

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTOCD - HOBBS
04/17/2020
RECEIVEDFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____				5. Lease Serial No. NMNM0553548	
2. Name of Operator Contact: FATIMA VASQUEZ CIMAREX ENERGY COMPANY E-Mail: fvasquez@cimarex.com				6. If Indian, Allottee or Tribe Name	
3. Address 600 N MARIENFELD ST SUITE 600 MIDLAND, TX 79701				7. Unit or CA Agreement Name and No.	
3a. Phone No. (include area code) Ph: 432.620.1933				8. Lease Name and Well No. DOS EQUIS 13 FEDERAL COM 10H	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* Sec 13 T24S R32E Mer At surface NENW 360FNL 1320FWL 32.223920 N Lat, 103.632592 W Lon Sec 13 T24S R32E Mer NMP At top prod interval reported below NWNW 488FNL 658FWL 32.223542 N Lat, 103.634735 W Lon Sec 13 T24S R32E Mer At total depth SESW 83FNL 663FWL 32.210688 N Lat, 103.634697 W Lon				9. API Well No. 30-025-45417	
10. Field and Pool, or Exploratory TRIPLE X; BONE SPRING, W				11. Sec., T., R., M., or Block and Survey or Area Sec 13 T24S R32E Mer	
12. County or Parish LEA				13. State NM	
14. Date Spudded 12/04/2019		15. Date T.D. Reached 12/23/2019		16. Date Completed ☐ D & A ☒ Ready to Prod. 02/20/2020	
17. Elevations (DF, KB, RT, GL)* 3620 GL					
18. Total Depth: MD 15791 TVD 11045		19. Plug Back T.D.: MD 15775 TVD 11045		20. Depth Bridge Plug Set: MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) NONE				22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☐ No ☒ Yes (Submit analysis)	

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J-55	48.0	0	1214		1050		0	
12.250	9.625 J-55	36.0	0	4867		1600		0	
8.500	5.500 P-110	20.0	0	15791		2400		0	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	10525	10525						

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) BONE SPRING	8780		11098 TO 15774	0.410	867	PRODUCING
B)						
C)						
D)						

26. Perforation Record

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
11098 TO 15774	213,957 BBLS TOTAL FLUID & 11,531,713# SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
02/20/2020	03/03/2020	24	→	1302.0	2421.0	2283.0	43.3		GAS LIFT
Choke Size	Tbg. Press. Flwg. 412 SI	Csg. Press. 308.0	24 Hr. Rate →	Oil BBL 1302	Gas MCF 2421	Water BBL 2283	Gas:Oil Ratio 1859	Well Status POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #509670 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

28b. Production - Interval C									
Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D									
Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(*Sold, used for fuel, vented, etc.*)
SOLD

30. Summary of Porous Zones (Include Aquifers): Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	31. Formation (Log) Markers
--	-----------------------------

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
RUSTLER	1185	1400	DOLOMITE/ANHYDRITE: WATER	RUSTLER	1185
TOP OF SALT	1400	4650	SALT: BARREN	TOP OF SALT	1400
BASE OF SALT	4650	4918	SALT: BARREN	BASE OF SALT	4650
LAMAR	4918	4947	SANDSTONE: WATER	LAMAR	4918
BELL CANYON	4947	5874	SANDSTONE: WATER	BELL CANYON	4947
CHERRY CANYON	5874	7222	SANDSTONE: WATER	CHERRY CANYON	5874
BRUSHY CANYON	7222	8780	SANDSTONE: WATER	BRUSHY CANYON	7222
BONE SPRING	8780		LS, SHALE, SS: OIL, WATER, GAS	BONE SPRING	8780

32. Additional remarks (include plugging procedure):

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)	2. Geologic Report	3. DST Report	4. Directional Survey
5. Sundry Notice for plugging and cement verification	6. Core Analysis	7 Other:	

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #509670 Verified by the BLM Well Information System.
 For CIMAREX ENERGY COMPANY, sent to the Hobbs**

Name (*please print*) FATIMA VASQUEZ Title REGULATORY ANALYST

Signature _____ (Electronic Submission) Date 04/04/2020

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTOCD - HOBBS
04/17/2020
RECEIVEDFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM0553548
2. Name of Operator CIMAREX ENERGY COMPANY		6. If Indian, Allottee or Tribe Name
Contact: FATIMA VASQUEZ E-Mail: fvasquez@cimarex.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 600 N MARIENFELD ST SUITE 600 MIDLAND, TX 79701	3b. Phone No. (include area code) Ph: 432-620-1933	8. Well Name and No. DOS EQUIS 13 FEDERAL COM 10H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 13 T24S R32E NENW 360FNL 1320FWL 32.223920 N Lat, 103.632592 W Lon		9. API Well No. 30-025-45417
		10. Field and Pool or Exploratory Area TRIPLE X; BONE SPRING, WE
		11. County or Parish, State LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off	
☒ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Production Start-up	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Cimarex completed this well as follows:

01/05/2020 Test csg to 9800# for 30 min. OK.
 01/28/2020 to
 02/01/2020 Perf Wolfcamp @ 11,098' 15,774' 867 holes, .41" Frac w/ 213,57 bbls total fluid & 11,531,713# sand.
 02/02/2020 to
 02/03/2020 DO plugs. Circulate well clean. SI.
 02/06/2020 RIH w/ 2-7/8" 6.5# L-80 8rd prod tbg, pkr & GLVs, set @ 10,525'.
 02/20/2020 Flowing well. TTP

14. I hereby certify that the foregoing is true and correct. Electronic Submission #509669 verified by the BLM Well Information System For CIMAREX ENERGY COMPANY, sent to the Hobbs	
Name (Printed/Typed) FATIMA VASQUEZ	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 04/04/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____	Title _____	Date _____
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office _____

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

OCD - HOBBS
04/17/2020
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Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-45417	² Pool Code 96674	³ Pool Name Triple X; Bone Spring, West
⁴ Property Code 40201	⁵ Property Name DOS EQUIS 13 FEDERAL COM	⁶ Well Number 10H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3620.5'

