

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) 748-1293 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

NMOC OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

AS-DRILLED PLAT

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

☐ AMENDED REPORT

MAY 15 2013
DISTRICT III

NMOC
MAY 15 2013
DISTRICT IV

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35793	² Pool Code 97232	³ Pool Name Basin Mancos Gas
⁴ Property Code 317305	⁵ Property Name Northeast Blanco Unit 604 Com	⁶ Well Number 1H
⁷ OGRID No. 000778	⁸ Operator Name BP America Production Company	⁹ Elevation 6501

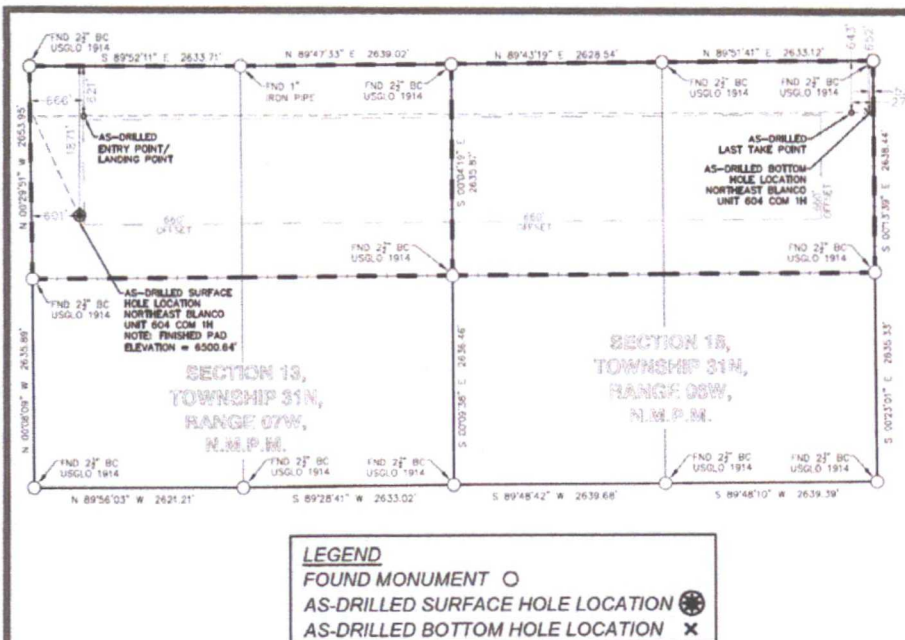
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	13	31N	07W		1871	North	601	West	San Juan

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
A	18	31N	06W		652	North	53	East	San Juan

¹² Dedicated Acres 640.00 - N/2 - SEC. 13 N/2 - SEC. 18	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.			



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 released mineral interest in the land including the proposed bottom hole location or has a right to drill the 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.

R Marshall 05/10/2018
Signature Date

Randall Marshall

Printed Name

randall.marshall@bp.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 survey made by me or under my supervision, and that the same is true and correct to the best of my belief.

7-22-16
Date of Survey

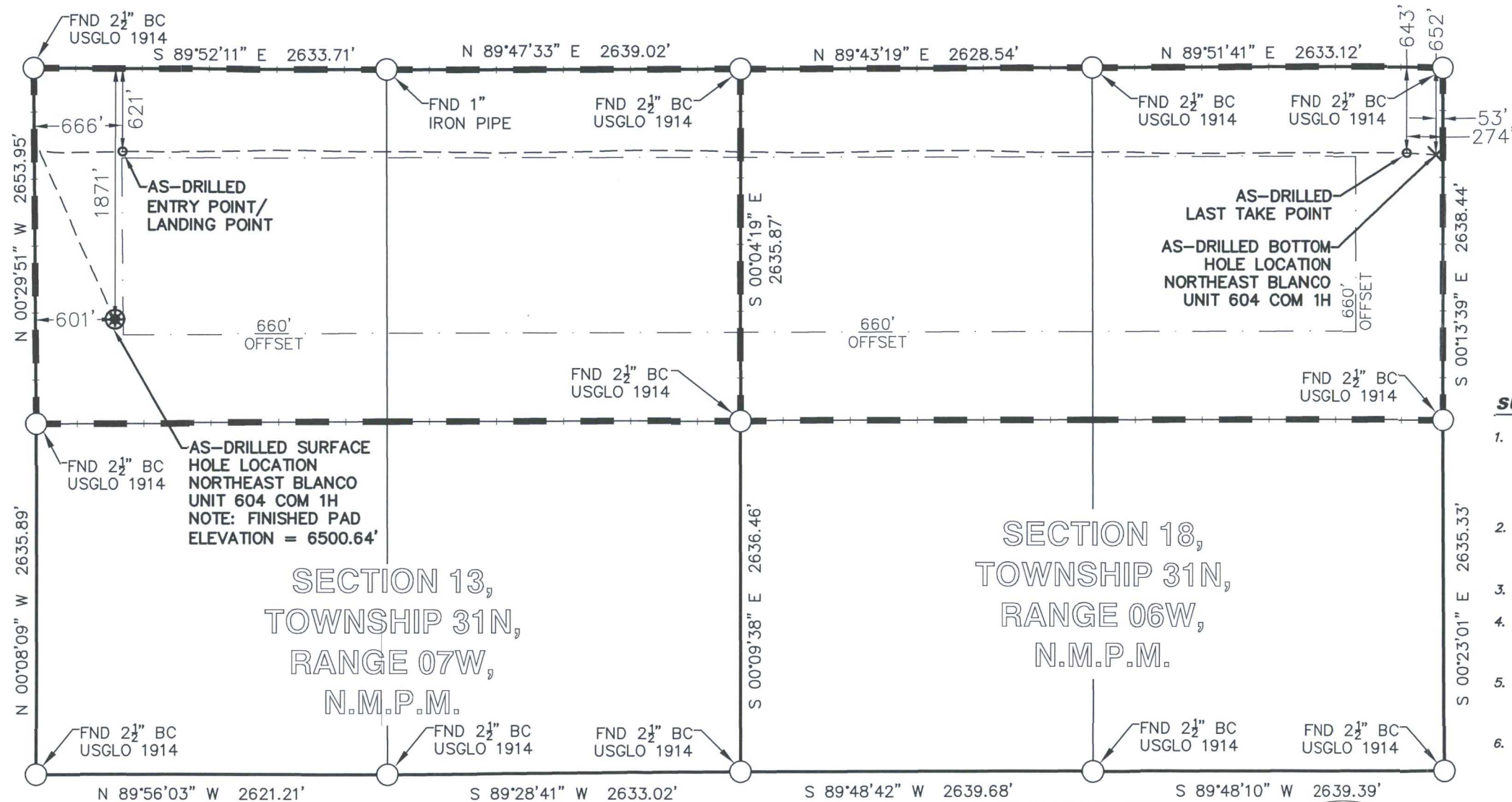
Signature and Seal of Professional Surveyor

