAM: 0.00	TRIP: 5.92	
CIRC: 6.58	ROTARY DRILL: 0.00	OTHER: 0.00
MOTOR HRS: 18.08	DRILL HRS: 11.50	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 1792 ft-lb	STRING WEIGHT: 263000 lbs
WOB SLIDING (HI): 25000 lbf	WOB ROTATE (HI): 40000 lbf
WOB SLIDING (LO): 15000 lbf	WOB ROTATE (LO): 35000 lbf
RPM (ROTARY): 40 rpm	DRAG UP: 295000 lbf
RPM (MOTOR): 140 rpm	DRAG DN: 245000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: 8.75" Vertical	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: 8 5/8"	SERIAL#: 675-36-294	MODEL: 7/8_5.7
SETTING: 1.15 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 7/8
MANFCT: Ultrerra	BIT TYPE: 8.75" PDC Bit	TYPE: RPS616	MTR HRS THIS DAY: 18.083333333333
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD			MTR HRS TO DATE: 65.083333333333
			NOZZLES: 1.04 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 2521	PRESSURE OFF BTM: 2219	TOTAL FLOW RATE: 597.70 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 78.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 79.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

DRL F/ 8,809' - T/9,492' TD vertical section. We put in a 20' slide before we TD'd this section to help kick off the curve. Once we were under 1deg. it tracked very good and there was no issues keeping it in the window that we were asked to keep it in (5' Radius). Motor was yielding 6-10's there was no real consistency with the motor yields.

CUSTOMER SIGNATURE:

**Weatherford**

Daily Activity Report

Drilling Services
v5.1.7322

Day 10 - 2020/03/01

FILE #: 14083591
JOB TYPE: Horizontal
RIG & NO: H&P 482WELL NAME: Ghost Rider 22-15 Federal COM 101H
COMPANY: Apache Corp
SURFACE LOCATION: Lea CountySERVICE CO.: Weatherford Drilling Services
SURVEY TYPE: Positive Pulse MWD
FIELD / LOCATION: Delaware Basin Shelf / New Mexico /Company Man: Shannon Smith, Manuel Gonzalez, Carl Napier
DIR Supervisor: Kevin Moss, Jose Ulibarri, Steve Alonzo
MWD Supervisor: Chris HinterlachGROUND ELEV: 3580 ft START DEPTH: 9429.0 ft PROGRESS: 575.0 ft DAILY COST: USD\$0.00
KB ELEV: 3606 ft END DEPTH: 10004.0 ft AVG. ROP.: 75.0 ft/hr PREVIOUS COST: USD\$0.00
TOTAL COST: USD\$0.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-04:00	POOH, Lay Down DC	4.00	9429	2	16:30-17:15	Orienting With Motor - 47' @ 25R	0.75	9650	3
04:00-04:15	Safety Meeting - XO BHA	0.25	9429	2	17:15-17:20	Circ & Accumulate Surveys - @ 9589'	0.08	9650	3
04:15-05:45	Handle Directional Tools	1.50	9429	2	17:20-18:15	Orienting With Motor - 95' @ 5R	0.92	9745	3
05:45-06:00	Shallow Test Tools	0.25	9429	3	18:15-18:20	Circ & Accumulate Surveys - @ 9684'	0.08	9745	3
06:00-06:30	Handle Directional Tools - M/U Bit & Flex's	0.50	9429	3	18:20-19:15	Orienting With Motor - 94' @ 10R	0.92	9839	3
06:30-13:30	RIH	7.00	9429	3	19:15-19:20	Circ & Accumulate Surveys - @ 9778'	0.08	9839	3
13:30-13:35	Circ & Accumulate Surveys - @ 9369'	0.08	9429	3	19:20-19:35	Rotating With Motor	0.25	9855	3
13:35-14:15	Orienting With Motor - 31' @ 180M	0.67	9461	3	19:35-20:10	Orienting With Motor - 61' @ HS-10R	0.58	9916	3
14:15-14:20	Circ & Accumulate Surveys - @ 9400'	0.08	9461	3	20:10-20:40	Rotating With Motor	0.50	9934	3
14:20-15:35	Orienting With Motor - 95' @ 180 M	1.25	9556	3	20:40-20:45	Circ & Accumulate Surveys - @ 9873'	0.08	9934	3
15:35-15:40	Circ & Accumulate Surveys - @ 9495'	0.08	9556	3	20:45-21:50	Orienting With Motor - 70' @ HS	1.08	10004	3
15:40-16:25	Orienting With Motor - 47' @ 20R	0.75	9603	3	21:50-22:10	Other - See Comments - Shut In Well	0.33	10004	3
16:25-16:30	Circ & Accumulate Surveys - @ 9542'	0.08	9603	3	22:10-24:00	Circ & Condition Mud	1.83	10004	3

TIME SUMMARY (hrs):

MOTOR DRILL: 7.67	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00	ROTARY TORQUE: 7000 ft-lb	STRING WEIGHT: 248000 lbs
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 10.17	WOB SLIDING (HI): 60000 lbf	WOB ROTATE (HI): 30000 lbf
MOTOR REAM: 0.00		TRIP: 7.00	WOB SLIDING (LO): 45000 lbf	WOB ROTATE (LO): 20000 lbf
CIRC: 2.50	ROTARY DRILL: 0.00	OTHER: 6.83	RPM (ROTARY): 20 rpm	DRAG UP: 260000 lbf
MOTOR HRS: 10.17	DRILL HRS: 7.67	TOTAL HRS: 24.00	RPM (MOTOR): 233 rpm	DRAG DN: 225000 lbf

DRILLING PARAMETERS:

BHA / MOTOR / BIT INFORMATION:

BHA: 2 HOLE SIZE: 8.75 in SECTION TYPE: 8.75" Vertical SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV STABILIZER: 8 5/8" SERIAL#: 675-36-294 MODEL: 7/8_5.7 LOBE CFG.:7/8
SETTING: 1.15 ° KICKPAD:No SIZE: 7" MTR HRS THIS DAY: 0 MTR HRS TO DATE:65.083333333333
MANFCT: Ulterra BIT TYPE:8.75" PDC Bit TYPE: RPS616 NOZZLES:1.04 in² TFA
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD

BHA: 3 HOLE SIZE: 8.75 in SECTION TYPE: 8.75" Curve SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford STABILIZER: 8 1/4" SERIAL#: 675-43664 MODEL: 5/6 8.1 1.93 LOBE CFG.:5/6
SETTING: 1.93 ° KICKPAD:No SIZE: 6.75" MTR HRS THIS DAY: 10.166666666667 MTR HRS TO DATE:10.166666666667
MANFCT: Hughes BIT TYPE:PDC Bit TYPE: DD406TX NOZZLES:0.979 in² TFA
IADC BIT GRADE: 3 / 1 / CT / N / X / I / WT / BHA

PUMP PARAMETERS

PRESSURE ON BTM: 0 PRESSURE OFF BTM: 1895 TOTAL FLOW RATE: 517.44 gal/min
PUMP 1: TYPE: PZ-11 EFF.: 97.0% SPM: 68.00 LINER: 6.00 in STROKE VOL.: 3.9200 gal/stk
PUMP 2: TYPE: PZ-11 EFF.: 97.0% SPM: 68.00 LINER: 6.00 in STROKE VOL.: 3.9248 gal/stk
PUMP 3: TYPE: PZ-11 EFF.: 97.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: VISC: 0 sec/qt WTR LOSS: 0 cc/30min PV: 0 cP YP: 0 lb/100 ft² pH: 0
DENSITY: 0 lb/gal GEL 0/10: 0.00 lb/100 ft² SAND: 0 SOLIDS: 0 OIL: 0 TEMP: 0 °F
LIQUID BASE: LIQUID RATE: 0 gal/min GAS TYPE: GAS RATE: 0 cu ft/min



Weatherford®

Daily Activity Report

Day 10 - 2020/03/01

Drilling Services

v5.1.7322

COMMENTS:

DRL f/9,429' - t/10004

Run in hole with curve BHA. Kick off curve 30' high(9430'). Motor yield averaging 12°/100' in the beginning of curve.

@ 9880' started gaining mud and getting gas.

@ 10,004' Pick up and shut in well. Casing pressure reading 150. Started weighting up to 9.3. While circulate out gas and monitor well.

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v5.1.7322

Day 11 - 2020/03/02

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Manuel Gonzalez

DIR Supervisor: Kevin Moss, Claude Shull, Jose Ulibarri, Steve Alonzo

MWD Supervisor: Chris Hinterlach

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 10004.0 ft

END DEPTH: 10182.0 ft

PROGRESS: 178.0 ft

AVG. ROP.: 54.8 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-06:00	Circ & Condition Mud	6.00	10004	3	14:30-14:45	Rotating With Motor	0.25	10170	3
06:00-06:15	Orienting With Motor - 8' @ 0HS	0.25	10012	3	14:45-14:50	Circ & Accumulate Surveys - @ 10109	0.08	10170	3
06:15-11:45	Circ & Condition Mud - Shut In Well	5.50	10012	3	14:50-15:00	Orienting With Motor - 12' @ 0 HS	0.17	10182	3
11:45-12:00	Orienting With Motor - 16' @ 0 HS	0.25	10028	3	15:00-20:30	Circ & Condition Hole	5.50	10182	3
12:00-12:05	Circ & Accumulate Surveys - @ 9967	0.08	10028	3	20:30-22:45	POOH To Change BHA - To 8050'	2.25	10182	3
12:05-14:00	Orienting With Motor - 95' @ 20R	1.92	10028	3	22:45-23:00	Circulating	0.25	10182	3
14:00-14:05	Circ & Accumulate Surveys - @ 10062	0.08	10028	3	23:00-23:30	POOH To Change BHA - To 7510'	0.50	10182	3
14:05-14:30	Orienting With Motor - 33' @ 10R	0.42	10156	3	23:30-24:00	Circulating	0.50	10182	3

TIME SUMMARY (hrs):

MOTOR DRILL:	3.25	ORIENTING HRS:	3.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	0.25	MOTOR HRS:	21.25
MOTOR REAM:	0.00			TRIP:	2.75
CIRC:	18.00	ROTARY DRILL:	0.00	OTHER:	0.00
MOTOR HRS:	21.25	DRILL HRS:	3.25	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	7000 ft-lb	STRING WEIGHT	250000 lbs
WOB SLIDING (HI):	60000 lbf	WOB ROTATE (HI):	30000 lbf
WOB SLIDING (LO):	50000 lbf	WOB ROTATE (LO):	25000 lbf
RPM (ROTARY):	20 rpm	DRAG UP:	270000 lbf
RPM (MOTOR):	223 rpm	DRAG DN:	23800 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 8.75 in	SECTION TYPE: 8.75" Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: 8 1/4"	SERIAL#: 675-43664	MODEL: 5/6 8.1 1.93
SETTING: 1.93 °	KICKPAD: No	SIZE: 6.75"	LOBE CFG: 5/6
MANFCT: Hughes	BIT TYPE: PDC Bit	TYPE: DD406TX	MTR HRS THIS DAY: 21.25
IADC BIT GRADE: 3 / 1 / CT / N / X / I / WT / BHA			MTR HRS TO DATE: 31.416666666666666
			NOZZLES: 0.979 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 517.75 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 68.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 68.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Continue to circulate out gas and weight up to 9.4. Started loosening mud. Pumping LCM sweeps as need to minimize losses. Once we were able to continue to drill ahead we landed curve and circulate out gas. Pump slug and POOH monitor well. Pull out to 7510 and circulate out gas.

CUSTOMER SIGNATURE: _____

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Day 12 - 2020/03/03**FILE #:** 14083591**JOB TYPE:** Horizontal**RIG & NO:** H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H**COMPANY:** Apache Corp**SURFACE LOCATION:** Lea County**SERVICE CO.:** Weatherford Drilling Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Delaware Basin Shelf / New Mexico /**Company Man:** Shannon Smith, Manuel Gonzalez**DIR Supervisor:** Claude Shull, Steve Alonzo**MWD Supervisor:** Chris Hinterlach**GROUND ELEV:** 3580 ft**KB ELEV:** 3606 ft**START DEPTH:** 10182.0 ft**END DEPTH:** 10182.0 ft**PROGRESS:** 0.0 ft**AVG. ROP.:** 0.0 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-03:30	Circulating	3.50	10182	3	16:00-17:30	Circ & W.O.O.	1.50	10182	3
03:30-05:30	Snub Out - Strip out to Shoe	2.00	10182	3	17:30-19:30	Strip In - To 9861'	2.00	10182	3
05:30-13:00	Circ & W.O.O.	7.50	10182	3	19:30-24:00	Circ & W.O.O.	4.50	10182	3
13:00-16:00	Strip In	3.00	10182	3			0.00		

TIME SUMMARY (hrs):**MOTOR DRILL:** 0.00**TIME DRILL:** 0.00**MOTOR REAM:** 0.00**CIRC:** 17.00**MOTOR HRS:** 17.00**ORIENTING HRS:** 0.00**ROTATING HRS:** 0.00**ROTARY DRILL:** 0.00**DRILL HRS:** 0.00**ROTARY DRILL:** 0.00**MOTOR HRS:** 17.00**TRIP:** 7.00**OTHER:** 0.00**TOTAL HRS:** 24.00**DRILLING PARAMETERS:****ROTARY TORQUE:****WOB SLIDING (HI):** 0 lbf**WOB SLIDING (LO):** 0 lbf**RPM (ROTARY):****RPM (MOTOR):****STRING WEIGHT** 0 lbs**WOB ROTATE (HI):** 0 lbf**WOB ROTATE (LO):** 0 lbf**DRAG UP:** 0 lbf**DRAG DN:** 0 lbf**BHA / MOTOR / BIT INFORMATION:****BHA:** 3**HOLE SIZE:** 8.75 in**SECTION TYPE:** 8.75" Curve**SURVEY TYPE:** Positive Pulse MWD**MANFCT.:** Weatherford**STABILIZER:** 8 1/4"**SERIAL#:** 675-43664**MODEL:** 5/6 8.1 1.93**LOBE CFG.:** 5/6**SETTING:** 1.93 °**KICKPAD:** No**SIZE:** 6.75"**MTR HRS THIS DAY:** 17**MTR HRS TO DATE:** 48.41666666666666**MANFCT:** Hughes**BIT TYPE:** PDC Bit**TYPE:** DD406TX**NOZZLES:** 0.979 in² TFA**IADC BIT GRADE:** 3 / 1 / CT / N / X / I / WT / BHA**PUMP PARAMETERS****PRESSURE ON BTM:** 0**PRESSURE OFF BTM:** 0**TOTAL FLOW RATE:** 0.00 gal/min**PUMP 1:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk**PUMP 2:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk**PUMP 3:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk**MUD RECORD****MUD TYPE:****VISC:** 0 sec/qt**WTR LOSS:** 0 cc/30min**PV:** 0 cP**YP:** 0 lb/100 ft²**pH:** 0**DENSITY:** 0 lb/gal**GEL 0/10:** 0.00 lb/100 ft²**SAND:** 0**SOLIDS:** 0**OIL:** 0**TEMP:** 0 °F**LIQUID BASE:****LIQUID RATE:** 0 gal/min**GAS TYPE:****GAS RATE:** 0 cu ft/min**COMMENTS:**

Operating:

Circulate out gas and pump pill. Continue to attempt to kill well @ Shoe 5000', W.O.O from Apache. Charging standby rate while doing anything other than tripping as per bid.

Strip in hole to 9761' and circulate out gas.

CUSTOMER SIGNATURE:

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Day 13 - 2020/03/04

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Manuel Gonzalez

DIR Supervisor: Claude Shull, Steve Alonzo

MWD Supervisor: Chris Hinterlach

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 10182.0 ft

END DEPTH: 10182.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-08:00	Circ & Condition Mud	8.00	10182	3	13:15-13:45	Rig Service	0.50	10182	3
08:00-10:05	Snub Out - Strip Out	2.08	10182	3	13:45-15:00	Snub Out - Strip Out	1.25	10182	3
10:05-11:20	Circ & Condition Hole	1.25	10182	3	15:00-15:45	Other - See Comments - Undefined	0.75	10182	3
11:20-11:50	Wait On Orders	0.50	10182	3	15:45-18:40	POOH To Change BHA	2.92	10182	3
11:50-12:15	Circ & Condition Hole	0.42	10182	3	18:40-22:45	Wait On Orders - Well Control	4.08	10182	3
12:15-13:15	Snub Out	1.00	10182	3	22:45-24:00	Handle Directional Tools	1.25	10182	3

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 9.67
MOTOR REAM: 0.00		TRIP: 7.25
CIRC: 9.67	ROTARY DRILL: 0.00	OTHER: 7.08
MOTOR HRS: 9.67	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 8.75 in	SECTION TYPE: 8.75" Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: 8 1/4"	SERIAL#: 675-43664	MODEL: 5/6 8.1 1.93
SETTING: 1.93 °	KICKPAD: No	SIZE: 6.75"	LOBE CFG.: 5/6
MANFCT: Hughes	BIT TYPE: PDC Bit	TYPE: DD406TX	MTR HRS THIS DAY: 9.666666666666667
IADC BIT GRADE: 3 / 1 / CT / N / X / I / WT / BHA			NOZZLES: 0.979 in ² TFA
			NOZZLE HRS TO DATE: 58.08333333333333

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in
PUMP 2: TYPE: PZ-11	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in
PUMP 3: TYPE: PZ-11	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in
		STROKE VOL.: 0.0000 gal/stk
		STROKE VOL.: 0.0000 gal/stk
		STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Operating:

Continue with well control, circulating gas out, building volume, pumping 14# pill, strip out F/ 9761' T/ 6947', pump btms up, Strip out F/ 9761' T/ 5007', perform flow check, no flow, POOH to X-O BHA.