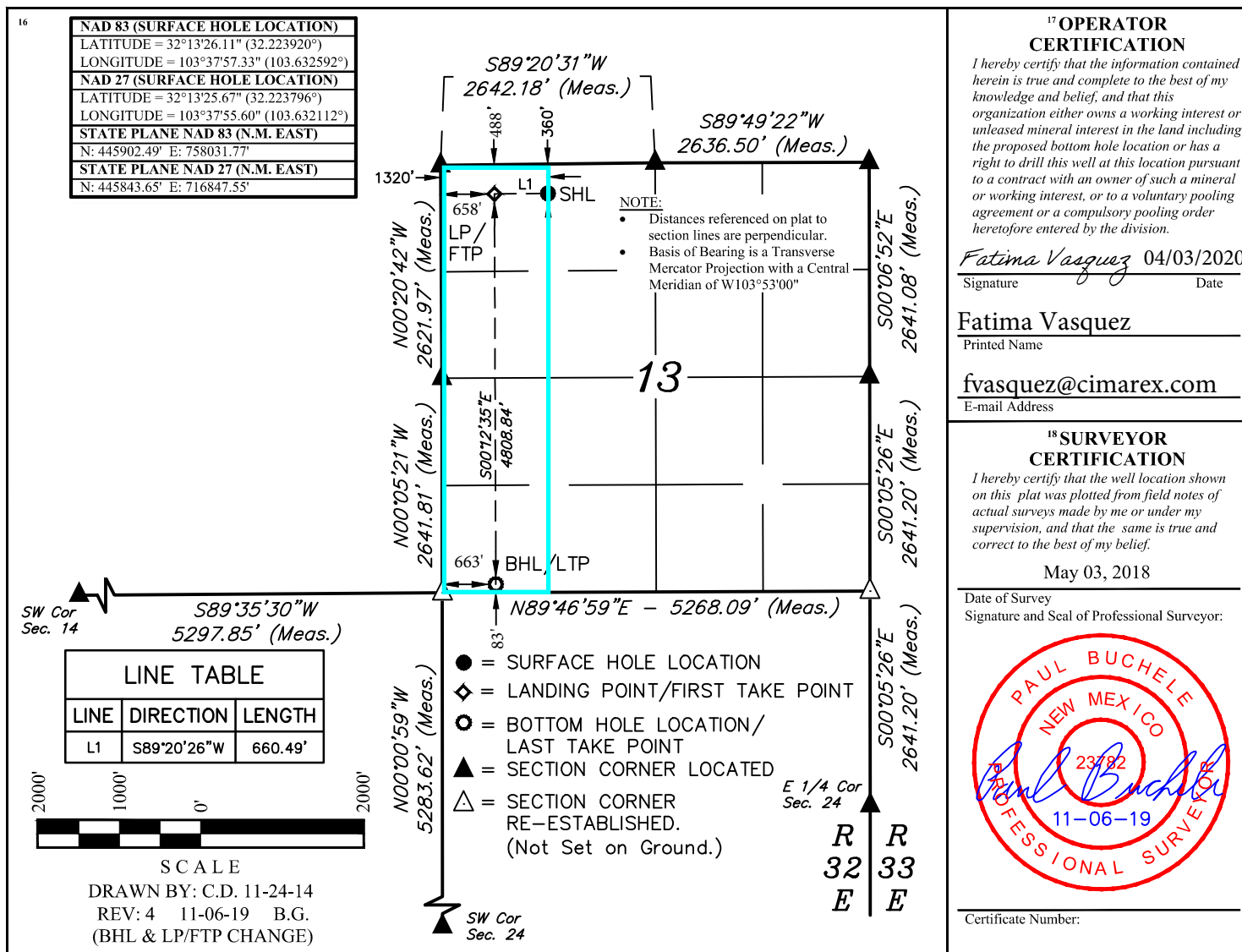
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	13	24S	32E		360	NORTH	1320	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	24S	32E		83	SOUTH	663	WEST	LEA
¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐

Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

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1625 N. French Dr., Hobbs, NM 88240
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811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

OCD - HOBBS
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Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Cimarex Energy Co. 600 N. Marienfeld, Suite 600 Midland TX 79701		² OGRID Number 215099
		³ Reason for Filing Code/ Effective Date NW/ 02/20/2020
⁴ API Number 30-025-45417	⁵ Pool Name Triple X; Bone Spring, West	⁶ Pool Code 96674 KZ
⁷ Property Code 40201	⁸ Property Name Dos Equis 13 Federal Com	⁹ Well Number 10H

II. ¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
C	13	24S	32E		360'	North	1320'	West	Lea

¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	24S	32E		83'	South	663'	West	Lea
¹² Lse Code F	¹³ Producing Method P Code	¹⁴ Gas Connection Date 2/20/2020	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
21778	Sunoco R & M PO BOX 2039 Tulsa OK 74102	G
703107	Lucid Energy Delaware, LLC 3100 McKinnon St., Suite 800 Dallas TX 75201	G

IV. Well Completion Data

²¹ Spud Date 12/04/2019	²² Ready Date 2/20/2020	²³ TD 11,045' TVD/ 15,791' MD	²⁴ PBDT 15,775'	²⁵ Perforations 11,098'-15,774'	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17 1/2"	13 3/8" J-55 48#	1214'	1050 sks - TOC 0		
12 1/4"	9 5/8" J-55 36#	4867'	1600 sks - TOC 0		
8 1/2"	5 1/2" P-110 20#	15,791'	2400 sks - TOC 0		
Tubing	2 7/8" 6.5# L-80 tbg	10,525'			

V. Well Test Data

³¹ Date New Oil 02/20/2020	³² Gas Delivery Date 02/20/2020	³³ Test Date 03/03/2020	³⁴ Test Length 24 hrs	³⁵ Tbg. Pressure 412	³⁶ Csg. Pressure 308
³⁷ Choke Size	³⁸ Oil 1302	³⁹ Water 2283	⁴⁰ Gas 2421		⁴¹ Test Method F

