

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

Rec'd 05/04/2020 - NMOCD

Form C-104
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address CHEVRON U.S.A. INC. 6301 DEAUVILLE BLVD. MIDLAND, TX 79706		² OGRID Number 4323
		³ Reason for Filing Code/ Effective Date NW / 12/26/2019
⁴ API Number 30 – 015–45155	⁵ Pool Name PURPLE SAGE; WOLFCAMP (GAS)	⁶ Pool Code 98220
⁷ Property Code 321649	⁸ Property Name HH SO 17 20 FED 001	⁹ Well Number 4H

II. ¹⁰ Surface Location

UL or lot no. N	Section 8	Township 26S	Range 27E	Lot Idn	Feet from the 255	North/South Line SOUTH	Feet from the 1,873	East/West line WEST	County EDDY
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¹¹ Bottom Hole Location

UL or lot no. N	Section 20	Township 26S	Range 27E	Lot Idn	Feet from the 184	North/South line SOUTH	Feet from the 2,010	East/West line WEST	County EDDY
¹² Lse Code F	¹³ Producing Method Code F	¹⁴ Gas Connection Date 12/26/2019	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
151618	ENTERPRISE FIELD SERVICES LLC PO Box 4324 Houston, TX	G
214984	PLAINS PO Box 4648 Houston, TX	O

IV. Well Completion Data

²¹ Spud Date 8/28/2018	²² Ready Date 11/18/2019	²³ TD 20,042’/9,540’	²⁴ PBDT 19,912’	²⁵ Perforations 9,907’-19,879’	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size	²⁹ Depth Set		³⁰ Sacks Cement
17-1/2”		13-3/8”, 54.5# J-55 STC	447’		380 sks CL: C
12-1/4”		9-5/8”, 43.5# HCL-80 LTC	9,153’		2,422 sks CL: C
8-1/2”		5-1/2”, 20# P110 TXP-BTC	20,022’		2,934 sks CL: C 158 sks CL: H

V. Well Test Data

³¹ Date New Oil 12/26/2019	³² Gas Delivery Date 12/26/2019	³³ Test Date 1/14/2020	³⁴ Test Length 24 Hrs	³⁵ Tbg. Pressure	³⁶ Csg. Pressure 2,015
³⁷ Choke Size 64	³⁸ Oil 562	³⁹ Water 6,160	⁴⁰ Gas 4,981		⁴¹ Test Method PVT

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: 	OIL CONSERVATION DIVISION	
Printed name: LAURA BECERRA	Approved by: DENIED	
Title: PERMITTING SPECIALIST	Title: See 19.15.5.9 NMAC (11 wells on inactive well list)	
E-mail Address: LBECERRA@CHEVRON.COM	Approval Date:	
Date: 3/17/2020	Phone: (432) 687-7665	

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

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

☒ AMENDED REPORT
"As-Drilled"

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45155	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code 321649	⁵ Property Name HH SO 17 20 FED 001	⁶ Well Number 4H
⁷ OGRID No. 4323	⁸ Operator Name CHEVRON U.S.A. INC.	⁹ Elevation 3258'

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
N	8	26 SOUTH	27 EAST, N.M.P.M.		255'	SOUTH	1873'	WEST	EDDY

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
N	20	26 SOUTH	27 EAST, N.M.P.M.		184'	SOUTH	2010'	WEST	EDDY

¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

¹⁶ <table border="1"> <tr> <th colspan="2">KICK OFF POINT</th> </tr> <tr> <td>X= 536,973'</td> <td>NAD 27</td> </tr> <tr> <td>Y= 381,989'</td> <td></td> </tr> <tr> <td>LAT. 32.050146° N</td> <td></td> </tr> <tr> <td>LONG. 104.213999° W</td> <td></td> </tr> <tr> <td>X= 578,156'</td> <td>NAD83/86</td> </tr> <tr> <td>Y= 382,046'</td> <td></td> </tr> <tr> <td>LAT. 32.050268° N</td> <td></td> </tr> <tr> <td>LONG. 104.214493° W</td> <td></td> </tr> <tr> <th colspan="2">FINAL FIRST TAKE POINT</th> </tr> <tr> <td>X= 537,021'</td> <td>NAD 27</td> </tr> <tr> <td>Y= 381,458'</td> <td></td> </tr> <tr> <td>LAT. 32.048688° N</td> <td></td> </tr> <tr> <td>LONG. 104.213844° W</td> <td></td> </tr> <tr> <td>X= 578,205'</td> <td>NAD83/86</td> </tr> <tr> <td>Y= 381,515'</td> <td></td> </tr> <tr> <td>LAT. 32.048810° N</td> <td></td> </tr> <tr> <td>LONG. 104.214338° W</td> <td></td> </tr> <tr> <th colspan="2">MID POINT</th> </tr> <tr> <td>X= 537,091'</td> <td>NAD 27</td> </tr> <tr> <td>Y= 376,478'</td> <td></td> </tr> <tr> <td>LAT. 32.034997° N</td> <td></td> </tr> <tr> <td>LONG. 104.213638° W</td> <td></td> </tr> <tr> <td>X= 578,274'</td> <td>NAD83/86</td> </tr> <tr> <td>Y= 376,535'</td> <td></td> </tr> <tr> <td>LAT. 32.035119° N</td> <td></td> </tr> <tr> <td>LONG. 104.214132° W</td> <td></td> </tr> <tr> <th colspan="2">FINAL LAST TAKE POINT</th> </tr> <tr> <td>X= 537,106'</td> <td>NAD 27</td> </tr> <tr> <td>Y= 371,496'</td> <td></td> </tr> <tr> <td>LAT. 32.021299° N</td> <td></td> </tr> <tr> <td>LONG. 104.213607° W</td> <td></td> </tr> <tr> <td>X= 578,290'</td> <td>NAD83/86</td> </tr> <tr> <td>Y= 371,552'</td> <td></td> </tr> <tr> <td>LAT. 32.021422° N</td> <td></td> </tr> <tr> <td>LONG. 104.214100° W</td> <td></td> </tr> </table> <table border="1"> <tr> <th colspan="2">CORNER COORDINATES TABLE (NAD 27)</th> </tr> <tr> <td>A - Y=387143.09, X=534935.36</td> <td></td> </tr> <tr> <td>B - Y=381810.94, X=534988.20</td> <td></td> </tr> <tr> <td>C - Y=381799.23, X=540303.95</td> <td></td> </tr> <tr> <td>D - Y=376480.27, X=535066.16</td> <td></td> </tr> <tr> <td>E - Y=376474.90, X=540354.10</td> <td></td> </tr> <tr> <td>F - Y=371149.70, X=535082.62</td> <td></td> </tr> <tr> <td>G - Y=371148.59, X=540391.30</td> <td></td> </tr> </table> <table border="1"> <tr> <th colspan="2">ACTUAL BOTTOM HOLE LOCATION</th> </tr> <tr> <td>X= 537,092'</td> <td>NAD 27</td> </tr> <tr> <td>Y= 371,333'</td> <td></td> </tr> <tr> <td>LAT. 32.020853° N</td> <td></td> </tr> <tr> <td>LONG. 104.213652° W</td> <td></td> </tr> <tr> <td>X= 578,276'</td> <td>NAD83/86</td> </tr> <tr> <td>Y= 371,390'</td> <td></td> </tr> <tr> <td>LAT. 32.020975° N</td> <td></td> </tr> <tr> <td>LONG. 104.214145° W</td> <td></td> </tr> </table>	KICK OFF POINT		X= 536,973'	NAD 27	Y= 381,989'		LAT. 32.050146° N		LONG. 104.213999° W		X= 578,156'	NAD83/86	Y= 382,046'		LAT. 32.050268° N		LONG. 104.214493° W		FINAL FIRST TAKE POINT		X= 537,021'	NAD 27	Y= 381,458'		LAT. 32.048688° N		LONG. 104.213844° W		X= 578,205'	NAD83/86	Y= 381,515'		LAT. 32.048810° N		LONG. 104.214338° W		MID POINT		X= 537,091'	NAD 27	Y= 376,478'		LAT. 32.034997° N		LONG. 104.213638° W		X= 578,274'	NAD83/86	Y= 376,535'		LAT. 32.035119° N		LONG. 104.214132° W		FINAL LAST TAKE POINT		X= 537,106'	NAD 27	Y= 371,496'		LAT. 32.021299° N		LONG. 104.213607° W		X= 578,290'	NAD83/86	Y= 371,552'		LAT. 32.021422° N		LONG. 104.214100° W		CORNER COORDINATES TABLE (NAD 27)		A - Y=387143.09, X=534935.36		B - Y=381810.94, X=534988.20		C - Y=381799.23, X=540303.95		D - Y=376480.27, X=535066.16		E - Y=376474.90, X=540354.10		F - Y=371149.70, X=535082.62		G - Y=371148.59, X=540391.30		ACTUAL BOTTOM HOLE LOCATION		X= 537,092'	NAD 27	Y= 371,333'		LAT. 32.020853° N		LONG. 104.213652° W		X= 578,276'	NAD83/86	Y= 371,390'		LAT. 32.020975° N		LONG. 104.214145° W			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: <i>[Signature]</i> Date: 3/3/2020 Printed Name: Laura Becerra E-mail Address: LBecerra@Chevron.com 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. Date of Survey: 06/25/2019 Signature and Seal of Professional Surveyor: <i>[Signature]</i> Certificate Number: 23006
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Intent ☐ As Drilled ☒

API # 30-015-45155			
Operator Name: CHEVRON USA INC		Property Name: HH SO 17 20 FED 001	Well Number 4H

Kick Off Point (KOP)

UL N	Section 8	Township 26S	Range 27E	Lot	Feet 182	From N/S FSL	Feet 1,986	From E/W FWL	County EDDY
Latitude 32.050268					Longitude 104.214493			NAD NAD 83/86	

First Take Point (FTP)

UL C	Section 17	Township 26S	Range 27E	Lot	Feet 348	From N/S FNL	Feet 2,028	From E/W FWL	County EDDY
Latitude 32.048810					Longitude 104.214338			NAD NAD 83/86	

Last Take Point (LTP)

UL N	Section 20	Township 26S	Range 27E	Lot	Feet 346	From N/S FSL	Feet 2,025	From E/W FWL	County EDDY
Latitude 32.021422					Longitude 104.214100			NAD NAD 83/86	

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

KZ 06/29/2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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				5. Lease Serial No. NMNM118108	
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____				6. If Indian, Allottee or Tribe Name	
2. Name of Operator CHEVRON USA				7. Unit or CA Agreement Name and No. NMNM138618	
Contact: LAURA BECERRA E-Mail: LBECERRA@CHEVRON.COM				8. Lease Name and Well No. HH SO 17 20 FED 001 4H	
3. Address 6301 DEAUVILLE BLVD. MIDLAND, TX 79706			3a. Phone No. (include area code) Ph: 432-687-7665		
9. API Well No. 30-015-45155				10. Field and Pool, or Exploratory PURPLE SAGE;WOLFCAMP (GAS)	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* Sec 8 T26S R27E Mer NMP At surface SESW 255FSL 1873FWL 32.050469 N Lat, 104.214862 W Lon Sec 17 T26S R27E Mer NMP At top prod interval reported below NENW 348FNL 2028FWL 32.048810 N Lat, 104.214338 W Lon Sec 20 T26S R27E Mer NMP At total depth SESW 184FSL 2010FWL 32.020975 N Lat, 104.214145 W Lon				11. Sec., T., R., M., or Block and Survey or Area Sec 8 T26S R27E Mer NMP	
14. Date Spudded 08/28/2018		15. Date T.D. Reached 03/06/2019		16. Date Completed ☐ D & A ☒ Ready to Prod. 11/18/2019	
17. Elevations (DF, KB, RT, GL)* 3258 GL					
18. Total Depth: MD 20042 TVD 9540		19. Plug Back T.D.: MD 19912 TVD		20. Depth Bridge Plug Set: MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) MUD LOG, MWD GAMMA				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	54.5	28	447		380		28	
12.250	9.625 HCL-80	43.5	28	9153	2141	2422		28	
8.500	5.500 P-110	20.0	28	20022		3092		28	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WOLFCAMP (GAS)	9907	19879	9907 TO 19879	3.130		OPEN
B)						
C)						
D)						

