



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS MANAGEMENT

DEP USE ONLY	
Auth No. <b>1564365</b>	APS No # <b>1128978</b>
Site No. <b>789933</b>	PF No. <b>880861</b>
Client No. <b>141142</b>	SF No. <b>1436629</b>

RECEIVED  
3/31/2026

ALT SITE ID: WLPAD - BIRD RUN

APPLICATION FOR INACTIVE WELL STATUS

Well Operator RangeResources-Appalachia, LLC		DEP Client ID No. 141142	Well Permit or Registration No. 37-125-29196	
Address 3000 Town Center Blvd.			Well Farm Name Bird Run 10938	Well No. 2H
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Chartiers Twp
Telephone No. 724/743-6700	Fax No. 724/743-6790	Bond Instrument No. 6855	Is this an application for annual extension of inactive status? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Check here if this application is being submitted for conditional inactive status in association with longwall mining: <input type="checkbox"/>				

<b>Condition of the Well</b>	Describe in detail how the condition of the well satisfies the criteria for approval of inactive status. See 25 Pa. Code §§ 78/78a.102(i), (2)(i) or (ii) and (3). Use additional sheets if necessary. If available, attach well records, driller's logs, and other information describing well casing, cement, equipment, and any other pertinent information. Note that if this application is being submitted in conformance with DEP Technical Guidance Document 800-0810-004 <i>Guidelines for Chain Pillar Development and Longwall Mining Adjacent to Unconventional Wells</i> , the Well Record/Completion Report may be referenced for all well construction information, and all tubing and annular pressures should be at 0 prior to adjacent longwall mining encroaching within 1,500 feet of the well location. Finally, all annuli should be open to the atmosphere and the inactivation procedure may be referenced under the section titled "Other information about the well's condition."
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**Well Type:**  Gas  Oil  Combination Oil & Gas  Injection  Storage  Disposal

Casing Diameters: 18.625"	Casing Lengths: 202'	Type and amount of cement (sacks) used for surface casing: Class L, 485 (sacks)
13.375"	277'	Tubing or Production Casing Pressure (current): 0 (psi)
9.625"	1651'	If an oil well, state the depth to fluid in the surface casing:
Tubing or production casing diameter: 5.5"	Tubing or production casing length: 1743'	Annulus Pressure (current - between tubing or production casing and surface casing): 0 (psi)
Are all annuli open to atmosphere? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Other information about the well's condition:  
N/A

<b>Future Use of the Well</b>	Describe a viable plan in accordance with 25 Pa. Code §78/78a.102(4) explaining the intended use of the well within a reasonable time. Provide the information requested below and any other information necessary for DEP to make a determination on inactive status for this well. Note that if this application is being submitted in conformance with DEP Technical Guidance Document 800-0810-004 <i>Guidelines for Chain Pillar Development and Longwall Mining Adjacent to Unconventional Wells</i> , the following text may be entered under the section regarding the future plan for the well: "Return well to production subsequent to final panel extraction when mining is at least 1,500 feet beyond well in chain pillar, as per re-entry procedure and TGD."
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Provide certification that one of the following applies (check one):  
 Significant reserves remain in place and I plan to return the well to production.  
 Provide estimate of reserves: MMcf: \_\_\_\_\_ Bbls: \_\_\_\_\_  
 The well will be used for:  Disposal  Storage  Observation  Injection - Recovery  Other (describe)  
 This well will be returned to use in: Month: August Year: 2026

State your plan for future use of the well.  
 Range Resources-Appalachia, LLC certifies this well is of future utility. The well is drilled to TD and is awaiting completions operations currently scheduled for June 2026.



<b>Conditional Inactive Status Checklist</b>	For unconventional wells drilled in anticipated chain pillar locations that are being temporarily inactivated to accommodate planned, adjacent longwall mining, please provide the items included in the checklist below in addition to this application. More specific information about these items is detailed in DEP Technical Guidance Document 800-0810-004 <i>Guidelines for Chain Pillar Development and Longwall Mining Adjacent to Unconventional Wells</i> .
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Please include the following items with the inactive status application:

- Temporary Well Inactivation Procedure   
  Temporary Inactivation Well Schematic   
  General Specifications for Cements/Gels  
 Current Well Record and Completion Report   
  Well Location Plat   
  Electrical/Mechanical Well Logs  
 Graphical Production History Summary   
  Well Re-entry Procedure   
  Post-mining Well Long-term Monitoring Procedure

Provide additional details, if necessary.

N/A

Signature of Applicant (Well Operator)		DEP USE ONLY	
Signature 	Date <u>3-31-2026</u>	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied	Date
Print or type signer's name and title: <u>JEREMY MATINILO VP-ENV. COMP.</u>		by (DEP Manager): 	<u>5/5/2026</u>



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DEP USE ONLY	
Site ID	Client Id
Primary Facility Id	Sub Facility Id

**Well Record**  
**(Unconventional Operators Only)**

**WELL INFORMATION**

Well Operator Range Resources - Appalachia, LLC	DEP ID# 141142	US Well No. (API No.) 37-125-29196-00-00	Farm Name BIRD RUN 10938	Well # 2H
Address 3000 Town Center Blvd		Latitude (DD) 40.243318	Project Number	Serial #
		Longitude (DD) -80.235113		
City Canonsburg	State PA	Zip 15317-5839	Municipality Chartiers	County Washington
Phone 724-743-6700	email jhinson@rangeresources.com	Borrow Pit	USGS 7.5 min. quadrangle map Washington East	Section 1

Check the appropriate Submission:  Original Well Record  Amended Well Record

Well Type <input checked="" type="checkbox"/> Gas	Wellbore Conditioning: See Attached
Well Orientation <input type="checkbox"/> Vertical <input checked="" type="checkbox"/> Deviated from Vertical (Top & Side views & Deviation Survey must be attached)	
Drill Method(s) <input checked="" type="checkbox"/> Rotary - Air 6746' <input checked="" type="checkbox"/> Rotary - Mud 17458' <input type="checkbox"/> Cable Tool <input type="checkbox"/> Other	
Drilling Started 02/05/2025	Surface Elev. 1261 ft.
Drilling Complete 04/14/2025	True Vertical Depth 6642 ft.
Date Well Completed 04/16/2025	Total Measured Depth 17458 ft.

**CEMENT**

Cement returned on surface casing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If No, provide depth to top of cement and method used to determine:
Cement returned on coal protective casing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If No, provide depth to top of cement and method used to determine: <input type="checkbox"/> NA
Cement returned on intermediate casing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If No, provide depth to top of cement and method used to determine: <input type="checkbox"/> NA

Casing String	Type/Class of Cement (Lead/Tail)	Slurry Temp F°	Amount of Cement (sacks) (Lead/Tail/Total)	WOC hrs	Wt ppg	Yield ft <sup>3</sup> /sacks	Gas Migration Controls Used	
Conductor	Portland	-	108 / 0 / 108	24			What controls were used if any (additives/ hardware. Specify type and depth applicable). See Attached - page 6	
Surface	Class L	63°	485 / 0 / 485	8	15.6	1.15		
Coal Protective	Class L	54°	255 / 0 / 255	8	15.7	1.24		
Intermediate	Class L	58°	605 / 0 / 605	8	15.7	1.23		
Production	Class A	87°	0 / 2639 / 2639	8	15.0	1.29		
If additional strings attach form(s)			Total: 4092					

**CASING AND TUBING**

Hole Size	Pipe Size	Wt. #/ft.	Grade Casing / Tubing Type	Thread / Weld - New/Used	Amount in Well (ft.)	CO	R	Hardware - Baskets / Packer / Centralizers (Total/String)			Date Run
								Type	Size	Depth	
32"	26"	85.68#	Line Pipe	W/N	41	US	Y				02/05/2025
24"	18.625"	87.5#	J-55	T (BTC) - N	202	UK	Y	See Attached			02/26/2025
17.5"	13.375"	54.5#	J-55	T (BTC) - N	277	CA	Y	See Attached			02/26/2025
12.25"	9.625"	40.0#	J-55	T (LTC) - N	1651	CA	Y	See Attached			02/28/2025
8.75" & 8.625" & 8.5"	5.5"	20.0#	HP P-110	T (GBCD) - N	17437	US	Y	See Attached			04/15/2025

**PLUG-BACK/WELLBORE ALTERATION**

Fill Material & Plugs	Depth		Date	Casing & Tubing		
	From	To		Size	Pulled	Left

**LOG OF FORMATIONS**

US Well No. (API No.): 37-125-29196-00-00

*(If you will need more space than this page, please photocopy the blank form before filling it in.)*

