



PHOENIX
TECHNOLOGY SERVICES

July 18, 2019

Oil Conservation Division
State of New Mexico
1625 N. French Drive
Hobbs, New Mexico 88240

HOBBS OCD

AUG 05 2019

RECEIVED

Dear District 1 - Hobbs

Re: Conoco Phillips
Zia Hills 19 Fed Com 109H
Lea County, New Mexico
API #30-025-44236
Job No. 64343

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Paul Davis	109H	1,318	22,006	5/17/19	6/23/19	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Brittany Carley

Brittany Carley
Operations Administrator

SURVEY DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

Job #: 64343
 Client: ConocoPhillips
 County & State: Lea, NM
 Well: Zia Hills 19 Fed Com 109H
 API No: 30-025-44236
 Proposed Direction: 359.63°

TIE-IN DATA

MD	TVD	INC	AZM	N/-S	E/-W	DATA SOURCE
1050.00 ft	1049.84 ft	0.64°	277.19°	2.54 S	8.93 W	Gyros
Data Source Company:						MS Directional

SURVEY DATA

First Survey Date	First Survey Depth	INC	AZM
17-May-19	1,318 ft	1.64°	178.07°

Last Survey Date	Last Survey Depth	INC	AZM
23-Jun-19	22,006 ft	90.27°	0.79°

Survey Instrument Type
Velocity UTX

Projected TD Survey Date	Projected TD Survey Depth	INC	AZM
23-Jun-19	22,075 ft	90.27°	0.79°

CORRECTION INFORMATION

Magnetic Declination Used	6.78 degrees
Grid Convergence Used	0.33 degrees
Total Correction	6.45 degrees

Corrected to True/Grid North
Grid North

TO THE BEST OF MY KNOWLEDGE, I
 CERTIFY THIS SURVEY DATA TO BE TRUE
 AND CORRECT.

Paul Davis

Signature

6/23/2019

Date

ConocoPhillips MCBU - Permian-Panhandle Gold Data

Planning - NM East State Zone - 3001

ZIA HILLS 19 109H

ZIA HILLS 19 109H

OH/ 64259 / 64343

Survey: 1_ZIA_HILLS_19_109H

Standard Survey Report

24 June, 2019

ConocoPhillips

Survey Report

Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	Local Co-ordinate Reference:	Well ZIA HILLS 19 109H
Project:	Planning - NM East State Zone - 3001	TVD Reference:	RKB @ 3210.00ft (Patterson 256)
Site:	ZIA HILLS 19 109H	MD Reference:	RKB @ 3210.00ft (Patterson 256)
Well:	ZIA HILLS 19 109H	North Reference:	Grid
Wellbore:	OH/ 64259 / 64343	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 256)	Database:	EDT 14 Central Planning

Project	Planning - NM East State Zone - 3001, Permian Basin - New Mexico - East/South East, Planning Project for Permian wells in NM Zone 3001		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site	ZIA HILLS 19 109H				
Site Position:		Northing:	374,653.140 usft	Latitude:	32° 1' 42.744 N
From:	Map	Easting:	690,875.320 usft	Longitude:	103° 43' 2.677 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16"	Grid Convergence:	0.33 °

Well	ZIA HILLS 19 109H					
Well Position	+N/-S	0.00 ft	Northing:	374,653.140 usft	Latitude:	32° 1' 42.744 N
	+E/-W	0.00 ft	Easting:	690,875.320 usft	Longitude:	103° 43' 2.677 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,181.50 ft

Wellbore	OH/ 64259 / 64343				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2018	2/4/2019	6.92	59.78	47,670.95526894

Design	Surveys (Patterson 256)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	359.63	

Survey Program	Date 6/24/2019			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
105.00	1,050.00	0_ZIA_HILLS_19_109H (OH/ 64259 / 643	GOOD GYRO	GOOD GYRO
1,318.00	22,075.00	1_ZIA_HILLS_19_109H (OH/ 64259 / 643	MWD+IFR1+MS_CoP	Fixed:v2:Eagleford, crustal dec + 3-axis corr.

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,050.00	0.64	277.19	1,049.84	-2.54	-8.93	-2.48	0.00	0.00	0.00	
1,318.00	1.64	178.07	1,317.80	-6.18	-10.29	-6.12	0.69	0.37	-36.99	
First Phoenix MWD Survey										
1,411.00	1.80	194.52	1,410.76	-8.93	-10.61	-8.86	0.56	0.17	17.69	
1,503.00	1.43	205.68	1,502.72	-11.36	-11.47	-11.29	0.53	-0.40	12.13	
1,595.00	1.16	224.87	1,594.70	-13.06	-12.62	-12.97	0.55	-0.29	20.86	
1,691.00	1.42	252.61	1,690.68	-14.10	-14.44	-14.01	0.70	0.27	28.90	
1,787.00	1.60	257.12	1,786.64	-14.76	-16.88	-14.65	0.22	0.19	4.70	
1,882.00	1.44	268.57	1,881.61	-15.08	-19.37	-14.96	0.36	-0.17	12.05	
1,978.00	1.33	259.35	1,977.58	-15.32	-21.67	-15.18	0.26	-0.11	-8.60	
2,074.00	1.58	256.74	2,073.55	-15.83	-24.05	-15.67	0.27	0.26	-2.72	
2,169.00	1.82	255.41	2,168.51	-16.51	-26.79	-16.33	0.26	0.25	-1.40	

