

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 30-015-45100	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 1H
⁷ OGRID No. 4323	⁸ Operator Name CHEVRON U.S.A. INC.	⁹ Elevation 3257'

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.		330'	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
M	20	26 SOUTH	27 EAST, N.M.P.M.		283'	SOUTH	783'	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.

KICK OFF POINT X= 535,968' Y= 382,055' LAT. 32.050330° N LONG. 104.217243° W X= 577,151' Y= 382,111' LAT. 32.050452° N LONG. 104.217737° W FINAL FIRST TAKE POINT X= 535,819' Y= 381,442' LAT. 32.048646° N LONG. 104.217726° W X= 577,002' Y= 381,499' LAT. 32.048768° N LONG. 104.218220° W MID POINT X= 535,822' Y= 376,479' LAT. 32.035004° N LONG. 104.217732° W X= 577,006' Y= 376,536' LAT. 32.035126° N LONG. 104.218226° W FINAL LAST TAKE POINT X= 535,851' Y= 371,688' LAT. 32.021831° N LONG. 104.217656° W X= 577,035' Y= 371,744' LAT. 32.021953° N LONG. 104.218150° W	HH SO 17 20 FED 001 1H WELL X= 536,858' Y= 382,137' LAT. 32.050553° N LONG. 104.214368° W X= 578,042' Y= 382,194' LAT. 32.050675° N LONG. 104.214862° W ELEV. +3257' NAVD 88 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= 535,865' Y= 371,432' LAT. 32.021128° N LONG. 104.217613° W X= 577,048' Y= 371,489' LAT. 32.021250° N LONG. 104.218106° 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. <i>[Signature]</i> 3/3/2020 Signature Date Laura Becerra Printed Name LBecerra@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. 06/25/2019 Date of Survey <i>[Signature]</i> 11/12/2019 Signature and Seal of Professional Surveyor 23006 Certificate Number
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Intent ☐ As Drilled ☒

API # 30-015-45100			
Operator Name: CHEVRON USA INC		Property Name: HH SO 17 20 FED 001	Well Number 1H

Kick Off Point (KOP)

UL M	Section 8	Township 26S	Range 27E	Lot	Feet 246	From N/S FSL	Feet 982	From E/W FWL	County EDDY
Latitude 32.050452					Longitude 104.217737				NAD NAD 83/86

First Take Point (FTP)

UL D	Section 17	Township 26S	Range 27E	Lot	Feet 367	From N/S FNL	Feet 825	From E/W FWL	County EDDY
Latitude 32.048768					Longitude 104.218220				NAD NAD 83/86

Last Take Point (LTP)

UL M	Section 20	Township 26S	Range 27E	Lot	Feet 538	From N/S FSL	Feet 770	From E/W FWL	County EDDY
Latitude 32.021953					Longitude 104.218150				NAD NAD 83/86

Is this well the defining well for the Horizontal Spacing Unit? ☐ NO

Is this well an infill well? ☐ YES

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

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)



January 15, 2019

Chevron USA Incorporated
6301 Deauville Blvd.
Midland TX 79706

8, 26S, 27E, Eddy NM
N 32.05067 W 104.21486

Re:

CLIENT: Chevron USA Incorporated
WELL: HH SO 17 20 Fed 001 #1H
FIELD: Purple Sage-Wolfcamp (Gas)

RIG: Patterson 270
COUNTY: Eddy
API NO: 30-015-45100
JOB NO: 18MLD4020

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 #1H Original Hole	135.00 Ft to 20249.00 Ft	August 15, 2018 to January 1, 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 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)

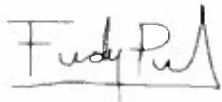
Fax : (432) 742-5606 (Shared)

Schlumberger**Well Reference:**

8, 26S, 27E, Eddy NM

N 32.05067 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 15, 2018 through January 01, 2019, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 135.00 feet to a depth of 20249.00 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 #1H Well (Original Hole) API No. 30-015-45100 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.



Fredy Portillo

FE

Subscribed and Sworn to before me this 15th day of January (month) 2019 (yr)

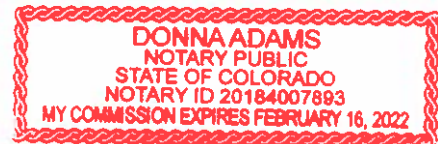
My Commission expires:

2-16-2022

D. Adams
Notary Public

Adams County Colorado
(County State)

(signature)





Chevron HH SO 17 20 Fed 001 No. 1H MWD Off to 20291ft Survey Geodetic Report (Def Survey)