26. Perforation Record

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

Depth Interval	Amount and Type of Material
9907 TO 19879	1.2 MM BBLS FLUID & 23.8 MM# PROPPANT

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
12/26/2019	01/14/2020	24		562.0	4981.0	6160.0	56.5	0.08	FLows FROM WELL
Choke Size	Tbg. Press. Flwg. SI	Csg. Press. 2015.0	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio 9	Well Status PGW	

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 #507813 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.*)
NO MEASURABLE GAS

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
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Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				SALADO LAMAR BELL CANYON CHERRY CANYON BRUSHY CANYON BONE SPRING LIME AVALON 1ST BONE SPRING	614 2120 2170 2947 4069 5712 6276 6647

32. Additional remarks (include plugging procedure):
 FORMATION MD
 2ND BONE SPRING 7,066
 3RD BONE SPRING 8,284
 WOLFCAMP A 8,835
 WOLFCAMP B 9,366
 WOLFCAMP C - Target 9,632

 Tubing exception filed, pending approval

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 #507813 Verified by the BLM Well Information System.
For CHEVRON USA, sent to the Carlsbad

Name (*please print*) LAURA BECERRA Title REGULATORY SPECIALIST

Signature _____ (Electronic Submission) Date 03/19/2020

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.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

Additional data for transaction #507813 that would not fit on the form

32. Additional remarks, continued

No tubing string, flowing from well. Tubing exception submitted.

Oilfield Services, Central U.S. Land
Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

March 13, 2019

Chevron USA Incorporated
6301 Deauville Blvd.
Midland TX 79706

Re:

8, 26S, 27E, Eddy NM
N 32.05047 W 104.21486

CLIENT: Chevron USA Incorporated
WELL: HH SO 17 20 Fed 001 No. 4H
FIELD: Purple Sage-Wolfcamp (Gas)

RIG: Patterson 270
COUNTY: Eddy
API NO: 30-015-45155
JOB NO: 18MLD3949

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900).
Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Fredy Portillo FE	HH SO 17 20 Fed 001 No. 4H Original Hole	200.00 Ft to 19964.00 Ft	August 29, 2018 to March 6, 2019	TelePacer SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Dana Lasher
Field Service Manager

Schlumberger-Private

Oilfield Services, Central U.S. Land
Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

Well Reference:
8, 26S, 27E, Eddy NM
N 32.05047 W 104.21486

I, Fredy Portillo certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of August 29, 2018 through March 06, 2019, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 200.00 feet to a depth of 19964.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Chevron USA Incorporated for the HH SO 17 20 Fed 001 No. 4H Well (Original Hole) API No. 30-015-45155 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By
Fredy Portillo
FE

Fredy Portillo

Subscribed and Sworn to before me this 13th day of March (month) 2019 (yr)

My Commission expires:

2-16-2022

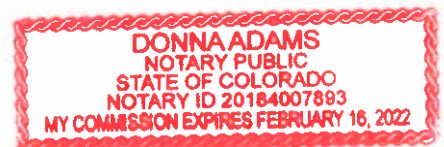
Notary Public

Donna Adams

(signature)

(County State)

Adams County Colorado





Chevron HH SO 17 20 Fed 001 No. 4H MWD to 20042ft Survey Geodetic Report (Def Survey)