Perform flow check before handling directional tools.

Once on surface laid down flex NMDC, motor drain good with no visual defects seen. Changed out motor, mwd, Bit , and and pick up slick NMDC.

CUSTOMER SIGNATURE: _____

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Day 14 - 2020/03/05**FILE #:** 14083591**JOB TYPE:** Horizontal**RIG & NO:** H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H**COMPANY:** Apache Corp**SURFACE LOCATION:** Lea County**SERVICE CO.:** Weatherford Drilling Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Delaware Basin Shelf / New Mexico /**Company Man:** Carl Napier, Manuel Gonzalez**DIR Supervisor:** Claude Shull, Steve Alonzo**MWD Supervisor:** Chris Hinterlach, Luke Shea**GROUND ELEV:** 3580 ft**KB ELEV:** 3606 ft**START DEPTH:** 10182.0 ft**END DEPTH:** 10182.0 ft**PROGRESS:** 0.0 ft**AVG. ROP.:** 0.0 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:00	Handle Directional Tools	1.00	10182	4	11:05-12:05	Circ & Condition Hole	1.00	10182	4
01:00-01:15	Shallow Test Tools	0.25	10182	4	12:05-13:15	RIH With Directional	1.17	10182	4
01:15-04:20	RIH - To 5070'	3.08	10182	4	13:15-15:10	Circ & Condition Hole	1.92	10182	4
04:20-04:55	Circulating	0.58	10182	4	15:10-15:55	RIH With Directional - To 8000'	0.75	10182	4
04:55-08:05	Other - See Comments - See daily comments	3.17	10182	4	15:55-18:35	Circ & Condition Hole	2.67	10182	4
08:05-08:35	Circ & Condition Mud	0.50	10182	4	18:35-19:00	RIH With Directional - To 8560'	0.42	10182	4
08:35-09:35	Other - See Comments - x-o oring rot head	1.00	10182	4	19:00-21:05	Circ & Condition Hole	2.08	10182	4
09:35-10:00	Other - See Comments - X-O Gskt on FL	0.42	10182	4	21:05-21:30	RIH With Directional - To 9021'	0.42	10182	4
10:00-10:45	Displace Hole - w/ 8.8ppg MW	0.75	10182	4	21:30-23:50	Circ & Condition Hole	2.33	10182	4
10:45-11:05	Other - See Comments - shut in well	0.33	10182	4	23:50-24:00	RIH With Directional	0.17	10182	4

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00
MOTOR REAM: 0.00	
CIRC: 11.83	ROTARY DRILL: 0.00
MOTOR HRS: 11.83	DRILL HRS: 0.00

ROTARY DRILL: 0.00	MOTOR HRS: 11.83
TRIP: 6.00	
OTHER: 6.17	
TOTAL HRS: 24.00	

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY): 10 rpm	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 8.5 in	SECTION TYPE: 8.5" Lateral	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: No	SERIAL#: 713-50-0019	MODEL: ERT 6/7 7.8
SETTING: 1.5 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 11.833333333333333
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD			NOZZLES: 1.04 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 236.03 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 62.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine/ Oil/ Pol	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE: Cut Poly/		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Operating:

Continue to change out tools. Successful shallow test tools with with bit @ 384 gpm that produced 420 SPP. Install rotating head and trip in hole.

R.I.H to 5070' and take check shot for corrections. Circulate as per apache. Fill hole down back side with fresh water, Pipe is full of drill fluid and back side is full of fresh water to en duce returns. Once returns were observed from backside we attempted to attain returns through string, observed a 82 BBL loss in 25 minutes, MW 8.8 in, 8.3+ out. Rotating head started leaked, X-O rotating head gasket, x-o leaking flowline gasket. Established returns W/ 8.8ppg MW, induced kick, Shut in and monitor Pressure. Strip in hole F/ 5070' T/ 7053'. Circulate and condition hole. Continue to stage in hole and circulate and condition hole every 500' until on bottom.



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Day 14 - 2020/03/05

Received email pertaining to DD/ MWD responsibilities when arriving at location, to verify wells to drill and well to be drilled. This is part of the DD SOP section 4.5 DD checks and Pre-Run Paperwork and should be taken seriously. If you have a smart phone download the "WhereAmIAt?" APP and when it's placed on or near the wellhead it will give Lat, Lon and Elevation and can be compared against the Plan. I reviewed DD SOP section 4.5 with MWD hands Chris Hinterlach, Luke Shea and night DD Steve Alonzo.

CUSTOMER SIGNATURE: _____

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Day 15 - 2020/03/06**FILE #:** 14083591**JOB TYPE:** Horizontal**RIG & NO:** H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H**COMPANY:** Apache Corp**SURFACE LOCATION:** Lea County**SERVICE CO.:** Weatherford Drilling Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Delaware Basin Shelf / New Mexico /**Company Man:** Carl Napier, Manuel Gonzalez**DIR Supervisor:** Claude Shull, Steve Alonzo**MWD Supervisor:** Luke Shea**GROUND ELEV:** 3580 ft**KB ELEV:** 3606 ft**START DEPTH:** 10182.0 ft**END DEPTH:** 10832.0 ft**PROGRESS:** 650.0 ft**AVG. ROP.:** 98.8 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:55	RIH With Directional	0.92	10182	4	16:50-17:55	Rotating With Motor	1.08	10342	4
00:55-03:10	Circ & Condition Hole	2.25	10182	4	17:55-18:00	Circ & Accumulate Surveys - @ 10272'	0.08	10342	4
03:10-03:40	RIH With Directional - To 10119'	0.50	10182	4	18:00-18:05	Rotating With Motor	0.08	10351	4
03:40-06:50	Circ & Condition Hole	3.17	10182	4	18:05-18:20	Orienting With Motor - 8' 30L	0.25	10359	4
06:50-07:40	Other - See Comments - repl rot heat rubber	0.83	10182	4	18:20-18:50	Rotating With Motor	0.50	10436	4
07:40-08:35	Other - See Comments - undefined	0.92	10182	4	18:50-18:55	Circ & Accumulate Surveys - @ 10366'	0.08	10436	4
08:35-08:50	Circ & Condition Mud	0.25	10182	4	18:55-19:20	Rotating With Motor	0.42	10531	4
08:50-08:55	Wash To Bottom	0.08	10182	4	19:20-19:55	Circ & Accumulate Surveys - @ 10461'	0.58	10531	4
08:55-09:25	Other - See Comments - undefined W.O.O	0.50	10182	4	19:55-20:05	Rotating With Motor	0.17	10555	4
09:25-09:30	Wash To Bottom	0.08	10182	4	20:05-20:45	Orienting With Motor - 15' @ 60 L	0.67	10570	4
09:30-09:40	Rotating With Motor	0.17	10213	4	20:45-21:05	Rotating With Motor	0.33	10625	4
09:40-09:40	Other - See Comments - shut in well	0.00	10213	4	21:05-21:10	Circ & Accumulate Surveys - @ 10555'	0.08	10625	4
09:40-10:20	Other - See Comments - x-o rot head rubber	0.67	10213	4	21:10-21:35	Orienting With Motor - 18' @ HSL	0.42	10643	4
10:20-11:50	Circulating - See Comments - gas	1.50	10213	4	21:35-22:05	Rotating With Motor	0.50	10720	4
11:50-12:30	Other - See Comments - x-o rot head rubber	0.67	10213	4	22:05-22:15	Circ & Accumulate Surveys - @ 10650'	0.17	10720	4
12:30-13:50	Wait On Orders	1.33	10213	4	22:15-22:55	Orienting With Motor - 15' @ 60 L	0.67	10735	4
13:50-16:25	Circ & Condition Mud	2.58	10213	4	22:55-23:25	Rotating With Motor	0.50	10814	4
16:25-16:40	Rotating With Motor	0.25	10248	4	23:25-23:30	Circ & Accumulate Surveys - @ 10744'	0.08	10814	4
16:40-16:45	Circ & Accumulate Surveys - @ 10178'	0.08	10248	4	23:30-24:00	Orienting With Motor - 18' @ 30 L	0.50	10832	4
16:45-16:50	Rotating With Motor	0.08	10261	4			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 6.58	ORIENTING HRS: 2.50	ROTARY DRILL: 0.00	ROTARY TORQUE: 18800 ft-lb	STRING WEIGHT 250000 lbs
TIME DRILL: 0.00	ROTATING HRS: 4.08	MOTOR HRS: 17.67	WOB SLIDING (HI): 45000 lbf	WOB ROTATE (HI): 35000 lbf
MOTOR REAM: 0.00		TRIP: 1.42	WOB SLIDING (LO): 30000 lbf	WOB ROTATE (LO): 30000 lbf
CIRC: 11.08	ROTARY DRILL: 0.00	OTHER: 4.92	RPM (ROTARY): 40 rpm	DRAG UP: 285000 lbf
MOTOR HRS: 17.67	DRILL HRS: 6.58	TOTAL HRS: 24.00	RPM (MOTOR): 160 rpm	DRAG DN: 225000 lbf

DRILLING PARAMETERS:**BHA / MOTOR / BIT INFORMATION:****BHA:** 4**HOLE SIZE:** 8.5 in**SECTION TYPE:** 8.5" Lateral**SURVEY TYPE:** Positive Pulse MWD**MANFCT.:** NOV**STABILIZER:** No**SERIAL#:** 713-50-0019**MODEL:** ERT 6/7 7.8**LOBE CFG.:** 6/7**SETTING:** 1.5 °**KICKPAD:** No**SIZE:** 7"**MTR HRS THIS DAY:** 17.66666666 **MTR HRS TO DATE:** 29.5**MANFCT:** NOV**BIT TYPE:** PDC Bit**TYPE:** SKC619M**NOZZLES:** 1.04 in² TFA**IADC BIT GRADE:** 2 / 3 / FC / S / X / I / WT / TD

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Day 15 - 2020/03/06**PUMP PARAMETERS****PRESSURE ON BTM:** 2800**PRESSURE OFF BTM:** 1915**TOTAL FLOW RATE:** 494.91 gal/min**PUMP 1:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 65.00**LINER:** 6.00 in**STROKE VOL.:** 3.9248 gal/stk**PUMP 2:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 65.00**LINER:** 6.00 in**STROKE VOL.:** 3.9248 gal/stk**PUMP 3:** TYPE: PZ-11**EFF.:** 97.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk**MUD RECORD****MUD TYPE:** Cut Brine/ Oil/**VISC:** 0 sec/qt**WTR LOSS:** 0 cc/30min**PV:** 0 cP**YP:** 0 lb/100 ft²**pH:** 0**DENSITY:** 9 lb/gal**GEL 0/10:** 0.00 lb/100 ft²**SAND:** 0**SOLIDS:** 0**OIL:** 0**TEMP:** 0 °F**LIQUID BASE:** Brine**LIQUID RATE:** 0 gal/min**GAS TYPE:****GAS RATE:** 0 cu ft/min**COMMENTS:**

Operating:

Continue to stage in hole circulating and condition hole every 500'.

@ 0930 we resumed drilling, CP was 83 psi when we started and steadily climbed to 235 psi and we gained 6 bbls, at which time the rotating rubber blew, by the time the well was shut in and secure we took a 22BBL gain and the SICP= 360psi and climbed to 363. X-O Rot head rubber, circulate kick out, pumped 75 bbls away before we attained returns.

While attempting to take survey @ 10,461' we were unable to get survey due to detection issues. Notice a stroke counter not working and got it fixed. While working on stroke counter lost 500 psi., Trouble shoot pressure loss. Found that there was an issue with #1 pump. Recycle for survey with #2 & 3 pump and had no issues getting survey.

Control Drill Under balance F/ 10183' T/10832' as per plan P2v1.

CUSTOMER SIGNATURE:



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Drilling Services
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Day 16 - 2020/03/07

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Carl Napier, Manuel Gonzalez

DIR Supervisor: Claude Shull, Steve Alonzo

MWD Supervisor: Luke Shea

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 10832.0 ft

END DEPTH: 11880.0 ft

PROGRESS: 1048.0 ft

AVG. ROP.: 105.7 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:25	Rotating With Motor	0.42	10909	4	08:10-08:25	Circ & Condition Hole	0.25	11570	4
00:25-00:30	Circ & Accumulate Surveys - @ 10839'	0.08	10909	4	08:25-08:30	Circ & Accumulate Surveys - @ 11500'	0.08	11570	4
00:30-01:00	Rotating With Motor	0.50	11003	4	08:30-08:40	Circ & Condition Hole	0.17	11570	4
01:00-01:05	Circ & Accumulate Surveys - @ 10933'	0.08	11003	4	08:40-09:15	Rotating With Motor	0.58	11664	4
01:05-01:45	Orienting With Motor - 24' @ 90 L	0.67	11027	4	09:15-09:25	Circ & Condition Hole	0.17	11664	4
01:45-02:05	Rotating With Motor	0.33	11098	4	09:25-09:30	Circ & Accumulate Surveys - @ 11594'	0.08	11664	4
02:05-02:10	Circ & Accumulate Surveys - @ 11028'	0.08	11098	4	09:30-09:35	Rotating With Motor	0.08	11674	4
02:10-02:45	Rotating With Motor	0.58	11192	4	09:35-09:55	Orienting With Motor - 15' @ 180	0.33	11689	4
02:45-02:50	Circ & Accumulate Surveys - @ 11,122'	0.08	11192	4	09:55-10:05	Circ & Condition Hole	0.17	11689	4
02:50-03:10	Rotating With Motor	0.33	11237	4	10:05-10:05	Other - See Comments - Shut in wel SICP 258	0.00	11689	4
03:10-03:45	Orienting With Motor - 20' @ 180	0.58	11257	4	10:05-13:25	Other - See Comments - condition mud	3.33	11689	4
03:45-04:00	Rotating With Motor	0.25	11286	4	13:25-15:30	Circulating - See Comments - circ gas out	2.08	11689	4
04:00-04:05	Circ & Accumulate Surveys - @ 11216'	0.08	11286	4	15:30-16:55	Undefined - See Comments - condition mud	1.42	11689	4
04:05-04:40	Rotating With Motor	0.58	11381	4	16:55-20:00	Circulating - See Comments - circ gas out	3.08	11689	4
04:40-04:45	Circ & Accumulate Surveys - @ 11311'	0.08	11381	4	20:00-21:30	Rotating With Motor	1.50	11759	4
04:45-05:25	Rotating With Motor	0.67	11475	4	21:30-21:35	Circ & Accumulate Surveys - @ 11689'	0.08	11759	4
05:25-06:35	Circ & Condition Hole - out Gas	1.17	11475	4	21:35-22:55	Rotating With Motor	1.33	11854	4
06:35-06:55	Other - See Comments - x-o rot rubber	0.33	11475	4	22:55-23:00	Circ & Accumulate Surveys - @ 11784'	0.08	11854	4
06:55-07:35	Circ & Condition Hole	0.67	11475	4	23:00-23:15	Rotating With Motor	0.25	11865	4
07:35-07:40	Circ & Accumulate Surveys - @ 11405'	0.08	11570	4	23:15-23:35	Circ & Condition Mud - Detection Issues	0.33	11865	4
07:40-08:10	Rotating With Motor	0.50	11570	4	23:35-24:00	Orienting With Motor - 15' @ 140 L	0.42	11880	4

TIME SUMMARY (hrs):

MOTOR DRILL: 9.92	ORIENTING HRS: 2.00	ROTARY DRILL: 0.00	ROTARY TORQUE: 20000 ft-lb	STRING WEIGHT 250000 lbs
TIME DRILL: 0.00	ROTATING HRS: 7.92	MOTOR HRS: 18.92	WOB SLIDING (HI): 45000 lbf	WOB ROTATE (HI): 40000 lbf
MOTOR REAM: 0.00		TRIP: 0.00	WOB SLIDING (LO): 35000 lbf	WOB ROTATE (LO): 35000 lbf
CIRC: 9.00	ROTARY DRILL: 0.00	OTHER: 5.08	RPM (ROTARY): 50 rpm	DRAG UP: 285000 lbf
MOTOR HRS: 18.92	DRILL HRS: 9.92	TOTAL HRS: 24.00	RPM (MOTOR): 185 rpm	DRAG DN: 225000 lbf

DRILLING PARAMETERS:

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 8.5 in	SECTION TYPE: 8.5" Lateral	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: No	SERIAL#: 713-50-0019	MODEL: ERT 6/7 7.8
SETTING: 1.5 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 18.916666666666666
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD			TOTAL HRS TO DATE: 48.416666666666666
			NOZZLES: 1.04 in ² TFA

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Daily Activity Report

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Day 16 - 2020/03/07**PUMP PARAMETERS****PRESSURE ON BTM: 0****PRESSURE OFF BTM: 1920****TOTAL FLOW RATE: 574.86 gal/min****PUMP 1: TYPE: PZ-11****EFF.: 97.0%****SPM: 75.00****LINER: 6.00 in****STROKE VOL.: 3.9248 gal/stk****PUMP 2: TYPE: PZ-11****EFF.: 97.0%****SPM: 76.00****LINER: 6.00 in****STROKE VOL.: 3.9248 gal/stk****PUMP 3: TYPE: PZ-11****EFF.: 97.0%****SPM: 0.00****LINER: 0.00 in****STROKE VOL.: 0.0000 gal/stk****MUD RECORD****MUD TYPE: Brine/ or Salt****VISC: 0 sec/qt****WTR LOSS: 0 cc/30min****PV: 0 cP****YP: 0 lb/100 ft²****pH: 0****DENSITY: 9.3 lb/gal****GEL 0/10: 0.00 lb/100 ft²****SAND: 0****SOLIDS: 0****OIL: 0****TEMP: 0 °F****LIQUID BASE: Brine****LIQUID RATE: 0 gal/min****GAS TYPE:****GAS RATE: 0 cu ft/min****COMMENTS:**

Operating:

Control Drilling @ 150'/ hr under balanced F/ 10832' T/ 11880" per P2V1.