Report Date: December 31, 2018 - 10:49 AM
Client: Chevron
Field: NM Eddy County (NAD 27)
Structure / Slot: Chevron HH SO 17 20 Fed 001 No. 1H / New Slot
Well: HH SO 17 20 Fed 001 No. 1H
Borehole: HH SO 17 20 Fed 001 No. 1H
UWI / API#: Unknown / Unknown
Survey Name: Chevron HH SO 17 20 Fed 001 No. 1H MWD Off to 20291ft
Survey Date: November 23, 2018
Tort / AHD / DDI / ERD Ratio: 299.565 ° / 11581.464 ft / 6.857 / 1.183
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 3' 1.99355", W 104° 12' 51.72926"
Location Grid N/E Y/X: N 382137.000 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: 3285.000 ft above MSL
Seabed / Ground Elevation: 3257.000 ft above MSL
Magnetic Declination: 7.291 °
Total Gravity Field Strength: 998.4301mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47821.435 nT
Magnetic Dip Angle: 59.687 °
Declination Date: November 23, 2018
Magnetic Declination Model: HDGM 2018
North Reference: Grid North
Grid Convergence Used: 0.0631 °
Total Corr Mag North->Grid North: 7.2283 °
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	382137.00	536858.00	N 32 3 1.99	W 104 12 51.73
First SLB MWD Survey	135.00	0.45	320.64	135.00	-0.41	0.41	-0.34	0.33	382137.41	536857.66	N 32 3 2.00	W 104 12 51.73
	232.00	0.38	320.64	232.00	-0.96	0.95	-0.78	0.07	382137.95	536857.22	N 32 3 2.00	W 104 12 51.74
	324.00	0.29	297.22	323.99	-1.31	1.30	-1.18	0.18	382138.30	536856.82	N 32 3 2.01	W 104 12 51.74
	404.00	0.29	296.15	403.99	-1.49	1.48	-1.54	0.01	382138.48	536856.46	N 32 3 2.01	W 104 12 51.75
	508.00	0.50	279.21	507.99	-1.69	1.67	-2.23	0.23	382138.67	536855.77	N 32 3 2.01	W 104 12 51.76
	601.00	2.95	258.36	600.94	-1.29	1.25	-4.97	2.68	382138.25	536853.03	N 32 3 2.01	W 104 12 51.79
	693.00	5.75	259.02	692.67	0.00	-0.11	-11.82	3.04	382136.89	536846.18	N 32 3 1.99	W 104 12 51.87
	785.00	6.46	271.80	784.15	0.63	-0.82	-21.52	1.66	382136.18	536836.49	N 32 3 1.99	W 104 12 51.98
	878.00	8.44	273.80	876.36	-0.09	-0.21	-33.56	2.15	382136.79	536824.45	N 32 3 1.99	W 104 12 52.12
	972.00	10.49	268.17	969.08	-0.41	-0.02	-48.99	2.39	382136.98	536809.01	N 32 3 1.99	W 104 12 52.30
	1067.00	12.24	263.75	1062.21	0.79	-1.39	-67.65	2.06	382135.61	536790.36	N 32 3 1.98	W 104 12 52.52
	1162.00	14.14	262.38	1154.70	3.24	-4.03	-89.16	2.03	382132.97	536768.85	N 32 3 1.95	W 104 12 52.77
	1256.00	15.24	264.28	1245.63	5.78	-6.78	-112.84	1.28	382130.22	536745.17	N 32 3 1.93	W 104 12 53.04
	1351.00	14.41	264.63	1337.47	7.91	-9.13	-137.03	0.88	382127.87	536720.98	N 32 3 1.90	W 104 12 53.32
	1446.00	14.24	266.82	1429.51	9.46	-10.89	-160.47	0.60	382126.11	536697.55	N 32 3 1.89	W 104 12 53.59
	1542.00	14.58	268.37	1522.49	10.25	-11.89	-184.33	0.54	382125.11	536673.68	N 32 3 1.88	W 104 12 53.87
	1636.00	15.84	267.55	1613.20	10.91	-12.77	-208.98	1.36	382124.23	536649.04	N 32 3 1.87	W 104 12 54.16
	1731.00	15.10	264.87	1704.76	12.35	-14.43	-234.26	1.08	382122.57	536623.76	N 32 3 1.85	W 104 12 54.45
	1826.00	14.90	265.72	1796.52	14.15	-16.45	-258.76	0.31	382120.55	536599.26	N 32 3 1.83	W 104 12 54.74
	1920.00	15.34	268.35	1887.27	15.19	-17.71	-283.24	0.87	382119.29	536574.78	N 32 3 1.82	W 104 12 55.02
	2015.00	15.05	269.78	1978.95	15.38	-18.12	-308.14	0.50	382118.88	536549.89	N 32 3 1.82	W 104 12 55.31
	2110.00	13.76	268.36	2070.96	15.54	-18.49	-331.76	1.41	382118.51	536526.27	N 32 3 1.81	W 104 12 55.58
	2205.00	14.12	267.07	2163.16	16.25	-19.41	-354.63	0.50	382117.59	536503.40	N 32 3 1.81	W 104 12 55.85
	2300.00	16.54	268.44	2254.77	16.99	-20.37	-379.72	2.58	382116.63	536478.31	N 32 3 1.80	W 104 12 56.14
	2490.00	16.06	267.08	2437.14	18.59	-22.44	-433.01	0.32	382114.56	536425.03	N 32 3 1.78	W 104 12 56.76
	2585.00	15.54	265.74	2528.55	19.97	-24.06	-458.82	0.67	382112.94	536399.22	N 32 3 1.76	W 104 12 57.06
	2774.00	14.79	265.81	2710.96	23.18	-27.70	-508.13	0.40	382109.30	536349.92	N 32 3 1.72	W 104 12 57.63
	2964.00	14.15	267.31	2894.94	25.62	-30.56	-555.51	0.39	382106.44	536302.54	N 32 3 1.70	W 104 12 58.18
	3059.00	13.56	268.80	2987.17	26.19	-31.34	-578.25	0.73	382105.66	536279.80	N 32 3 1.69	W 104 12 58.45