Formation Name or Lithology	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Fill	0	49				Mudlog
Silt/Lime/Sand	49	109				Mudlog
Silt/Sand	109	234				Mudlog
Pittsburgh Coal (open mine)	234	240				Mudlog
Siltstone/Shale	240	419				Mudlog
Murphy Sand	419	539				Mudlog
Red Rock	539	540				Mudlog
Siltstone/Shale	540	602				Mudlog
Bakerstown	602	731				Mudlog
Big Dunkard	731	769				Mudlog
Siltstone/Shale	769	804				Mudlog
Upper Freeport	804	805				Mudlog
Silt/Sand	805	871				Mudlog
Lower Freeport	871	872				Mudlog
Silt/Sand	872	911				Mudlog
1st Gas Sand	911	939				Mudlog
Silt/Sand	939	982				Mudlog
Middle Kittanning	982	983				Mudlog
Silt/Sand	983	1023				Mudlog
Lower Kittanning	1023	1024				Mudlog
Silt/Sand	1024	1031				Mudlog
1st Salt Sand	1031	1089	1080			Mudlog
Silt/Sand	1089	1101				Mudlog
Clarion	1101	1102				Mudlog
Silt/Sand	1102	1175				Mudlog
2nd Salt Sand	1175	1199				Mudlog
Silt/Sand/Lime	1199	1339				Mudlog


Continued on next page

If no show of oil, gas or water, explain why: No show of water on Mudlog or MWD log

**WELL SERVICE COMPANIES** (Provide the name, address, and telephone number of all well service companies involved.)

Casing Source	Cementing Company	Hardware Supplier	Logging Company
See Attachment	Name See Attachment	See Attachment	See Attachment
	Address		
	City - State - Zip		
	Phone		

*I do hereby certify to the best of my knowledge, information and belief that the well identified on this Well Record has been properly cased and cemented in accordance with the requirements of 25 Pa. Code Chapter 78a and any conditions contained in the permit for this well. In addition, I do hereby certify that any casing which is attached to a blow-out preventer with a pressure rating greater than 3,000 psi has passed a pressure test in accordance with 25 Pa. Code §78a.84(f). I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

Driller		Well Operator's Signature		DEP USE ONLY	
Name See Attachment	Rig	 Printed Name / Title: Jon Hinson / Sr. Drilling Engineer Date: 05/12/2025		Reviewed by:	
Address				Comments:	
City - State - Zip					
Phone					

**LOG OF FORMATIONS**

US Well No. (API No.): 37-125-29196-00-00

(If you will need more space than this page, please photocopy the blank form before filling it in.)

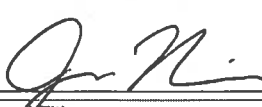
Formation Name or Lithology	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Big Lime	1339	1380				Mudlog
Big Injun	1380	1544				Mudlog
Silt	1544	1609				Mudlog
Squaw Sand	1609	1671				Mudlog
Silt/Sand	1671	1853				Mudlog
Murrysville	1853	1912				Mudlog
Silt/Sand	1912	2018				Mudlog
Gantz	2018	2041				Mudlog
100 Ft Sand	2041	2089				Mudlog
Sand/Silt	2089	2174				Mudlog
Nineveh	2174	2232				Mudlog
Gordon Stray	2232	2245				Mudlog
Gordon	2245	2283				Mudlog
Upper Fifth Sand	2283	2299				Mudlog
Silt/Sand	2299	2329				Mudlog
Lower Fifth Sand	2329	2396				Mudlog
Bayard	2396	2419				Mudlog
Silt/Sand	2419	2426				Mudlog
Bayard Stray	2426	2444				Mudlog
Silt/Sand	2444	2872				Mudlog
Lower Warren	2872	2974				Mudlog
Siltstone/Shale	2974	3170				Mudlog
Upper Speechley	3170	3272				Mudlog
Silt/Shale	3272	4594				Mudlog
5th Elk	4594	4599				Mudlog
Silt/Sand/Shale	4599	4932				Mudlog
Lower Huron	4932	5199				Mudlog

If no show of oil, gas or water, explain why: No show of water on Mudlog or MWD log

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See Attachment	Name See Attachment	See Attachment	See Attachment
	Address		
	City - State - Zip		
	Phone		

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Driller		Well Operator's Signature		DEP USE ONLY	
Name See Attachment	Rig	 Printed Name / Title: Jon Hinson / Sr. Drilling Engineer      Date: 05/12/2025		Reviewed by:	
Address				Comments:	
City - State - Zip					
Phone					

**LOG OF FORMATIONS**

US Well No. (API No.): 37-125-29196-00-00

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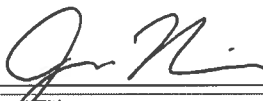
Formation Name or Lithology	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Silt/Shale	5199	6369				Mudlog
Rhinestreet	6369	6571	6369			Mudlog
Cashaqua	6571	6659				Mudlog
Middlesex	6659	6757	6659			Mudlog
Genesee	6757	6825				MWD
Burket	6825	6867	6825			MWD
Tully	6867	6976				MWD
Mahantango	6976	7090	6976			MWD
Marcellus	7090	17458	7090			MWD
Driller's TD		17458				Driller's Log

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Driller		Well Operator's Signature		DEP USE ONLY	
Name See Attachment	Rig	 Printed Name / Title: Jon Hinson / Sr. Drilling Engineer		Reviewed by:	
Address				Date: 05/12/2025	
City - State - Zip					
Phone					



API# 37-125-29196-00-00

## Well Service Companies

### CASING SOURCE:

B&L Pipeco  
20465 State Highway 249, Suite 200  
Houston, TX 77070  
1-800-927-4732  
*Surface, Coal Protective, Intermediate, and Production*

### CEMENTING COMPANY:

NexTier Completion Solutions  
3990 Rogerdale Road  
Houston, TX 77042  
713-325-6000  
*Surface, Coal Protective, Intermediate*

Schlumberger Technology Corporation  
PO Box 732149  
Dallas, TX 75373-2149  
NAMremittance@slb.com  
*Production*

### DRILLER:

Falcon Drilling – Falcon Rig 26  
102 Broadway Street Suite 300  
Carnegie, PA 15106  
740-349-8131  
*From 0' to 6,746'*

Patterson UTI Drilling Co. LLC - 876  
10713 W. Sam Houston Parkway N, Suite 800  
Houston, Texas 77064  
Fax: 281-766-7176  
*From 6,746' to 17,458'*

### LOGGING COMPANY:

Schlumberger Technology Corporation  
PO Box 732149  
Dallas, TX 75373-2149  
NAMremittance@slb.com

Total Directional Services, LLC  
PO Box 831  
Windsor, CO 80550  
970-686-8893

Baker Hughes  
PO Box 30105  
Dallas, TX 75303-1057  
724-743-9212

Computerized Mudlogging Service, LLC  
324 Deer Creek Drive  
Struthers, OH 44471  
330-397-5710

Edge Finance, LLC  
33502 TX-249  
Pinehurst, TX 77362  
713-504-1094



API# 37-125-29196-00-00

## Hardware Supplier Company List

### **CENTRALIZERS:**

Summit Casing Equipment  
6575 Corporation Parkway  
Fort Worth, TX 76126  
(877) 860-0969  
www.summitcasing.com  
*Surface, Coal Protective, Intermediate, Production*

### **CENTRALIZER TYPES:**

18-5/8" x 22" – Welded Steel Bow Spring  
13-3/8" x 17 1/2" – Welded Steel Bow Spring  
9-5/8" x 12 1/4" – Welded Steel Bow Spring  
5 1/2" x 8.0" – Solid Body Composite

### **TOE SLEEVES:**

RSI CT HPHT Toe/Frac Sleeve  
Halliburton  
1000 Noble Energy Drive, Suite 400  
Canonsburg, PA 15317-5817  
724-743-8188  
[halliburton.com](http://halliburton.com)

### **FLOAT SHOE/LANDING COLLAR:**

Hybrid Double Valve Float Shoe & Landing Collar  
Innovex Downhole Solutions  
1848 Old Route 33  
Weston, WV 26452  
304-841-0821  
www.InnovexDownhole.com

### **FLOTATION DEVICE:**

NCS AirLock Flotation Sub  
NCS Multistage  
19450 State Highway 249 Suite 200  
Houston, TX 77070  
281-453-2222



**API# 37-125-29196-00-00**

**DFGW decided by:** 6 – Geologist’s determination – none observed

**Wellbore Conditioning Attachment**

**Surface:**

Pump 100 bbl of Fresh water to break circulation, 25 bbl gel spacer.

**Coal Protective:**

Pump 89 bbl of fresh water to gain circulation, 25 bbl of Gel Spacer, 10 bbl of water with 15 gal of Defoamer.

**Intermediate:**

Pump 133 bbl of fresh water, 25 bbl Gel bentonite.