We are sliding only as absolutely necessary due to hazards of unstable well conditions.

Well was shut in @ 11690' md. with 227 on casing pressure. Circulate and condition mud(weight up) attempting to get casing pressure below 100 psi before drilling ahead. Seen a max of 510 psi casing pressure.

Once we able to drill ahead, control drill at 50' hr and stage rop up slowly. Started drill with a flow rate of 580 and had to lower it to 503 due to losses.

CUSTOMER SIGNATURE:

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Daily Activity Report

Drilling Services
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Day 17 - 2020/03/08

FILE #: 14083591
JOB TYPE: Horizontal
RIG & NO: H&P 482WELL NAME: Ghost Rider 22-15 Federal COM 101H
COMPANY: Apache Corp
SURFACE LOCATION: Lea CountySERVICE CO.: Weatherford Drilling Services
SURVEY TYPE: Positive Pulse MWD
FIELD / LOCATION: Delaware Basin Shelf / New Mexico /Company Man: Carl Napier, Manuel Gonzalez
DIR Supervisor: Claude Shull, Steve Alonzo
MWD Supervisor: Luke SheaGROUND ELEV: 3580 ft START DEPTH: 11880.0 ft PROGRESS: 1144.0 ft DAILY COST: USD\$0.00
KB ELEV: 3606 ft END DEPTH: 13024.0 ft AVG. ROP.: 86.3 ft/hr PREVIOUS COST: USD\$0.00
TOTAL COST: USD\$0.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	Rotating With Motor	0.50	11894	4	14:30-14:45	Orienting With Motor - 9' @ 110L	0.25	12344	4
00:30-02:00	Circ & Condition Mud	1.50	11894	4	14:45-15:25	Circulating - See Comments - circ gas out	0.67	12344	4
02:00-03:00	Other - See Comments - Daylight Savings	1.00	11894	4	15:25-15:35	Orienting With Motor - 9' @ 110L	0.17	12353	4
03:00-03:25	Circ & Accumulate Surveys	0.42	11894	4	15:35-16:20	Rotating With Motor	0.75	12420	4
03:25-03:55	Rotating With Motor	0.50	11929	4	16:20-16:25	Circ & Accumulate Surveys - @ 12350'	0.08	12420	4
03:55-04:10	Circulating - Work on Rig Sence	0.25	11929	4	16:25-16:30	Rotating With Motor	0.08	12430	4
04:10-04:25	Rotating With Motor	0.25	11948	4	16:30-16:40	Orienting With Motor - 10' @ 95L	0.17	12440	4
04:25-04:30	Circ & Accumulate Surveys - @ 11878'	0.08	11948	4	16:40-17:45	Rotating With Motor	1.08	12515	4
04:30-05:15	Rotating With Motor	0.75	12042	4	17:45-17:50	Circ & Accumulate Surveys - @ 12445'	0.08	12515	4
05:15-05:20	Circ & Accumulate Surveys - @ 11972'	0.08	12042	4	17:50-17:55	Rotating With Motor	0.08	12525	4
05:20-05:35	Orienting With Motor - 10' @ 140 L	0.25	12052	4	17:55-18:25	Orienting With Motor - 21' @ 100 L	0.50	12546	4
05:35-07:45	Work on Top Drive - Hydraulic Oil Leak	2.17	12052	4	18:25-19:10	Rotating With Motor	0.75	12609	4
07:45-08:05	Rotating With Motor	0.33	12104	4	19:10-19:15	Circ & Accumulate Surveys - @ 12539'	0.08	12609	4
08:05-08:35	Circulating - See Comments - circ gas out	0.50	12104	4	19:15-19:25	Rotating With Motor	0.17	12620	4
08:35-08:45	Rotating With Motor	0.17	12137	4	19:25-20:00	Orienting With Motor - 18' @ 130 L	0.58	12638	4
08:45-09:00	Other - See Comments - undefined	0.25	12137	4	20:00-20:30	Rotating With Motor	0.50	12704	4
09:00-09:05	Circ & Accumulate Surveys - @ 12064'	0.08	12137	4	20:30-20:35	Circ & Accumulate Surveys - @ 12634'	0.08	12704	4
09:05-09:10	Rotating With Motor	0.08	12147	4	20:35-20:55	Orienting With Motor - 20' @ 135 L	0.33	12724	4
09:10-09:20	Orienting With Motor - 9' @ 180	0.17	12156	4	20:55-21:30	Rotating With Motor	0.58	12798	4
09:20-10:20	Rotating With Motor	1.00	12231	4	21:30-21:35	Circ & Accumulate Surveys - @ 12728'	0.08	12798	4
10:20-10:25	Circ & Accumulate Surveys - @ 12161'	0.08	12231	4	21:35-22:25	Rotating With Motor	0.83	12893	4
10:25-11:20	Rotating With Motor	0.92	12326	4	22:25-22:30	Circ & Accumulate Surveys - @ 12823'	0.08	12893	4
11:20-12:20	Other - See Comments - break TDS off DP	1.00	12326	4	22:30-22:55	Rotating With Motor	0.42	12934	4
12:20-12:25	Circ & Accumulate Surveys - @ 12256'	0.08	12326	4	22:55-23:15	Orienting With Motor - 25' @ 140 L	0.33	12959	4
12:25-13:20	Circ & Condition Mud	0.92	12326	4	23:15-23:35	Rotating With Motor	0.33	12987	4
13:20-14:25	Other - See Comments - x-o saver sub	1.08	12326	4	23:35-23:40	Circ & Accumulate Surveys - @ 12917'	0.08	12987	4
14:25-14:30	Rotating With Motor	0.08	12335	4	23:40-24:00	Rotating With Motor	0.33	13024	4

TIME SUMMARY (hrs):

MOTOR DRILL:	13.25	ORIENTING HRS:	2.75
TIME DRILL:	0.00	ROTATING HRS:	10.50
MOTOR REAM:	0.00		
CIRC:	5.25	ROTARY DRILL:	0.00
MOTOR HRS:	18.50	DRILL HRS:	13.25

ROTARY DRILL:	0.00
MOTOR HRS:	18.50
TRIP:	0.00
OTHER:	5.50
TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	14500 ft-lb	STRING WEIGHT	255000 lbs
WOB SLIDING (HI):	40000 lbf	WOB ROTATE (HI):	20000 lbf
WOB SLIDING (LO):	30000 lbf	WOB ROTATE (LO):	2000 lbf
RPM (ROTARY):	55 rpm	DRAG UP:	315000 lbf
RPM (MOTOR):	176 rpm	DRAG DN:	200000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 8.5 in	SECTION TYPE: 8.5" Lateral	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: No	SERIAL#: 713-50-0019	MODEL: ERT 6/7 7.8
SETTING: 1.5 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 18.5
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD			MTR HRS TO DATE: 66.916666666666
			NOZZLES: 1.04 in² TFA



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Daily Activity Report

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Day 17 - 2020/03/08

PUMP PARAMETERS

PRESSURE ON BTM: 2700

PRESSURE OFF BTM: 2420

TOTAL FLOW RATE: 540.60 gal/min

PUMP 1: TYPE: PZ-11

EFF.: 97.0%

SPM: 71.00

LINER: 6.00 in

STROKE VOL.: 3.9248 gal/stk

PUMP 2: TYPE: PZ-11

EFF.: 97.0%

SPM: 71.00

LINER: 6.00 in

STROKE VOL.: 3.9248 gal/stk

PUMP 3: TYPE: PZ-11

EFF.: 97.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine/ or Salt

VISC: 28 sec/qt

WTR LOSS: 0 cc/30min

PV: 0 cP

YP: 0 lb/100 ft²

pH: 0

DENSITY: 9.4 lb/gal

GEL 0/10: 0.00 lb/100 ft²

SAND: 0

SOLIDS: 5

OIL: 1

TEMP: 0 °F

LIQUID BASE: Brine

LIQUID RATE: 0 gal/min

GAS TYPE:

GAS RATE: 0 cu ft/min

COMMENTS:

Operating:

Control Drilling @ 50-100'/ hr under balanced F/ 11880' T/ 13024' per P2V1.

While drilling @ 11894' having erratic pressure causing us to have detection issues. Pick up to circulate and condition mud.

CUSTOMER SIGNATURE: _____

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Daily Activity Report

Drilling Services
v5.1.7322**Day 18 - 2020/03/09****FILE #:** 14083591**JOB TYPE:** Horizontal**RIG & NO:** H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H**COMPANY:** Apache Corp**SURFACE LOCATION:** Lea County**SERVICE CO.:** Weatherford Drilling Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Delaware Basin Shelf / New Mexico /**Company Man:** Carl Napier, Manuel Gonzalez**DIR Supervisor:** Claude Shull, Steve Alonzo**MWD Supervisor:** Luke Shea**GROUND ELEV:** 3580 ft**KB ELEV:** 3606 ft**START DEPTH:** 13024.0 ft**END DEPTH:** 14688.0 ft**PROGRESS:** 1664.0 ft**AVG. ROP.:** 93.3 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:25	Rotating With Motor	0.42	13082	4	10:10-10:15	Circ & Accumulate Surveys - @ 13768'	0.08	13838	4
00:25-00:30	Circulating	0.08	13082	4	10:15-10:30	Rotating With Motor	0.25	13850	4
00:30-00:35	Circ & Accumulate Surveys - @ 13012'	0.08	13082	4	10:30-10:40	Orienting With Motor - 8' @ HS	0.17	13858	4
00:35-00:45	Rotating With Motor	0.17	13092	4	10:40-11:25	Rotating With Motor	0.75	13932	4
00:45-01:25	Orienting With Motor - 30' @ 130 L	0.67	13122	4	11:25-11:30	Circ & Accumulate Surveys - @ 13862'	0.08	13932	4
01:25-01:45	Rotating With Motor	0.33	13176	4	11:30-12:00	Rotating With Motor	0.50	13980	4
01:45-01:50	Circ & Accumulate Surveys - @ 13106'	0.08	13176	4	12:00-12:20	Orienting With Motor - 13' @ LS	0.33	13993	4
01:50-02:35	Rotating With Motor	0.75	13271	4	12:20-12:45	Rotating With Motor	0.42	14027	4
02:35-02:40	Circulating	0.08	13271	4	12:45-12:50	Circ & Accumulate Surveys - @ 13957'	0.08	14027	4
02:40-02:45	Circ & Accumulate Surveys - @ 13201'	0.08	13271	4	12:50-13:00	Rotating With Motor	0.17	14051	4
02:45-02:55	Rotating With Motor	0.17	13281	4	13:00-13:30	Orienting With Motor - 11'@ 160L	0.50	14062	4
02:55-03:15	Orienting With Motor - 15' @ 120 L	0.33	13296	4	13:30-14:00	Rotating With Motor	0.50	14122	4
03:15-03:45	Rotating With Motor	0.50	13365	4	14:00-14:05	Circ & Accumulate Surveys - @ 14052'	0.08	14122	4
03:45-04:00	Circ & Accumulate Surveys - @ 13295'	0.25	13365	4	14:05-14:15	Rotating With Motor	0.17	14132	4
04:00-04:45	Rotating With Motor	0.75	13460	4	14:15-14:35	Orienting With Motor - 12'@ 210L	0.33	14144	4
04:45-04:50	Circ & Accumulate Surveys - @ 13390'	0.08	13460	4	14:35-15:15	Rotating With Motor	0.67	14216	4
04:50-05:15	Rotating With Motor	0.42	13509	4	15:15-15:20	Circ & Accumulate Surveys - @ 14146'	0.08	14216	4
05:15-05:40	Orienting With Motor - 15' @ 180	0.42	13524	4	15:20-16:05	Rotating With Motor	0.75	14310	4
05:40-06:00	Rotating With Motor	0.33	13554	4	16:05-20:00	Other - See Comments - X-O Saver Sub	3.92	14310	4
06:00-06:05	Circ & Accumulate Surveys - @ 13484'	0.08	13554	4	20:00-20:50	Rotating With Motor	0.83	14405	4
06:05-07:00	Rotating With Motor	0.92	13649	4	20:50-20:55	Circ & Accumulate Surveys - @ 14335'	0.08	14405	4
07:00-07:05	Circulating - See Comments - SPR's 2-3	0.08	13649	4	20:55-21:50	Rotating With Motor	0.92	14499	4
07:05-07:15	Circ & Accumulate Surveys - @ 13579' x3	0.17	13649	4	21:50-21:55	Circ & Accumulate Surveys - @ 14429'	0.08	14499	4
07:15-07:35	Rotating With Motor	0.33	13660	4	21:55-22:15	Rotating With Motor	0.33	14546	4
07:35-08:10	Orienting With Motor - 13'@ 160L	0.58	13673	4	22:15-22:55	Orienting With Motor - 30' @ 135 L	0.67	14576	4
08:10-09:05	Rotating With Motor	0.92	13743	4	22:55-23:10	Rotating With Motor	0.25	14594	4
09:05-09:05	Circulating - See Comments - SPR's 1-2	0.00	13743	4	23:10-23:15	Circ & Accumulate Surveys - @ 14524'	0.08	14594	4
09:05-09:10	Circ & Accumulate Surveys - @ 13673'	0.08	13743	4	23:15-23:50	Rotating With Motor	0.58	14688	4
09:10-09:55	Rotating With Motor	0.75	13838	4	23:50-24:00	Circulating	0.17	14688	4
09:55-10:10	Circulating - See Comments - finish btms up	0.25	13838	4			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 17.83	ORIENTING HRS: 4.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 13.83	MOTOR HRS: 20.08
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 2.25	ROTARY DRILL: 0.00	OTHER: 3.92
MOTOR HRS: 20.08	DRILL HRS: 17.83	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 28000 ft-lb	STRING WEIGHT 255000 lbs
WOB SLIDING (HI): 45000 lbf	WOB ROTATE (HI): 40000 lbf
WOB SLIDING (LO): 30000 lbf	WOB ROTATE (LO): 30000 lbf
RPM (ROTARY): 60 rpm	DRAG UP: 355000 lbf
RPM (MOTOR): 176 rpm	DRAG DN: 155000 lbf

— **BHA / MOTOR / BIT INFORMATION:** —

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Daily Activity Report

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Day 18 - 2020/03/09

BHA: 4 **HOLE SIZE:** 8.5 in **SECTION TYPE:** 8.5" Lateral **SURVEY TYPE:** Positive Pulse MWD
MANFCT.: NOV **STABILIZER:** No **SERIAL#:** 713-50-0019 **MODEL:** ERT 6/7 7.8 **LOBE CFG.:** 6/7
SETTING: 1.5 ° **KICKPAD:** No **SIZE:** 7" **MTR HRS THIS DAY:** 20.08333333 **MTR HRS TO DATE:** 87
MANFCT: NOV **BIT TYPE:** PDC Bit **TYPE:** SKC619M **NOZZLES:** 1.04 in² TFA
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD

PUMP PARAMETERS

PRESSURE ON BTM: 3230		PRESSURE OFF BTM: 2800		TOTAL FLOW RATE: 571.05 gal/min	
PUMP 1:	TYPE: PZ-11	EFF.: 97.0%	SPM: 75.00	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
PUMP 2:	TYPE: PZ-11	EFF.: 97.0%	SPM: 75.00	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
PUMP 3:	TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 9.4 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE: Brine		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Operating:

Control Drilling @ 125-150'/ hr under balanced F/ 13024' T/ 14688' per P2V1.