	3154.00	13.75	269.80	3079.49	26.27	-31.61	-600.67	0.32	382105.39	536257.38	N 32 3 1.69	W 104 12 58.71
	3249.00	14.13	271.13	3171.69	25.87	-31.42	-623.56	0.52	382105.58	536234.50	N 32 3 1.69	W 104 12 58.97
	3344.00	13.61	270.83	3263.92	25.28	-31.03	-646.33	0.55	382105.97	536211.73	N 32 3 1.69	W 104 12 59.24
	3439.00	14.43	270.66	3356.09	24.78	-30.74	-669.34	0.86	382106.27	536188.72	N 32 3 1.70	W 104 12 59.51
	3533.00	14.46	269.67	3447.12	24.50	-30.67	-692.79	0.26	382106.33	536165.28	N 32 3 1.70	W 104 12 59.78
	3627.00	13.77	269.95	3538.28	24.37	-30.75	-715.71	0.74	382106.26	536142.36	N 32 3 1.70	W 104 13 0.05
	3722.00	13.06	270.24	3630.69	24.14	-30.71	-737.75	0.75	382106.29	536120.32	N 32 3 1.70	W 104 13 0.30
	3817.00	11.21	268.57	3723.56	24.15	-30.90	-757.72	1.98	382106.11	536100.35	N 32 3 1.70	W 104 13 0.53
	3912.00	9.24	267.79	3817.05	24.52	-31.42	-774.57	2.08	382105.58	536083.50	N 32 3 1.69	W 104 13 0.73
	4007.00	7.67	263.16	3911.01	25.45	-32.47	-788.49	1.80	382104.53	536069.58	N 32 3 1.68	W 104 13 0.89
	4101.00	6.54	257.81	4004.29	27.23	-34.35	-799.95	1.39	382102.66	536058.12	N 32 3 1.66	W 104 13 1.02
	4196.00	5.00	253.61	4098.81	29.45	-36.66	-809.21	1.68	382100.35	536048.86	N 32 3 1.64	W 104 13 1.13
	4290.00	4.50	253.14	4192.48	31.61	-38.88	-816.67	0.53	382098.12	536041.41	N 32 3 1.62	W 104 13 1.22
	4385.00	3.92	252.67	4287.23	33.60	-40.93	-823.34	0.61	382096.07	536034.74	N 32 3 1.60	W 104 13 1.30
	4480.00	3.75	252.23	4382.01	35.46	-42.85	-829.39	0.18	382094.16	536028.68	N 32 3 1.58	W 104 13 1.37
	4574.00	3.57	251.17	4475.82	37.29	-44.73	-835.09	0.20	382092.27	536022.99	N 32 3 1.56	W 104 13 1.43
	4670.00	3.29	248.14	4571.65	39.24	-46.72	-840.48	0.35	382090.28	536017.60	N 32 3 1.54	W 104 13 1.49
	4765.00	3.11	243.80	4666.50	41.35	-48.87	-845.32	0.32	382088.13	536012.76	N 32 3 1.52	W 104 13 1.55
	4859.00	3.08	241.66	4760.36	43.63	-51.20	-849.83	0.13	382085.81	536008.25	N 32 3 1.50	W 104 13 1.60
	4954.00	3.17	240.60	4855.22	46.09	-53.70	-854.36	0.11	382083.31	536003.71	N 32 3 1.47	W 104 13 1.66
	5049.00	3.12	240.87	4950.08	48.60	-56.25	-858.91	0.05	382080.76	535999.17	N 32 3 1.45	W 104 13 1.71
	5144.00	2.59	241.77	5044.96	50.84	-58.52	-863.06	0.56	382078.48	535995.02	N 32 3 1.42	W 104 13 1.76
	5239.00	1.98	247.24	5139.89	52.46	-60.17	-866.46	0.68	382076.83	535991.61	N 32 3 1.41	W 104 13 1.80
	5334.00	2.13	242.09	5234.82	53.89	-61.63	-869.54	0.25	382075.37	535988.54	N 32 3 1.39	W 104 13 1.83
	5427.00	2.18	242.37	5327.76	55.49	-63.26	-872.63	0.05	382073.74	535985.45	N 32 3 1.38	W 104 13 1.87
	5522.00	2.11	240.53	5422.69	57.16	-64.96	-875.76	0.10	382072.05	535982.32	N 32 3 1.36	W 104 13 1.90
	5616.00	1.96	238.47	5516.63	58.83	-66.65	-878.63	0.18	382070.35	535979.45	N 32 3 1.34	W 104 13 1.94
	5711.00	1.85	242.75	5611.58	60.36	-68.20	-881.38	0.19	382068.80	535976.70	N 32 3 1.33	W 104 13 1.97
	5806.00	1.91	244.36	5706.53	61.72	-69.59	-884.17	0.08	382067.42	535973.91	N 32 3 1.31	W 104 13 2.00
	5901.00	1.63	248.56	5801.48	62.87	-70.77	-886.86	0.32	382066.24	535971.22	N 32 3 1.30	W 104 13 2.03
	5995.00	1.36	244.85	5895.45	63.82	-71.73	-889.11	0.30	382065.27	535968.97	N 32 3 1.29	W 104 13 2.06
	6090.00	1.28	246.19	5990.43	64.70	-72.64	-891.10	0.09	382064.37	535966.98	N 32 3 1.28	W 104 13 2.08
	6185.00	1.24	249.48	6085.40	65.48	-73.43	-893.03	0.09	382063.58	535965.05	N 32 3 1.28	W 104 13 2.11
	6279.00	1.12	239.75	6179.38	66.28	-74.25	-894.78	0.25	382062.76	535963.30	N 32 3 1.27	W 104 13 2.13
	6373.00	0.83	239.22	6273.37	67.08	-75.06	-896.16	0.31	382061.95	535961.92	N 32 3 1.26	W 104 13 2.14
	6468.00	0.48	260.85	6368.36	67.49	-75.47	-897.14	0.44	382061.53	535960.94	N 32 3 1.26	W 104 13 2.15
	6562.00	0.87	56.94	6462.36	67.16	-75.15	-896.93	1.41	382061.86	535961.15	N 32 3 1.26	W 104 13 2.15
	6658.00	1.37	65.52	6558.34	66.30	-74.27	-895.28	0.55	382062.73	535962.80	N 32 3 1.27	W 104 13 2.13
	6752.00	0.70	77.45	6652.33	65.73	-73.68	-893.70	0.74	382063.32	535964.39	N 32 3 1.27	W 104 13 2.11

