

# NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV  
 Field: Monongalia  
 Facility: Beach Pad

Slot: 10  
 Well: Beach 10H  
 Wellbore: Beach 10H PWB



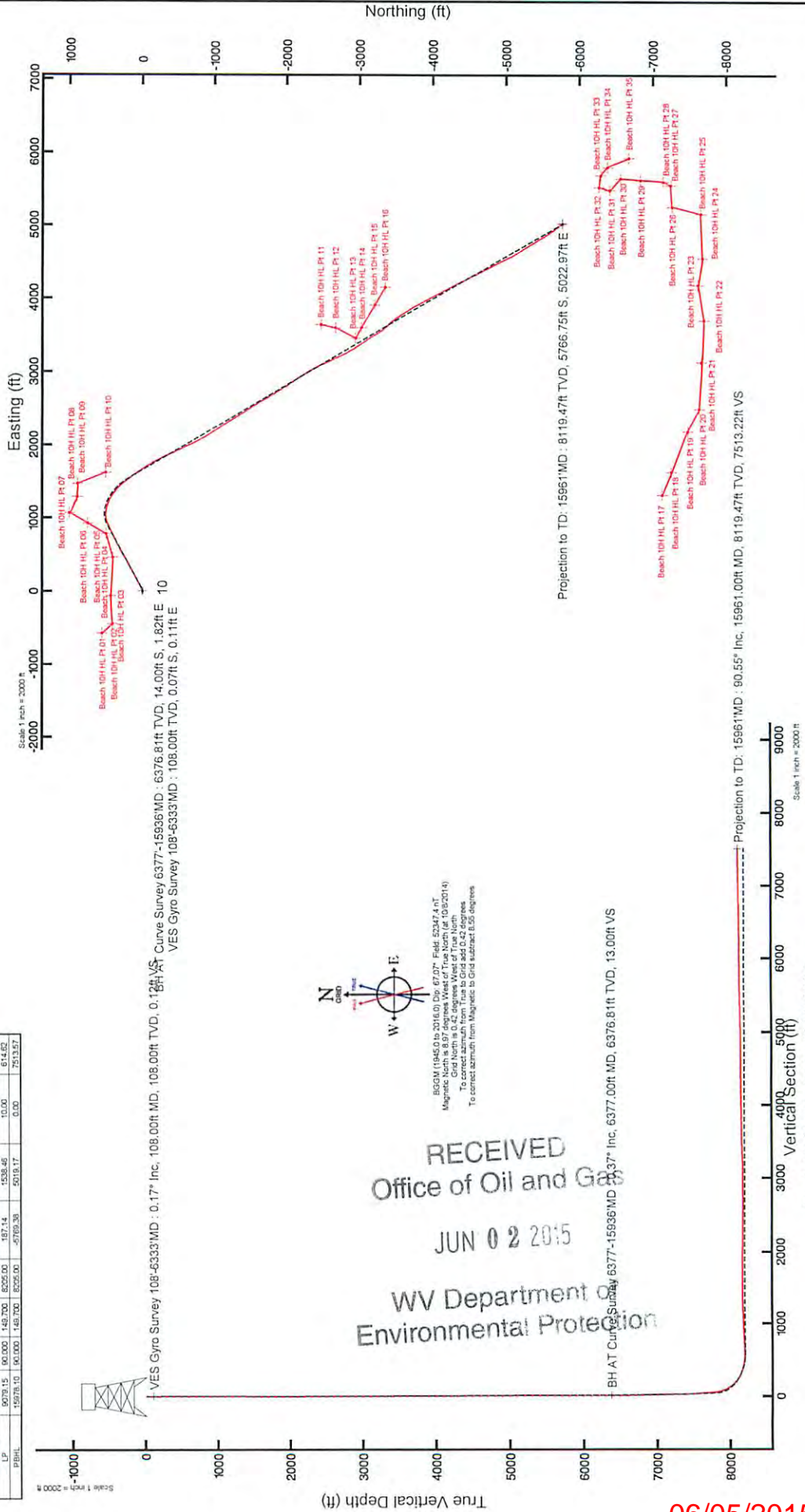
### Pilot reference wellpath is Beach 10H PWB Rev.A.0

Vertical depth is referenced to True (T) (ft)	Grid System: NAD83 (Landsat Well Origin) SP - US (from Zone 18T), US (ft)
Measured depths are referenced to Potomac (P) (ft)	North tolerance: Grid north
Surface (S) (ft) is the true surface	Scale: Feet in feet
Coordinate system is based on NAD83 datum	Check for: elevations are 11110214

Design Comment	MD (ft)	Inc (°)	As Tr.	True (ft)	Local (ft)	DLS (1/100ft)	VS (ft)
SP	6333.00	0.170	125.210	6333.81	-14.20	2.05	12.77
CD	6070.73	43.882	61.188	6072.47	90.98	178.00	13.30
3D Acc (ft/s)	8188.47	43.882	61.188	7799.40	485.01	912.75	19.98
Eqd. SGRAT	9079.15	90.000	149.700	8050.00	187.14	-1538.45	41.75
LP	10775.10	90.000	149.700	8050.00	-5769.36	5019.17	614.62
PBHL	10775.10	90.000	149.700	8050.00	-5769.36	5019.17	7513.57

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Beach Pad	1764915.100	4393051.600	80°09'09.060°W
Local N (ft)	Local E (ft)	Local N (ft)	Local E (ft)
49.60	109.31	39°47'15.411°N	80°09'07.667°W
Potomac (P) (ft) to Mudline (AT Slot: TD)	Grid East (US ft)	Grid North (US ft)	Longitude
108.31	1765024.400	4393051.400	80°09'07.667°W
Mean Sea Level to Mudline (AT Slot: TD)	108.31		
Potomac (P) (ft) to Mean Sea Level	-1356.70		
	1316.70		

Well Data			
Slot	Well	Wellbore	Wellpath
10	Beach 10H	Beach 10H AVB	Beach 10H AVB Proj: EIGHT
		Beach 10H PWB	Beach 10H PWB Rev.A.0



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# CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER	DATE 08-NOV-14	F.R. # 1001116588	SERV. SUPV. Scott J Carson
LEASE & WELL NAME BEACH 10H - API 47061016690000	LOCATION BLACKSVILLE		COUNTY-PARISH-BLOCK Monongalia West Virginia
DISTRICT Clarksburg	DRILLING CONTRACTOR RIG # PERFORMANCE #1		TYPE OF JOB Long String

SIZE & TYPE OF PLUGS	LIST-CSG-HARDWARE	MECHANICAL BARRIERS	MD	TVD	HANGER TYPES	MD	TVD
Latch Down Plug & Assembly, 5-1/2	Float Collar, AI Flap, 5-1/2 - 8rd Guide Shoe, Cement Nose, 5-1/2 i	NONE			NONE		

MATERIALS FURNISHED BY BJ	LAB REPORT NO.	PHYSICAL SLURRY PROPERTIES						
		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
ULTRA-FLUSH HV			13				100	
50/50 PREM NE-1 .25% R-3 .3% MPA-170	189101286	3,095	14.5	1.17	5.2	06:04	645	383.23
50# SUGAR+H2O			8.34				4	
H2O			8.34				352	
200# SUGAR ON SIDE			0				0	
Available Mix Water <u>750</u> Bbl.		Available Displ. Fluid <u>750</u> Bbl.		TOTAL			1101	383.23

HOLE			TBG-CSG-D.P.						COLLAR DEPTHS			
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE
8.5	10	15961	4.778	5.5	20	CSG	15935	8119	J-55	15935	15923	1

LAST CASING				PKR-CMT RET-BR PL-LINER				PERF. DEPTH		TOP CONN		WELL FLUID	
ID	OD	WGT	TYPE	MD	TVD	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.
8.8	9.625	40	CSG	2374	2374	NO PACKER				5.5	BUTT	SYNTHETIC MUD	12.5
12.	12.25		OPEN HOLE	2438	2438								
8.8	8.75		OPEN HOLE	6408	6408								