Marshall W. Lindeen
17078
Certificate Number
5-10-08
PROFESSIONAL SURVEYOR

NEBU 604 COM 1H	NWZ NAD'83	NAD'83	TIES
AS-DRILLED SURFACE HOLE LOCATION (SHL)	N (Y) = 2,147,663.81' E (X) = 2,812,008.39'	LAT. = 36.90163660°N LON. = 107.52922417°W	FNL = 1871' FWL = 601'
AS-DRILLED ENTRY POINT (EP)/LANDING POINT (LP)	N (Y) = 2,148,914.49' E (X) = 2,812,063.06'	LAT. = 36.90507141°N LON. = 107.52902355°W	FNL = 621' FWL = 666'
AS-DRILLED LAST TAKE POINT (LTP)	N (Y) = 2,148,915.99' E (X) = 2,821,654.55'	LAT. = 36.90498698°N LON. = 107.49621815°W	FNL = 643' FEL = 274'
AS-DRILLED BOTTOM HOLE LOCATION (BHL)	N (Y) = 2,148,907.00' E (X) = 2,821,875.32'	LAT. = 36.90496014°N LON. = 107.49546317°W	FNL = 652' FEL = 53'

RV

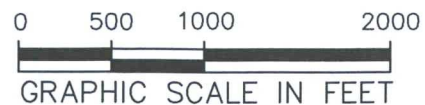
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SURVEY NOTES

1. BEARING BASIS FOR THIS SURVEY IS BASED ON THE NORTH AMERICAN DATUM OF 1983, NEW MEXICO STATE PLANE COORDINATE SYSTEM, WEST NEW MEXICO, ZONE 3003.
2. ELEVATION BASIS FOR THIS SURVEY IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (GEOID12A).
3. SURVEYED IN THE FIELD ON 07/22/2016.
4. BEARINGS AND DISTANCE SHOWN ARE MEASURED IN THE FIELD UNLESS OTHERWISE NOTED.
5. ALL MEASURED DISTANCES SHOWN ARE GRID USING A COMBINED SCALE FACTOR 0.99962682.
6. AS-DRILLED DATA SHOWN IS BASED ON AS-DRILLED REPORT PROVIDED BY SCIENTIFIC DRILLING DATED FEBRUARY 28, 2018.

NEBU 604 COM 1H	NMWZ NAD'83	NAD'83	TIES
AS-DRILLED SURFACE HOLE LOCATION (SHL)	N (Y) = 2,147,663.81' E (X) = 2,812,008.39'	LAT. = 36.90163660°N LON. = 107.52922417°W	FNL = 1871' FWL = 601'
AS-DRILLED ENTRY POINT (EP)/ LANDING POINT (LP)	N (Y) = 2,148,914.49' E (X) = 2,812,062.80'	LAT. = 36.90507141°N LON. = 107.52902444°W	FNL = 621' FWL = 666'
AS-DRILLED LAST TAKE POINT (LTP)	N (Y) = 2,148,915.99' E (X) = 2,821,654.55'	LAT. = 36.90498698°N LON. = 107.49621815°W	FNL = 643' FEL = 274'
AS-DRILLED BOTTOM HOLE LOCATION (BHL)	N (Y) = 2,148,907.00' E (X) = 2,821,875.32'	LAT. = 36.90496014°N LON. = 107.49546317°W	FNL = 652' FEL = 53'



LEGEND

FOUND MONUMENT O
AS-DRILLED SURFACE HOLE LOCATION 
AS-DRILLED BOTTOM HOLE LOCATION 

PRELIMINARY SURVEYOR'S CERTIFICATE

I, MARSHALL LINDEEN, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF NEW MEXICO, DO 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.

DRAWN BY	CHECKED BY	SCALE	DATE	SHEET	REVISION
CFW/RLM	MWL	1"=1000'	05/09/2018	1 OF 1	

SEAL



BP AMERICA
PRODUCTION COMPANY
US LOWER 48 ONSHORE

AS-DRILLED PLAT

NORTHEAST BLANCO UNIT 604 COM 1H
PART OF
SECTION 13, TOWNSHIP 31N, RANGE 07W, N.M.P.M.
AND
SECTION 18, TOWNSHIP 31N, RANGE 06W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO



Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

Operator	B.P.
Well Name & No.	NEBU 604 COM 1H
County & State	San Juan, NM
SDI Job No.	OP.007352
Rig	Aztec 1000

I, Janie Collins, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 1,172 feet to a measured depth of 17,390 feet is true and correct as determined from all available records.