...HH SO 17 20 Fed 001 No. 1H Chevron HH SO 17 20 Fed 001 No. 1H MWD Off to 20291ft

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 ° ' ")
	6847.00	0.52	64.33	6747.32	65.42	-73.37	-892.74	0.24	382063.64	535965.34	N 32 3 1.28	W 104 13 2.10
	6943.00	0.53	55.68	6843.32	64.99	-72.93	-891.98	0.08	382064.07	535966.10	N 32 3 1.28	W 104 13 2.09
	7037.00	0.46	54.20	6937.31	64.53	-72.47	-891.32	0.08	382064.54	535966.77	N 32 3 1.29	W 104 13 2.09
	7132.00	0.45	50.08	7032.31	64.07	-72.00	-890.72	0.04	382065.00	535967.36	N 32 3 1.29	W 104 13 2.08
	7227.00	0.43	45.43	7127.31	63.59	-71.51	-890.18	0.04	382065.49	535967.90	N 32 3 1.30	W 104 13 2.07
	7322.00	0.23	57.37	7222.31	63.24	-71.16	-889.77	0.22	382065.85	535968.31	N 32 3 1.30	W 104 13 2.07
	7416.00	0.34	99.81	7316.31	63.19	-71.11	-889.33	0.25	382065.90	535968.75	N 32 3 1.30	W 104 13 2.06
	7511.00	0.36	91.61	7411.30	63.25	-71.16	-888.76	0.06	382065.84	535969.32	N 32 3 1.30	W 104 13 2.06
	7605.00	0.18	112.58	7505.30	63.32	-71.23	-888.33	0.22	382065.78	535969.76	N 32 3 1.30	W 104 13 2.05
	7700.00	0.30	101.21	7600.30	63.43	-71.33	-887.94	0.14	382065.67	535970.14	N 32 3 1.30	W 104 13 2.05
	7796.00	0.17	140.95	7696.30	63.59	-71.49	-887.61	0.21	382065.51	535970.47	N 32 3 1.30	W 104 13 2.04
	7891.00	0.28	193.65	7791.30	63.93	-71.83	-887.57	0.23	382065.18	535970.51	N 32 3 1.29	W 104 13 2.04
	7986.00	0.20	215.65	7886.30	64.28	-72.19	-887.72	0.13	382064.82	535970.36	N 32 3 1.29	W 104 13 2.04
	8081.00	0.29	188.94	7981.30	64.66	-72.56	-887.86	0.15	382064.45	535970.22	N 32 3 1.29	W 104 13 2.05
	8176.00	0.33	219.22	8076.30	65.10	-73.01	-888.07	0.18	382064.00	535970.01	N 32 3 1.28	W 104 13 2.05
	8270.00	0.45	183.85	8170.30	65.68	-73.59	-888.26	0.28	382063.42	535969.82	N 32 3 1.27	W 104 13 2.05
	8365.00	0.43	186.94	8265.29	66.40	-74.31	-888.33	0.03	382062.69	535969.75	N 32 3 1.27	W 104 13 2.05
	8460.00	0.28	173.20	8360.29	66.99	-74.90	-888.35	0.18	382062.11	535969.73	N 32 3 1.26	W 104 13 2.05
	8555.00	0.48	193.73	8455.29	67.61	-75.52	-888.42	0.25	382061.49	535969.67	N 32 3 1.26	W 104 13 2.05
	8649.00	0.40	188.00	8549.29	68.31	-76.22	-888.55	0.10	382060.78	535969.53	N 32 3 1.25	W 104 13 2.05
	8744.00	0.25	220.40	8644.28	68.80	-76.71	-888.73	0.24	382060.30	535969.35	N 32 3 1.24	W 104 13 2.06
	8838.00	0.28	208.39	8738.28	69.15	-77.07	-888.98	0.07	382059.94	535969.10	N 32 3 1.24	W 104 13 2.06
	8933.00	0.52	179.21	8833.28	69.79	-77.70	-889.08	0.32	382059.30	535969.00	N 32 3 1.23	W 104 13 2.06
	9029.00	0.59	197.42	8929.28	70.69	-78.61	-889.22	0.20	382058.40	535968.86	N 32 3 1.23	W 104 13 2.06
	9124.00	0.75	194.01	9024.27	71.76	-79.68	-889.52	0.17	382057.33	535968.56	N 32 3 1.21	W 104 13 2.07
	9175.00	0.74	207.77	9075.27	72.37	-80.30	-889.75	0.35	382056.71	535968.33	N 32 3 1.21	W 104 13 2.07