ConocoPhillips

Survey Report

Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	Local Co-ordinate Reference:	Well ZIA HILLS 19 109H
Project:	Planning - NM East State Zone - 3001	TVD Reference:	RKB @ 3210.00ft (Patterson 256)
Site:	ZIA HILLS 19 109H	MD Reference:	RKB @ 3210.00ft (Patterson 256)
Well:	ZIA HILLS 19 109H	North Reference:	Grid
Wellbore:	OH/ 64259 / 64343	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 256)	Database:	EDT 14 Central Planning

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,265.00	2.21	257.89	2,264.45	-17.28	-30.07	-17.08	0.42	0.41	2.58
2,361.00	2.48	250.73	2,360.37	-18.35	-33.84	-18.13	0.41	0.28	-7.46
2,456.00	2.35	255.30	2,455.29	-19.53	-37.67	-19.28	0.24	-0.14	4.81
2,552.00	2.79	257.51	2,551.19	-20.53	-41.85	-20.26	0.47	0.46	2.30
2,647.00	2.38	255.99	2,646.09	-21.51	-46.02	-21.21	0.44	-0.43	-1.60
2,743.00	2.16	254.69	2,742.02	-22.47	-49.70	-22.15	0.24	-0.23	-1.35
2,838.00	2.11	257.29	2,836.95	-23.33	-53.14	-22.98	0.11	-0.05	2.74
2,933.00	1.99	266.45	2,931.89	-23.81	-56.49	-23.45	0.37	-0.13	9.64
3,029.00	1.91	240.08	3,027.84	-24.71	-59.54	-24.33	0.93	-0.08	-27.47
3,124.00	1.90	232.39	3,122.78	-26.46	-62.16	-26.06	0.27	-0.01	-8.09
3,220.00	1.28	236.26	3,218.75	-28.03	-64.31	-27.61	0.66	-0.65	4.03
3,315.00	0.87	227.95	3,313.73	-29.10	-65.73	-28.68	0.46	-0.43	-8.75
3,411.00	2.09	237.53	3,409.70	-30.53	-67.75	-30.09	1.29	1.27	9.98
3,507.00	3.99	243.40	3,505.56	-32.97	-72.21	-32.50	2.00	1.98	6.11
3,602.00	3.93	241.12	3,600.33	-36.02	-78.02	-35.51	0.18	-0.06	-2.40
3,698.00	4.35	237.01	3,696.08	-39.59	-83.95	-39.05	0.54	0.44	-4.28
3,794.00	4.29	238.28	3,791.81	-43.46	-90.06	-42.88	0.12	-0.06	1.32
3,889.00	3.81	229.32	3,886.57	-47.39	-95.48	-46.77	0.83	-0.51	-9.43
3,984.00	4.94	223.63	3,981.29	-52.40	-100.69	-51.75	1.27	1.19	-5.99
4,080.00	5.45	229.17	4,076.90	-58.38	-106.99	-57.68	0.74	0.53	5.77
4,176.00	5.23	233.92	4,172.48	-63.93	-113.98	-63.20	0.51	-0.23	4.95
4,270.00	4.83	235.25	4,266.12	-68.71	-120.69	-67.93	0.44	-0.43	1.41
4,366.00	4.89	234.29	4,361.77	-73.40	-127.34	-72.58	0.11	0.06	-1.00
4,462.00	4.78	236.22	4,457.43	-78.02	-133.98	-77.15	0.20	-0.11	2.01
4,557.00	4.54	240.71	4,552.12	-82.06	-140.55	-81.15	0.46	-0.25	4.73
4,653.00	4.50	238.37	4,647.82	-85.89	-147.07	-84.94	0.20	-0.04	-2.44
4,748.00	4.39	238.83	4,742.54	-89.73	-153.36	-88.74	0.12	-0.12	0.48
4,844.00	3.98	240.96	4,838.28	-93.25	-159.41	-92.22	0.46	-0.43	2.22
4,939.00	3.84	254.64	4,933.06	-95.69	-165.36	-94.62	0.99	-0.15	14.40
5,035.00	4.04	263.06	5,028.83	-96.95	-171.82	-95.84	0.64	0.21	8.77
5,130.00	4.04	262.28	5,123.60	-97.80	-178.46	-96.65	0.06	0.00	-0.82
5,226.00	4.23	261.39	5,219.35	-98.79	-185.31	-97.59	0.21	0.20	-0.93
5,322.00	4.25	260.05	5,315.09	-99.93	-192.31	-98.69	0.11	0.02	-1.40
5,418.00	4.63	259.03	5,410.80	-101.28	-199.62	-99.99	0.40	0.40	-1.06
5,513.00	4.82	259.91	5,505.47	-102.71	-207.32	-101.37	0.21	0.20	0.93
5,609.00	5.16	260.30	5,601.11	-104.15	-215.54	-102.75	0.36	0.35	0.41
5,705.00	5.41	259.96	5,696.70	-105.66	-224.25	-104.21	0.26	0.26	-0.35
5,799.00	5.14	257.04	5,790.30	-107.38	-232.72	-105.88	0.40	-0.29	-3.11
5,895.00	5.24	253.64	5,885.91	-109.58	-241.12	-108.02	0.34	0.10	-3.54
5,991.00	5.45	252.73	5,981.49	-112.17	-249.68	-110.55	0.24	0.22	-0.95
6,086.00	5.65	251.90	6,076.05	-114.96	-258.43	-113.29	0.23	0.21	-0.87
6,180.00	5.95	251.05	6,169.57	-117.98	-267.44	-116.25	0.33	0.32	-0.90
6,276.00	5.28	253.12	6,265.11	-120.88	-276.37	-119.09	0.73	-0.70	2.16
6,372.00	4.65	254.04	6,360.74	-123.23	-284.34	-121.39	0.66	-0.66	0.98
6,467.00	3.93	255.87	6,455.48	-125.08	-291.20	-123.20	0.77	-0.76	1.93
6,562.00	3.12	253.44	6,550.30	-126.62	-296.83	-124.70	0.87	-0.85	-2.56
6,658.00	2.55	244.18	6,646.18	-128.29	-301.26	-126.34	0.76	-0.59	-9.65
6,754.00	1.69	231.04	6,742.11	-130.11	-304.28	-128.14	1.02	-0.90	-13.69
6,849.00	0.68	231.73	6,837.09	-131.34	-305.81	-129.36	1.06	-1.06	0.73
6,944.00	0.62	47.19	6,932.09	-131.34	-305.88	-129.36	1.37	-0.06	184.69
7,040.00	0.93	47.67	7,028.08	-130.46	-304.92	-128.49	0.32	0.32	0.50
7,136.00	0.79	46.66	7,124.07	-129.48	-303.86	-127.52	0.15	-0.15	-1.05
7,231.00	0.72	64.76	7,219.06	-128.78	-302.85	-126.82	0.26	-0.07	19.05
7,326.00	0.64	64.85	7,314.06	-128.30	-301.83	-126.35	0.08	-0.08	0.09

