

RECEIVED

MAR 18, 2020

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 30-015-45154	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 3H
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.		280'	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.		244'	SOUTH	2433'	WEST	EDDY

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

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

¹⁶ KICK OFF POINT X= 537,478' NAD 27 Y= 382,028' LAT. 32.050251° N LONG. 104.212369° W X= 578,662' NAD83/86 Y= 382,084' LAT. 32.050373° N LONG. 104.212863° W FINAL FIRST TAKE POINT X= 537,391' NAD 27 Y= 381,467' LAT. 32.048710° N LONG. 104.212651° W X= 578,575' NAD83/86 Y= 381,524' LAT. 32.048832° N LONG. 104.213145° W MID POINT X= 537,480' NAD 27 Y= 376,478' LAT. 32.034994° N LONG. 104.212382° W X= 578,664' NAD83/86 Y= 376,535' LAT. 32.035116° N LONG. 104.212875° W FINAL LAST TAKE POINT X= 537,514' NAD 27 Y= 371,607' LAT. 32.021603° N LONG. 104.212289° W X= 578,698' NAD83/86 Y= 371,663' LAT. 32.021726° N LONG. 104.212783° W		HH SO 17 20 FED 001 3H WELL X= 536,858' NAD 27 Y= 382,087' LAT. 32.050416° N LONG. 104.214368° W X= 578,042' NAD83/86 Y= 382,144' LAT. 32.050538° N LONG. 104.214862° W ELEV. +3258' 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= 537,515' NAD 27 Y= 371,393' LAT. 32.021015° N LONG. 104.212287° W X= 578,699' NAD83/86 Y= 371,450' LAT. 32.021137° N LONG. 104.212780° 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		Sec. 8 Kick Off Point @ 9,454' MD 222' FSL, 2492' FWL Sec. 17 Final First Take Point @ 10,351' MD 339' FNL, 2398' FWL Mid Point @ 15,344.22' MD Sec. 20 Final Last Take Point @ 20,218' MD 458' FSL, 2433' FWL			

RP 4-10-2020

Intent ☐ As Drilled ☒

API # 30-015-45154		
Operator Name: CHEVRON USA INC	Property Name: HH SO 17 20 FED 001	Well Number 3H

Kick Off Point (KOP)

UL N	Section 8	Township 26S	Range 27E	Lot	Feet 222	From N/S FSL	Feet 2,492	From E/W FWL	County EDDY
Latitude 32.050373					Longitude 104.212863			NAD NAD 83/86	

First Take Point (FTP)

UL C	Section 17	Township 26S	Range 27E	Lot	Feet 339	From N/S FNL	Feet 2,398	From E/W FWL	County EDDY
Latitude 32.048832					Longitude 104.213145			NAD NAD 83/86	

Last Take Point (LTP)

UL N	Section 20	Township 26S	Range 27E	Lot	Feet 458	From N/S FSL	Feet 2,433	From E/W FWL	County EDDY
Latitude 32.021726					Longitude 104.212783			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)

Schlumberger

February 25, 2019

Chevron USA Incorporated
6301 Deauville Blvd.
Midland TX 79706

Re:

8, 26S, 27E, Eddy NM
N 32.05054 W 104.21486

CLIENT: Chevron USA Incorporated
WELL: HH SO 17 20 Fed 001 No. 3H
FIELD: Purple Sage-Wolfcamp (Gas)

RIG: Patterson 270
COUNTY: Eddy
API NO: 30-015-45154
JOB NO: 18MLD3948

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. 3H Original Hole	200.00 Ft to 20432.00 Ft	August 27, 2018 to February 16, 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 32.05054 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 27, 2018 through February 16, 2019, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 200.00 feet to a depth of 20432.00 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. 3H Well (Original Hole) API No. 30-015-45154 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 25th day of February (month) 2019 (yr)

My Commission expires:

2-16-2022

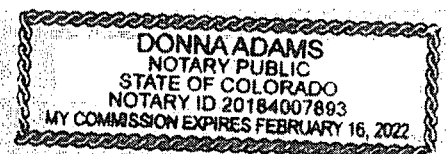
D. Adams

(signature)

Notary Public

Adams County, Colorado

(County State)



Chevron HH SO 17 20 Fed 001 No. 3H MWD to 20474ft Survey Geodetic Report

(Def Survey)



