

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 30-015-45119	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name HH SO 8 5 FED 003	⁶ Well Number 5H
⁷ OGRID No. 4323	⁸ Operator Name CHEVRON U.S.A. INC.	⁹ Elevation 3265'

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	17	26 SOUTH	27 EAST, N.M.P.M.		529'	NORTH	2310'	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
C	5	26 SOUTH	27 EAST, N.M.P.M.		178'	NORTH	2024'	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 FINAL LAST TAKE POINT X= 536,969' Y= 392,102' NAD 27 LAT. 32.077947° N LONG. 104.213975° W X= 578,153' Y= 392,159' NAD83/86 LAT. 32.078069° N LONG. 104.214470° W MID POINT X= 536,928' Y= 387,135' NAD 27 LAT. 32.064294° N LONG. 104.214127° W X= 578,111' Y= 387,192' NAD83/86 LAT. 32.064415° N LONG. 104.214621° W FINAL FIRST TAKE POINT X= 537,036' Y= 382,166' NAD 27 LAT. 32.050633° N LONG. 104.213795° W X= 578,220' Y= 382,223' NAD83/86 LAT. 32.050755° N LONG. 104.214289° W KICK OFF POINT X= 537,103' Y= 381,284' NAD 27 LAT. 32.048209° N LONG. 104.213581° W X= 578,287' Y= 381,341' NAD83/86 LAT. 32.048331° N LONG. 104.214075° W	ACTUAL BOTTOM HOLE LOCATION X= 536,978' Y= 392,267' NAD 27 LAT. 32.078403° N LONG. 104.213945° W X= 578,162' Y= 392,324' NAD83/86 LAT. 32.078524° N LONG. 104.214440° W CORNER COORDINATES TABLE (NAD 27) A - Y=392442.33, X=534954.83 B - Y=392446.14, X=537606.87 C - Y=387143.09, X=534935.36 D - Y=387132.57, X=537574.14 E - Y=381810.94, X=534988.20 F - Y=381805.09, X=537646.07 G - Y=376480.27, X=535066.16 H - Y=376477.58, X=537710.13 HH SO 8 5 FED 003 5H WELL X= 537,306' Y= 381,277' NAD 27 LAT. 32.048187° N LONG. 104.212927° W X= 578,490' Y= 381,334' NAD83/86 LAT. 32.048309° N LONG. 104.213420° W ELEVATION +3265' NAVD 88	Final Last Take Point @ 20,349' MD 343.46' FNL, 2015.45' FWL 635.70' FEL Lease Sec. 5 Mid Point @ 15,379.79' MD Sec. 8 Kick Off Point @ 9,230' MD 521.81' FNL, 2106.91' FWL Final First Take Point @ 10,405' MD 359.52' FSL, 2051.13' FWL 605.24' FEL Lease Sec. 17	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. <i>Kayla McConnell</i> 3/17/2020 Signature Date KAYLA MCCONNELL Printed Name GNCV@CHEVRON.COM 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. 04/07/2017 Date of Survey ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR Signature and Seal of Professional Surveyor: 12/13/2019 Certificate Number
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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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.5. Lease Serial No.
NMNM100549

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM1386188. Well Name and No.
HH SO 8 5 FED 003 5H9. API Well No.
30-015-45119-00-X110. Field and Pool or Exploratory Area
PURPLE SAGE-WOLFCAMP (GAS)11. County or Parish, State
EDDY COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on page 2**1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other2. Name of Operator
CHEVRON USA INCORPORATED
Contact: KAYLA MCCONNELL
E-Mail: kaylamccconnell@chevron.com3a. Address
6301 DEAUVILLE BLVD
MIDLAND, TX 797063b. Phone No. (include area code)
Ph: 432-687-73754. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 17 T26S R27E NENW 529FNL 2310FWL
32.048309 N Lat, 104.213417 W Lon**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	Drilling Operations
	☐ 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.

9/22/2018: Spud Well.

9/23/2018: Drill 17-1/2" hole. TD @ 485'. Notified BLM of intent to run and cement casing. Set 13 3/8" (54.5#, J-55) @475' with 461sx of class C cement.

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #460376 verified by the BLM Well Information System
For CHEVRON USA INCORPORATED, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 04/05/2019 (19PP1587SE)**

Name (Printed/Typed) KAYLA MCCONNELL

Title PERMITTING SPECIALIST

Signature (Electronic Submission)

Date 04/04/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

ACCEPTEDJONATHON SHEPARD
Title PETROLEUM ENGINEER

Date 04/10/2019

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 Carlsbad

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)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Revisions to Operator-Submitted EC Data for Sundry Notice #460376

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	DRG SR	DRG SR
Lease:	NMNM100549	NMNM100549
Agreement:	NMNM138618	NMNM138618 (NMNM138618)
Operator:	CHEVRON USA INC. 6301 DEAUVILLE BLVD MIDLAND, TX 79706 Ph: 432-687-7375	CHEVRON USA INCORPORATED 6301 DEAUVILLE BLVD MIDLAND, TX 79706 Ph: 432 687 7100
Admin Contact:	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: gncv@chevron.com Ph: 432-687-7375	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamccconnell@chevron.com Ph: 432-687-7375
Tech Contact:	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: gncv@chevron.com Ph: 432-687-7375	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamccconnell@chevron.com Ph: 432-687-7375
Location: State: County:	NM EDDY COUNT	NM EDDY
Field/Pool:	PURPLE SAGE WOLFCAMP (GAS)	PURPLE SAGE-WOLFCAMP (GAS)
Well/Facility:	HH SO 8 5 FED 003 5H Sec 17 T26S R27E 529FNL 2310FWL	HH SO 8 5 FED 003 5H Sec 17 T26S R27E NENW 529FNL 2310FWL 32.048309 N Lat, 104.213417 W Lon

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.5. Lease Serial No.
NMNM100549

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM1386188. Well Name and No.
HH SO 8 5 FED 003 5H9. API Well No.
30-015-45119-00-X110. Field and Pool or Exploratory Area
PURPLE SAGE-WOLFCAMP (GAS)11. County or Parish, State
EDDY COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on page 2**1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other2. Name of Operator
CHEVRON USA INCORPORATED
Contact: KAYLA MCCONNELL
E-Mail: gncv@chevron.com3a. Address
6301 DEAUVILLE BLVD
MIDLAND, TX 797063b. Phone No. (include area code)
Ph: 432-687-73754. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 17 T26S R27E NENW 529FNL 2310FWL
32.048309 N Lat, 104.213417 W Lon**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	Drilling Operations
	☐ 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.