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Fatima Vasquez</i>	OIL CONSERVATION DIVISION	
	Approved by:	<i>Patricia Martinez</i>
	Title:	<i>LM II</i>
	Approval Date:	<i>6/15/2020</i>
Printed name: Fatima Vasquez		
Title: Regulatory Analyst		
E-mail Address: fvasquez@cimarex.com		
Date: 04/03/2020	Phone: 432-620-1933	

Cimarex

Lea County, New Mexico (NAD83) Dos Equis 13 Federal Pad (Grid)

API#

Dos Equis 13 Federal Com 10H

SHL: (360' FNL - 1320' FWL)

Wellbore #1

Design: Actual Drilled

OCD – HOBBS
04/17/2020
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Sperry Drilling Services

Combo Report

30 December, 2019

Well Coordinates: 32.22391989
-103.63259186

North American Datum 1983
New Mexico Eastern Zone
445,902.49 N
758,031.77 E

Ground Level: 3,620.50 usft

Local Coordinate Origin:

Centered on Well Dos Equis 13 Federal Com 10H

Viewing Datum:

RKB (H&P 380) 26' + GL(3620.5') @ 3646.50usft

TVDs to System:

N

North Reference:

Grid

Unit System:

Midcon (2 decimal)

Version: 5000.15 Build: 91E

Report Version: Midcon Combo v1.15

HALLIBURTON

Design Report for Dos Equis 13 Federal Com 10H - Actual Drilled

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
0.00	0.00	0.00	0.00	0.00 N	0.00 E	445,902.49	758,031.77	0.00	0.00	0.00	
201.00	0.95	251.19	200.99	0.54 S	1.58 W	445,901.95	758,030.19	0.47	0.52	251.19	First MWD Survey @ 201'MD
297.00	0.82	247.47	296.98	1.06 S	2.97 W	445,901.43	758,028.80	0.15	1.03	-158.01	
388.00	0.82	241.96	387.97	1.61 S	4.14 W	445,900.88	758,027.63	0.09	1.58	-92.75	
478.00	0.99	252.07	477.96	2.15 S	5.45 W	445,900.34	758,026.32	0.26	2.11	48.34	
569.00	0.86	270.74	568.95	2.39 S	6.88 W	445,900.10	758,024.89	0.36	2.33	122.48	
658.00	0.81	263.81	657.94	2.45 S	8.17 W	445,900.04	758,023.60	0.13	2.38	-119.78	
749.00	0.10	145.05	748.93	2.58 S	8.77 W	445,899.91	758,023.00	0.95	2.51	-174.17	
839.00	0.32	80.92	838.93	2.61 S	8.47 W	445,899.88	758,023.30	0.32	2.54	-82.16	
933.00	0.29	99.80	932.93	2.61 S	7.98 W	445,899.88	758,023.79	0.11	2.54	115.92	
1,027.00	0.41	65.00	1,026.93	2.50 S	7.44 W	445,899.99	758,024.33	0.25	2.45	-78.72	
1,141.00	0.31	3.93	1,140.93	2.02 S	7.05 W	445,900.47	758,024.72	0.33	1.97	-133.78	
1,313.00	0.69	30.33	1,312.92	0.67 S	6.50 W	445,901.82	758,025.27	0.25	0.61	44.88	
1,407.00	0.61	15.46	1,406.92	0.31 N	6.08 W	445,902.80	758,025.69	0.20	-0.35	-122.68	
1,501.00	0.68	10.05	1,500.91	1.34 N	5.85 W	445,903.83	758,025.92	0.10	-1.38	-43.75	
1,596.00	0.83	349.02	1,595.90	2.57 N	5.88 W	445,905.06	758,025.89	0.33	-2.61	-72.36	
1,690.00	0.96	3.01	1,689.89	4.02 N	5.97 W	445,906.51	758,025.80	0.27	-4.07	66.37	
1,784.00	0.88	3.66	1,783.88	5.53 N	5.88 W	445,908.02	758,025.89	0.09	-5.57	172.89	
1,879.00	0.95	351.33	1,878.87	7.04 N	5.95 W	445,909.53	758,025.82	0.22	-7.08	-76.66	
1,973.00	0.56	193.20	1,972.86	7.36 N	6.17 W	445,909.85	758,025.60	1.58	-7.41	-171.92	
2,067.00	0.41	169.35	2,066.86	6.58 N	6.22 W	445,909.07	758,025.55	0.26	-6.63	-138.14	
2,162.00	0.57	169.09	2,161.86	5.78 N	6.06 W	445,908.27	758,025.71	0.17	-5.83	-0.93	
2,256.00	0.38	186.89	2,255.85	5.01 N	6.01 W	445,907.50	758,025.76	0.25	-5.06	150.84	
2,350.00	0.67	186.85	2,349.85	4.16 N	6.12 W	445,906.65	758,025.65	0.31	-4.21	-0.09	
2,445.00	0.75	184.96	2,444.84	2.99 N	6.24 W	445,905.48	758,025.53	0.09	-3.04	-17.26	
2,539.00	0.70	104.00	2,538.84	2.24 N	5.73 W	445,904.73	758,026.04	1.00	-2.28	-132.79	
2,633.00	0.90	177.90	2,632.83	1.36 N	5.15 W	445,903.85	758,026.62	1.04	-1.40	117.51	
2,728.00	1.02	183.52	2,727.82	0.23 S	5.17 W	445,902.26	758,026.60	0.16	0.19	40.95	
2,822.00	1.26	264.13	2,821.80	1.17 S	6.25 W	445,901.32	758,025.52	1.58	1.12	123.22	
2,916.00	1.24	189.71	2,915.79	2.28 S	7.45 W	445,900.21	758,024.32	1.61	2.22	-127.81	
3,010.00	1.69	192.32	3,009.76	4.64 S	7.92 W	445,897.85	758,023.85	0.48	4.57	9.74	
3,105.00	0.08	130.07	3,104.74	6.05 S	8.17 W	445,896.44	758,023.60	1.74	5.98	-177.55	
3,199.00	0.16	68.85	3,198.74	6.04 S	7.99 W	445,896.45	758,023.78	0.15	5.98	-91.21	
3,293.00	0.33	102.87	3,292.74	6.06 S	7.61 W	445,896.43	758,024.16	0.23	6.00	58.41	
3,388.00	0.40	153.17	3,387.74	6.41 S	7.19 W	445,896.08	758,024.58	0.33	6.36	103.61	
3,482.00	0.49	120.23	3,481.74	6.91 S	6.70 W	445,895.58	758,025.07	0.28	6.85	-87.59	