Report Date:	February 17, 2019 - 08:21 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	Chevron	Vertical Section Azimuth:	179.490 ° (Grid North)
Field:	NM Eddy County (NAD 27)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Chevron HH SO 17 20 Fed 001 No. 3H / HH SO 17 20 Fed 001 No. 3H	TVD Reference Datum:	RKB = 28ft
Well:	HH SO 17 20 Fed 001 No. 3H	TVD Reference Elevation:	3286.000 ft above MSL
Borehole:	HH SO 17 20 Fed 001 No. 3H	Seabed / Ground Elevation:	3258.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.256 °
Survey Name:	Chevron HH SO 17 20 Fed 001 No. 3H MWD to 20474ft	Total Gravity Field Strength:	998.4300mgm (9.80665 Based)
Survey Date:	February 17, 2019	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	253.223 ° / 11370.804 ft / 6.772 / 1.141	Total Magnetic Field Strength:	47802.818 nT
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.670 °
Location Lat / Long:	N 32° 3' 1.49872", W 104° 12' 51.72990"	Declination Date:	February 17, 2019
Location Grid N/E Y/X:	N 382087.000 RUS, E 536858.000 ftUS	Magnetic Declination Model:	HDGM 2019
CRS Grid Convergence Angle:	0.0631 °	North Reference:	Grid North
Grid Scale Factor:	0.99991065	Grid Convergence Used:	0.0631 °
Version / Patch:	2.10.753.0	Total Corr Mag North->Grid North:	7.1934 °
		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 (RUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	382087.00	536858.00	N 32 3 1.50	W 104 12 51.73
First SLB MWD Survey	200.00	0.78	245.70	199.99	0.55	-0.56	-1.24	0.39	382086.44	536856.76	N 32 3 1.49	W 104 12 51.74
	320.00	0.90	242.92	319.98	1.30	-1.33	-2.82	0.11	382085.67	536855.18	N 32 3 1.49	W 104 12 51.76
	507.00	0.65	237.72	506.96	2.52	-2.58	-5.03	0.14	382084.44	536852.97	N 32 3 1.47	W 104 12 51.79
	600.00	1.57	99.02	599.95	3.00	-3.04	-4.22	2.26	382083.96	536853.78	N 32 3 1.47	W 104 12 51.78
	692.00	3.62	92.74	691.85	3.38	-3.38	-0.07	2.25	382083.62	536857.93	N 32 3 1.47	W 104 12 51.73
	787.00	4.61	86.71	786.61	3.36	-3.30	6.74	1.14	382083.70	536864.74	N 32 3 1.47	W 104 12 51.65
	875.00	5.48	85.86	874.27	2.92	-2.80	14.46	0.99	382084.20	536872.46	N 32 3 1.47	W 104 12 51.56
	971.00	6.46	86.96	969.75	2.40	-2.18	24.42	1.03	382084.82	536882.42	N 32 3 1.48	W 104 12 51.45
	1065.00	7.18	91.32	1063.08	2.35	-2.03	35.58	0.94	382084.97	536893.57	N 32 3 1.48	W 104 12 51.32
	1160.00	8.58	94.44	1157.18	3.15	-2.72	48.58	1.54	382084.28	536906.57	N 32 3 1.47	W 104 12 51.17
	1254.00	10.29	94.35	1249.91	4.47	-3.90	63.94	1.82	382083.10	536921.94	N 32 3 1.46	W 104 12 50.99
	1349.00	11.05	92.63	1343.26	5.69	-4.96	81.50	0.87	382082.04	536939.49	N 32 3 1.45	W 104 12 50.78
	1444.00	13.54	90.99	1436.08	6.48	-5.57	101.71	2.65	382081.43	536959.71	N 32 3 1.44	W 104 12 50.55
	1540.00	13.35	91.59	1529.45	7.18	-6.07	124.03	0.25	382080.93	536982.02	N 32 3 1.44	W 104 12 50.29
	1635.00	13.22	91.26	1621.90	7.91	-6.62	145.85	0.16	382080.39	537003.84	N 32 3 1.43	W 104 12 50.04
	1729.00	13.74	90.30	1713.31	8.40	-6.91	167.76	0.60	382080.09	537025.75	N 32 3 1.43	W 104 12 49.78
	1825.00	14.28	90.28	1806.46	8.73	-7.03	191.00	0.56	382079.97	537048.99	N 32 3 1.43	W 104 12 49.51
	1919.00	13.18	91.73	1897.77	9.31	-7.41	213.31	1.23	382079.59	537071.29	N 32 3 1.42	W 104 12 49.25
	2014.00	11.76	96.32	1990.53	10.88	-8.80	233.76	1.82	382078.20	537091.74	N 32 3 1.41	W 104 12 49.01
	2108.00	11.82	95.62	2082.55	13.05	-10.80	252.86	0.17	382076.20	537110.84	N 32 3 1.39	W 104 12 48.79
	2203.00	12.41	93.84	2175.43	14.86	-12.43	272.73	0.74	382074.57	537130.70	N 32 3 1.37	W 104 12 48.56
	2299.00	13.98	92.97	2268.89	16.35	-13.73	294.60	1.65	382073.28	537152.58	N 32 3 1.36	W 104 12 48.31
	2393.00	14.16	93.19	2360.07	17.78	-14.95	317.42	0.20	382072.05	537175.39	N 32 3 1.35	W 104 12 48.04
	2488.00	14.00	92.67	2452.22	19.17	-16.14	340.50	0.21	382070.87	537198.47	N 32 3 1.34	W 104 12 47.77
	2583.00	13.94	92.57	2544.41	20.42	-17.18	363.41	0.07	382069.82	537221.38	N 32 3 1.32	W 104 12 47.51
	2677.00	13.68	92.91	2635.69	21.69	-18.26	385.82	0.29	382068.75	537243.79	N 32 3 1.31	W 104 12 47.25
	2772.00	13.59	92.34	2728.01	22.92	-19.28	408.20	0.17	382067.72	537266.16	N 32 3 1.30	W 104 12 46.99