Report Date: March 07, 2019 - 08:52 AM
Client: Chevron
Field: NM Eddy County (NAD 27)
Structure / Slot: Chevron HH SO 17 20 Fed 001 No. 4H / Chevron HH SO 17 20 Fed 001 No. 4H
Well: HH SO 17 20 Fed 001 No. 4H
Borehole: HH SO 17 20 Fed 001 No. 4H
UWI / API#: Unknown / Unknown
Survey Name: Chevron HH SO 17 20 Fed 001 No. 4H MWD to 20042ft
Survey Date: March 06, 2019
Tort / AHD / DDI / ERD Ratio: 251.608 ° / 10973.787 ft / 6.760 / 1.141
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 3' 1.25130", W 104° 12' 51.73022"
Location Grid N/E Y/X: N 382062.000 ftUS, E 536858.000 ftUS
CRS Grid Convergence Angle: 0.0631 °
Grid Scale Factor: 0.99991065
Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.490 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB = 28ft
TVD Reference Elevation: 3286.000 ft above MSL
Seabed / Ground Elevation: 3258.000 ft above MSL
Magnetic Declination: 7.252 °
Total Gravity Field Strength: 998.4300mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47797.744 nT
Magnetic Dip Angle: 59.668 °
Declination Date: March 06, 2019
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.0631 °
Total Corr Mag North->Grid North: 7.1886 °
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	382062.00	536858.00	N 32 3 1.25	W 104 12 51.73
First SLB MWD Survey	200.00	0.48	305.88	200.00	-0.50	0.49	-0.68	0.24	382062.49	536857.32	N 32 3 1.26	W 104 12 51.74
	400.00	0.73	282.80	399.99	-1.29	1.26	-2.60	0.17	382063.26	536855.40	N 32 3 1.26	W 104 12 51.76
	514.00	0.60	290.30	513.98	-1.67	1.63	-3.87	0.14	382063.63	536854.13	N 32 3 1.27	W 104 12 51.78
	609.00	2.37	95.10	608.96	-1.65	1.63	-2.38	3.11	382063.63	536855.62	N 32 3 1.27	W 104 12 51.76
	704.00	4.64	97.23	703.77	-0.94	0.97	3.39	2.39	382062.97	536861.39	N 32 3 1.26	W 104 12 51.69
	778.00	6.77	96.61	777.40	0.00	0.09	10.69	2.88	382062.09	536868.69	N 32 3 1.25	W 104 12 51.61
	870.00	6.68	99.49	868.77	1.60	-1.41	21.36	0.38	382060.59	536879.36	N 32 3 1.24	W 104 12 51.48
	965.00	6.08	102.65	963.18	3.71	-3.43	31.72	0.73	382058.57	536889.71	N 32 3 1.22	W 104 12 51.36
	1060.00	5.41	105.84	1057.70	6.11	-5.75	40.93	0.78	382056.25	536898.93	N 32 3 1.19	W 104 12 51.25
	1155.00	5.50	96.79	1152.27	7.95	-7.51	49.76	0.91	382054.49	536907.76	N 32 3 1.18	W 104 12 51.15
	1249.00	5.14	93.26	1245.87	8.80	-8.28	58.44	0.52	382053.72	536916.44	N 32 3 1.17	W 104 12 51.05
	1344.00	4.74	96.99	1340.52	9.60	-9.00	66.59	0.54	382053.00	536924.58	N 32 3 1.16	W 104 12 50.96
	1439.00	6.08	95.37	1435.09	10.62	-9.95	75.49	1.42	382052.05	536933.48	N 32 3 1.15	W 104 12 50.85
	1534.00	6.67	93.67	1529.50	11.54	-10.78	86.01	0.65	382051.23	536944.00	N 32 3 1.14	W 104 12 50.73
	1629.00	6.58	92.66	1623.87	12.24	-11.38	96.95	0.15	382050.62	536954.94	N 32 3 1.14	W 104 12 50.60
	1724.00	7.00	90.61	1718.20	12.66	-11.70	108.17	0.51	382050.31	536966.17	N 32 3 1.13	W 104 12 50.47
	1819.00	6.52	93.42	1812.54	13.14	-12.08	119.35	0.61	382049.92	536977.34	N 32 3 1.13	W 104 12 50.34
	1913.00	5.00	96.74	1906.07	14.02	-12.88	128.74	1.65	382049.12	536986.73	N 32 3 1.12	W 104 12 50.23
	2008.00	2.75	99.18	2000.84	14.93	-13.73	135.11	2.37	382048.27	536993.09	N 32 3 1.11	W 104 12 50.16
	2103.00	2.32	99.87	2095.75	15.66	-14.42	139.25	0.45	382047.58	536997.24	N 32 3 1.11	W 104 12 50.11
	2198.00	2.30	99.70	2190.67	16.34	-15.07	143.02	0.02	382046.93	537001.01	N 32 3 1.10	W 104 12 50.07
	2293.00	2.29	102.97	2285.60	17.12	-15.82	146.75	0.14	382046.18	537004.74	N 32 3 1.09	W 104 12 50.03
	2388.00	1.03	91.86	2380.55	17.60	-16.27	149.45	1.36	382045.73	537007.44	N 32 3 1.09	W 104 12 49.99
	2483.00	0.73	87.88	2475.54	17.62	-16.28	150.91	0.32	382045.72	537008.90	N 32 3 1.09	W 104 12 49.98
	2577.00	0.80	99.53	2569.54	17.72	-16.36	152.16	0.18	382045.64	537010.14	N 32 3 1.09	W 104 12 49.96
	2672.00	0.79	95.53	2664.53	17.90	-16.54	153.46	0.06	382045.46	537011.45	N 32 3 1.09	W 104 12 49.95
	2767.00	0.64	88.70	2759.52	17.96	-16.59	154.65	0.18	382045.41	537012.63	N 32 3 1.09	W 104 12 49.93
	2862.00	0.68	73.79	2854.51	17.80	-16.42	155.72	0.19	382045.58	537013.70	N 32 3 1.09	W 104 12 49.92
