



3335 Pollok Drive
Conroe, Texas 77303

936.442.2500 (Office)
936.442.2599 (Fax)
www.msenergyservices.com

June 13, 2017

The Railroad Commission of Texas
Oil and Gas Division
PO Drawer 12967
Capital Station
Austin, Texas 78711-2967

Attn: Pam Johns

RE: EP Energy E&P Company, L.P.
University Central 0803CH (Permit No. 824564)
Survey: UL / Abstract: Not Available
Field: LIN (Wolfcamp)
Reagan County, TX
API number: 42-383-39840

Dear Pam Johns:

Please find enclosed the original and one copy of the survey performed on the above referenced well by MS Energy Services; RRC Operator No. 592474. Other information required by your office is as follows:

Name of surveyor	Drainhole number	Surveyed depths	Date performed	Type of Survey
James Benson	Original	Surface - 1029'	6/3/2017 - 6/3/2017	Rate Gyro

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.

Sincerely,

Ryan Moran
MS Survey

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 824564	DATE PERMIT ISSUED OR AMENDED Mar 29, 2017	DISTRICT * 7C			
API NUMBER 42-383-39840	FORM W-1 RECEIVED Mar 16, 2017	COUNTY REAGAN			
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 38716.55			
OPERATOR EP ENERGY E&P COMPANY, L.P. ATTN JOSEPH ARAIZA PO BOX 4660 HOUSTON, TX 77210-4660		253385 NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (325) 657-7450			
LEASE NAME UNIVERSITY CENTRAL		WELL NUMBER 0803CH			
LOCATION 10.2 miles W direction from BIG LAKE		TOTAL DEPTH 8999			
Section, Block and/or Survey SECTION 3 BLOCK 8 ABSTRACT SURVEY UL					
DISTANCE TO SURVEY LINES 1207 ft. W 1612 ft. S		DISTANCE TO NEAREST LEASE LINE 101 ft.			
DISTANCE TO LEASE LINES 3692 ft. NORTH 9152 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below			
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *					
FIELD NAME LEASE NAME		ACRES NEAREST LEASE	DEPTH NEAREST LEASE	WELL # NEAREST WE	DIST
-----		-----	-----	-----	---
LIN (WOLFCAMP)		38716.55	8,999	0803CH	7C
UNIVERSITY CENTRAL		101		30	

WELLBORE PROFILE(s) FOR FIELD: Horizontal					

RESTRICTIONS: Lateral: TH1 Penetration Point Location Lease Lines: 4529.0 F NORTH L 9104.0 F WEST L Terminus Location BH County: REAGAN Section: 15 Block: 8 Abstract: Survey: UL Lease Lines: 1.0 F SOUTH L 11772.0 F WEST L Survey Lines: 1.0 F SOUTH L 1158.0 F WEST L					
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.					



Job Number: SVM0-170400
 Company: EP Energy E&P Co.
 Lease/Well: University Central 0803CH
 Location: Reagan County, TX
 Rig Name: Mast
 RKB: 0'
 G.L. or M.S.L.: GL

State/Country: Texas/USA (X 1594005.05) (Y 561826.81)
 Declination: Declination See Details Below - NAD 27
 Grid: East To Grid North
 File name: C:\WINSER~1\2017\EPENER~1\MO\UNIVER~1\CENTRAL\0803CH.SVY
 Date/Time: 06-Jun-17 / 12:04
 Curve Name: Surface - 1029' M.D. (Rate Gyro)

MS Energy

Declination To True North: 6.05°
 Grid Convergence Factor: -0° 40' 8.00330"
 Total Correction Mag to Grid: 6.72°

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
50.00	1.15	283.32	50.00	.12	-.49	.12	.50	283.32	2.30
100.00	.95	294.10	99.99	.40	-1.35	.40	1.41	286.47	.56
150.00	.95	294.90	149.98	.74	-2.11	.74	2.24	289.44	.03
200.00	.93	294.44	199.97	1.09	-2.85	1.09	3.05	290.84	.04
250.00	.88	286.79	249.97	1.37	-3.59	1.37	3.84	290.82	.26
300.00	.83	294.03	299.96	1.62	-4.29	1.62	4.59	290.73	.24
350.00	.85	286.11	349.96	1.87	-4.98	1.87	5.32	290.63	.24
400.00	.78	293.46	399.95	2.11	-5.65	2.11	6.03	290.52	.25
450.00	.69	271.27	449.95	2.25	-6.26	2.25	6.65	289.81	.59
500.00	.80	270.00	499.94	2.26	-6.91	2.26	7.27	288.12	.22
550.00	.90	270.18	549.94	2.26	-7.65	2.26	7.98	286.48	.20
600.00	.94	275.10	599.93	2.30	-8.45	2.30	8.76	285.23	.18

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
650.00	1.04	275.99	649.92	2.38	-9.31	2.38	9.61	284.36	.20
700.00	1.05	267.08	699.92	2.41	-10.22	2.41	10.50	283.26	.33
750.00	1.10	260.41	749.91	2.30	-11.15	2.30	11.39	281.68	.27
800.00	.91	270.99	799.90	2.23	-12.02	2.23	12.23	280.52	.53
850.00	.96	267.14	849.89	2.22	-12.84	2.22	13.03	279.80	.16
900.00	.83	268.98	899.89	2.19	-13.62	2.19	13.79	279.14	.27
950.00	.85	271.30	949.88	2.19	-14.35	2.19	14.52	278.69	.08
1000.00	.80	264.49	999.88	2.17	-15.07	2.17	15.22	278.18	.22
Last Survey Depth Recorded									
1029.00	.80	269.86	1028.87	2.15	-15.47	2.15	15.62	277.90	.26

NAD 83, Central Zone 4203

Surface Hole Location (SHL Sec. 3)

Latitude: 31.205119° N
Longitude: 101.632393° W
X=1890472.97
Y=10404403.55
Elev.=2904'
1612' FSL & 1207' FWL

NAD 27, Central Zone 4203

Surface Hole Location (SHL Sec. 3)

Latitude: 31.204966° N
Longitude: 101.631994° W
X=1594005.05
Y=561826.81
Elev.=2904'
1612' FSL & 1207' FWL

Point of Penetration (PP Sec. 3)

Latitude: 31.202666° N
Longitude: 101.632172° W
X=1593939.76
Y=560990.91
775' FSL & 1158' FWL

First Take Point (FTP Sec. 10)

Latitude: 31.202391° N
Longitude: 101.632175° W
X=1593937.72
Y=560890.93
675' FNL & 1158' FWL

Last Take Point (LTP Sec. 15)