	2867.00	13.18	92.28	2820.43	24.00	-20.17	430.17	0.43	382066.83	537288.13	N 32 3 1.29	W 104 12 46.73
	2962.00	12.52	92.11	2913.05	25.00	-20.98	451.28	0.70	382066.02	537309.24	N 32 3 1.29	W 104 12 46.49
	3057.00	11.38	92.44	3005.99	25.95	-21.76	470.94	1.20	382065.24	537328.89	N 32 3 1.28	W 104 12 46.26
	3152.00	10.99	92.36	3099.19	26.88	-22.53	489.35	0.41	382064.47	537347.30	N 32 3 1.27	W 104 12 46.04
	3247.00	10.82	92.44	3192.47	27.80	-23.28	507.30	0.18	382063.72	537365.26	N 32 3 1.26	W 104 12 45.84
	3342.00	10.84	92.22	3285.78	28.68	-24.01	525.14	0.05	382062.99	537383.09	N 32 3 1.26	W 104 12 45.63
	3531.00	9.11	93.12	3471.92	30.47	-25.51	557.84	0.92	382061.49	537415.79	N 32 3 1.24	W 104 12 45.25
	3720.00	6.53	90.97	3659.14	31.70	-26.51	583.53	1.37	382060.50	537441.48	N 32 3 1.23	W 104 12 44.95
	3815.00	5.69	88.63	3753.60	31.77	-26.49	593.64	0.92	382060.52	537451.59	N 32 3 1.23	W 104 12 44.83
	3910.00	4.23	88.74	3848.25	31.65	-26.30	601.85	1.54	382060.71	537459.80	N 32 3 1.23	W 104 12 44.74
	4005.00	2.80	87.64	3943.07	31.53	-26.12	607.67	1.51	382060.88	537465.62	N 32 3 1.23	W 104 12 44.67
	4099.00	1.40	87.63	4037.00	31.42	-25.98	611.12	1.49	382061.02	537469.06	N 32 3 1.23	W 104 12 44.63
	4194.00	1.01	72.34	4131.98	31.14	-25.68	613.07	0.53	382061.32	537471.02	N 32 3 1.24	W 104 12 44.61
	4288.00	1.09	87.17	4225.96	30.85	-25.38	614.75	0.30	382061.62	537472.70	N 32 3 1.24	W 104 12 44.59
	4383.00	0.80	93.23	4320.95	30.86	-25.38	616.32	0.32	382061.63	537474.28	N 32 3 1.24	W 104 12 44.57
	4478.00	0.55	97.32	4415.94	30.97	-25.47	617.43	0.27	382061.53	537475.38	N 32 3 1.24	W 104 12 44.56
	4573.00	0.48	110.93	4510.94	31.17	-25.67	618.26	0.15	382061.33	537476.20	N 32 3 1.24	W 104 12 44.55
	4668.00	0.64	132.96	4605.94	31.68	-26.18	619.02	0.28	382060.83	537476.96	N 32 3 1.23	W 104 12 44.54
	4763.00	0.60	138.81	4700.93	32.43	-26.91	619.73	0.08	382060.09	537477.68	N 32 3 1.23	W 104 12 44.53
	4858.00	0.60	134.62	4795.92	33.16	-27.64	620.42	0.05	382059.37	537478.36	N 32 3 1.22	W 104 12 44.52
	4952.00	0.55	111.06	4889.92	33.67	-28.14	621.19	0.26	382058.86	537479.13	N 32 3 1.21	W 104 12 44.51
	5047.00	0.78	124.51	4984.91	34.21	-28.67	622.15	0.29	382058.33	537480.09	N 32 3 1.21	W 104 12 44.50
	5142.00	0.68	144.96	5079.91	35.05	-29.50	623.00	0.29	382057.50	537480.94	N 32 3 1.20	W 104 12 44.49
	5237.00	0.58	117.24	5174.90	35.73	-30.18	623.75	0.33	382056.82	537481.70	N 32 3 1.19	W 104 12 44.48
	5332.00	0.63	144.52	5269.90	36.39	-30.83	624.48	0.30	382056.17	537482.43	N 32 3 1.19	W 104 12 44.47
	5425.00	0.78	142.92	5362.89	37.31	-31.75	625.16	0.16	382055.25	537483.10	N 32 3 1.18	W 104 12 44.47
	5520.00	0.79	159.11	5457.88	38.45	-32.88	625.79	0.23	382054.13	537483.73	N 32 3 1.17	W 104 12 44.46
	5615.00	0.76	164.39	5552.87	39.67	-34.10	626.19	0.08	382052.91	537484.13	N 32 3 1.15	W 104 12 44.46
	5709.00	0.84	159.64	5646.86	40.92	-35.34	626.60	0.11	382051.66	537484.54	N 32 3 1.14	W 104 12 44.45
	5804.00	1.08	186.95	5741.85	42.46	-36.88	626.73	0.54	382050.12	537484.67	N 32 3 1.13	W 104 12 44.45
	5899.00	1.23	193.77	5836.83	44.34	-38.76	626.38	0.21	382048.24	537484.32	N 32 3 1.11	W 104 12 44.45
	5993.00	1.38	204.60	5930.80	46.34	-40.77	625.67	0.31	382046.23	537483.61	N 32 3 1.09	W 104 12 44.46
	6088.00	1.23	215.82	6025.78	48.20	-42.64	624.59	0.31	382044.36	537482.54	N 32 3 1.07	W 104 12 44.47
	6183.00	0.67	234.69	6120.77	49.34	-43.79	623.54	0.67	382043.22	537481.49	N 32 3 1.06	W 104 12 44.49
	6278.00	0.83	271.06	6215.76	49.63	-44.10	622.40	0.52	382042.91	537480.35	N 32 3 1.06	W 104 12 44.50
	6373.00	0.67	263.05	6310.75	49.68	-44.15	621.16	0.20	382042.85	537479.11	N 32 3 1.05	W 104 12 44.51
	6468.00	0.28	5.59	6405.75	49.51	-43.99	620.64	0.82	382043.02	537478.58	N 32 3 1.06	W 104 12 44.52
	6562.00	0.41	9.60	6499.75	48.95	-43.43	620.71	0.14	382043.58	537478.66	N 32 3 1.06	W 104 12 44.52
	6657.00	0.38	292.03	6594.75	48.49	-42.97	620.48	0.52	382044.03	537478.42	N 32 3 1.07	W 104 12 44.52
	6753.00	0.24	298.82	6690.74	48.27	-42.76	620.01	0.15	382044.25	537477.95	N 32 3 1.07	W 104 12 44.53