11/13/2018: Move on RU. Notified BLM of intent to test BOP.
11/15/2018 - 11/27/2018: Drill 12 1/4" hole. TD @ 9151'.
11/27/2018 - 11/29/2018: Set 9 5/8" csg (43.5# HCL80 LTC) @ 9139' w 1990sx of class C cmt. DV tool set @ 1944'. Cmt circ to surface. WOC.
3/27/2019: Test 9 5/8" csg to 2469 psi for 30 mins. Good test.
3/28/2019 - 4/20/2019: Drill 8 1/2" hole. TD @ 20487'.
4/21/2019 - 4/23/2019: Run 5 1/2" csg (20.0# P-110 TXP) @ 20476' w/3853sx of class C cmt & 115sx class H. Est TOC @ 5000.
4/23/2019: Rig released.

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #494614 verified by the BLM Well Information System
For CHEVRON USA INCORPORATED, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 12/05/2019 (20PP0576SE)**

Name (Printed/Typed) KAYLA MCCONNELL

Title PERMITTING SPECIALIST

Signature (Electronic Submission)

Date 12/05/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ACCEPTED	JONATHON SHEPARD Title PETROLEUM ENGINEER	Date 12/05/2019
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 Carlsbad

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)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Revisions to Operator-Submitted EC Data for Sundry Notice #494614

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	DRG NOI	DRG SR
Lease:	NMNM100549	NMNM100549
Agreement:	NMNM138618	NMNM138618 (NMNM138618)
Operator:	CHEVRON USA INC 6301 DEAUVILLE BLVD MIDLAND, TX 79706 Ph: 432-687-7375	CHEVRON USA INCORPORATED 6301 DEAUVILLE BLVD MIDLAND, TX 79706 Ph: 432 687 7100
Admin Contact:	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: gncv@chevron.com Ph: 432-687-7375	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: gncv@chevron.com Ph: 432-687-7375
Tech Contact:	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: gncv@chevron.com Ph: 432-687-7375	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: gncv@chevron.com Ph: 432-687-7375
Location: State: County:	NM EDDY	NM EDDY
Field/Pool:	PURPLE SAGE;WOLFCAMP	PURPLE SAGE-WOLFCAMP (GAS)
Well/Facility:	HH SO 8 5 FED 003 5H Sec 17 T26S R27E 529FNL 2310FWL	HH SO 8 5 FED 003 5H Sec 17 T26S R27E NENW 529FNL 2310FWL 32.048309 N Lat, 104.213417 W Lon

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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. NMNM100549
2. Name of Operator CHEVRON USA INCORPORATED		6. If Indian, Allottee or Tribe Name
Contact: KAYLA MCCONNELL E-Mail: kaylamccconnell@chevron.com		7. If Unit or CA/Agreement, Name and/or No. NMNM138618
3a. Address 6301 DEAUVILLE BLVD MIDLAND, TX 79706	3b. Phone No. (include area code) Ph: 432-687-7375	8. Well Name and No. HH SO 8 5 FED 003 5H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 17 T26S R27E NENW 529FNL 2310FWL 32.048309 N Lat, 104.213417 W Lon		9. API Well No. 30-015-45119-00-X1
		10. Field and Pool or Exploratory Area PURPLE SAGE-WOLFCAMP (GAS)
		11. County or Parish, State EDDY 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	Hydraulic Fracture
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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7/5/2019: LOG CBL FROM 9782' TO SURFACE. TOC @ 2110'.
 7/13/2019: TEST 5 1/2" CSG 9800 PSI FOR 30 MINS. GOOD TEST.
 7/15/2019 - 8/10/2019: PERF AND FRAC WOLFCAMP FROM 10405' - 20349'. FRAC W/ 1.2 MM BBLS FLUID & 24.9 MM# PROPOANT.
 9/13/2019 - 9/14/2019: DRILL OUT PLUGS.
 9/14/2019 - 9/29/2019: CT STUCK @ 19880'. Attempted to POOH. CT cut @ 8880', 11085' left in hole.
 10/14/2019 - 11/20/2019: RIH work fish. Pull 5865' of CT out of hole. TOF @ 14717'. Unable to retrieve the remainder of fish. Fish left in hole.
 11/20/2019: RIH w/tbg. Set Packer @ 9424'. EOT @ 9428'. PBTD 20381'.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #505270 verified by the BLM Well Information System For CHEVRON USA INCORPORATED, sent to the Carlsbad Committed to AFMSS for processing by PRISCILLA PEREZ on 03/03/2020 (20PP1415SE)	
Name (Printed/Typed) KAYLA MCCONNELL	Title PERMITTING SPECIALIST
Signature (Electronic Submission)	Date 03/03/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ACCEPTED	JONATHON SHEPARD Title PETROLEUM ENGINEER	Date 03/05/2020
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 Carlsbad

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)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Revisions to Operator-Submitted EC Data for Sundry Notice #505270

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	HF SR	HF SR
Lease:	NMNM100549	NMNM100549
Agreement:	NMNM138618	NMNM138618 (NMNM138618)
Operator:	CHEVRON USA INC 6301 DEAUVILLE BLVD MIDLAND, TX 79706 Ph: 432-687-7375	CHEVRON USA INCORPORATED 6301 DEAUVILLE BLVD MIDLAND, TX 79706 Ph: 432 687 7100
Admin Contact:	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamccconnell@chevron.com Ph: 432-687-7375	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamccconnell@chevron.com Ph: 432-687-7375
Tech Contact:	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamccconnell@chevron.com Ph: 432-687-7375	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamccconnell@chevron.com Ph: 432-687-7375
Location: State: County:	NM EDDY	NM EDDY
Field/Pool:	PURPLE SAGE-WOLFCAMP (GAS)	PURPLE SAGE-WOLFCAMP (GAS)
Well/Facility:	HH SO 8 5 FED 003 5H Sec 17 T26S R27E 529FNL 2310FWL 32.048309 N Lat, 104.213417 W Lon	HH SO 8 5 FED 003 5H Sec 17 T26S R27E NENW 529FNL 2310FWL 32.048309 N Lat, 104.213417 W Lon

