

District I
1525 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, 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 Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

☒ AMENDED REPORT

AS DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31207	*Pool Code 98088	*Pool Name CHACO UNIT NE HZ (OIL)
*Property Code 40466	*Property Name CHACO 2307-13D	*Well Number 173H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC	*Elevation 7014'

¹⁰ Surface Location

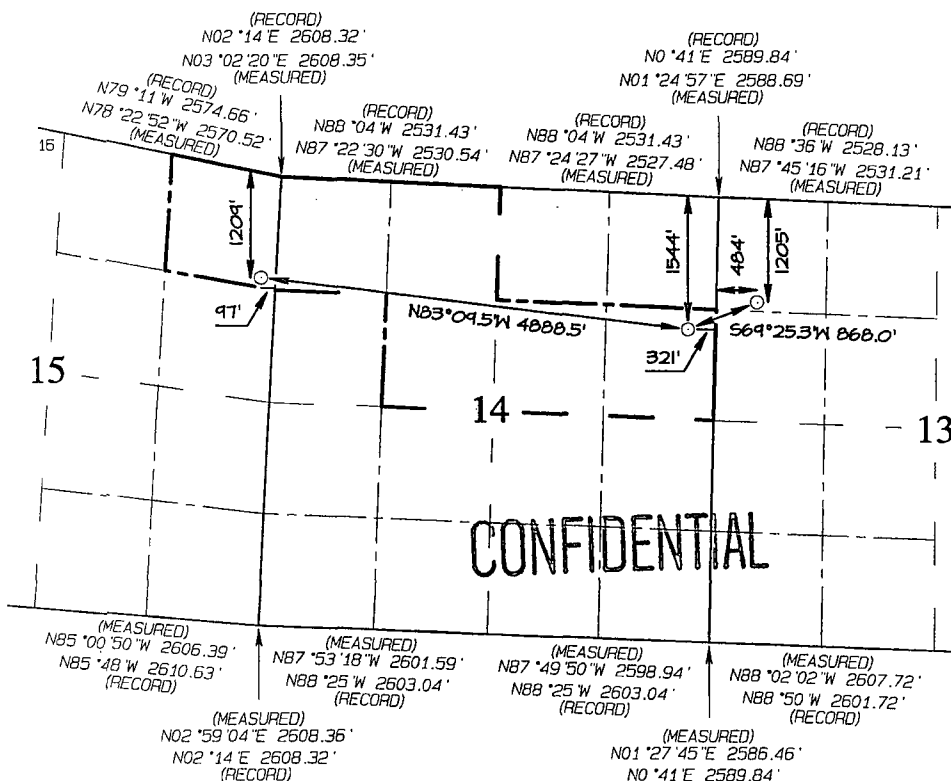
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	13	23N	7W		1205	NORTH	484	WEST	RIO ARriba

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	15	23N	7W		1209	NORTH	97	EAST	RIO ARriba

¹² Dedicated Acres 240.0 Acres NE/4 NE/4 (15) N/2 NW/4, SE/4 NW/4, S/2 NE/4 (14)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13817-A OIL CONS. DIV. Project area 9,237.3 acres
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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



END-OF-LATERAL
1209' FNL 97' FEL
SECTION 15, T23N, R7W
LAT: 36.229910°N
LONG: 107.552939°W
DATUM: NAD1927
LAT: 36.229924°N
LONG: 107.553546°W
DATUM: NAD1983

POINT-OF-ENTRY
1544' FNL 321' FEL
SECTION 14, T23N, R7W
LAT: 36.228489°N
LONG: 107.536460°W
DATUM: NAD1927
LAT: 36.228502°N
LONG: 107.537066°W
DATUM: NAD1983

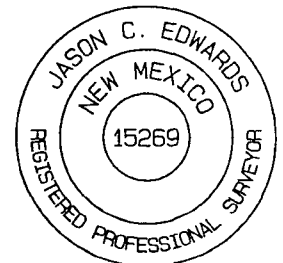
SURFACE LOCATION
1205' FNL 484' FWL
SECTION 13, T23N, R7W
LAT: 36.229356°N
LONG: 107.533719°W
DATUM: NAD1927
LAT: 36.229370°N
LONG: 107.534325°W
DATUM: NAD1983

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.

Signature: *Larry Higgins* Date: 10/1/14
Printed Name: Larry Higgins
Email Address: larry.higgins@wpxenenergy.com

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.

Date Revised: OCTOBER 1, 2014
Survey Date: OCTOBER 24, 2013
Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

N



WPX Energy Rocky Mountain, LLC

Rio Arriba County, NM NAD27

Chaco 2307-13D

Chaco 2307-13D #173H - Slot E

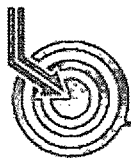
OH

Design: OH

Survey Report - Geographic

29 September, 2014

CONFIDENTIAL



Scientific Drilling

www.scientificdrilling.com

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1. Directional Plot and Surveys
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CONFIDENTIAL



Company Name: WPX Energy Rocky Mountain, LLC
 Project: Rio Arriba County, NM NAD27
 Site: Chaco 2307-13D
 Well: Chaco 2307-13D #173H