DISPL. VOLUME		DISPL. FLUID		CAL. PSI	CAL. MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG PSI		MIX WATER
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI	RATED	Operator	RATED	Operator	
353	BBLs	H2O	8.34	2600	0	0	0	0	10112	6000	TANK

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES	7900 PSI
						CIRCULATING WELL - RIG	<input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>
04:05						ARRIVE AT LOCATION 11-08-2014	
04:30						PRE-JOB RIG-IN SAFETY MEETING	
04:45						RIG-IN	
07:30						PRE-JOB SAFETY MEETING	
08:03	250		5	5	H2O	LINE-FILL	
08:05	0				H2O	PRESSURE TEST 7900#	
08:09	500		5	100	ULTRA-FL	PRE-FLUSH 13.0#	
08:29	700		5	630	SLURRY	14.5# 50/50 PREMIUM NE-1 .25% R-3 .3% MPA-170	
10:33	0		5	10	H2O	SHUT-DOWN WASH-OUT LINES	
10:39	500		2	3	SUGAR/H2	PUMP SUGAR WATER	
10:40	0					SHUT-DOWN RELEASE-PLUG	
10:41	600		2	1	SUGAR/W	START DISPLACEMENT 1BBL. SUGAR WATER	
10:42	2500		5.1	352	H2O	DISPLACEMENT	
11:45	5000					SHUT-DOWN	
11:50	0					BLEED-OFF PRESSURE	
11:55						POST-JOB RIG-OUT SAFETY MEETING	

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PRESSURE/RATE DETAIL						EXPLANATION			
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>			
	PIPE	ANNULUS				TEST LINES 7900 PSI			
12:05						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>			
						RIG-OUT			
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:		
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	2600	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0	1044	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N			

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## JOB SUMMARY

Customer Rep: <b>Jim Cover</b>	Calfrac Rep: <b>James Dreves</b>	Version: 5.9
LSD: Beach 10H WV Customer: Northeast Natural Energy 6240 Mid Atlantic Drive Morgantown, WV 26508		Calfrac Service Line: CEMENT Job Date: 27-Aug-14 Job Type: Intermediate Program Number: CAEH2024JH Service Order #: 180450

### Open Hole Information

	OH Diameter (in)	OH Depth Top (ft)	OH Depth Bottom (ft)	Excess (%)	Capacity (bbl/ft)	Volume (bbl)	Vol + XS (bbl)
1	17.50	1310	1350	30%	0.2975	11.9	15.5
2	12.25	1350	2406	30%	0.1458	153.9	200.1

### Pipe Information

	Description OD/Wt/Grade	Pipe MD Top (ft)	Pipe MD Bottom (ft)	Pipe TVD Top (ft)	Pipe TVD Bottom (ft)	Capacity (bbl/ft)	ID (in)
1	13.375in - 54.5LB - J-55	0	1310	0	1310	0.1546	12.615
2	9.625in - 40LB - J-55	0	2366	0	2366	0.0758	8.835

### Slurry Blend Information

Slurry 1					
Blend Name	0:1 Class A Intermediate Lead (15.6 ppg)		Lead		
Constituent 1	Class A Cement	94.00	#/sk	Amount	460 sks
Constituent 2			#/sk	Yield	1.18 ft3/sk
Constituent 3			#/sk	Density	15.60 ppg
Add 1	Celloflake	0.25	#/sk	Water	5.22 gal/sk
Add 2				Slurry	542 ft3
Slurry 2					
Blend Name	0:1 Class A Intermediate Tail (15.6 ppg)		Tail		
Constituent 1	Class A Cement	94.00	#/sk	Amount	356 sks
Constituent 2			#/sk	Yield	1.20 ft3/sk
Constituent 3			#/sk	Density	15.61 ppg
Add 1	Calcium Chloride (CaCl2, 94%)	2.00	%bwob	Water	5.27 gal/sk
Add 2				Slurry	427 ft3

### Top of Cement Information

Top of Cement	Designed (ft)	Actual / Est. (ft)	
Tail	1366		1366

### Spacer Information

Description	Weight (ppg)	Volume (bbls)	Purpose
Spacer 1 Viscous Spacer		25	
Spacer 2 Water		176	

### Misc Information

Mud Type:	Air	Ambient Temperature (°F)	68	pH	6
Yield Point:		Mix Water Temperature (°F)	72	Sodium (ppm)	
Density (ppg):	NA	Cement Temperature (°F)	68	Chlorides (ppm)	
		Slurry Temperature (°F)	75		

Cement Returns:	YES	10	bbls	Stg 2 - Cement Returns:	
Spacer Returns:	YES	25	bbls	Stg 2 - Spacer Returns:	

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# CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER		DATE 24-AUG-14	F.R. # 941810047		SERV. SUPV. Bobby L Conrad									
LEASE & WELL NAME BEACH 10H - API 47061016690000		LOCATION CLAY		COUNTY-PARISH-BLOCK Monongalia West Virginia										
DISTRICT Clarksburg		DRILLING CONTRACTOR RIG # PERFORMANCE		TYPE OF JOB Surface										
SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE		MECHANICAL BARRIERS		MD TVD								
HANGER TYPES		MD		TVD										
BJ 13.375 INCH TRP		Float Shoe 13-3/8 - 8rd												
MATERIALS FURNISHED BY BJ				PHYSICAL SLURRY PROPERTIES										
		LAB REPORT NO.		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT								
500#GEL+25#FLAKE					8.6									
PREM NE-1+3CALCIUM				982	15.2	1.27								
H2O					8.34									
200# SUGAR					0									
Available Mix Water 400 Bbl.		Available Displ. Fluid 450 Bbl.		TOTAL		443.4 135.68								
HOLE			TBG-CSG-D.P.				COLLAR DEPTHS							
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE		
17.5	30	1364	12.62	13.38	54.5	CSG	1305		J-55	1305	1264			
LAST CASING				PKR-CMT RET-BR PL-LINER			PERF. DEPTH		TOP CONN		WELL FLUID			
ID	OD	WGT.	TYPE	MD	TVD	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.	
23.	24	95.	CSG	40	40					9.625	8RD	OTHER	0	
DISPL. VOLUME		DISPL. FLUID		CAL. PSI		CAL. MAX PSI		OP. MAX		MAX TBG PSI		MAX CSG PSI		MIX WATER
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI	RATED	Operator	RATED	Operator	RATED	Operator		
195.4	BBLS	H2O	8.34	451	0	0	0	0	0	0	2184	700	TANK	

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES 2600 PSI	CIRCULATING WELL - RIG BJ <input checked="" type="checkbox"/>
05:00						PUMP TRUCK @ LOCATION 8;24;2014	
06:16						BULK TRUCKS ON LOCATION	
13:10	114		6.4	180	H2O	AHEAD	
13:38	159		6.3	25	GEL	6%GEL&FLAKE/PRE-FLUSH	
13:42	139		5.9	10	H2O	SPACER	
13:44	256		5.2	218	SLURRY	PREMIUM NE-1+3%CALCIUM	
14:26	0					SHUT DOWN/DROP PLUG	
14:27	177		7.2		H2O	START DISPLACEMENT	
15:00	444		2.5	203	H2O	END DISPLACEMENT	
15:00	655					PLUG DOWN	
15:02	0					BLEED OFF 1 BARREL BACK	
15:03	0					COMING BACK JUST LITTLE TRICKLE/SHUT IN HEAD	

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	444	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	40	636	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<i>B. J. Conrad</i> RECEIVED Office of Oil and Gas

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**ACTUAL WELLPATH REPORT (CSV version)**  
 Prepared by Baker Hughes  
 Software System: WellArchitect® 4.0.1

**REFERENCE WELLPATH IDENTIFICATION**

Operator  
 Area  
 Field  
 Facility  
 Slot  
 Well  
 Wellbore  
 Wellpath  
 Sidetrack

NORTHEAST NATURAL ENERGY, LLC  
 Monongalia County, WV  
 Monongalia  
 Beach Pad  
 10  
 Beach 10H  
 Beach 10H AWB  
 Beach 10H AWP Proj: 15961'  
 (none)

**REPORT SETUP INFORMATION**

Projection System  
 North Reference  
 Scale  
 Convergence at slot  
 Software System  
 User  
 Report Generated  
 Database/Source file

NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet  
 Grid  
 0.959942  
 0.42° West  
 WellArchitect® 4.0.1  
 Stewdenk  
 11/11/2014 at 2:05:52 PM  
 WA\_Eastern/ev12.xml

**WELLPATH LOCATION**

Slot Location  
 Facility Reference Pt  
 Field Reference Pt

Local North	Local East	East	Northing	Latitude	Longitude
[ft]	[ft]	[US ft]	[US ft]	[US ft]	[ft]
49.6	109.31	1785024	439351.4	39°42'15.80"	80°09'07.667"W
		1784915	439301.8	39°42'15.480"	80°09'09.060"W
		1777686	440640.7	39°42'28.180"	80°10'41.690"W

**WELLPATH DATUM**

Calculation method  
 Horizontal Reference Point  
 Vertical Reference Point  
 MD Reference Point  
 Field Vertical Reference  
 Pioneer 63 (RKB) to GL  
 Pioneer 63 (RKB) to Mean Sea Level  
 Pioneer 63 (RKB) to Mud Line at Slot (10)  
 Section Origin  
 Section Azimuth

Minimum curvature  
 Slot  
 Pioneer 63 (RKB)  
 Pioneer 63 (RKB)  
 Mean Sea Level  
 18.00ft  
 1376.70ft  
 18.00ft  
 N 0.00, E 0.00 ft  
 149.70°

**WELLPATH DATA** † = interpolated/extrapolated station

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Di	Closure Di	DLS	Build Rate	Turn Rate
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]	[US ft]	[ft]	[ft]	[°]	["/100ft]	["/100ft]	[°/100ft]
0	0	0	123.08	0	0	0	0	1785024.4	439351.4	39°42'15.909"N	80°09'07.667"W	0	0	0	0
18	0	123.08	18	0	0	0	0	1785024.4	439351.4	39°42'15.909"N	80°09'07.667"W	0	0	0	0
108	0.17	123.08	108	0.12	-0.07	0.11	0.11	1785024.51	439351.33	39°42'15.908"N	80°09'07.665"W	0.13	123.08	0.19	0.19
208	0.31	131.06	208	0.51	-0.33	0.44	0.44	1785024.84	439351.07	39°42'15.906"N	80°09'07.661"W	0.55	126.988	0.14	0.14
308	0.33	141.33	308	1.05	-0.73	0.82	0.82	1785025.22	439350.67	39°42'15.902"N	80°09'07.656"W	1.1	131.694	0.06	0.02
408	0.28	177.3	408	1.55	-1.2	1.02	1.02	1785025.42	439350.2	39°42'15.897"N	80°09'07.653"W	1.57	139.83	0.19	-0.05
508	0.41	185.17	507.99	2.06	-1.8	0.99	0.99	1785025.39	439349.6	39°42'15.891"N	80°09'07.654"W	2.06	151.118	0.14	0.13