**Production:**

Circulate 2 bottoms up at 8.0 bpm. *Spacer details in Cement and Gas Migration Controls Attachment below.*

**Cement and Gas Migration Controls Attachment**

**Surface:**

Mix and pump 100 bbl (485 sacks) Class L cement. Displaced cement with 50 bbl of fresh water. Circulated 20 bbl of cement to surface. Float held with 0.5 bbl flow back to truck. Mix water temperature 50°F, slurry temperature 63°F.

**Coal Protective:**

Mix and pump 56 bbl (255 sacks) Class L cement. Displace with 38 bbl of fresh water. Circulated 12 bbl of cement to surface. Mix water temperature 50°F, slurry temperature 54°F, pH 7.

**Intermediate:**

Mix and pump 132 bbl (605 sacks) Class L gas block cement. Drop plug and displace with 119 bbl of fresh water. Plug landed at 750 psi, bumped to 1,350 psi, floats held with 1.25 bbl back to truck. 30 bbl of cement returned to surface. Mix water temperature 50°F, slurry temperature 58°F, pH 7.

**Production:**

Schlumberger pumped 75bbls of 13.5 ppg MudPush Express with Surfactant, 167 bbl of 13.5 ppg MudPush Express without surfactant, and 600 bbl 15.0 ppg Tail Cement (2,639 sacks). Displaced plug with 389 bbl of fresh water. Landed plug at 4.5bpm and 2,600 psi, bumped pressure to 3,170 psi. Held pressure for 5 minutes, checked floats, released pressure, 4 bbl returned to surface. Floats held. Maintained circulation throughout job, 57 bbl spacer returned to surface. Mix water temperature 59° F, slurry temperature 87° F.



**API# 37-125-29196-00-00**

**Casing and Tubing Attachment: Hardware**

**Surface:**

Run 5 joints of 18 5/8" 87.5# J-55 BTC casing set at 202'. Top of float shoe set at 199'. Ran 5 bow spring centralizers every joint from 158' to 26'.

**Coal Protective:**

Run 7 full joints 13 3/8" 54.5# J-55 BTC casing set at 277'. Top of float shoe set at 275'. Cement baskets set at 228' and 223'. Ran 6 bow spring centralizers every joint from 233' to 26'.

**Intermediate:**

Run 39 joints of 9 5/8" 40.0# J-55 LTC casing set at 1,651'. Top of float shoe set at 1,649'. Float collar set at 1,564'. Ran 20 bow spring centralizers every other joint from 1,566 to 27'.

**Production:**

Run 396 joints of 5 1/2" 20.0# HP P-110 GBCD casing set at 17,437'. Top of float shoe set at 17,433'. (2) centralized pup joints set at 17,401 and 17,366'. Toe sleeves set at 17,397' and 17,362'. Marker joints set at 15,419', and 6,669. Floatation device set at 7,455'. Ran 289 – 8.0" Solid Body Composite centralizer every full-length joint from 17,318' to 4,702'. Ran a total of 291 centralizers.





# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Pennsylvania SP, Southern Zone (3702), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999966	Report Generated	4/15/2025 at 10:07:20 AM
Convergence at slot	1.61° West	Database	WA_MPL_EASTERNUS_Defn

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-41.79	-45.14	1274855.89	341254.99	40°14'35.9446"N	80°14'6.4067"W
Facility Reference Pt			1274901.03	341296.78	40°14'36.3700"N	80°14'5.8400"W
Field Reference Pt			0.00	0.00	39°07'14.8609"N	84°41'37.2884"W

## WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 876 (RKB) to Facility Vertical Datum	1287.00ft
Horizontal Reference Pt	Slot	Patterson 876 (RKB) to Mean Sea Level	1287.00ft
Vertical Reference Pt	Patterson 876 (RKB)	Patterson 876 (RKB) to Ground Level at Slot (Slot #02)	26.00ft
IMD Reference Pt	Patterson 876 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	322.01°



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

Page 2 of 11



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Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## WELLPATH DATA (196 stations) † = interpolated; ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]
0.00	0.000	16.370	0.00	0.00	0.00	0.00	1274855.89	341254.99	40°14'35.9446"N	80°14'6.4067"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	16.370	26.00	0.00	0.00	0.00	1274855.89	341254.99	40°14'35.9446"N	80°14'6.4067"W	0.00	0.000	0.00	0.00	0.00
65.00	0.370	16.370	65.00	0.07	0.12	0.04	1274855.93	341255.11	40°14'35.9458"N	80°14'6.4063"W	0.13	16.370	0.95	0.99	0.00
115.00	0.650	73.610	115.00	0.06	0.36	0.35	1274856.24	341255.35	40°14'35.9482"N	80°14'6.4023"W	0.50	44.784	1.09	0.56	114.48
165.00	1.110	81.440	164.99	-0.28	0.51	1.10	1274856.99	341255.50	40°14'35.9499"N	80°14'6.3927"W	1.22	65.298	0.95	0.92	15.66
215.00	1.210	81.850	214.98	-0.78	0.65	2.11	1274858.00	341255.64	40°14'35.9517"N	80°14'6.3798"W	2.21	72.725	0.20	0.20	0.82
378.00	1.030	86.310	377.95	-2.46	0.99	5.27	1274861.16	341255.98	40°14'35.9559"N	80°14'6.3392"W	5.36	79.331	0.12	-0.11	2.74
422.00	0.980	88.060	421.94	-2.91	1.03	6.04	1274861.93	341256.02	40°14'35.9565"N	80°14'6.3292"W	6.13	80.314	0.13	-0.11	3.98
510.00	0.860	100.410	509.93	-3.84	0.94	7.44	1274863.33	341255.93	40°14'35.9559"N	80°14'6.3111"W	7.50	82.822	0.26	-0.14	14.03
598.00	0.790	97.180	597.92	-4.77	0.74	8.70	1274864.58	341255.73	40°14'35.9544"N	80°14'6.2949"W	8.73	85.121	0.10	-0.08	-3.67
686.00	0.670	99.150	685.92	-5.57	0.58	9.80	1274865.69	341255.57	40°14'35.9531"N	80°14'6.2806"W	9.82	86.588	0.14	-0.14	2.24
774.00	0.620	111.010	773.91	-6.36	0.33	10.76	1274866.65	341255.32	40°14'35.9509"N	80°14'6.2682"W	10.76	88.232	0.16	-0.06	13.48
862.00	0.680	112.770	861.91	-7.22	-0.04	11.68	1274867.57	341254.95	40°14'35.9478"N	80°14'6.2561"W	11.68	90.200	0.07	0.07	2.00
950.00	0.570	131.500	949.90	-8.11	-0.53	12.49	1274868.38	341254.46	40°14'35.9474"N	80°14'6.2455"W	12.50	92.443	0.26	-0.13	21.28
1038.00	0.520	142.510	1037.90	-8.94	-1.14	13.06	1274868.95	341253.85	40°14'35.9370"N	80°14'6.2379"W	13.11	94.986	0.13	-0.06	12.51
1126.00	0.510	143.060	1125.89	-9.73	-1.77	13.54	1274869.43	341253.22	40°14'35.9309"N	80°14'6.2315"W	13.66	97.445	0.01	-0.01	0.63
1215.00	0.500	143.500	1214.89	-10.51	-2.40	14.01	1274869.90	341252.59	40°14'35.9248"N	80°14'6.2253"W	14.21	99.714	0.01	-0.01	0.49
1303.00	0.510	145.660	1302.89	-11.29	-3.03	14.46	1274870.35	341251.96	40°14'35.9187"N	80°14'6.2192"W	14.77	101.836	0.02	0.01	2.45
1390.00	0.430	145.440	1389.88	-12.00	-3.62	14.86	1274870.75	341251.37	40°14'35.9130"N	80°14'6.2138"W	15.30	103.684	0.09	-0.09	-0.25
1479.00	0.590	141.640	1478.88	-12.79	-4.25	15.34	1274871.23	341250.74	40°14'35.9069"N	80°14'6.2075"W	15.92	105.499	0.18	0.18	-4.27
1567.00	0.670	141.200	1566.87	-13.76	-5.01	15.94	1274871.83	341249.98	40°14'35.8996"N	80°14'6.1994"W	16.71	107.445	0.09	0.09	-0.50
1592.00	0.640	146.030	1591.87	-14.05	-5.24	16.11	1274872.00	341249.75	40°14'35.8973"N	80°14'6.1972"W	16.94	108.015	0.25	-0.12	19.32
1703.00	0.520	157.990	1702.87	-15.15	-6.22	16.65	1274872.54	341248.77	40°14'35.8878"N	80°14'6.1899"W	17.77	110.490	0.15	-0.11	10.77
1747.00	0.430	153.540	1746.86	-15.50	-6.55	16.79	1274872.68	341248.44	40°14'35.8845"N	80°14'6.1879"W	18.03	111.316	0.22	-0.20	-10.11
1835.00	0.460	169.370	1834.86	-16.14	-7.20	17.01	1274872.90	341247.79	40°14'35.8782"N	80°14'6.1849"W	18.47	112.935	0.14	0.03	17.99
1923.00	2.760	233.150	1922.82	-16.41	-8.81	15.38	1274871.27	341246.18	40°14'35.8618"N	80°14'6.2053"W	17.72	119.823	2.94	2.61	72.48
2002.00	4.070	246.500	2001.68	-15.67	-11.07	11.28	1274867.17	341243.92	40°14'35.8384"N	80°14'6.2573"W	15.81	134.462	1.93	1.66	16.90
2091.00	4.260	248.150	2090.45	-13.96	-13.56	5.32	1274866.21	341241.43	40°14'35.8121"N	80°14'6.3333"W	14.57	158.588	0.25	0.21	1.85
2179.00	4.340	247.180	2178.20	-12.18	-16.07	-0.78	1274885.11	341238.92	40°14'35.7856"N	80°14'6.4110"W	16.09	182.794	0.12	0.09	-1.10
2266.00	4.350	245.980	2264.95	-10.52	-18.69	-6.83	1274849.06	341236.30	40°14'35.7581"N	80°14'6.4880"W	19.90	200.080	0.11	0.01	-1.38