Signature

28-Feb-18
Date

Janie Collins
Colorado District Well Planner
Scientific Drilling International



Survey Report



Company:	B.P.	Local Co-ordinate Reference:	Well NEBU 604 COM 1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Site:	NEBU 604 Pad	MD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Well:	NEBU 604 COM 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Project	San Juan County, NM NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site		NEBU 604 Pad			
Site Position:		Northing:	2,147,663.38 usft	Latitude:	36.9016354
From:	Map	Easting:	2,812,008.74 usft	Longitude:	-107.5292230
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.18 °

Well	NEBU 604 COM 1H					
Well Position	+N/-S	0.00 usft	Northing:	2,147,663.38 usft	Latitude:	36.9016354
	+E/-W	0.00 usft	Easting:	2,812,008.74 usft	Longitude:	-107.5292230
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,500.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/15/2017	9.05	63.50	49,996

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	82.75	

Survey Program	Date	2/28/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
189.00	1,020.00	Survey #1 - Gyro Survey (OH)	Gyro		
1,172.00	6,514.00	Survey #2 - MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
6,589.00	7,611.00	Survey #3 - Curve MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
7,662.00	17,390.00	Survey #4 - Lateral MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
189.00	1.20	290.00	188.99	0.68	-1.86	-1.76	0.63	0.63	0.00	
387.00	1.10	287.00	386.95	1.94	-5.63	-5.34	0.06	-0.05	-1.52	
577.00	0.60	293.00	576.92	2.86	-8.29	-7.86	0.27	-0.26	3.16	
767.00	0.70	324.00	766.91	4.19	-9.88	-9.28	0.19	0.05	16.32	
957.00	0.30	340.00	956.91	5.60	-10.74	-9.94	0.22	-0.21	8.42	
1,020.00	0.10	323.00	1,019.91	5.80	-10.83	-10.01	0.33	-0.32	-26.98	
1,172.00	1.32	3.89	1,171.89	7.65	-10.79	-9.73	0.82	0.80	26.90	



Survey Report



Company:	B.P.	Local Co-ordinate Reference:	Well NEBU 604 COM 1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Site:	NEBU 604 Pad	MD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Well:	NEBU 604 COM 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
First SDI Surface MWD Survey									
1,266.00	2.93	346.67	1,265.82	11.07	-11.27	-9.78	1.82	1.71	-18.32
1,362.00	4.91	341.30	1,361.59	17.35	-13.15	-10.86	2.10	2.06	-5.59
1,456.00	6.74	336.29	1,455.11	26.21	-16.66	-13.22	2.02	1.95	-5.33
1,551.00	8.52	334.50	1,549.26	37.67	-21.93	-17.00	1.89	1.87	-1.88
1,645.00	10.41	333.31	1,641.98	51.54	-28.74	-22.01	2.02	2.01	-1.27
1,740.00	12.86	334.08	1,735.02	68.72	-37.22	-28.25	2.58	2.58	0.81
1,835.00	14.44	336.47	1,827.33	89.09	-46.57	-34.96	1.77	1.66	2.52
1,929.00	16.37	336.67	1,917.95	112.00	-56.50	-41.91	2.05	2.05	0.21
2,024.00	17.71	337.62	2,008.78	137.66	-67.30	-49.39	1.44	1.41	1.00
2,119.00	19.24	335.82	2,098.88	165.30	-79.21	-57.72	1.72	1.61	-1.89
2,214.00	19.62	334.93	2,188.47	194.02	-92.38	-67.16	0.51	0.40	-0.94
2,309.00	19.30	334.27	2,278.04	222.61	-105.96	-77.02	0.41	-0.34	-0.69
2,403.00	18.44	333.19	2,366.99	249.88	-119.41	-86.92	0.99	-0.91	-1.15
2,498.00	18.60	336.05	2,457.07	277.13	-132.33	-96.30	0.97	0.17	3.01
2,593.00	18.60	335.61	2,547.11	304.78	-144.74	-105.12	0.15	0.00	-0.46
2,688.00	19.06	335.14	2,637.03	332.65	-157.52	-114.28	0.51	0.48	-0.49
2,782.00	19.42	334.51	2,725.78	360.68	-170.70	-123.81	0.44	0.38	-0.67
2,877.00	18.56	334.50	2,815.61	388.59	-184.00	-133.49	0.91	-0.91	-0.01
2,972.00	18.74	334.21	2,905.62	415.97	-197.15	-143.08	0.21	0.19	-0.31
3,066.00	18.92	334.45	2,994.59	443.32	-210.29	-152.67	0.21	0.19	0.26
3,161.00	17.78	334.99	3,084.75	470.36	-223.07	-161.93	1.21	-1.20	0.57
3,255.00	17.51	334.88	3,174.33	496.17	-235.14	-170.64	0.29	-0.29	-0.12
3,350.00	16.28	334.07	3,265.23	521.08	-247.03	-179.29	1.32	-1.29	-0.85
3,445.00	15.87	334.28	3,356.52	544.76	-258.49	-187.67	0.44	-0.43	0.22
3,539.00	16.05	334.45	3,446.89	568.07	-269.67	-195.83	0.20	0.19	0.18
3,633.00	17.18	337.24	3,536.97	592.59	-280.65	-203.62	1.47	1.20	2.97
3,728.00	17.78	337.54	3,627.58	618.93	-291.62	-211.18	0.64	0.63	0.32
3,823.00	17.98	337.58	3,717.99	645.89	-302.75	-218.82	0.21	0.21	0.04
3,918.00	18.54	337.48	3,808.21	673.40	-314.13	-226.63	0.59	0.59	-0.11
4,012.00	18.07	337.13	3,897.45	700.64	-325.52	-234.49	0.51	-0.50	-0.37
4,107.00	18.85	337.22	3,987.56	728.36	-337.18	-242.57	0.82	0.82	0.09
4,201.00	18.47	336.86	4,076.62	756.06	-348.92	-250.71	0.42	-0.40	-0.38
4,296.00	18.05	336.51	4,166.84	783.39	-360.70	-258.95	0.46	-0.44	-0.37
4,391.00	17.58	336.30	4,257.28	810.03	-372.33	-267.13	0.50	-0.49	-0.22
4,485.00	17.21	336.69	4,346.98	835.80	-383.54	-274.99	0.41	-0.39	0.41
4,580.00	17.02	337.37	4,437.77	861.54	-394.45	-282.57	0.29	-0.20	0.72
4,675.00	17.82	336.78	4,528.42	887.73	-405.53	-290.26	0.86	0.84	-0.62
4,769.00	19.12	333.61	4,617.58	914.74	-418.04	-299.26	1.75	1.38	-3.37
4,864.00	18.50	333.20	4,707.50	942.13	-431.76	-309.41	0.67	-0.65	-0.43
4,958.00	18.01	332.73	4,796.77	968.36	-445.14	-319.37	0.54	-0.52	-0.50
5,053.00	18.82	335.81	4,886.91	995.39	-458.15	-328.87	1.33	0.85	3.24
5,147.00	18.20	335.72	4,976.04	1,022.60	-470.40	-337.58	0.66	-0.66	-0.10