...HH SO 17 20 Fed 001 No. 3H Chevron HH SO 17 20 Fed 001 No. 3H MWD to 20474ft

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 ° ' '')
	6848.00	0.23	294.11	6785.74	48.10	-42.58	619.66	0.02	382044.42	537477.60	N 32 3 1.07	W 104 12 44.53
	6942.00	0.25	284.70	6879.74	47.96	-42.45	619.29	0.05	382044.55	537477.23	N 32 3 1.07	W 104 12 44.54
	7037.00	0.25	239.84	6974.74	48.01	-42.50	618.91	0.20	382044.50	537478.85	N 32 3 1.07	W 104 12 44.54
	7132.00	0.34	224.76	7069.74	48.31	-42.81	618.53	0.12	382044.19	537476.47	N 32 3 1.07	W 104 12 44.54
	7227.00	0.24	180.98	7164.74	48.71	-43.21	618.33	0.25	382043.80	537476.27	N 32 3 1.06	W 104 12 44.55
	7321.00	0.13	163.32	7258.74	49.01	-43.51	618.36	0.13	382043.50	537476.30	N 32 3 1.06	W 104 12 44.55
	7416.00	0.28	146.71	7353.74	49.31	-43.80	618.51	0.17	382043.20	537476.46	N 32 3 1.06	W 104 12 44.54
	7510.00	0.25	126.41	7447.74	49.62	-44.12	618.81	0.10	382042.89	537476.75	N 32 3 1.06	W 104 12 44.54
	7605.00	0.17	136.45	7542.74	49.85	-44.34	619.07	0.09	382042.66	537477.01	N 32 3 1.05	W 104 12 44.54
	7700.00	0.29	139.44	7637.74	50.14	-44.63	619.32	0.13	382042.38	537477.27	N 32 3 1.05	W 104 12 44.53
	7796.00	0.52	135.65	7733.73	50.64	-45.12	619.79	0.24	382041.88	537477.73	N 32 3 1.05	W 104 12 44.53
	7891.00	0.66	130.42	7828.73	51.31	-45.79	620.50	0.16	382041.22	537478.45	N 32 3 1.04	W 104 12 44.52
	7986.00	0.58	124.02	7923.72	51.94	-46.41	621.32	0.11	382040.59	537479.26	N 32 3 1.03	W 104 12 44.51
	8081.00	0.63	121.39	8018.72	52.49	-46.95	622.16	0.08	382040.05	537480.11	N 32 3 1.03	W 104 12 44.50
	8176.00	0.41	126.44	8113.71	52.97	-47.43	622.88	0.24	382039.58	537480.83	N 32 3 1.02	W 104 12 44.49
	8270.00	0.23	144.51	8207.71	53.33	-47.78	623.26	0.22	382039.22	537481.21	N 32 3 1.02	W 104 12 44.49
	8365.00	0.29	172.94	8302.71	53.72	-48.17	623.40	0.15	382038.83	537481.35	N 32 3 1.02	W 104 12 44.49
	8460.00	0.46	174.29	8397.71	54.34	-48.79	623.47	0.18	382038.21	537481.41	N 32 3 1.01	W 104 12 44.49
	8554.00	0.53	177.25	8491.71	55.15	-49.60	623.53	0.08	382037.40	537481.47	N 32 3 1.00	W 104 12 44.49
	8649.00	0.56	184.81	8586.70	56.05	-50.50	623.51	0.08	382036.50	537481.45	N 32 3 0.99	W 104 12 44.49
	8744.00	0.64	175.62	8681.70	57.04	-51.49	623.51	0.13	382035.51	537481.45	N 32 3 0.98	W 104 12 44.49
	8838.00	0.52	178.08	8775.69	57.99	-52.44	623.57	0.13	382034.56	537481.51	N 32 3 0.97	W 104 12 44.49
	8933.00	0.58	183.97	8870.69	58.90	-53.35	623.55	0.09	382033.65	537481.49	N 32 3 0.96	W 104 12 44.49
	9027.00	0.52	184.99	8964.68	59.80	-54.25	623.48	0.06	382032.75	537481.42	N 32 3 0.95	W 104 12 44.49
	9122.00	0.68	201.57	9059.68	60.75	-55.21	623.23	0.25	382031.80	537481.18	N 32 3 0.95	W 104 12 44.49
	9165.00	0.74	208.67	9102.67	61.23	-55.69	623.01	0.25	382031.32	537480.95	N 32 3 0.94	W 104 12 44.49