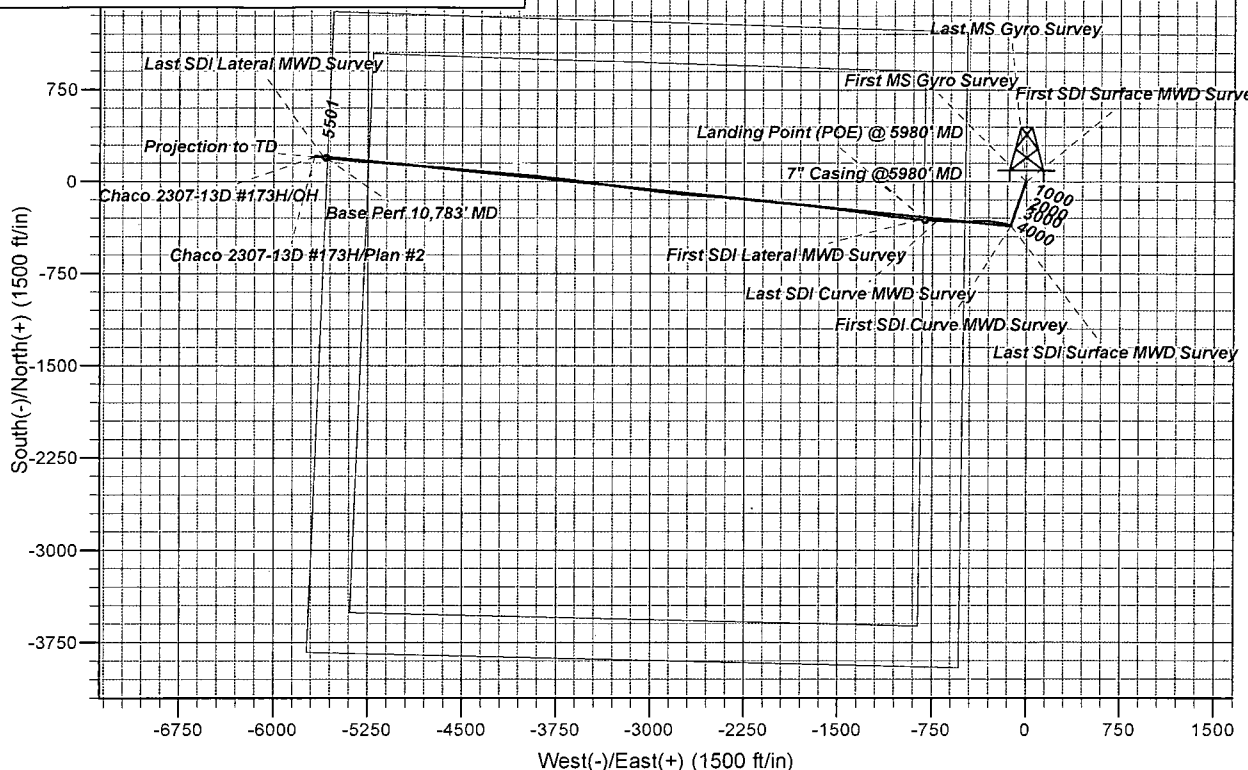
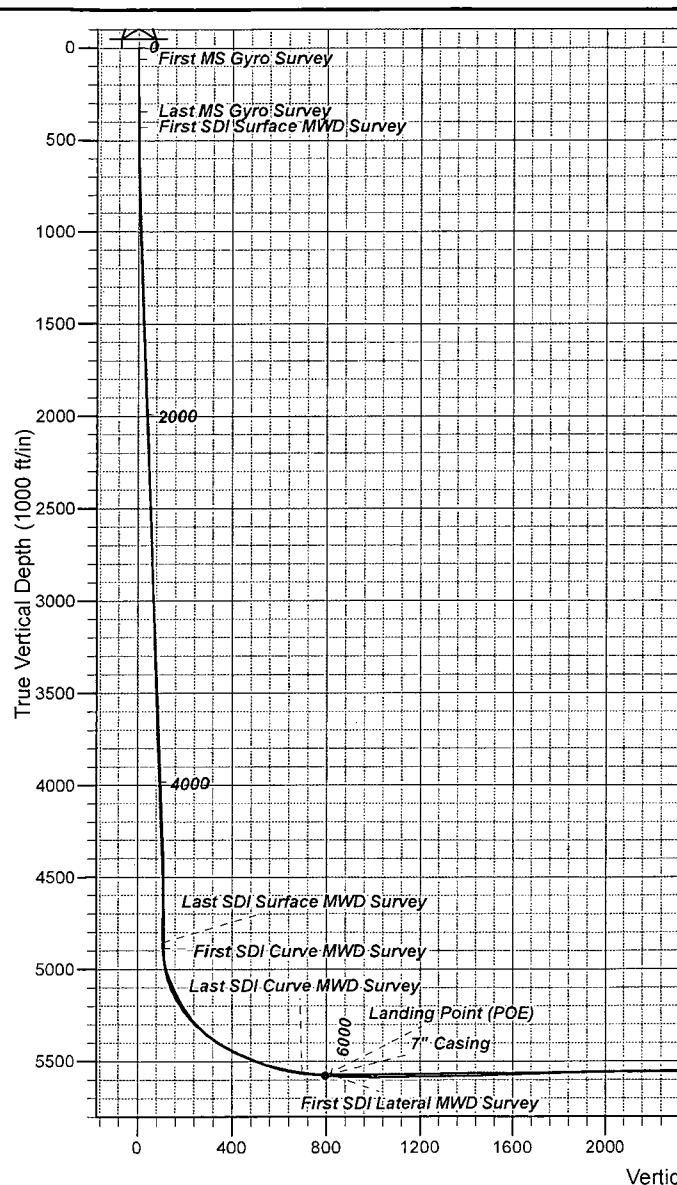
Azimuths to True North
 Magnetic North: 9.43°