ConocoPhillips

Survey Report

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Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,422.00	0.70	75.42	7,410.05	-127.93	-300.78	-125.98	0.14	0.06	11.01
7,517.00	0.86	82.15	7,505.04	-127.68	-299.51	-125.74	0.19	0.17	7.08
7,613.00	0.78	83.27	7,601.03	-127.51	-298.15	-125.58	0.08	-0.08	1.17
7,708.00	0.72	103.83	7,696.02	-127.57	-296.92	-125.65	0.29	-0.06	21.64
7,804.00	0.63	114.29	7,792.02	-127.93	-295.86	-126.02	0.16	-0.09	10.90
7,899.00	0.49	112.93	7,887.01	-128.31	-295.01	-126.40	0.15	-0.15	-1.43
7,995.00	0.60	122.51	7,983.01	-128.74	-294.20	-126.84	0.15	0.11	9.98
8,090.00	0.58	127.07	8,078.00	-129.30	-293.40	-127.40	0.05	-0.02	4.80
8,186.00	0.59	125.89	8,174.00	-129.88	-292.61	-127.99	0.02	0.01	-1.23
8,282.00	0.52	134.72	8,269.99	-130.47	-291.90	-128.59	0.11	-0.07	9.20
8,378.00	0.46	143.04	8,365.99	-131.09	-291.36	-129.20	0.10	-0.06	8.67
8,473.00	0.42	167.24	8,460.99	-131.73	-291.06	-129.85	0.20	-0.04	25.47
8,569.00	0.28	173.92	8,556.98	-132.31	-290.95	-130.43	0.15	-0.15	6.96
8,665.00	0.53	180.20	8,652.98	-132.99	-290.93	-131.11	0.26	0.28	6.54
8,760.00	0.53	213.27	8,747.98	-133.79	-291.17	-131.91	0.32	0.00	34.81
8,856.00	0.78	222.85	8,843.97	-134.64	-291.86	-132.76	0.28	0.26	9.98
8,951.00	0.61	226.70	8,938.96	-135.46	-292.67	-133.57	0.19	-0.18	4.05
9,045.00	0.60	194.61	9,032.96	-136.28	-293.16	-134.39	0.36	-0.01	-34.14
9,141.00	0.72	158.31	9,128.95	-137.33	-293.06	-135.44	0.44	0.13	-37.81
9,236.00	0.83	143.78	9,223.95	-138.44	-292.43	-136.55	0.24	0.12	-15.29
9,332.00	0.87	141.97	9,319.93	-139.58	-291.57	-137.69	0.05	0.04	-1.89
9,426.00	0.94	120.57	9,413.92	-140.53	-290.47	-138.65	0.36	0.07	-22.77
9,521.00	1.06	137.67	9,508.91	-141.58	-289.21	-139.71	0.34	0.13	18.00
9,616.00	1.40	121.66	9,603.89	-142.83	-287.63	-140.97	0.51	0.36	-16.85
9,712.00	1.41	132.78	9,699.86	-144.25	-285.76	-142.40	0.28	0.01	11.58
9,808.00	1.46	140.71	9,795.83	-146.00	-284.12	-144.16	0.21	0.05	8.26
9,903.00	1.17	132.76	9,890.80	-147.60	-282.64	-145.77	0.36	-0.31	-8.37
9,999.00	0.60	135.62	9,986.79	-148.62	-281.57	-146.80	0.60	-0.59	2.98
10,095.00	0.67	136.08	10,082.79	-149.38	-280.83	-147.57	0.07	0.07	0.48
10,190.00	0.92	135.72	10,177.78	-150.33	-279.91	-148.52	0.26	0.26	-0.38
10,286.00	1.02	133.86	10,273.76	-151.47	-278.76	-149.67	0.11	0.10	-1.94
10,381.00	1.20	139.58	10,368.74	-152.82	-277.50	-151.02	0.22	0.19	6.02
10,478.00	1.36	135.11	10,463.72	-154.37	-276.06	-152.59	0.20	0.17	-4.71
10,572.00	1.93	138.39	10,559.68	-156.39	-274.19	-154.62	0.60	0.59	3.42
10,667.00	2.10	134.63	10,654.62	-158.81	-271.88	-157.05	0.23	0.18	-3.96
10,762.00	1.77	128.45	10,749.57	-160.94	-269.50	-159.20	0.41	-0.35	-6.51
10,858.00	1.89	122.30	10,845.52	-162.71	-267.00	-160.98	0.24	0.13	-8.41
10,953.00	2.00	126.33	10,940.46	-164.53	-264.34	-162.82	0.18	0.12	4.24
11,059.00	1.20	35.54	11,046.44	-164.72	-262.20	-163.03	2.21	-0.75	-85.65
11,091.00	2.38	6.74	11,078.42	-163.79	-261.93	-162.10	4.53	3.69	-90.00
11,123.00	4.29	356.91	11,110.36	-161.94	-261.92	-160.24	6.21	5.97	-30.72
11,155.00	6.11	356.04	11,142.23	-159.04	-262.10	-157.35	5.69	5.69	-2.72
11,187.00	8.98	355.54	11,173.95	-154.85	-262.41	-153.15	8.97	8.97	-1.56
11,219.00	12.20	354.26	11,205.40	-149.00	-262.94	-147.29	10.09	10.06	-4.00
11,251.00	14.27	355.48	11,236.55	-141.70	-263.59	-139.99	6.53	6.47	3.81
11,282.00	17.22	357.34	11,266.38	-133.30	-264.11	-131.60	9.65	9.52	6.00
11,314.00	20.46	357.99	11,296.67	-122.98	-264.52	-121.27	10.15	10.13	2.03
11,346.00	23.23	358.94	11,326.37	-111.08	-264.84	-109.37	8.73	8.66	2.97
11,378.00	27.35	358.04	11,355.29	-97.42	-265.20	-95.70	12.93	12.88	-2.81
11,410.00	31.20	356.64	11,383.20	-81.79	-265.94	-80.07	12.22	12.03	-4.38
11,442.00	34.90	355.34	11,410.02	-64.39	-267.17	-62.66	11.77	11.56	-4.06
11,474.00	38.78	355.34	11,435.62	-45.27	-268.73	-43.53	12.12	12.13	0.00
11,506.00	41.70	355.52	11,460.05	-24.66	-270.38	-22.92	9.13	9.13	0.56
11,538.00	44.16	355.52	11,483.48	-2.94	-272.08	-1.18	7.69	7.69	0.00
11,549.00	45.00	355.60	11,491.31	4.76	-272.68	6.52	7.65	7.64	0.73

ConocoPhillips

Survey Report

Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	Local Co-ordinate Reference:	Well ZIA HILLS 19 109H
Project:	Planning - NM East State Zone - 3001	TVD Reference:	RKB @ 3210.00ft (Patterson 256)
Site:	ZIA HILLS 19 109H	MD Reference:	RKB @ 3210.00ft (Patterson 256)
Well:	ZIA HILLS 19 109H	North Reference:	Grid
Wellbore:	OH/ 64259 / 64343	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 256)	Database:	EDT 14 Central Planning