CUSTOMER SIGNATURE:

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Daily Activity Report

Day 19 - 2020/03/10**Drilling Services**
v5.1.7322**FILE #:** 14083591
JOB TYPE: Horizontal
RIG & NO: H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H
COMPANY: Apache Corp
SURFACE LOCATION: Lea County**SERVICE CO.:** Weatherford Drilling Services
SURVEY TYPE: Positive Pulse MWD
FIELD / LOCATION: Delaware Basin Shelf / New Mexico /**Company Man:** Carl Napier, Manuel Gonzalez
DIR Supervisor: Claude Shull, Steve Alonzo
MWD Supervisor: Luke Shea**GROUND ELEV:** 3580 ft **START DEPTH:** 14688.0 ft **PROGRESS:** 2097.0 ft **DAILY COST:** USD\$0.00
KB ELEV: 3606 ft **END DEPTH:** 16785.0 ft **AVG. ROP.:** 105.8 ft/hr **PREVIOUS COST:** USD\$0.00
TOTAL COST: USD\$0.00**WORK STATUS:** Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:05	Circulating - SPR	0.08	14688	4	10:35-11:00	Rotating With Motor	0.42	15822	4
00:05-00:10	Circ & Accumulate Surveys - @ 14618'	0.08	14688	4	11:00-11:05	Circ & Accumulate Surveys - @ 15752'	0.08	15822	4
00:10-00:55	Rotating With Motor	0.75	14782	4	11:05-11:15	Rotating With Motor	0.17	15832	4
00:55-01:00	Circulating	0.08	14782	4	11:15-12:15	Circulating - See Comments - x-o rot head	1.00	15832	4
01:00-01:05	Circ & Accumulate Surveys - @ 14712'	0.08	14782	4	12:15-12:45	Orienting With Motor - 10' @ 40R	0.50	15843	4
01:05-01:45	Rotating With Motor	0.67	14877	4	12:45-14:05	Rotating With Motor	1.33	15917	4
01:45-01:50	Circ & Accumulate Surveys - @ 14807'	0.08	14877	4	14:05-14:10	Circ & Accumulate Surveys - @ 15847'	0.08	15917	4
01:50-02:35	Rotating With Motor	0.75	14972	4	14:10-14:55	Rotating With Motor	0.75	16011	4
02:35-02:40	Circ & Accumulate Surveys - @ 14902'	0.08	14972	4	14:55-15:00	Circ & Accumulate Surveys - @ 15941'	0.08	16011	4
02:40-03:10	Rotating With Motor	0.50	15066	4	15:00-15:40	Rotating With Motor	0.67	16106	4
03:10-03:15	Circ & Accumulate Surveys - @ 14996'	0.08	15066	4	15:40-15:45	Circ & Accumulate Surveys - @ 16036'	0.08	16106	4
03:15-03:25	Rotating With Motor	0.17	15076	4	15:45-16:25	Rotating With Motor	0.67	16200	4
03:25-03:50	Orienting With Motor - 15' @ 140 L	0.42	15091	4	16:25-16:30	Circ & Accumulate Surveys - @ 16130'	0.08	16200	4
03:50-04:15	Rotating With Motor	0.42	15161	4	16:30-17:10	Rotating With Motor	0.67	16294	4
04:15-04:20	Circ & Accumulate Surveys - @ 15091'	0.08	15161	4	17:10-17:15	Circ & Accumulate Surveys - @ 16224'	0.08	16294	4
04:20-04:55	Rotating With Motor	0.58	15255	4	17:15-17:55	Rotating With Motor	0.67	16388	4
04:55-05:00	Circ & Accumulate Surveys - @ 15185'	0.08	15255	4	17:55-18:05	Circ & Accumulate Surveys - @ 16318'	0.17	16388	4
05:00-05:35	Rotating With Motor	0.58	15350	4	18:05-18:40	Rotating With Motor	0.58	16483	4
05:35-05:40	Circ & Accumulate Surveys - @ 15280'	0.08	15350	4	18:40-18:45	Circ & Accumulate Surveys - @ 16413'	0.08	16483	4
05:40-06:30	Rotating With Motor	0.83	15444	4	18:45-19:00	Rotating With Motor	0.25	16493	4
06:30-06:35	Circ & Accumulate Surveys - @ 15374'	0.08	15444	4	19:00-19:40	Orienting With Motor - 14' @ 50 R	0.67	16507	4
06:35-06:45	Circulating - See Comments	0.17	15444	4	19:40-20:20	Rotating With Motor	0.67	16578	4
06:45-07:20	Rotating With Motor	0.58	15538	4	20:20-20:30	Circulating - SPR	0.17	16578	4
07:20-07:25	Circ & Accumulate Surveys - @ 15468'	0.08	15538	4	20:30-20:40	Circ & Accumulate Surveys - @ 16508'	0.17	16578	4
07:25-08:00	Rotating With Motor	0.58	15633	4	20:40-21:30	Rotating With Motor	0.83	16658	4
08:00-08:05	Circ & Accumulate Surveys - @ 15563'	0.08	15633	4	21:30-21:50	Circulating - Out Gas	0.33	16658	4
08:05-08:25	Rotating With Motor	0.33	15659	4	21:50-21:55	Rotating With Motor	0.08	16672	4
08:25-08:55	Orienting With Motor - 8' @ 20R	0.50	15667	4	21:55-22:05	Circ & Accumulate Surveys - @ 16602'	0.17	16672	4
08:55-09:20	Rotating With Motor	0.42	15728	4	22:05-22:20	Rotating With Motor	0.25	16690	4
09:20-09:25	Circ & Accumulate Surveys - @ 15658'	0.08	15728	4	22:20-22:55	Orienting With Motor - 14' @ 50 R	0.58	16704	4
09:25-09:50	Rotating With Motor	0.42	15769	4	22:55-23:40	Rotating With Motor	0.75	16767	4
09:50-10:00	Circulating - See Comments - work trapped tq	0.17	15769	4	23:40-23:45	Circ & Accumulate Surveys - @ 16697'	0.08	16767	4
10:00-10:35	Orienting With Motor - 15' @ 25R	0.58	15784	4	23:45-24:00	Rotating With Motor	0.25	16785	4

TIME SUMMARY (hrs):

MOTOR DRILL: 19.83	ORIENTING HRS: 3.25	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 16.58	MOTOR HRS: 24.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 4.17	ROTARY DRILL: 0.00	OTHER: 0.00
MOTOR HRS: 24.00	DRILL HRS: 19.83	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 30000 ft-lb	STRING WEIGHT 257000 lbs
WOB SLIDING (HI): 35000 lbf	WOB ROTATE (HI): 40000 lbf
WOB SLIDING (LO): 30000 lbf	WOB ROTATE (LO): 25000 lbf
RPM (ROTARY): 60 rpm	DRAG UP: 365000 lbf
RPM (MOTOR): 184 rpm	DRAG DN: 150000 lbf

— **BHA / MOTOR / BIT INFORMATION:** —

**Weatherford®**

Daily Activity Report

Drilling Services

v5.1.7322

Day 19 - 2020/03/10

BHA: 4	HOLE SIZE: 8.5 in	SECTION TYPE: 8.5" Lateral	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: No	SERIAL#: 713-50-0019	MODEL: ERT 6/7 7.8
SETTING: 1.5 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 24
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD			MTR HRS TO DATE: 111
			NOZZLES: 1.04 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3320	PRESSURE OFF BTM: 2820	TOTAL FLOW RATE: 571.05 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 75.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 75.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE: Brine		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Operating:

Control Drilling @ 150-200'/ hr under balanced F/ 14688' T/ 16785' per P2V1.

While drilling ahead we have been able to mitigate build/ drop with Rotary RPM. We have since lost slack off and have gotten torqued out by hole drag. MAX RPM now is 45 W/ 30K Torque on TDS. Motor Yielding 8"/100'

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v5.1.7322

Day 20 - 2020/03/11

FILE #: 14083591
JOB TYPE: Horizontal
RIG & NO: H&P 482WELL NAME: Ghost Rider 22-15 Federal COM 101H
COMPANY: Apache Corp
SURFACE LOCATION: Lea CountySERVICE CO.: Weatherford Drilling Services
SURVEY TYPE: Positive Pulse MWD
FIELD / LOCATION: Delaware Basin Shelf / New Mexico /Company Man: Carl Napier, Manuel Gonzalez
DIR Supervisor: Claude Shull, Steve Alonzo
MWD Supervisor: Luke SheaGROUND ELEV: 3580 ft START DEPTH: 16785.0 ft PROGRESS: 715.0 ft DAILY COST: USD\$0.00
KB ELEV: 3606 ft END DEPTH: 17500.0 ft AVG. ROP.: 94.3 ft/hr PREVIOUS COST: USD\$0.00
TOTAL COST: USD\$0.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:40	Orienting With Motor - 20' @ HS	0.67	16805	4	05:30-05:40	Circ & Accumulate Surveys - @ 17169'	0.17	17239	4
00:40-01:05	Rotating With Motor	0.42	16861	4	05:40-05:55	Rotating With Motor	0.25	17239	4
01:05-01:10	Circ & Accumulate Surveys - @ 16791'	0.08	16861	4	05:55-06:00	Circ & Accumulate Surveys - @ 17169'	0.08	17239	4
01:10-01:50	Rotating With Motor	0.67	16956	4	06:00-06:25	Rotating With Motor	0.42	17334	4
01:50-01:55	Circ & Accumulate Surveys - @ 16886'	0.08	16956	4	06:25-06:30	Circ & Accumulate Surveys - @ 17264'	0.08	17334	4
01:55-02:05	Rotating With Motor	0.17	16966	4	06:30-07:30	Rotating With Motor	1.00	17428	4
02:05-02:20	Orienting With Motor - 13' @ 180	0.25	16979	4	07:30-07:45	Circ & Condition Hole	0.25	17428	4
02:20-02:55	Rotating With Motor	0.58	17050	4	07:45-07:50	Circ & Accumulate Surveys - @ 17358'	0.08	17428	4
02:55-03:00	Circ & Accumulate Surveys - @ 16980'	0.08	17050	4	07:50-08:35	Rotating With Motor	0.75	17500	4
03:00-03:10	Rotating With Motor	0.17	17060	4	08:35-15:30	Circ & Condition Hole	6.92	17500	4
03:10-03:45	Orienting With Motor - 18' @ 135 L	0.58	17078	4	15:30-16:00	Other - See Comments	0.50	17500	4
03:45-04:10	Rotating With Motor	0.42	17145	4	16:00-18:30	Other - See Comments - Bullhead Well	2.50	17500	4
04:10-04:15	Circ & Accumulate Surveys - @ 17075'	0.08	17145	4	18:30-20:05	Wait On Orders - Monitor well	1.58	17500	4
04:15-04:25	Rotating With Motor	0.17	17156	4	20:05-22:30	POOH To Run Casing - To 17045'	2.42	17500	4
04:25-04:55	Orienting With Motor - 15' @ 135 L	0.50	17171	4	22:30-23:00	Other - See Comments - Monitor Well	0.50	17500	4
04:55-05:30	Rotating With Motor	0.58	17239	4	23:00-24:00	POOH To Run Casing - To 16196'	1.00	17500	4

TIME SUMMARY (hrs):

MOTOR DRILL: 7.58	ORIENTING HRS: 2.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 5.58	MOTOR HRS: 15.50
MOTOR REAM: 0.00		TRIP: 3.42
CIRC: 7.92	ROTARY DRILL: 0.00	OTHER: 5.08
MOTOR HRS: 15.50	DRILL HRS: 7.58	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 30000 ft-lb	STRING WEIGHT: 260000 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 40000 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 35000 lbf
RPM (ROTARY): 50 rpm	DRAG UP: 365000 lbf
RPM (MOTOR): 184 rpm	DRAG DN: 150000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 8.5 in	SECTION TYPE: 8.5" Lateral	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: No	SERIAL#: 713-50-0019	MODEL: ERT 6/7 7.8
SETTING: 1.5 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 15.5
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD			MTR HRS TO DATE: 126.5
			NOZZLES: 1.04 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3220	PRESSURE OFF BTM: 2820	TOTAL FLOW RATE: 571.05 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 75.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 75.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.9248 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine / Salt	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE: Brine		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min



Day 20 - 2020/03/11

COMMENTS:

Drill to TD 17,500' Circulate and condition hole. Close pipe rams and HCR, Bullhead well with 100bbls of 14.5 ppg. Perform flow check, well not static. Pump 50 bbls 14.5 ppg wait 15 minutes and perform flow check. Well started flowing and decision was made to pump another 100bbls of 14.5 ppg.

Monitor well on trip tank, well started flowing @ a small drip in 20 minutes and started to increasing to 1/4" stream. Well was shut in to make decision on operations.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v5.1.7322

Day 21 - 2020/03/12

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Carl Napier, Manuel Gonzalez

DIR Supervisor: Claude Shull, Steve Alonzo

MWD Supervisor: Luke Shea

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 17500.0 ft

END DEPTH: 17500.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-04:30	POOH To Run Casing - To 9675'	4.50	17500	4	12:30-13:45	Flow Test - Check Flow	1.25	17500	4
04:30-05:10	Flow Test - Flow Check	0.67	17500	4	13:45-14:15	Work Stuck Pipe	0.50	17500	4
05:10-05:45	POOH To Run Casing - to 9204'	0.58	17500	4	14:15-17:00	Work Stuck Pipe & Circ	2.75	17500	4
05:45-06:10	Other - See Comments - Check Flow	0.42	17500	4	17:00-19:30	POOH To Run Casing - To 7282'	2.50	17500	4
06:10-06:30	RIH With Directional - Strip in to 9679'	0.33	17500	4	19:30-20:00	Undefined - See Comments - Monitor Well	0.50	17500	4
06:30-08:00	Wait On Orders	1.50	17500	4	20:00-21:45	POOH To Run Casing - To 4983'	1.75	17500	4
08:00-10:00	Circ Bottoms Up	2.00	17500	4	21:45-22:30	Undefined - See Comments - Monitor Well	0.75	17500	4
10:00-11:00	Wait On Orders	1.00	17500	4	22:30-24:00	POOH To Run Casing	1.50	17500	4
11:00-12:30	Other - See Comments - Bullhead	1.50	17500	4			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 4.75
MOTOR REAM: 0.00		TRIP: 11.17
CIRC: 4.75	ROTARY DRILL: 0.00	OTHER: 8.08
MOTOR HRS: 4.75	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 8.5 in	SECTION TYPE: 8.5" Lateral	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: No	SERIAL#: 713-50-0019	MODEL: ERT 6/7 7.8
SETTING: 1.5 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 4.75
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD			MTR HRS TO DATE: 131.25
			NOZZLES: 1.04 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Continue to POOH and monitor well. Pulled to 9204' and well was started flowing. Trip in to 9679' and circulate bottoms up. Bullhead well with 170bbls of 16ppg. Attempt to POOH and realized we were stuck .
 Calls where made, pick up to 265k, slack off to 100k with pumps on 70spm and 9.4 mud, 22K tq traped in pipe.
 Pull 100K over while 22K tq traped in pipe while bullheading with 384bbls of 9.4 mw, to see if string will break free. Once it broke lose, started to strip out the hole.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Day 22 - 2020/03/13

Drilling Services
v5.1.7322

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Carl Napier, Manuel Gonzalez

DIR Supervisor: Claude Shull, Steve Alonzo

MWD Supervisor: Luke Shea

GROUND ELEV: 3580 ft

KB ELEV: 3606 ft

START DEPTH: 17500.0 ft

END DEPTH: 17500.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:50	POOH To Run Casing	2.83	17500	4	08:00-09:00	Other - See Comments - Load Out Tools	1.00	17500	n/a
02:50-03:45	Lay Down Directional Tools	0.92	17500	4	09:00-09:30	Released	0.50	17500	n/a
03:45-08:00	Wait On Mobilization - Truck for Tools	4.25	17500	n/a	09:30-24:00	Travel Home	14.50	17500	n/a

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 2.83
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 21.17
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 8.5 in	SECTION TYPE: 8.5" Lateral	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: No	SERIAL#: 713-50-0019	MODEL: ERT 6/7 7.8
SETTING: 1.5 °	KICKPAD: No	SIZE: 7"	LOBE CFG.: 6/7
MANFCT: NOV	BIT TYPE: PDC Bit	TYPE: SKC619M	MTR HRS THIS DAY: 0
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD			MTR HRS TO DATE: 131.25
			NOZZLES: 1.04 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 2: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
PUMP 3: TYPE: PZ-11	EFF.: 97.0%	SPM: 0.00
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Continue to POOH and monitor well. Laid down directional tools. No visual defects seen with directional tools. Bit had flat crested wear on shoulder area.