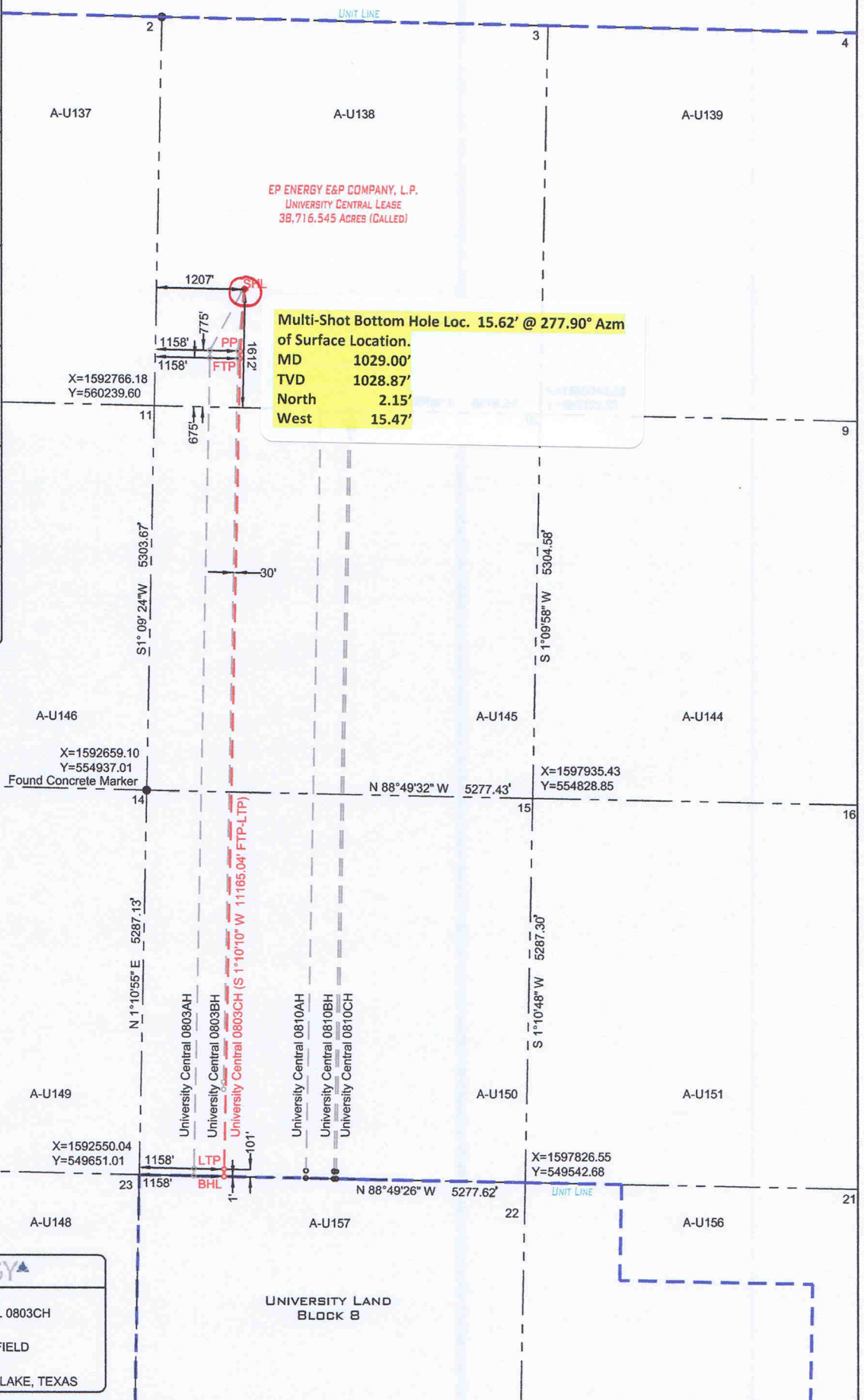
Latitude: 31.171694° N
Longitude: 101.632487° W
X=1593709.86
Y=549728.22
101' FSL & 1158' FWL

Bottom Hole Location (BHL Sec. 15)

Latitude: 31.171419° N
Longitude: 101.632489° W
X=1593707.82
Y=549628.24
1' FSL & 1158' FWL

Unit Boundary Distance

SHL	3692' FNL & 9152' FWL
PP	4529' FNL & 9104' FWL
FTP	4629' FNL & 9104' FWL
LTP	101' FSL & 11772' FWL
BHL	1' FSL & 11772' FWL



EP ENERGY

Well Name
UNIVERSITY CENTRAL 0803CH
Drilling Field
LIN (WOLFCAMP) FIELD
Nearest Town
10.20 MILES WEST OF BIG LAKE, TEXAS

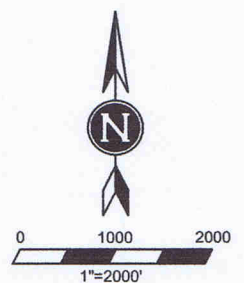
NOTE: This Plat does not, in anyway represent a "Boundary Survey", and does not comply with the current T.B.P.L.S. Minimum Standards of Procedures for Boundary Survey. Shown Acreages were furnished by others. The information contained on this plat is intended for the sole use of EP ENERGY E&P COMPANY, L.P.

NOTE: Bearings and coordinates refer to the Texas Coordinate System of 1927, Central Zone (4203), as observed by GPS observations

I, Damian M. Jagers do hereby certify that the above described well location was surveyed on the ground under my supervision, as shown.

Damian M. Jagers 3/23/2017
DATE

Damian M. Jagers
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 6269



XTS
CROSS TIMBERS SURVEYING, LLC

1503 DARTMOUTH ST., LONGVIEW, TX 75601
Phone: 254-965-8686 Fax: 254-968-5715
www.xtsurvey.com

EP ENERGY E&P COMPANY, L.P.

University Central 0803CH
Block 8, Section 03
Block 8, Section 10
Block 8, Section 15
Reagan County, Texas

Surveyor Certification Form

Survey company: **MS Energy Services**
Surveyors name: **James Benson**
Survey job type: **Rate Gyro**
Customer: **EP Energy E&P Company, L.P.**
Well: **University Central 0803CH**
API: **42-383-39840**
Surveyed from: **Surface to a depth of 1029' MD**
Survey run date: **6/3/2017 to 6/3/2017**
Surface location: **Reagan County, TX**

I certify that the data is true, correct, complete and within the limitations of the tool set forth by MS Energy Services; that I am authorized and qualified to make this report; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by MS Energy Services.

James Benson

Digitally signed by James
Benson
DN: cn=James Benson, o=MS
Energy Services, ou=MS Survey,
email=JBenson@msenergyservic
es.com, c=US
Date: 2017.06.13 14:17:56 -05'00'



NABORS DRILLING TECHNOLOGIES USA, INC.

515 West Greens Road

Houston, TX 77067

Phone: 281.874.0035

Fax: 281.872.5205

Saturday, August 12, 2017

Railroad Commission of Texas
Oil and Gas Division
PO Box 12967
Capitol Station
Austin, TX 78711-2967

Subject: **Survey Certification Letter**

Attention: **Pam Johns**

Survey Company: **NABORS DRILLING TECH USA, INC.**
Job Number: **T3484**
Survey Job Type: **Nabors MWD**
Customer: **EP Energy E&P Company**
Well Name: **University Central 0803 CH**
Rig Name: **Nabors F-34**

Operator #: **598880**
Surface: **31°12' 17.87879N/101°37' 55.17990W**
A.P.I. No: **42-383-39840**
Location: **Reagan, Tx**
RKB Height: **30'**
Distance to Bit: **51'**

								<i>TD Straight</i>
<i>Surveyor Name</i>	<i>Surveyor Title</i>	<i>Borehole</i>	<i>Start</i>	<i>End</i>	<i>Start</i>	<i>End</i>	<i>Type</i>	<i>Line</i>
		<i>Number</i>	<i>Depth</i>	<i>Depth</i>	<i>Date</i>	<i>Date</i>	<i>of</i>	<i>Projection</i>
David Foley Jr	Wellbore Navigation Specialist	OH	1059'	17928'	08/05/17	08/12/17	MWD	18005'

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by NABORS DRILLING TECHNOLOGIES USA, INC. I am authorized and qualified to review the data, calculations and these reports; the reports represents true and correct Directional Surveys of this well based on the original data, the minimum curvature method, corrected to Grid North and obtained at the well site.

David Foley Jr

Wellbore Navigation Specialist
NABORS DRILLING TECHNOLOGIES USA, INC.



EP Energy E&P Company, L.P.