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## WELLPATH DATA (196 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
2355.00	4.180	243.820	2353.70	-9.05	-21.50	-12.83	1274843.06	341233.50	40°14'35.7287"N	80°14'16.5643"W	25.03	210.824	0.26	-0.19	-2.43
2443.00	3.970	241.150	2441.48	-7.91	-24.38	-18.37	1274837.52	341230.61	40°14'35.6987"N	80°14'16.6347"W	30.53	217.001	0.32	-0.24	-3.03
2531.00	3.760	237.620	2529.28	-7.14	-27.40	-23.48	1274832.41	341227.60	40°14'35.6675"N	80°14'16.6994"W	36.08	220.596	0.36	-0.24	-4.01
2619.00	3.600	233.720	2617.10	-6.78	-30.58	-28.14	1274827.75	341224.42	40°14'35.6348"N	80°14'16.7584"W	41.55	222.626	0.34	-0.18	-4.43
2707.00	3.550	230.410	2704.93	-6.77	-33.95	-32.47	1274823.42	341221.04	40°14'35.6003"N	80°14'16.8130"W	46.97	223.725	0.24	-0.06	-3.76
2795.00	5.550	233.730	2792.65	-6.72	-38.20	-38.00	1274817.89	341216.79	40°14'35.5567"N	80°14'16.8827"W	53.88	224.849	2.29	2.27	3.77
2883.00	8.190	236.720	2880.01	-6.07	-44.16	-46.67	1274809.22	341210.83	40°14'35.4954"N	80°14'16.9923"W	64.25	226.585	3.03	3.00	3.40
2971.00	9.950	236.200	2966.91	-5.00	-51.83	-58.23	1274797.66	341203.16	40°14'35.4165"N	80°14'17.1385"W	77.95	228.329	2.00	2.00	-0.59
3059.00	12.080	233.900	3053.28	-4.15	-61.48	-71.99	1274783.90	341193.51	40°14'35.3172"N	80°14'17.3124"W	94.67	229.501	2.47	2.42	-2.61
3148.00	14.510	230.800	3139.89	-4.07	-74.02	-88.16	1274767.74	341180.97	40°14'35.1889"N	80°14'17.5163"W	115.11	229.982	2.84	2.73	-3.48
3227.00	16.630	226.600	3215.99	-5.35	-88.04	-104.04	1274751.85	341166.95	40°14'35.0460"N	80°14'17.7159"W	136.30	229.761	3.04	2.68	-5.32
3315.00	18.710	223.600	3299.83	-8.60	-106.92	-122.93	1274732.97	341148.07	40°14'34.8543"N	80°14'17.9525"W	162.92	228.984	2.58	2.36	-3.41
3403.00	20.240	220.260	3382.80	-13.76	-128.76	-142.50	1274713.39	341126.24	40°14'34.6331"N	80°14'18.1969"W	192.06	227.900	2.15	1.74	-3.80
3491.00	21.410	220.910	3465.05	-19.96	-152.51	-182.86	1274693.04	341102.48	40°14'34.3928"N	80°14'18.4507"W	223.12	226.878	1.36	1.33	0.74
3579.00	22.250	221.110	3546.74	-26.20	-177.21	-184.33	1274671.57	341077.79	40°14'34.1429"N	80°14'18.7185"W	255.69	226.129	0.96	0.95	0.23
3667.00	24.010	221.250	3627.66	-32.69	-203.22	-207.09	1274648.81	341051.78	40°14'33.8796"N	80°14'19.0025"W	290.15	225.540	2.00	2.00	0.16
3755.00	25.680	221.640	3707.51	-39.47	-230.93	-231.57	1274624.33	341024.06	40°14'33.5990"N	80°14'19.3079"W	327.04	225.078	1.91	1.90	0.44
3843.00	25.930	219.250	3786.74	-47.15	-260.08	-256.41	1274599.49	340994.92	40°14'33.3042"N	80°14'19.6176"W	365.22	224.592	1.22	0.28	-2.72
3931.00	25.440	221.960	3866.05	-54.70	-289.04	-281.22	1274574.68	340965.96	40°14'33.0113"N	80°14'19.9269"W	403.27	224.215	1.45	-0.56	3.08
4020.00	25.660	218.780	3946.35	-62.44	-318.28	-306.07	1274549.83	340936.72	40°14'32.7155"N	80°14'10.2366"W	441.57	223.880	1.56	0.25	-3.57
4108.00	25.940	219.550	4025.58	-70.96	-347.97	-330.26	1274525.64	340907.03	40°14'32.4155"N	80°14'10.5376"W	479.75	223.504	0.50	0.32	0.87
4196.00	26.060	218.260	4104.67	-79.71	-377.99	-354.49	1274501.42	340877.01	40°14'32.1122"N	80°14'10.8390"W	518.21	223.162	0.66	0.14	-1.47
4284.00	26.040	221.540	4183.73	-87.81	-407.63	-379.27	1274476.64	340847.38	40°14'31.8126"N	80°14'11.1477"W	556.78	222.936	1.64	-0.02	3.73
4363.00	26.130	224.140	4254.69	-93.34	-433.09	-402.88	1274453.02	340821.91	40°14'31.5545"N	80°14'11.4428"W	591.51	222.930	1.45	0.11	3.29
4452.00	26.390	221.960	4334.51	-99.48	-461.86	-429.76	1274426.15	340793.14	40°14'31.2628"N	80°14'11.7788"W	630.88	222.938	1.12	0.29	-2.45
4540.00	25.940	224.660	4413.49	-105.35	-490.10	-456.36	1274399.54	340764.91	40°14'30.9765"N	80°14'12.1115"W	669.67	222.959	1.45	-0.51	3.07
4628.00	26.000	222.270	4492.61	-111.08	-518.06	-482.86	1274373.04	340736.95	40°14'30.6929"N	80°14'12.4430"W	708.20	222.986	1.19	0.07	-2.72
4716.00	26.040	223.910	4571.69	-117.06	-546.25	-509.24	1274346.67	340708.76	40°14'30.4071"N	80°14'12.7727"W	746.80	222.991	0.82	0.05	1.86
4804.00	25.730	221.230	4650.86	-123.36	-574.53	-535.22	1274320.69	340680.48	40°14'30.1205"N	80°14'13.0974"W	785.21	222.971	1.38	-0.35	-3.05
4892.00	25.100	223.400	4730.35	-129.73	-602.46	-560.64	1274295.27	340652.55	40°14'29.8375"N	80°14'13.4148"W	822.97	222.940	1.28	-0.72	2.47