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,629.00	49.12	355.61	11,545.80	63.14	-277.16	64.93	5.15	5.15	0.01
11,661.00	50.33	355.40	11,566.48	87.48	-279.08	89.28	3.81	3.78	-0.66
11,692.00	52.10	356.46	11,585.90	111.58	-280.79	113.39	6.30	5.71	3.42
11,724.00	53.28	357.42	11,605.30	137.00	-282.15	138.82	4.39	3.69	3.00
11,756.00	54.61	359.23	11,624.13	162.86	-282.90	164.68	6.18	4.16	5.66
11,788.00	56.15	0.25	11,642.31	189.19	-283.02	191.01	5.48	4.81	3.19
11,820.00	58.16	0.89	11,659.67	216.07	-282.75	217.89	6.50	6.28	2.00
11,851.00	59.70	1.02	11,675.67	242.62	-282.30	244.44	4.98	4.97	0.42
11,883.00	60.46	1.40	11,691.63	270.35	-281.72	272.16	2.59	2.37	1.19
11,915.00	62.48	1.46	11,706.91	298.45	-281.02	300.26	6.31	6.31	0.19
11,947.00	65.68	1.68	11,720.90	327.22	-280.23	329.02	10.02	10.00	0.69
11,979.00	68.03	2.10	11,733.47	356.62	-279.25	358.42	7.44	7.34	1.31
12,010.00	69.29	1.94	11,744.75	385.48	-278.24	387.27	4.09	4.06	-0.52
12,042.00	71.42	1.21	11,755.51	415.60	-277.41	417.39	6.99	6.66	-2.28
12,074.00	72.85	1.26	11,765.33	446.05	-276.75	447.83	4.47	4.47	0.16
12,106.00	74.32	1.15	11,774.37	476.74	-276.11	478.51	4.61	4.59	-0.34
12,138.00	76.91	1.12	11,782.32	507.73	-275.49	509.50	8.09	8.09	-0.09
12,170.00	79.30	1.11	11,788.91	539.03	-274.89	540.80	7.47	7.47	-0.03
12,202.00	81.47	0.86	11,794.26	570.58	-274.34	572.34	6.82	6.78	-0.78
12,233.00	83.01	0.26	11,798.45	601.29	-274.04	603.05	5.33	4.97	-1.94
12,264.00	85.14	359.99	11,801.64	632.12	-273.98	633.88	6.93	6.87	-0.87
12,296.00	86.47	358.92	11,803.99	664.03	-274.28	665.79	5.33	4.16	-3.34
12,328.00	87.18	358.77	11,805.76	695.98	-274.92	697.74	2.27	2.22	-0.47
12,391.00	88.72	358.96	11,808.01	758.92	-276.17	760.69	2.46	2.44	0.30
12,487.00	91.51	359.19	11,807.82	854.90	-277.72	856.68	2.92	2.91	0.24
12,558.00	88.61	356.30	11,807.74	925.83	-280.51	927.62	5.77	-4.08	-4.07
12,653.00	89.84	356.56	11,809.03	1,020.64	-286.43	1,022.46	1.32	1.29	0.27
12,748.00	90.24	354.80	11,808.96	1,115.36	-293.58	1,117.24	1.90	0.42	-1.85
12,844.00	89.79	357.51	11,808.94	1,211.14	-300.02	1,213.05	2.86	-0.47	2.82
12,940.00	89.25	356.27	11,809.74	1,306.99	-305.23	1,308.93	1.41	-0.56	-1.29
13,035.00	89.47	357.95	11,810.80	1,401.86	-310.02	1,403.83	1.78	0.23	1.77
13,131.00	91.05	0.58	11,810.37	1,497.84	-311.25	1,499.82	3.20	1.65	2.74
13,226.00	90.18	359.72	11,809.35	1,592.83	-311.00	1,594.81	1.29	-0.92	-0.91
13,322.00	90.15	0.13	11,809.07	1,688.83	-311.13	1,690.81	0.43	-0.03	0.43
13,418.00	89.96	359.81	11,808.98	1,784.83	-311.18	1,786.80	0.39	-0.20	-0.33
13,513.00	91.33	2.45	11,807.91	1,879.80	-309.30	1,881.75	3.13	1.44	2.78
13,608.00	91.10	1.86	11,805.90	1,974.71	-305.73	1,976.64	0.67	-0.24	-0.62
13,704.00	90.93	2.85	11,804.19	2,070.61	-301.79	2,072.52	1.05	-0.18	1.03
13,799.00	89.52	359.79	11,803.82	2,165.57	-299.60	2,167.46	3.55	-1.48	-3.22
13,895.00	90.78	1.49	11,803.57	2,261.56	-298.53	2,263.44	2.20	1.31	1.77
13,991.00	89.96	0.84	11,802.95	2,357.54	-296.58	2,359.40	1.09	-0.85	-0.68
14,087.00	89.73	1.65	11,803.21	2,453.51	-294.49	2,455.38	0.88	-0.24	0.84
14,182.00	90.52	1.65	11,803.00	2,548.47	-291.76	2,550.30	0.83	0.83	0.00
14,278.00	89.44	359.88	11,803.04	2,644.46	-290.47	2,646.28	2.16	-1.13	-1.84
14,374.00	88.96	359.57	11,804.38	2,740.45	-290.93	2,742.27	0.60	-0.50	-0.32
14,469.00	91.30	0.01	11,804.16	2,835.44	-291.28	2,837.26	2.51	2.46	0.46
14,564.00	89.39	359.91	11,803.59	2,930.43	-291.35	2,932.25	2.01	-2.01	-0.11
14,660.00	89.02	2.12	11,804.92	3,026.40	-289.65	3,028.21	2.33	-0.39	2.30
14,756.00	89.30	3.04	11,806.33	3,122.29	-285.33	3,124.07	1.00	0.29	0.96
14,851.00	89.47	3.34	11,807.35	3,217.14	-280.04	3,218.88	0.36	0.18	0.32
14,947.00	88.73	1.48	11,808.86	3,313.04	-276.01	3,314.75	2.08	-0.77	-1.94
15,043.00	88.36	359.47	11,811.29	3,409.00	-275.21	3,410.71	2.13	-0.39	-2.09
15,138.00	90.73	0.22	11,812.05	3,503.99	-275.47	3,505.69	2.62	2.49	0.79
15,234.00	90.22	0.22	11,811.25	3,599.98	-275.10	3,601.69	0.53	-0.53	0.00