Reagan Co., TX

University Central 0803

CH

OH

Design: Surveys

Completion Report

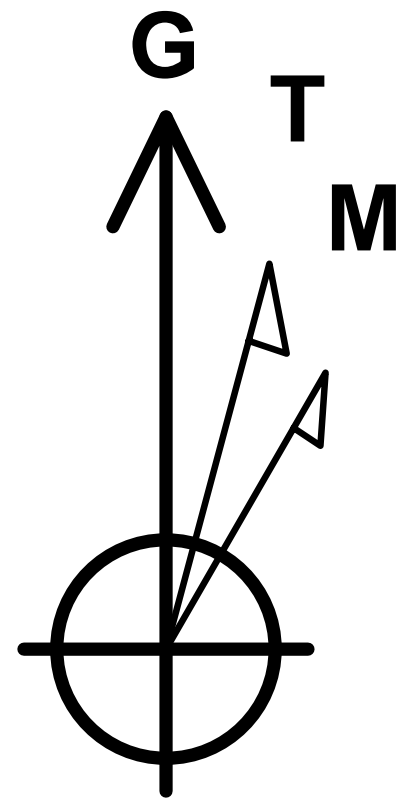
14 August, 2017





WELL DETAILS: CH

Ground Elevation: 2904.00
RKB Elevation: KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Rig Name: Nabors F34



Azimuths to Grid North
True North: 0.67°
Magnetic North: 6.62°

Magnetic Field
Strength: 47642.9snT
Dip Angle: 59.53°
Date: 5/10/2017
Model: HDGM

Project: Reagan Co., TX
Site: University Central 0803
Well: CH
Wellbore: OH
Plan: PN3 (CH/OH)

	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
	0.00	0.00	561826.810	1594005.050	31° 12' 17.87879 N	101° 37' 55.17990 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
8904.00	82.19	175.72	8585.70	-660.09	17.73	0.00	0.00	659.51
9601.43	93.94	183.25	8609.23	-1355.37	23.81	2.00	32.85	1354.47
11786.38	93.94	183.25	8459.04	-3531.64	-99.83	0.00	0.00	3533.00
11964.23	91.07	181.14	8451.26	-3709.17	-106.64	2.00	-143.66	3710.64
12615.71	91.07	181.14	8439.04	-4360.40	-119.65	0.00	0.00	4362.00
12673.86	89.93	181.37	8438.53	-4418.54	-120.92	2.00	168.65	4420.15
14850.72	89.93	181.37	8441.03	-6594.77	-173.08	0.00	0.00	6597.00
14904.51	91.01	181.37	8440.59	-6648.53	-174.37	2.00	-0.16	6650.78
16524.98	91.01	181.37	8412.03	-8268.29	-213.11	0.00	0.00	8271.00
16579.48	92.10	181.37	8410.55	-8322.76	-214.41	2.00	0.00	8325.48
17999.00	92.10	181.37	8358.53	-9740.92	-248.32	0.00	0.00	9744.05