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)



October 23, 2019

Chevron USA Incorporated
6301 Deauville Blvd
Midland, TX 79706-0000

Re:

S17, T26S, R27E Eddy, NM
N 32.048309 W -104.21342

CLIENT: Chevron USA Incorporated
WELL: HH SO 8 5 Fed 003 5H
FIELD: Purple Sage-Wolfcamp (GAS)

RIG: Patterson 815
COUNTY: Eddy
API NO: 30-015-45119
JOB NO: 18MLD3957

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>
Khalid Issa FS	HH SO 8 5 Fed 003 5H Original Hole	503.00 Ft to 20472.00 Ft	November 16, 2018 to April 20, 2019	TelePacer

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:**

S17, T26S, R27E Eddy, NM

N 32.048309 W -104.21342

I, Khalid Issa certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 16, 2018 through April 20, 2019, conduct or supervise the taking of the TelePacer surveys from a depth of 503.00 feet to a depth of 20472.00 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 8 5 Fed 003 5H Well (Original Hole) API No. 30-015-45119 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
Khalid Issa
FS

Subscribed and Sworn to before me this 23 day of October (month) 2019 (yr)

My Commission expires:

6/14/23

Notary Public

Jean-Paul Langlois
Comanche, Oklahoma
(County State)

(signature)



Chevron HH SO 8 5 FED 003 No. 5H MWD to 20515ft Survey Geodetic Report (Def Survey)