	2956.00	0.51	76.78	2948.51	17.56	-16.17	156.66	0.18	382045.83	537014.65	N 32 3 1.09	W 104 12 49.91
	3052.00	0.40	61.76	3044.50	17.31	-15.91	157.37	0.17	382046.09	537015.36	N 32 3 1.09	W 104 12 49.90
	3147.00	0.28	50.00	3139.50	17.01	-15.60	157.84	0.15	382046.40	537015.83	N 32 3 1.10	W 104 12 49.90
	3242.00	0.22	56.49	3234.50	16.76	-15.36	158.17	0.07	382046.65	537016.16	N 32 3 1.10	W 104 12 49.89
	3337.00	0.06	67.28	3329.50	16.64	-15.24	158.37	0.17	382046.77	537016.36	N 32 3 1.10	W 104 12 49.89
	3431.00	0.06	32.06	3423.50	16.58	-15.17	158.44	0.04	382046.83	537016.43	N 32 3 1.10	W 104 12 49.89
	3526.00	0.06	275.48	3518.50	16.54	-15.13	158.42	0.11	382046.87	537016.40	N 32 3 1.10	W 104 12 49.89
	3620.00	0.23	248.06	3612.50	16.60	-15.19	158.19	0.19	382046.81	537016.18	N 32 3 1.10	W 104 12 49.89
	3715.00	0.40	218.70	3707.50	16.93	-15.52	157.81	0.24	382046.48	537015.80	N 32 3 1.10	W 104 12 49.90
	3810.00	0.45	206.98	3802.50	17.52	-16.11	157.43	0.11	382045.89	537015.42	N 32 3 1.09	W 104 12 49.90
	3905.00	0.48	206.46	3897.49	18.20	-16.80	157.09	0.03	382045.20	537015.07	N 32 3 1.08	W 104 12 49.91
	3999.00	0.63	204.79	3991.49	19.02	-17.63	156.69	0.16	382044.38	537014.68	N 32 3 1.08	W 104 12 49.91
	4189.00	0.95	217.90	4181.47	21.20	-19.82	155.29	0.19	382042.19	537013.28	N 32 3 1.05	W 104 12 49.93
	4283.00	0.89	216.51	4275.46	22.39	-21.02	154.38	0.07	382040.98	537012.36	N 32 3 1.04	W 104 12 49.94
	4473.00	0.95	205.49	4465.43	24.98	-23.63	152.82	0.10	382038.38	537010.81	N 32 3 1.02	W 104 12 49.95
	4567.00	1.02	208.71	4559.42	26.42	-25.06	152.08	0.09	382036.94	537010.07	N 32 3 1.00	W 104 12 49.96
	4662.00	1.13	209.03	4654.40	27.97	-26.62	151.22	0.12	382035.38	537009.21	N 32 3 0.99	W 104 12 49.97
	4757.00	0.84	235.62	4749.39	29.17	-27.84	150.19	0.56	382034.17	537008.18	N 32 3 0.97	W 104 12 49.99
	4852.00	0.99	243.79	4844.38	29.92	-28.59	148.88	0.21	382033.41	537006.87	N 32 3 0.97	W 104 12 50.00
	4947.00	0.63	299.75	4939.37	30.01	-28.69	147.69	0.87	382033.31	537005.68	N 32 3 0.97	W 104 12 50.01
	5042.00	0.63	307.87	5034.36	29.42	-28.12	146.83	0.09	382033.89	537004.81	N 32 3 0.97	W 104 12 50.02
	5137.00	0.63	314.64	5129.36	28.73	-27.43	146.04	0.08	382034.58	537004.03	N 32 3 0.98	W 104 12 50.03
	5232.00	0.62	279.87	5224.35	28.26	-26.97	145.16	0.39	382035.03	537003.15	N 32 3 0.98	W 104 12 50.04
	5326.00	0.63	255.18	5318.35	28.30	-27.02	144.16	0.28	382034.99	537002.15	N 32 3 0.98	W 104 12 50.06
	5420.00	0.73	249.65	5412.34	28.63	-27.36	143.10	0.13	382034.64	537001.09	N 32 3 0.98	W 104 12 50.07
	5515.00	0.96	233.67	5507.33	29.30	-28.04	141.89	0.34	382033.96	536999.88	N 32 3 0.97	W 104 12 50.08
	5609.00	1.35	218.82	5601.31	30.62	-29.37	140.57	0.52	382032.63	536998.55	N 32 3 0.96	W 104 12 50.10
	5704.00	1.63	209.28	5696.28	32.66	-31.42	139.20	0.39	382030.58	536997.19	N 32 3 0.94	W 104 12 50.11
	5799.00	1.51	221.01	5791.24	34.77	-33.54	137.72	0.36	382028.46	536995.71	N 32 3 0.92	W 104 12 50.13
	5894.00	1.49	235.82	5886.21	36.39	-35.18	135.88	0.41	382026.82	536993.87	N 32 3 0.90	W 104 12 50.15
	5988.00	1.37	246.91	5980.18	37.50	-36.31	133.83	0.32	382025.70	536991.82	N 32 3 0.89	W 104 12 50.18
	6083.00	1.41	225.78	6075.16	38.74	-37.57	131.95	0.54	382024.43	536989.94	N 32 3 0.88	W 104 12 50.20
	6178.00	1.48	206.18	6170.13	40.65	-39.48	130.57	0.52	382022.52	536988.56	N 32 3 0.86	W 104 12 50.21
	6273.00	1.70	217.89	6265.09	42.85	-41.70	129.17	0.41	382020.31	536987.15	N 32 3 0.84	W 104 12 50.23
	6368.00	1.68	237.02	6360.05	44.70	-43.57	127.13	0.59	382018.44	536985.12	N 32 3 0.82	W 104 12 50.25
	6464.00	1.24	275.11	6456.02	45.35	-44.24	124.92	1.08	382017.76	536982.91	N 32 3 0.81	W 104 12 50.28
	6558.00	1.29	329.76	6550.00	44.33	-43.24	123.37	1.24	382018.77	536981.36	N 32 3 0.82	W 104 12 50.30
	6653.00	1.91	2.82	6644.96	41.82	-40.73	122.91	1.14	382021.27	536980.90	N 32 3 0.85	W 104 12 50.30
	6748.00	1.99	13.65	6739.91	38.64	-37.55	123.38	0.40	382024.46	536981.37	N 32 3 0.88	W 104 12 50.30
	6843.00	1.79	5.04	6834.86	35.57	-34.47	123.90	0.37	382027.54	536981.89	N 32 3 0.91	W 104 12 50.29