Magnetic Field
 Strength: 50061.4snT
 Dip Angle: 63.00°
 Date: 9/13/2014
 Model: BGGM2014

WELL DETAILS: Chaco 2307-13D #173H

GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)		7014.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1905204.01	121382.00	36.2293600	-107.5337200

E



RCVD OCT 2 '14
 OIL CONS. DIV.
 DIST. 3

Design: OH (Chaco 2307-13D #173H/OH)
Created By: Janie Collins Date: 16:15, September 29 2014
PROJECT DETAILS: Rio Arriba County, NM NAD27
Geodetic System: US State Plane 1927 (Exact solution) Datum: NAD 1927 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone: New Mexico Central 3002
System Datum: Mean Sea Level Local North: True

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco 2307-13D #173H - Slot E
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Site:	Chaco 2307-13D	MD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Well:	Chaco 2307-13D #173H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Project	Rio Arriba County, NM NAD27		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site	Chaco 2307-13D				
Site Position:		Northing:	1,905,204.01 usft	Latitude:	36.2293600
From:	Lat/Long	Easting:	121,382.00 usft	Longitude:	-107.5337200
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.76 °

Well:	Chaco 2307-13D #173H - Slot E					
Well Position	+N/-S	0.00 ft	Northing:	1,905,204.01 usft	Latitude:	36.2293600
	+E/-W	0.00 ft	Easting:	121,382.00 usft	Longitude:	-107.5337200
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	7,014.00 ft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	9/13/2014	9.43	63.00	50,061

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	272.11	

Survey Program	Date 9/29/2014				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
64.00	345.00	Survey #1 - Gyro Survey (OH)	Gyro		
429.00	4,876.00	Survey #2 - Surface MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1	
4,907.00	5,881.00	Survey #3 - Curve MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1	
6,018.00	10,871.00	Survey #4 - Lateral MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,905,204.01	121,382.00	36.2293600	-107.5337200
64.00	0.98	196.96	64.00	-0.52	-0.16	1,905,203.49	121,381.84	36.2293585	-107.5337206
First MS Gyro Survey									
114.00	1.23	199.23	113.99	-1.44	-0.46	1,905,202.58	121,381.52	36.2293560	-107.5337216
164.00	1.18	202.33	163.98	-2.42	-0.83	1,905,201.60	121,381.14	36.2293533	-107.5337229
214.00	1.05	209.58	213.97	-3.30	-1.26	1,905,200.73	121,380.70	36.2293509	-107.5337243
264.00	1.08	202.87	263.96	-4.13	-1.66	1,905,199.91	121,380.28	36.2293486	-107.5337257
314.00	1.22	204.28	313.95	-5.05	-2.07	1,905,198.99	121,379.87	36.2293461	-107.5337270