Report Date: April 21, 2019 - 03:08 PM
Client: Chevron
Field: NM Eddy County (NAD 27)
Structure / Slot: Chevron HH SO 8 5 FED 003 No. 5H / Chevron HH SO 8 5 FED 003 No. 5H
Well: Chevron HH SO 8 5 FED 003 No. 5H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Chevron HH SO 8 5 FED 003 No. 5H MWD to 20515ft
Survey Date: April 21, 2019
Tort / AHD / DDI / ERD Ratio: 318.275 ° / 11269.747 ft / 6.876 / 1.152
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 2' 53.47753", W 104° 12' 46.53489"
Location Grid N/E Y/X: N 381277.000 ftUS, E 537306.000 ftUS
CRS Grid Convergence Angle: 0.0639 °
Grid Scale Factor: 0.99991068
Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 359.830 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB = 28ft
TVD Reference Elevation: 3293.000 ft above MSL
Seabed / Ground Elevation: 3265.000 ft above MSL
Magnetic Declination: 7.236 °
Total Gravity Field Strength: 998.4291mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47783.448 nT
Magnetic Dip Angle: 59.661 °
Declination Date: April 21, 2019
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.0639 °
Total Corr Mag North->Grid North: 7.1724 °
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	381277.00	537306.00	N 32° 2' 53.48"	W 104° 12' 46.53"
First 3rd Party Survey	148.00	0.80	6.50	148.00	1.03	1.03	0.12	0.54	381278.03	537306.12	N 32° 2' 53.49"	W 104° 12' 46.53"
	193.00	0.70	108.02	192.99	1.25	1.25	0.41	2.59	381278.25	537306.41	N 32° 2' 53.49"	W 104° 12' 46.53"
	281.00	0.90	278.35	280.99	1.19	1.19	0.24	1.81	381278.19	537306.24	N 32° 2' 53.49"	W 104° 12' 46.53"
Last 3rd Party Survey	371.00	1.06	72.23	370.98	1.54	1.54	0.33	2.12	381278.54	537306.33	N 32° 2' 53.49"	W 104° 12' 46.53"
	449.00	0.70	79.80	448.98	1.84	1.85	1.49	0.48	381278.85	537307.49	N 32° 2' 53.50"	W 104° 12' 46.52"
First SLB MWD Survey	503.00	1.18	318.77	502.97	2.32	2.33	1.45	3.06	381279.33	537307.45	N 32° 2' 53.50"	W 104° 12' 46.52"
	595.00	2.40	284.83	594.93	3.53	3.53	-1.04	1.70	381280.53	537304.96	N 32° 2' 53.51"	W 104° 12' 46.55"
	687.00	4.73	276.53	686.74	4.48	4.46	-6.67	2.59	381281.46	537299.33	N 32° 2' 53.52"	W 104° 12' 46.61"
	779.00	6.36	282.20	778.31	6.01	5.96	-15.42	1.87	381282.96	537290.58	N 32° 2' 53.54"	W 104° 12' 46.71"
	871.00	6.26	285.84	869.75	8.48	8.41	-25.23	0.45	381285.41	537280.78	N 32° 2' 53.56"	W 104° 12' 46.83"
	966.00	6.04	288.43	964.21	11.51	11.40	-34.95	0.37	381288.40	537271.05	N 32° 2' 53.59"	W 104° 12' 46.94"
	1060.00	5.80	292.40	1057.71	14.91	14.78	-44.03	0.50	381291.78	537261.97	N 32° 2' 53.62"	W 104° 12' 47.05"
	1155.00	5.69	295.94	1152.23	18.82	18.67	-52.71	0.39	381295.66	537253.30	N 32° 2' 53.66"	W 104° 12' 47.15"
	1249.00	5.55	296.86	1245.78	22.94	22.76	-60.95	0.18	381299.76	537245.05	N 32° 2' 53.70"	W 104° 12' 47.24"
	1343.00	5.22	301.25	1339.36	27.23	27.03	-68.66	0.56	381304.03	537237.34	N 32° 2' 53.75"	W 104° 12' 47.33"
	1438.00	4.10	313.76	1434.05	31.84	31.62	-74.81	1.59	381308.62	537231.20	N 32° 2' 53.79"	W 104° 12' 47.40"
	1532.00	4.07	316.02	1527.81	36.58	36.35	-79.55	0.17	381313.34	537226.45	N 32° 2' 53.84"	W 104° 12' 47.46"
	1627.00	4.67	296.74	1622.54	40.77	40.51	-85.35	1.66	381317.51	537220.66	N 32° 2' 53.88"	W 104° 12' 47.53"
	1721.00	3.94	291.46	1716.27	43.69	43.42	-91.77	0.88	381320.41	537214.24	N 32° 2' 53.91"	W 104° 12' 47.60"
	1816.00	2.48	299.93	1811.12	45.92	45.64	-96.59	1.61	381322.63	537209.42	N 32° 2' 53.93"	W 104° 12' 47.66"
	1910.00	2.15	268.81	1905.05	46.91	46.61	-100.12	1.36	381323.61	537205.89	N 32° 2' 53.94"	W 104° 12' 47.70"
	2004.00	4.01	255.56	1998.91	46.07	45.76	-105.06	2.11	381322.75	537200.95	N 32° 2' 53.93"	W 104° 12' 47.75"
	2099.00	4.81	269.92	2093.63	45.26	44.92	-112.26	1.43	381321.92	537193.75	N 32° 2' 53.92"	W 104° 12' 47.84"
	2193.00	4.67	275.90	2187.31	45.67	45.31	-120.01	0.55	381322.31	537186.00	N 32° 2' 53.93"	W 104° 12' 47.93"
	2288.00	4.44	275.79	2282.01	46.46	46.08	-127.52	0.24	381323.08	537178.50	N 32° 2' 53.93"	W 104° 12' 48.02"
	2383.00	4.10	278.68	2376.75	47.36	46.96	-134.53	0.42	381323.96	537171.48	N 32° 2' 53.94"	W 104° 12' 48.10"
	2477.00	3.82	277.74	2470.52	48.31	47.89	-140.96	0.31	381324.89	537165.06	N 32° 2' 53.95"	W 104° 12' 48.17"
	2572.00	4.70	279.85	2565.26	49.42	48.98	-147.93	0.94	381325.98	537158.09	N 32° 2' 53.96"	W 104° 12' 48.25"
	2666.00	5.06	280.15	2658.92	50.84	50.37	-155.80	0.38	381327.37	537150.21	N 32° 2' 53.98"	W 104° 12' 48.34"