	9266.00	0.73	212.88	9166.26	73.37	-81.30	-890.34	0.07	382055.71	535967.74	N 32 3 1.20	W 104 13 2.07
	9319.00	1.86	199.15	9219.24	74.47	-82.40	-890.81	2.20	382054.61	535967.27	N 32 3 1.19	W 104 13 2.08
	9366.00	5.91	195.68	9266.13	77.51	-85.45	-891.71	8.63	382051.56	535966.37	N 32 3 1.16	W 104 13 2.09
	9414.00	10.49	199.17	9313.62	84.00	-91.96	-893.82	9.59	382045.05	535964.26	N 32 3 1.09	W 104 13 2.12
	9461.00	15.17	201.12	9359.44	93.75	-101.74	-897.44	10.00	382035.27	535960.64	N 32 3 1.00	W 104 13 2.16
	9509.00	19.20	199.46	9405.29	107.01	-115.05	-902.33	8.46	382021.96	535955.75	N 32 3 0.86	W 104 13 2.21
	9556.00	23.43	197.42	9449.06	123.17	-131.26	-907.71	9.14	382005.75	535950.37	N 32 3 0.70	W 104 13 2.28
	9604.00	28.26	198.25	9492.25	143.03	-151.17	-914.13	10.09	381985.85	535943.96	N 32 3 0.51	W 104 13 2.35
	9651.00	33.88	198.52	9532.49	165.96	-174.18	-921.78	11.96	381962.84	535936.30	N 32 3 0.28	W 104 13 2.44
	9698.00	39.15	198.02	9570.25	192.43	-200.73	-930.54	11.23	381936.29	535927.55	N 32 3 0.02	W 104 13 2.54
	9745.00	43.96	196.67	9605.41	222.10	-230.48	-939.81	10.41	381906.54	535918.27	N 32 2 59.72	W 104 13 2.65
	9793.00	48.39	194.43	9638.64	255.38	-263.84	-949.07	9.82	381873.19	535909.02	N 32 2 59.39	W 104 13 2.76
	9840.00	54.28	194.65	9667.99	290.80	-299.34	-958.28	12.54	381837.69	535899.81	N 32 2 59.04	W 104 13 2.87
	9888.00	59.46	194.53	9694.22	329.60	-338.23	-968.40	10.79	381798.80	535889.69	N 32 2 58.66	W 104 13 2.98
	9935.00	62.31	194.92	9717.08	369.21	-377.94	-978.84	6.11	381759.10	535879.25	N 32 2 58.26	W 104 13 3.11
	9983.00	67.46	193.85	9737.45	411.20	-420.02	-989.62	10.92	381717.01	535868.47	N 32 2 57.85	W 104 13 3.23
	10030.00	72.71	192.39	9753.46	454.13	-463.05	-999.64	11.55	381674.00	535858.45	N 32 2 57.42	W 104 13 3.35
	10077.00	77.56	191.76	9765.51	498.45	-507.45	-1009.14	10.40	381629.59	535848.95	N 32 2 56.98	W 104 13 3.46
	10172.00	86.84	188.95	9778.39	590.78	-599.94	-1026.01	10.20	381537.12	535832.08	N 32 2 56.07	W 104 13 3.66
Heel HL Cross	10231.00	87.66	188.09	9781.22	648.98	-658.22	-1034.74	2.01	381478.84	535823.35	N 32 2 55.49	W 104 13 3.76
	10266.00	88.14	187.58	9782.51	683.59	-692.87	-1039.51	2.01	381444.20	535818.59	N 32 2 55.15	W 104 13 3.82
	10361.00	88.93	188.84	9784.94	777.46	-786.86	-1053.07	1.57	381350.21	535805.02	N 32 2 54.22	W 104 13 3.97
	10456.00	89.31	187.50	9786.40	871.35	-880.88	-1066.57	1.47	381256.20	535791.53	N 32 2 53.29	W 104 13 4.13
	10551.00	89.86	187.25	9787.08	965.45	-975.09	-1078.76	0.64	381162.00	535779.33	N 32 2 52.36	W 104 13 4.27
	10645.00	91.03	183.34	9786.35	1058.95	-1068.67	-1087.44	4.34	381068.43	535770.66	N 32 2 51.43	W 104 13 4.38
	10740.00	94.68	182.84	9781.62	1153.63	-1163.40	-1092.55	3.88	380973.71	535765.55	N 32 2 50.49	W 104 13 4.44