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco 2307-13D #173H Slot E
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Site:	Chaco 2307-13D	MD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Well:	Chaco 2307-13D #173H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
345.00	1.04	203.43	344.94	-5.61	-2.31	1,905,198.44	121,379.61	36.2293446	-107.5337279
Last MS Gyro Survey									
429.00	0.88	237.31	428.93	-6.66	-3.16	1,905,197.40	121,378.75	36.2293417	-107.5337308
First SDI Surface MWD Survey									
460.00	0.79	237.11	459.93	-6.90	-3.54	1,905,197.16	121,378.37	36.2293410	-107.5337320
492.00	1.08	229.90	491.92	-7.21	-3.96	1,905,196.85	121,377.95	36.2293402	-107.5337335
523.00	0.79	236.73	522.92	-7.52	-4.36	1,905,196.55	121,377.54	36.2293393	-107.5337348
587.00	1.39	227.45	586.91	-8.29	-5.30	1,905,195.80	121,376.59	36.2293372	-107.5337380
650.00	2.24	213.46	649.88	-9.83	-6.54	1,905,194.27	121,375.33	36.2293330	-107.5337422
712.00	2.93	209.42	711.81	-12.22	-7.99	1,905,191.90	121,373.85	36.2293264	-107.5337471
775.00	3.12	210.77	774.72	-15.10	-9.65	1,905,189.04	121,372.15	36.2293185	-107.5337528
838.00	4.05	203.17	837.60	-18.62	-11.41	1,905,185.55	121,370.35	36.2293089	-107.5337587
901.00	4.87	199.79	900.41	-23.18	-13.19	1,905,181.01	121,368.51	36.2292963	-107.5337648
964.00	4.97	200.33	963.18	-28.25	-15.04	1,905,175.96	121,366.59	36.2292824	-107.5337710
1,027.00	5.17	200.51	1,025.93	-33.47	-16.98	1,905,170.77	121,364.58	36.2292681	-107.5337776
1,089.00	5.36	194.69	1,087.67	-38.89	-18.70	1,905,165.38	121,362.79	36.2292532	-107.5337834
1,152.00	5.60	193.38	1,150.38	-44.72	-20.16	1,905,159.56	121,361.26	36.2292371	-107.5337884
1,214.00	5.80	191.77	1,212.08	-50.73	-21.49	1,905,153.57	121,359.84	36.2292206	-107.5337929
1,274.00	5.49	190.94	1,271.78	-56.52	-22.66	1,905,147.80	121,358.60	36.2292047	-107.5337969
1,305.00	5.45	192.50	1,302.64	-59.41	-23.26	1,905,144.91	121,357.96	36.2291968	-107.5337989
1,365.00	5.17	196.01	1,362.39	-64.79	-24.62	1,905,139.55	121,356.53	36.2291820	-107.5338035
1,427.00	5.49	198.63	1,424.12	-70.29	-26.34	1,905,134.08	121,354.74	36.2291669	-107.5338093
1,487.00	5.67	198.71	1,483.83	-75.82	-28.21	1,905,128.58	121,352.80	36.2291517	-107.5338157
1,546.00	5.74	199.91	1,542.54	-81.35	-30.14	1,905,123.07	121,350.78	36.2291365	-107.5338222
1,607.00	5.88	198.75	1,603.23	-87.18	-32.19	1,905,117.27	121,348.66	36.2291205	-107.5338292
1,668.00	5.88	198.60	1,663.91	-93.10	-34.19	1,905,111.38	121,346.58	36.2291043	-107.5338359
1,729.00	5.86	195.44	1,724.59	-99.06	-36.01	1,905,105.44	121,344.68	36.2290879	-107.5338421
1,789.00	5.69	193.14	1,784.28	-104.91	-37.51	1,905,099.61	121,343.11	36.2290718	-107.5338472
1,851.00	5.75	199.01	1,845.97	-110.84	-39.22	1,905,093.70	121,341.32	36.2290555	-107.5338530
1,912.00	5.58	202.28	1,906.68	-116.47	-41.34	1,905,088.10	121,339.13	36.2290401	-107.5338602
1,974.00	5.88	200.86	1,968.37	-122.23	-43.61	1,905,082.37	121,336.78	36.2290243	-107.5338679
2,034.00	6.05	203.06	2,028.04	-128.01	-45.94	1,905,076.62	121,334.37	36.2290084	-107.5338758
2,096.00	6.14	203.86	2,089.69	-134.05	-48.56	1,905,070.62	121,331.67	36.2289918	-107.5338847
2,156.00	5.28	196.59	2,149.39	-139.63	-50.65	1,905,065.07	121,329.51	36.2289765	-107.5338918
2,217.00	4.98	190.88	2,210.15	-144.92	-51.95	1,905,059.79	121,328.14	36.2289619	-107.5338962
2,278.00	4.77	195.51	2,270.93	-149.96	-53.13	1,905,054.77	121,326.89	36.2289481	-107.5339002
2,339.00	4.84	200.83	2,331.72	-154.81	-54.72	1,905,049.94	121,325.23	36.2289348	-107.5339056
2,400.00	5.10	200.93	2,392.49	-159.75	-56.61	1,905,045.03	121,323.29	36.2289212	-107.5339119
2,461.00	4.81	202.53	2,453.26	-164.65	-58.55	1,905,040.16	121,321.27	36.2289077	-107.5339185
2,584.00	5.17	203.22	2,575.79	-174.50	-62.72	1,905,030.36	121,316.98	36.2288807	-107.5339327
2,647.00	5.26	202.16	2,638.53	-179.78	-64.92	1,905,025.10	121,314.70	36.2288662	-107.5339401
2,710.00	5.36	199.16	2,701.26	-185.24	-66.98	1,905,019.68	121,312.58	36.2288512	-107.5339471
2,773.00	5.42	198.58	2,763.98	-190.84	-68.89	1,905,014.10	121,310.59	36.2288358	-107.5339536
2,836.00	5.43	198.91	2,826.70	-196.48	-70.81	1,905,008.49	121,308.60	36.2288203	-107.5339601
2,899.00	5.30	198.53	2,889.42	-202.06	-72.70	1,905,002.94	121,306.63	36.2288050	-107.5339665
2,961.00	4.98	199.29	2,951.17	-207.31	-74.50	1,904,997.71	121,304.77	36.2287906	-107.5339726
3,024.00	5.01	195.73	3,013.94	-212.54	-76.15	1,904,992.50	121,303.05	36.2287762	-107.5339782
3,087.00	5.14	198.86	3,076.69	-217.86	-77.80	1,904,987.20	121,301.32	36.2287616	-107.5339838
3,150.00	5.11	202.51	3,139.44	-223.12	-79.79	1,904,981.97	121,299.26	36.2287471	-107.5339905
3,213.00	5.43	208.99	3,202.17	-228.32	-82.31	1,904,976.80	121,296.68	36.2287328	-107.5339991
3,275.00	5.61	203.64	3,263.88	-233.66	-84.95	1,904,971.49	121,293.97	36.2287182	-107.5340080
3,338.00	6.37	198.98	3,326.54	-239.79	-87.32	1,904,965.40	121,291.52	36.2287013	-107.5340161
3,401.00	6.46	201.26	3,389.15	-246.40	-89.74	1,904,958.83	121,289.01	36.2286832	-107.5340243
3,463.00	7.16	196.34	3,450.71	-253.36	-92.09	1,904,951.90	121,286.56	36.2286641	-107.5340322
3,525.00	7.35	197.37	3,512.21	-260.85	-94.36	1,904,944.44	121,284.19	36.2286435	-107.5340399