	2760.00	4.76	283.46	2752.57	52.50	52.01	-163.67	0.44	381329.01	537142.34	N 32° 2' 53.99"	W 104° 12' 48.44"
	2855.00	4.43	281.10	2847.27	54.14	53.64	-171.11	0.40	381330.63	537134.91	N 32° 2' 54.01"	W 104° 12' 48.52"
	2949.00	4.11	279.23	2941.01	55.40	54.88	-178.00	0.37	381331.87	537128.02	N 32° 2' 54.02"	W 104° 12' 48.60"
	3044.00	2.43	277.08	3035.85	56.21	55.67	-183.35	1.77	381332.66	537122.66	N 32° 2' 54.03"	W 104° 12' 48.66"
	3138.00	1.73	297.11	3129.79	57.12	56.56	-186.60	1.06	381333.56	537119.42	N 32° 2' 54.04"	W 104° 12' 48.70"
	3233.00	0.32	353.03	3224.77	58.04	57.48	-187.90	1.66	381334.47	537118.11	N 32° 2' 54.05"	W 104° 12' 48.72"
	3327.00	0.22	47.10	3318.77	58.42	57.86	-187.80	0.28	381334.86	537118.21	N 32° 2' 54.05"	W 104° 12' 48.72"
	3422.00	0.08	11.01	3413.77	58.61	58.05	-187.66	0.17	381335.05	537118.36	N 32° 2' 54.05"	W 104° 12' 48.71"
	3516.00	0.11	324.74	3507.77	58.75	58.19	-187.70	0.08	381335.18	537118.32	N 32° 2' 54.06"	W 104° 12' 48.71"
	3611.00	0.23	246.04	3602.77	58.74	58.19	-187.92	0.25	381335.18	537118.09	N 32° 2' 54.06"	W 104° 12' 48.72"
	3705.00	0.20	228.48	3696.77	58.56	58.00	-188.22	0.08	381335.00	537117.80	N 32° 2' 54.05"	W 104° 12' 48.72"
	3800.00	0.22	241.93	3791.77	58.36	57.81	-188.50	0.06	381334.80	537117.51	N 32° 2' 54.05"	W 104° 12' 48.72"
	3894.00	0.18	198.47	3885.77	58.14	57.58	-188.71	0.16	381334.58	537117.31	N 32° 2' 54.05"	W 104° 12' 48.73"
	3988.00	0.13	219.34	3979.77	57.92	57.36	-188.82	0.08	381334.35	537117.19	N 32° 2' 54.05"	W 104° 12' 48.73"
	4083.00	0.20	214.03	4074.77	57.70	57.14	-188.99	0.08	381334.13	537117.03	N 32° 2' 54.05"	W 104° 12' 48.73"
	4177.00	0.22	150.52	4168.77	57.40	56.84	-188.99	0.24	381333.84	537117.03	N 32° 2' 54.04"	W 104° 12' 48.73"
	4272.00	0.13	158.71	4263.77	57.14	56.58	-188.86	0.10	381333.58	537117.16	N 32° 2' 54.04"	W 104° 12' 48.73"
	4366.00	0.06	187.81	4357.77	57.00	56.44	-188.83	0.09	381333.43	537117.19	N 32° 2' 54.04"	W 104° 12' 48.73"
	4461.00	0.17	144.16	4452.77	56.83	56.27	-188.75	0.14	381333.27	537117.27	N 32° 2' 54.04"	W 104° 12' 48.73"
	4555.00	0.25	145.41	4546.76	56.55	55.99	-188.55	0.09	381332.99	537117.46	N 32° 2' 54.03"	W 104° 12' 48.72"
	4650.00	0.18	121.54	4641.76	56.30	55.74	-188.31	0.12	381332.74	537117.71	N 32° 2' 54.03"	W 104° 12' 48.72"
	4744.00	0.24	137.85	4735.76	56.08	55.52	-188.05	0.09	381332.51	537117.97	N 32° 2' 54.03"	W 104° 12' 48.72"
	4839.00	0.22	135.53	4830.76	55.80	55.24	-187.79	0.02	381332.24	537118.23	N 32° 2' 54.03"	W 104° 12' 48.72"
	4934.00	0.13	107.19	4925.76	55.64	55.08	-187.56	0.13	381332.07	537118.46	N 32° 2' 54.02"	W 104° 12' 48.71"
	5028.00	0.18	120.96	5019.76	55.53	54.97	-187.33	0.07	381331.97	537118.69	N 32° 2' 54.02"	W 104° 12' 48.71"
	5123.00	0.28	154.24	5114.76	55.24	54.69	-187.10	0.17	381331.68	537118.92	N 32° 2' 54.02"	W 104° 12' 48.71"
	5217.00	0.24	146.00	5208.76	54.87	54.32	-186.89	0.06	381331.31	537119.13	N 32° 2' 54.02"	W 104° 12' 48.71"
	5312.00	0.25	179.92	5303.76	54.50	53.94	-186.78	0.15	381330.94	537119.24	N 32° 2' 54.01"	W 104° 12' 48.70"
	5406.00	0.38	165.02	5397.76	53.99	53.44	-186.70	0.16	381330.43	537119.32	N 32° 2' 54.01"	W 104° 12' 48.70"
	5501.00	0.43	159.28	5492.76	53.35	52.80	-186.49	0.07	381329.80	537119.53	N 32° 2' 54.00"	W 104° 12' 48.70"
	5691.00	0.36	186.50	5682.75	52.09	51.54	-186.31	0.10	381328.54	537119.71	N 32° 2' 53.99"	W 104° 12' 48.70"
	5785.00	0.23	194.05	5776.75	51.62	51.06	-186.39	0.14	381328.06	537119.63	N 32° 2' 53.98"	W 104° 12' 48.70"
	5880.00	0.46	187.71	5871.75	51.05	50.50	-186.48	0.25	381327.50	537119.53	N 32° 2' 53.98"	W 104° 12' 48.70"
	5974.00	0.68	205.00	5965.74	50.18	49.62	-186.77	0.29	381326.62	537119.25	N 32° 2' 53.97"	W 104° 12' 48.70"
	6069.00	0.93	209.67	6060.73	49.00	48.44	-187.39	0.27	381325.44	537118.63	N 32° 2' 53.96"	W 104° 12' 48.71"
	6163.00	0.97	217.92	6154.72	47.71	47.15	-188.26	0.15	381324.15	537117.76	N 32° 2' 53.95"	W 104° 12' 48.72"
	6257.00	1.04	213.99	6248.71	46.38	45.82	-189.22	0.10	381322.81	537116.79	N 32° 2' 53.93"	W 104° 12' 48.73"
	6352.00	1.39	203.91	6343.69	44.61	44.05	-190.17	0.43	381321.04	537115.85	N 32° 2' 53.92"	W 104° 12' 48.74"
	6446.00	1.19	215.53	6437.66	42.78	42.21	-191.20	0.35	381319.21	537114.82	N 32° 2' 53.90"	W 104° 12' 48.76"
	6541.00	1.31	220.30	6532.64	41.15	40.58	-192.48	0.17	381317.58	537113.54	N 32° 2' 53.88"	W 104° 12' 48.77"
	6639.00	0.30	187.34	6630.63	40.04	39.47	-193.23	1.09	381316.47	537112.78	N 32° 2' 5	