	10835.00	92.27	181.61	9775.86	1248.34	-1258.14	-1096.23	2.85	380878.97	535761.87	N 32 2 49.56	W 104 13 4.48
	10930.00	92.18	181.55	9772.22	1343.20	-1353.04	-1098.85	0.16	380784.09	535759.25	N 32 2 48.62	W 104 13 4.51
	11025.00	92.17	181.73	9768.65	1438.07	-1447.93	-1101.57	0.19	380689.20	535756.54	N 32 2 47.68	W 104 13 4.55
	11120.00	91.58	181.90	9765.55	1532.94	-1542.83	-1104.57	0.65	380594.31	535753.53	N 32 2 46.74	W 104 13 4.58
	11243.00	91.34	181.17	9762.41	1655.82	-1665.75	-1107.87	0.62	380471.41	535750.23	N 32 2 45.52	W 104 13 4.62
	11338.00	90.41	183.14	9760.96	1750.70	-1760.66	-1111.44	2.29	380376.50	535746.66	N 32 2 44.58	W 104 13 4.66
	11432.00	90.89	181.40	9759.89	1844.58	-1854.58	-1115.16	1.92	380282.59	535742.94	N 32 2 43.65	W 104 13 4.71
	11527.00	90.55	179.20	9758.70	1939.56	-1949.56	-1115.66	2.34	380187.61	535742.44	N 32 2 42.71	W 104 13 4.72
	11622.00	90.76	179.38	9757.61	2034.55	-2044.55	-1114.48	0.29	380092.64	535743.62	N 32 2 41.77	W 104 13 4.70
	11717.00	90.34	179.15	9756.70	2129.54	-2139.54	-1113.26	0.50	379997.66	535744.84	N 32 2 40.83	W 104 13 4.69
	11811.00	90.31	179.61	9756.17	2223.54	-2233.53	-1112.25	0.49	379903.67	535745.86	N 32 2 39.90	W 104 13 4.68
	11999.00	90.41	178.92	9754.99	2411.54	-2421.51	-1109.83	0.37	379715.71	535748.27	N 32 2 38.04	W 104 13 4.65
	12094.00	91.03	179.36	9753.79	2506.53	-2516.49	-1108.41	0.80	379620.74	535749.69	N 32 2 37.10	W 104 13 4.64
	12188.00	90.48	179.24	9752.56	2600.52	-2610.48	-1107.26	0.60	379526.76	535750.84	N 32 2 36.17	W 104 13 4.63
	12378.00	91.41	178.74	9749.42	2790.48	-2800.42	-1103.91	0.56	379336.84	535754.19	N 32 2 34.29	W 104 13 4.59
	12473.00	92.27	177.52	9746.37	2885.40	-2895.32	-1100.81	1.57	379241.95	535757.29	N 32 2 33.35	W 104 13 4.55
	12663.00	91.24	177.50	9740.55	3075.20	-3085.05	-1092.56	0.54	379052.24	535765.54	N 32 2 31.48	W 104 13 4.46
	12758.00	91.31	176.29	9738.44	3170.08	-3179.88	-1087.42	1.28	378957.41	535770.68	N 32 2 30.54	W 104 13 4.40
	12947.00	90.79	176.71	9734.98	3358.79	-3368.50	-1075.88	0.35	378768.81	535782.22	N 32 2 28.67	W 104 13 4.27
	13041.00	93.37	176.95	9731.56	3452.61	-3462.28	-1070.69	2.76	378675.03	535787.41	N 32 2 27.74	W 104 13 4.21
	13136.00	90.72	178.48	9728.17	3547.50	-3557.13	-1066.90	3.22	378580.19	535791.19	N 32 2 26.80	W 104 13 4.17
	13231.00	90.72	179.44	9726.98	3642.48	-3652.11	-1065.18	1.01	378485.22	535792.92	N 32 2 25.86	W 104 13 4.15
	13421.00	91.41	178.84	9723.45	3832.45	-3842.05	-1062.33	0.48	378295.30	535795.77	N 32 2 23.98	W 104 13 4.12
	13516.00	91.14	178.97	9721.33	3927.42	-3937.01	-1060.51	0.32	378200.35	535797.58	N 32 2 23.05	W 104 13 4.10
	13611.00	90.83	178.65	9719.70	4022.40	-4031.98	-1058.54	0.47	378105.39	535799.56	N 32 2 22.11	W 104 13 4.08
	13706.00	91.86	179.1									