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608	0.3	176.61	607.99	2.58	-2.42	0.98	1785025.38	439348.98	39°42'15.885"N	80°09'07.654"W	2.61	158.003	0.12	-0.11	-8.56
708	0.46	183.04	707.99	3.15	-3.08	0.97	1785025.37	439348.32	39°42'15.879"N	80°09'07.654"W	3.23	162.499	0.17	0.16	6.43
808	0.28	187.49	807.99	3.68	-3.73	0.92	1785025.36	439347.67	39°42'15.872"N	80°09'07.654"W	3.84	166.145	0.18	-0.18	4.45
908	0.28	321.79	907.99	3.63	-3.78	0.74	1785025.34	439347.62	39°42'15.872"N	80°09'07.657"W	3.85	168.971	0.52	0	134.3
1008	0.2	327.02	1007.99	3.22	-3.44	0.49	1785024.89	439347.96	39°42'15.875"N	80°09'07.660"W	3.47	171.89	0.08	-0.08	5.23
1108	0.39	314.49	1107.99	2.71	-3.05	0.15	1785024.55	439348.35	39°42'15.879"N	80°09'07.664"W	3.06	177.147	0.2	0.19	-12.53
1208	0.55	318.74	1207.98	1.91	-2.45	-0.41	1785023.99	439348.95	39°42'15.885"N	80°09'07.672"W	2.49	189.42	0.16	0.16	4.25
1308	0.56	281.4	1307.98	1.12	-2	-1.2	1785023.2	439349.4	39°42'15.889"N	80°09'07.682"W	2.33	211.063	0.36	0.01	-37.34
1408	0.57	270.82	1407.97	0.53	-1.89	-2.18	1785022.22	439349.51	39°42'15.890"N	80°09'07.694"W	2.89	229.02	0.1	0.01	-10.58
1508	0.64	272.02	1507.97	-0.02	-1.87	-3.23	1785021.17	439349.53	39°42'15.891"N	80°09'07.708"W	3.73	240.018	0.07	0.07	1.2
1608	0.05	289.47	1607.96	-0.35	-1.83	-3.83	1785020.57	439349.57	39°42'15.891"N	80°09'07.715"W	4.25	244.461	0.59	-0.59	17.45
1708	0.44	266.3	1707.96	-0.56	-1.84	-4.26	1785020.14	439349.56	39°42'15.891"N	80°09'07.721"W	4.64	246.606	0.39	0.39	-23.17
1808	0.69	255.59	1807.96	-0.89	-2.02	-5.22	1785019.18	439349.38	39°42'15.889"N	80°09'07.733"W	5.6	248.893	0.27	0.25	-10.71
1908	0.21	241.79	1907.96	-1.07	-2.25	-5.97	1785018.43	439349.15	39°42'15.886"N	80°09'07.743"W	6.38	249.32	0.49	-0.48	-13.8
2008	0.76	221.16	2007.95	-0.86	-2.84	-7.22	1785017.83	439348.56	39°42'15.888"N	80°09'07.750"W	7.15	246.62	0.57	0.55	-20.63
2108	0.9	196.01	2107.94	-0.11	-4.09	-7.22	1785017.18	439347.31	39°42'15.868"N	80°09'07.759"W	8.3	240.45	0.39	0.14	-25.15
2208	1.04	223.1	2207.93	0.69	-5.51	-8.06	1785016.34	439345.89	39°42'15.854"N	80°09'07.769"W	9.76	235.628	0.47	0.14	27.09
2308	0.68	227.36	2307.92	1.08	-6.58	-9.11	1785015.29	439344.82	39°42'15.844"N	80°09'07.783"W	11.24	234.189	0.37	-0.36	4.26
2408	0.64	222.75	2407.91	1.37	-7.39	-9.93	1785014.47	439344.01	39°42'15.835"N	80°09'07.793"W	12.38	233.35	0.07	-0.04	-4.61
2508	0.2	237.39	2507.91	1.54	-7.89	-10.46	1785013.95	439343.51	39°42'15.830"N	80°09'07.800"W	13.1	232.954	0.45	-0.44	14.64
2608	0.23	260.15	2607.91	1.48	-8.02	-10.8	1785013.6	439343.38	39°42'15.829"N	80°09'07.804"W	13.45	233.402	0.09	0.03	22.76
2708	0.17	269	2707.91	1.33	-8.06	-11.15	1785012.82	439343.34	39°42'15.828"N	80°09'07.808"W	13.75	234.139	0.07	-0.06	8.85
2808	0.33	262.4	2807.9	1.15	-8.1	-11.58	1785012.5	439343.23	39°42'15.828"N	80°09'07.814"W	14.13	235.035	0.16	0.16	-6.6
2908	0.06	226.38	2907.9	1.05	-8.17	-11.9	1785012.4	439342.82	39°42'15.824"N	80°09'07.821"W	14.44	235.529	0.28	-0.27	-36.02
3008	0.49	210.45	3007.9	1.27	-8.58	-12.16	1785011.72	439341.8	39°42'15.812"N	80°09'07.828"W	15.91	232.862	0.35	0.34	-5.58
3108	0.83	204.87	3107.9	1.89	-9.6	-12.68	1785011.4	439341.06	39°42'15.805"N	80°09'07.832"W	16.62	231.493	0.73	-0.73	-12.83
3208	0.1	192.04	3207.89	2.37	-10.34	-13	1785011.35	439340.54	39°42'15.801"N	80°09'07.833"W	16.97	230.232	0.39	0.39	-8.62
3308	0.49	183.42	3307.89	2.79	-10.86	-13.05	1785011.36	439339.48	39°42'15.790"N	80°09'07.833"W	17.67	227.574	0.25	0.24	-6.01
3408	0.73	177.41	3407.88	3.71	-11.92	-13.04	1785011.46	439338.22	39°42'15.784"N	80°09'07.832"W	18.5	223.573	0.33	-0.27	-42.05
3508	0.44	168.99	3507.88	4.64	-12.93	-12.94	1785011.65	439338.47	39°42'15.780"N	80°09'07.828"W	18.5	223.573	0.33	-0.27	-42.05
3608	0.17	126.94	3607.88	5.14	-13.4	-12.75	1785012.19	439337.99	39°42'15.776"N	80°09'07.821"W	18.14	222.305	0.39	0.32	-46.91
3708	0.49	80.03	3707.88	5.42	-13.41	-12.21	1785012.9	439338.54	39°42'15.776"N	80°09'07.804"W	17.49	221.105	0.18	-0.11	-19.31
3808	0.38	60.72	3807.87	5.58	-13.18	-11.5	1785013.57	439338.22	39°42'15.784"N	80°09'07.804"W	16.81	220.093	0.1	0.09	7.31
3908	0.47	68.03	3907.87	5.76	-12.62	-10.17	1785014.23	439338.54	39°42'15.784"N	80°09'07.795"W	16.2	218.865	0.13	-0.13	3.52
4008	0.34	71.55	4007.87	5.64	-12.86	-10.83	1785014.95	439339.05	39°42'15.786"N	80°09'07.786"W	15.56	217.427	0.19	0.19	-2.81
4108	0.53	68.74	4107.86	5.9	-12.35	-9.45	1785015.56	439338.84	39°42'15.784"N	80°09'07.779"W	15.36	215.138	0.69	-0.05	85.73
4208	0.48	154.47	4207.86	6.39	-12.56	-8.84	1785015.82	439338.34	39°42'15.779"N	80°09'07.775"W	15.63	213.285	0.31	-0.31	-10.23
4308	0.17	144.24	4307.86	6.95	-13.06	-8.58	1785016.18	439337.92	39°42'15.775"N	80°09'07.771"W	15.8	211.38	0.29	0.29	-5.37
4408	0.46	138.87	4407.86	7.49	-13.49	-8.22	1785016.85	439337.38	39°42'15.770"N	80°09'07.762"W	15.92	208.306	0.19	0.08	-19.79
4508	0.54	119.08	4507.86	8.29	-14.02	-7.55	1785018.27	439336.79	39°42'15.766"N	80°09'07.752"W	15.91	205.137	0.09	-0.07	-6.13
4608	0.47	112.95	4607.85	9.03	-14.41	-6.76	1785018.68	439336.98	39°42'15.764"N	80°09'07.744"W	15.85	202.769	0.2	-0.18	-12.39
4708	0.29	100.56	4707.85	9.52	-14.61	-6.13	1785019.3	439337.25	39°42'15.769"N	80°09'07.731"W	15.52	201.632	0.34	0.04	-65.66
4808	0.33	34.9	4807.85	9.65	-14.16	-5.1	1785020.54	439336.4	39°42'15.761"N	80°09'07.721"W	15.05	199.821	0.41	0.19	51.21
4908	0.52	86.11	4907.85	9.65	-14.16	-5.1	1785020.79	439335.98	39°42'15.756"N	80°09'07.715"W	15.49	194.424	0.15	-0.01	19.43
5008	0.46	131.56	5007.84	10.23	-14.39	-4.35	1785020.94	439335.86	39°42'15.755"N	80°09'07.709"W	15.92	192.568	0.05	0	-25.99
5108	0.45	150.99	5107.84	11	-15	-3.86	1785021.26	439335.78	39°42'15.755"N	80°09'07.705"W	15.93	191.355	0.18	0.17	-16.68
5208	0.11	142.21	5207.84	11.49	-15.42	-3.61	1785022.73	439336.15	39°42'15.758"N	80°09'07.695"W	15.64	188.456	0.49	0.44	-27.76
5308	0.28	99.54	5407.84	11.9	-15.62	-3.14	1785022.1	439335.94	39°42'15.756"N	80°09'07.687"W	15.34	186.252	0.68	-0.68	-8.28
5408	0.72	71.78	5507.83	12.19	-15.47	-2.3	1785023.09	439336.43	39°42'15.761"N	80°09'07.682"W	15.03	184.99	0.45	0.45	-12.39
5508	0.04	63.5	5607.83	12.33	-15.25	-1.67	1785023.74	439337.38	39°42'15.767"N	80°09'07.674"W	14.41	182.621	0.04	0.01	-4.87
5608	0.49	51.11	5707.83	12.26	-14.97	-1.31	1785024.28	439337.7	39°42'15.774"N	80°09'07.667"W	13.7	180.51	0.15	0.02	-16.97
5708	0.5	46.24	5807.82	12.1	-14.4	-0.66									
5808	0.5	46.24	5807.82	12.1	-14.4	-0.66									
5908	0.52	29.27	5907.82	11.77	-13.7	-0.12									