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## WELLPATH DATA (196 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]
4980.00	25.490	222.350	4809.91	-135.70	-630.02	-586.22	1274269.69	340624.99	40°14'29.5582"N	80°14'13.7345"W	860.57	222.937	0.68	0.44	-1.19
5069.00	25.570	225.680	4890.23	-141.03	-657.59	-612.86	1274243.05	340597.42	40°14'29.2784"N	80°14'14.0680"W	898.90	222.984	1.61	0.09	3.74
5157.00	25.840	223.260	4969.52	-146.04	-684.83	-639.59	1274216.32	340570.19	40°14'29.0020"N	80°14'14.4026"W	937.05	223.044	1.23	0.31	-2.75
5245.00	25.860	222.240	5048.71	-152.22	-713.00	-665.64	1274190.28	340542.01	40°14'28.7164"N	80°14'14.7281"W	975.42	223.032	0.51	0.02	-1.16
5333.00	25.700	225.260	5127.96	-157.71	-740.64	-692.09	1274163.82	340514.37	40°14'28.4360"N	80°14'15.0591"W	1013.68	223.059	1.50	-0.18	3.43
5421.00	25.710	222.930	5207.25	-162.97	-768.05	-718.65	1274137.27	340486.97	40°14'28.1579"N	80°14'15.3914"W	1051.83	223.097	1.15	0.01	-2.65
5509.00	25.340	220.590	5286.66	-169.71	-796.33	-743.90	1274112.02	340458.69	40°14'27.8715"N	80°14'15.7067"W	1089.74	223.051	1.22	-0.42	-2.66
5588.00	25.510	219.450	5358.01	-176.76	-822.30	-765.71	1274090.21	340432.72	40°14'27.6089"N	80°14'15.9784"W	1123.61	222.959	0.66	0.22	-1.44
5676.00	25.290	222.350	5437.51	-184.03	-850.83	-790.41	1274065.50	340404.19	40°14'27.3203"N	80°14'16.2864"W	1161.32	222.892	1.44	-0.25	3.30
5764.00	25.340	220.640	5517.06	-190.90	-879.01	-815.34	1274040.58	340376.01	40°14'27.0349"N	80°14'16.5975"W	1198.93	222.848	0.83	0.05	-1.94
5852.00	25.700	222.920	5596.48	-197.63	-907.27	-840.60	1274015.32	340347.75	40°14'26.7487"N	80°14'16.9129"W	1236.83	222.816	1.19	0.41	2.58
5940.00	25.790	220.910	5675.74	-204.33	-935.71	-866.13	1273989.79	340319.31	40°14'26.4807"N	80°14'17.2316"W	1275.05	222.789	1.00	0.10	-2.28
6028.00	24.520	229.910	5755.43	-208.68	-961.95	-892.65	1273963.27	340293.07	40°14'26.1941"N	80°14'17.5639"W	1312.32	222.860	4.58	-1.44	10.23
6116.00	24.550	243.290	5835.54	-205.77	-981.94	-922.97	1273932.95	340273.08	40°14'25.9882"N	80°14'17.9475"W	1347.62	223.227	6.30	0.03	15.20
6204.00	24.850	256.410	5915.55	-194.55	-994.51	-957.30	1273898.62	340260.51	40°14'25.8545"N	80°14'18.3854"W	1380.39	223.908	6.23	0.34	14.91
6293.00	24.850	270.280	5995.38	-175.23	-998.82	-994.21	1273861.71	340256.21	40°14'25.8016"N	80°14'18.8596"W	1409.29	224.868	6.54	0.00	15.58
6381.00	26.280	280.700	6075.80	-149.13	-995.11	-1031.87	1273824.06	340259.91	40°14'25.8278"N	80°14'19.3463"W	1433.53	226.039	5.35	1.63	11.84
6470.00	28.510	288.970	6154.85	-116.50	-984.54	-1071.33	1273784.59	340270.48	40°14'25.9212"N	80°14'19.8589"W	1455.02	227.417	4.95	2.51	9.29
6558.00	30.190	298.090	6231.59	-78.65	-967.29	-1110.74	1273745.19	340287.74	40°14'26.0807"N	80°14'20.3731"W	1472.88	228.949	5.42	1.91	10.36
6646.00	33.730	305.110	6308.26	-35.02	-942.80	-1150.27	1273705.66	340312.22	40°14'26.3115"N	80°14'20.8916"W	1487.28	230.661	5.83	4.02	7.98
6690.00	35.410	308.100	6342.50	-10.95	-927.91	-1170.30	1273665.63	340327.12	40°14'26.4531"N	80°14'21.1551"W	1493.52	231.590	5.43	3.92	6.80
6743.00	37.150	312.060	6385.22	19.72	-907.71	-1194.27	1273661.66	340347.32	40°14'26.6459"N	80°14'21.4714"W	1500.07	232.763	5.51	3.28	7.47
6776.00	38.910	312.870	6411.22	39.77	-893.98	-1209.26	1273646.67	340361.04	40°14'26.7774"N	80°14'21.6697"W	1503.83	233.525	5.54	5.33	2.45
6871.00	45.710	313.600	6481.43	102.93	-850.18	-1255.81	1273600.13	340404.84	40°14'27.1970"N	80°14'22.2856"W	1516.53	235.902	7.18	7.16	0.77
6966.00	52.830	314.420	6543.38	174.18	-800.18	-1307.53	1273548.41	340454.84	40°14'27.6766"N	80°14'22.9705"W	1532.95	238.534	7.52	7.49	0.86
7060.00	63.480	316.380	6592.91	253.39	-743.35	-1363.46	1273492.48	340511.66	40°14'28.2223"N	80°14'23.7120"W	1552.93	241.401	11.47	11.33	2.09
7155.00	70.930	318.160	6629.69	340.61	-679.04	-1422.81	1273433.13	340575.97	40°14'28.8410"N	80°14'24.5005"W	1576.54	244.487	8.03	7.84	1.87
7250.00	79.470	320.260	6653.94	432.26	-609.55	-1482.73	1273373.21	340645.46	40°14'29.5108"N	80°14'25.2981"W	1603.14	247.652	9.24	8.98	2.21
7345.00	86.110	323.500	6665.86	526.44	-535.44	-1540.86	1273315.09	340719.57	40°14'30.2266"N	80°14'26.0743"W	1631.24	250.838	7.76	6.99	3.41
7440.00	90.820	323.730	6668.40	621.34	-459.01	-1597.17	1273258.77	340795.99	40°14'30.9659"N	80°14'26.8280"W	1661.82	253.966	4.96	4.96	0.24



