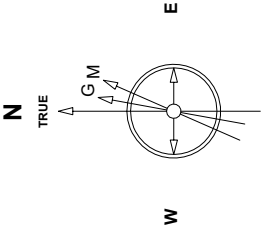


Great Western Operating Company, LLC

Created by	mmount
Date plotted	17-Sep-2019
Plot reference is Tollway LC 24-375HNX (AWB).	
Ref wellpath is Tollway LC 24-375HNX (AWP#1).	
Coordinates are in Feet reference S07 - Tollway LC 24-375HNX.	
True Vertical Depths are reference Rig Datum.	
Measured Depths are reference Rig Datum.	
Rig Datum: Actual Datum #1	
Rig Datum to Mean Sea Level: 5164.20 ft	
Plot North is aligned to TRUE North.	

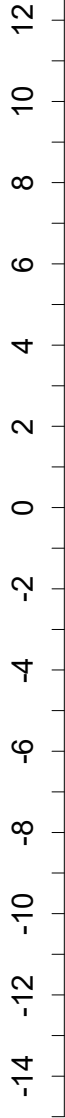
Location	Colorado	Slot	S07 - Tollway LC 24-375HNX
Field	Wattenburg	Well	Tollway LC 24-375HNX
Installation	Tollway	Wellbore	Tollway LC 24-375HNX (AWB)



May-5-2019
EMA-2015 Dir: 66.20 deg Field: 51928.4 nT
Lat: N39 58.40.3032 Long: W104 56 19.7304 Elev: 5155.20 ft
Magnetic North is 8.14 deg East of TRUE North
To correct azimuth from Magnetic to TRUE add 8.14 deg

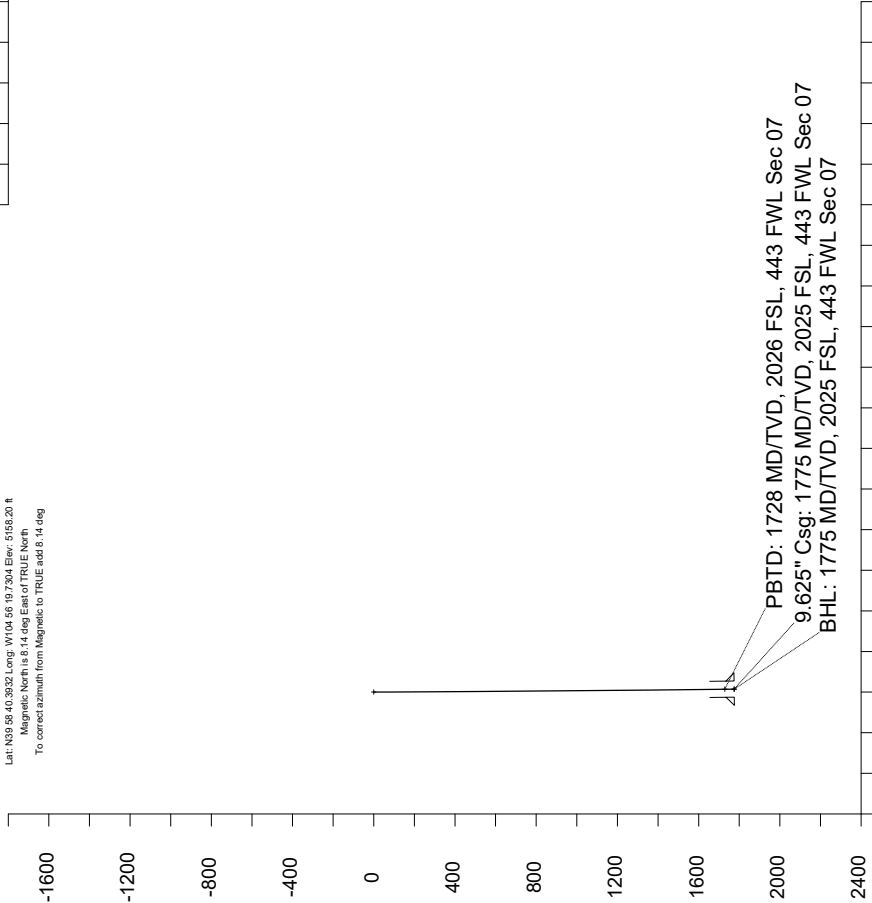
Scale 1 cm = 1 ft

East (Feet) ->



Scale 1 cm = 200 ft

<- True Vertical Depth (Feet)



Scale 1 cm = 200 ft

Vertical Section (Feet) ->

Azimuth 201.65 with reference 0.00 N, 0.00 E from S07 - Tollway LC 24-375HNX

<- North(Feet)

Scale 1 cm = 1 ft



Great Western Operating Co, LLC
Directional Survey Report
Wellpath: Tollway LC 24-375HNX
MDs and TVDs are from Rig Floor 5164.2ft above Mean Sea Level