ConocoPhillips

Survey Report

Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	Local Co-ordinate Reference:	Well ZIA HILLS 19 109H
Project:	Planning - NM East State Zone - 3001	TVD Reference:	RKB @ 3210.00ft (Patterson 256)
Site:	ZIA HILLS 19 109H	MD Reference:	RKB @ 3210.00ft (Patterson 256)
Well:	ZIA HILLS 19 109H	North Reference:	Grid
Wellbore:	OH/ 64259 / 64343	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 256)	Database:	EDT 14 Central Planning

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,330.00	91.59	0.95	11,809.74	3,695.96	-274.12	3,697.66	1.62	1.43	0.76
15,425.00	91.25	0.39	11,807.38	3,790.93	-273.01	3,792.61	0.69	-0.36	-0.59
15,520.00	93.36	0.58	11,803.56	3,885.84	-272.20	3,887.52	2.23	2.22	0.20
15,616.00	93.16	358.08	11,798.10	3,981.67	-273.33	3,983.36	2.61	-0.21	-2.60
15,712.00	91.91	356.93	11,793.86	4,077.48	-277.50	4,079.19	1.77	-1.30	-1.20
15,807.00	90.35	356.56	11,791.98	4,172.31	-282.89	4,174.05	1.69	-1.64	-0.39
15,902.00	89.48	357.43	11,792.12	4,267.18	-287.87	4,268.95	1.30	-0.92	0.92
15,998.00	88.53	356.71	11,793.79	4,363.04	-292.78	4,364.84	1.24	-0.99	-0.75
16,093.00	88.74	354.98	11,796.05	4,457.76	-299.66	4,459.60	1.83	0.22	-1.82
16,189.00	88.50	355.34	11,798.37	4,553.39	-307.76	4,555.28	0.45	-0.25	0.37
16,285.00	88.47	355.72	11,800.90	4,649.06	-315.24	4,651.00	0.40	-0.03	0.40
16,380.00	88.91	356.93	11,803.08	4,743.84	-321.33	4,745.81	1.35	0.46	1.27
16,475.00	88.99	358.90	11,804.82	4,838.75	-324.78	4,840.75	2.08	0.08	2.07
16,571.00	88.72	358.56	11,806.73	4,934.71	-326.91	4,936.72	0.45	-0.28	-0.35
16,666.00	88.47	358.80	11,809.06	5,029.66	-329.10	5,031.68	0.36	-0.26	0.25
16,761.00	88.39	359.34	11,811.67	5,124.61	-330.64	5,126.64	0.57	-0.08	0.57
16,857.00	88.45	0.18	11,814.31	5,220.57	-331.04	5,222.60	0.88	0.06	0.87
16,952.00	88.88	0.69	11,816.53	5,315.54	-330.32	5,317.56	0.70	0.45	0.54
17,048.00	90.61	1.17	11,816.95	5,411.52	-328.76	5,413.53	1.87	1.80	0.50
17,143.00	91.42	1.06	11,815.27	5,506.49	-326.91	5,508.49	0.86	0.85	-0.12
17,239.00	89.73	358.67	11,814.31	5,602.47	-327.14	5,604.47	3.05	-1.76	-2.49
17,333.00	89.52	359.77	11,814.92	5,696.46	-328.42	5,698.46	1.19	-0.22	1.17
17,429.00	90.25	0.53	11,815.12	5,792.46	-328.17	5,794.46	1.10	0.76	0.79
17,524.00	90.42	0.44	11,814.56	5,887.46	-327.36	5,889.45	0.20	0.18	-0.09