...HH SO 17 20 Fed 001 No. 4H\Chevron HH SO 17 20 Fed 001 No. 4H MWD to 20042ft

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6938.00	1.74	357.19	6929.81	32.65	-31.55	123.96	0.26	382030.45	536981.95	N 32 3 0.94	W 104 12 50.29
	7033.00	1.50	353.18	7024.78	29.97	-28.87	123.74	0.28	382033.13	536981.73	N 32 3 0.96	W 104 12 50.29
	7128.00	1.29	343.73	7119.75	27.71	-26.61	123.29	0.33	382035.39	536981.28	N 32 3 0.99	W 104 12 50.30
	7222.00	1.29	358.42	7213.72	25.63	-24.54	122.97	0.35	382037.46	536980.95	N 32 3 1.01	W 104 12 50.30
	7317.00	1.10	36.46	7308.70	23.83	-22.74	123.48	0.84	382039.27	536981.47	N 32 3 1.02	W 104 12 50.30
	7411.00	1.18	70.58	7402.69	22.80	-21.69	124.93	0.72	382040.31	536982.92	N 32 3 1.04	W 104 12 50.28
	7506.00	1.23	77.56	7497.67	22.27	-21.14	126.85	0.16	382040.86	536984.83	N 32 3 1.04	W 104 12 50.26
	7601.00	1.59	109.96	7592.64	22.52	-21.37	129.08	0.90	382040.63	536987.07	N 32 3 1.04	W 104 12 50.23
	7696.00	1.44	124.78	7687.61	23.67	-22.50	131.30	0.44	382039.50	536989.29	N 32 3 1.03	W 104 12 50.21
	7791.00	1.31	158.73	7782.58	25.38	-24.20	132.67	0.86	382037.80	536990.66	N 32 3 1.01	W 104 12 50.19
	7886.00	1.30	181.68	7877.56	27.47	-26.29	133.04	0.55	382035.72	536991.02	N 32 3 0.99	W 104 12 50.18
	7981.00	1.37	200.44	7972.53	29.61	-28.43	132.61	0.46	382033.57	536990.60	N 32 3 0.97	W 104 12 50.19
	8076.00	1.10	212.91	8067.51	31.43	-30.26	131.72	0.40	382031.74	536989.70	N 32 3 0.95	W 104 12 50.20
	8171.00	0.97	211.52	8162.49	32.87	-31.71	130.80	0.14	382030.29	536988.79	N 32 3 0.94	W 104 12 50.21
	8266.00	1.01	227.84	8257.48	34.11	-32.96	129.76	0.30	382029.05	536987.75	N 32 3 0.92	W 104 12 50.22
	8361.00	0.83	226.41	8352.47	35.14	-33.99	128.64	0.19	382028.01	536986.63	N 32 3 0.91	W 104 12 50.24
	8455.00	1.19	221.20	8446.45	36.33	-35.20	127.50	0.39	382026.81	536985.49	N 32 3 0.90	W 104 12 50.25
	8550.00	1.59	219.83	8541.42	38.07	-36.95	126.01	0.42	382025.05	536984.00	N 32 3 0.88	W 104 12 50.27
	8644.00	1.72	224.66	8635.38	40.06	-38.96	124.18	0.20	382023.05	536982.17	N 32 3 0.86	W 104 12 50.29
	8739.00	1.79	225.81	8730.34	42.09	-41.00	122.12	0.08	382021.00	536980.11	N 32 3 0.84	W 104 12 50.31
	8834.00	1.93	225.88	8825.29	44.22	-43.15	119.90	0.15	382018.85	536977.89	N 32 3 0.82	W 104 12 50.34
	8928.00	1.91	224.33	8919.24	46.42	-45.37	117.67	0.06	382016.63	536975.66	N 32 3 0.80	W 104 12 50.36
	8982.00	1.86	230.72	8973.21	47.61	-46.57	116.37	0.40	382015.43	536974.36	N 32 3 0.79	W 104 12 50.38
	9022.00	2.02	222.57	9013.19	48.53	-47.50	115.39	0.80	382014.50	536973.38	N 32 3 0.78	W 104 12 50.39
	9097.00	9.10	184.28	9087.80	55.41	-54.40	114.05	10.16	382007.60	536972.04	N 32 3 0.71	W 104 12 50.41
	9215.00	18.43	176.10	9202.29	83.40	-82.38	114.62	8.06	381979.63	536972.61	N 32 3 0.43	W 104 12 50.40
	9262.00	25.09	172.93	9245.92	100.73	-99.70	116.36	14.38	381962.31	536974.34	N 32 3 0.26	W 104 12 50.38
	9310.00	29.40	171.17	9288.59	122.51	-121.45	119.42	9.13	381940.56	536977.41	N 32 3 0.05	W 104 12 50.34
	9357.00	34.08	168.50	9328.55	146.87	-145.77	123.82	10.39	381916.24	536981.81	N 32 2 59.81	W 104 12 50.29
	9405.00	38.94	170.99	9367.12	175.01	-173.87	128.86	10.58	381888.15	536986.85	N 32 2 59.53	W 104 12 50.24
	9452.00	43.50	172.41	9402.46	205.68	-204.51	133.32	9.90	381857.51	536991.30	N 32 2 59.23	W 104 12 50.18
	9501.00	48.68	173.76	9436.44	240.75	-239.54	137.55	10.76	381822.48	536995.53	N 32 2 58.88	W 104 12 50.14
	9548.00	53.38	172.76	9465.99	277.07	-275.82	141.84	10.14	381786.21	536999.83	N 32 2 58.52	W 104 12 50.09
	9595.00	57.61	172.56	9492.61	315.52	-314.22	146.79	9.01	381747.81	537004.78	N 32 2 58.14	W 104 12 50.03
	9642.00	61.30	173.20	9516.49	355.72	-354.38	151.80	7.94	381707.65	537009.79	N 32 2 57.74	W 104 12 49.97
	9690.00	65.58	175.00	9537.95	398.45	-397.08	156.20	9.53	381664.96	537014.19	N 32 2 57.32	W 104 12 49.92
	9737.00	68.77	177.72	9556.18	441.70	-440.30	158.94	8.63	381621.74	537016.93	N 32 2 56.89	W 104 12 49.89
	9785.00	70.95	178.62	9572.71	486.75	-485.34	160.38	4.87	381576.71	537018.36	N 32 2 56.45	W 104 12 49.87
	9832.00	74.37	178.71	9586.71	531.60	-530.18	161.42	7.28	381531.87	537019.41	N 32 2 56.00	W 104 12 49.86
	9879.00	78.16	178.85	9597.87	577.24	-575.82	162.39	8.07	381486.23	537020.38	N 32 2 55.55	W 104 12 49.85
	9889.00	79.20	178.75	9599.83	587.05	-585.62	162.60	10.41	381476.43	537020.59	N 32 2 55.45	W 104 12 49.85
	9926.00	83.03	178.38	9605.55	623.59	-622.16	163.52	10.41	381439.90	537021.50	N 32 2 55.09	W 104 12 49.84
	9974.00	85.97	178.58	9610.15	671.36	-669.92	164.78	6.14	381392.14	537022.77	N 32 2 54.62	W 104 12 49.82