0803CH_T2

0803CH_T3

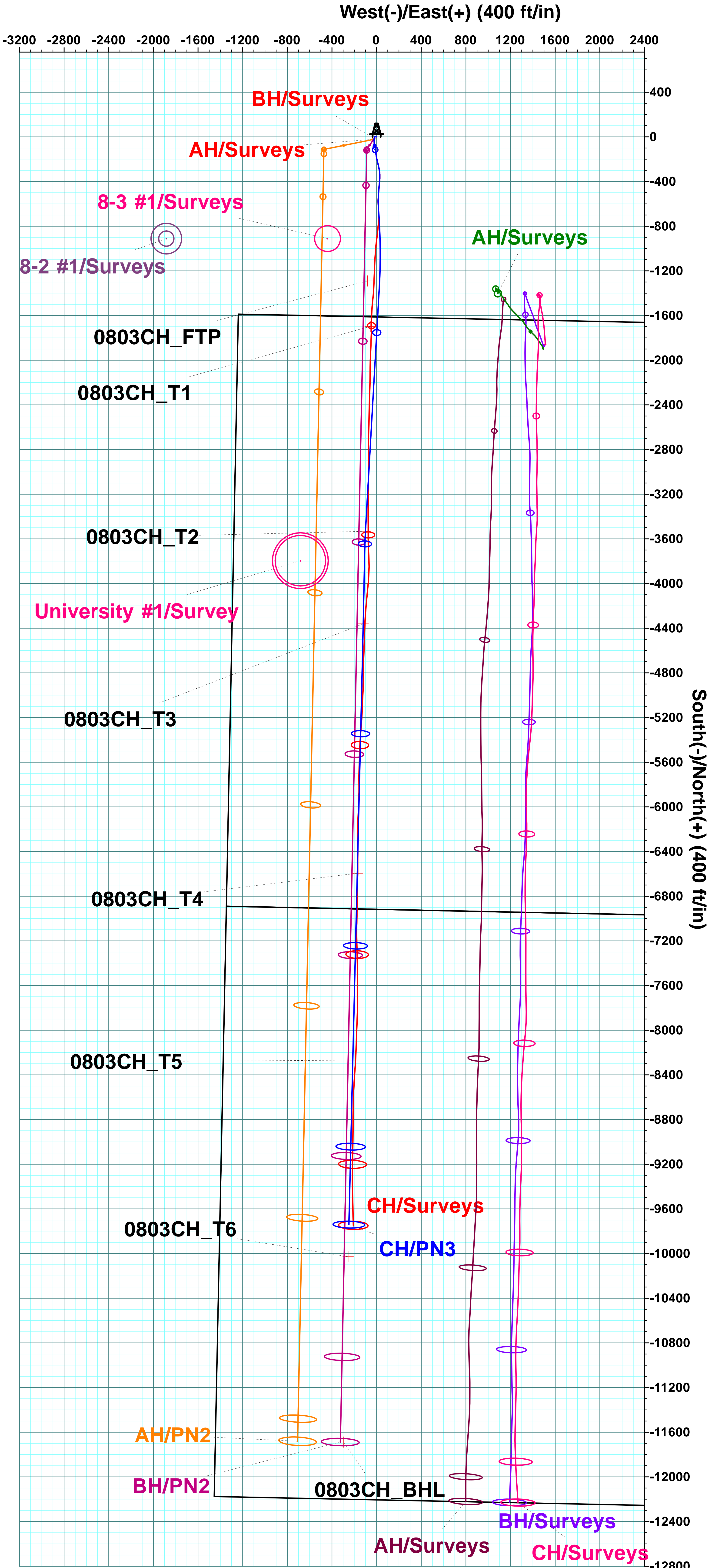
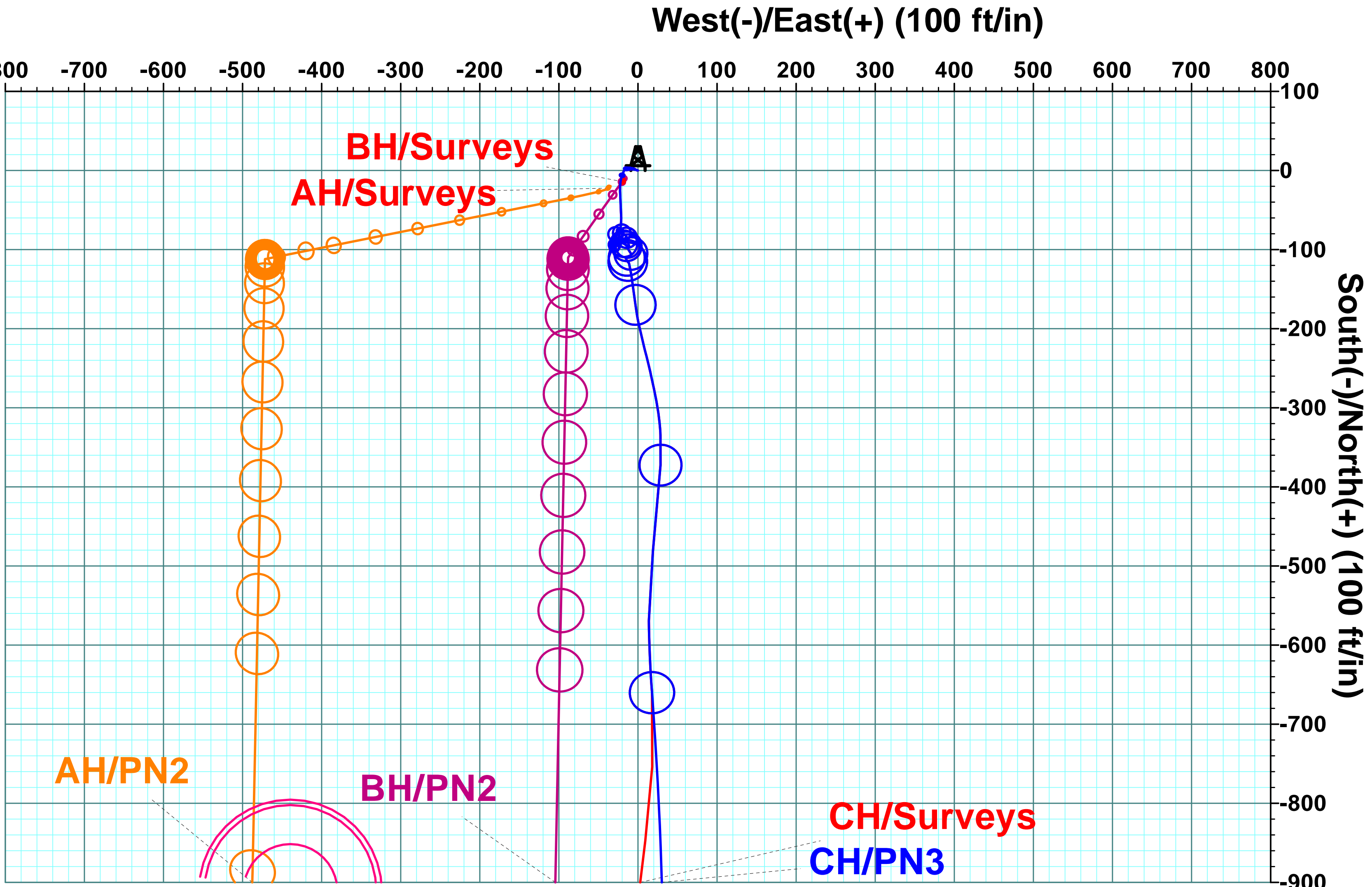
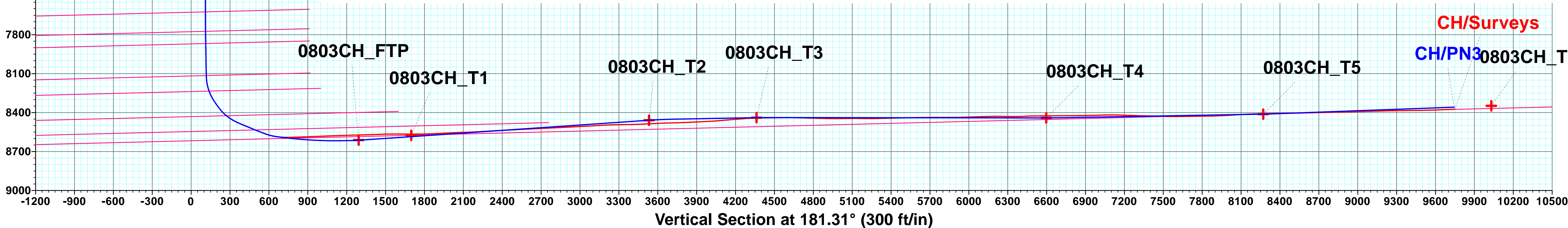
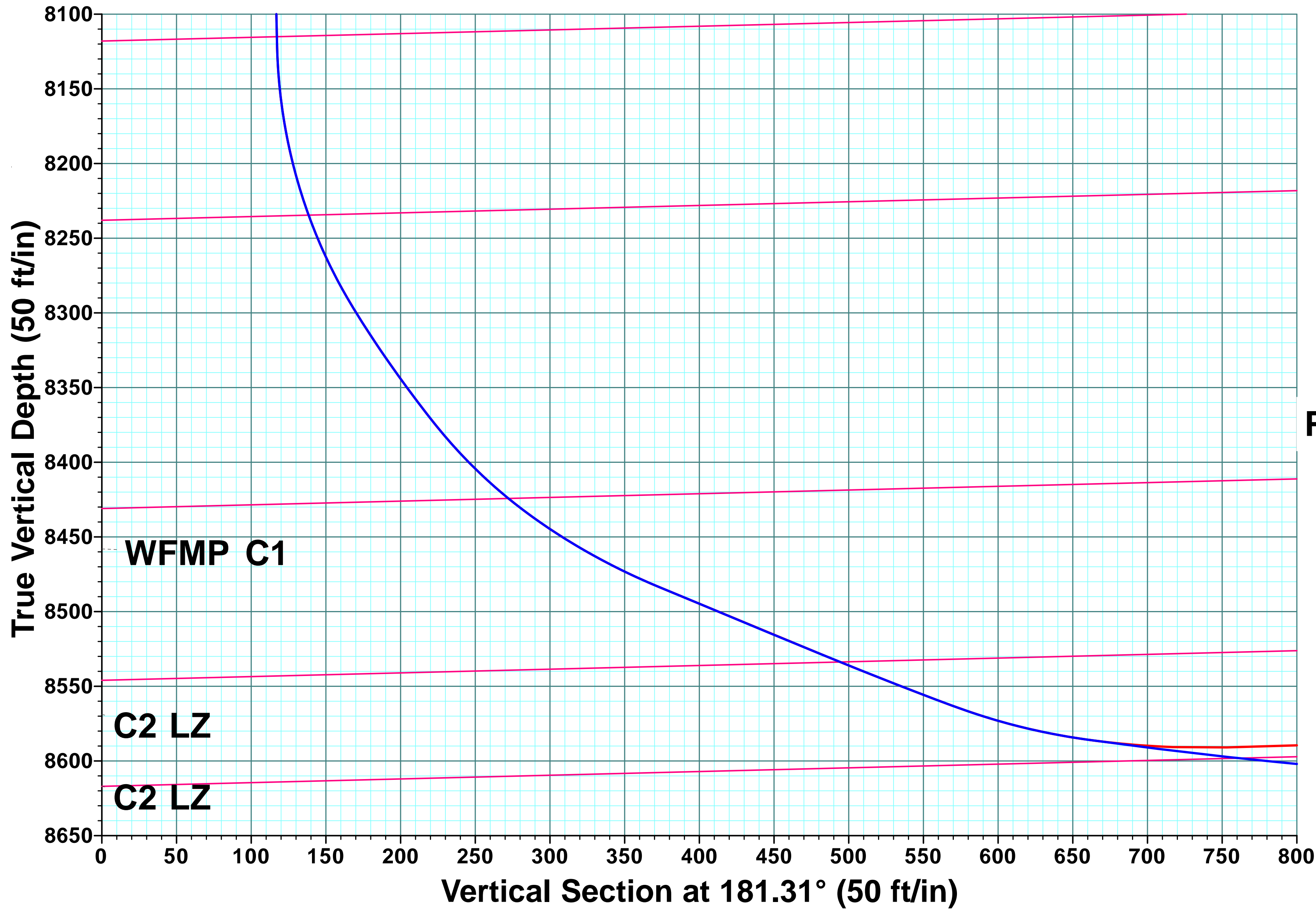
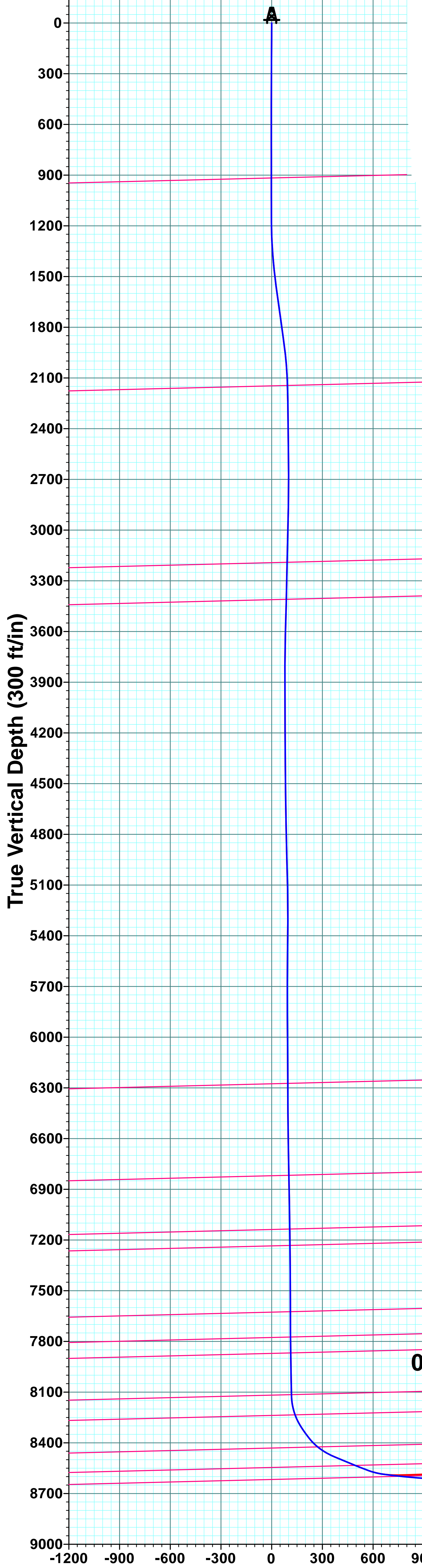
0803CH_T4