Design Report for Dos Equis 13 Federal Com 10H - Actual Drilled

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
3,575.00	0.70	36.83	3,574.73	6.65 S	6.01 W	445,895.84	758,025.76	0.87	6.61	-120.49	
3,670.00	0.66	24.82	3,669.73	5.69 S	5.44 W	445,896.80	758,026.33	0.16	5.65	-111.63	
3,764.00	0.59	29.91	3,763.72	4.78 S	4.97 W	445,897.71	758,026.80	0.09	4.74	144.11	
3,858.00	0.75	18.67	3,857.71	3.78 S	4.53 W	445,898.71	758,027.24	0.22	3.74	-45.11	
3,953.00	0.88	14.63	3,952.70	2.48 S	4.14 W	445,900.01	758,027.63	0.15	2.45	-25.88	
4,047.00	0.36	26.78	4,046.70	1.52 S	3.83 W	445,900.97	758,027.94	0.57	1.49	171.83	
4,141.00	0.19	179.90	4,140.70	1.41 S	3.70 W	445,901.08	758,028.07	0.57	1.38	170.78	
4,235.00	1.14	115.91	4,234.69	1.98 S	2.85 W	445,900.51	758,028.92	1.14	1.96	-73.17	
4,330.00	1.49	122.08	4,329.67	3.05 S	0.96 W	445,899.44	758,030.81	0.40	3.04	25.13	
4,424.00	0.36	270.53	4,423.66	3.69 S	0.22 W	445,898.80	758,031.55	1.92	3.69	174.01	
4,518.00	0.56	274.92	4,517.65	3.65 S	0.97 W	445,898.84	758,030.80	0.22	3.64	12.19	
4,613.00	0.66	174.56	4,612.65	4.16 S	1.38 W	445,898.33	758,030.39	0.99	4.15	-136.27	
4,707.00	0.88	86.07	4,706.64	4.65 S	0.61 W	445,897.84	758,031.16	1.16	4.64	-125.90	
4,809.00	1.56	49.75	4,808.62	3.69 S	1.23 E	445,898.80	758,033.00	0.98	3.70	-67.80	
4,892.00	0.88	35.26	4,891.60	2.44 S	2.46 E	445,900.05	758,034.23	0.89	2.46	-162.72	
4,987.00	0.62	21.96	4,986.59	1.37 S	3.07 E	445,901.12	758,034.84	0.33	1.40	-152.72	
5,081.00	0.62	24.87	5,080.59	0.44 S	3.48 E	445,902.05	758,035.25	0.03	0.47	91.45	
5,175.00	0.64	29.34	5,174.58	0.48 N	3.95 E	445,902.97	758,035.72	0.06	-0.45	70.10	
5,270.00	1.82	304.10	5,269.56	1.79 N	2.96 E	445,904.28	758,034.73	1.98	-1.77	-105.08	
5,364.00	4.05	288.81	5,363.44	3.70 N	1.42 W	445,906.19	758,030.35	2.49	-3.71	-27.09	
5,459.00	6.68	281.11	5,458.01	5.84 N	10.02 W	445,908.33	758,021.75	2.86	-5.92	-19.17	
5,553.00	8.87	280.11	5,551.14	8.17 N	22.52 W	445,910.66	758,009.25	2.33	-8.35	-4.03	
5,648.00	10.54	278.96	5,644.78	10.81 N	38.31 W	445,913.30	757,993.46	1.77	-11.11	-7.19	
5,742.00	10.20	278.21	5,737.25	13.34 N	55.04 W	445,915.83	757,976.73	0.39	-13.77	-158.71	
5,836.00	11.08	278.22	5,829.63	15.82 N	72.22 W	445,918.31	757,959.55	0.94	-16.38	0.13	
5,930.00	10.95	277.84	5,921.90	18.32 N	90.00 W	445,920.81	757,941.77	0.16	-19.03	-151.00	
6,025.00	12.04	280.80	6,014.99	21.41 N	108.68 W	445,923.90	757,923.09	1.30	-22.26	29.88	
6,119.00	12.28	279.86	6,106.88	24.96 N	128.16 W	445,927.45	757,903.61	0.33	-25.97	-39.98	
6,213.00	12.41	283.01	6,198.71	28.95 N	147.85 W	445,931.44	757,883.92	0.73	-30.11	80.62	
6,307.00	12.68	282.32	6,290.47	33.42 N	167.77 W	445,935.91	757,864.00	0.33	-34.74	-29.37	
6,402.00	12.62	281.23	6,383.16	37.67 N	188.13 W	445,940.16	757,843.64	0.26	-39.14	-104.64	
6,496.00	12.18	286.65	6,474.97	42.51 N	207.71 W	445,945.00	757,824.06	1.32	-44.14	113.34	
6,590.00	11.83	286.48	6,566.91	48.08 N	226.45 W	445,950.57	757,805.32	0.37	-49.86	-174.31	
6,685.00	11.34	285.21	6,659.98	53.30 N	244.80 W	445,955.79	757,786.97	0.58	-55.22	-153.12	
6,779.00	11.22	284.19	6,752.16	57.96 N	262.58 W	445,960.45	757,769.19	0.25	-60.02	-121.52	
6,874.00	11.04	281.46	6,845.38	62.04 N	280.46 W	445,964.53	757,751.31	0.59	-64.24	-110.19	
6,968.00	11.10	278.69	6,937.63	65.19 N	298.22 W	445,967.68	757,733.55	0.57	-67.53	-84.92	