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco 2307-13D #173H - Slot E
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Site:	Chaco 2307-13D	MD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Well:	Chaco 2307-13D #173H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,588.00	7.21	195.35	3,574.70	-268.51	-96.61	1,904,936.81	121,281.84	36.2286225	-107.5340476
3,650.00	7.02	194.42	3,636.23	-275.93	-98.59	1,904,929.41	121,279.77	36.2286021	-107.5340543
3,713.00	7.07	195.03	3,698.75	-283.40	-100.55	1,904,921.97	121,277.71	36.2285816	-107.5340609
3,775.00	6.84	191.40	3,760.30	-290.71	-102.27	1,904,914.69	121,275.89	36.2285615	-107.5340667
3,837.00	5.79	187.55	3,821.92	-297.43	-103.41	1,904,907.98	121,274.66	36.2285430	-107.5340706
3,900.00	5.59	190.05	3,884.61	-303.60	-104.36	1,904,901.83	121,273.63	36.2285261	-107.5340738
3,964.00	5.15	200.07	3,948.33	-309.36	-105.89	1,904,896.08	121,272.02	36.2285102	-107.5340790
4,027.00	4.69	207.59	4,011.10	-314.30	-108.06	1,904,891.17	121,269.79	36.2284967	-107.5340864
4,090.00	5.19	200.91	4,073.86	-319.25	-110.26	1,904,886.25	121,267.52	36.2284831	-107.5340938
4,153.00	5.56	199.59	4,136.59	-324.78	-112.31	1,904,880.74	121,265.41	36.2284679	-107.5341008
4,217.00	5.65	200.36	4,200.28	-330.66	-114.44	1,904,874.90	121,263.19	36.2284517	-107.5341080
4,280.00	5.77	196.29	4,262.97	-336.61	-116.41	1,904,868.98	121,261.15	36.2284354	-107.5341147
4,342.00	6.35	198.01	4,324.62	-342.86	-118.34	1,904,862.75	121,259.13	36.2284182	-107.5341212
4,405.00	5.80	197.74	4,387.27	-349.20	-120.39	1,904,856.43	121,257.00	36.2284008	-107.5341282
4,468.00	4.82	192.05	4,450.00	-354.82	-121.91	1,904,850.83	121,255.40	36.2283854	-107.5341333
4,531.00	3.78	185.44	4,512.82	-359.48	-122.66	1,904,846.19	121,254.59	36.2283726	-107.5341359
4,594.00	2.68	177.58	4,575.72	-363.02	-122.80	1,904,842.65	121,254.41	36.2283629	-107.5341363
4,657.00	1.44	150.79	4,638.68	-365.18	-122.35	1,904,840.48	121,254.83	36.2283569	-107.5341348
4,720.00	0.98	80.72	4,701.67	-365.79	-121.43	1,904,839.87	121,255.74	36.2283553	-107.5341317
4,782.00	1.11	48.81	4,763.66	-365.30	-120.45	1,904,840.34	121,256.72	36.2283566	-107.5341284
4,845.00	0.72	347.06	4,826.65	-364.52	-120.08	1,904,841.12	121,257.10	36.2283587	-107.5341271
4,876.00	0.79	332.48	4,857.65	-364.14	-120.23	1,904,841.50	121,256.96	36.2283598	-107.5341276
Last SDI Surface MWD Survey									
4,907.00	2.50	320.66	4,888.63	-363.43	-120.75	1,904,842.22	121,256.45	36.2283617	-107.5341294
First SDI Curve MWD Survey									
4,939.00	5.54	302.68	4,920.55	-362.05	-122.50	1,904,843.62	121,254.72	36.2283655	-107.5341353
4,970.00	8.20	300.41	4,951.33	-360.12	-125.66	1,904,845.59	121,251.58	36.2283708	-107.5341460
5,001.00	12.40	296.09	4,981.82	-357.54	-130.56	1,904,848.23	121,246.72	36.2283779	-107.5341627
5,033.00	15.07	291.84	5,012.90	-354.48	-137.51	1,904,851.38	121,239.81	36.2283863	-107.5341862
5,064.00	18.29	286.42	5,042.60	-351.61	-145.92	1,904,854.37	121,231.44	36.2283942	-107.5342147
5,095.00	18.86	279.97	5,071.98	-349.36	-155.52	1,904,856.74	121,221.87	36.2284004	-107.5342473
5,127.00	19.43	275.97	5,102.22	-347.91	-165.91	1,904,858.33	121,211.50	36.2284044	-107.5342825
5,158.00	20.06	277.07	5,131.39	-346.72	-176.31	1,904,859.66	121,201.11	36.2284076	-107.5343178
5,189.00	22.51	281.33	5,160.28	-344.90	-187.41	1,904,861.62	121,190.04	36.2284126	-107.5343554
5,221.00	24.76	283.18	5,189.59	-342.17	-199.94	1,904,864.52	121,177.55	36.2284201	-107.5343979
5,252.00	27.96	282.65	5,217.37	-339.10	-213.36	1,904,867.77	121,164.17	36.2284286	-107.5344433
5,283.00	29.11	281.50	5,244.60	-336.00	-227.84	1,904,871.06	121,149.73	36.2284371	-107.5344924
5,315.00	32.67	278.37	5,272.06	-333.19	-244.02	1,904,874.08	121,133.59	36.2284448	-107.5345473
5,346.00	35.42	277.75	5,297.74	-330.76	-261.20	1,904,876.74	121,116.44	36.2284515	-107.5346055
5,377.00	38.69	275.79	5,322.48	-328.57	-279.75	1,904,879.17	121,097.93	36.2284575	-107.5346684
5,409.00	41.40	274.36	5,346.98	-326.76	-300.25	1,904,881.26	121,077.45	36.2284625	-107.5347379
5,440.00	44.76	271.48	5,369.62	-325.70	-321.39	1,904,882.60	121,056.33	36.2284654	-107.5348096
5,471.00	47.62	269.37	5,391.08	-325.54	-343.76	1,904,883.05	121,033.96	36.2284658	-107.5348854
5,503.00	51.79	268.67	5,411.77	-325.96	-368.15	1,904,882.95	121,009.56	36.2284646	-107.5349681
5,534.00	55.21	267.57	5,430.20	-326.79	-393.06	1,904,882.46	120,984.65	36.2284624	-107.5350525
5,566.00	58.48	267.62	5,447.70	-327.91	-419.82	1,904,881.69	120,957.88	36.2284593	-107.5351432
5,597.00	59.10	266.79	5,463.77	-329.20	-446.30	1,904,880.75	120,931.38	36.2284557	-107.5352330
5,628.00	60.85	267.97	5,479.28	-330.43	-473.11	1,904,879.88	120,904.56	36.2284524	-107.5353239
5,661.00	62.85	268.45	5,494.85	-331.34	-502.19	1,904,879.36	120,875.47	36.2284499	-107.5354225
5,692.00	66.21	270.69	5,508.18	-331.54	-530.17	1,904,879.53	120,847.49	36.2284493	-107.5355173
5,723.00	68.86	271.29	5,520.02	-331.04	-558.81	1,904,880.40	120,818.86	36.2284507	-107.5356144
5,755.00	71.58	271.92	5,530.85	-330.20	-588.91	1,904,881.64	120,788.77	36.2284530	-107.5357165
5,786.00	72.86	271.75	5,540.32	-329.25	-618.41	1,904,882.98	120,759.28	36.2284556	-107.5358165
5,817.00	75.89	273.07	5,548.66	-327.99	-648.24	1,904,884.63	120,729.48	36.2284590	-107.5359176
5,849.00	77.22	273.16	5,556.10	-326.30	-679.31	1,904,886.74	120,698.43	36.2284637	-107.5360229