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 ° ' ")
	7491.00	1.24	192.23	7482.58	34.34	33.76	-197.22	0.31	381310.75	537108.70	N 32 2 53.81	W 104 12 48.83
	7586.00	0.96	181.61	7577.57	32.54	31.96	-197.46	0.36	381308.95	537108.56	N 32 2 53.80	W 104 12 48.83
	7680.00	0.74	184.03	7671.56	31.15	30.56	-197.52	0.24	381307.56	537108.50	N 32 2 53.78	W 104 12 48.83
	7774.00	0.48	140.68	7765.55	30.24	29.65	-197.31	0.54	381306.65	537108.70	N 32 2 53.77	W 104 12 48.83
	7869.00	0.73	91.75	7860.55	29.91	29.33	-196.46	0.58	381306.32	537109.56	N 32 2 53.77	W 104 12 48.82
	7963.00	0.84	96.95	7954.54	29.80	29.23	-195.17	0.14	381306.22	537110.84	N 32 2 53.77	W 104 12 48.80
	8058.00	0.94	120.51	8049.53	29.32	28.75	-193.81	0.40	381305.74	537112.21	N 32 2 53.76	W 104 12 48.79
	8152.00	0.90	138.57	8143.51	28.37	27.80	-192.66	0.31	381304.80	537113.36	N 32 2 53.75	W 104 12 48.77
	8247.00	0.96	160.81	8238.50	27.06	26.49	-191.90	0.38	381303.49	537114.11	N 32 2 53.74	W 104 12 48.76
	8342.00	0.95	180.22	8333.49	25.52	24.95	-191.65	0.34	381301.95	537114.37	N 32 2 53.73	W 104 12 48.76
	8436.00	1.18	182.40	8427.47	23.77	23.20	-191.69	0.25	381300.20	537114.33	N 32 2 53.71	W 104 12 48.76
	8530.00	1.31	198.35	8521.45	21.79	21.22	-192.07	0.39	381298.22	537113.95	N 32 2 53.69	W 104 12 48.77
	8625.00	1.52	198.22	8616.42	19.56	18.99	-192.80	0.22	381295.99	537113.21	N 32 2 53.67	W 104 12 48.77
	8720.00	1.50	210.19	8711.39	17.29	16.72	-193.82	0.33	381293.72	537112.19	N 32 2 53.65	W 104 12 48.79
	8815.00	1.42	217.72	8806.36	15.29	14.71	-195.17	0.22	381291.71	537110.85	N 32 2 53.63	W 104 12 48.80
	8909.00	1.58	218.82	8900.33	13.37	12.78	-196.69	0.17	381289.78	537109.32	N 32 2 53.61	W 104 12 48.82
	9004.00	1.65	219.80	8995.29	11.30	10.71	-198.39	0.08	381287.71	537107.63	N 32 2 53.59	W 104 12 48.84
	9098.00	1.53	235.05	9089.25	9.55	8.95	-200.28	0.47	381285.95	537105.73	N 32 2 53.57	W 104 12 48.86
	9188.00	1.59	235.77	9179.22	8.16	7.56	-202.30	0.07	381284.56	537103.72	N 32 2 53.55	W 104 12 48.89
	9235.00	1.42	348.01	9226.21	8.37	7.76	-202.96	5.32	381284.76	537103.06	N 32 2 53.56	W 104 12 48.89
	9282.00	8.63	22.15	9273.00	12.20	11.61	-201.75	15.95	381288.60	537104.27	N 32 2 53.59	W 104 12 48.88
	9329.00	14.78	19.20	9319.01	21.13	20.54	-198.45	13.14	381297.54	537107.57	N 32 2 53.68	W 104 12 48.84
	9377.00	19.73	15.69	9364.83	34.71	34.13	-194.24	10.53	381311.13	537111.78	N 32 2 53.82	W 104 12 48.79
	9424.00	24.70	9.44	9408.34	52.04	51.47	-190.48	11.70	381328.47	537115.54	N 32 2 53.99	W 104 12 48.75
	9471.00	28.89	7.00	9450.28	72.99	72.44	-187.49	9.22	381349.43	537118.53	N 32 2 54.20	W 104 12 48.71
	9518.00	33.21	5.76	9490.54	97.07	96.52	-184.81	9.29	381373.51	537121.21	N 32 2 54.43	W 104 12 48.68
	9566.00	38.67	3.78	9529.39	125.13	124.59	-182.50	11.63	381401.58	537123.52	N 32 2 54.71	W 104 12 48.65
	9613.00	45.23	359.67	9564.33	156.50	155.96	-181.63	15.13	381432.95	537124.39	N 32 2 55.02	W 104 12 48.64
	9661.00	51.58	356.77	9596.18	192.36	191.82	-182.78	13.98	381468.80	537123.23	N 32 2 55.38	W 104 12 48.66
	9708.00	56.46	354.78	9623.79	230.28	229.73	-185.61	10.93	381506.71	537120.41	N 32 2 55.75	W 104 12 48.69
	9755.00	59.89	353.19	9648.57	270.00	269.43	-189.80	7.84	381546.41	537116.22	N 32 2 56.15	W 104 12 48.74
	9802.00	62.69	352.47	9671.15	310.91	310.33	-194.95	6.11	381587.30	537111.07	N 32 2 56.55	W 104 12 48.80
	9850.00	65.45	352.37	9692.13	353.71	353.12	-200.64	5.75	381630.08	537105.38	N 32 2 56.97	W 104 12 48.86
	9897.00	65.45	352.32	9711.66	396.10	395.49	-206.34	0.10	381672.45	537099.68	N 32 2 57.39	W 104 12 48.93
	9945.00	68.13	353.33	9730.58	439.88	439.25	-211.84	5.91	381716.21	537094.18	N 32 2 57.83	W 104 12 48.99
	9992.00	72.52	355.05	9746.40	483.91	483.27	-216.31	9.96	381760.22	537089.71	N 32 2 58.26	W 104 12 49.04
	10039.00	75.80	355.50	9759.22	528.97	528.32	-220.03	7.04	381805.28	537085.99	N 32 2 58.71	W 104 12 49.08
	10086.00	79.64	354.28	9769.22	574.72	574.06	-224.13	8.55	381851.00	537081.89	N 32 2 59.16	W 104 12 49.13
	10133.00	85.46	352.65	9775.31	621.01	620.33	-229.43	12.85	381897.28	537076.59	N 32 2 59.62	W 104 12 49.19