Design Report for Dos Equis 13 Federal Com 10H - Actual Drilled

Measured		Grid	Vertical	Local Coordinates		Map Coordinates		Dogleg	Vertical	Toolface	
Depth	Inclination	Azimuth	Depth	Northing	Easting	Northing	Easting	Rate	Section	Angle	Comments
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(usft)	(°)	
7,063.00	11.53	276.86	7,030.78	67.71 N	316.69 W	445,970.20	757,715.08	0.59	-70.19	-40.76	
7,157.00	11.02	279.25	7,122.97	70.27 N	334.88 W	445,972.76	757,696.89	0.74	-72.90	138.67	
7,252.00	10.05	286.16	7,216.37	74.04 N	351.81 W	445,976.53	757,679.96	1.67	-76.80	130.88	
7,346.00	9.30	287.73	7,309.03	78.64 N	366.92 W	445,981.13	757,664.85	0.85	-81.52	161.39	
7,439.00	9.31	284.36	7,400.81	82.79 N	381.36 W	445,985.28	757,650.41	0.59	-85.78	-90.61	
7,533.00	8.34	283.13	7,493.69	86.22 N	395.37 W	445,988.71	757,636.40	1.05	-89.33	-169.60	
7,627.00	8.66	282.77	7,586.66	89.34 N	408.91 W	445,991.83	757,622.86	0.35	-92.55	-9.62	
7,721.00	8.84	285.34	7,679.57	92.81 N	422.78 W	445,995.30	757,608.99	0.46	-96.13	66.55	
7,818.00	10.02	282.48	7,775.26	96.61 N	438.21 W	445,999.10	757,593.56	1.31	-100.05	-23.07	
7,910.00	9.21	280.73	7,865.96	99.71 N	453.25 W	446,002.20	757,578.52	0.94	-103.26	-161.02	
8,004.00	9.03	279.20	7,958.77	102.29 N	467.93 W	446,004.78	757,563.84	0.32	-105.96	-127.34	
8,099.00	9.93	282.11	8,052.48	105.20 N	483.30 W	446,007.69	757,548.47	1.07	-108.99	29.48	
8,193.00	9.22	279.73	8,145.17	108.17 N	498.64 W	446,010.66	757,533.13	0.86	-112.08	-152.03	
8,288.00	9.68	282.76	8,238.88	111.22 N	513.93 W	446,013.71	757,517.84	0.71	-115.25	48.74	
8,382.00	9.38	283.58	8,331.58	114.77 N	529.09 W	446,017.26	757,502.68	0.35	-118.92	156.06	
8,477.00	9.03	284.92	8,425.36	118.50 N	543.82 W	446,020.99	757,487.95	0.43	-122.77	149.17	
8,571.00	8.99	284.79	8,518.20	122.28 N	558.05 W	446,024.77	757,473.72	0.05	-126.66	-153.09	
8,665.00	8.58	282.44	8,611.09	125.66 N	571.99 W	446,028.15	757,459.78	0.58	-130.15	-139.96	
8,760.00	7.51	280.47	8,705.16	128.32 N	585.02 W	446,030.81	757,446.75	1.16	-132.91	-166.52	
8,854.00	7.60	280.06	8,798.34	130.52 N	597.18 W	446,033.01	757,434.59	0.11	-135.21	-31.12	
8,949.00	8.09	279.99	8,892.45	132.78 N	609.95 W	446,035.27	757,421.82	0.52	-137.56	-1.15	
9,043.00	7.29	279.18	8,985.61	134.88 N	622.35 W	446,037.37	757,409.42	0.86	-139.76	-172.69	
9,138.00	6.29	278.95	9,079.94	136.65 N	633.44 W	446,039.14	757,398.33	1.05	-141.62	-178.56	
9,232.00	5.07	279.18	9,173.48	138.11 N	642.63 W	446,040.60	757,389.14	1.30	-143.15	179.05	
9,326.00	4.56	278.25	9,267.14	139.31 N	650.43 W	446,041.80	757,381.34	0.55	-144.41	-171.76	
9,421.00	4.07	272.42	9,361.88	139.99 N	657.53 W	446,042.48	757,374.24	0.69	-145.15	-141.05	
9,516.00	2.32	268.05	9,456.72	140.07 N	662.82 W	446,042.56	757,368.95	1.86	-145.27	-174.25	
9,610.00	0.99	250.51	9,550.68	139.73 N	665.49 W	446,042.22	757,366.28	1.50	-144.96	-167.77	
9,704.00	1.23	239.23	9,644.67	138.95 N	667.12 W	446,041.44	757,364.65	0.34	-144.18	-48.05	
9,801.00	0.71	233.15	9,741.65	138.05 N	668.50 W	446,040.54	757,363.27	0.55	-143.30	-171.83	
9,895.00	0.98	276.68	9,835.64	137.80 N	669.76 W	446,040.29	757,362.01	0.72	-143.06	89.95	
9,990.00	1.05	267.88	9,930.63	137.86 N	671.44 W	446,040.35	757,360.33	0.18	-143.13	-70.26	
10,084.00	0.74	297.40	10,024.62	138.11 N	672.84 W	446,040.60	757,358.93	0.58	-143.39	138.08	
10,178.00	2.09	49.96	10,118.60	139.49 N	672.07 W	446,041.98	757,359.70	2.63	-144.77	128.61	
10,272.00	0.74	64.72	10,212.56	140.85 N	670.20 W	446,043.34	757,361.57	1.48	-146.11	172.19	
10,367.00	1.10	129.49	10,307.55	140.54 N	668.95 W	446,043.03	757,362.82	1.09	-145.78	105.24	
10,480.00	0.89	180.56	10,420.54	138.97 N	668.12 W	446,041.46	757,363.65	0.78	-144.21	127.99	