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6008	0.21	101.54	6007.82	11.66	-13.34	0.28	1785024.68	439338.06	39°42'15.777"N	80°09'07.662"W	13.34	178.8	0.5	-0.31	72.27
6108	0.04	112.72	6107.82	11.81	-13.39	0.49	1785024.89	439338.01	39°42'15.777"N	80°09'07.659"W	13.4	177.9	0.17	-0.17	11.18
6208	0.36	100.38	6207.82	12.04	-13.46	0.83	1785025.23	439337.94	39°42'15.777"N	80°09'07.655"W	13.49	176.462	0.32	0.32	-12.34
6308	0.45	128.8	6307.82	12.61	-13.76	1.45	1785025.85	439337.64	39°42'15.773"N	80°09'07.647"W	13.84	173.997	0.22	0.09	28.42
6333	0.33	125.21	6332.82	12.77	-13.87	1.58	1785025.98	439337.53	39°42'15.772"N	80°09'07.645"W	13.96	173.489	0.49	-0.48	-14.36
6377	0.37	112.39	6376.81	13	-14	1.82	1785026.22	439337.41	39°42'15.771"N	80°09'07.642"W	14.11	172.6	0.2	0.09	-29.14
6423	2.71	66.45	6422.8	13.25	-13.62	2.95	1785027.35	439337.78	39°42'15.775"N	80°09'07.628"W	13.93	167.768	5.36	5.09	-99.87
6486	7.83	60.28	6485.51	13.46	-10.89	8.05	1785032.45	439340.51	39°42'15.802"N	80°09'07.563"W	13.54	143.543	8.16	8.13	-9.79
6549	12.55	59.83	6547.5	13.52	-5.32	17.7	1785042.1	439346.08	39°42'15.858"N	80°09'07.440"W	18.48	106.737	7.49	7.49	-0.71
6613	16.23	61.15	6609.48	13.77	2.49	31.55	1785055.95	439353.89	39°42'15.936"N	80°09'07.263"W	31.65	85.486	5.77	5.75	2.06
6676	20.82	62.59	6669.2	14.55	11.9	49.21	1785073.6	439363.3	39°42'16.030"N	80°09'07.038"W	50.63	76.407	7.32	7.29	2.29
6739	25.38	62.99	6727.13	15.89	23.19	71.19	1785095.58	439374.59	39°42'16.143"N	80°09'06.758"W	74.87	71.957	7.24	7.24	0.63
6802	29.62	62.06	6783	17.31	36.62	96.98	1785121.38	439388.02	39°42'16.278"N	80°09'06.429"W	103.67	69.312	6.76	6.73	-1.48
6865	34.31	62	6836.43	18.66	52.26	126.43	1785150.82	439403.66	39°42'16.435"N	80°09'06.054"W	136.81	67.542	7.44	7.44	-0.1
6928	39.56	61.69	6886.77	20.08	70.12	159.79	1785184.18	439421.52	39°42'16.614"N	80°09'05.629"W	174.5	66.306	8.34	8.33	-0.49
6992	43.26	62	6934.77	21.66	90.09	197.11	1785221.5	439441.49	39°42'16.814"N	80°09'05.153"W	216.72	65.437	5.79	5.78	0.48
7055	43.24	61.43	6980.65	23.18	110.55	235.12	1785259.51	439461.94	39°42'17.019"N	80°09'04.669"W	259.81	64.819	0.62	-0.03	-0.9
7119	43.23	61.7	7027.28	24.61	131.42	273.67	1785298.06	439482.81	39°42'17.228"N	80°09'04.177"W	303.59	64.349	0.29	-0.02	0.42
7182	43.17	61.11	7073.21	25.89	152.06	311.54	1785335.92	439503.45	39°42'17.434"N	80°09'03.695"W	346.67	63.983	0.65	-0.1	-0.94
7245	43.34	61	7119.09	26.91	172.95	349.32	1785373.7	439524.34	39°42'17.643"N	80°09'03.213"W	389.79	63.659	0.3	0.27	-0.17
7308	43.3	60.6	7164.92	27.74	194.04	387.05	1785411.42	439545.43	39°42'17.855"N	80°09'02.733"W	432.96	63.374	0.44	-0.06	-0.63
7371	43.23	60.18	7210.8	28.26	215.38	424.59	1785448.96	439566.76	39°42'18.068"N	80°09'02.254"W	476.09	63.103	0.47	-0.11	-0.67
7434	43.21	59.84	7256.71	28.5	236.94	461.95	1785486.33	439588.33	39°42'18.284"N	80°09'01.778"W	519.17	62.846	0.37	-0.03	-0.54
7498	43.22	60.25	7303.35	28.76	258.82	499.92	1785524.29	439610.21	39°42'18.503"N	80°09'01.294"W	562.95	62.628	0.44	0.02	0.64
7561	43.36	60.63	7349.21	29.32	280.13	537.5	1785561.87	439631.52	39°42'18.716"N	80°09'00.816"W	606.12	62.472	0.47	0.22	0.6
7624	43.22	61.38	7395.07	30.3	301.07	575.28	1785599.65	439652.45	39°42'18.926"N	80°09'00.334"W	649.3	62.375	0.85	-0.22	1.19
7687	43.61	62.35	7440.83	31.94	321.49	613.46	1785637.83	439672.87	39°42'19.130"N	80°08'59.847"W	736.07	62.37	0.99	0.06	1.43
7750	43.65	63.25	7486.43	34.29	341.36	652.13	1785676.49	439692.74	39°42'19.329"N	80°08'59.355"W	799.56	62.458	1.55	0.11	2.24
7813	43.72	64.66	7531.99	37.52	360.46	691.22	1785715.58	439711.84	39°42'19.521"N	80°08'58.856"W	823.75	62.58	0.15	-0.06	0.2
7877	43.68	64.79	7578.26	41.39	379.34	731.2	1785754.83	439739.41	39°42'19.898"N	80°08'57.846"W	867.21	62.678	0.55	-0.06	-0.79
7940	43.64	64.29	7623.84	45.06	398.04	770.47	1785833.97	439768.38	39°42'20.088"N	80°08'57.347"W	910.7	62.749	0.31	0.1	-0.43
8003	43.7	63.57	7714.95	51.55	436.22	848.67	1785873.02	439787.6	39°42'20.281"N	80°08'56.849"W	954.22	62.797	0.49	0	-0.71
8066	43.7	63.95	7759.76	54.58	455.17	887.11	1785910.74	439806.54	39°42'20.471"N	80°08'56.359"W	997.07	62.838	0.43	0.06	0.61
8128	43.74	66.93	7805.62	58.89	473.13	926.39	1785950.54	439824.5	39°42'20.651"N	80°08'55.858"W	1040.22	62.946	3.53	-1.4	4.73
8191	42.86	66.93	7852.97	67.76	486.71	967.2	1785991.54	439838.08	39°42'20.788"N	80°08'55.337"W	1082.76	63.288	10.05	-1.61	14.73
8255	41.83	76.36	7897.67	72.6	493.86	1008.85	1786033.19	439845.23	39°42'20.862"N	80°08'54.805"W	1123.24	63.917	8.34	1.19	12.29
8318	42.58	84.1	7899.67	82.6	493.86	1008.85	1786076.48	439846.77	39°42'20.880"N	80°08'54.251"W	1162.94	64.787	8.83	3.03	12.05
8381	44.49	91.69	7945.37	103.11	495.4	1052.15	1786122.05	439843.02	39°42'20.846"N	80°08'53.667"W	1202.79	65.873	7.52	3.62	9.22
8445	46.81	97.59	7990.12	129.34	491.65	1097.71	1786168.67	439834.57	39°42'20.766"N	80°08'53.070"W	1242.17	67.108	8.92	6.4	8.27
8508	50.84	102.8	8031.61	160.15	483.2	1144.34	1786216.74	439821.01	39°42'20.636"N	80°08'52.454"W	1281.57	68.503	12	9.45	9.18
8570	56.7	108.49	8068.26	196.12	469.64	1192.41	1786266.68	439800.61	39°42'20.431"N	80°08'51.813"W	1321.08	70.12	12.34	7.37	11.56
8633	61.34	115.77	8100.71	238.93	449.24	1242.35	1786315.86	439773.24	39°42'20.171"N	80°08'51.181"W	1358.69	71.911	11.39	6.6	10.38
8696	65.5	122.31	8128.91	287.38	421.87	1291.53	1786363.92	439740.03	39°42'19.846"N	80°08'50.563"W	1394.84	73.821	10.73	8.33	7.29
8759	70.75	126.9	8152.39	340.3	388.65	1339.6	1786410.79	439702.27	39°42'19.476"N	80°08'49.960"W	1430.19	75.798	9.09	6.95	6.13
8822	75.13	130.76	8170.87	396.56	350.89	1386.48	1786456.27	439659.58	39°42'19.057"N	80°08'49.374"W	1464.75	77.853	9.76	6.45	7.52
8886	79.26	135.57	8185.06	456.36	308.2	1431.96	1786498.02	439613.38	39°42'18.609"N	80°08'48.836"W	1496.82	79.919	10.1	7.02	7.35
8949	83.68	140.2	8194.41	517.32	262	1473.71	1786537.34	439563.08	39°42'18.109"N	80°08'48.328"W	1527.77	82.035	10.75	9.2	5.56
9013	89.57	143.76	8198.18	580.59	211.7	1513.03	1786574.34	439512.1	39°42'17.608"N	80°08'47.850"W	1558.34	84.081	2.86	2.73	0.86
9076	91.29	144.3	8197.71	643.28	160.71	1550.03	1786610.37	439461.69	39°42'17.113"N	80°08'47.384"W	1589.9	86.022	1.75	1.69	0.45
9138	92.34	144.58	8195.74	704.98	110.3	1586.07	1786646.31	439410.02	39°42'16.604"N	80°08'46.919"W	1623.07	87.93	1.91	0.14	1.9
9201	92.43	145.78	8193.12	767.73	58.63	1622.01	1786681.22	439357.67	39°42'16.089"N	80°08'46.468"W	1656.93	89.783	1.96	1.03	1.67
9264	93.08	146.83	8190.09	830.55	6.27	1656.92	1786716.14	439305.35	39°42'15.575"N	80°08'46.016"W	1692.47	91.559	1.74	0.05	-1.75
9327	93.11	145.73	8186.69	893.34	-46.05	1691.84	1786750.52	439252.65	39°42'15.056"N	80°08'45.572"W	1729.04	93.274	3.93	-1.41	3.67
9390	92.22	148.04	8183.76	956.19	-98.76	1726.22									