	10075.00	89.69	180.00	9613.97	772.26	-770.82	166.03	3.94	381291.25	537024.02	N 32 2 53.62	W 104 12 49.81
	10152.00	90.14	179.54	9614.09	849.26	-847.82	166.34	0.84	381214.26	537024.33	N 32 2 52.86	W 104 12 49.81
	10199.00	90.52	178.51	9613.81	896.26	-894.81	167.14	2.34	381167.27	537025.13	N 32 2 52.39	W 104 12 49.80
	10294.00	91.10	177.50	9612.47	991.22	-989.74	170.45	1.23	381072.35	537028.43	N 32 2 51.46	W 104 12 49.76
	10389.00	89.76	175.68	9611.76	1086.09	-1084.56	176.10	2.38	380977.54	537034.08	N 32 2 50.52	W 104 12 49.70
	10484.00	91.17	179.50	9610.99	1181.01	-1179.45	180.09	4.29	380882.65	537038.08	N 32 2 49.58	W 104 12 49.65
	10579.00	90.86	180.27	9609.30	1275.99	-1274.44	180.28	0.87	380787.68	537038.27	N 32 2 48.64	W 104 12 49.65
	10673.00	90.28	179.46	9608.37	1369.98	-1368.43	180.50	1.06	380693.69	537038.49	N 32 2 47.71	W 104 12 49.65
	10768.00	90.38	179.31	9607.82	1464.98	-1463.42	181.52	0.19	380598.71	537039.51	N 32 2 46.77	W 104 12 49.64
	10862.00	91.00	179.76	9606.69	1558.98	-1557.41	182.29	0.81	380504.73	537040.27	N 32 2 45.84	W 104 12 49.63
	10957.00	91.00	181.57	9605.03	1653.94	-1652.39	181.18	1.90	380409.76	537039.17	N 32 2 44.90	W 104 12 49.65
	11052.00	89.42	179.86	9604.68	1748.91	-1747.37	180.00	2.45	380314.78	537037.98	N 32 2 43.96	W 104 12 49.66
	11147.00	90.38	181.64	9604.85	1843.88	-1842.36	178.76	2.13	380219.81	537036.74	N 32 2 43.02	W 104 12 49.68
	11242.00	90.65	181.44	9604.00	1938.81	-1937.32	176.20	0.35	380124.85	537034.19	N 32 2 42.08	W 104 12 49.71
	11337.00	91.38	182.02	9602.31	2033.73	-2032.26	173.34	0.98	380029.92	537031.32	N 32 2 41.14	W 104 12 49.74
	11432.00	92.55	182.00	9599.06	2128.58	-2127.15	170.01	1.23	379935.05	537027.99	N 32 2 40.20	W 104 12 49.78
	11527.00	91.17	181.26	9595.97	2223.46	-2222.06	167.30	1.65	379840.15	537025.29	N 32 2 39.26	W 104 12 49.81
	11622.00	91.03	180.96	9594.15	2318.40	-2317.02	165.46	0.35	379745.19	537023.45	N 32 2 38.32	W 104 12 49.84
	11717.00	90.62	181.25	9592.78	2413.35	-2411.99	163.63	0.53	379650.23	537021.62	N 32 2 37.38	W 104 12 49.86
	11811.00	90.34	179.17	9591.99	2507.34	-2505.98	163.29	2.23	379556.24	537021.27	N 32 2 36.45	W 104 12 49.87
	11906.00	89.97	179.12	9591.74	2602.34	-2600.97	164.71	0.39	379461.26	537022.69	N 32 2 35.51	W 104 12 49.85
	12001.00	90.69	179.62	9591.19	2697.33	-2695.96	165.75	0.92	379366.28	537023.74	N 32 2 34.57	W 104 12 49.84
	12096.00	90.65	178.70	9590.08	2792.32	-2790.95	167.14	0.27	379271.31	537025.13	N 32 2 33.63	W 104 12 49.82
	12191.00	90.83	179.30	9588.85	2887.31	-2885.92	168.80	0.66	379176.34	537026.79	N 32 2 32.69	W 104 12 49.81
	12286.00	91.65	178.58	9586.79	2982.28	-2980.88	170.56	1.15	379081.39	537028.54	N 32 2 31.75	W 104 12 49.79
	12381.00	90.65	176.51	9584.89	3077.20	-3075.77	174.63	2.42	378986.51	537032.61	N 32 2 30.81	W 104 12 49.74
	12475.00	91.20	176.16	9583.37	3171.05	-3169.57	180.63	0.69	378892.72	537038.62	N 32 2 29.88	W 104 12 49.67
	12571.00	90.55	176.49	9581.90	3266.89	-3265.36	186.79	0.76	378796.94	537044.77	N 32 2 28.94	W 104 12 49.60
	12665.00	90.89	175.45	9580.72	3360.70	-3359.12	193.39	1.16	378703.19	537051.37	N 32 2 28.01	W 104 12 49.53
	12760.00	91.68	176.49	9578.59	3455.50	-3453.86	200.07	1.37	378608.46	537058.05	N 32 2 27.07	W 104 12 49.45
	12854.00	90.89	176.73	9576.48	3549.36	-3547.67	205.62	0.88	378514.66	537063.61	N 32 2 26.14	W 104 12 49.39
	12949.00	90.62	177.10	9575.23	3644.25	-3642.52	210.74	0.48	378419.81	537068.72	N 32 2 25.20	W 104 12 49.33
	13044.00	90.93	180.02	9573.95	3739.22	-3737.47	213.12	3.09	378324.87	537071.10	N 32 2 24.26	W 104 12 49.30
	13139.00	90.86	182.54	9572.46	3834.15	-3832.43	211.00	2.65	378229.92	537068.98	N 32 2 2	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	15322.00	90.45	180.07	9559.69	6015.72	-6013.88	233.65	0.82	376048.67	537091.63	N 32 2 1.74	W 104 12 49.09
	15417.00	90.31	179.93	9559.06	6110.72	-6108.88	233.65	0.21	375953.68	537091.63	N 32 2 0.80	W 104 12 49.09
	15512.00	89.86	179.81	9558.92	6205.72	-6203.88	233.87	0.49	375858.69	537091.85	N 32 1 59.86	W 104 12 49.09
	15607.00	90.00	180.02	9559.03	6300.71	-6298.88	234.01	0.27	375763.70	537091.99	N 32 1 58.92	W 104 12 49.09
	15702.00	89.59	179.96	9559.37	6395.71	-6393.88	234.03	0.44	375668.70	537092.01	N 32 1 57.98	W 104 12 49.09
	15796.00	90.00	180.31	9559.71	6489.70	-6487.88	233.81	0.57	375574.71	537091.78	N 32 1 57.05	W 104 12 49.10
	15891.00	90.41	179.46	9559.37	6584.70	-6582.88	234.00	0.99	375479.73	537091.97	N 32 1 56.11	W 104 12 49.10
	15985.00	90.03	179.13	9559.01	6678.70	-6676.87	235.15	0.54	375385.74	537093.13	N 32 1 55.18	W 104 12 49.08