Wait on truck till 08:00 and load out directional tools. Released and travel home.

CUSTOMER SIGNATURE: _____

BHA REPORTS

BHA DATA AND EVALUATION

SECTION 5

**Weatherford®**

BHA Report

Drilling Services
v5.1.7322

BHA 1 - 12.25" Nudge Section

FILE #: 14083591
JOB TYPE: Horizontal
RIG & NO: H&P 482**WELL NAME:** Ghost Rider 22-15 Federal COM 101H
COMPANY: Apache Corp
SURFACE LOCATION: Lea County**SERVICE CO.:** Weatherford Drilling Services
SURVEY TYPE: Positive Pulse MWD
FIELD / LOCATION: Delaware Basin Shelf / New Mexico /**Company Man:** Shannon Smith, Michael Rust
DIR Supervisor: Kevin Moss, Jose Ulibarri
MWD Supervisor: Chris Hinterlach**BHA SURVEY TYPE:** Positive Pulse MWD**HOLE SIZE:** 12.25 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	12.25" PDC Bit	NOV	A259086	SKC619M	12.25	0	0		6 5/8" REG Pin	1.00 ft	1.00 ft
1	8" Drilling Motor	SPERRY	11854612	6/7 6.0 1.15	12	0	0	6 5/8" REG Box	6 5/8" REG Box	38.74 ft	39.74 ft
1	Stabilizer	Stabil Drill	SD19037	Steel	8.25	2.9375	1.92	6 5/8" REG Pin	6 5/8" REG Box	5.42 ft	45.16 ft
1	8" UBHO	Weatherford	800-15230	NON-MAG	7.9375	3.125	0	6 5/8" REG Pin	6 5/8" REG Box	3.62 ft	48.78 ft
1	8" NM TC	Weatherford	77862-77803	NON-MAG	8	3.25	0	6 5/8" REG Pin	6 5/8" REG Box	32.41 ft	81.19 ft
1	Stabilizer	Stabil Drill	SD601148	Non-Mag	8.25	2.875	2.86	6 5/8" REG Pin	6 5/8" REG Box	6.44 ft	87.63 ft
1	8" NMDC	Weatherford	77303	NON-MAG	8.125	4.75	0	6 5/8" REG Pin	6 5/8" REG Box	29.94 ft	117.57 ft
1	8" NMDC	Weatherford	58817	NON-MAG	7.875	3.3125	0	6 5/8" REG Pin	6 5/8" REG Box	27.57 ft	145.14 ft
1	Filter Sub	Weatherford	SD118946	Steel	8	2.8125	0	6 5/8" REG Pin	6 5/8" REG Box	5.65 ft	150.79 ft
1	X/O Sub	Rig	Rig	Steel	8	2.88	0	6 5/8" REG Pin	NC 56 Box	4.01 ft	154.80 ft
3	3-8" Drill Collar	Rig	Rig	Steel	8.01	2.9	0	NC56 Pin	NC56 Box	90.06 ft	244.86 ft
1	X/O-Bell Sub	Rig	RIG	Steel	7.94	2.75	0	NC56 Pin	4 1/2" XH Box	3.51 ft	248.37 ft
15	15-Drill Collar	Rig	Rig	Steel	6.5	2.9375	0	4 1/2" XH Pin	4 1/2" XH Box	447.35 ft	695.72 ft
1	X/O Sub	Rig	Rig	Steel	6.5	2.38	0	4 1/2" XH Pin	4 1/2" IF Box	3.18 ft	698.90 ft
30	30 HWDP	Rig	Rig	Steel	5	3	0	4 1/2" IF Pin	4 1/2" IF Box	920.17 ft	1619.07 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2020/02/22 TO 2020/02/25
DEPTH IN: 1142.00 ft **ANGLE IN:** 0.71 °
DEPTH OUT: 4892.00 ft **ANGLE OUT:** 6.07 °
DRILL HRS: 25.92 **BUILD:** 5.36 °
ORIENTING HRS: 5.67 **HOLE MADE:** 3750.00 ft
ROTATING HRS: 20.25 **AVG R.O.P.:** 144.68 ft/hr

MOTOR INFORMATION

MANFCT. SPERRY **SETTING:** 1.15 °
SERIAL #: 11854612 **KICK PAD:** No
MODEL: 6/7 6.0 1.15 **STABILIZER:** No
LOBE CFG: 6/7 **MOTOR HRS:** 31.25
BIT TO BEND: 6.86

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	97.0%
S.P.M.:	0	0	0
STROKE VOLUME:	0.0 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	0 gal/min		
PUMP PRESSURE:	OFF BTM: 0 psi	ON BTM: 0 psi	

MUD INFORMATION

MUD TYPE: Brine or Salt **LIQUID BASE:** Water
DENSITY: 10 lb/gal **TEMP:** 115 °F
VISCOSITY: 29 sec/qt **pH:** 9.5
WTR LOSS: 0 cc/30min **SAND:** 0 **LIQUID RATE:** 0 gal/min
PLAST VISC: 1 cP **SOLIDS:** 2.8 **GAS TYPE:**
YIELD PT: 0 lb/100 ft² **OIL:** 0 **GAS RATE:** 0 cu ft/min

BIT INFORMATION

MANFCT: NOV **TYPE:** SKC619M **IADC BIT GRADE:** 3 / 4 / BT / A / X / I / WT / TD
NOZZLES: 0.994 in² TFA

REASON FOR BHA CHANGE

Section TD

**BHA 1 - 12.25" Nudge Section**

FORMATION CHARACTERISTICS

Bit-12.25" NOV, SKC619M, 4" Gauge, 9x12's, TFA=.994, Motor 8" Sperry 6/7_6.0 W/ 12" Stabilizer
Lobes- 6/7, Stage- 6:0, .18 Revs per Gal, Min/MAX GPM's= 450-900 MAX Diff = 1,350, BTB 6.86' Adjustable Set @ 1.15° Survey 76.50'
(79'), Gamma-59.92'

MWD COMMENTS

Ahrs used - 11.62
Ahrs remaining - 32.38
Temp Start - 71
Temp End - 135
Orifice - 90
Pulse Amplitude - 25

SIDETRACKING PROCEDURE COMMENTS

N/A

RUN SUMMARY

BHA 1 objective is to drill the 12.25" Nudge section to ~4,892', objective complete @ 4,892', we ran 20-50K WOB, 850 GPM, 400-850 PSI Diff, 30-60 RPM
Motor performed as expected yielding 7-9°/100'. Drilled a total of 3,750' in 25.92 On Bottom Hrs. (Avg of 144.68'/hr. ROP)
Rotating Footage 3324' Rotating time 20.25 hrs. for 78.1% of time.
Slide footage 224' Slide time 5.67hrs. for 21.9% of time
BHA looked good upon returning to surface, motor drained well with no abnormal noise or vibrations. Bit graded out as a 3/4/BT/A/X/I/WT/TD

**Weatherford®**

BHA Report

Drilling Services
v5.1.7322

BHA 2 - 8.75" Vertical Section

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	8.75" PDC Bit	Ultrerra	52240	RPS616	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	7" Drilling Motor	NOV	675-36-294	7/8_5.7	7.625	0	1.34	4 1/2" REG Box	4 1/2" IF Box	32.07 ft	33.07 ft
1	8 5/8" Stabilizer	Stabil Drill	SD 16852	Steel	6.5	2.5625	2.68	4 1/2" IF Pin	4 1/2" IF Box	5.70 ft	38.77 ft
1	6.75" UBHO	Weatherford	51619	NON-MAG	6.5625	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.64 ft	42.41 ft
1	6.75" NM TC	Weatherford	71818/58881	NON-MAG	6.625	3.125	1.19	4 1/2" IF Pin	4 1/2" IF Box	30.57 ft	72.98 ft
1	8 5/8" Stabilizer	Stabil Drill	SD 27500	Non-Mag	6.8125	2.9375	1.77	4 1/2" IF Pin	4 1/2" IF Box	5.49 ft	78.47 ft
1	6.75" NMDC	Weatherford	675-37436	NON-MAG	6.75	3.3125	0	4 1/2" IF Pin	4 1/2" IF Box	29.42 ft	107.89 ft
1	6.75" NMDC	Weatherford	43207	NON-MAG	6.5	2.3125	0	4 1/2" IF Pin	4 1/2" IF Box	28.10 ft	135.99 ft
1	6.75" Filter Sub	Stabil Drill	SD 118879	Steel	6.625	2.875	0	4 1/2" IF Pin	4 1/2" IF Box	5.95 ft	141.94 ft
1	6.75" XO	Stabil Drill	SD 117622	STEEL	6.5	2.875	0	4 1/2" IF Pin	4 1/2" XH Box	3.71 ft	145.65 ft
18	18-Drill Collar	Rig	Rig	Steel	6.5	2.9375	0	4 1/2" XH Pin	4 1/2" XH Box	536.92 ft	682.57 ft
1	X/O Sub	Rig	Rig	Steel	6.5	2.38	0	4 1/2" XH Pin	4 1/2" IF Box	3.18 ft	685.75 ft
30	30 HWDP (2)	Rig	Rig	Steel	5	3	0	4 1/2" IF Pin	4 1/2" IF Box	919.36 ft	1605.11 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2020/02/26 TO 2020/03/01
 DEPTH IN: 4892.00 ft ANGLE IN: 6.07 °
 DEPTH OUT: 9429.00 ft ANGLE OUT: 0.50 °
 DRILL HRS: 53.58 BUILD: -5.57 °
 ORIENTING HRS: 10.75 HOLE MADE: 4537.00 ft
 ROTATING HRS: 42.83 AVG R.O.P.: 84.68 ft/hr

MOTOR INFORMATION

MANFCT. NOV SETTING: 1.15 °
 SERIAL #: 675-36-294 KICK PAD: No
 MODEL: 7/8_5.7 STABILIZER: 8 5/8"
 LOBE CFG: 7/8 MOTOR HRS: 65.08
 BIT TO BEND: 5.36

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	97.0%
S.P.M.:	68	68	0
STROKE VOLUME:	3.92 gal/stk	3.9248 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	517.44024 gal/min		
PUMP PRESSURE:	OFF BTM: 1895 psi	ON BTM: 0 psi	

MUD INFORMATION

MUD TYPE: Brine or Salt LIQUID BASE: Water
 DENSITY: 9 lb/gal TEMP: 0 °F
 VISCOSITY: 30 sec/qt pH: 10
 WTR LOSS: 0 cc/30min SAND: 0 LIQUID RATE: 0 gal/min
 PLAST VISC: 0 cP SOLIDS: 0 GAS TYPE:
 YIELD PT: 0 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Ultrerra TYPE: RPS616 IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD
 NOZZLES: 1.04 in² TFA

REASON FOR BHA CHANGE

TD'd Section

FORMATION CHARACTERISTICS

Bit- 8.75" Ultrerra RPS616, GL-6", Jets- 6x15's, TFA- 1.04

7" NOV ERT 7/8 5.7 W/ 8 5/8" Stabilizer

Lobes- 7/8, Stage- 5:7, Revs per Gal- .233, 300-700 GPM, 1580 MAX Diff, BTB- 5.02' Fixed Set @- 1.15°, Rubber Type- POB, Fit- -



.003, MWD Data- Survey= 69.99 (72'), Gamma= 53.43'

MWD COMMENTS

Ahrs used -
Ahrs remaining -
Temp Start -
Temp End -
Orifice - 75
Pulse Amplitude -

SIDETRACKING PROCEDURE COMMENTS

N/A

RUN SUMMARY

BHA 2 objective is to drill the vertical section to ~9,429, objective incomplete @ 9,429', we ran 20-45K WOB, 400-800 PSI Diff, 40-60 RPM, 475-650 GPM
Motor performed as expected yielding 4-10°/100'. Drilled a total of 4,537' in 53.58 On Bottom Hrs. (Avg of 84.68/hr. ROP)
Rotating Footage 4,284' Rotating time 42.83 hrs. for 79.9% of time.
Slide footage 253' Slide time- 10.75 hrs. for 20.1% of time
BHA looked good upon returning to surface, motor drained well with no abnormal noise or vibrations but was lose, bit box was turning with the weight from the slug we pumped. Rinsed tools inside and out with fresh water. Bit graded out as a
1/1/NO/A/X/I/NO/TD

**Weatherford®**

BHA Report

Drilling Services
v5.1.7322

BHA 3 - 8.75" Curve Section

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Manuel Gonzalez, Carl Napier

DIR Supervisor: Kevin Moss, Jose Ulibarri, Steve Alonzo

MWD Supervisor: Chris Hinterlach

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	PDC Bit	Hughes	5272775	DD406TX	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	6.75" Drilling Motor	Weatherford	675-43664	5/6 8.1 1.93	8.25	0	3.34	4 1/2" REG Box	4 1/2" IF Box	35.86 ft	36.86 ft
1	6.75" UBHO	Weatherford	51619	NON-MAG	6.5625	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.64 ft	40.50 ft
1	6.75" NM TC	Weatherford	71818/58881	NON-MAG	6.625	3.125	1.19	4 1/2" IF Pin	4 1/2" IF Box	30.57 ft	71.07 ft
1	6.75" Flex NMDC	Weatherford	43089	NON-MAG	6.5625	2.875	6.57	4 1/2" IF Pin	4 1/2" IF Box	30.71 ft	101.78 ft
1	6.75" Flex NMDC	Weatherford	675-38666	NON-MAG	6.375	3.3125	3.62	4 1/2" IF Pin	4 1/2" IF Box	28.05 ft	129.83 ft
1	6.75" Filter Sub	Stabil Drill	SD 118879	Steel	6.625	2.875	0	4 1/2" IF Pin	4 1/2" IF Box	5.95 ft	135.78 ft
24	Drill Pipe Curve	Rig	Rig	S-135	5	4.276	0	4 1/2" IF Pin	4 1/2" IF Box	755.18 ft	890.96 ft
30	30 HWDP (2)	Rig	Rig	Steel	5	3	0	4 1/2" IF Pin	4 1/2" IF Box	919.36 ft	1810.32 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2020/03/01 TO 2020/03/04
 DEPTH IN: 9429.00 ft ANGLE IN: 0.50 °
 DEPTH OUT: 10182.00 ft ANGLE OUT: 77.87 °
 DRILL HRS: 10.92 BUILD: 77.37 °
 ORIENTING HRS: 9.92 HOLE MADE: 753.00 ft
 ROTATING HRS: 1.00 AVG R.O.P.: 68.96 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford SETTING: 1.93 °
 SERIAL #: 675-43664 KICK PAD: No
 MODEL: 5/6 8.1 1.93 STABILIZER: 8 1/4"
 LOBE CFG: 5/6 MOTOR HRS: 58.08
 BIT TO BEND: 3.91

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	97.0%
S.P.M.:	0	0	0
STROKE VOLUME:	0.0 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	0 gal/min		
PUMP PRESSURE:	OFF BTM: 0 psi	ON BTM: 0 psi	

MUD INFORMATION

MUD TYPE: Brine or Salt LIQUID BASE: Water
 DENSITY: 9 lb/gal TEMP: 0 °F
 VISCOSITY: 30 sec/qt pH: 10
 WTR LOSS: 0 cc/30min SAND: 0 LIQUID RATE: 0 gal/min
 PLAST VISC: 0 cP SOLIDS: 0 GAS TYPE:
 YIELD PT: 0 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Hughes TYPE: DD406TX IADC BIT GRADE: 3 / 1 / CT / N / X / 1 / WT / BHA
 NOZZLES: 0.979 in² TFA

REASON FOR BHA CHANGE

Reached TD.

FORMATION CHARACTERISTICS

Formation - TVD
 Brushy Canyon - 7525'
 Avalon - 8893'
 1st Bone spring carb - 9646'
 1st Bone spring Sand - 9897'



MWD COMMENTS

Orifice Size: 60°
Frequency Setting: 240/2800/240
Inc Sonde timing: 12 min.
Inc Switch over: 5°
Pulse Amplitude: 20 psi
Detection: 98%
Maximum Down hole Temperature: 128°F
Maximum Flow Rate: 520gpm
Maximum Mud Weight: 9.3lb/gal
Maximum Solids Content: 6%
Maximum Sand Content: 0%
Battery Type: Low Temp.
Drilling Hours: 9.73
Circulating Hours: 26.85 As of 5:15
Problems Encountered during run: No Issues, good run

SIDETRACKING PROCEDURE COMMENTS

N/A

RUN SUMMARY

Objective of BHA was to kick off, drill and land curve in one run. We were successful with this task.
Motor performed as expected with build rates averaging 12°/100'.
We did encounter gas kick and had to pick up and shut in well. Casing pressure reading 150. Started weighting up to 9.3. While circulate out gas and monitor well.