	10180.00	89.05	351.09	9777.56	667.50	666.80	-236.07	8.33	381943.74	537069.95	N 32 3 0.08	W 104 12 49.27
	10228.00	89.78	351.27	9778.05	714.95	714.23	-243.43	1.57	381991.16	537062.59	N 32 3 0.55	W 104 12 49.35
	10322.00	90.06	351.47	9778.18	807.93	807.16	-257.54	0.37	382084.09	537048.49	N 32 3 1.47	W 104 12 49.52
Heel HL Cross	10377.00	90.11	351.00	9778.10	862.31	861.52	-265.92	0.86	382138.44	537040.11	N 32 3 2.01	W 104 12 49.61
	10385.00	90.12	350.93	9778.08	870.21	869.42	-267.18	0.86	382146.34	537038.85	N 32 3 2.08	W 104 12 49.63
	10480.00	90.06	352.72	9777.94	964.28	963.45	-280.68	1.89	382240.37	537025.34	N 32 3 3.01	W 104 12 49.78
	10574.00	90.62	355.96	9777.38	1057.84	1056.98	-289.95	3.50	382333.88	537016.07	N 32 3 3.94	W 104 12 49.89
	10669.00	90.34	357.77	9776.58	1152.70	1151.83	-295.15	1.93	382428.73	537010.88	N 32 3 4.88	W 104 12 49.95
	10764.00	88.21	356.37	9777.78	1247.58	1246.69	-300.00	2.68	382523.58	537006.02	N 32 3 5.82	W 104 12 50.00
	10858.00	90.45	357.57	9778.88	1341.44	1340.55	-304.97	2.70	382617.43	537001.06	N 32 3 6.75	W 104 12 50.06
	10953.00	89.11	357.71	9779.25	1436.37	1435.46	-308.88	1.42	382712.33	536997.15	N 32 3 7.69	W 104 12 50.11
	11047.00	89.16	357.71	9780.67	1530.30	1529.38	-312.64	0.05	382806.24	536993.39	N 32 3 8.62	W 104 12 50.15
	11142.00	89.05	357.47	9782.15	1625.21	1624.28	-316.63	0.28	382901.13	536989.40	N 32 3 9.55	W 104 12 50.19
	11236.00	89.28	357.48	9783.52	1719.12	1718.18	-320.77	0.24	382995.02	536985.26	N 32 3 10.48	W 104 12 50.24
	11330.00	90.06	357.92	9784.06	1813.06	1812.10	-324.55	0.95	383088.94	536981.48	N 32 3 11.41	W 104 12 50.28
	11425.00	90.95	358.00	9783.22	1908.00	1907.04	-327.93	0.94	383183.86	536978.10	N 32 3 12.35	W 104 12 50.32
	11519.00	91.18	353.79	9781.48	2001.74	2000.76	-334.65	4.48	383277.58	536971.38	N 32 3 13.28	W 104 12 50.40
	11614.00	91.12	356.90	9779.57	2096.42	2095.41	-342.36	3.27	383372.22	536963.67	N 32 3 14.22	W 104 12 50.49
	11709.00	91.79	358.58	9777.16	2191.32	2190.31	-346.11	1.90	383467.11	536959.93	N 32 3 15.16	W 104 12 50.53
	11803.00	90.00	0.23	9775.69	2285.30	2284.28	-347.08	2.59	383561.07	536958.95	N 32 3 16.09	W 104 12 50.54
	11898.00	90.56	1.09	9775.22	2380.29	2379.27	-346.99	1.08	383656.06	536960.05	N 32 3 17.03	W 104 12 50.52
	11992.00	87.47	358.74	9776.84	2474.26	2473.24	-346.12	4.13	383750.02	536959.91	N 32 3 17.96	W 104 12 50.52
	12087.00	90.95	0.21	9778.15	2569.23	2568.21	-346.99	3.98	383844.98	536959.04	N 32 3 18.90	W 104 12 50.53
	12181.00	92.51	359.84	9775.31	2663.18	2662.17	-346.95	1.71	383938.92	536959.08	N 32 3 19.83	W 104 12 50.53
	12276.00	92.06	359.03	9771.52	2758.10	2757.08	-347.89	0.97	384033.83	536958.14	N 32 3 20.76	W 104 12 50.54
	12371.00	91.79	358.98	9768.33	2853.04	2852.02	-349.54	0.29	384128.76	536956.49	N 32 3 21.70	W 104 12 50.56
	12465.00	91.62	359.48	9765.54	2946.99	2945.97	-350.80	0.56	384222.70	536955.23	N 32 3 22.63	W 104 12 50.57
	12560.00	91.06	359.27	9763.31	3041.96	3040.93	-351.84	0.63	384317.66	536954.20	N 32 3 23.57	W 104 12 50.58
	12654.00	91.79	359.65	9760.98	3135.93	3134.90	-352.72	0.88	384411.61	536953.31	N 32 3 24.50	W 104 12 50.59
	12749.00	91.39	0.11	9758.34	3230.89	3229.86	-352.92	0.64	384506.57	536953.11	N 32 3 25.44	W 104 12 50.59
	12843.00	91.06	359.84	9756.33	3324.87	3323.84	-352.96	0.45	384600.54	536953.07	N 32 3 26.37	W 104 12 50.59
	12938.00	90.66	359.29	9754.91	3419.86	3418.83	-353.68	0.72	384695.51	536952.35	N 32 3 27.31	W 104 12 50.60
	13033.00	90.66	356.95	9753.81	3514.81	3513.76	-356.80	2.46	384790.44	536949.23	N 32 3 28.25	W 104 12 50.64
	13127.00	90.78	359.98	9752.63	3608.76	3607.71	-359.32	3.23	384884.38	536946.72	N 32 3 29.18	W 104 12 50.66
	13222.00	90.66	1.29	9751.44	3703.74	3702.69	-358.26	1.38	384979.36	536947.77	N 32 3 30.12	W 104 12 50.65
	13316.00	90.66	1.06	9750.35	3797.71	3796.67	-356.34	0.24	385073.32	536949.70	N 32 3 31.05	W 104 12 50.63
	13411.00	90.61	1.91	9749.30	3892.66	3891.63	-353.88	0.90	385168.27	536952.16	N 32 3 31.99	W 104 12 50.60
	13505.00	91.28	1.62	9747.75	3986.60	3985.57	-350.98	0.78	385262.21	536955.05	N 3	