	16079.00	89.66	179.98	9559.26	6772.70	-6770.86	235.88	0.99	375291.75	537093.86	N 32 1 54.25	W 104 12 49.08
	16174.00	90.07	178.92	9559.49	6867.69	-6865.86	236.79	1.20	375196.77	537094.77	N 32 1 53.31	W 104 12 49.07
	16269.00	89.52	179.37	9559.83	6962.69	-6960.85	238.21	0.75	375101.79	537096.19	N 32 1 52.37	W 104 12 49.05
	16364.00	89.76	179.92	9560.43	7057.69	-7055.84	238.80	0.63	375006.80	537096.78	N 32 1 51.43	W 104 12 49.05
	16459.00	90.48	179.74	9560.23	7152.69	-7150.84	239.08	0.78	374911.81	537097.06	N 32 1 50.49	W 104 12 49.04
	16554.00	90.07	179.17	9559.77	7247.68	-7245.83	239.99	0.74	374816.83	537097.96	N 32 1 49.55	W 104 12 49.04
	16648.00	89.79	178.61	9559.88	7341.68	-7339.82	241.81	0.67	374722.85	537099.79	N 32 1 48.62	W 104 12 49.02
	16743.00	89.72	178.27	9560.29	7436.66	-7434.78	244.39	0.37	374627.90	537102.37	N 32 1 47.68	W 104 12 48.99
	16838.00	89.76	180.78	9560.72	7531.65	-7529.77	245.18	2.64	374532.92	537103.16	N 32 1 46.74	W 104 12 48.98
	16933.00	88.83	181.26	9561.89	7626.61	-7624.74	243.49	1.10	374437.95	537101.47	N 32 1 45.80	W 104 12 49.00
	17122.00	89.76	183.14	9564.22	7815.37	-7813.58	236.24	1.11	374249.13	537094.21	N 32 1 43.93	W 104 12 49.09
	17217.00	89.93	183.37	9564.47	7910.17	-7908.43	230.84	0.30	374154.30	537088.82	N 32 1 42.99	W 104 12 49.15
	17312.00	89.86	183.27	9564.65	8004.96	-8003.27	225.34	0.13	374059.46	537083.32	N 32 1 42.05	W 104 12 49.22
	17407.00	90.41	182.38	9564.42	8099.79	-8098.15	220.66	1.10	373964.59	537078.64	N 32 1 41.11	W 104 12 49.27
	17502.00	91.10	181.92	9563.17	8194.68	-8193.07	217.09	0.87	373869.67	537075.07	N 32 1 40.17	W 104 12 49.31
	17596.00	89.59	181.16	9562.61	8288.62	-8287.04	214.57	1.80	373775.72	537072.55	N 32 1 39.24	W 104 12 49.34
	17692.00	90.52	181.15	9562.51	8384.58	-8383.01	212.63	0.97	373679.75	537070.61	N 32 1 38.29	W 104 12 49.37
	17786.00	90.38	181.72	9561.78	8478.52	-8476.98	210.28	0.62	373585.79	537068.26	N 32 1 37.36	W 104 12 49.40
	17881.00	89.55	180.19	9561.83	8573.48	-8571.97	208.70	1.83	373490.82	537066.68	N 32 1 36.42	W 104 12 49.42
	17977.00	89.59	178.95	9562.55	8669.48	-8667.96	209.42	1.29	373394.83	537067.40	N 32 1 35.47	W 104 12 49.41
	18071.00	89.35	178.47	9563.42	8763.47	-8761.93	211.53	0.57	373300.87	537069.51	N 32 1 34.54	W 104 12 49.39
	18164.00	92.51	179.70	9561.91	8856.44	-8854.89	213.02	3.65	373207.92	537071.00	N 32 1 33.62	W 104 12 49.37
	18259.00	89.42	178.29	9560.31	8951.41	-8949.85	214.68	3.58	373112.97	537072.66	N 32 1 32.68	W 104 12 49.35
	18449.00	91.48	176.56	9558.82	9141.26	-9139.63	223.22	1.42	372923.20	537081.20	N 32 1 30.81	W 104 12 49.25
	18638.00	90.48	175.45	9555.59	9329.88	-9328.14	236.38	0.79	372734.71	537094.36	N 32 1 28.94	W 104 12 49.10
	18828.00	91.00	174.82	9553.14	9519.31	-9517.44	252.50	0.43	372545.43	537110.47	N 32 1 27.07	W 104 12 48.92
	19018.00	90.00	176.25	9551.48	9708.84	-9706.85	267.29	0.92	372356.04	537125.26	N 32 1 25.19	W 104 12 48.75
	19112.00	88.28	177.77	9552.89	9802.74	-9800.70	272.19	2.44	372262.19	537130.16	N 32 1 24.26	W 104 12 48.69
	19207.00	92.31	178.69	9552.40	9897.69	-9895.64	275.12	4.35	372167.27	537133.10	N 32 1 23.32	W 104 12 48.66
	19302.00	91.68	177.98	9549.09	9992.62	-9990.54	277.88	1.00	372072.37	537135.86	N 32 1 22.38	W 104 12 48.63
	19492.00	90.79	181.87	9545.00	10182.53	-10180.46	278.13	2.10	371882.47	537136.10	N 32 1 20.50	W 104 12 48.63
	19585.00	92.13	183.26	9542.63	10275.36	-10273.33	273.97	2.08	371789.61	537131.94	N 32 1 19.59	W 104 12 48.68
	19774.00	90.24	186.57	9538.72	10463.44	-10461.56	257.78	2.02	371601.40	537115.76	N 32 1 17.72	W 104 12 48.87
Toe HL Cross	19896.00	89.82	185.15	9538.65	10584.68	-10582.92	245.32	1.21	371480.05	537103.30	N 32 1 16.52	W 104 12 49.02
Last SLB MWD Survey	19964.00	89.59	184.36	9539.00	10652.39	-10650.68	239.69	1.21	371412.29	537097.66	N 32 1 15.85	W 104 12 49.08
Projection to Bit	20042.00	89.59	184.36	9539.56	10730.11	-10728.45	233.76	0.00	371334.53	537091.73	N 32 1 15.08	W 104 12 49.15

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 3 *** 3-D 97.071% Confidence 3.0000 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	28.000	1/98.425	30.000	30.000	B001Ma_MWD+HDGM-Depth Only	HH SO 17 20 Fed 001 No. 4H / Chevron HH SO 17 20 Fed 001 No. 4H MWD to 20042ft
	1	28.000	28.000	Act Stns	30.000	30.000	B001Ma_MWD+HDGM-Depth Only	HH SO 17 20 Fed 001 No. 4H / Chevron HH SO 17 20 Fed 001 No. 4H MWD to 20042ft
	1	28.000	20042.000	Act Stns	30.000	30.000	B001Ma_MWD+HDGM	HH SO 17 20 Fed 001 No. 4H / Chevron HH SO 17 20 Fed 001