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## WELLPATH DATA (196 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert.Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [ft/100ft]	Build Rate [ft/100ft]	Turn Rate [°/100ft]
7535.00	90.880	323.150	6666.99	716.30	-382.71	-1653.76	1273202.19	340872.29	40°14'31.7038"N	80°14'27.5851"W	1697.46	256.970	0.61	0.06	-0.61
7630.00	90.820	322.780	6665.58	811.28	-306.89	-1710.97	1273144.98	340948.11	40°14'32.4369"N	80°14'28.3502"W	1738.27	259.831	0.39	-0.06	-0.39
7725.00	90.910	323.120	6664.15	906.25	-231.08	-1768.20	1273087.75	341023.92	40°14'33.1698"N	80°14'29.1155"W	1783.23	262.555	0.37	0.03	0.36
7819.00	91.010	323.540	6662.57	1000.22	-155.69	-1824.33	1273031.63	341099.31	40°14'33.8988"N	80°14'29.8664"W	1830.96	265.122	0.46	0.11	0.45
7914.00	90.890	323.180	6661.00	1095.18	-79.47	-1881.02	1272974.94	341175.52	40°14'34.6359"N	80°14'30.6249"W	1882.69	267.581	0.40	-0.13	-0.38
8009.00	90.790	322.820	6659.61	1190.15	-3.61	-1938.18	1272917.78	341251.38	40°14'35.3693"N	80°14'31.3893"W	1938.19	269.893	0.39	-0.11	-0.38
8104.00	89.740	322.000	6659.17	1285.15	71.66	-1996.13	1272859.33	341326.65	40°14'36.0967"N	80°14'32.1637"W	1997.42	272.056	1.40	-1.11	-0.86
8199.00	89.800	321.930	6659.55	1380.15	146.49	-2054.66	1272801.30	341401.47	40°14'36.8195"N	80°14'32.9455"W	2059.88	274.078	0.10	0.06	-0.07
8294.00	89.560	321.480	6660.08	1475.14	221.05	-2113.54	1272742.43	341476.03	40°14'37.5395"N	80°14'33.7315"W	2125.06	275.971	0.54	-0.25	-0.47
8389.00	89.800	321.670	6660.61	1570.14	295.47	-2172.58	1272683.39	341550.45	40°14'38.2582"N	80°14'34.5196"W	2192.58	277.745	0.32	0.25	0.20
8484.00	90.720	322.110	6660.18	1665.14	370.22	-2231.21	1272624.76	341625.19	40°14'38.9802"N	80°14'35.3026"W	2261.71	279.421	1.07	0.97	0.46
8579.00	90.690	322.020	6659.01	1760.13	445.14	-2289.60	1272566.37	341700.11	40°14'39.7040"N	80°14'36.0827"W	2332.47	281.002	0.10	0.10	-0.09
8674.00	90.480	321.350	6658.04	1855.12	519.67	-2348.50	1272507.48	341774.84	40°14'40.4238"N	80°14'36.8690"W	2405.31	282.477	0.74	-0.22	-0.71
8769.00	90.720	321.980	6657.04	1950.11	594.19	-2407.42	1272448.56	341849.15	40°14'41.1434"N	80°14'37.6557"W	2479.66	283.864	0.71	0.25	0.66
8864.00	90.720	321.120	6655.85	2045.10	668.58	-2466.49	1272389.49	341923.54	40°14'41.8618"N	80°14'38.4442"W	2555.50	285.166	0.91	0.00	-0.91
8959.00	90.820	322.170	6654.57	2140.09	743.07	-2525.43	1272330.55	341998.03	40°14'42.5811"N	80°14'39.2311"W	2632.48	286.396	1.11	0.11	1.11
9054.00	91.000	322.340	6653.06	2235.08	818.18	-2583.58	1272272.40	342073.14	40°14'43.3069"N	80°14'40.0081"W	2710.04	287.572	0.26	0.19	0.18
9149.00	90.910	321.980	6651.48	2330.06	893.19	-2641.85	1272214.13	342148.15	40°14'44.0316"N	80°14'40.7865"W	2788.76	288.680	0.39	-0.09	-0.38
9244.00	90.940	322.300	6649.95	2425.05	968.19	-2700.15	1272155.84	342223.14	40°14'44.7561"N	80°14'41.5653"W	2868.48	289.726	0.34	0.03	0.34
9339.00	89.310	317.760	6649.74	2519.97	1040.97	-2761.16	1272094.83	342295.92	40°14'45.4580"N	80°14'42.3783"W	2950.87	290.657	5.08	-1.72	-4.78
9434.00	91.400	321.610	6649.15	2614.86	1113.39	-2822.60	1272033.39	342368.34	40°14'46.1562"N	80°14'43.1968"W	3034.26	291.527	4.61	2.20	4.09
9529.00	92.570	322.000	6645.86	2709.80	1188.00	-2881.31	1271974.68	342442.95	40°14'46.8769"N	80°14'43.9808"W	3116.62	292.407	1.30	1.23	0.41
9623.00	92.570	322.100	6641.65	2803.71	1262.05	-2939.06	1271916.94	342517.00	40°14'47.5922"N	80°14'44.7522"W	3198.57	293.239	0.11	0.00	0.11
9718.00	92.450	322.060	6637.49	2898.62	1336.92	-2997.39	1271858.61	342591.87	40°14'48.3155"N	80°14'45.5314"W	3282.03	294.038	0.13	-0.13	-0.04
9813.00	92.570	322.050	6633.32	2993.53	1411.77	-3055.75	1271800.25	342666.71	40°14'49.0385"N	80°14'46.3110"W	3366.11	294.797	0.13	0.13	-0.01
9908.00	90.720	317.450	6630.60	3088.38	1484.22	-3117.09	1271738.92	342739.16	40°14'49.7371"N	80°14'47.1281"W	3452.41	295.462	5.22	-1.95	-4.84
10003.00	92.570	322.180	6627.87	3183.24	1556.74	-3178.34	1271677.66	342811.68	40°14'50.4363"N	80°14'47.9442"W	3539.11	296.096	5.34	1.95	4.98
10098.00	91.770	319.640	6624.27	3278.15	1630.42	-3238.19	1271617.81	342885.35	40°14'51.1474"N	80°14'48.7426"W	3625.49	296.725	2.80	-0.84	-2.67
10193.00	92.300	314.790	6620.89	3372.73	1700.08	-3302.66	1271553.35	342955.00	40°14'51.8174"N	80°14'49.5991"W	3714.54	297.238	5.13	0.56	-5.11
10288.00	91.770	322.640	6617.52	3467.44	1771.36	-3365.25	1271490.76	343026.29	40°14'52.5041"N	80°14'50.4320"W	3802.98	297.761	8.28	-0.56	8.26



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## WELLPATH DATA (196 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
10383.00	91.800	322.520	6614.56	3562.39	1846.77	-3422.95	1271433.06	343101.70	40°14'53.2329"N	80°14'51.2033"W	3889.37	298.348	0.13	0.03	-0.13
10478.00	91.370	318.290	6611.93	3657.29	1919.93	-3483.47	1271372.55	343174.85	40°14'53.9386"N	80°14'52.0101"W	3977.52	298.862	4.47	-0.45	-4.45
10573.00	92.420	323.060	6608.78	3752.18	1993.36	-3543.62	1271312.40	343248.28	40°14'54.6471"N	80°14'52.8123"W	4065.80	299.359	5.14	1.11	5.02
10668.00	92.210	322.710	6604.95	3847.10	2069.05	-3600.90	1271255.12	343323.97	40°14'55.3788"N	80°14'53.5783"W	4153.00	299.881	0.43	-0.22	-0.37
10763.00	92.420	322.790	6601.11	3942.01	2144.61	-3658.35	1271197.67	343399.52	40°14'56.1091"N	80°14'54.3465"W	4240.62	300.380	0.24	-0.22	0.08
10857.00	92.270	322.890	6597.26	4035.92	2219.36	-3715.22	1271140.81	343474.27	40°14'56.8316"N	80°14'55.1069"W	4327.63	300.853	0.19	-0.16	-0.11
10952.00	90.600	322.350	6594.88	4130.89	2294.72	-3773.00	1271083.02	343549.63	40°14'57.5599"N	80°14'55.8793"W	4416.03	301.308	1.79	-1.76	-0.36
11047.00	90.050	322.070	6594.35	4225.88	2369.80	-3831.21	1271024.82	343624.70	40°14'58.2852"N	80°14'56.6571"W	4504.90	301.739	0.65	-0.58	-0.28
11142.00	90.300	322.530	6594.88	4320.88	2444.96	-3889.31	1270966.72	343699.87	40°14'59.0114"N	80°14'57.4335"W	4593.97	302.155	0.55	0.26	0.48
11237.00	90.480	323.190	6593.41	4415.87	2520.69	-3946.66	1270909.37	343775.59	40°14'59.7434"N	80°14'58.2005"W	4682.95	302.566	0.72	0.19	0.69
11332.00	90.360	322.940	6592.17	4510.85	2596.62	-4003.75	1270852.29	343851.52	40°15'0.4775"N	80°14'58.9642"W	4772.05	302.965	0.29	-0.13	-0.26
11427.00	90.300	322.960	6592.17	4605.84	2672.44	-4060.99	1270795.05	343927.34	40°15'0.2104"N	80°14'59.7297"W	4861.44	303.348	0.07	-0.06	0.02
11522.00	90.570	322.630	6591.44	4700.82	2748.11	-4118.43	1270737.61	344003.00	40°15'1.9417"N	80°15'0.4979"W	4951.11	303.714	0.45	0.28	-0.39
11617.00	90.390	322.730	6590.65	4795.81	2823.65	-4176.02	1270680.02	344078.54	40°15'2.6719"N	80°15'1.2679"W	5041.05	304.065	0.22	-0.19	0.11
11712.00	90.670	323.030	6589.77	4890.80	2899.40	-4233.35	1270622.69	344154.29	40°15'3.4041"N	80°15'2.0347"W	5131.06	304.407	0.43	0.29	0.32
11807.00	90.140	322.650	6589.10	4985.79	2975.11	-4290.73	1270565.31	344229.99	40°15'4.1359"N	80°15'2.8021"W	5221.27	304.737	0.69	-0.56	-0.40
11902.00	90.170	322.630	6588.84	5080.78	3050.62	-4348.38	1270507.67	344305.50	40°15'4.8856"N	80°15'3.5728"W	5311.75	305.052	0.04	0.03	-0.02
11997.00	90.330	322.650	6588.43	5175.77	3126.13	-4406.03	1270450.02	344381.01	40°15'5.5953"N	80°15'4.3436"W	5402.38	305.356	0.17	0.17	0.02
12092.00	89.840	322.070	6588.29	5270.77	3201.35	-4464.04	1270392.01	344456.23	40°15'6.3222"N	80°15'5.1190"W	5493.30	305.646	0.80	-0.52	-0.61
12188.00	90.140	322.520	6588.30	5366.77	3277.31	-4522.76	1270333.30	344532.18	40°15'7.0560"N	80°15'5.9037"W	5585.34	305.928	0.56	0.31	0.47
12283.00	90.050	322.410	6588.15	5461.77	3352.64	-4580.63	1270275.42	344607.51	40°15'7.7839"N	80°15'6.6774"W	5676.48	306.201	0.15	-0.09	-0.12
12378.00	90.200	322.570	6587.94	5556.76	3428.00	-4638.48	1270217.58	344682.86	40°15'8.5121"N	80°15'7.4506"W	5767.73	306.466	0.23	0.16	0.17
12473.00	90.200	322.510	6587.61	5651.76	3503.41	-4696.26	1270159.80	344758.27	40°15'9.2408"N	80°15'8.2231"W	5859.07	306.723	0.06	0.00	-0.06
12568.00	90.300	322.540	6587.19	5746.75	3578.80	-4754.06	1270102.00	344833.66	40°15'9.9694"N	80°15'8.9958"W	5950.53	306.972	0.11	0.11	0.03
12663.00	90.080	322.420	6586.88	5841.75	3654.15	-4811.92	1270044.15	344909.01	40°15'10.6975"N	80°15'9.7692"W	6042.13	307.213	0.26	-0.23	-0.13
12758.00	91.310	323.150	6585.72	5936.73	3729.79	-4869.37	1269986.70	344984.65	40°15'11.4286"N	80°15'10.5376"W	6133.69	307.451	1.51	1.29	0.77
12853.00	90.610	323.470	6584.13	6031.69	3805.96	-4926.12	1269929.95	345060.82	40°15'12.1651"N	80°15'11.2971"W	6225.11	307.690	0.81	-0.74	0.34
12948.00	90.360	322.660	6583.33	6126.67	3881.89	-4983.20	1269872.87	345136.74	40°15'12.8992"N	80°15'12.0608"W	6316.76	307.918	0.89	-0.26	-0.85
13043.00	90.110	322.310	6582.94	6221.67	3957.25	-5041.05	1269815.02	345212.09	40°15'13.6273"N	80°15'12.8342"W	6408.75	308.132	0.45	-0.26	-0.37
13138.00	90.540	322.780	6582.40	6316.66	4032.66	-5098.83	1269757.25	345287.50	40°15'14.3560"N	80°15'13.6065"W	6500.80	308.340	0.67	0.45	0.49