Survey Report



Company:	B.P.	Local Co-ordinate Reference:	Well NEBU 604 COM 1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Site:	NEBU 604 Pad	MD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Well:	NEBU 604 COM 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,242.00	17.94	336.07	5,066.36	1,049.50	-482.43	-346.13	0.30	-0.27	0.37	
5,336.00	18.21	337.23	5,155.72	1,076.27	-493.99	-354.21	0.48	0.29	1.23	
5,431.00	18.32	336.93	5,245.93	1,103.70	-505.58	-362.26	0.15	0.12	-0.32	
5,525.00	17.30	336.23	5,335.43	1,130.08	-517.01	-370.26	1.11	-1.09	-0.74	
5,619.00	13.96	335.28	5,425.94	1,153.18	-527.38	-377.64	3.56	-3.55	-1.01	
5,714.00	13.23	335.35	5,518.28	1,173.47	-536.71	-384.33	0.77	-0.77	0.07	
5,808.00	11.38	334.05	5,610.11	1,191.58	-545.25	-390.52	1.99	-1.97	-1.38	
5,903.00	9.91	337.02	5,703.48	1,207.54	-552.55	-395.74	1.65	-1.55	3.13	
5,998.00	9.14	335.76	5,797.17	1,221.95	-558.84	-400.16	0.84	-0.81	-1.33	
6,092.00	7.61	338.93	5,890.16	1,234.56	-564.14	-403.83	1.70	-1.63	3.37	
6,187.00	7.08	344.44	5,984.38	1,246.07	-567.97	-406.18	0.93	-0.56	5.80	
6,282.00	4.64	354.85	6,078.88	1,255.54	-569.89	-406.88	2.79	-2.57	10.96	
6,376.00	1.60	9.88	6,172.73	1,260.62	-570.00	-406.36	3.32	-3.23	15.99	
6,471.00	3.25	79.62	6,267.66	1,262.41	-567.13	-403.28	3.25	1.74	73.41	
6,514.00	5.51	90.78	6,310.53	1,262.61	-563.86	-400.02	5.59	5.26	25.95	
Last SDI Surface MWD Survey										
6,589.00	8.83	94.31	6,384.94	1,262.12	-554.52	-390.81	4.46	4.43	4.71	
First SDI Curve MWD Survey										
6,620.00	8.88	98.76	6,415.57	1,261.58	-549.78	-386.18	2.22	0.16	14.35	
6,652.00	8.53	107.81	6,447.20	1,260.48	-545.08	-381.65	4.41	-1.09	28.28	
6,683.00	9.21	118.56	6,477.83	1,258.59	-540.71	-377.56	5.77	2.19	34.68	
6,715.00	10.28	115.36	6,509.37	1,256.14	-535.88	-373.08	3.75	3.34	-10.00	
6,746.00	11.95	103.93	6,539.79	1,254.18	-530.27	-367.75	8.89	5.39	-36.87	
6,778.00	14.06	100.45	6,570.97	1,252.68	-523.23	-360.96	7.03	6.59	-10.88	
6,809.00	15.92	101.73	6,600.91	1,251.13	-515.36	-353.35	6.09	6.00	4.13	
6,841.00	18.03	100.55	6,631.52	1,249.33	-506.20	-344.49	6.68	6.59	-3.69	
6,872.00	20.51	97.95	6,660.78	1,247.70	-496.10	-334.67	8.46	8.00	-8.39	
6,917.00	23.63	96.84	6,702.48	1,245.54	-479.33	-318.32	6.99	6.93	-2.47	
6,949.00	26.98	92.92	6,731.40	1,244.41	-465.71	-304.95	11.70	10.47	-12.25	
6,980.00	32.15	92.55	6,758.36	1,243.68	-450.44	-289.89	16.69	16.68	-1.19	
7,012.00	36.06	91.78	6,784.85	1,243.01	-432.51	-272.19	12.29	12.22	-2.41	
7,044.00	39.45	90.45	6,810.15	1,242.64	-412.93	-252.81	10.89	10.59	-4.16	
7,075.00	42.48	89.07	6,833.55	1,242.73	-392.61	-232.64	10.20	9.77	-4.45	
7,107.00	46.20	88.53	6,856.43	1,243.20	-370.25	-210.40	11.68	11.63	-1.69	
7,138.00	49.21	88.54	6,877.29	1,243.79	-347.33	-187.59	9.71	9.71	0.03	
7,170.00	52.49	88.44	6,897.49	1,244.44	-322.53	-162.90	10.25	10.25	-0.31	
7,201.00	55.75	88.65	6,915.66	1,245.08	-297.42	-137.91	10.53	10.52	0.68	
7,233.00	58.64	88.90	6,933.00	1,245.65	-270.53	-111.17	9.06	9.03	0.78	
7,265.00	61.88	89.57	6,948.87	1,246.02	-242.75	-83.57	10.29	10.13	2.09	
7,296.00	64.85	89.64	6,962.76	1,246.21	-215.05	-56.06	9.58	9.58	0.23	
7,327.00	67.32	88.67	6,975.33	1,246.63	-186.71	-27.90	8.47	7.97	-3.13	
7,359.00	70.02	88.87	6,986.97	1,247.27	-156.92	1.74	8.46	8.44	0.63	
7,391.00	72.52	89.60	6,997.24	1,247.67	-126.62	31.85	8.11	7.81	2.28	
7,422.00	75.90	89.64	7,005.68	1,247.87	-96.79	61.46	10.90	10.90	0.13	