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9453	90.92	150.9	8182.03	1019.16	-153	1758.21	1786782.5	439198.41	39°42'14.523"N	80°08'45.157"W	1764.85	94.973	4.99	-2.06	4.54
9516	91.05	152.46	8180.95	1082.11	-208.45	1788.09	1786811.38	439142.97	39°42'13.977"N	80°08'44.770"W	1800.2	96.649	2.48	0.21	2.48
9580	91.42	153.7	8179.57	1145.98	-265.5	1817.06	1786841.35	439085.92	39°42'13.855"N	80°08'44.394"W	1836.35	98.313	2.02	0.58	1.94
9643	91.42	155.44	8178.01	1208.74	-322.37	1844.1	1786868.39	439029.05	39°42'12.815"N	80°08'44.043"W	1872.07	99.916	2.76	0	2.76
9706	91.48	155.13	8176.42	1271.42	-379.58	1870.43	1786894.72	438971.84	39°42'12.291"N	80°08'43.701"W	1908.56	101.472	0.5	0.1	-0.49
9769	90.89	154.6	8175.11	1334.15	-436.61	1897.19	1786921.47	438914.82	39°42'11.730"N	80°08'43.353"W	1946.78	102.96	1.26	-0.94	-0.84
9832	90.37	153.25	8174.42	1396.97	-493.19	1924.88	1786949.16	438858.24	39°42'11.173"N	80°08'42.994"W	1987.05	104.371	2.3	-0.83	-2.14
9895	90.09	154.39	8174.17	1459.81	-549.72	1952.67	1786976.95	438801.71	39°42'10.616"N	80°08'42.633"W	2028.58	105.723	1.86	-0.44	1.81
9958	90.06	154.5	8174.09	1522.59	-606.56	1979.85	1787004.13	438744.88	39°42'10.056"N	80°08'42.280"W	2070.68	107.033	0.18	-0.05	0.17
10021	90.09	155.49	8174.09	1585.32	-663.66	2006.48	1787030.76	438687.78	39°42'09.494"N	80°08'41.934"W	2113.38	108.302	1.57	0.05	1.57
10085	90.09	154.43	8173.9	1649.05	-721.64	2033.56	1787057.84	438629.8	39°42'08.923"N	80°08'41.582"W	2157.81	109.538	1.66	0	-1.66
10148	90	152.1	8173.85	1711.92	-777.9	2061.18	1787086.18	438573.55	39°42'08.369"N	80°08'41.214"W	2203.76	110.67	3.7	-0.14	-3.7
10211	89.94	152.19	8173.89	1774.87	-833.6	2091.34	1787115.61	438517.85	39°42'07.820"N	80°08'40.833"W	2251.35	111.732	0.17	-0.1	0.14
10275	89.94	148.84	8173.95	1838.85	-889.3	2122.84	1787147.11	438462.15	39°42'07.272"N	80°08'40.425"W	2301.58	112.73	5.23	0	-5.23
10337	89.54	146.4	8174.23	1900.8	-941.66	2156.04	1787180.31	438409.8	39°42'06.757"N	80°08'39.995"W	2352.7	113.994	3.99	-0.65	-3.94
10401	89.6	146.98	8174.71	1964.71	-995.14	2191.18	1787215.45	438356.32	39°42'06.231"N	80°08'39.541"W	2406.57	114.426	0.91	0.09	0.91
10464	89.54	148.13	8175.19	2027.67	-1048.31	2224.98	1787249.24	438303.16	39°42'05.708"N	80°08'39.103"W	2459.57	115.228	1.83	-0.1	1.83
10526	89.01	147.88	8175.97	2089.63	-1100.88	2257.83	1787282.09	438250.58	39°42'05.191"N	80°08'38.678"W	2511.92	115.993	0.95	-0.85	-0.4
10589	89.23	147.85	8176.94	2152.59	-1154.23	2291.33	1787315.59	438197.24	39°42'04.666"N	80°08'38.245"W	2565.63	116.736	0.35	0.35	-0.05
10652	89.94	149.22	8177.4	2215.58	-1207.96	2324.22	1787348.48	438143.51	39°42'04.137"N	80°08'37.819"W	2619.38	117.462	2.45	1.13	2.17
10715	90.06	148.75	8177.4	2278.57	-1261.95	2356.68	1787380.93	438089.52	39°42'03.606"N	80°08'37.399"W	2673.28	118.168	0.77	0.19	-0.75
10779	89.97	146.97	8177.38	2342.54	-1316.14	2390.72	1787414.98	438035.34	39°42'03.073"N	80°08'36.958"W	2729.06	118.834	2.78	-0.14	-2.78
10842	89.78	147.69	8177.52	2405.48	-1369.18	2424.73	1787448.98	437982.31	39°42'02.551"N	80°08'36.518"W	2784.59	119.452	1.58	-0.3	1.14
10905	89.54	147.95	8177.89	2468.45	-1422.5	2458.28	1787482.53	437928.99	39°42'02.026"N	80°08'36.084"W	2840.18	120.056	0.66	-0.38	0.41
10968	88.8	146.3	8178.8	2531.37	-1475.4	2492.47	1787516.72	437876.09	39°42'01.506"N	80°08'35.642"W	2896.42	120.623	2.87	-1.17	-2.62
11032	89.94	147.26	8179.51	2595.29	-1528.94	2527.53	1787554.78	437822.56	39°42'00.979"N	80°08'35.188"W	2953.99	121.17	2.33	1.78	1.5
11094	89.97	148.53	8179.56	2657.25	-1581.45	2560.48	1787584.73	437770.04	39°42'00.463"N	80°08'34.762"W	3009.5	121.701	2.05	0.05	2.05
11158	90.71	149.96	8179.18	2721.25	-1636.45	2593.21	1787617.45	437715.05	39°41'59.922"N	80°08'34.338"W	3066.38	122.254	2.52	1.16	2.23
11221	91.11	149.79	8178.18	2784.24	-1690.93	2624.82	1787649.07	437660.57	39°41'59.385"N	80°08'33.929"W	3122.33	122.79	0.69	0.63	-0.27
11284	90.86	150.04	8177.09	2847.23	-1745.44	2656.4	1787680.64	437606.07	39°41'58.849"N	80°08'33.520"W	3178.52	123.308	0.56	-0.4	0.4
11347	89.66	148.64	8176.81	2910.23	-1799.63	2688.53	1787712.76	437551.88	39°41'58.315"N	80°08'33.104"W	3235.25	123.797	0.93	-1.9	-2.22
11410	89.94	149.01	8177.03	2973.22	-1853.53	2721.14	1787745.37	437497.98	39°41'57.785"N	80°08'32.682"W	3292.44	124.261	1.72	1.13	1.3
11473	90.65	149.83	8176.7	3036.22	-1907.77	2753.19	1787777.42	437443.75	39°41'57.252"N	80°08'32.267"W	3349.57	124.719	2.38	-1.94	-1.39
11535	89.45	148.97	8176.65	3098.21	-1961.13	2784.75	1787808.98	437390.39	39°41'56.726"N	80°08'31.858"W	3406	125.155	3.18	1.06	-3
11598	90.12	147.08	8176.88	3161.18	-2014.57	2818.11	1787842.34	437336.95	39°41'56.201"N	80°08'31.442"W	3464.13	125.56	2.56	2.45	-0.73
11662	91.69	146.61	8175.87	3225.09	-2068.14	2853.1	1787877.33	437283.38	39°41'55.674"N	80°08'30.974"W	3523.83	125.997	2.56	2.49	-0.16
11725	93.26	146.51	8173.15	3287.94	-2120.66	2887.79	1787912.01	437230.87	39°41'55.157"N	80°08'30.525"W	3582.81	126.292	4.14	-3.46	2.27
11788	91.08	147.94	8170.77	3350.83	-2173.59	2921.86	1787946.09	437177.94	39°41'54.636"N	80°08'30.085"W	3641.67	126.646	0.83	0.19	0.81
11852	91.2	148.46	8169.49	3414.79	-2227.97	2955.58	1787979.8	437123.56	39°41'54.101"N	80°08'29.648"W	3701.26	127.01	1.4	-0.97	1.02
11916	90.58	149.11	8168.5	3478.78	-2282.7	2988.75	1788012.96	437068.84	39°41'53.563"N	80°08'29.219"W	3760.76	127.371	1.4	-0.97	1.02
11979	90.58	149.35	8167.86	3541.77	-2336.83	3020.97	1788045.19	437014.71	39°41'53.030"N	80°08'28.802"W	3819.3	127.723	0.38	0	0.38
12041	90.65	152.43	8167.2	3603.75	-2390.99	3051.13	1788075.35	436960.56	39°41'52.497"N	80°08'28.411"W	3876.37	128.084	4.97	0.11	4.97
12104	90.52	155.19	8166.55	3666.58	-2447.51	3078.93	1788103.15	436904.04	39°41'51.940"N	80°08'28.050"W	3933.21	128.482	0.79	-0.21	0.78
12167	90.62	155.68	8165.93	3729.26	-2504.81	3105.12	1788129.33	436846.75	39°41'51.376"N	80°08'27.710"W	3989.46	128.892	0.79	0.16	0.78
12230	90.8	155.64	8165.15	3791.91	-2562.2	3131.08	1788155.3	436789.35	39°41'50.811"N	80°08'27.373"W	4045.81	129.294	0.29	0.29	-0.06
12293	90.68	155.2	8164.33	3854.59	-2619.49	3157.29	1788181.5	436732.07	39°41'50.246"N	80°08'27.032"W	4102.46	129.681	0.72	-0.19	-0.7
12356	91.2	154.4	8163.3	3917.33	-2676.48	3184.11	1788208.32	436675.08	39°41'49.685"N	80°08'26.684"W	4159.58	130.05	1.51	0.83	-1.27
12420	91.2	155.16	8161.96	3981.07	-2734.37	3211.37	1788235.58	436617.2	39°41'49.115"N	80°08'26.330"W	4217.78	130.413	1.19	0	1.19
12482	91.2	155.02	8160.66	4042.78	-2790.59	3237.48	1788261.68	436560.98	39°41'48.561"N	80°08'25.991"W	4274.19	130.76	0.23	0	-0.23
12545	91.08	150.8	8159.41	4105.65	-2846.65	3266.16	1788290.36	436504.92	39°41'48.009"N	80°08'25.619"W	4332.58	131.074	6.7	-0.19	-6.7
12608	90.8	148.02	8158.37	4168.64	-2900.87	3298.21	1788322.41	436450.7	39°41'47.476"N	80°08'25.204"W	4392.41	131.333	4.43	-0.44	-4.41
12671	90.8	146.87	8157.49	4231.58	-2953.97	3332.11	1788356.31	436397.61	39°41'46.953"N	80°08'24.765"W	4452.96	131.558	1.83	0	-1.83
12734	90.86	148.6	8156.58	4294.54	-3007.23	3365.73	1788389.93	436344.35	39°41'46.429"N	80°08'24.330"W	4513.49	131.78	2.75	0.1	2.75
12797	90.86	147.47	8155.63	4357.5	-3060.67	3399.08	1788423.28	436290.91	39°41'45.903"N	80°08'23.899"W	4574	132.001	1.79	0	-1.79