**Weatherford**

BHA Report

Drilling Services
v5.1.7322

BHA 4 - 8.5" Lateral Section

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Carl Napier, Manuel Gonzalez

DIR Supervisor: Claude Shull, Steve Alonzo

MWD Supervisor: Chris Hinterlach, Luke Shea

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.5 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	PDC Bit	NOV	A271422	SKC619M	8.5	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	7" Motor 1.50F	NOV	713-50-0019	ERT 6/7 7.8	7.875	0	1.26	4 1/2" REG Box	4 1/2" IF Box	29.74 ft	30.74 ft
1	8 3/8" Stabilizer	Stabil Drill	SD 27535	Steel	6.75	2.5625	0	4 1/2" IF Pin	4 1/2" IF Box	6.54 ft	37.28 ft
1	6.75" UBHO	Weatherford	51619	NON-MAG	6.5625	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.64 ft	40.92 ft
1	6.75" NM TC	Weatherford	71818/58881	NON-MAG	6.625	3.125	1.19	4 1/2" IF Pin	4 1/2" IF Box	30.57 ft	71.49 ft
1	6.75" NMDC	Weatherford	675-37436	NON-MAG	6.75	3.3125	0	4 1/2" IF Pin	4 1/2" IF Box	29.42 ft	100.91 ft
1	6.75" NMDC	Weatherford	43207	NON-MAG	6.5	2.3125	0	4 1/2" IF Pin	4 1/2" IF Box	28.10 ft	129.01 ft
1	6.75" Filter Sub	Stabil Drill	SD 118879	Steel	6.625	2.875	0	4 1/2" IF Pin	4 1/2" IF Box	5.95 ft	134.96 ft
75	Drill Pipe below	Rig	Rig	S-135	5	4.25	0	4 1/2" IF Pin	4 1/2" IF Box	2361.71	2496.67 ft
1	Agitator/Shock Sub	NOV	675-0080	1.8 Baffle	7	3.4375	0	4 1/2" IF Pin	4 1/2" IF Box	29.79 ft	2526.46 ft
183	Drill Pipe above	Rig	Rig	S-135	5	4.276	0	4 1/2" IF Pin	4 1/2" IF Box	5760.54	8287.00 ft
30	30 HWDP	Rig	Rig	Steel	5	3	0	4 1/2" IF Pin	4 1/2" IF Box	920.98 ft	9207.98 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2020/03/05 TO 2020/03/13
 DEPTH IN: 10182.00 ft ANGLE IN: 77.67 °
 DEPTH OUT: 17500.00 ft ANGLE OUT: 90.69 °
 DRILL HRS: 75.00 BUILD: 13.02 °
 ORIENTING HRS: 16.50 HOLE MADE: 7318.00 ft
 ROTATING HRS: 58.50 AVG R.O.P.: 97.57 ft/hr

MOTOR INFORMATION

MANFCT. NOV SETTING: 1.50 °
 SERIAL #: 713-50-0019 KICK PAD: No
 MODEL: ERT 6/7 7.8 STABILIZER: No
 LOBE CFG: 6/7 MOTOR HRS: 131.25
 BIT TO BEND: 4.05

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	97.0%
S.P.M.:	0	0	0
STROKE VOLUME:	0.0 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	0 gal/min		
PUMP PRESSURE:	OFF BTM: 0 psi	ON BTM: 0 psi	

MUD INFORMATION

MUD TYPE: Brine / Salt LIQUID BASE: Brine
 DENSITY: 0 lb/gal TEMP: 0 °F
 VISCOSITY: 0 sec/qt pH: 0
 WTR LOSS: 0 cc/30min SAND: 0 LIQUID RATE: 0 gal/min
 PLAST VISC: 0 cP SOLIDS: 0 GAS TYPE:
 YIELD PT: 0 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: NOV TYPE: SKC619M IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD
 NOZZLES: 1.04 in² TFA

REASON FOR BHA CHANGE

TD @ 17,500'

FORMATION CHARACTERISTICS

Formation - TVD
 Brushy Canyon - 7525'
 Avalon - 8893'
 1st Bone spring carb - 9646'



1st Bone spring Sand - 9897'

Formation had a tendency to build and walk right in rotation.

MWD COMMENTS

Orifice Size: 60°
Frequency Setting: 360/3130/420
Inc Sonde timing: 12 min.
Inc Switch over: 5°
Pulse Amplitude: 21 psi
Detection: 99%
Maximum Down hole Temperature: 162°F
Maximum Flow Rate: 575gpm
Maximum Mud Weight: 9.4lb/gal
Maximum Solids Content: 0%
Maximum Sand Content: 0%
Battery Type: High Temp.
Drilling Hours: 60.28
Circulating Hours: 125.42
Problems Encountered during run: No Issues, good run

SIDETRACKING PROCEDURE COMMENTS

N/A

RUN SUMMARY

Objective of BHA was to soft land curve and drill lateral to TD(17,500'). We were successful with this task.

Motor performed as expected with no problems encountered. Motor yields average 8°/100'.
Control drilled 50-200'/hr under balance throughout lateral. Stopping occasionally to circulate out gas, and shutting well in when casing pressure exceeded 100+#.
Once on surface no fluid in motor to drain. No visual defects seen with BHA.

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v5.1.7322

BHA 1 - 12.25" Nudge Section, Motor # 11854612

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 12.25 in

GENERAL INFORMATION:

BHA #: 1
DATE IN: 2020/02/22
DATE OUT: 2020/02/25
ANGLE IN: 0.71 °
ANGLE OUT: 6.07 °
ORIENTING HRS: 5.67
START DEPTH: 1142.00 ft
END DEPTH: 4892.00 ft
HOLE MADE: 3750.00 ft
AVG ROP: 144.68 ft/hr
ROTATING HRS: 20.25

MOTOR INFORMATION:

MANFCT: SPERRY
SERIAL #: 11854612
MODEL: 6/7 6.0 1.15
LOBE: 6/7
SETTING: 1.15 °
BIT TO BEND: 6.86 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: SKC619M
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 3 / 4 / BT / A / X / I / WT / TD
TOTAL FLOW RATE: 0.00 gal/min
NOZZLES: 0.994 in² TFA
PUMP PRESS: (OFF) 0.00 psi
(ON) 0.00 psi

MUD INFORMATION:

MUD TYPE: Brine or Salt
DENSITY: 10 lb/gal
SAND: 0.000
SOLIDS: 2.800
OIL: 0.000
TEMP: 115 °F
LIQUID BASE: Water
VISCOSITY: 29 sec/qt
WATER LOSS: 0.00 cc/30min
PLASTIC VISC: 1.0 cP
YIELD POINT: 0.0 lb/100 ft²
pH: 9.5
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 5.33
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 25.92
MOTOR HOURS THIS RUN: 31.25
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 31.25
TOTAL BRT HOURS: 31.25

MOTOR EVALUATION COMMENTS:

Motor performed as expected yielding 7-9"/100'. Drilled a total of 3,750' in 25.92 On Bottom Hrs. (Avg of 144.68'/hr. ROP)
 Rotating Footage 3324' Rotating time 20.25 hrs. for 78.1% of time.
 Slide footage 224' Slide time 5.67hrs. for 21.9% of time
 BHA looked good upon returning to surface, motor drained well with no abnormal noise or vibrations. Bit graded out as a
 3/4/BT/A/X/I/WT/TD

REASON FOR BHA CHANGE:

Section TD

COMMENTS FROM LAST DAY RAN:

Once casing was on bottom rig was circulating and lost returns therefore we had to wait on LCM cement to arrive on location to be



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Motor / RSS Evaluation Report

Drilling Services

v5.1.7322

BHA 1 - 12.25" Nudge Section, Motor # 11854612

pumped down the hole to try and get cement and returns back this was successful on the first try. Once this was completed we were able to go on with normal procedures and finish cementing and pressure testing casing.

22:00 -24:00 Laid out landing joint, Ran and installed packoff tool, Tested packoff tool, installed test plug. Tested upper pack off seals, installed wear bushing.

**Weatherford®**

Motor / RSS Evaluation Report

Drilling Services
v5.1.7322

BHA 2 - 8.75" Vertical Section, Motor #675-36-294

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 2
 DATE IN: 2020/02/26
 DATE OUT: 2020/03/01
 ANGLE IN: 6.07 °
 ANGLE OUT: 0.50 °
 ORIENTING HRS: 10.75

START DEPTH: 4892.00 ft
 END DEPTH: 9429.00 ft
 HOLE MADE: 4537.00 ft
 AVG ROP: 84.68 ft/hr
 ROTATING HRS: 42.83

MOTOR INFORMATION:

MANFCT: NOV
 SERIAL #: 675-36-294
 MODEL: 7/8_5.7
 LOBE: 7/8
 SETTING: 1.15 °

BIT TO BEND: 5.36 ft
 KICKPAD: No
 STABILIZER: 8 5/8"

DRILLING INFORMATION:

BIT TYPE: RPS616
 BIT PRESS DROP: 0.00 psi
 MTR PRESS DROP: 0.00 psi

IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD
 TOTAL FLOW RATE: 517.44 gal/min
 NOZZLES: 1.04 in² TFA

PUMP PRESS: (OFF) 1895.00 psi
 (ON) 0.00 psi

MUD INFORMATION:

MUD TYPE: Brine or Salt
 DENSITY: 9 lb/gal
 SAND: 0.000
 SOLIDS: 0.000
 OIL: 0.000
 TEMP: 0 °F

LIQUID BASE: Water
 VISCOSITY: 30 sec/qt
 WATER LOSS: 0.00 cc/30min
 PLASTIC VISC: 0.0 cP
 YIELD POINT: 0.0 lb/100 ft²
 pH: 10.0

LIQUID RATE: 0.00 gal/min
 GAS TYPE:
 GAS RATE: 0.00 cu ft/min

(All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 11.50
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 53.58

MOTOR HOURS THIS RUN: 65.08
 PREVIOUS HOURS: 0.00

TOTAL MOTOR HOURS: 65.08
 TOTAL BRT HOURS: 65.08

MOTOR EVALUATION COMMENTS:

Motor performed as expected yielding 4-10°/100'. Drilled a total of 4,537' in 53.58 On Bottom Hrs. (Avg of 84.68/hr. ROP)
 Rotating Footage 4,284' Rotating time 42.83 hrs. for 79.9% of time.
 Slide footage 253' Slide time- 10.75 hrs. for 20.1% of time
 BHA looked good upon returning to surface, motor drained well with no abnormal noise or vibrations but was lose, bit box was turning with the weight from the slug we pumped. Rinsed tools inside and out with fresh water. Bit graded out as a 1/1/NO/A/X/I/NO/TD

REASON FOR BHA CHANGE:

TD'd Section



Weatherford®

Motor / RSS Evaluation Report

Drilling Services

v5.1.7322

BHA 2 - 8.75" Vertical Section, Motor #675-36-294

— COMMENTS FROM LAST DAY RAN: —

DRL f/9,429' - t/10004

Run in hole with curve BHA. Kick off curve 30' high(9430'). Motor yield averaging 12°/100' in the beginning of curve.

@ 9880' started gaining mud and getting gas.

@ 10,004' Pick up and shut in well. Casing pressure reading 150. Started weighting up to 9.3. While circulate out gas and monitor well.

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v5.1.7322

BHA 3 - 8.75" Curve Section, Motor #675-43664

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Shannon Smith, Manuel Gonzalez, Carl Napier

DIR Supervisor: Kevin Moss, Jose Ulibarri, Steve Alonzo

MWD Supervisor: Chris Hinterlach

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 3
 DATE IN: 2020/03/01
 DATE OUT: 2020/03/04
 ANGLE IN: 0.50 °
 ANGLE OUT: 77.87 °
 ORIENTING HRS: 9.92

START DEPTH: 9429.00 ft
 END DEPTH: 10182.00 ft
 HOLE MADE: 753.00 ft
 AVG ROP: 68.96 ft/hr
 ROTATING HRS: 1.00

MOTOR INFORMATION:

MANFCT: Weatherford
 SERIAL #: 675-43664
 MODEL: 5/6 8.1 1.93
 LOBE: 5/6
 SETTING: 1.93 °

BIT TO BEND: 3.91 ft
 KICKPAD: No
 STABILIZER: 8 1/4"

DRILLING INFORMATION:

BIT TYPE: DD406TX
 BIT PRESS DROP: 0.00 psi
 MTR PRESS DROP: 0.00 psi

IADC BIT GRADE: 3 / 1 / CT / N / X / I / WT / BHA
 TOTAL FLOW RATE: 0.00 gal/min
 NOZZLES: 0.979 in² TFA

PUMP PRESS: (OFF) 0.00 psi
 (ON) 0.00 psi

MUD INFORMATION:

MUD TYPE: Brine or Salt
 DENSITY: 9 lb/gal
 SAND: 0.000
 SOLIDS: 0.000
 OIL: 0.000
 TEMP: 0 °F

LIQUID BASE: Water
 VISCOSITY: 30 sec/qt
 WATER LOSS: 0.00 cc/30min
 PLASTIC VISC: 0.0 cP
 YIELD POINT: 0.0 lb/100 ft²
 pH: 10.0

LIQUID RATE: 0.00 gal/min
 GAS TYPE:
 GAS RATE: 0.00 cu ft/min

(All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 47.17
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 10.92

MOTOR HOURS THIS RUN: 58.08
 PREVIOUS HOURS: 0.00

TOTAL MOTOR HOURS: 58.08
 TOTAL BRT HOURS: 58.08

MOTOR EVALUATION COMMENTS:

Motor performed as expected with no issues incountered. Motor yields average 12.5°/100'.

REASON FOR BHA CHANGE:

Reached TD.

COMMENTS FROM LAST DAY RAN:

Operating:

Continue with well control, circulating gas out, building volume, pumping 14# pill, strip out F/ 9761' T/ 6947', pump btms up, Strip out F/ 9761' T/ 5007', perform flow check, no flow, POOH to X-O BHA.
 Perform flow check before handling directional tools.



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Motor / RSS Evaluation Report

Drilling Services

v5.1.7322

BHA 3 - 8.75" Curve Section, Motor #675-43664

Once on surface laid down flex NMDC, motor drain good with no visual defects seen. Changed out motor, mwd, Bit , and and pick up slick NMDC.

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v5.1.7322

BHA 4 - 8.5" Lateral Section, Motor #713-50-0019

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico /

Company Man: Carl Napier, Manuel Gonzalez

DIR Supervisor: Claude Shull, Steve Alonzo

MWD Supervisor: Chris Hinterlach, Luke Shea

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.5 in

GENERAL INFORMATION:

BHA #: 4
DATE IN: 2020/03/05
DATE OUT: 2020/03/13
ANGLE IN: 77.67 °
ANGLE OUT: 90.69 °
ORIENTING HRS: 16.50
START DEPTH: 10182.00 ft
END DEPTH: 17500.00 ft
HOLE MADE: 7318.00 ft
AVG ROP: 97.57 ft/hr
ROTATING HRS: 58.50

MOTOR INFORMATION:

MANFCT: NOV
SERIAL #: 713-50-0019
MODEL: ERT 6/7 7.8
LOBE: 6/7
SETTING: 1.50 °
BIT TO BEND: 4.05 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: SKC619M
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 2 / 3 / FC / S / X / I / WT / TD
TOTAL FLOW RATE: 0.00 gal/min
NOZZLES: 1.04 in² TFA
PUMP PRESS: (OFF) 0.00 psi
(ON) 0.00 psi

MUD INFORMATION:

MUD TYPE: Brine / Salt
DENSITY: 0 lb/gal
SAND: 0.000
SOLIDS: 0.000
OIL: 0.000
TEMP: 0 °F
LIQUID BASE: Brine
VISCOSITY: 0 sec/qt
WATER LOSS: 0.00 cc/30min
PLASTIC VISC: 0.0 cP
YIELD POINT: 0.0 lb/100 ft²
pH: 0.0
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 56.25
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 75.00
MOTOR HOURS THIS RUN: 131.25
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 131.25
TOTAL BRT HOURS: 133.17

MOTOR EVALUATION COMMENTS:

Motor performed as expected with no problems encountered. Motor yields average 8°/100'.

REASON FOR BHA CHANGE:

TD @ 17,500'

COMMENTS FROM LAST DAY RAN:

Continue to POOH and monitor well. Laid down directional tools. No visual defects seen with directional tools. Bit had flat crested wear on shoulder area.
Wait on truck till 08:00 and load out directional tools. Released and travel home.