0803CH_T5

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
917.05	917.16	Base Cretaceous
2144.69	2150.39	Yates
3190.73	3196.62	Grayburg
3409.85	3415.80	San Andres
6273.64	6280.07	Spraberry
6817.48	6823.97	Lower Spraberry
7135.34	7141.90	Jo Mill
7232.32	7238.90	SPRBORG
7624.26	7630.87	Dean
7774.24	7780.86	WFMP
7868.21	7874.84	WFMPA
8115.09	8121.79	WFMP B
8234.57	8243.81	WFMP B1
8424.25	8480.30	WFMP C
8533.75	8730.00	WFMP C1
8598.13	9006.79	C2 LZ

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
0803CH_BHL	8327.00	-11688.50	-294.82	550138.330	1593710.230
0803CH_FTP	8612.00	-1290.65	-82.58	560536.160	1593922.470
0803CH_T1	8575.00	-1697.16	-56.09	560129.652	1593948.965
0803CH_T2	8459.04	-3531.64	-99.83	558295.176	1593905.220
0803CH_T3	8439.04	-4360.40	-119.65	557466.414	1593885.404
0803CH_T4	8441.03	-6594.77	-173.08	555232.056	1593831.968
0803CH_T5	8412.03	-8268.29	-213.11	553558.537	1593791.945
0803CH_T6	8348.01	-10027.79	-255.18	551799.043	1593749.866



Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Project	Reagan Co., TX, Texas, U.S.A.		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Texas Central 4203		

Site	University Central 0803		
Site Position:		Northing:	561,086.960 usft
From:	Map	Easting:	1,596,456.340 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	31° 12' 10.83850 N
		Longitude:	101° 37' 26.85609 W
		Grid Convergence:	-0.66 °

Well	CH		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/10/2017	5.95	59.53	47,642.90000000

Design	Surveys			
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	181.31

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey Program		Date	8/14/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description		
30.00	1,059.00	Survey #1 (OH)	GYRO-GMS-ISGYRO-WL	MSE ISGYRO multishot memory rate gyro running in w		
1,182.00	11,907.00	Survey #2 (OH)	MWD+HRGM	OWSG MWD + HRGM		
12,002.00	18,005.00	Survey #3 NDS Lateral Surveys (OH)	MWD+HRGM	OWSG MWD + HRGM		

Survey										
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Closure Distance (ft)	Closure Azimuth (°)	
0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80.00	1.15	283.32	80.00	0.12	-0.49	-0.10	2.30	0.50	283.32	
130.00	0.95	294.10	129.99	0.40	-1.35	-0.37	0.56	1.41	286.47	
180.00	0.95	294.90	179.98	0.74	-2.11	-0.70	0.03	2.24	289.43	
230.00	0.93	294.44	229.97	1.09	-2.85	-1.02	0.04	3.05	290.84	
280.00	0.88	286.79	279.97	1.37	-3.59	-1.28	0.26	3.84	290.82	
330.00	0.83	294.03	329.96	1.62	-4.29	-1.53	0.24	4.59	290.73	
380.00	0.85	286.11	379.96	1.87	-4.98	-1.76	0.24	5.32	290.63	
430.00	0.78	293.46	429.95	2.11	-5.65	-1.98	0.25	6.03	290.52	
480.00	0.69	271.27	479.95	2.25	-6.26	-2.11	0.59	6.65	289.81	
530.00	0.80	270.00	529.94	2.26	-6.91	-2.10	0.22	7.27	288.12	
580.00	0.90	270.18	579.94	2.26	-7.65	-2.09	0.20	7.98	286.48	
630.00	0.94	275.10	629.93	2.30	-8.45	-2.11	0.18	8.76	285.23	
680.00	1.04	275.99	679.92	2.38	-9.31	-2.17	0.20	9.61	284.36	
730.00	1.05	267.08	729.92	2.41	-10.22	-2.17	0.33	10.50	283.26	
780.00	1.10	260.41	779.91	2.30	-11.15	-2.05	0.27	11.39	281.68	
830.00	0.91	270.99	829.90	2.23	-12.02	-1.96	0.53	12.23	280.52	
880.00	0.96	267.14	879.89	2.22	-12.84	-1.92	0.16	13.03	279.80	
930.00	0.83	268.98	929.89	2.19	-13.62	-1.88	0.27	13.79	279.14	

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey										
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Closure Distance (ft)	Closure Azimuth (°)	
980.00	0.85	271.30	979.88	2.19	-14.35	-1.86	0.08	14.52	278.69	
1,030.00	0.80	264.49	1,029.88	2.17	-15.07	-1.82	0.22	15.22	278.18	
1,059.00	0.80	269.86	1,058.87	2.15	-15.47	-1.79	0.26	15.62	277.90	
1,182.00	0.50	223.18	1,181.87	1.75	-16.70	-1.37	0.47	16.79	276.00	
1,369.00	4.69	200.86	1,368.63	-5.99	-19.98	6.44	2.26	20.86	253.32	
1,557.00	7.50	179.76	1,555.58	-25.45	-22.67	25.96	1.89	34.08	221.69	
1,745.00	8.31	175.37	1,741.79	-51.26	-21.52	51.74	0.54	55.59	202.77	
1,933.00	7.31	190.84	1,928.06	-76.55	-22.67	77.05	1.23	79.84	196.50	
2,121.00	2.69	222.30	2,115.33	-91.57	-27.89	92.18	2.77	95.72	196.94	
2,309.00	0.63	176.95	2,303.24	-95.87	-30.81	96.54	1.22	100.69	197.82	
2,496.00	0.69	140.04	2,490.23	-97.75	-30.03	98.42	0.23	102.26	197.08	
2,683.00	0.81	139.16	2,677.21	-99.62	-28.44	100.24	0.06	103.60	195.93	
2,871.00	1.50	340.43	2,865.20	-98.30	-28.40	98.93	1.21	102.32	196.11	
3,059.00	1.31	352.38	3,053.14	-93.86	-29.51	94.51	0.19	98.38	197.45	
3,247.00	1.19	359.41	3,241.10	-89.77	-29.81	90.43	0.10	94.59	198.37	
3,435.00	1.38	13.30	3,429.05	-85.62	-29.31	86.27	0.19	90.50	198.90	
3,623.00	1.81	9.96	3,616.98	-80.49	-28.28	81.12	0.23	85.31	199.36	
3,812.00	1.00	97.15	3,805.93	-77.76	-26.12	78.33	1.07	82.03	198.57	
4,000.00	0.81	104.18	3,993.91	-78.29	-23.21	78.80	0.12	81.65	196.51	
4,188.00	0.94	104.18	4,181.89	-78.99	-20.42	79.44	0.07	81.59	194.50	
4,377.00	0.81	124.04	4,370.87	-80.12	-17.81	80.50	0.17	82.07	192.54	
4,566.00	0.94	143.73	4,559.84	-82.11	-15.79	82.45	0.17	83.62	190.88	
4,754.00	1.06	163.07	4,747.82	-85.02	-14.37	85.33	0.19	86.23	189.59	
4,942.00	1.56	162.71	4,935.77	-89.13	-13.10	89.41	0.27	90.09	188.36	
5,130.00	1.69	162.01	5,123.69	-94.21	-11.49	94.45	0.07	94.91	186.95	
5,318.00	1.69	298.59	5,311.66	-95.52	-13.07	95.79	1.67	96.41	187.79	
5,506.00	0.81	312.66	5,499.61	-93.29	-16.48	93.64	0.49	94.74	190.02	