	9224.00	1.03	214.31	9161.67	62.00	-56.46	622.52	0.51	382030.54	537480.47	N 32 3 0.93	W 104 12 44.50
	9320.00	0.97	238.68	9257.65	63.15	-57.62	621.36	0.41	382029.39	537479.30	N 32 3 0.92	W 104 12 44.51
	9415.00	1.03	231.20	9352.64	64.11	-58.60	620.02	0.12	382028.41	537477.96	N 32 3 0.91	W 104 12 44.53
	9461.00	1.72	200.65	9398.63	65.01	-59.50	619.46	2.14	382027.50	537477.40	N 32 3 0.90	W 104 12 44.53
	9509.00	5.99	191.96	9446.51	68.13	-62.63	618.68	8.95	382024.38	537476.63	N 32 3 0.87	W 104 12 44.54
	9557.00	9.26	187.87	9494.08	74.40	-68.91	617.63	6.90	382018.10	537475.58	N 32 3 0.81	W 104 12 44.55
	9603.00	13.64	186.15	9539.15	83.45	-77.97	616.55	9.55	382009.04	537474.49	N 32 3 0.72	W 104 12 44.57
	9652.00	19.44	190.18	9586.10	97.22	-91.75	614.48	12.06	381995.26	537472.43	N 32 3 0.58	W 104 12 44.59
	9699.00	22.68	191.34	9629.96	113.77	-108.34	611.32	6.95	381978.67	537469.26	N 32 3 0.42	W 104 12 44.63
	9747.00	27.81	192.03	9673.36	133.77	-128.38	607.16	10.70	381958.64	537465.11	N 32 3 0.22	W 104 12 44.68
	9794.00	33.82	193.51	9713.71	157.19	-151.84	601.82	12.89	381935.18	537459.76	N 32 2 59.99	W 104 12 44.74
	9842.00	38.57	196.18	9752.43	184.50	-179.21	594.52	10.42	381907.80	537452.47	N 32 2 59.72	W 104 12 44.82
	9889.00	44.11	195.99	9787.71	214.24	-209.03	585.93	11.79	381877.99	537443.87	N 32 2 59.42	W 104 12 44.93
	9936.00	50.29	194.83	9819.63	247.39	-242.27	576.78	13.27	381844.76	537434.73	N 32 2 59.09	W 104 12 45.03
	9983.00	54.08	193.21	9848.44	283.33	-278.28	567.80	8.51	381808.74	537425.75	N 32 2 58.74	W 104 12 45.14
	10031.00	59.27	191.62	9874.80	322.41	-317.44	559.20	11.16	381769.59	537417.15	N 32 2 58.35	W 104 12 45.24
	10078.00	64.15	188.93	9897.07	363.05	-358.15	551.84	11.54	381728.88	537409.79	N 32 2 57.95	W 104 12 45.32
	10126.00	68.61	187.45	9916.30	406.51	-401.67	545.59	9.71	381685.37	537403.54	N 32 2 57.52	W 104 12 45.40
	10173.00	71.74	186.82	9932.24	450.33	-445.54	540.10	6.78	381641.50	537398.05	N 32 2 57.08	W 104 12 45.46
	10221.00	76.39	183.79	9945.42	498.23	-491.48	535.85	11.43	381595.57	537393.80	N 32 2 56.63	W 104 12 45.51
	10268.00	82.03	181.48	9954.21	542.30	-537.58	533.74	12.93	381549.47	537391.69	N 32 2 56.17	W 104 12 45.54
	10316.00	83.31	181.07	9960.34	589.89	-585.17	532.68	2.80	381501.88	537390.63	N 32 2 55.70	W 104 12 45.55
	10343.00	84.86	179.88	9963.12	616.74	-612.02	532.46	7.21	381475.03	537390.41	N 32 2 55.44	W 104 12 45.55
	10363.00	86.01	179.01	9964.71	636.68	-631.96	532.65	7.21	381455.10	537390.60	N 32 2 55.24	W 104 12 45.55
	10411.00	90.03	176.48	9966.37	684.61	-679.88	534.54	9.89	381407.18	537392.49	N 32 2 54.76	W 104 12 45.53
	10458.00	90.93	176.52	9965.98	731.54	-728.79	537.41	1.92	381380.28	537395.36	N 32 2 54.30	W 104 12 45.50