Survey Report



Company:	B.P.	Local Co-ordinate Reference:	Well NEBU 604 COM 1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Site:	NEBU 604 Pad	MD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Well:	NEBU 604 COM 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,454.00	79.08	90.38	7,012.61	1,247.86	-65.55	92.45	10.19	9.94	2.31
7,485.00	82.46	89.86	7,017.58	1,247.80	-34.96	122.79	11.03	10.90	-1.68
7,517.00	85.33	87.13	7,020.98	1,248.64	-3.16	154.44	12.34	8.97	-8.53
7,548.00	86.03	88.31	7,023.32	1,249.87	27.73	185.24	4.42	2.26	3.81
7,611.00	87.71	88.26	7,026.76	1,251.75	90.60	247.85	2.67	2.67	-0.08
Last SDI Curve MWD Survey									
7,662.00	88.89	90.43	7,028.27	1,252.33	141.57	298.48	4.84	2.31	4.25
First SDI Lateral MWD Survey									
7,757.00	88.39	90.69	7,030.53	1,251.40	236.54	392.58	0.59	-0.53	0.27
7,851.00	89.13	91.26	7,032.56	1,249.81	330.50	485.59	0.99	0.79	0.61
7,946.00	90.30	90.30	7,033.03	1,248.51	425.49	579.65	1.59	1.23	-1.01
8,041.00	90.60	88.96	7,032.29	1,249.13	520.48	673.96	1.45	0.32	-1.41
8,135.00	89.90	89.08	7,031.88	1,250.73	614.47	767.40	0.76	-0.74	0.13
8,230.00	91.21	89.42	7,030.96	1,251.98	709.45	861.78	1.42	1.38	0.36
8,324.00	90.64	88.78	7,029.44	1,253.45	803.43	955.19	0.91	-0.61	-0.68
8,419.00	89.90	88.34	7,028.99	1,255.84	898.40	1,049.70	0.91	-0.78	-0.46
8,514.00	88.42	88.04	7,030.38	1,258.84	993.34	1,144.26	1.59	-1.56	-0.32
8,608.00	90.50	88.56	7,031.27	1,261.63	1,087.29	1,237.81	2.28	2.21	0.55
8,703.00	90.54	90.19	7,030.41	1,262.67	1,182.27	1,332.17	1.72	0.04	1.72
8,797.00	89.26	90.41	7,030.57	1,262.17	1,276.27	1,425.35	1.38	-1.36	0.23
8,892.00	91.51	90.82	7,029.93	1,261.15	1,371.26	1,519.45	2.41	2.37	0.43
8,986.00	90.10	91.27	7,028.61	1,259.44	1,465.23	1,612.45	1.57	-1.50	0.48
9,080.00	89.26	91.38	7,029.14	1,257.27	1,559.20	1,705.40	0.90	-0.89	0.12
9,175.00	88.02	91.91	7,031.39	1,254.54	1,654.13	1,799.23	1.42	-1.31	0.56
9,269.00	90.10	90.28	7,032.93	1,252.74	1,748.10	1,892.21	2.81	2.21	-1.73
9,364.00	89.50	90.54	7,033.27	1,252.06	1,843.09	1,986.37	0.69	-0.63	0.27
9,459.00	90.40	89.97	7,033.35	1,251.64	1,938.09	2,080.55	1.12	0.95	-0.60
9,553.00	89.50	90.18	7,033.43	1,251.52	2,032.09	2,173.78	0.98	-0.96	0.22
9,648.00	91.48	90.05	7,032.62	1,251.33	2,127.08	2,267.99	2.09	2.08	-0.14
9,743.00	90.13	90.05	7,031.28	1,251.24	2,222.07	2,362.21	1.42	-1.42	0.00
9,837.00	89.13	90.63	7,031.89	1,250.69	2,316.06	2,455.38	1.23	-1.06	0.62
9,932.00	90.50	90.50	7,032.20	1,249.75	2,411.06	2,549.50	1.45	1.44	-0.14
10,026.00	88.93	90.40	7,032.67	1,249.01	2,505.05	2,642.64	1.67	-1.67	-0.11
10,121.00	91.61	90.38	7,032.22	1,248.37	2,600.04	2,736.79	2.82	2.82	-0.02
10,215.00	90.13	91.20	7,030.79	1,247.07	2,694.01	2,829.85	1.80	-1.57	0.87
10,310.00	89.06	91.84	7,031.46	1,244.55	2,788.98	2,923.74	1.31	-1.13	0.67
10,402.00	90.10	88.74	7,032.14	1,244.08	2,880.96	3,014.93	3.55	1.13	-3.37
10,493.00	88.86	89.29	7,032.96	1,245.65	2,971.94	3,105.38	1.49	-1.36	0.60
10,585.00	90.81	89.44	7,033.23	1,246.67	3,063.93	3,196.76	2.13	2.12	0.16
10,678.00	89.73	88.88	7,032.79	1,248.03	3,156.92	3,289.18	1.31	-1.16	-0.60
10,771.00	88.72	88.74	7,034.05	1,249.96	3,249.89	3,381.65	1.10	-1.09	-0.15
10,865.00	89.66	89.35	7,035.38	1,251.53	3,343.86	3,475.07	1.19	1.00	0.65
10,958.00	88.96	89.07	7,036.50	1,252.81	3,436.85	3,567.47	0.81	-0.75	-0.30
11,051.00	91.44	88.17	7,036.17	1,255.05	3,529.81	3,659.98	2.84	2.67	-0.97