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey										
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Closure Distance (ft)	Closure Azimuth (°)	
5,693.00	0.38	279.26	5,686.60	-92.30	-18.06	92.69	0.29	94.05	191.07	
5,880.00	0.56	114.90	5,873.60	-92.58	-17.84	92.97	0.50	94.29	190.91	
6,068.00	1.13	123.69	6,061.58	-94.00	-15.47	94.33	0.31	95.26	189.35	
6,256.00	0.19	270.99	6,249.57	-95.02	-14.24	95.32	0.69	96.08	188.52	
6,442.00	0.50	160.96	6,435.56	-95.78	-14.28	96.08	0.32	96.84	188.48	
6,629.00	1.06	152.34	6,622.55	-98.08	-13.21	98.36	0.31	98.97	187.67	
6,817.00	1.25	146.01	6,810.51	-101.33	-11.26	101.56	0.12	101.95	186.34	
7,005.00	1.31	147.60	6,998.46	-104.84	-8.96	105.02	0.04	105.22	184.89	
7,193.00	1.19	245.16	7,186.43	-107.47	-9.58	107.67	1.00	107.90	185.09	
7,382.00	0.88	214.22	7,375.40	-109.50	-12.18	109.75	0.33	110.17	186.35	
7,570.00	0.75	286.11	7,563.39	-110.35	-14.17	110.65	0.51	111.26	187.32	
7,759.00	0.56	175.72	7,752.38	-110.93	-15.29	111.25	0.57	111.98	187.85	
7,946.00	1.19	148.65	7,939.36	-113.50	-14.21	113.79	0.39	114.39	187.14	
8,040.00	1.44	137.40	8,033.33	-115.20	-12.91	115.47	0.38	115.92	186.39	
8,129.00	1.81	143.55	8,122.30	-117.16	-11.31	117.38	0.46	117.70	185.52	
8,222.00	16.56	171.33	8,213.87	-131.52	-8.43	131.68	16.11	131.79	183.67	
8,316.00	32.19	172.56	8,299.23	-169.83	-3.13	169.86	16.64	169.86	181.06	
8,410.00	39.88	165.00	8,375.22	-223.87	7.93	223.63	9.44	224.01	177.97	
8,503.00	55.25	168.87	8,437.80	-290.57	23.12	289.97	16.80	291.49	175.45	
8,597.00	67.44	182.75	8,482.96	-372.43	28.53	371.69	18.29	373.53	175.62	
8,716.00	67.63	187.32	8,528.45	-481.94	18.88	481.38	3.55	482.31	177.76	
8,810.00	69.56	179.41	8,562.80	-569.22	13.79	568.75	8.10	569.38	178.61	
8,904.00	82.19	175.72	8,585.70	-660.09	17.73	659.51	13.96	660.33	178.46	
8,998.00	91.44	183.81	8,590.93	-753.76	18.09	753.15	13.06	753.98	178.63	
9,092.00	91.88	186.97	8,588.20	-847.30	9.26	846.86	3.39	847.35	179.37	
9,185.00	92.25	186.80	8,584.85	-939.56	-1.88	939.36	0.44	939.57	180.11	
9,279.00	92.19	183.98	8,581.21	-1,033.07	-10.70	1,033.04	3.00	1,033.12	180.59	

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey										
MD (ft)	Inc (°)	Azi (azimuth) (°)		TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Closure Distance (ft)	Closure Azimuth (°)
9,373.00	92.25	182.93		8,577.57	-1,126.83	-16.36	1,126.91	1.12	1,126.95	180.83
9,467.00	91.31	182.40		8,574.65	-1,220.68	-20.73	1,220.83	1.15	1,220.85	180.97
9,538.07	91.36	181.61		8,572.99	-1,291.68	-23.21	1,291.87	1.12	1,291.89	181.03
0803CH_FTP										
9,561.00	91.38	181.35		8,572.44	-1,314.60	-23.80	1,314.80	1.12	1,314.82	181.04
9,655.00	92.44	185.57		8,569.31	-1,408.35	-29.47	1,408.66	4.63	1,408.66	181.20
9,749.00	91.69	185.39		8,565.92	-1,501.86	-38.44	1,502.35	0.82	1,502.36	181.47
9,843.00	89.31	181.52		8,565.10	-1,595.66	-44.11	1,596.26	4.83	1,596.27	181.58
9,937.00	89.56	180.64		8,566.03	-1,689.64	-45.88	1,690.25	0.97	1,690.26	181.56
9,944.71	89.68	180.76		8,566.08	-1,697.35	-45.97	1,697.96	2.19	1,697.97	181.55
0803CH_T1										
10,031.00	91.06	182.05		8,565.52	-1,783.61	-48.08	1,784.24	2.19	1,784.26	181.54
10,124.00	92.06	182.05		8,562.99	-1,876.51	-51.41	1,877.20	1.08	1,877.22	181.57
10,218.00	93.94	182.58		8,558.07	-1,970.30	-55.20	1,971.05	2.08	1,971.08	181.60
10,312.00	91.69	180.64		8,553.45	-2,064.14	-57.84	2,064.93	3.16	2,064.95	181.60
10,406.00	91.56	180.29		8,550.79	-2,158.10	-58.60	2,158.88	0.40	2,158.90	181.56
10,500.00	94.56	182.23		8,545.77	-2,251.93	-60.66	2,252.73	3.80	2,252.75	181.54
10,594.00	92.69	181.52		8,539.83	-2,345.69	-63.73	2,346.53	2.13	2,346.55	181.56
10,688.00	93.13	181.35		8,535.05	-2,439.54	-66.08	2,440.41	0.50	2,440.43	181.55
10,781.00	92.63	180.82		8,530.38	-2,532.40	-67.84	2,533.29	0.78	2,533.31	181.53
10,875.00	93.00	182.40		8,525.76	-2,626.25	-70.48	2,627.17	1.72	2,627.19	181.54
10,969.00	92.56	179.41		8,521.20	-2,720.12	-71.96	2,721.05	3.21	2,721.07	181.52
11,063.00	92.88	180.29		8,516.74	-2,814.01	-71.71	2,814.91	1.00	2,814.92	181.46
11,157.00	92.88	180.47		8,512.02	-2,907.89	-72.33	2,908.78	0.19	2,908.79	181.42
11,250.00	93.00	180.12		8,507.25	-3,000.76	-72.81	3,001.64	0.40	3,001.65	181.39
11,345.00	93.13	180.64		8,502.17	-3,095.62	-73.44	3,096.49	0.56	3,096.50	181.36
11,438.00	93.44	180.82		8,496.84	-3,188.46	-74.62	3,189.34	0.39	3,189.34	181.34