	10552.00	90.34	175.15	9964.93	825.35	-820.53	544.23	1.59	381268.54	537402.18	N 32 2 53.37	W 104 12 45.42
	10646.00	89.35	174.00	9965.19	919.00	-914.11	553.12	1.61	381172.97	537411.07	N 32 2 52.45	W 104 12 45.32
	10740.00	88.73	173.61	9966.76	1012.52	-1007.55	563.26	0.78	381079.55	537421.21	N 32 2 51.52	W 104 12 45.20
	10835.00	89.31	174.30	9968.39	1107.06	-1102.00	573.26	0.95	380985.10	537431.21	N 32 2 50.59	W 104 12 45.08
	10929.00	90.21	176.76	9968.78	1200.83	-1195.71	580.59	2.79	380891.40	537438.54	N 32 2 49.68	W 104 12 45.00
	10978.00	90.93	176.70	9968.31	1247.77	-1242.63	583.27	1.54	380844.48	537441.22	N 32 2 49.20	W 104 12 44.97
	11046.00	90.58	176.43	9967.39	1317.67	-1312.50	587.46	0.63	380774.62	537445.41	N 32 2 48.50	W 104 12 44.92
	11141.00	90.48	179.30	9966.51	1412.62	-1407.42	591.00	3.02	380679.71	537448.95	N 32 2 47.58	W 104 12 44.88
	11236.00	90.41	180.37	9965.78	1507.62	-1502.41	591.28	1.13	380584.72	537449.22	N 32 2 46.62	W 104 12 44.88
	11331.00	90.14	179.39	9965.32	1602.61	-1597.41	591.47	1.07	380489.74	537449.42	N 32 2 45.68	W 104 12 44.88
	11426.00	91.17	180.08	9964.23	1697.60	-1692.40	591.91	1.30	380394.75	537449.86	N 32 2 44.74	W 104 12 44.87
	11521.00	91.00	180.35	9962.43	1792.58	-1787.38	591.56	0.34	380299.78	537449.50	N 32 2 43.80	W 104 12 44.88
	11616.00	91.00	180.09	9960.78	1887.56	-1882.37	591.19	0.27	380204.80	537449.14	N 32 2 42.86	W 104 12 44.89
	11711.00	91.00	180.72	9959.12	1982.53	-1977.35	590.52	0.66	380109.83	537448.47	N 32 2 41.92	W 104 12 44.89
	11805.00	91.27	181.25	9957.26	2076.48	-2071.32	588.91	0.63	380015.87	537446.85	N 32 2 41.00	W 104 12 44.91
	11900.00	91.17	181.21	9955.23	2171.41	-2166.27	586.87	0.11	379920.92	537444.81	N 32 2 40.06	W 104 12 44.94
	11995.00	91.07	180.22	9953.38	2266.37	-2261.25	585.68	1.05	379825.96	537443.63	N 32 2 39.12	W 104 12 44.95
	12090.00	90.83	178.58	9951.80	2361.35	-2356.23	586.68	1.74	379730.99	537444.62	N 32 2 38.18	W 104 12 44.94
	12185.00	91.13	178.48	9950.18	2456.33	-2451.18	589.11	0.33	379636.04	537447.06	N 32 2 37.24	W 104 12 44.92
	12280.00	90.79	178.34	9948.59	2551.30	-2546.13	591.75	0.39	379541.10	537449.70	N 32 2 36.30	W 104 12 44.89
	12375.00	91.00	178.22	9947.10	2646.26	-2641.08	594.60	0.25	379446.16	537452.55	N 32 2 35.36	W 104 12 44.86
	12470.00	91.00	178.18	9945.44	2741.23	-2736.02	597.58	0.04	379351.23	537455.53	N 32 2 34.42	W 104 12 44.82
	12565.00	90.65	177.57	9944.08	2836.18	-2830.94	601.11	0.74	379256.32	537459.05	N 32 2 33.48	W 104 12 44.78
	12660.00	90.89	178.77	9942.80	2931.14	-2925.88	604.14	1.29	379161.39	537462.08	N 32 2 32.54	W 104 12 44.75
	12754.00	91.17	178.37	9941.11	3025.11	-3019.84	606.48	0.52	379067.44	537464.43	N 32 2 31.61	W 104 12 44.72