Design Report for Dos Equis 13 Federal Com 10H - Actual Drilled

Measured		Grid	Vertical	Local Coordinates		Map Coordinates		Dogleg	Vertical	Toolface	
Depth	Inclination	Azimuth	Depth	Northing	Easting	Northing	Easting	Rate	Section	Angle	Comments
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(usft)	(°)	
10,518.00	0.89	193.73	10,458.54	138.39 N	668.19 W	446,040.88	757,363.58	0.54	-143.63	96.58	
10,549.00	1.64	165.47	10,489.53	137.72 N	668.14 W	446,040.21	757,363.63	3.08	-142.97	-54.46	
10,581.00	6.32	169.08	10,521.44	135.55 N	667.69 W	446,038.04	757,364.08	14.64	-140.79	4.87	
10,612.00	13.47	176.86	10,551.96	130.26 N	667.17 W	446,032.75	757,364.60	23.41	-135.50	14.45	
10,644.00	19.44	179.85	10,582.64	121.21 N	666.95 W	446,023.70	757,364.82	18.84	-126.44	9.52	
10,675.00	22.78	180.59	10,611.55	110.04 N	667.00 W	446,012.53	757,364.77	10.81	-115.28	4.91	
10,706.00	25.67	179.09	10,639.82	97.33 N	666.95 W	445,999.82	757,364.82	9.53	-102.56	-12.71	
10,738.00	27.63	179.60	10,668.42	82.97 N	666.79 W	445,985.46	757,364.98	6.17	-88.21	6.89	
10,769.00	29.80	180.44	10,695.61	68.08 N	666.80 W	445,970.57	757,364.97	7.12	-73.32	10.90	
10,800.00	30.96	184.04	10,722.35	52.42 N	667.42 W	445,954.91	757,364.35	6.96	-57.66	59.06	
10,832.00	31.38	185.16	10,749.73	35.91 N	668.75 W	445,938.40	757,363.02	2.24	-41.17	54.56	
10,863.00	32.66	183.29	10,776.02	19.52 N	669.95 W	445,922.01	757,361.82	5.22	-24.79	-38.56	
10,910.00	37.63	178.26	10,814.44	7.50 S	670.25 W	445,894.99	757,361.52	12.23	2.24	-32.31	
10,957.00	41.73	176.54	10,850.61	37.47 S	668.87 W	445,865.02	757,362.90	9.03	32.22	-15.66	
11,008.00	44.65	176.82	10,887.79	72.31 S	666.85 W	445,830.18	757,364.92	5.74	67.07	3.86	
11,051.00	49.90	176.62	10,916.95	103.84 S	665.04 W	445,798.65	757,366.73	12.21	98.61	-1.67	
11,098.00	57.68	174.45	10,944.70	141.61 S	662.05 W	445,760.88	757,369.72	16.97	136.41	-13.34	
11,146.00	60.95	174.35	10,969.19	182.69 S	658.02 W	445,719.80	757,373.75	6.81	177.51	-1.53	
11,193.00	67.94	176.61	10,989.46	224.93 S	654.71 W	445,677.56	757,377.06	15.49	219.78	16.76	
11,240.00	75.59	180.32	11,004.16	269.51 S	653.55 W	445,632.98	757,378.22	17.92	264.37	25.34	
11,287.00	82.13	182.38	11,013.23	315.58 S	654.64 W	445,586.91	757,377.13	14.56	310.43	17.38	
11,334.00	83.62	181.82	11,019.06	362.19 S	656.35 W	445,540.30	757,375.42	3.38	357.02	-20.49	
11,429.00	86.89	181.47	11,026.92	456.81 S	659.07 W	445,445.68	757,372.70	3.46	451.62	-6.10	
11,474.00	88.16	181.21	11,028.86	501.76 S	660.12 W	445,400.73	757,371.65	2.88	496.56	-11.57	
11,569.00	88.44	180.48	11,031.68	596.70 S	661.52 W	445,305.79	757,370.25	0.82	591.49	-69.02	
11,663.00	88.97	179.70	11,033.81	690.68 S	661.67 W	445,211.81	757,370.10	1.00	685.46	-55.81	
11,757.00	89.02	179.42	11,035.45	784.66 S	660.95 W	445,117.83	757,370.82	0.30	779.45	-79.88	
11,851.00	88.84	179.46	11,037.21	878.64 S	660.03 W	445,023.85	757,371.74	0.20	873.43	167.47	
11,946.00	88.81	179.35	11,039.16	973.61 S	659.04 W	444,928.88	757,372.73	0.12	968.41	-105.26	
12,040.00	89.20	179.19	11,040.79	1,067.59 S	657.84 W	444,834.90	757,373.93	0.45	1,062.39	-22.30	
12,134.00	89.17	177.67	11,042.13	1,161.55 S	655.27 W	444,740.94	757,376.50	1.62	1,156.36	-91.14	
12,228.00	89.44	177.22	11,043.27	1,255.44 S	651.08 W	444,647.05	757,380.69	0.56	1,250.29	-59.04	
12,323.00	89.44	177.72	11,044.20	1,350.35 S	646.88 W	444,552.14	757,384.89	0.53	1,345.22	90.00	
12,417.00	89.97	178.59	11,044.68	1,444.30 S	643.86 W	444,458.19	757,387.91	1.08	1,439.19	58.65	
12,511.00	90.09	181.41	11,044.63	1,538.29 S	643.86 W	444,364.20	757,387.91	3.00	1,533.18	87.56	
12,606.00	89.33	181.79	11,045.11	1,633.25 S	646.51 W	444,269.24	757,385.26	0.89	1,628.12	153.44	