Survey Report - Geographic



Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well: Chaco 2307-13D #173H - Slot E
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Site:	Chaco 2307-13D	MD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Well:	Chaco 2307-13D #173H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,881.00	78.70	273.77	5,562.78	-324.41	-710.55	1,904,889.04	120,667.22	36.2284689	-107.5361288
Last SDI Curve MWD Survey									
5,980.00	84.27	274.68	5,577.43	-317.19	-808.15	1,904,897.55	120,569.72	36.2284887	-107.5364597
7" Casing Landing Point (POE)									
6,018.00	86.41	275.03	5,580.52	-313.98	-845.89	1,904,901.26	120,532.03	36.2284975	-107.5365876
First SDI Lateral MWD Survey									
6,049.00	86.77	275.03	5,582.36	-311.27	-876.72	1,904,904.38	120,501.24	36.2285050	-107.5366921
6,109.00	88.56	276.03	5,584.81	-305.49	-936.38	1,904,910.95	120,441.66	36.2285208	-107.5368944
6,170.00	90.47	277.78	5,585.32	-298.16	-996.93	1,904,919.08	120,381.21	36.2285410	-107.5370997
6,231.00	91.01	277.71	5,584.54	-289.94	-1,057.37	1,904,928.10	120,320.89	36.2285635	-107.5373046
6,292.00	90.54	277.74	5,583.71	-281.74	-1,117.81	1,904,937.10	120,260.56	36.2285861	-107.5375095
6,353.00	91.11	277.53	5,582.83	-273.64	-1,178.26	1,904,946.00	120,200.22	36.2286083	-107.5377144
6,414.00	90.27	278.16	5,582.10	-265.31	-1,238.69	1,904,955.13	120,139.91	36.2286312	-107.5379192
6,474.00	90.94	277.90	5,581.46	-256.93	-1,298.10	1,904,964.29	120,080.62	36.2286542	-107.5381206
6,535.00	90.81	277.72	5,580.53	-248.64	-1,358.52	1,904,973.38	120,020.31	36.2286769	-107.5383255
6,596.00	91.55	277.64	5,579.28	-240.49	-1,418.96	1,904,982.33	119,959.98	36.2286993	-107.5385304
6,657.00	92.35	277.69	5,577.20	-232.36	-1,479.38	1,904,991.26	119,899.67	36.2287216	-107.5387352
6,720.00	91.10	276.67	5,575.30	-224.49	-1,541.86	1,904,999.96	119,837.31	36.2287433	-107.5389470
6,782.00	92.68	277.28	5,573.26	-216.97	-1,603.36	1,905,008.30	119,775.91	36.2287639	-107.5391555
6,845.00	93.02	276.56	5,570.13	-209.39	-1,665.83	1,905,016.71	119,713.55	36.2287847	-107.5393673
6,909.00	92.19	276.14	5,567.22	-202.32	-1,729.37	1,905,024.62	119,650.11	36.2288041	-107.5395827
6,972.00	91.81	275.91	5,565.02	-195.71	-1,791.98	1,905,032.06	119,587.59	36.2288223	-107.5397949
7,035.00	91.98	275.41	5,562.94	-189.50	-1,854.64	1,905,039.09	119,525.02	36.2288393	-107.5400073
7,098.00	91.41	275.11	5,561.07	-183.72	-1,917.35	1,905,045.70	119,462.39	36.2288552	-107.5402199
7,161.00	91.48	275.66	5,559.48	-177.81	-1,980.05	1,905,052.44	119,399.78	36.2288714	-107.5404325
7,224.00	91.14	275.11	5,558.04	-171.90	-2,042.75	1,905,059.18	119,337.15	36.2288876	-107.5406451
7,286.00	90.47	276.21	5,557.17	-165.79	-2,104.44	1,905,066.11	119,275.55	36.2289044	-107.5408542