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	15221.00	88.00	179.23	9927.13	5491.23	-5485.95	617.45	3.19	376601.55	537475.39	N 32 2 7.20	W 104 12 44.63
	15316.00	89.93	177.73	9928.85	5586.19	-5580.90	619.97	2.57	376506.61	537477.91	N 32 2 6.26	W 104 12 44.60
	15411.00	89.90	175.08	9928.99	5681.05	-5675.70	625.93	2.79	376411.82	537483.87	N 32 2 5.33	W 104 12 44.53
	15506.00	89.52	175.13	9929.47	5775.77	-5770.35	634.03	0.40	376317.17	537491.97	N 32 2 4.39	W 104 12 44.44
	15601.00	92.10	175.65	9928.12	5870.51	-5865.03	641.67	2.77	376222.51	537499.61	N 32 2 3.45	W 104 12 44.35
	15696.00	90.52	176.54	9925.95	5965.31	-5959.78	648.13	1.91	376127.77	537506.07	N 32 2 2.52	W 104 12 44.28
	15790.00	92.93	179.24	9923.12	6059.22	-6053.66	651.59	3.85	376033.90	537509.53	N 32 2 1.59	W 104 12 44.24
	15885.00	90.62	180.82	9920.18	6154.16	-6148.60	651.71	2.83	375938.96	537509.65	N 32 2 0.65	W 104 12 44.24
	15979.00	89.62	180.43	9919.98	6248.14	-6242.60	650.85	1.08	375844.97	537508.79	N 32 1 59.72	W 104 12 44.25
	16073.00	90.62	180.06	9919.79	6342.13	-6336.59	650.45	1.13	375750.99	537508.39	N 32 1 58.79	W 104 12 44.26
	16168.00	90.65	180.98	9918.73	6437.11	-6431.58	649.58	0.97	375656.00	537507.52	N 32 1 57.85	W 104 12 44.27
	16263.00	91.55	181.37	9916.91	6532.05	-6526.54	647.84	1.03	375561.05	537505.58	N 32 1 56.91	W 104 12 44.29
	16358.00	93.37	181.72	9912.83	6626.90	-6621.42	645.08	1.95	375466.19	537503.02	N 32 1 55.97	W 104 12 44.32
	16453.00	91.03	181.37	9909.19	6721.76	-6716.31	642.52	2.49	375371.31	537500.46	N 32 1 55.03	W 104 12 44.35
	16548.00	90.76	181.05	9907.70	6816.71	-6811.27	640.51	0.44	375276.35	537498.45	N 32 1 54.09	W 104 12 44.38
	16643.00	89.45	180.57	9907.53	6911.68	-6906.26	639.17	1.47	375181.37	537497.11	N 32 1 53.15	W 104 12 44.39
	16737.00	89.21	180.69	9908.63	7005.65	-7000.25	638.14	0.29	375087.39	537496.08	N 32 1 52.22	W 104 12 44.41
	16832.00	87.86	180.20	9911.22	7100.60	-7095.21	637.40	1.71	374992.44	537495.34	N 32 1 51.28	W 104 12 44.42
	16930.00	89.69	179.72	9913.49	7198.57	-7193.18	637.47	2.13	374894.48	537495.41	N 32 1 50.31	W 104 12 44.42
	17025.00	89.86	183.36	9913.86	7293.49	-7288.13	634.91	3.84	374799.54	537492.86	N 32 1 49.37	W 104 12 44.45
	17120.00	89.45	180.35	9914.43	7388.39	-7383.06	631.84	3.20	374704.61	537489.78	N 32 1 48.43	W 104 12 44.49
	17215.00	89.62	180.52	9915.20	7483.38	-7478.06	631.12	0.25	374609.63	537489.06	N 32 1 47.49	W 104 12 44.49
	17309.00	89.72	180.35	9915.75	7577.36	-7572.05	630.40	0.21	374515.64	537488.35	N 32 1 46.56	W 104 12 44.50
	17404.00	90.62	179.10	9915.46	7672.36	-7667.05	630.86	1.62	374420.65	537488.80	N 32 1 45.62	W 104 12 44.50
	17499.00	90.21	178.11	9914.78	7767.34	-7762.02	633.17	1.13	374325.69	537491.11	N 32 1 44.68	W 104 12 44.47
	17594.00	90.00	177.93	9914.60	7862.31	-7856.96	636.46	0.29	374230.76	537494.40	N 32 1 43.74	W 104 12 44.44
	17784.00	90.24	177.88	9914.20	8052.24	-8046.83	643.40	0.13	374040.90	537501.34	N 32 1 41.86	W 104 12 44.36
	17879.00	89.90	177.18	9914.09	8147.18	-8141.74	647.49	0.82	373946.00	537505.44	N 32 1 40.92	W 104 12 44.31
	17974.00	88.97	175.36	9915.02	8242.02	-8236.53	653.67	2.15	373851.22	537511.61	N 32 1 39.98	W 104 12 44.24
	18068.00	88.56	178.09	9917.05	8335.88	-8330.35	659.04	2.94	373757.41	537516.98	N 32 1 39.06	W 104 12 44.18