17,620.00	91.17	0.72	11,813.23	5,983.44	-326.39	5,985.42	0.83	0.78	0.29
17,716.00	88.87	1.08	11,813.20	6,079.42	-324.88	6,081.39	2.42	-2.40	0.38
17,811.00	89.24	0.98	11,814.76	6,174.39	-323.18	6,176.35	0.40	0.39	-0.11
17,907.00	91.41	1.37	11,814.22	6,270.37	-321.21	6,272.31	2.30	2.26	0.41
18,002.00	88.91	1.09	11,813.95	6,365.34	-319.17	6,367.26	2.65	-2.63	-0.29
18,097.00	91.43	0.90	11,813.67	6,460.31	-317.52	6,462.23	2.66	2.65	-0.20
18,193.00	89.47	359.43	11,812.92	6,556.30	-317.24	6,558.21	2.55	-2.04	-1.53
18,289.00	88.53	359.59	11,814.59	6,652.28	-318.06	6,654.20	0.99	-0.98	0.17
18,384.00	90.74	1.11	11,815.20	6,747.27	-317.48	6,749.18	2.82	2.33	1.60
18,480.00	91.51	1.98	11,813.31	6,843.22	-314.89	6,845.11	1.21	0.80	0.91
18,576.00	90.70	0.54	11,811.46	6,939.17	-312.78	6,941.05	1.72	-0.84	-1.50
18,671.00	89.67	0.80	11,811.15	7,034.16	-311.67	7,036.03	1.12	-1.08	0.27
18,767.00	88.48	0.19	11,812.70	7,130.14	-310.84	7,132.00	1.39	-1.24	-0.64
18,862.00	88.67	0.69	11,815.07	7,225.11	-310.11	7,226.96	0.56	0.20	0.53
18,958.00	89.52	359.72	11,816.58	7,321.10	-309.77	7,322.95	1.34	0.89	-1.01
19,053.00	91.04	359.66	11,816.12	7,416.09	-310.29	7,417.94	1.60	1.60	-0.06
19,149.00	90.13	358.63	11,815.14	7,512.07	-311.72	7,513.93	1.43	-0.95	-1.07
19,244.00	91.44	359.53	11,813.84	7,607.05	-313.24	7,608.91	1.67	1.38	0.95
19,340.00	91.26	358.99	11,811.57	7,703.02	-314.48	7,704.89	0.59	-0.19	-0.56
19,435.00	90.78	358.21	11,809.88	7,797.97	-316.80	7,799.85	0.96	-0.51	-0.82
19,531.00	91.18	358.33	11,808.24	7,893.91	-319.70	7,895.81	0.44	0.42	0.13
19,627.00	90.87	358.28	11,806.52	7,989.86	-322.54	7,991.77	0.33	-0.32	-0.05
19,722.00	91.12	358.32	11,804.87	8,084.80	-325.36	8,086.73	0.27	0.26	0.04
19,818.00	90.88	358.06	11,803.20	8,180.74	-328.39	8,182.69	0.37	-0.25	-0.27
19,913.00	91.80	358.29	11,800.98	8,275.66	-331.41	8,277.63	1.00	0.97	0.24
20,008.00	90.71	358.00	11,798.90	8,370.59	-334.49	8,372.57	1.19	-1.15	-0.31
20,104.00	90.91	358.50	11,797.54	8,466.53	-337.42	8,468.53	0.56	0.21	0.52
20,199.00	90.89	358.36	11,796.05	8,561.49	-340.02	8,563.50	0.15	-0.02	-0.15
20,294.00	91.73	358.47	11,793.88	8,656.42	-342.65	8,658.46	0.89	0.88	0.12
20,389.00	91.25	358.33	11,791.41	8,751.35	-345.30	8,753.40	0.53	-0.51	-0.15