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Well	BIRD RUN 10938 2H
Field	Washington	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	BIRD RUN 10938 2H AWB
Slot	Slot #02	

## WELLPATH DATA (196 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
13233.00	90.640	323.200	6581.42	6411.64	4108.51	-5156.01	1269700.07	345363.36	40°15'15.0893"N	80°15'14.3715"W	6592.75	308.549	0.45	0.11	0.44
13328.00	90.940	323.530	6580.11	6506.61	4184.74	-5212.69	1269643.39	345439.58	40°15'15.8264"N	80°15'15.1301"W	6684.62	308.757	0.47	0.32	0.35
13423.00	90.420	322.780	6578.98	6601.58	4260.76	-5269.65	1269586.43	345515.60	40°15'16.5613"N	80°15'15.8923"W	6776.67	308.957	0.96	-0.55	-0.79
13518.00	90.510	323.000	6578.21	6696.57	4336.52	-5326.97	1269529.11	345591.35	40°15'17.2936"N	80°15'16.6590"W	6868.91	309.148	0.25	0.09	0.23
13612.00	90.540	323.530	6577.35	6790.54	4411.85	-5383.19	1269472.89	345666.68	40°15'18.0219"N	80°15'17.4114"W	6960.11	309.337	0.56	0.03	0.56
13707.00	90.200	321.830	6576.74	6885.53	4487.39	-5440.78	1269415.30	345742.22	40°15'18.7520"N	80°15'18.1815"W	7052.57	309.515	1.82	-0.36	-1.79
13801.00	90.480	321.890	6576.18	6979.52	4561.32	-5498.83	1269357.25	345816.15	40°15'19.4660"N	80°15'18.9570"W	7144.43	309.676	0.30	0.30	0.06
13896.00	90.970	322.590	6574.98	7074.82	4636.42	-5557.00	1269299.09	345891.24	40°15'20.1915"N	80°15'19.7344"W	7237.17	309.840	0.90	0.52	0.74
13991.00	90.390	321.780	6573.85	7169.51	4711.46	-5615.24	1269240.85	345966.28	40°15'20.9165"N	80°15'20.5128"W	7330.00	309.998	1.05	-0.61	-0.95
14085.00	90.420	322.070	6573.19	7263.50	4785.46	-5673.21	1269182.88	346040.28	40°15'21.6311"N	80°15'21.2872"W	7421.99	310.148	0.31	0.03	0.31
14179.00	90.700	322.340	6572.27	7357.50	4859.73	-5730.82	1269125.28	346114.55	40°15'22.3487"N	80°15'22.0570"W	7513.94	310.298	0.41	0.30	0.29
14274.00	91.190	322.070	6570.70	7452.49	4934.79	-5789.03	1269067.07	346189.61	40°15'23.0736"N	80°15'22.8350"W	7606.91	310.446	0.59	0.52	-0.28
14368.00	91.430	322.880	6568.55	7546.46	5009.32	-5846.27	1269009.83	346264.13	40°15'23.7939"N	80°15'23.6003"W	7698.84	310.591	0.90	0.26	0.86
14463.00	90.700	322.210	6566.79	7641.44	5084.72	-5904.03	1268952.07	346339.53	40°15'24.5225"N	80°15'24.3726"W	7791.79	310.736	1.04	-0.77	-0.71
14558.00	91.100	323.080	6565.29	7736.42	5160.23	-5961.66	1268894.44	346415.03	40°15'25.2522"N	80°15'25.1433"W	7884.76	310.878	1.01	0.42	0.92
14652.00	90.360	322.290	6564.10	7830.40	5234.98	-6018.64	1268837.47	346489.78	40°15'25.9053"N	80°15'25.9053"W	7976.78	311.017	1.15	-0.79	-0.84
14747.00	90.570	322.300	6563.33	7925.40	5310.14	-6076.74	1268779.37	346564.94	40°15'26.7007"N	80°15'26.6819"W	8069.97	311.148	0.22	0.22	0.01
14842.00	91.560	321.460	6561.56	8020.38	5384.86	-6135.37	1268720.74	346639.66	40°15'27.4224"N	80°15'27.4652"W	8163.31	311.273	1.37	1.04	-0.88
14936.00	91.060	321.080	6559.41	8114.34	5458.17	-6194.17	1268661.94	346712.97	40°15'28.1300"N	80°15'28.2501"W	8255.87	311.386	0.67	-0.53	-0.40
15031.00	90.910	321.390	6557.78	8209.32	5532.24	-6253.64	1268602.47	346787.03	40°15'28.8449"N	80°15'29.0440"W	8349.47	311.497	0.36	-0.16	0.33
15126.00	90.760	321.160	6556.39	8304.30	5606.34	-6313.07	1268543.05	346861.13	40°15'29.5603"N	80°15'29.8374"W	8443.10	311.607	0.29	-0.16	-0.24
15221.00	90.540	320.940	6555.32	8399.28	5680.22	-6372.78	1268483.34	346935.00	40°15'30.2733"N	80°15'30.6344"W	8536.82	311.711	0.33	-0.23	-0.23
15316.00	91.310	321.280	6553.78	8494.26	5754.15	-6432.42	1268423.70	347008.94	40°15'30.9868"N	80°15'31.4303"W	8630.54	311.814	0.89	0.81	0.36
15410.00	90.570	320.790	6552.24	8588.23	5827.23	-6491.52	1268364.60	347082.01	40°15'31.6921"N	80°15'32.2191"W	8723.33	311.913	0.94	-0.79	-0.52
15505.00	90.450	320.870	6551.39	8683.21	5900.88	-6551.52	1268304.60	347155.66	40°15'32.4027"N	80°15'33.0197"W	8817.19	312.009	0.15	-0.13	0.08
15600.00	90.480	320.940	6550.62	8778.19	5974.60	-6611.43	1268244.70	347229.98	40°15'33.1142"N	80°15'33.8191"W	8911.05	312.103	0.08	0.03	0.07
15695.00	91.790	322.480	6549.24	8873.17	6049.16	-6670.29	1268185.84	347303.93	40°15'33.8341"N	80°15'34.6053"W	9004.72	312.204	1.78	0.75	1.62
15790.00	90.790	320.690	6547.60	8968.15	6123.58	-6729.30	1268126.83	347378.35	40°15'34.5526"N	80°15'35.3936"W	9098.45	312.302	1.93	-0.42	-1.88
15979.00	91.160	321.490	6544.38	9157.10	6270.62	-6848.00	1268068.14	347525.39	40°15'35.9718"N	80°15'36.9778"W	9285.25	312.480	0.47	0.20	0.42
16074.00	90.540	320.130	6542.97	9252.06	6344.24	-6908.02	1267948.12	347599.01	40°15'36.6822"N	80°15'37.7787"W	9379.24	312.564	1.57	-0.65	-1.43