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MD	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment
12859	90.71	146.66	8154.78	4419.43	-3112.7	3432.79	1788456.98	436238.88	39°41'45.392"N 80°08'23.463"W
12922	90.71	147.75	8154	4482.37	-3165.66	3466.91	1788491.1	436185.93	39°41'44.871"N 80°08'23.021"W
12985	90.62	148.53	8153.27	4543.34	-3219.16	3500.16	1788524.35	436132.43	39°41'44.344"N 80°08'22.591"W
13048	90.55	148.16	8152.63	4608.32	-3272.79	3533.22	1788557.41	436078.81	39°41'43.817"N 80°08'22.163"W
13111	90.71	141.26	8151.94	4671.04	-3324.18	3569.59	1788593.78	436027.43	39°41'43.311"N 80°08'21.693"W
13175	90.62	138.27	8151.19	4734.06	-3373.02	3610.92	1788635.11	435978.58	39°41'42.831"N 80°08'21.160"W
13237	90.4	138.29	8150.64	4794.83	-3419.3	3652.18	1788676.36	435933.31	39°41'42.377"N 80°08'20.628"W
13301	90.25	140.33	8150.28	4857.78	-3467.82	3693.9	1788718.08	435883.79	39°41'41.900"N 80°08'20.090"W
13364	90.09	145.94	8150.09	4920.34	-3518.21	3731.69	1788755.86	435833.41	39°41'41.405"N 80°08'19.602"W
13427	90.58	147.46	8149.72	4983.25	-3570.86	3766.27	1788790.44	435780.76	39°41'40.877"N 80°08'19.155"W
13490	90.68	147.14	8149.03	5046.19	-3623.87	3800.31	1788824.48	435727.75	39°41'40.366"N 80°08'18.715"W
13553	90.4	147.88	8148.44	5109.14	-3677.01	3834.14	1788858.31	435674.61	39°41'39.843"N 80°08'18.277"W
13617	90.46	149.53	8147.96	5173.13	-3731.69	3867.39	1788891.55	435619.93	39°41'39.305"N 80°08'17.847"W
13679	90.34	150.74	8147.52	5235.13	-3785.46	3898.26	1788922.42	435566.17	39°41'38.776"N 80°08'17.447"W
13742	91.2	151.7	8146.68	5298.1	-3840.67	3928.59	1788952.75	435510.96	39°41'38.232"N 80°08'17.054"W
13805	90.98	151.86	8145.48	5361.04	-3896.17	3958.5	1788982.53	435455.46	39°41'37.686"N 80°08'16.668"W
13869	91.08	151.96	8144.33	5424.99	-3952.62	3988.5	1789012.66	435399.02	39°41'37.130"N 80°08'16.277"W
13932	91.2	151.87	8143.07	5487.93	-4008.19	4018.15	1789042.31	435343.45	39°41'36.583"N 80°08'15.893"W
13996	90.68	152.79	8142.02	5551.85	-4064.87	4047.87	1789072.03	435286.78	39°41'36.025"N 80°08'15.508"W
14059	90.31	151.82	8141.48	5614.78	-4120.65	4077.15	1789101.3	435231.39	39°41'35.476"N 80°08'15.128"W
14121	90.31	152.13	8141.14	5676.73	-4175.38	4106.28	1789130.43	435176.28	39°41'34.937"N 80°08'14.750"W
14184	90.34	151.91	8140.79	5739.68	-4231.01	4135.84	1789159.99	435120.65	39°41'34.389"N 80°08'14.367"W
14247	90.34	151.45	8140.41	5802.64	-4286.47	4165.72	1789189.87	435065.19	39°41'33.843"N 80°08'13.980"W
14311	90.68	153.84	8139.84	5866.55	-4343.31	4195.13	1789219.27	435008.36	39°41'33.284"N 80°08'13.599"W
14374	91.02	153.91	8138.91	5929.37	-4399.86	4222.86	1789247.01	434951.8	39°41'32.727"N 80°08'13.239"W
14437	90.89	151.82	8137.86	5992.27	-4455.92	4251.59	1789275.74	434895.75	39°41'32.171"N 80°08'12.866"W
14500	90.31	152.83	8137.2	6055.2	-4511.71	4280.85	1789304.99	434839.97	39°41'31.625"N 80°08'12.487"W
14563	90.37	152.3	8136.83	6118.11	-4567.62	4309.88	1789334.02	434784.06	39°41'31.075"N 80°08'12.110"W
14625	90.37	152.9	8136.42	6180.03	-4622.66	4338.41	1789362.55	434729.02	39°41'30.533"N 80°08'11.740"W
14688	90.4	153.88	8136	6242.9	-4678.99	4366.63	1789390.76	434672.69	39°41'29.978"N 80°08'11.374"W
14752	90.49	151.99	8135.5	6306.79	-4735.97	4395.74	1789419.88	434615.71	39°41'29.417"N 80°08'10.997"W
14814	90.55	151.77	8134.94	6368.75	-4790.65	4424.97	1789449.1	434561.03	39°41'28.879"N 80°08'10.618"W
14878	90.68	152.69	8134.25	6432.68	-4847.28	4454.78	1789478.91	434504.41	39°41'28.321"N 80°08'10.231"W
14941	90.68	152.7	8133.51	6495.59	-4903.26	4483.68	1789506.33	434448.44	39°41'27.770"N 80°08'09.857"W
15004	91.38	153.46	8132.37	6558.47	-4959.42	4512.2	1789536.33	434392.28	39°41'27.217"N 80°08'09.487"W
15068	91.02	154.28	8131.03	6622.29	-5016.86	4540.38	1789564.5	434334.84	39°41'26.651"N 80°08'09.121"W
15131	91.11	150.75	8129.86	6685.19	-5072.74	4569.44	1789593.57	434278.97	39°41'26.101"N 80°08'08.744"W
15194	90.68	150.3	8128.88	6748.17	-5127.57	4600.44	1789624.56	434224.13	39°41'25.561"N 80°08'08.343"W
15258	90.74	146.81	8128.09	6812.15	-5182.16	4633.82	1789657.94	434169.55	39°41'25.024"N 80°08'07.911"W
15321	90.12	146.79	8127.61	6875.06	-5234.88	4668.31	1789692.43	434116.84	39°41'24.506"N 80°08'07.465"W
15385	90.89	147.54	8127.05	6939	-5288.65	4703.01	1789727.13	434063.07	39°41'23.977"N 80°08'07.016"W
15448	91.08	148.28	8126.97	7001.96	-5342.02	4736.48	1789760.59	434009.71	39°41'23.452"N 80°08'06.583"W
15511	90.8	148.38	8124.93	7064.93	-5395.63	4769.55	1789793.66	433956.1	39°41'22.924"N 80°08'06.155"W
15574	90.86	148.81	8124.02	7127.91	-5449.39	4802.37	1789826.49	433902.34	39°41'22.395"N 80°08'05.731"W
15637	90.83	149.36	8123.09	7190.9	-5503.44	4834.74	1789858.85	433848.3	39°41'21.865"N 80°08'05.312"W
15700	90.83	147.15	8122.18	7253.87	-5557	4867.88	1789891.99	433794.73	39°41'21.336"N 80°08'04.883"W
15763	90.77	145.3	8121.3	7316.75	-5609.36	4902.9	1789927	433742.38	39°41'20.822"N 80°08'04.430"W
15826	90.43	142.24	8120.64	7379.4	-5660.17	4940.13	1789964.23	433691.57	39°41'20.321"N 80°08'03.950"W
15890	90.49	141.63	8120.12	7442.81	-5710.56	4979.58	1790003.68	433641.19	39°41'19.826"N 80°08'03.440"W
15936	90.55	142.66	8119.71	7488.41	-5746.88	5007.81	1790031.91	433604.87	39°41'19.469"N 80°08'03.076"W
15961	90.55	142.66	8119.47	7513.22	-5766.75	5022.97	1790047.07	433585	39°41'19.274"N 80°08'02.880"W