Survey Report



Company:	B.P.	Local Co-ordinate Reference:	Well NEBU 604 COM 1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Site:	NEBU 604 Pad	MD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Well:	NEBU 604 COM 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,144.00	90.54	88.27	7,034.56	1,257.94	3,622.75	3,752.54	0.97	-0.97	0.11
11,237.00	89.73	88.17	7,034.35	1,260.83	3,715.71	3,845.11	0.88	-0.87	-0.11
11,329.00	88.96	88.20	7,035.40	1,263.74	3,807.65	3,936.69	0.84	-0.84	0.03
11,422.00	89.90	90.61	7,036.32	1,264.71	3,900.64	4,029.05	2.78	1.01	2.59
11,515.00	88.99	90.55	7,037.22	1,263.77	3,993.63	4,121.18	0.98	-0.98	-0.06
11,608.00	91.07	90.11	7,037.17	1,263.23	4,086.62	4,213.36	2.29	2.24	-0.47
11,700.00	90.27	90.34	7,036.10	1,262.87	4,178.61	4,304.57	0.90	-0.87	0.25
11,793.00	89.80	90.57	7,036.04	1,262.13	4,271.61	4,396.73	0.56	-0.51	0.25
11,887.00	89.03	90.82	7,037.00	1,260.99	4,365.59	4,489.83	0.86	-0.82	0.27
11,980.00	88.89	91.16	7,038.69	1,259.38	4,458.57	4,581.85	0.40	-0.15	0.37
12,073.00	88.45	91.93	7,040.85	1,256.88	4,551.51	4,673.73	0.95	-0.47	0.83
12,166.00	89.83	91.53	7,042.24	1,254.07	4,644.45	4,765.58	1.54	1.48	-0.43
12,259.00	90.84	89.93	7,041.70	1,252.88	4,737.44	4,857.67	2.03	1.09	-1.72
12,350.00	90.64	90.48	7,040.52	1,252.56	4,828.43	4,947.90	0.64	-0.22	0.60
12,443.00	89.83	90.94	7,040.14	1,251.41	4,921.42	5,040.00	1.00	-0.87	0.49
12,536.00	89.09	91.20	7,041.02	1,249.67	5,014.40	5,132.01	0.84	-0.80	0.28
12,631.00	90.34	89.99	7,041.49	1,248.68	5,109.39	5,226.12	1.83	1.32	-1.27
12,722.00	89.53	89.88	7,041.60	1,248.79	5,200.39	5,316.41	0.90	-0.89	-0.12
12,816.00	88.45	89.97	7,043.25	1,248.91	5,294.37	5,409.65	1.15	-1.15	0.10
12,909.00	90.30	88.28	7,044.27	1,250.33	5,387.35	5,502.07	2.69	1.99	-1.82
13,001.00	89.60	88.68	7,044.35	1,252.77	5,479.31	5,593.61	0.88	-0.76	0.43
13,094.00	88.63	87.91	7,045.78	1,255.54	5,572.26	5,686.16	1.33	-1.04	-0.83
13,187.00	89.06	87.89	7,047.66	1,258.94	5,665.18	5,778.76	0.46	0.46	-0.02
13,282.00	91.01	89.90	7,047.60	1,260.78	5,760.15	5,873.21	2.95	2.05	2.12
13,376.00	89.66	89.23	7,047.05	1,261.49	5,854.14	5,966.54	1.60	-1.44	-0.71
13,471.00	88.46	88.85	7,048.61	1,263.08	5,949.12	6,060.95	1.32	-1.26	-0.40
13,566.00	91.61	89.89	7,048.55	1,264.13	6,044.10	6,155.31	3.49	3.32	1.09
13,660.00	90.44	89.82	7,046.87	1,264.36	6,138.08	6,248.57	1.25	-1.24	-0.07
13,755.00	88.79	89.17	7,047.51	1,265.20	6,233.07	6,342.90	1.87	-1.74	-0.68
13,849.00	91.21	90.98	7,047.51	1,265.08	6,327.06	6,436.13	3.21	2.57	1.93
13,944.00	90.40	90.88	7,046.17	1,263.54	6,422.04	6,530.15	0.86	-0.85	-0.11
14,039.00	88.69	89.97	7,046.93	1,262.83	6,517.03	6,624.29	2.04	-1.80	-0.96
14,133.00	89.23	91.88	7,048.63	1,261.31	6,610.99	6,717.32	2.11	0.57	2.03
14,228.00	88.32	92.29	7,050.66	1,257.86	6,705.91	6,811.04	1.05	-0.96	0.43
14,322.00	90.74	91.16	7,051.44	1,255.03	6,799.85	6,903.87	2.84	2.57	-1.20
14,417.00	89.97	91.01	7,050.85	1,253.23	6,894.84	6,997.87	0.83	-0.81	-0.16
14,512.00	88.62	91.22	7,052.02	1,251.38	6,989.81	7,091.85	1.44	-1.42	0.22
14,606.00	89.60	89.47	7,053.48	1,250.82	7,083.79	7,185.01	2.13	1.04	-1.86
14,701.00	88.89	88.42	7,054.73	1,252.57	7,178.76	7,279.44	1.33	-0.75	-1.11
14,795.00	91.45	89.36	7,054.45	1,254.39	7,272.74	7,372.89	2.90	2.72	1.00
14,890.00	90.57	89.82	7,052.77	1,255.07	7,367.72	7,467.20	1.05	-0.93	0.48
14,984.00	88.96	88.85	7,053.16	1,256.16	7,461.71	7,560.58	2.00	-1.71	-1.03
15,079.00	90.60	91.73	7,053.53	1,255.68	7,556.69	7,654.74	3.49	1.73	3.03