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 ° ' ")
	15791.00	91.51	179.99	9666.68	6201.02	-6210.50	-1037.99	1.66	375927.06	535820.10	N 32 2 0.55	W 104 13 3.87
	15886.00	92.07	180.43	9663.71	6295.96	-6305.46	-1038.34	0.75	375932.12	535819.76	N 32 1 59.61	W 104 13 3.87
	15981.00	92.93	179.90	9659.57	6390.87	-6400.36	-1038.61	1.06	375737.22	535819.48	N 32 1 58.67	W 104 13 3.88
	16077.00	93.03	179.49	9654.58	6486.74	-6496.23	-1038.10	0.44	375641.36	535819.99	N 32 1 57.72	W 104 13 3.87
	16171.00	92.61	179.12	9649.95	6580.62	-6590.11	-1036.96	0.60	375547.49	535821.13	N 32 1 56.79	W 104 13 3.86
	16266.00	92.24	178.93	9645.94	6675.53	-6685.01	-1035.35	0.44	375452.60	535822.75	N 32 1 55.85	W 104 13 3.84
	16362.00	90.58	177.68	9643.57	6771.48	-6780.94	-1032.51	2.16	375356.68	535825.59	N 32 1 54.90	W 104 13 3.81
	16457.00	89.35	178.08	9643.63	6866.44	-6875.87	-1028.99	1.36	375261.76	535829.10	N 32 1 53.96	W 104 13 3.77
	16552.00	89.97	178.53	9644.19	6961.42	-6970.83	-1026.18	0.81	375166.81	535831.91	N 32 1 53.02	W 104 13 3.74
	16647.00	87.45	175.13	9646.33	7056.27	-7065.64	-1020.93	4.45	375072.01	535837.16	N 32 1 52.08	W 104 13 3.68
	16742.00	87.83	174.95	9650.25	7150.90	-7160.20	-1012.73	0.44	374977.46	535845.36	N 32 1 51.15	W 104 13 3.58
	16837.00	90.24	176.26	9651.85	7245.66	-7254.90	-1005.45	2.89	374882.77	535852.64	N 32 1 50.21	W 104 13 3.50
	16932.00	89.11	176.00	9652.38	7340.49	-7349.68	-999.04	1.22	374787.99	535859.05	N 32 1 49.27	W 104 13 3.43
	17027.00	90.76	177.93	9652.49	7435.39	-7444.54	-994.01	2.67	374693.14	535864.08	N 32 1 48.33	W 104 13 3.37
	17121.00	89.76	180.78	9652.07	7529.38	-7538.52	-992.95	3.21	374599.17	535865.14	N 32 1 47.40	W 104 13 3.36
	17217.00	90.76	183.48	9651.63	7625.27	-7634.44	-996.52	3.00	374503.26	535861.57	N 32 1 46.46	W 104 13 3.40
	17311.00	93.06	183.04	9648.50	7719.01	-7728.23	-1001.86	2.49	374409.48	535856.23	N 32 1 45.53	W 104 13 3.47
	17406.00	92.75	182.59	9643.68	7813.72	-7822.99	-1006.52	0.57	374314.72	535851.57	N 32 1 44.59	W 104 13 3.52
	17501.00	92.79	182.48	9639.09	7908.48	-7917.79	-1010.72	0.12	374219.93	535847.37	N 32 1 43.65	W 104 13 3.57
	17596.00	92.93	182.02	9634.35	8003.25	-8012.60	-1014.44	0.51	374125.13	535843.65	N 32 1 42.71	W 104 13 3.62
	17786.00	91.51	182.45	9626.99	8192.88	-8202.31	-1021.85	0.78	373935.44	535836.25	N 32 1 40.84	W 104 13 3.70
	17881.00	91.03	183.34	9624.89	8287.69	-8297.16	-1026.64	1.06	373840.60	535831.45	N 32 1 39.90	W 104 13 3.76
	17975.00	89.21	181.81	9624.69	8381.55	-8391.06	-1030.87	2.53	373746.71	535827.23	N 32 1 38.97	W 104 13 3.81
	18070.00	88.38	181.97	9626.69	8476.44	-8485.98	-1034.00	0.89	373651.79	535824.10	N 32 1 38.03	W 104 13 3.85
	18258.00	88.38	181.98	9632.00	8664.19	-8673.80	-1040.48	0.01	373463.99	535817.62	N 32 1 36.17	W 104 13 3.93
	18353.00	92.44	182.36	9631.32	8759.07	-8768.71	-1044.07	4.29	373369.09	535814.02	N 32 1 35.23	W 104 13 3.97