ConocoPhillips

Survey Report

Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	Local Co-ordinate Reference:	Well ZIA HILLS 19 109H
Project:	Planning - NM East State Zone - 3001	TVD Reference:	RKB @ 3210.00ft (Patterson 256)
Site:	ZIA HILLS 19 109H	MD Reference:	RKB @ 3210.00ft (Patterson 256)
Well:	ZIA HILLS 19 109H	North Reference:	Grid
Wellbore:	OH/ 64259 / 64343	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 256)	Database:	EDT 14 Central Planning

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
20,485.00	90.93	359.08	11,789.58	8,847.31	-347.47	8,849.37	0.85	-0.33	0.78
20,581.00	91.61	358.45	11,787.45	8,943.26	-349.54	8,945.33	0.97	0.71	-0.66
20,676.00	92.06	358.66	11,784.41	9,038.18	-351.93	9,040.27	0.52	0.47	0.22
20,772.00	91.84	358.45	11,781.14	9,134.10	-354.35	9,136.20	0.32	-0.23	-0.22
20,868.00	91.77	359.36	11,778.12	9,230.03	-356.19	9,232.14	0.95	-0.07	0.95
20,963.00	92.00	0.13	11,774.99	9,324.98	-356.61	9,327.09	0.85	0.24	0.81
21,059.00	92.06	0.23	11,771.59	9,420.92	-356.31	9,423.02	0.12	0.06	0.10
21,154.00	91.78	359.70	11,768.41	9,515.86	-356.37	9,517.97	0.63	-0.29	-0.56
21,249.00	91.58	359.56	11,765.63	9,610.82	-356.98	9,612.93	0.26	-0.21	-0.15
21,345.00	91.61	0.36	11,762.95	9,706.78	-357.05	9,708.89	0.83	0.03	0.83
21,440.00	91.84	0.17	11,760.09	9,801.74	-356.61	9,803.84	0.31	0.24	-0.20
21,535.00	91.68	0.69	11,757.18	9,896.69	-355.89	9,898.78	0.57	-0.17	0.55
21,631.00	91.52	0.49	11,754.50	9,992.65	-354.91	9,994.73	0.27	-0.17	-0.21
21,726.00	91.93	0.30	11,751.64	10,087.60	-354.25	10,089.68	0.48	0.43	-0.20
21,821.00	90.11	0.20	11,749.94	10,182.58	-353.84	10,184.66	1.92	-1.92	-0.11
21,849.00	90.53	0.34	11,749.79	10,210.58	-353.71	10,212.65	1.58	1.50	0.50
21,944.00	90.42	0.15	11,749.00	10,305.58	-353.30	10,307.65	0.23	-0.12	-0.20
22,006.00	90.27	0.79	11,748.63	10,367.58	-352.79	10,369.64	1.06	-0.24	1.03
Final Phoenix MWD Survey									
22,075.00	90.27	0.79	11,748.30	10,436.57	-351.84	10,438.62	0.00	0.00	0.00
Projection to Bit									