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey										
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Closure Distance (ft)	Closure Azimuth (°)	
11,532.00	91.13	180.64	8,493.09	-3,282.38	-75.82	3,283.25	2.46	3,283.25	181.32	
11,626.00	89.81	179.41	8,492.32	-3,376.37	-75.86	3,377.22	1.92	3,377.22	181.29	
11,720.00	93.06	179.94	8,489.97	-3,470.32	-75.33	3,471.14	3.50	3,471.14	181.24	
11,782.83	92.98	179.94	8,486.66	-3,533.06	-75.26	3,533.86	0.13	3,533.86	181.22	
0803CH_T2										
11,814.00	92.94	179.94	8,485.05	-3,564.20	-75.23	3,564.98	0.13	3,564.99	181.21	
11,907.00	92.13	179.24	8,480.94	-3,657.10	-74.57	3,657.85	1.15	3,657.86	181.17	
12,002.00	90.38	174.84	8,478.86	-3,751.92	-69.66	3,752.54	4.98	3,752.57	181.06	
12,099.00	94.44	182.50	8,474.77	-3,848.72	-67.40	3,849.25	8.93	3,849.31	181.00	
12,192.00	91.19	182.40	8,470.20	-3,941.51	-71.37	3,942.11	3.50	3,942.16	181.04	
12,287.00	94.50	186.27	8,465.49	-4,036.09	-78.54	4,036.83	5.36	4,036.85	181.11	
12,381.00	95.25	185.57	8,457.50	-4,129.25	-88.20	4,130.19	1.09	4,130.19	181.22	
12,475.00	93.56	184.33	8,450.28	-4,222.62	-96.29	4,223.72	2.23	4,223.72	181.31	
12,569.00	94.75	183.10	8,443.47	-4,316.17	-102.36	4,317.38	1.82	4,317.38	181.36	
12,614.02	91.61	182.34	8,440.97	-4,361.06	-104.49	4,362.31	7.18	4,362.32	181.37	
0803CH_T3										
12,663.00	88.19	181.52	8,441.06	-4,410.01	-106.14	4,411.28	7.18	4,411.29	181.38	
12,757.00	92.94	182.75	8,440.13	-4,503.91	-109.64	4,505.24	5.22	4,505.24	181.39	
12,851.00	89.06	182.05	8,438.49	-4,597.79	-113.58	4,599.19	4.19	4,599.20	181.42	
12,945.00	88.63	181.35	8,440.39	-4,691.73	-116.37	4,693.17	0.87	4,693.18	181.42	
13,040.00	88.50	180.12	8,442.77	-4,786.69	-117.58	4,788.13	1.30	4,788.14	181.41	
13,135.00	88.13	181.52	8,445.56	-4,881.64	-118.94	4,883.08	1.52	4,883.09	181.40	
13,229.00	90.56	182.93	8,446.63	-4,975.55	-122.59	4,977.06	2.99	4,977.06	181.41	
13,323.00	91.25	182.40	8,445.15	-5,069.44	-126.96	5,071.02	0.93	5,071.03	181.43	
13,418.00	88.31	182.40	8,445.51	-5,164.35	-130.94	5,165.99	3.09	5,166.01	181.45	
13,512.00	90.69	184.33	8,446.33	-5,258.17	-136.46	5,259.91	3.26	5,259.94	181.49	
13,607.00	92.31	184.51	8,443.85	-5,352.85	-143.78	5,354.74	1.72	5,354.78	181.54	

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey									
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Closure Distance (ft)	Closure Azimuth (°)
13,701.00	90.63	181.87	8,441.44	-5,446.66	-149.00	5,448.65	3.33	5,448.70	181.57
13,795.00	91.63	182.40	8,439.58	-5,540.58	-152.50	5,542.62	1.20	5,542.68	181.58
13,889.00	90.50	181.52	8,437.83	-5,634.50	-155.72	5,636.59	1.52	5,636.65	181.58
13,983.00	90.44	180.82	8,437.06	-5,728.48	-157.64	5,730.59	0.75	5,730.65	181.58
14,077.00	89.50	179.06	8,437.11	-5,822.48	-157.54	5,824.56	2.12	5,824.61	181.55
14,170.00	91.06	182.05	8,436.66	-5,915.46	-158.44	5,917.53	3.63	5,917.58	181.53
14,264.00	91.69	182.58	8,434.40	-6,009.35	-162.24	6,011.49	0.88	6,011.54	181.55
14,358.00	92.44	182.05	8,431.02	-6,103.21	-166.03	6,105.41	0.98	6,105.47	181.56
14,452.00	90.25	180.99	8,428.81	-6,197.15	-168.52	6,199.38	2.59	6,199.44	181.56
14,545.00	88.06	179.06	8,430.18	-6,290.13	-168.56	6,292.34	3.14	6,292.39	181.54
14,640.00	92.13	180.82	8,430.02	-6,385.10	-168.46	6,387.29	4.67	6,387.33	181.51
14,733.00	92.00	179.94	8,426.67	-6,478.04	-169.08	6,480.21	0.96	6,480.25	181.50
14,827.00	89.94	179.94	8,425.08	-6,572.02	-168.98	6,574.17	2.19	6,574.19	181.47
14,849.76	90.08	180.49	8,425.08	-6,594.78	-169.07	6,596.92	2.51	6,596.95	181.47
0803CH_T4									
14,921.00	90.50	182.23	8,424.72	-6,666.00	-170.76	6,668.16	2.51	6,668.18	181.47
15,015.00	90.81	181.52	8,423.65	-6,759.94	-173.84	6,762.15	0.82	6,762.17	181.47
15,109.00	90.56	180.47	8,422.52	-6,853.92	-175.47	6,856.14	1.15	6,856.16	181.47
15,203.00	90.44	180.29	8,421.70	-6,947.91	-176.09	6,950.12	0.23	6,950.14	181.45
15,297.00	93.13	181.52	8,418.77	-7,041.84	-177.58	7,044.06	3.15	7,044.08	181.44
15,391.00	87.63	179.59	8,418.15	-7,135.80	-178.49	7,138.01	6.20	7,138.03	181.43
15,485.00	88.00	178.36	8,421.73	-7,229.71	-176.81	7,231.86	1.37	7,231.87	181.40
15,578.00	88.81	178.71	8,424.32	-7,322.64	-174.43	7,324.72	0.95	7,324.72	181.36
15,672.00	88.63	178.53	8,426.42	-7,416.59	-172.17	7,418.59	0.27	7,418.59	181.33
15,766.00	87.56	179.59	8,429.55	-7,510.53	-170.62	7,512.46	1.60	7,512.46	181.30
15,860.00	90.94	180.64	8,430.78	-7,604.50	-170.81	7,606.42	3.77	7,606.42	181.29
15,954.00	91.06	178.89	8,429.14	-7,698.48	-170.43	7,700.37	1.87	7,700.37	181.27

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey										
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Closure Distance (ft)	Closure Azimuth (°)	
16,048.00	90.69	181.52	8,427.70	-7,792.46	-170.76	7,794.33	2.83	7,794.34	181.26	
16,141.00	91.00	182.05	8,426.33	-7,885.41	-173.66	7,887.32	0.66	7,887.32	181.26	
16,235.00	93.56	182.75	8,422.59	-7,979.24	-177.59	7,981.22	2.82	7,981.22	181.28	
16,329.00	93.81	181.35	8,416.55	-8,072.99	-180.95	8,075.01	1.51	8,075.01	181.28	
16,423.00	91.88	182.05	8,411.88	-8,166.82	-183.73	8,168.89	2.18	8,168.89	181.29	
16,517.00	91.19	182.93	8,409.36	-8,260.70	-187.82	8,262.84	1.19	8,262.84	181.30	
16,526.06	91.27	183.05	8,409.17	-8,269.75	-188.29	8,271.89	1.60	8,271.89	181.30	
0803CH_T5										
16,611.00	92.06	184.16	8,406.70	-8,354.48	-193.63	8,356.72	1.60	8,356.72	181.33	
16,705.00	90.69	183.81	8,404.44	-8,448.22	-200.16	8,450.59	1.50	8,450.59	181.36	
16,799.00	91.13	182.75	8,402.95	-8,542.06	-205.53	8,544.52	1.22	8,544.53	181.38	
16,893.00	91.44	180.64	8,400.84	-8,635.99	-208.31	8,638.49	2.27	8,638.50	181.38	
16,987.00	90.63	181.52	8,399.14	-8,729.95	-210.09	8,732.47	1.27	8,732.48	181.38	
17,082.00	91.38	180.12	8,397.48	-8,824.92	-211.44	8,827.45	1.67	8,827.46	181.37	
17,175.00	92.56	180.47	8,394.28	-8,917.87	-211.92	8,920.38	1.32	8,920.38	181.36	
17,269.00	90.94	180.12	8,391.41	-9,011.82	-212.41	9,014.32	1.76	9,014.32	181.35	
17,363.00	92.31	182.05	8,388.74	-9,105.76	-214.19	9,108.27	2.52	9,108.28	181.35	
17,458.00	90.63	180.12	8,386.31	-9,200.70	-215.98	9,203.23	2.69	9,203.24	181.34	
17,552.00	90.88	180.99	8,385.07	-9,294.69	-216.89	9,297.22	0.96	9,297.22	181.34	
17,646.00	90.63	179.59	8,383.83	-9,388.68	-217.37	9,391.19	1.51	9,391.19	181.33	
17,740.00	90.06	177.66	8,383.26	-9,482.64	-215.11	9,485.08	2.14	9,485.08	181.30	
17,834.00	92.88	179.41	8,380.85	-9,576.57	-212.71	9,578.93	3.53	9,578.93	181.27	
17,928.00	91.88	178.36	8,376.95	-9,670.47	-210.88	9,672.76	1.54	9,672.76	181.25	
18,005.00	91.88	178.36	8,374.42	-9,747.39	-208.68	9,749.62	0.00	9,749.63	181.23	
PTB - 0803CH_BHL - 0803CH_T6										