	18161.00	89.62	180.12	9918.53	8428.86	-8423.32	660.49	2.46	373664.45	537518.43	N 32 1 38.14	W 104 12 44.17
	18257.00	88.86	179.93	9919.80	8524.85	-8519.31	660.45	0.82	373568.47	537518.39	N 32 1 37.19	W 104 12 44.17
	18352.00	88.97	180.29	9921.60	8619.83	-8614.29	660.27	0.40	373473.50	537518.21	N 32 1 36.25	W 104 12 44.17
	18446.00	88.76	180.29	9923.46	8713.80	-8708.27	659.79	0.22	373379.52	537517.73	N 32 1 35.32	W 104 12 44.18
	18541.00	88.76	180.34	9925.52	8808.77	-8803.25	659.27	0.05	373284.56	537517.21	N 32 1 34.38	W 104 12 44.18
	18636.00	88.66	180.52	9927.66	8903.73	-8898.22	658.56	0.22	373189.59	537516.50	N 32 1 33.44	W 104 12 44.19
	18731.00	88.93	180.22	9929.65	8998.70	-8993.20	657.95	0.42	373094.62	537515.89	N 32 1 32.50	W 104 12 44.20
	18920.00	90.72	179.57	9930.23	9187.68	-9182.19	658.29	1.01	372905.65	537516.23	N 32 1 30.63	W 104 12 44.20
	19015.00	90.38	179.92	9929.32	9282.68	-9277.18	658.72	0.51	372810.66	537516.66	N 32 1 29.69	W 104 12 44.20
	19110.00	90.69	180.10	9928.43	9377.67	-9372.18	658.70	0.38	372715.68	537516.84	N 32 1 28.75	W 104 12 44.20
	19205.00	90.79	179.83	9927.21	9472.66	-9467.17	658.76	0.30	372620.69	537516.70	N 32 1 27.81	W 104 12 44.20
	19394.00	89.28	179.59	9927.09	9661.65	-9656.16	659.71	0.81	372431.72	537517.85	N 32 1 25.94	W 104 12 44.19
	19489.00	89.31	180.09	9928.26	9756.64	-9751.15	659.98	0.53	372336.74	537517.92	N 32 1 25.00	W 104 12 44.19
	19583.00	89.28	180.23	9929.42	9850.63	-9845.15	659.72	0.15	372242.75	537517.66	N 32 1 24.07	W 104 12 44.19
	19677.00	89.59	180.56	9930.34	9944.61	-9939.14	659.07	0.48	372148.77	537517.01	N 32 1 23.14	W 104 12 44.20
	19867.00	89.76	181.27	9931.42	10134.55	-10129.11	658.03	0.38	371958.81	537513.97	N 32 1 21.26	W 104 12 44.24
	19962.00	89.66	179.77	9931.74	10229.53	-10224.10	655.17	1.58	371863.83	537513.11	N 32 1 20.32	W 104 12 44.25
	20057.00	89.66	179.80	9932.13	10324.53	-10319.10	655.53	0.21	371768.84	537513.47	N 32 1 19.38	W 104 12 44.25
	20152.00	89.66	179.95	9932.70	10419.52	-10414.10	655.74	0.16	371673.85	537513.68	N 32 1 18.44	W 104 12 44.25
	20247.00	88.69	179.92	9934.06	10514.51	-10509.09	655.84	1.02	371578.87	537513.78	N 32 1 17.50	W 104 12 44.25
	20342.00	88.80	179.47	9936.15	10609.49	-10604.07	656.35	0.49	371483.90	537514.29	N 32 1 16.56	W 104 12 44.24
Toe HL Cross	20346.00	88.80	179.49	9936.23	10613.49	-10608.06	656.39	0.54	371479.91	537514.33	N 32 1 16.52	W 104 12 44.24
Last SLB MWD Survey	20432.00	88.80	179.96	9938.03	10699.47	-10694.04	656.80	0.54	371393.93	537514.74	N 32 1 15.67	W 104 12 44.24
Projection to Bit	20474.00	88.80	179.96	9938.91	10741.46	-10736.03	656.83	0.00	371351.95	537514.77	N 32 1 15.25	W 104 12 44.24

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. 3H / Chevron HH SO 17 20 Fed 001 No. 3H MWD to 20474ft
	1	28.000	28.000	Act Stns	30.000	30.000	B001Ma_MWD+HDGM-Depth Only	HH SO 17 20 Fed 001 No. 3H / Chevron HH SO 17 20 Fed 001 No. 3H MWD to 20474ft
	1	28.000	200.000	Act Stns	30.000	30.000	B001Ma_MWD+HDGM	HH SO 17 20 Fed 001 No. 3H / Chevron HH SO 17 20 Fed 001
	1	200.000	320.000	Act Stns	30.000	30.000	A027Ua_INC-ONLY	HH SO 17 20 Fed 001 No. 3H / Chevron HH SO 17 20 Fed 001
	1	320.000	20474.000	Act Stns	30.000	30.000	B001Ma_MWD+HDGM	HH SO 17 20 Fed 001 No. 3H / Chevron HH SO 17 20 Fed 001

...HH SO 17 20 Fed 001 No. 3H\Chevron HH SO 17 20 Fed 001 No. 3H MWD to 20474ft