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
ZIA HILLS 19 109H_WP - hit/miss target - Shape - Point	0.00	0.00	11,619.12	10,453.65	-346.28	385,106.250	690,529.060	32° 3' 26.209 N	103° 43' 6.008 W
- survey misses target center by 130.43ft at 22075.00ft MD (11748.30 TVD, 10436.57 N, -351.84 E)									
BHL ZH 19 109H - survey misses target center by 10564.39ft at 1050.00ft MD (1049.84 TVD, -2.54 N, -8.93 E) - Point	0.00	0.00	0.00	10,498.41	-493.04	385,151.009	690,382.308	32° 3' 26.660 N	103° 43' 7.710 W
ZIA HILLS 19 109H_WP - survey misses target center by 248.64ft at 8713.60ft MD (8701.58 TVD, -133.42 N, -290.99 E) - Point	0.00	0.00	8,700.11	-345.26	-160.83	374,307.900	690,714.500	32° 1' 38.337 N	103° 43' 4.568 W
FTP - ZIA HILLS 19 109H - survey misses target center by 134.91ft at 11831.07ft MD (11665.46 TVD, 225.50 N, -282.60 E) - Point	0.00	0.00	11,781.00	155.86	-281.28	374,808.990	690,594.050	32° 1' 44.302 N	103° 43' 5.934 W
PP/VT - ZIA HILLS 19 109H - survey misses target center by 16.04ft at 8712.01ft MD (8699.99 TVD, -133.40 N, -290.99 E) - Point	0.00	0.00	8,700.11	-122.88	-278.89	374,530.270	690,596.440	32° 1' 41.544 N	103° 43' 5.925 W
BHL - ZIA HILLS 19 109H - survey misses target center by 37.31ft at 22075.00ft MD (11748.30 TVD, 10436.57 N, -351.84 E) - Point	0.00	0.00	11,781.00	10,453.65	-346.28	385,106.250	690,529.060	32° 3' 26.209 N	103° 43' 6.008 W
ZIA HILLS 19 109H_WP - survey misses target center by 131.19ft at 21814.49ft MD (11749.96 TVD, 10176.07 N, -353.86 E) - Point	0.00	0.00	11,619.12	10,173.70	-344.67	384,826.320	690,530.670	32° 3' 23.438 N	103° 43' 6.008 W
LTP - ZIA HILLS 19 109H - survey misses target center by 32.36ft at 21811.61ft MD (11749.98 TVD, 10173.19 N, -353.87 E) - Point	0.00	0.00	11,781.00	10,173.70	-344.67	384,826.320	690,530.670	32° 3' 23.438 N	103° 43' 6.008 W

ConocoPhillips

Survey Report

Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	Local Co-ordinate Reference:	Well ZIA HILLS 19 109H
Project:	Planning - NM East State Zone - 3001	TVD Reference:	RKB @ 3210.00ft (Patterson 256)
Site:	ZIA HILLS 19 109H	MD Reference:	RKB @ 3210.00ft (Patterson 256)
Well:	ZIA HILLS 19 109H	North Reference:	Grid
Wellbore:	OH/ 64259 / 64343	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 256)	Database:	EDT 14 Central Planning

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,416.50	2,415.82	SURFACE	10-3/4	14-3/4
9,416.50	9,404.42	INT	8-5/8	10-5/8
22,077.28		PROD	5-1/2	7-7/8

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,318.00	1,317.80	-6.18	-10.29	First Phoenix MWD Survey
22,006.00	11,748.63	10,367.58	-352.79	Final Phoenix MWD Survey
22,075.00	11,748.30	10,436.57	-351.84	Projection to Bit

Checked By: _____	Approved By: _____	Date: _____
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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

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
4 Property Code	5 Property Name ZIA HILLS 19 FEDERAL COM	6 Well Number 109H
7 OGRID No.	8 Operator Name ConocoPhillips Company	9 Elevation 3182.4'

" Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	19	26S	32E		2498	NORTH	1600	WEST	LEA

" 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
3	7	26S	32E		2618	SOUTH	1320	WEST	LEA
10 Dedicated Acres 363.93	11 Joint or Infill	12 Consolidation Code	13 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.