Survey Report



Company:	B.P.	Local Co-ordinate Reference:	Well NEBU 604 COM 1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Site:	NEBU 604 Pad	MD Reference:	GL 6500' & RKB 25' @ 6525.00usft
Well:	NEBU 604 COM 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,173.00	90.13	91.80	7,052.93	1,252.78	7,650.64	7,747.58	0.51	-0.50	0.07
15,268.00	89.19	92.70	7,053.49	1,249.05	7,745.57	7,841.27	1.37	-0.99	0.95
15,359.00	89.30	90.57	7,054.69	1,246.46	7,836.52	7,931.17	2.34	0.12	-2.34
15,472.00	88.42	90.19	7,056.94	1,245.71	7,949.49	8,043.14	0.85	-0.78	-0.34
15,567.00	90.13	89.62	7,058.14	1,245.86	8,044.48	8,137.39	1.90	1.80	-0.60
15,661.00	89.53	89.89	7,058.42	1,246.27	8,138.48	8,230.69	0.70	-0.64	0.29
15,756.00	88.56	90.41	7,060.00	1,246.02	8,233.46	8,324.88	1.16	-1.02	0.55
15,850.00	89.66	88.98	7,061.46	1,246.52	8,327.45	8,418.18	1.92	1.17	-1.52
15,945.00	92.04	89.33	7,060.05	1,247.92	8,422.42	8,512.57	2.53	2.51	0.37
16,040.00	91.21	89.33	7,057.36	1,249.03	8,517.37	8,606.90	0.87	-0.87	0.00
16,134.00	90.03	89.71	7,056.34	1,249.82	8,611.36	8,700.24	1.32	-1.26	0.40
16,229.00	89.46	89.92	7,056.76	1,250.12	8,706.36	8,794.52	0.64	-0.60	0.22
16,323.00	88.46	90.33	7,058.47	1,249.92	8,800.34	8,887.72	1.15	-1.06	0.44
16,418.00	90.07	89.56	7,059.69	1,250.01	8,895.33	8,981.96	1.88	1.69	-0.81
16,513.00	89.97	89.50	7,059.66	1,250.79	8,990.33	9,076.30	0.12	-0.11	-0.06
16,607.00	88.59	89.51	7,060.84	1,251.60	9,084.32	9,169.64	1.47	-1.47	0.01
16,702.00	90.13	88.78	7,061.90	1,253.02	9,179.30	9,264.04	1.79	1.62	-0.77
16,796.00	89.40	88.75	7,062.28	1,255.04	9,273.27	9,357.52	0.78	-0.78	-0.03
16,891.00	91.95	90.57	7,061.16	1,255.61	9,368.25	9,451.81	3.30	2.68	1.92
16,986.00	91.34	89.88	7,058.44	1,255.24	9,463.21	9,545.96	0.97	-0.64	-0.73
17,080.00	90.53	90.93	7,056.90	1,254.57	9,557.19	9,639.11	1.41	-0.86	1.12
17,175.00	89.66	92.15	7,056.75	1,252.02	9,652.16	9,732.99	1.58	-0.92	1.28
17,269.00	88.89	92.49	7,057.94	1,248.21	9,746.07	9,825.67	0.90	-0.82	0.36
17,333.00	88.39	92.34	7,059.45	1,245.52	9,810.00	9,888.75	0.82	-0.78	-0.23
Last SDI Lateral MWD Survey									
17,390.00	88.39	92.34	7,061.06	1,243.19	9,866.93	9,944.93	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,172.00	1,171.89	7.65	-10.79	First SDI Surface MWD Survey
6,514.00	6,310.53	1,262.61	-563.86	Last SDI Surface MWD Survey
6,589.00	6,384.94	1,262.12	-554.52	First SDI Curve MWD Survey
7,611.00	7,026.76	1,251.75	90.60	Last SDI Curve MWD Survey
7,662.00	7,028.27	1,252.33	141.57	First SDI Lateral MWD Survey
17,333.00	7,059.45	1,245.52	9,810.00	Last SDI Lateral MWD Survey
17,390.00	7,061.06	1,243.19	9,866.93	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