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## WELLPATH DATA (196 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
16169.00	91.400	321.590	6541.36	9347.03	6417.91	-6967.97	1267898.17	347672.67	40°15'37.3930"N	80°15'38.5787"W	9473.24	312.647	1.78	0.91	1.54
16263.00	90.970	321.270	6539.42	9441.00	6491.39	-7026.57	1267829.58	347746.15	40°15'38.1024"N	80°15'39.3612"W	9566.13	312.733	0.57	-0.46	-0.34
16358.00	91.130	321.360	6537.68	9535.98	6565.53	-7085.94	1267770.21	347820.29	40°15'38.8181"N	80°15'40.1538"W	9660.06	312.817	0.19	0.17	0.09
16453.00	90.630	319.800	6536.22	9630.94	6638.91	-7146.25	1267709.90	347893.66	40°15'39.5259"N	80°15'40.9584"W	9754.18	312.892	1.72	-0.53	-1.64
16548.00	91.340	320.570	6534.59	9725.87	6711.87	-7207.07	1267649.08	347966.62	40°15'40.2295"N	80°15'41.7694"W	9848.41	312.962	1.10	0.75	0.81
16643.00	91.340	318.570	6532.36	9820.76	6784.16	-7268.66	1267587.49	348038.91	40°15'40.9263"N	80°15'42.5900"W	9942.75	313.025	2.10	0.00	-2.11
16738.00	91.120	321.450	6530.32	9915.67	6856.92	-7329.69	1267526.46	348111.67	40°15'41.6279"N	80°15'43.4036"W	10037.02	313.091	3.04	-0.23	3.03
16833.00	90.910	319.970	6528.64	10010.62	6930.43	-7389.84	1267466.32	348185.17	40°15'42.3371"N	80°15'44.2061"W	10131.17	313.163	1.57	-0.22	-1.56
16927.00	91.250	322.960	6526.87	10104.59	7003.94	-7448.38	1267407.77	348258.68	40°15'43.0467"N	80°15'44.9880"W	10224.17	313.239	3.20	0.36	3.18
17022.00	91.090	321.980	6524.93	10199.57	7079.26	-7506.24	1267349.92	348334.00	40°15'43.7745"N	80°15'45.7616"W	10317.93	313.323	1.05	-0.17	-1.03
17117.00	91.060	321.180	6523.15	10294.55	7153.68	-7565.27	1267290.90	348408.41	40°15'44.4930"N	80°15'46.5500"W	10411.93	313.398	0.84	-0.03	-0.84
17211.00	91.180	322.860	6521.31	10388.53	7227.76	-7623.10	1267233.06	348482.49	40°15'45.2084"N	80°15'47.3229"W	10504.86	313.475	1.79	0.13	1.79
17306.00	90.820	322.220	6519.65	10483.51	7303.15	-7680.87	1267175.30	348557.88	40°15'45.9369"N	80°15'48.0954"W	10598.67	313.556	0.77	-0.38	-0.67
17401.00	91.180	321.590	6517.99	10578.49	7377.91	-7739.47	1267116.70	348632.63	40°15'46.6589"N	80°15'48.8785"W	10692.66	313.630	0.76	0.38	-0.66
17459.00	91.120	322.310	6516.83	10666.48	7423.57	-7775.21	1267080.96	348678.29	40°15'47.0999"N	80°15'49.3561"W	10750.04	313.675	1.25	-0.10	1.24
17484.00#	91.120	322.310	6516.34	10661.47	7443.35	-7790.50	1267065.68	348698.07	40°15'47.2910"N	80°15'49.5604"W	10774.75	313.695	0.00	0.00	0.00



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## HOLE & CASING SECTIONS - Ref Wellbore: BIRD RUN 10938 2H AWB Ref Wellpath: BIRD RUN 10938 2H AWP Proj: 17484'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
26in Conductor	26.00	67.00	41.00	26.00	67.00	0.00	0.00	0.13	0.04
24in Open Hole	67.00	240.00	173.00	67.00	239.98	0.13	0.04	0.73	2.62
18.625in Casing Surface	26.00	220.00	194.00	26.00	219.98	0.00	0.00	0.67	2.21
17.5in Open Hole	240.00	319.00	79.00	239.98	318.96	0.73	2.62	0.91	4.18
13.375in Casing	26.00	299.00	273.00	26.00	298.96	0.00	0.00	0.87	3.80
12.25in Open Hole	319.00	1697.00	1378.00	318.96	1696.87	0.91	4.18	-6.17	16.63
9.625in Casing Intermediate	26.00	1677.00	1651.00	26.00	1676.87	0.00	0.00	-6.00	16.55
8.75in Open Hole	1697.00	6772.00	5075.00	1696.87	6408.10	-6.17	16.63	-895.68	-1207.42
8.5in Open Hole	6772.00	17484.00	10712.00	6408.10	6516.34	-895.68	-1207.42	7443.35	-7790.50
5.5in Casing Production	26.00	17484.00	17458.00	26.00	6516.34	0.00	0.00	7443.35	-7790.50

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
BIRD RUN 10938 2H BHL Rev-3	6477.09	7454.13	-7777.13	1267079.04	348708.85	40°15'47.4012"N	80°15'49.3920"W	point
BIRD RUN 10938 2H LP Rev-3	6654.00	-533.54	-1538.79	1273317.15	340721.47	40°14'30.2460"N	80°14'26.0484"W	point



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## WELLPATH COMPOSITION - Ref Wellbore: BIRD RUN 10938 2H AWB Ref Wellpath: BIRD RUN 10938 2H AWP Proj: 17484'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	215.00	Gyrodatta 2015 - GC+WIR+DPIPE	01 Gyrodatta MS Gyro <17-1/2"> (50'-200')	BIRD RUN 10938 2H AWB	3/14/2025
215.00	1592.00	OWSG MWD rev2 + IFR1 + Sag Correction	02 Total MWD+SuperiorQC IFR1+Sag <12-1/4"> (200')(363'-1577')	BIRD RUN 10938 2H AWB	3/14/2025
1592.00	6690.00	OWSG MWD rev2 + IFR1 + Sag + Multi-Station Correction	03 Total MWD+SuperiorQC IFR1+Sag+FDIR <8-3/4"> (1577')(1688'-6675')	BIRD RUN 10938 2H AWB	3/14/2025
6690.00	17484.00	OWSG MWD rev2 + IFR1 + Sag + Multi-Station Correction	04 BH Lucida+SuperiorQC IFR1+Sag+FDIR <8-1/2"> (6690')(6743'-17459')	BIRD RUN 10938 2H AWB	4/8/2025



# Actual Wellpath Report

BIRD RUN 10938 2H AWP Proj: 17484'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	RANGE RESOURCES APPALACHIA, LLC	Well	BIRD RUN 10938 2H
Field	Washington	API	37-125-29196-0000
Facility	BIRD RUN 10938 Pad	Wellbore	BIRD RUN 10938 2H AWB
Slot	Slot #02		

## COMMENTS

Wellpath general comments  
 API: 37-125-29196-0000  
 BH Job #: 112639167  
 Rig: Patterson 876  
 Duration: 4/12/2025-4/14/2025  
 Gyrodatta MS Gyro <17-1/2"> (50'-200')  
 Total MWD+SuperiorQC IFR1+Sag <12-1/4"> (200')(363'-1577')  
 Total MWD+SuperiorQC IFR1+Sag+FDIR <8-3/4"> (1577')(1688'-6675')  
 BH Lucida+SuperiorQC IFR1+Sag+FDIR <8-1/2"> (6690')(6743'-17459')  
 Projected MD at TD: 17484'

## Teresa Matinko

---

**From:** Jason Hicks  
**Sent:** Monday, May 12, 2025 10:24 AM  
**To:** Teresa Matinko  
**Cc:** Laura Rusmisel; Melissa Shaughnessy; Leagha Courtney  
**Subject:** Well Record - BIRD RUN 2H  
**Attachments:** WR BIRD RUN 10938 2H Final.pdf

Good morning,

The well record for the **BIRD RUN 2H** is attached and has been submitted to the DEP via Greenport today; eSubmission confirmation below:



Josh Shapiro, Governor

### eSubmission

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*Submission details:*

**Submission:** Well Record (Unconventional - non-vertical well)  
**Submitted:** 5/12/2025 10:23:19 AM  
**Status:** Submitted  
**County:** Washington  
**Municipality:** Chartiers Township  
**Region:** EP DOGO SWDO Dstr Off  
**Primary\_Facility\_Id:** 880861  
**WellAPI:** 125-29196  
**User:** HICKSJN  
**Operator:** 60915 - RANGE RESOURCES APPALACHIA LLC

*Files attached:*

File	Document_Type	Description
<a href="#">WR BIRD RUN 10938 2H Final.pdf</a>	Well Record (Unconventional)	

Thank you,

**Jason Hicks**  
Drilling Engineering Tech II  
Office: 724.743.5232 -- Cell: 724.993.7173  
Email: [jhicks@rangeresources.com](mailto:jhicks@rangeresources.com)

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