	18448.00	89.38	179.50	9629.81	8854.00	-8863.66	-1045.61	4.41	373274.15	535812.48	N 32 1 34.29	W 104 13 3.99
	18543.00	91.51	181.21	9629.08	8948.98	-8958.65	-1046.20	2.88	373179.17	535811.90	N 32 1 33.35	W 104 13 4.00
	18637.00	88.01	180.96	9629.47	9042.93	-9052.62	-1047.98	3.73	373085.21	535810.12	N 32 1 32.42	W 104 13 4.02
	18732.00	91.51	181.72	9629.87	9137.86	-9147.57	-1050.20	3.77	372990.26	535807.89	N 32 1 31.48	W 104 13 4.04
	18827.00	91.96	180.04	9626.99	9232.79	-9242.51	-1051.66	1.83	372895.33	535806.44	N 32 1 30.54	W 104 13 4.06
	18922.00	90.55	178.86	9624.91	9327.76	-9337.48	-1050.75	1.94	372800.37	535807.35	N 32 1 29.60	W 104 13 4.05
	19111.00	89.52	177.71	9624.79	9516.71	-9526.39	-1045.09	0.82	372611.48	535813.00	N 32 1 27.73	W 104 13 3.99
	19206.00	89.28	178.37	9625.79	9611.68	-9621.33	-1041.84	0.74	372516.55	535816.25	N 32 1 26.79	W 104 13 3.95
	19301.00	89.83	178.19	9626.53	9706.65	-9716.29	-1038.99	0.61	372421.60	535819.10	N 32 1 25.85	W 104 13 3.92
	19395.00	90.65	179.05	9626.13	9800.64	-9810.26	-1036.73	1.26	372327.64	535821.37	N 32 1 24.92	W 104 13 3.90
	19490.00	89.04	178.73	9626.39	9895.63	-9905.23	-1034.89	1.73	372232.67	535823.21	N 32 1 23.98	W 104 13 3.88
	19585.00	93.86	178.38	9623.99	9990.56	-10000.15	-1032.49	5.09	372137.77	535825.60	N 32 1 23.05	W 104 13 3.85
	19680.00	91.89	177.14	9619.22	10085.39	-10094.95	-1028.78	2.45	372042.98	535829.31	N 32 1 22.11	W 104 13 3.81
	19775.00	89.14	176.57	9618.37	10180.28	-10189.79	-1023.57	2.96	371948.14	535834.52	N 32 1 21.17	W 104 13 3.75
	19870.00	88.76	176.26	9620.11	10275.12	-10284.59	-1017.63	0.52	371853.35	535840.46	N 32 1 20.23	W 104 13 3.68
	19965.00	91.72	176.73	9619.71	10369.98	-10379.40	-1011.83	3.15	371758.55	535846.27	N 32 1 19.29	W 104 13 3.61
	20060.00	90.65	176.42	9617.75	10464.84	-10474.21	-1006.15	1.17	371663.75	535851.94	N 32 1 18.35	W 104 13 3.55
	20155.00	87.04	176.05	9619.66	10559.65	-10568.97	-999.92	3.82	371569.00	535858.17	N 32 1 17.42	W 104 13 3.48
Toe HL Cross	20244.00	92.71	178.03	9619.85	10648.53	-10657.81	-995.32	6.75	371480.17	535862.77	N 32 1 16.54	W 104 13 3.43
Last SLB MWD Survey	20249.00	93.03	178.14	9619.60	10653.52	-10662.80	-995.16	6.75	371475.18	535862.94	N 32 1 16.49	W 104 13 3.42
Projection to Bit	20291.00	93.03	178.14	9617.38	10695.45	-10704.72	-993.79	0.00	371433.26	535864.30	N 32 1 16.07	W 104 13 3.41

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	A027Ua_INC-ONLY-Depth Only	HH SO 17 20 Fed 001 No. 1H / Chevron HH SO 17 20 Fed 001 No. 1H MWD Off to 20291ft
	1	28.000	28.000	Act Stns	30.000	30.000	A027Ua_INC-ONLY-Depth Only	HH SO 17 20 Fed 001 No. 1H / Chevron HH SO 17 20 Fed 001 No. 1H MWD Off to 20291ft
	1	28.000	135.000	Act Stns	30.000	30.000	A027Ua_INC-ONLY	HH SO 17 20 Fed 001 No. 1H / Chevron HH SO 17 20 Fed 001
	1	135.000	20291.000	Act Stns	30.000	30.000	B001Ma_MWD+HDGM	HH SO 17 20 Fed 001 No. 1H / Chevron HH SO 17 20 Fed 001

...HH SO 17 20 Fed 001 No. 1H\Chevron HH SO 17 20 Fed 001 No. 1H MWD Off to 20291ft