Design Report for Dos Equis 13 Federal Com 10H - Actual Drilled

Measured		Grid	Vertical	Local Coordinates		Map Coordinates		Dogleg	Vertical	Toolface	Comments
Depth	Inclination	Azimuth	Depth	Northing	Easting	Northing	Easting	Rate	Section	Angle	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(usft)	(°)	
12,700.00	89.02	181.80	11,046.47	1,727.19 S	649.45 W	444,175.30	757,382.32	0.33	1,722.04	178.15	
12,794.00	89.33	181.74	11,047.82	1,821.14 S	652.36 W	444,081.35	757,379.41	0.34	1,815.96	-10.95	
12,889.00	90.36	180.01	11,048.08	1,916.12 S	653.81 W	443,986.37	757,377.96	2.12	1,910.93	-59.24	
12,983.00	90.29	179.42	11,047.54	2,010.12 S	653.34 W	443,892.37	757,378.43	0.63	2,004.92	-96.76	
13,077.00	90.20	179.17	11,047.14	2,104.11 S	652.18 W	443,798.38	757,379.59	0.28	2,098.92	-109.80	
13,171.00	89.31	179.02	11,047.54	2,198.10 S	650.70 W	443,704.39	757,381.07	0.96	2,192.92	-170.43	
13,266.00	90.93	179.45	11,047.34	2,293.08 S	649.43 W	443,609.41	757,382.34	1.76	2,287.91	14.87	
13,360.00	89.84	179.14	11,046.71	2,387.07 S	648.27 W	443,515.42	757,383.50	1.21	2,381.91	-164.12	
13,455.00	89.15	178.72	11,047.55	2,482.05 S	646.50 W	443,420.44	757,385.27	0.85	2,476.90	-148.67	
13,549.00	89.86	178.50	11,048.36	2,576.02 S	644.22 W	443,326.47	757,387.55	0.79	2,570.88	-17.22	
13,644.00	90.04	178.81	11,048.44	2,670.99 S	641.99 W	443,231.50	757,389.78	0.38	2,665.87	59.86	
13,738.00	89.72	178.54	11,048.64	2,764.97 S	639.82 W	443,137.52	757,391.95	0.45	2,759.86	-139.84	
13,832.00	90.22	179.27	11,048.69	2,858.95 S	638.02 W	443,043.54	757,393.75	0.94	2,853.85	55.59	
13,927.00	90.13	179.32	11,048.40	2,953.94 S	636.85 W	442,948.55	757,394.92	0.11	2,948.85	150.95	
14,021.00	90.04	178.84	11,048.26	3,047.93 S	635.34 W	442,854.56	757,396.43	0.52	3,042.85	-100.62	
14,115.00	90.13	179.00	11,048.12	3,141.91 S	633.57 W	442,760.58	757,398.20	0.20	3,136.84	60.64	
14,210.00	90.24	179.45	11,047.81	3,236.90 S	632.29 W	442,665.59	757,399.48	0.49	3,231.84	76.26	
14,304.00	90.13	179.50	11,047.51	3,330.90 S	631.42 W	442,571.59	757,400.35	0.13	3,325.84	155.56	
14,398.00	90.02	179.43	11,047.39	3,424.89 S	630.55 W	442,477.60	757,401.22	0.14	3,419.84	-147.53	
14,492.00	91.20	180.21	11,046.39	3,518.89 S	630.25 W	442,383.60	757,401.52	1.50	3,513.83	33.46	
14,586.00	91.34	180.16	11,044.30	3,612.86 S	630.55 W	442,289.63	757,401.22	0.16	3,607.80	-19.65	
14,681.00	90.33	179.20	11,042.92	3,707.85 S	630.02 W	442,194.64	757,401.75	1.47	3,702.79	-136.45	
14,775.00	89.02	177.80	11,043.45	3,801.81 S	627.56 W	442,100.68	757,404.21	2.04	3,796.76	-133.10	
14,869.00	89.95	178.45	11,044.30	3,895.76 S	624.49 W	442,006.73	757,407.28	1.21	3,890.73	34.95	
14,964.00	89.95	178.92	11,044.38	3,990.73 S	622.31 W	441,911.76	757,409.46	0.49	3,985.72	90.00	
15,058.00	89.71	179.47	11,044.66	4,084.72 S	620.99 W	441,817.77	757,410.78	0.64	4,079.72	113.58	
15,152.00	89.40	179.03	11,045.39	4,178.71 S	619.76 W	441,723.78	757,412.01	0.57	4,173.71	-125.17	
15,247.00	90.20	179.62	11,045.72	4,273.70 S	618.64 W	441,628.79	757,413.13	1.05	4,268.71	36.41	
15,341.00	90.03	180.07	11,045.53	4,367.70 S	618.38 W	441,534.79	757,413.39	0.51	4,362.71	110.69	
15,435.00	90.02	180.23	11,045.49	4,461.70 S	618.63 W	441,440.79	757,413.14	0.17	4,456.70	93.58	
15,529.00	89.98	180.12	11,045.49	4,555.70 S	618.92 W	441,346.79	757,412.85	0.12	4,550.70	-109.98	
15,624.00	90.05	180.25	11,045.47	4,650.70 S	619.22 W	441,251.79	757,412.55	0.16	4,645.69	61.70	
15,718.00	90.11	180.29	11,045.34	4,744.70 S	619.67 W	441,157.79	757,412.10	0.08	4,739.68	33.69	
15,773.00	90.27	180.17	11,045.15	4,799.70 S	619.89 W	441,102.79	757,411.88	0.36	4,794.68	-36.87	Last MWD Survey @ 15773'MD
15,774.00	90.27	180.17	11,045.15	4,800.70 S	619.89 W	441,101.79	757,411.88	0.00	4,795.68	0.00	LTP @ 15774'MD (100.04' FSL, 663.54' FWL of Sec. 13)
15,791.00	90.27	180.17	11,045.07	4,817.70 S	619.94 W	441,084.79	757,411.83	0.00	4,812.68	0.00	Proj. to TD @ 15791'MD (83.04' FSL, 663.36' FWL of Sec. 13)