7,349.00	91.14	276.34	5,556.29	-158.90	-2,167.06	1,905,073.82	119,213.03	36.2289233	-107.5410665
7,412.00	91.62	275.99	5,554.77	-152.14	-2,229.68	1,905,081.42	119,150.51	36.2289419	-107.5412787
7,475.00	91.41	276.52	5,553.10	-145.28	-2,292.28	1,905,089.11	119,088.00	36.2289607	-107.5414910
7,539.00	91.10	275.35	5,551.70	-138.66	-2,355.92	1,905,096.56	119,024.46	36.2289789	-107.5417067
7,601.00	89.53	274.18	5,551.36	-133.51	-2,417.70	1,905,102.53	118,962.75	36.2289930	-107.5419162
7,664.00	90.30	274.35	5,551.46	-128.83	-2,480.53	1,905,108.05	118,899.99	36.2290058	-107.5421291
7,727.00	91.01	274.48	5,550.73	-123.98	-2,543.34	1,905,113.73	118,837.25	36.2290191	-107.5423421
7,790.00	91.11	273.73	5,549.57	-119.47	-2,606.16	1,905,119.07	118,774.49	36.2290315	-107.5425551
7,853.00	90.64	273.99	5,548.61	-115.23	-2,669.01	1,905,124.14	118,711.70	36.2290431	-107.5427681
7,916.00	91.11	275.57	5,547.65	-109.98	-2,731.78	1,905,130.22	118,649.01	36.2290576	-107.5429809
7,979.00	92.22	275.60	5,545.81	-103.85	-2,794.46	1,905,137.18	118,586.42	36.2290744	-107.5431934
8,042.00	91.48	276.48	5,543.78	-97.23	-2,857.07	1,905,144.63	118,523.90	36.2290925	-107.5434057
8,104.00	91.01	277.44	5,542.43	-89.71	-2,918.60	1,905,152.96	118,462.47	36.2291132	-107.5436142
8,167.00	91.55	277.12	5,541.03	-81.73	-2,981.08	1,905,161.77	118,400.11	36.2291351	-107.5438260
8,230.00	91.08	277.74	5,539.58	-73.59	-3,043.53	1,905,170.74	118,337.77	36.2291574	-107.5440378
8,293.00	91.35	277.61	5,538.24	-65.18	-3,105.95	1,905,179.98	118,275.46	36.2291805	-107.5442494
8,357.00	90.51	278.02	5,537.21	-56.48	-3,169.35	1,905,189.52	118,212.19	36.2292044	-107.5444643
8,420.00	90.64	277.52	5,536.57	-47.96	-3,231.77	1,905,198.86	118,149.89	36.2292278	-107.5446759
8,484.00	89.69	278.07	5,536.39	-39.28	-3,295.18	1,905,208.38	118,086.60	36.2292516	-107.5448909
8,547.00	90.20	277.89	5,536.45	-30.53	-3,357.57	1,905,217.95	118,024.33	36.2292756	-107.5451024
8,609.00	90.84	277.84	5,535.89	-22.05	-3,418.98	1,905,227.25	117,963.04	36.2292989	-107.5453106
8,672.00	91.51	277.80	5,534.60	-13.48	-3,481.38	1,905,236.64	117,900.76	36.2293224	-107.5455221
8,735.00	90.22	278.43	5,533.64	-4.59	-3,543.74	1,905,246.36	117,838.52	36.2293468	-107.5457335
8,798.00	90.97	278.20	5,532.99	4.52	-3,606.07	1,905,256.29	117,776.31	36.2293718	-107.5459449
8,860.00	91.24	276.53	5,531.79	12.47	-3,667.55	1,905,265.05	117,714.95	36.2293936	-107.5461533
8,922.00	91.01	275.70	5,530.58	19.07	-3,729.18	1,905,272.47	117,653.40	36.2294117	-107.5463622
8,985.00	90.57	276.14	5,529.71	25.57	-3,791.84	1,905,279.80	117,590.84	36.2294295	-107.5465746
9,047.00	91.10	276.41	5,528.80	32.35	-3,853.46	1,905,287.39	117,529.31	36.2294481	-107.5467835