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 ° ' ")
	16717.00	89.77	0.74	9735.66	7195.82	7194.83	-345.74	0.69	388471.17	536960.29	N 32 4 4.68	W 104 12 50.46
	16811.00	88.82	0.18	9736.82	7289.81	7288.81	-344.98	1.17	388565.15	536961.05	N 32 4 5.61	W 104 12 50.45
	16905.00	89.66	1.51	9738.06	7383.78	7382.79	-343.60	1.67	388659.12	536962.43	N 32 4 6.54	W 104 12 50.43
	17000.00	90.33	0.31	9738.07	7478.76	7477.78	-342.09	1.45	388754.10	536963.94	N 32 4 7.48	W 104 12 50.41
	17095.00	88.71	358.89	9738.87	7573.75	7572.77	-342.75	2.27	388849.08	536963.28	N 32 4 8.42	W 104 12 50.42
	17189.00	89.49	359.88	9740.34	7667.73	7666.75	-343.76	1.34	388943.05	536962.27	N 32 4 9.35	W 104 12 50.43
	17284.00	89.38	358.99	9741.28	7762.73	7761.74	-344.70	0.94	389038.03	536961.33	N 32 4 10.29	W 104 12 50.44
	17378.00	88.15	359.54	9743.31	7856.70	7855.71	-345.90	1.43	389131.99	536960.13	N 32 4 11.22	W 104 12 50.45
	17473.00	88.65	0.29	9745.96	7951.66	7950.67	-346.04	0.95	389226.94	536959.99	N 32 4 12.16	W 104 12 50.45
	17568.00	88.88	1.26	9748.01	8046.62	8045.64	-344.76	1.05	389321.90	536961.27	N 32 4 13.10	W 104 12 50.44
	17662.00	88.82	1.29	9749.89	8140.58	8139.59	-342.67	0.07	389415.85	536963.36	N 32 4 14.03	W 104 12 50.41
	17757.00	89.60	0.47	9751.20	8235.55	8234.57	-341.21	1.19	389510.82	536964.82	N 32 4 14.97	W 104 12 50.39
	17852.00	88.65	0.06	9752.65	8330.53	8329.56	-340.77	1.09	389605.80	536965.26	N 32 4 15.91	W 104 12 50.39
	17946.00	91.17	358.58	9752.80	8424.52	8423.54	-341.89	3.11	389699.77	536964.15	N 32 4 16.84	W 104 12 50.40
	18041.00	89.27	356.97	9752.44	8519.45	8518.46	-345.57	2.62	389794.68	536960.46	N 32 4 17.78	W 104 12 50.44
	18135.00	88.37	355.58	9754.37	8613.25	8612.24	-351.68	1.76	389888.45	536954.35	N 32 4 18.71	W 104 12 50.51
	18230.00	88.71	1.47	9756.80	8708.15	8707.14	-354.12	6.21	389983.34	536951.91	N 32 4 19.64	W 104 12 50.54
	18324.00	88.76	1.64	9758.87	8802.08	8801.08	-351.57	0.19	390077.28	536954.46	N 32 4 20.57	W 104 12 50.51
	18419.00	88.88	0.32	9760.83	8897.04	8896.04	-349.95	1.39	390172.23	536956.08	N 32 4 21.51	W 104 12 50.49
	18513.00	87.42	1.40	9763.86	8990.97	8989.98	-348.54	1.93	390266.16	536957.49	N 32 4 22.44	W 104 12 50.47
	18608.00	88.26	3.24	9767.44	9085.81	9084.83	-344.69	2.13	390361.00	536961.34	N 32 4 23.38	W 104 12 50.42
	18702.00	91.29	357.72	9767.81	9179.76	9178.78	-343.91	6.70	390454.94	536962.12	N 32 4 24.31	W 104 12 50.41
	18797.00	90.17	1.92	9766.60	9274.73	9273.75	-344.21	4.58	390549.90	536961.83	N 32 4 25.25	W 104 12 50.41
	18892.00	90.73	3.20	9765.85	9369.61	9368.65	-339.96	1.47	390644.79	536966.07	N 32 4 26.19	W 104 12 50.36
	18986.00	90.39	2.69	9764.94	9463.47	9462.52	-335.13	0.65	390738.65	536970.90	N 32 4 27.12	W 104 12 50.31
	19081.00	91.57	0.69	9763.31	9558.40	9557.46	-332.33	2.44	390833.58	536973.70	N 32 4 28.06	W 104 12 50.27
	19176.00	90.22	358.55	9761.83	9653.38	9652.43	-332.96	2.68	390928.55	536973.07	N 32 4 29.00	W 104 12 50.28
	19271.00	90.00	357.73	9761.64	9748.34	9747.38	-336.05	0.89	391023.49	536969.98	N 32 4 29.94	W 104 12 50.31
	19460.00	89.66	357.63	9762.21	9837.20	9836.23	-343.70	0.19	391212.32	536962.33	N 32 4 31.81	W 104 12 50.40
	19555.00	90.06	359.68	9762.44	10032.18	10031.20	-345.93	2.20	391307.28	536960.11	N 32 4 32.75	W 104 12 50.43
	19745.00	90.11	357.83	9762.16	10222.14	10221.14	-350.05	0.97	391497.21	536955.98	N 32 4 34.63	W 104 12 50.47
	19840.00	89.77	358.57	9762.25	10317.10	10316.09	-353.04	0.86	391592.15	536952.99	N 32 4 35.57	W 104 12 50.50
	19934.00	90.11	357.88	9762.35	10411.06	10410.05	-355.95	0.82	391686.10	536950.08	N 32 4 36.50	W 104 12 50.54
	20029.00	90.34	357.98	9761.98	10506.01	10504.99	-359.38	0.26	391781.03	536946.65	N 32 4 37.44	W 104 12 50.58
	20124.00	89.89	358.29	9761.79	10600.96	10599.93	-362.47	0.58	391875.97	536943.56	N 32 4 38.38	W 104 12 50.61
	20218.00	89.77	2.38	9762.07	10694.94	10693.91	-361.92	4.35	391969.94	536944.11	N 32 4 39.31	W 104 12 50.60
	20313.00	89.89	2.65	9762.35	10789.83	10788.82	-357.76	0.31	392064.84	536948.28	N 32 4 40.24	W 104 12 50.55
Toe HL Cross	20363.00	91.47	3.19	9761.76	10839.76	10838.75	-355.21	3.34	392114.76	536950.82	N 32 4 40.74	W 104 12 50.52
	20407.00	92.86	3.67	9760.10	10883.64	10882.64	-352.58	3.34	392158.65	536953.46	N 32 4 41.17	W 104 12 50.49
Last SLB MWD Survey	20472.00	92.02	2.91	9757.33	10948.46	10947.47	-348.85	1.74	392223.47	536957.18	N 32 4 41.81	W 104 12 50.45
Projection to Bit	20515.00	92.02	2.91	9755.81	10991.37	10990.39	-346.67	0.00	392266.39	536959.36	N 32 4 42.24	W 104 12 50.42

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	A001Ma_MWD-Depth Only	Original Borehole / Chevron HH SO 8 5 FED 003 No. 5H MWD to
	1	28.000	28.000	Act Stns	30.000	30.000	A001Ma_MWD-Depth Only	Original Borehole / Chevron HH SO 8 5 FED 003 No. 5H MWD to
	1	28.000	449.000	Act Stns	30.000	30.000	A001Ma_MWD	Original Borehole / Chevron HH SO 8 5 FED 003 No. 5H MWD to
	1	449.000	20515.000	Act Stns	30.000	30.000	B001Ma_MWD+HDGM	Original Borehole / Chevron HH SO 8 5 FED 003 No. 5H MWD to