Design Report for Dos Equis 13 Federal Com 10H - Actual Drilled

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates Northing (usft) Easting (usft)		Map Coordinates Northing (usft) Easting (usft)		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
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Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft) +E/-W (usft)		Comment
201.00	200.99	-0.54	-1.58	First MWD Survey @ 201'MD
15,773.00	11,045.15	-4,799.70	-619.89	Last MWD Survey @ 15773'MD
15,774.00	11,045.15	-4,800.70	-619.89	LTP @ 15774'MD (100.04' FSL, 663.54' FWL of Sec. 13)
15,791.00	11,045.07	-4,817.70	-619.94	Proj. to TD @ 15791'MD (83.04' FSL, 663.36' FWL of Sec. 13)

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft) +E/-W (usft)		Start TVD (usft)
User	No Target (Freehand)	179.55	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
201.00	15,773.00	MWD Surveys	3_MWD+IFR1+MS
15,791.00	15,791.00	Projection to TD	3_Blind

Design Targets

Target Name - hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (°)	+N/-S (°)	+E/-W (°)	Northing (°)	Easting (°)	Latitude	Longitude
()									

Design Report for Dos Equis 13 Federal Com 10H - Actual Drilled

Directional Difficulty Index

Average Dogleg over Survey: 1.25 °/100usft

Maximum Dogleg over Survey: 23.41 °/100usft at
10,612.00 usft

Net Tortousity applicable to Plans: 0.55 °/100usft

Directional Difficulty Index: 6.209

Audit Info

North Reference Sheet for Dos Equis 13 Federal Pad (Grid) - Dos Equis 13 Federal Com 10H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB (H&P 380) 26' + GL(3620.5') @ 3646.50usft. Northing and Easting are relative to Dos Equis 13 Federal Com 10H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -104.33333333°, Longitude Origin:0.00000000°, Latitude Origin:0.00000000°

False Easting: 541,337.50usft, False Northing: 0.00usft, Scale Reduction: 0.99996287

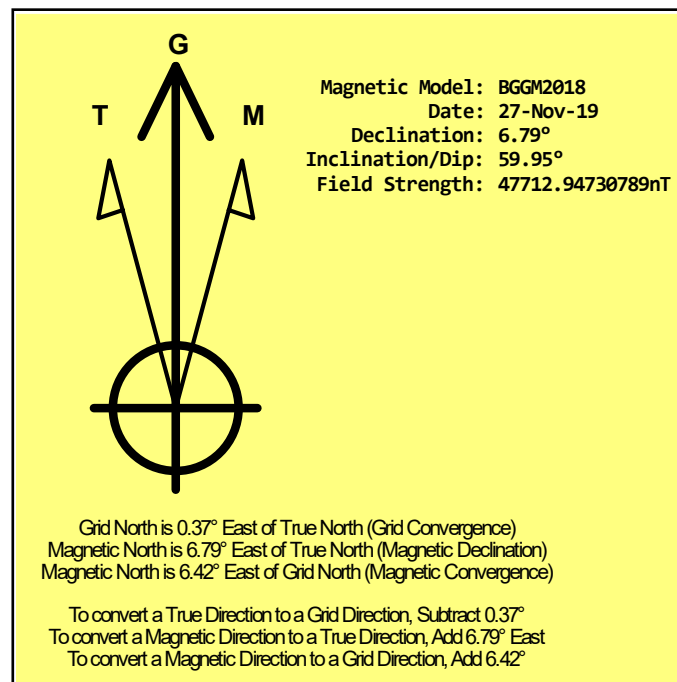
Grid Coordinates of Well: 445,902.49 usft N, 758,031.77 usft E

Geographical Coordinates of Well: 32.22391989, -103.63259186

Grid Convergence at Surface is: 0.37°

Based upon Minimum Curvature type calculations, at a Measured Depth of 15,791.00usft the Bottom Hole Displacement is 4,857.42usft in the Direction of 187.33° (Grid).

Magnetic Convergence at surface is: -6.42° (27 November 2019, , BGGM2018)



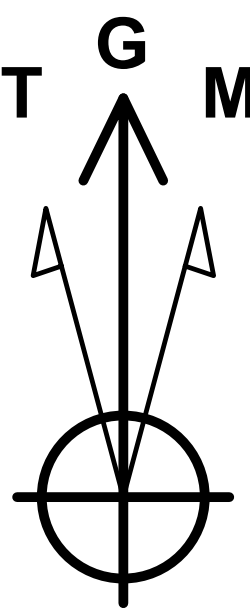


Cimarex

RKB (H&P 380) 26' + GL(3620.5') @ 3646.50usft
3620.50

Project: Lea County, New Mexico (NAD83)
Site: Dos Equis 13 Federal Pad (Grid)
Well: Dos Equis 13 Federal Com 10H
Wellbore: Wellbore #1
Design: Actual Drilled
Rig:

Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone



Azimuths to Grid North
True North: -0.37°
Magnetic North: 6.42°

Magnetic Field
Strength: 47712.9nT
Dip Angle: 59.95°
Date: 11/27/2019
Model: BGGM2018

WELL DETAILS								
3620.50								
+N/-S	+E/-W	Northing		Easting		Latitude		Longitude
0.00	0.00	445902.49		758031.77		32.22391989		-103.63259186
SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
201.00	0.95	251.19	200.99	-0.54	-1.58	0.52	1.67	First MWD Survey @ 201'MD
15773.00	90.27	180.17	11045.15	-4799.70	-619.89	4794.68	5704.84	Last MWD Survey @ 15773'MD
15774.00	90.27	180.17	11045.15	-4800.70	-619.89	4795.68	5705.84	LTP @ 15774'MD (100.04' FSL, 663.54' FWL of Sec. 13)
15791.00	90.27	180.17	11045.07	-4817.70	-619.94	4812.68	5722.84	Proj. to TD @ 15791'MD (83.04' FSL, 663.36' FWL of Sec. 13)