SLIDE SHEETS

BHA SLIDE/ROTATE DATA

SECTION 6



Slide Sheet Report

Drilling Services

v5.1.7322

BHA 1 - 2020/02/22 TO 2020/02/25

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico / USA

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

BHA NO: 1	DATES RUN: 2020/02/22 TO 2020/02/25	SECTION: 12.25" Nud	TOOLFACE OFFSET: 21 °	SURVEY OFFSET: 79 ft
MOTOR SETTING: 1.15 °	KICKPAD: No	STABILIZER: No	MODEL: 6/7 6.0 1.15	SERIAL NO: 11854612
				BHA SURVEY TYPE: Positive Pulse MWD

(Distances are shown in feet.)

BIT		SURVEY				ORIENTING			ROTATING			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
1344.00	92.00	1265.00	0.71	322.69		1344.00	1344.00	0.00	1344.00	1436.00	92.00	0.00	0.00	0.00	
1436.00	91.00	1357.00	1.04	333.72	124MTF	1436.00	1446.00	10.00	1446.00	1527.00	81.00	0.00	0.00	0.36	
1527.00	92.00	1448.00	0.75	346.59	140MTF	1527.00	1539.00	12.00	1539.00	1619.00	80.00	10.00	-0.03	-0.32	
1619.00	94.00	1540.00	0.38	36.17		1619.00	1619.00	0.00	1619.00	1713.00	94.00	12.00	-0.03	-0.40	
1713.00	95.00	1634.00	0.65	98.03		1713.00	1713.00	0.00	1713.00	1808.00	95.00	0.00	0.00	0.29	
1808.00	95.00	1729.00	0.56	55.12		1808.00	1808.00	0.00	1808.00	1903.00	95.00	0.00	0.00	-0.09	
1903.00	94.00	1824.00	1.24	57.23	230 M	1903.00	1916.00	13.00	1916.00	1997.00	81.00	0.00	0.00	0.72	
1997.00	94.00	1918.00	0.72	53.59		1997.00	1997.00	0.00	1997.00	2091.00	94.00	13.00	-0.04	-0.55	
2091.00	95.00	2012.00	0.35	53.13	230 M	2091.00	2101.00	10.00	2101.00	2186.00	85.00	0.00	0.00	-0.39	
2186.00	94.00	2107.00	0.20	207.41		2186.00	2186.00	0.00	2186.00	2280.00	94.00	10.00	-0.01	-0.16	
2280.00	94.00	2201.00	0.42	173.92		2280.00	2280.00	0.00	2280.00	2374.00	94.00	0.00	0.00	0.23	
2374.00	95.00	2295.00	0.38	175.78		2374.00	2374.00	0.00	2374.00	2469.00	95.00	0.00	0.00	-0.04	
2469.00	94.00	2390.00	0.51	203.83		2469.00	2469.00	0.00	2469.00	2563.00	94.00	0.00	0.00	0.14	
2563.00	94.00	2484.00	0.36	217.54		2563.00	2563.00	0.00	2563.00	2657.00	94.00	0.00	0.00	-0.16	
2657.00	95.00	2578.00	0.00	26.47		2657.00	2657.00	0.00	2657.00	2752.00	95.00	0.00	0.00	-0.38	
2752.00	94.00	2673.00	0.31	297.28		2752.00	2752.00	0.00	2752.00	2846.00	94.00	0.00	0.00	0.33	
2846.00	95.00	2767.00	0.20	291.37		2846.00	2846.00	0.00	2846.00	2941.00	95.00	0.00	0.00	-0.12	
2941.00	95.00	2862.00	0.74	340.25		2941.00	2941.00	0.00	2941.00	3036.00	95.00	0.00	0.00	0.57	
3036.00	94.00	2957.00	0.94	334.37	335 M	3036.00	3050.00	14.00	3050.00	3130.00	80.00	0.00	0.00	0.21	
3130.00	94.00	3051.00	0.91	332.86	335M	3130.00	3142.00	12.00	3142.00	3224.00	82.00	14.00	0.00	-0.03	
3224.00	95.00	3145.00	1.79	332.09		3224.00	3224.00	0.00	3224.00	3319.00	95.00	12.00	0.07	0.94	
3319.00	94.00	3240.00	2.45	322.86	335MTF	3319.00	3331.00	12.00	3331.00	3413.00	82.00	0.00	0.00	0.69	
3413.00	95.00	3334.00	3.30	321.37		3413.00	3413.00	0.00	3413.00	3508.00	95.00	12.00	0.07	0.90	
3508.00	94.00	3429.00	3.74	324.90	38MTF	3508.00	3520.00	12.00	3520.00	3602.00	82.00	0.00	0.00	0.46	

Slide Sheet Report

BHA 1 - 2020/02/22 TO 2020/02/25

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY					----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR /ft	BUR /100ft	COMMENTS
	DEPTH	INC	AZM	TF		FROM	TO	FEET	FROM	TO	FEET				
3602.00	95.00	3523.00	4.57	327.54	50MTF	3602.00	3612.00	10.00	3612.00	3697.00	85.00	12.00	0.07	0.88	
3697.00	95.00	3618.00	4.61	331.37		3697.00	3697.00	0.00	3697.00	3792.00	95.00	10.00	0.00	0.04	
3792.00	94.00	3713.00	4.81	333.80		3792.00	3792.00	0.00	3792.00	3886.00	94.00	0.00	0.00	0.21	
3886.00	95.00	3807.00	5.11	337.38		3886.00	3886.00	0.00	3886.00	3981.00	95.00	0.00	0.00	0.32	
3981.00	94.00	3902.00	5.41	334.95	145MTF	3981.00	3989.00	8.00	3989.00	4075.00	86.00	0.00	0.00	0.32	
4075.00	95.00	3996.00	5.35	334.42	130MTF	4075.00	4087.00	12.00	4087.00	4170.00	83.00	8.00	-0.01	-0.06	
4170.00	94.00	4091.00	4.68	339.44		4170.00	4170.00	0.00	4170.00	4264.00	94.00	12.00	-0.06	-0.71	
4264.00	95.00	4185.00	3.35	351.09	310M	4264.00	4276.00	12.00	4276.00	4359.00	83.00	0.00	0.00	-1.41	
4359.00	94.00	4280.00	3.11	350.27	300M	4359.00	4374.00	15.00	4374.00	4453.00	79.00	12.00	-0.02	-0.25	
4453.00	95.00	4374.00	3.54	343.45	330M	4453.00	4475.00	22.00	4475.00	4548.00	73.00	15.00	0.03	0.46	
4548.00	95.00	4469.00	3.79	335.95	335M	4548.00	4591.00	43.00	4591.00	4643.00	52.00	16.00	0.02	0.26	
4643.00	94.00	4564.00	4.65	328.05		4643.00	4643.00	0.00	4643.00	4737.00	94.00	22.00	0.04	0.91	
4737.00	94.00	4658.00	5.96	327.60	55M	4737.00	4744.00	7.00	4744.00	4831.00	87.00	27.00	0.05	1.39	
4831.00	61.00	4752.00	6.07	329.49		4831.00	4831.00	0.00	4831.00	4892.00	61.00	7.00	0.02	0.12	

Totals:	224.00 ft	3324.00 ft
Percentages:	6.3%	93.7%
Time:	5.67 hrs	20.25 hrs
Percentages:	21.9%	78.1%



Slide Sheet Report

Drilling Services

v5.1.7322

BHA 2 - 2020/02/26 TO 2020/03/01

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico / USA

Company Man: Shannon Smith, Michael Rust

DIR Supervisor: Kevin Moss, Jose Ulibarri

MWD Supervisor: Chris Hinterlach

BHA NO: 2	DATES RUN: 2020/02/26 TO 2020/03/01	SECTION: 8.75" Vert	TOOLFACE OFFSET: 1.00 °	SURVEY OFFSET: 72 ft
MOTOR SETTING: 1.15 °	KICKPAD: No	STABILIZER: 8 5/8"	MODEL: 7/8_5.7	SERIAL NO: 675-36-294
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT		SURVEY				ORIENTING			ROTATING			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
4892.00	114.00	4820.00	6.07	329.49		4892.00	4892.00	0.00	4892.00	5006.00	114.00	0.00	0.00	0.00	
5006.00	95.00	4934.00	6.39	329.19	130M	5006.00	5020.00	14.00	5020.00	5101.00	81.00	0.00	0.00	0.28	
5101.00	94.00	5029.00	5.51	333.13		5101.00	5101.00	0.00	5101.00	5195.00	94.00	14.00	-0.06	-0.93	
5195.00	95.00	5123.00	5.44	337.15		5195.00	5195.00	0.00	5195.00	5290.00	95.00	0.00	0.00	-0.07	
5290.00	94.00	5218.00	5.68	336.67		5290.00	5290.00	0.00	5290.00	5384.00	94.00	0.00	0.00	0.25	
5384.00	95.00	5312.00	5.94	335.41	140M	5384.00	5396.00	12.00	5396.00	5479.00	83.00	0.00	0.00	0.28	
5479.00	94.00	5407.00	5.27	338.90		5479.00	5479.00	0.00	5479.00	5573.00	94.00	12.00	-0.06	-0.71	
5573.00	94.00	5501.00	5.17	342.17		5573.00	5573.00	0.00	5573.00	5667.00	94.00	0.00	0.00	-0.11	
5667.00	95.00	5595.00	5.22	343.35	200M	5667.00	5679.00	12.00	5679.00	5762.00	83.00	0.00	0.00	0.05	
5762.00	94.00	5690.00	4.68	333.64		5762.00	5762.00	0.00	5762.00	5856.00	94.00	12.00	-0.05	-0.57	
5856.00	95.00	5784.00	4.56	325.72	100M	5856.00	5868.00	12.00	5868.00	5951.00	83.00	0.00	0.00	-0.13	
5951.00	94.00	5879.00	4.32	330.54	102M	5951.00	5963.00	12.00	5963.00	6045.00	82.00	12.00	-0.02	-0.25	
6045.00	95.00	5973.00	4.05	341.56		6045.00	6045.00	0.00	6045.00	6140.00	95.00	12.00	-0.02	-0.29	
6140.00	94.00	6068.00	3.99	342.93	160M	6140.00	6155.00	15.00	6155.00	6234.00	79.00	0.00	0.00	-0.06	
6234.00	95.00	6162.00	3.42	353.71	231M	6234.00	6254.00	20.00	6254.00	6329.00	75.00	15.00	-0.04	-0.61	
6329.00	94.00	6257.00	2.38	348.49	245M	6329.00	6341.00	12.00	6341.00	6423.00	82.00	20.00	-0.05	-1.09	
6423.00	95.00	6351.00	1.05	306.26		6423.00	6423.00	0.00	6423.00	6518.00	95.00	12.00	-0.11	-1.41	
6518.00	95.00	6446.00	1.41	278.65	68M	6518.00	6530.00	12.00	6530.00	6613.00	83.00	0.00	0.00	0.38	
6613.00	94.00	6541.00	1.14	308.93	102M	6613.00	6628.00	15.00	6628.00	6707.00	79.00	12.00	-0.02	-0.28	
6707.00	94.00	6635.00	1.31	336.82	136M	6707.00	6717.00	10.00	6717.00	6801.00	84.00	15.00	0.01	0.18	
6801.00	94.00	6729.00	1.17	14.72	180M	6801.00	6812.00	11.00	6812.00	6895.00	83.00	10.00	-0.01	-0.15	
6895.00	94.00	6823.00	1.09	68.14		6895.00	6895.00	0.00	6895.00	6989.00	94.00	11.00	-0.01	-0.09	
6989.00	96.00	6917.00	1.00	91.08	260M	6989.00	7001.00	12.00	7001.00	7085.00	84.00	0.00	0.00	-0.10	
7085.00	94.00	7013.00	0.36	124.32		7085.00	7085.00	0.00	7085.00	7179.00	94.00	12.00	-0.05	-0.67	

Slide Sheet Report

BHA 2 - 2020/02/26 TO 2020/03/01

(Distances are shown in feet.)

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
7179.00	95.00	7107.00	0.66	205.10		7179.00	7179.00	0.00	7179.00	7274.00	95.00	0.00	0.00	0.32	
7274.00	95.00	7202.00	0.36	209.28		7274.00	7274.00	0.00	7274.00	7369.00	95.00	0.00	0.00	-0.32	
7369.00	94.00	7297.00	0.72	225.74		7369.00	7369.00	0.00	7369.00	7463.00	94.00	0.00	0.00	0.38	
7463.00	94.00	7391.00	0.56	204.22		7463.00	7463.00	0.00	7463.00	7557.00	94.00	0.00	0.00	-0.17	
7557.00	94.00	7485.00	1.06	206.08	16M	7557.00	7570.00	13.00	7570.00	7651.00	81.00	0.00	0.00	0.53	
7651.00	95.00	7579.00	0.99	244.36	64M	7651.00	7664.00	13.00	7664.00	7746.00	82.00	13.00	-0.01	-0.07	
7746.00	94.00	7674.00	0.22	242.56		7746.00	7746.00	0.00	7746.00	7840.00	94.00	13.00	-0.06	-0.81	
7840.00	94.00	7768.00	0.42	323.14		7840.00	7840.00	0.00	7840.00	7934.00	94.00	0.00	0.00	0.21	
7934.00	95.00	7862.00	0.45	289.11	60M	7934.00	7946.00	12.00	7946.00	8029.00	83.00	0.00	0.00	0.03	
8029.00	94.00	7957.00	0.90	10.16		8029.00	8029.00	0.00	8029.00	8123.00	94.00	12.00	0.04	0.47	
8123.00	95.00	8051.00	1.11	33.67		8123.00	8123.00	0.00	8123.00	8218.00	95.00	0.00	0.00	0.22	
8218.00	95.00	8146.00	1.13	35.23		8218.00	8218.00	0.00	8218.00	8313.00	95.00	0.00	0.00	0.02	
8313.00	93.00	8241.00	1.00	37.16	200M	8313.00	8325.00	12.00	8325.00	8406.00	81.00	0.00	0.00	-0.14	
8406.00	95.00	8334.00	0.78	108.96		8406.00	8406.00	0.00	8406.00	8501.00	95.00	12.00	-0.02	-0.24	
8501.00	95.00	8429.00	0.85	115.81		8501.00	8501.00	0.00	8501.00	8596.00	95.00	0.00	0.00	0.07	
8596.00	94.00	8524.00	1.01	133.28	316M	8596.00	8610.00	14.00	8610.00	8690.00	80.00	0.00	0.00	0.17	
8690.00	95.00	8618.00	0.07	260.83		8690.00	8690.00	0.00	8690.00	8785.00	95.00	14.00	-0.07	-1.00	
8785.00	94.00	8713.00	0.16	224.26		8785.00	8785.00	0.00	8785.00	8879.00	94.00	0.00	0.00	0.09	
8879.00	94.00	8807.00	0.00	41.28		8879.00	8879.00	0.00	8879.00	8973.00	94.00	0.00	0.00	-0.17	
8973.00	95.00	8901.00	0.36	251.05		8973.00	8973.00	0.00	8973.00	9068.00	95.00	0.00	0.00	0.38	
9068.00	94.00	8996.00	0.35	239.60		9068.00	9068.00	0.00	9068.00	9162.00	94.00	0.00	0.00	-0.01	
9162.00	94.00	9090.00	0.16	161.27		9162.00	9162.00	0.00	9162.00	9256.00	94.00	0.00	0.00	-0.20	
9256.00	94.00	9184.00	0.28	136.74		9256.00	9256.00	0.00	9256.00	9350.00	94.00	0.00	0.00	0.13	
9350.00	79.00	9278.00	0.16	170.34	180M	9350.00	9370.00	20.00	9370.00	9429.00	59.00	0.00	0.00	-0.13	
9429.00	0.00	9357.00	0.50	88.39		9429.00	9429.00	0.00	9429.00	9429.00	0.00	7.00	0.05	0.43	

Totals:	253.00 ft	4284.00 ft
Percentages:	5.6%	94.4%
Time:	10.75 hrs	42.83 hrs
Percentages:	20.1%	79.9%