Survey Report - Geographic



Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco 2307-13D #173H - Slot E
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Site:	Chaco 2307-13D	MD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Well:	Chaco 2307-13D #173H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,110.00	90.13	275.74	5,528.13	39.01	-3,916.11	1,905,294.89	117,466.76	36.2294664	-107.5469959
9,173.00	90.57	275.62	5,527.74	45.25	-3,978.79	1,905,301.95	117,404.16	36.2294835	-107.5472084
9,235.00	89.63	275.34	5,527.64	51.17	-4,040.51	1,905,308.69	117,342.53	36.2294998	-107.5474176
9,299.00	90.77	275.79	5,527.41	57.38	-4,104.21	1,905,315.74	117,278.92	36.2295168	-107.5476336
9,362.00	90.84	275.16	5,526.53	63.39	-4,166.91	1,905,322.58	117,216.30	36.2295333	-107.5478462
9,425.00	89.43	274.74	5,526.38	68.82	-4,229.68	1,905,328.84	117,153.62	36.2295482	-107.5480589
9,487.00	90.37	274.89	5,526.49	74.03	-4,291.46	1,905,334.87	117,091.91	36.2295624	-107.5482684
9,550.00	90.20	274.40	5,526.17	79.13	-4,354.25	1,905,340.80	117,029.19	36.2295764	-107.5484812
9,612.00	88.89	274.37	5,526.67	83.87	-4,416.06	1,905,346.36	116,967.44	36.2295894	-107.5486908
9,675.00	89.60	274.72	5,527.50	88.86	-4,478.86	1,905,352.18	116,904.72	36.2296031	-107.5489037
9,737.00	90.04	276.41	5,527.69	94.87	-4,540.56	1,905,359.01	116,843.10	36.2296196	-107.5491129
9,800.00	91.11	276.57	5,527.06	101.99	-4,603.16	1,905,366.96	116,780.61	36.2296391	-107.5493251
9,863.00	91.65	276.00	5,525.54	108.89	-4,665.76	1,905,374.68	116,718.10	36.2296580	-107.5495373
9,926.00	91.58	275.22	5,523.77	115.04	-4,728.43	1,905,381.67	116,655.52	36.2296749	-107.5497498
9,989.00	90.13	274.71	5,522.83	120.49	-4,791.19	1,905,387.95	116,592.84	36.2296899	-107.5499625
10,052.00	90.57	274.84	5,522.44	125.74	-4,853.97	1,905,394.02	116,530.14	36.2297042	-107.5501753
10,115.00	91.14	274.79	5,521.50	131.03	-4,916.74	1,905,400.14	116,467.44	36.2297187	-107.5503881
10,178.00	91.61	274.32	5,519.99	136.03	-4,979.52	1,905,405.98	116,404.73	36.2297324	-107.5506010
10,241.00	91.14	274.58	5,518.48	140.91	-5,042.31	1,905,411.69	116,342.01	36.2297458	-107.5508139
10,304.00	91.75	274.29	5,516.89	145.78	-5,105.10	1,905,417.40	116,279.29	36.2297592	-107.5510267
10,367.00	91.31	274.18	5,515.21	150.44	-5,167.91	1,905,422.88	116,216.55	36.2297719	-107.5512396
10,430.00	91.78	274.32	5,513.51	155.10	-5,230.71	1,905,428.38	116,153.81	36.2297847	-107.5514526
10,493.00	91.34	275.08	5,511.79	160.26	-5,293.48	1,905,434.37	116,091.12	36.2297989	-107.5516653
10,556.00	90.47	275.50	5,510.80	166.07	-5,356.20	1,905,441.00	116,028.48	36.2298148	-107.5518780
10,619.00	91.28	276.14	5,509.84	172.46	-5,418.87	1,905,448.22	115,965.91	36.2298323	-107.5520904
10,682.00	91.85	276.24	5,508.11	179.25	-5,481.48	1,905,455.84	115,903.39	36.2298509	-107.5523027
10,745.00	92.01	276.24	5,505.99	186.09	-5,544.07	1,905,463.51	115,840.90	36.2298697	-107.5525149
10,783.00	92.17	276.67	5,504.61	190.36	-5,581.80	1,905,468.28	115,803.22	36.2298814	-107.5526428
Base Perf 10,783' MD									
10,803.00	92.25	276.89	5,503.84	192.72	-5,601.65	1,905,470.90	115,783.41	36.2298878	-107.5527101
Last SDI Lateral MWD Survey									
10,871.00	92.25	276.89	5,501.17	200.87	-5,669.10	1,905,479.95	115,716.07	36.2299102	-107.5529388
Projection to TD									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
64.00	64.00	-0.52	-0.16	First MS Gyro Survey
345.00	344.94	-5.61	-2.31	Last MS Gyro Survey
429.00	428.93	-6.66	-3.16	First SDI Surface MWD Survey
4,876.00	4,857.65	-364.14	-120.23	Last SDI Surface MWD Survey
4,907.00	4,888.63	-363.43	-120.75	First SDI Curve MWD Survey
5,881.00	5,562.78	-324.41	-710.55	Last SDI Curve MWD Survey
5,980.00	5,577.43	-317.19	-808.15	7" Casing
5,980.00	5,577.43	-317.19	-808.15	Landing Point (POE)
6,018.00	5,580.52	-313.98	-845.89	First SDI Lateral MWD Survey
10,783.00	5,504.61	190.36	-5,581.80	Base Perf 10,783' MD
10,803.00	5,503.84	192.72	-5,601.65	Last SDI Lateral MWD Survey
10,871.00	5,501.17	200.87	-5,669.10	Projection to TD



Survey Report - Geographic



Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco, 2307-13D #173H, Slot E
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Site:	Chaco, 2307-13D	MD Reference:	GL 7014' & RKB 14' @ 7028.00ft (Aztec 730)
Well:	Chaco 2307-13D #173H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Checked By:	_____	Approved By:	_____	Date:	_____
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