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Reagan Co., TX	TVD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Site:	University Central 0803	MD Reference:	KB=30 (Nabors F34) @ 2934.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
18,005.00	8,374.42	-9,747.39	-208.68	PTB

Checked By: _____	Approved By: _____	Date: _____
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NAD 83, Central Zone 4203
Surface Hole Location (SHL Sec. 3)
Latitude: 31.205119° N
Longitude: 101.632393° W
X=1890472.97
Y=10404403.55
Elev.=2904'
1612' FSL & 1207' FWL

NAD 27, Central Zone 4203
Surface Hole Location (SHL Sec. 3)
Latitude: 31.204966° N
Longitude: 101.631994° W
X=1594005.05
Y=561826.81
Elev.=2904'
1612' FSL & 1207' FWL

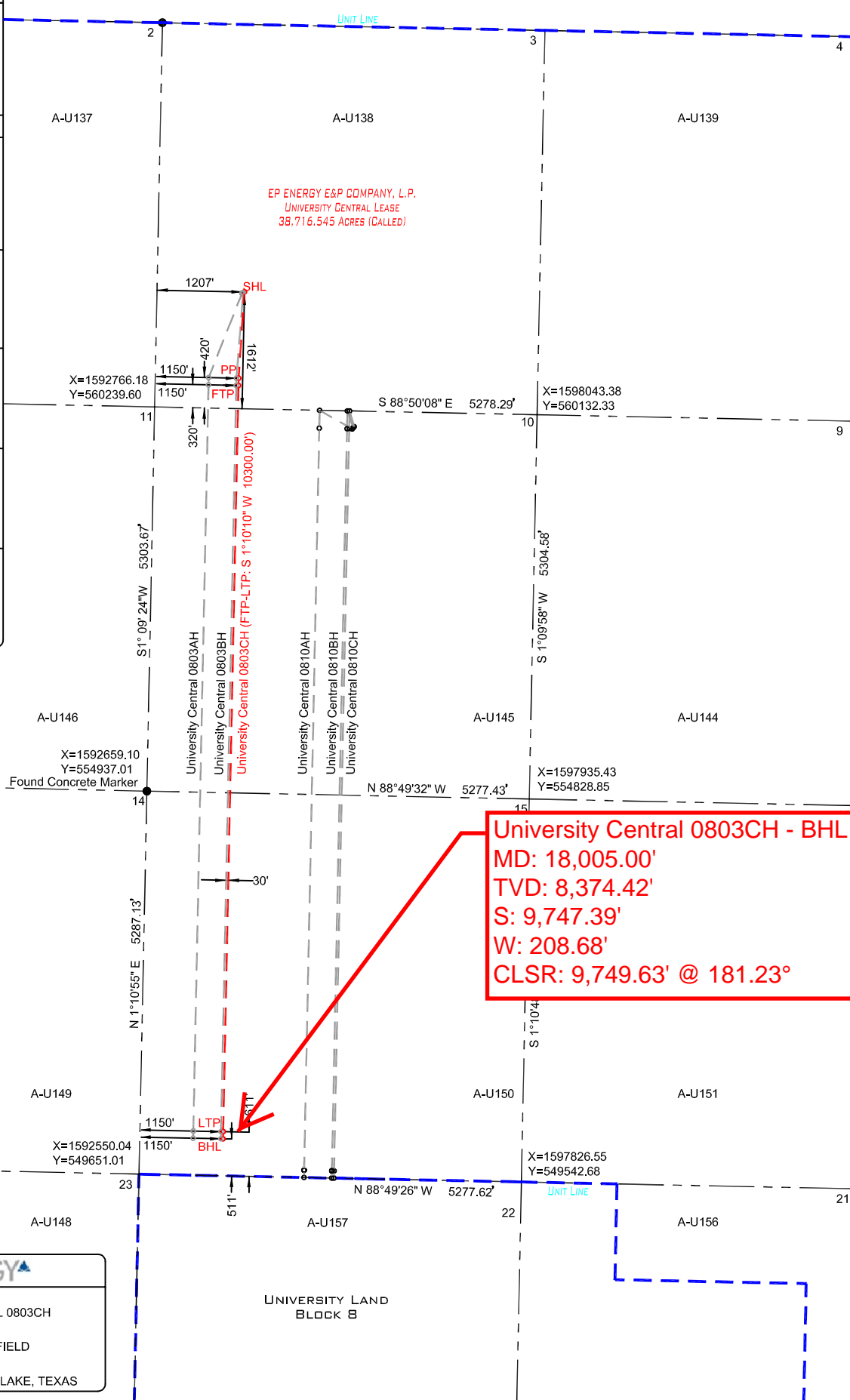
Point of Penetration (PP Sec. 3)
Latitude: 31.201690° N
Longitude: 101.632208° W
X=1593924.51
Y=560636.14
420' FSL & 1150' FWL

First Take Point (FTP Sec. 10)
Latitude: 31.201415° N
Longitude: 101.632210° W
X=1593922.47
Y=560536.16
320' FNL & 1150' FWL

Last Take Point (LTP Sec. 15)
Latitude: 31.173096° N
Longitude: 101.632498° W
X=1593712.27
Y=550238.31
611' FSL & 1150' FWL

Bottom Hole Location (BHL Sec. 15)
Latitude: 31.172822° N
Longitude: 101.632501° W
X=1593710.23
Y=550138.33
511' FSL & 1150' FWL

Unit Boundary Distance	
SHL	3692' FNL & 9152' FWL
PP	4884' FNL & 9096' FWL
FTP	4984' FNL & 9096' FWL
LTP	611' FSL & 11764' FWL
BHL	511' FSL & 11764' FWL



University Central 0803CH - BHL
MD: 18,005.00'
TVD: 8,374.42'
S: 9,747.39'
W: 208.68'
CLSR: 9,749.63' @ 181.23°

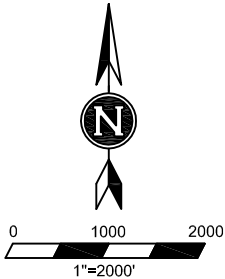
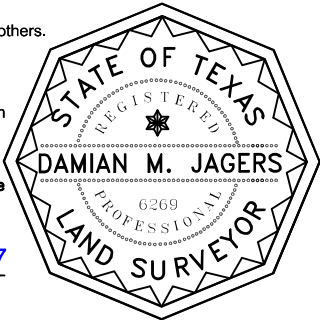
Well Name
UNIVERSITY CENTRAL 0803CH
Drilling Field
LIN (WOLFCAMP) FIELD
Nearest Town
10.20 MILES WEST OF BIG LAKE, TEXAS

NOTE: This Plat does not, in anyway represent a "Boundary Survey", and does not comply with the current T.B.P.L.S. Minimum Standards of Procedures for Boundary Survey. Shown Acreages were furnished by others. The Information contained on this plat is intended for the sole use of EP ENERGY E&P COMPANY, L.P.

NOTE: Bearings and coordinates refer to the Texas Coordinate System of 1927, Central Zone (4203), as observed by GPS observations

I, Damian M. Jagers do hereby certify that the above described well location was surveyed on the ground under my supervision, as shown.

Damian M. Jagers 5/9/2017
Damian M. Jagers
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 6269



CROSS TIMBERS SURVEYING, LLC
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www.xtsurvey.com

EP ENERGY E&P COMPANY, L.P.

University Central 0803CH
Block 8, Section 03
Block 8, Section 10
Block 8, Section 15
Reagan County, Texas