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	[ft]	[ft]	[ft]	[US ft]	[US ft]	
Beach 10H BHL Rev-2	8205	-5769.38	5019.17	1790043	433582.4	39°41'19.280°08'02.929"W point
Beach 10H LP Rev-2	8205	187.14	1538.46	1786563	439538.5	39°42'17.880°08'48.000"W point
Beach 10H HL Pt 01	8215	546.14	-567.36	1784457	439897.5	39°42'21.280°09'14.976"W point
Beach 10H HL Pt 02	8215	402.34	-442.42	1784582	439753.7	39°42'19.880°09'13.364"W point
Beach 10H HL Pt 03	8215	428.5	-57.05	1784967	439779.9	39°42'20.180°09'08.436"W point
Beach 10H HL Pt 04	8215	398.74	462.89	1785487	439750.1	39°42'19.880°09'01.781"W point
Beach 10H HL Pt 05	8215	491.99	784.38	1785809	439843.4	39°42'20.880°08'57.676"W point
Beach 10H HL Pt 06	8215	742.71	927.2	1785952	440094.1	39°42'23.380°08'55.872"W point
Beach 10H HL Pt 07	8215	993.45	1070	1786094	440344.8	39°42'25.880°08'54.068"W point
Beach 10H HL Pt 08	8215	886.22	1288.31	1786313	440237.6	39°42'24.780°08'51.265"W point
Beach 10H HL Pt 09	8215	880.57	1468.36	1786493	440231.9	39°42'24.780°08'48.961"W point
Beach 10H HL Pt 10	8215	492.92	1619.02	1786643	439844.3	39°42'20.880°08'46.998"W point
Beach 10H HL Pt 11	8215	-2476.71	3638.19	1788662	436874.8	39°41'51.880°08'20.893"W point
Beach 10H HL Pt 12	8215	-2677.99	3596.53	1788621	436673.6	39°41'49.880°08'21.408"W point
Beach 10H HL Pt 13	8215	-2952.5	3456.59	1788481	436399.1	39°41'46.880°08'23.173"W point
Beach 10H HL Pt 14	8215	-3033.72	3599.47	1788624	436317.9	39°41'46.180°08'21.338"W point
Beach 10H HL Pt 15	8215	-3217.27	3907.79	1788932	436134.3	39°41'44.380°08'17.377"W point
Beach 10H HL Pt 16	8215	-3362.05	4149.46	1789174	435989.6	39°41'42.580°08'14.272"W point
Beach 10H HL Pt 17	8215	-7134.35	1310.5	1786335	432217.5	39°41'05.480°08'50.242"W point
Beach 10H HL Pt 18	8215	-7261.11	1618.05	1786642	432090.7	39°41'04.280°08'46.296"W point
Beach 10H HL Pt 19	8215	-7483.5	2180.67	1787205	431868.4	39°41'02.180°08'39.080"W point
Beach 10H HL Pt 20	8215	-7640.05	2490.85	1787515	431711.8	39°41'00.880°08'35.098"W point
Beach 10H HL Pt 21	8215	-7667.13	3125.63	1788150	431684.7	39°41'00.380°08'26.977"W point
Beach 10H HL Pt 22	8215	-7703.88	3697.46	1788722	431648	39°41'00.880°08'19.659"W point
Beach 10H HL Pt 23	8215	-7619.91	4179.16	1789203	431732	39°41'00.880°08'13.506"W point
Beach 10H HL Pt 24	8215	-7682.15	4548.33	1789572	431669.7	39°41'00.880°08'08.778"W point
Beach 10H HL Pt 25	8215	-7654.27	5157.75	1790182	431697.6	39°41'00.880°08'00.986"W point
Beach 10H HL Pt 26	8215	-7262.01	5254.34	1790278	432089.8	39°41'04.880°07'59.786"W point
Beach 10H HL Pt 27	8215	-7237.89	5553	1790577	432114	39°41'04.780°07'55.968"W point
Beach 10H HL Pt 28	8215	-7137.04	5604.6	1790629	432214.8	39°41'05.780°07'55.317"W point
Beach 10H HL Pt 29	8215	-6830.26	5624.49	1790649	432521.6	39°41'08.880°07'55.090"W point
Beach 10H HL Pt 30	8215	-6560.47	5646.72	1790671	432791.3	39°41'11.480°07'54.830"W point
Beach 10H HL Pt 31	8215	-6413.85	5485.81	1790510	432937.9	39°41'12.880°07'56.902"W point
Beach 10H HL Pt 32	8215	-6265.29	5523.18	1790547	433086.5	39°41'14.880°07'56.437"W point
Beach 10H HL Pt 33	8215	-6288.28	5689.29	1790713	433063.5	39°41'14.180°07'54.310"W point
Beach 10H HL Pt 34	8215	-6380.26	5795.83	1790824	432971.5	39°41'13.280°07'52.888"W point
Beach 10H HL Pt 35	8215	-6668.52	5926.97	1790951	432683.3	39°41'10.480°07'51.236"W point

WELLPATH COMPOSITION Ref Wellbore: Beach 10H AWB Ref Wellpath: Beach 10H AWP Proj: 15961

Log Name/Comment Start MD End MD Pos Unc Model

	[ft]	[ft]	
01_VES Gyro (100'-6325')	18	6333	Generic gyro - northseeking (Standard)
02_BHI AT Curve <8-1/2"> (6377'-15936')	6333	15936	NavitTrak (AT Curve Short Spaced)
Projection to bit		15936	15961 Blind Drilling (std)

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