Slide Sheet Report

Drilling Services

v5.1.7322

BHA 3 - 2020/03/01 TO 2020/03/04

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico / USA

Company Man: Shannon Smith, Manuel Gonzalez, Carl Napier

DIR Supervisor: Kevin Moss, Jose Ulibarri, Steve Alonzo

MWD Supervisor: Chris Hinterlach

BHA NO: 3	DATES RUN: 2020/03/01 TO 2020/03/04	SECTION: 8.75" Curv	TOOLFACE OFFSET: 166 °	SURVEY OFFSET: 61 ft
MOTOR SETTING: 1.93 °	KICKPAD: No	STABILIZER: 8 1/4"	MODEL: 5/6 8.1 1.93	SERIAL NO: 675-43664
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT		SURVEY					ORIENTING			ROTATING			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF		FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
9429.00	32.00	9368.00	0.50	88.39	180M		9429.00	9461.00	32.00	9461.00	9461.00	0.00	0.00	0.00	0.00	
9461.00	95.00	9400.00	0.42	104.01	180M		9461.00	9556.00	95.00	9556.00	9556.00	0.00	0.00	0.00	-0.25	
9556.00	47.00	9495.00	9.77	173.86	20R		9556.00	9603.00	47.00	9603.00	9603.00	0.00	66.00	0.14	9.84	
9603.00	47.00	9542.00	15.62	173.23	25R		9603.00	9650.00	47.00	9650.00	9650.00	0.00	47.00	0.12	12.45	
9650.00	95.00	9589.00	20.96	174.92	5R		9650.00	9745.00	95.00	9745.00	9745.00	0.00	47.00	0.11	11.36	
9745.00	94.00	9684.00	31.81	178.23	10R		9745.00	9839.00	94.00	9839.00	9855.00	16.00	95.00	0.11	11.42	
9839.00	95.00	9778.00	44.10	179.97	5R		9855.00	9916.00	61.00	9916.00	9934.00	18.00	94.00	0.13	13.07	
9934.00	94.00	9873.00	54.06	179.17	0HS		9934.00	10028.00	94.00	10028.00	10028.00	0.00	79.00	0.13	10.48	
10028.00	95.00	9967.00	59.41	176.60	20R		10028.00	10123.00	95.00	10123.00	10123.00	0.00	76.00	0.07	5.69	
10123.00	47.00	10062.00	70.59	178.48	10R		10123.00	10156.00	33.00	10156.00	10170.00	14.00	95.00	0.12	11.77	
10170.00	12.00	10109.00	77.67	180.48	0HS		10170.00	10182.00	12.00	10182.00	10182.00	0.00	47.00	0.15	15.06	
10182.00	0.00	10121.00	77.87	180.48			10182.00	10182.00	0.00	10182.00	10182.00	0.00	12.00	0.02	1.67	

Totals:	705.00 ft	48.00 ft
Percentages:	93.6%	6.4%
Time:	9.92 hrs	1.00 hrs
Percentages:	90.8%	9.2%



Slide Sheet Report

Drilling Services

v5.1.7322

BHA 4 - 2020/03/05 TO 2020/03/13

FILE #: 14083591

JOB TYPE: Horizontal

RIG & NO: H&P 482

WELL NAME: Ghost Rider 22-15 Federal COM 101H

COMPANY: Apache Corp

SURFACE LOCATION: Lea County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Delaware Basin Shelf / New Mexico / USA

Company Man: Carl Napier, Manuel Gonzalez

DIR Supervisor: Claude Shull, Steve Alonzo

MWD Supervisor: Chris Hinterlach, Luke Shea

BHA NO: 4	DATES RUN: 2020/03/05 TO 2020/03/13	SECTION: 8.5" Later	TOOLFACE OFFSET: 301 °	SURVEY OFFSET: 70 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: ERT 6/7 7.8	SERIAL NO: 713-50-0019
BHA SURVEY TYPE: Positive Pulse MWD				

(Distances are shown in feet.)

BIT		SURVEY				ORIENTING			ROTATING			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
10182.00	66.00	10112.00	77.67	180.48		10182.00	10182.00	0.00	10182.00	10248.00	66.00	0.00	0.00	0.00	
10248.00	94.00	10178.00	84.18	181.85	HSL	10248.00	10273.00	25.00	10273.00	10342.00	69.00	0.00	0.00	9.86	
10342.00	94.00	10272.00	86.86	181.76	30L	10342.00	10350.00	8.00	10350.00	10436.00	86.00	24.00	0.11	2.85	
10436.00	95.00	10366.00	87.61	182.01		10436.00	10436.00	0.00	10436.00	10555.00	119.00	9.00	0.08	0.80	
10531.00	94.00	10461.00	87.76	182.51	60 L	10555.00	10570.00	15.00	10570.00	10625.00	55.00	0.00	0.00	0.16	
10625.00	95.00	10555.00	86.92	182.43	HSL	10625.00	10643.00	18.00	10643.00	10720.00	77.00	0.00	0.00	-0.89	
10720.00	94.00	10650.00	87.34	181.99	60 L	10720.00	10735.00	15.00	10735.00	10814.00	79.00	33.00	0.01	0.44	
10814.00	95.00	10744.00	87.61	180.75	30 L	10814.00	10832.00	18.00	10832.00	10909.00	77.00	15.00	0.02	0.29	
10909.00	94.00	10839.00	89.22	180.54		10909.00	10909.00	0.00	10909.00	11003.00	94.00	18.00	0.09	1.69	
11003.00	95.00	10933.00	90.20	180.77	90 L	11003.00	11027.00	24.00	11027.00	11098.00	71.00	0.00	0.00	1.04	
11098.00	94.00	11028.00	90.90	179.27		11098.00	11098.00	0.00	11098.00	11237.00	139.00	24.00	0.03	0.74	
11192.00	94.00	11122.00	91.39	179.05	180	11237.00	11257.00	20.00	11257.00	11286.00	29.00	0.00	0.00	0.52	
11286.00	95.00	11216.00	92.44	0.00		11286.00	11286.00	0.00	11286.00	11381.00	95.00	0.00	0.00	1.12	
11381.00	94.00	11311.00	90.62	180.25		11381.00	11381.00	0.00	11381.00	11475.00	94.00	20.00	-0.09	-1.92	
11475.00	95.00	11405.00	90.76	179.04		11475.00	11475.00	0.00	11475.00	11570.00	95.00	0.00	0.00	0.15	
11570.00	94.00	11500.00	91.32	179.39		11570.00	11570.00	0.00	11570.00	11664.00	94.00	0.00	0.00	0.59	
11664.00	95.00	11594.00	90.62	179.14	180	11664.00	11679.00	15.00	11679.00	11759.00	80.00	0.00	0.00	-0.74	
11759.00	95.00	11689.00	89.57	179.50		11759.00	11759.00	0.00	11759.00	11854.00	95.00	15.00	-0.07	-1.11	
11854.00	94.00	11784.00	89.92	180.04	140 L	11854.00	11869.00	15.00	11869.00	11948.00	79.00	0.00	0.00	0.37	
11948.00	94.00	11878.00	89.64	179.63		11948.00	11948.00	0.00	11948.00	12042.00	94.00	15.00	-0.02	-0.30	
12042.00	95.00	11972.00	89.99	180.03	160L	12042.00	12052.00	10.00	12052.00	12147.00	95.00	0.00	0.00	0.37	
12137.00	94.00	12067.00	89.43	179.72	180	12147.00	12156.00	9.00	12156.00	12231.00	75.00	10.00	-0.06	-0.59	
12231.00	95.00	12161.00	88.66	180.39		12231.00	12231.00	0.00	12231.00	12335.00	104.00	9.00	-0.09	-0.82	
12326.00	94.00	12256.00	90.06	182.36	110L	12335.00	12353.00	18.00	12353.00	12430.00	77.00	0.00	0.00	1.47	

Slide Sheet Report

BHA 4 - 2020/03/05 TO 2020/03/13

(Distances are shown in feet.)

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
12420.00	95.00	12350.00	89.08	181.68	95L	12430.00	12440.00	10.00	12440.00	12525.00	85.00	15.00	-0.07	-1.04	
12515.00	94.00	12445.00	89.22	180.88	100 L	12525.00	12546.00	21.00	12546.00	12620.00	74.00	13.00	0.01	0.15	
12609.00	95.00	12539.00	88.66	180.21	130 L	12620.00	12638.00	18.00	12638.00	12704.00	66.00	14.00	-0.04	-0.60	
12704.00	94.00	12634.00	89.71	180.24	135 L	12704.00	12724.00	20.00	12724.00	12798.00	74.00	21.00	0.05	1.11	
12798.00	95.00	12728.00	88.60	178.89		12798.00	12798.00	0.00	12798.00	12934.00	136.00	24.00	-0.05	-1.18	
12893.00	94.00	12823.00	88.95	179.25	140 L	12934.00	12959.00	25.00	12959.00	12987.00	28.00	0.00	0.00	0.37	
12987.00	95.00	12917.00	91.68	182.47		12987.00	12987.00	0.00	12987.00	13092.00	105.00	0.00	0.00	2.90	
13082.00	94.00	13012.00	89.36	180.86	130 L	13092.00	13122.00	30.00	13122.00	13176.00	54.00	25.00	-0.09	-2.44	
13176.00	95.00	13106.00	89.01	179.97		13176.00	13176.00	0.00	13176.00	13281.00	105.00	14.00	-0.02	-0.37	
13271.00	94.00	13201.00	88.94	179.50	120 L	13281.00	13296.00	15.00	13296.00	13365.00	69.00	16.00	0.00	-0.07	
13365.00	95.00	13295.00	89.08	179.00		13365.00	13365.00	0.00	13365.00	13460.00	95.00	14.00	0.01	0.15	
13460.00	0.00	13390.00	89.57	178.64		13460.00	13460.00	0.00	13460.00	13509.00	49.00	1.00	0.49	0.52	
13460.00	94.00	13390.00	91.32	180.57	180	13509.00	13524.00	15.00	13524.00	13554.00	30.00	0.00	0.00	0.00	
13554.00	95.00	13484.00	91.32	180.57		13554.00	13554.00	0.00	13554.00	13649.00	95.00	0.00	0.00	0.00	
13649.00	94.00	13579.00	90.69	180.24	160L	13649.00	13662.00	13.00	13662.00	13743.00	81.00	15.00	-0.04	-0.66	
13743.00	95.00	13673.00	88.24	179.39		13743.00	13743.00	0.00	13743.00	13850.00	107.00	13.00	-0.19	-2.61	
13838.00	94.00	13768.00	88.24	179.42	HS	13850.00	13858.00	8.00	13858.00	13980.00	122.00	0.00	0.00	0.00	
13932.00	95.00	13862.00	89.01	179.84	160L	13980.00	13992.00	12.00	13992.00	14051.00	59.00	8.00	0.10	0.82	
14027.00	95.00	13957.00	92.16	181.44	160L	14051.00	14062.00	11.00	14062.00	14132.00	70.00	0.00	0.00	3.32	
14122.00	94.00	14052.00	91.74	181.32	150L	14132.00	14144.00	12.00	14144.00	14216.00	72.00	13.00	-0.03	-0.44	
14216.00	94.00	14146.00	89.29	179.55		14216.00	14216.00	0.00	14216.00	14310.00	94.00	22.00	-0.11	-2.61	
14310.00	95.00	14240.00	89.99	179.79		14310.00	14310.00	0.00	14310.00	14405.00	95.00	0.00	0.00	0.74	
14405.00	94.00	14335.00	89.15	178.90		14405.00	14405.00	0.00	14405.00	14546.00	141.00	0.00	0.00	-0.88	
14499.00	95.00	14429.00	89.08	178.25	135 L	14546.00	14576.00	30.00	14576.00	14594.00	18.00	0.00	0.00	-0.07	
14594.00	94.00	14524.00	91.74	180.09		14594.00	14594.00	0.00	14594.00	14688.00	94.00	0.00	0.00	2.80	
14688.00	94.00	14618.00	89.99	179.26		14688.00	14688.00	0.00	14688.00	14782.00	94.00	30.00	-0.06	-1.86	
14782.00	95.00	14712.00	89.71	179.04		14782.00	14782.00	0.00	14782.00	14877.00	95.00	0.00	0.00	-0.30	
14877.00	95.00	14807.00	90.13	179.59		14877.00	14877.00	0.00	14877.00	14972.00	95.00	0.00	0.00	0.44	
14972.00	94.00	14902.00	90.13	179.73		14972.00	14972.00	0.00	14972.00	15076.00	104.00	0.00	0.00	0.00	
15066.00	95.00	14996.00	90.82	180.16	140 L	15076.00	15091.00	15.00	15091.00	15161.00	70.00	0.00	0.00	0.73	
15161.00	94.00	15091.00	89.01	178.98		15161.00	15161.00	0.00	15161.00	15255.00	94.00	15.00	-0.12	-1.91	
15255.00	95.00	15185.00	89.64	179.61		15255.00	15255.00	0.00	15255.00	15350.00	95.00	0.00	0.00	0.67	
15350.00	94.00	15280.00	89.65	179.41		15350.00	15350.00	0.00	15350.00	15444.00	94.00	0.00	0.00	0.01	
15444.00	94.00	15374.00	90.55	180.37		15444.00	15444.00	0.00	15444.00	15538.00	94.00	0.00	0.00	0.96	
15538.00	95.00	15468.00	90.90	180.40		15538.00	15538.00	0.00	15538.00	15659.00	121.00	0.00	0.00	0.37	

Slide Sheet Report

BHA 4 - 2020/03/05 TO 2020/03/13

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
15633.00	95.00	15563.00	89.43	179.77	20R	15659.00	15667.00	8.00	15667.00	15769.00	102.00	0.00	0.00	-1.55	
15728.00	94.00	15658.00	89.01	179.39	30R	15769.00	15787.00	18.00	15787.00	15832.00	45.00	0.00	0.00	-0.44	
15822.00	95.00	15752.00	88.59	178.67	40R	15832.00	15843.00	11.00	15843.00	15917.00	74.00	8.00	-0.05	-0.45	
15917.00	94.00	15847.00	90.62	180.16		15917.00	15917.00	0.00	15917.00	16011.00	94.00	29.00	0.07	2.14	
16011.00	95.00	15941.00	91.60	180.83		16011.00	16011.00	0.00	16011.00	16106.00	95.00	0.00	0.00	1.04	
16106.00	94.00	16036.00	90.62	180.83		16106.00	16106.00	0.00	16106.00	16200.00	94.00	0.00	0.00	-1.03	
16200.00	94.00	16130.00	89.36	180.04		16200.00	16200.00	0.00	16200.00	16294.00	94.00	0.00	0.00	-1.34	
16294.00	94.00	16224.00	90.27	180.64		16294.00	16294.00	0.00	16294.00	16388.00	94.00	0.00	0.00	0.97	
16388.00	95.00	16318.00	89.65	179.73		16388.00	16388.00	0.00	16388.00	16493.00	105.00	0.00	0.00	-0.66	
16483.00	95.00	16413.00	89.44	179.96	50 R	16493.00	16507.00	14.00	16507.00	16578.00	71.00	0.00	0.00	-0.22	
16578.00	94.00	16508.00	89.85	180.22		16578.00	16578.00	0.00	16578.00	16690.00	112.00	14.00	0.03	0.43	
16672.00	95.00	16602.00	90.06	180.32	50 R	16690.00	16704.00	14.00	16704.00	16785.00	81.00	0.00	0.00	0.22	
16767.00	94.00	16697.00	90.20	181.11	HS	16785.00	16805.00	20.00	16805.00	16861.00	56.00	7.00	0.02	0.15	
16861.00	95.00	16791.00	91.25	180.96		16861.00	16861.00	0.00	16861.00	16966.00	105.00	13.00	0.08	1.12	
16956.00	94.00	16886.00	92.37	181.40	180	16966.00	16979.00	13.00	16979.00	17060.00	81.00	14.00	0.08	1.18	
17050.00	95.00	16980.00	91.60	181.40	135 L	17060.00	17078.00	18.00	17078.00	17156.00	78.00	13.00	-0.06	-0.82	
17145.00	94.00	17075.00	91.25	180.67	135 L	17156.00	17171.00	15.00	17171.00	17239.00	68.00	15.00	-0.02	-0.37	
17239.00	95.00	17169.00	90.34	179.91		17239.00	17239.00	0.00	17239.00	17334.00	95.00	16.00	-0.06	-0.97	
17334.00	94.00	17264.00	90.48	180.11		17334.00	17334.00	0.00	17334.00	17428.00	94.00	2.00	0.07	0.15	
17428.00	72.00	17358.00	91.18	180.79		17428.00	17428.00	0.00	17428.00	17500.00	72.00	0.00	0.00	0.74	
17500.00	0.00	17430.00	90.69	180.66		17500.00	17500.00	0.00	17500.00	17500.00	0.00	0.00	0.00	-0.68	TD

Totals:	596.00 ft	6722.00 ft
Percentages:	8.1%	91.9%
Time:	16.50 hrs	58.50 hrs
Percentages:	22.0%	78.0%

ADDITIONAL INFORMATION

SECTION 7



OFFICE LOCATIONS

Weatherford International Ltd.

DRILLING SERVICES AREA OPERATIONS OFFICE

710 S. Faudree Rd.
Odessa, TX USA 79765
Tel. (432) 561-8892 Fax (432) 741-5736

AREA WELL PLANNING AND ENGINEERING SERVICES OFFICE

12101 Cutten Road
Houston, TX USA 77066
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