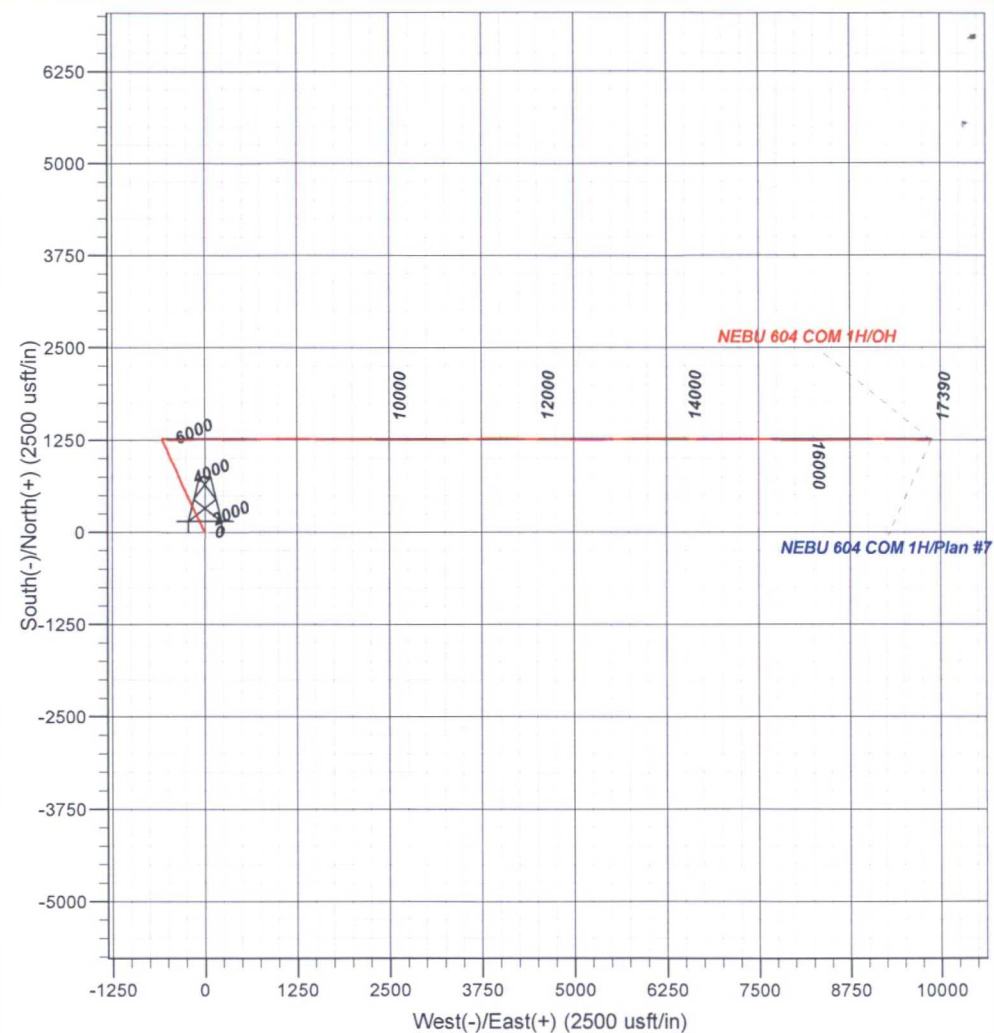
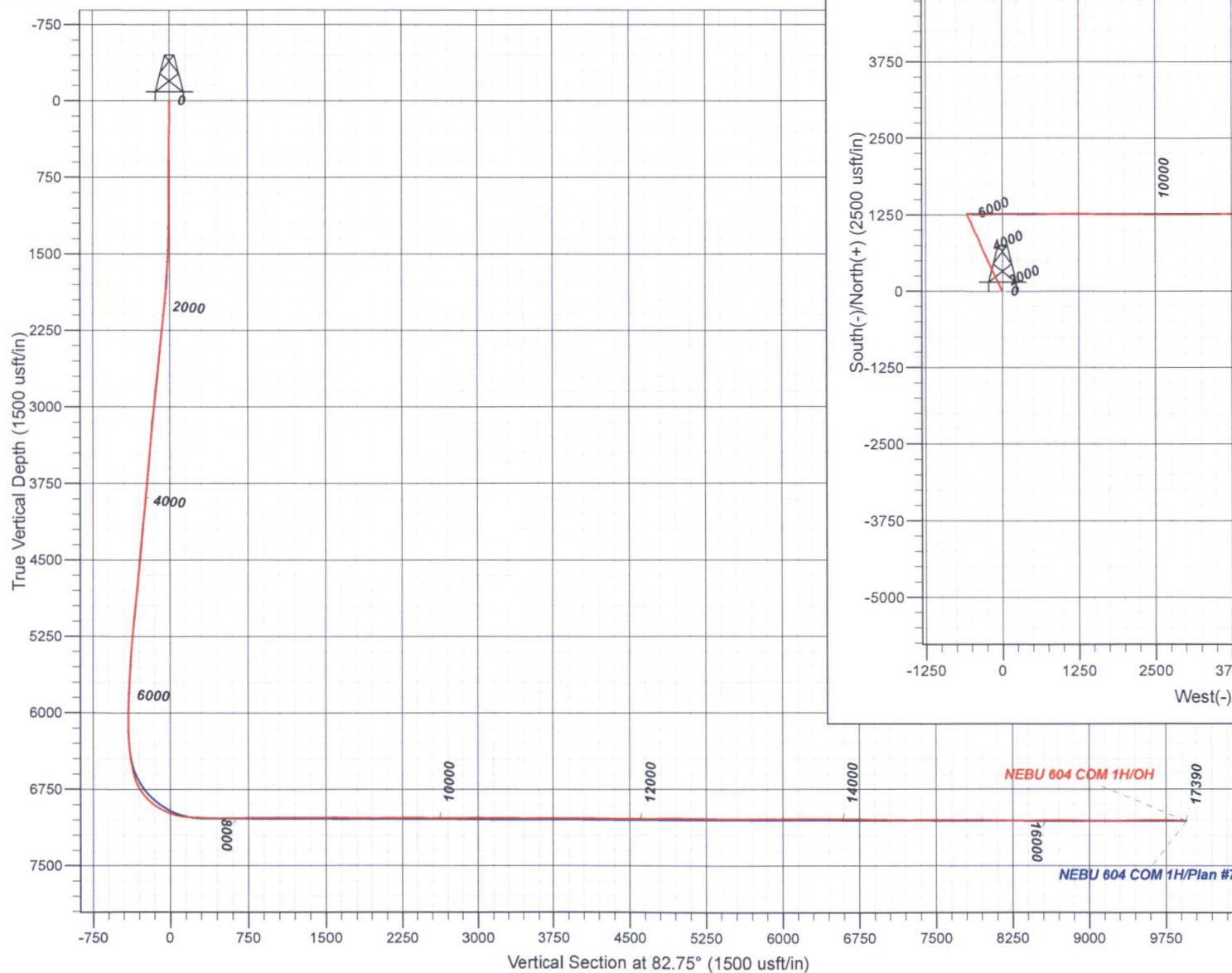


Company Name: B.P.
Project: San Juan County, NM NAD83
Site: NEBU 604 Pad
Well: NEBU 604 COM 1H
Wellbore: OH



WELL DETAILS: NEBU 604 COM 1H

GL 6500' & RKB 25' @ 6525.00usft 6500.00
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 2147663.38 2812008.74 36.9016354 -107.5292230



Design: OH (NEBU 604 COM 1H/OH)

Created By: Janie Collins Date: 11:46, February 28 2018

PROJECT DETAILS: San Juan County, NM NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone

System Datum: Mean Sea Level
Local North: Grid