Wellbore Information

Date Created	Date Revised	API #	RKB above GL	Well Name
Sep-17-2019	Sep-17-2019	05-001-10436	6.00	Tollway LC 24-375HNX

Slot Coordinates

Latitude	Longitude
39.97753300	-104.93868100

Pad Information

Pad Name	Ground Elev.
Tollway	5158.20

Field

Name
Wattenburg

Wellpath Report

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	DLS [deg/100ft]	Vertical Section[ft]	Lat - NAD 83	Long - NAD 83
0.00	0.00	0.00	0.00	0.00	0.00		0.00	39.97753300	-104.93868100
81.00	0.57	239.98	81.00	-0.20	-0.35	0.00	0.32	39.97753245	-104.93868224
171.00	0.31	157.98	171.00	-0.65	-0.65	0.00	0.84	39.97753121	-104.93868330
258.00	0.26	126.69	258.00	-0.99	-0.40	0.00	1.06	39.97753029	-104.93868242
351.00	0.62	188.48	350.99	-1.61	-0.30	0.00	1.61	39.97752858	-104.93868208
441.00	0.62	210.01	440.99	-2.51	-0.62	0.00	2.57	39.97752610	-104.93868321
531.00	0.48	285.95	530.98	-2.83	-1.23	0.00	3.08	39.97752522	-104.93868537
621.00	0.35	216.16	620.98	-2.95	-1.75	0.00	3.39	39.97752490	-104.93868724
711.00	0.79	252.42	710.98	-3.36	-2.50	0.00	4.05	39.97752378	-104.93868993
801.00	0.53	260.64	800.97	-3.62	-3.51	0.00	4.65	39.97752308	-104.93869351
891.00	0.62	231.02	890.97	-3.99	-4.29	0.00	5.29	39.97752205	-104.93869632
980.00	1.05	197.80	979.96	-5.07	-4.92	0.00	6.53	39.97751909	-104.93869855
1070.00	0.62	181.80	1069.95	-6.34	-5.19	0.00	7.81	39.97751559	-104.93869950
1160.00	0.66	216.25	1159.94	-7.25	-5.51	0.00	8.77	39.97751311	-104.93870065
1250.00	0.57	141.63	1249.94	-8.01	-5.54	0.00	9.49	39.97751100	-104.93870075
1340.00	0.31	120.19	1339.94	-8.49	-5.05	0.00	9.75	39.97750970	-104.93869901
1430.00	0.62	118.34	1429.93	-8.84	-4.41	0.00	9.84	39.97750873	-104.93869673
1520.00	1.23	203.16	1519.93	-9.96	-4.36	0.00	10.87	39.97750566	-104.93869656
1610.00	0.88	202.63	1609.91	-11.49	-5.01	0.00	12.52	39.97750147	-104.93869886
1700.00	0.75	184.96	1699.90	-12.71	-5.32	0.00	13.78	39.97749811	-104.93869999
1725.00	0.79	187.51	1724.90	-13.05	-5.36	0.00	14.10	39.97749719	-104.93870012
1728.48	0.79	187.51	1728.38	-13.09	-5.37	0.00	14.15	39.97749706	-104.93870015
1775.00	0.79	187.51	1774.89	-13.73	-5.45	0.00	14.77	39.97749531	-104.93870045

Comments

MD[ft]	TVD[ft]	North[ft]	East[ft]	Lat - NAD 83	Long - NAD 83	Comment
0.00	0.00	0.00	0.00	39.97753300	-104.93868100	Surface Location
1728.48	1728.38	-13.09	-5.37	39.97749706	-104.93870015	PBTD: 1728 MD/TVD, 2026 FSL, 443 FWL Sec 07
1775.00	1774.89	-13.73	-5.45	39.97749531	-104.93870045	9.625" Csg: 1775 MD/TVD, 2025 FSL, 443 FWL Sec 07
1775.00	1774.89	-13.73	-5.45	39.97749531	-104.93870045	BHL: 1775 MD/TVD, 2025 FSL, 443 FWL Sec 07

Hole Sections

Diameter [in]	Start MD[ft]	Start TVD[ft]	Start North[ft]	Start East[ft]	End MD[ft]	End TVD[ft]	End North[ft]	End East[ft]
13.500	0.00	0.00	0.00	0.00	1775.00	1774.89	-13.73	-5.45

Casings

Name	Top MD[ft]	Top TVD[ft]	Top North[ft]	Top East[ft]	Shoe MD[ft]	Shoe TVD[ft]	Shoe North[ft]	Shoe East[ft]
9 5/8in Casing	0.00	0.00	0.00	0.00	1775.00	1774.89	-13.73	-5.45

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool
616905	As Drilled - Surface	1775.00	1774.89	MWD

Coordinates are from Slot
MD's and TVD's are from Rig Floor 5164.2ft above Mean Sea Level
Vertical Section is from Wellhead on azimuth 201.65 degrees
Bottom hole distance is 14.77 Feet on azimuth 201.65 degrees from Wellhead
Survey calculation uses Minimum Curvature method