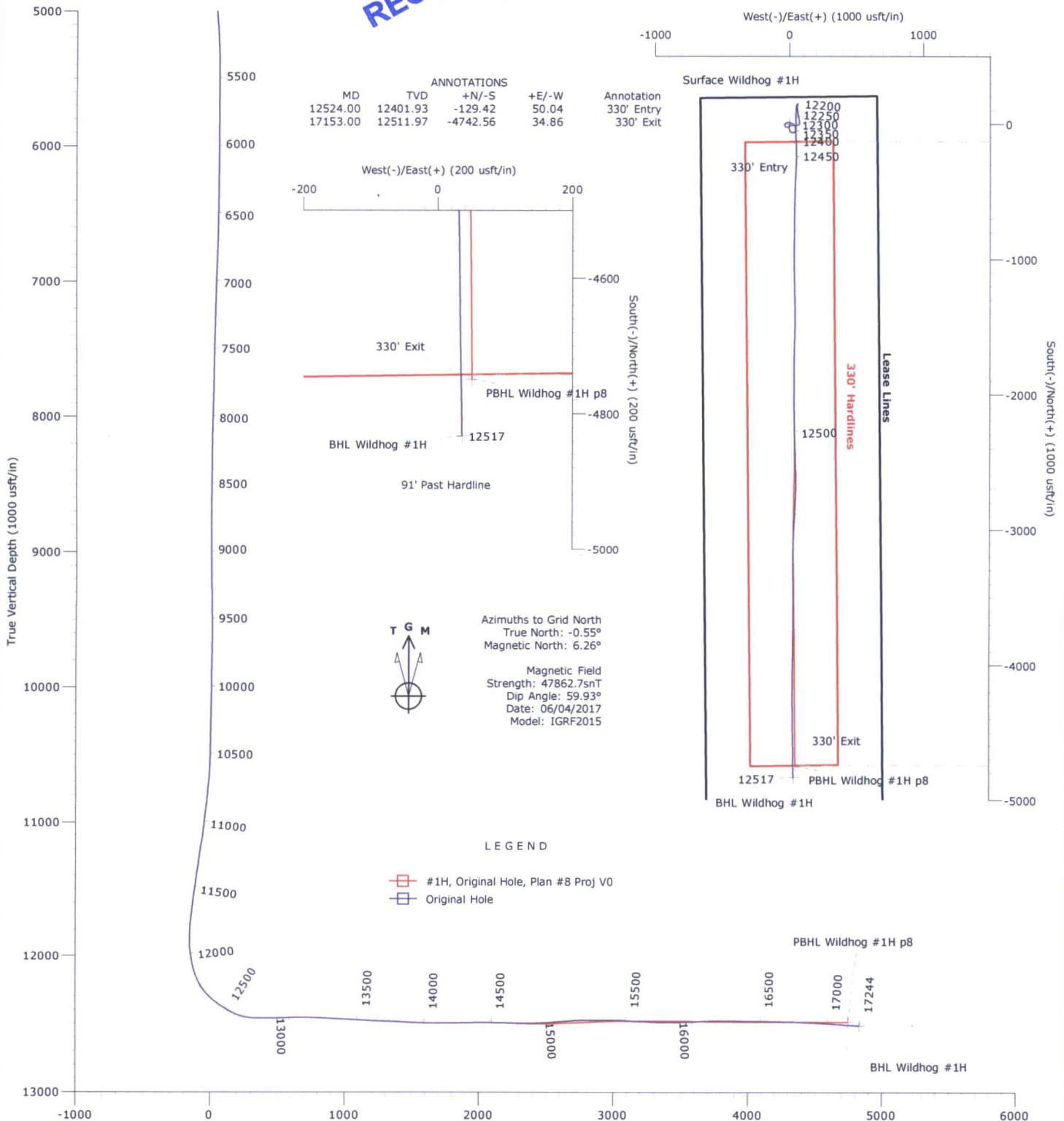


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30-025-42733

IMPETRO OPERATING LLC
Project: Lea County, New Mexico
Site: Wildhog BWX State Com
Well: #1H
Wellbore: Original Hole
Design: Original Hole



Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface Wildhog #1H	0.00	0.00	0.00	378208.10	864883.50	32.035475°N	103.289220°W	Point
PBHL Wildhog #1H p8	12489.70	-4749.72	51.40	373458.38	864934.90	32.022419°N	103.289202°W	Point
BHL Wildhog #1H	12517.41	-4833.38	36.28	373374.72	864919.78	32.022189°N	103.289253°W	Point

Precision Drilling Corporation

Survey Report

Company:	IMPETRO OPERATING LLC	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, New Mexico	TVD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Site:	Wildhog BWX State Com	MD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Well:	#1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

Project	Lea County, New Mexico		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Wildhog BWX State Com		
Site Position:		Northing:	378,208.10 usft
From:	Map	Easting:	864,883.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	32.035475°N
		Longitude:	103.289220°W
		Grid Convergence:	0.55 °

Well	#1H		
Well Position	+N/-S	0.00 usft	Northing: 378,208.10 usft
	+E/-W	0.00 usft	Easting: 864,883.50 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32.035475°N
		Longitude:	103.289220°W
		Ground Level:	2,943.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	06/04/17	6.81	59.93	47,862.65136425

Design	Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.38	

Survey Program	Date	06/19/17			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
221.00	17,196.00	Survey #1 (Original Hole)	MWD	Fixed:v2:standard declination	
17,244.00	17,244.00	Survey #2 (Original Hole)	Project	Projection	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
221.00	0.62	184.51	221.00	-1.19	-0.09	1.19	0.28	0.28	0.00	
312.00	0.88	192.42	311.99	-2.37	-0.28	2.36	0.31	0.29	8.69	
374.00	0.79	192.25	373.98	-3.25	-0.48	3.24	0.15	-0.15	-0.27	
462.00	0.97	198.22	461.97	-4.55	-0.84	4.54	0.23	0.20	6.78	
525.00	0.88	206.84	524.96	-5.49	-1.22	5.47	0.26	-0.14	13.68	
584.00	0.70	214.57	583.96	-6.19	-1.63	6.17	0.35	-0.31	13.10	
643.00	0.70	204.38	642.95	-6.81	-1.99	6.79	0.21	0.00	-17.27	
720.00	1.23	196.11	719.94	-8.03	-2.41	8.01	0.71	0.69	-10.74	
828.00	1.76	195.76	827.90	-10.74	-3.18	10.71	0.49	0.49	-0.32	

Precision Drilling Corporation

Survey Report

Company:	IMPETRO OPERATING LLC	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, New Mexico	TVD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Site:	Wildhog BWX State Com	MD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Well:	#1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
864.00	1.67	190.31	863.89	-11.79	-3.42	11.76	0.52	-0.25	-15.14
974.00	1.49	188.38	973.85	-14.78	-3.92	14.74	0.17	-0.16	-1.75
1,064.00	1.85	188.20	1,063.81	-17.38	-4.30	17.33	0.40	0.40	-0.20
1,156.00	1.32	202.44	1,155.77	-19.83	-4.91	19.78	0.71	-0.58	15.48
1,247.00	1.41	218.09	1,246.75	-21.68	-6.00	21.61	0.42	0.10	17.20
1,337.00	1.32	245.16	1,336.72	-22.99	-7.63	22.90	0.72	-0.10	30.08
1,427.00	1.76	260.10	1,426.69	-23.66	-9.93	23.55	0.66	0.49	16.60
1,519.00	2.02	273.28	1,518.64	-23.81	-12.94	23.67	0.55	0.28	14.33
1,610.00	2.55	282.95	1,609.57	-23.26	-16.52	23.08	0.72	0.58	10.63
1,700.00	3.25	288.40	1,699.45	-22.01	-20.89	21.78	0.84	0.78	6.06
1,774.00	3.43	292.79	1,773.33	-20.49	-24.92	20.22	0.42	0.24	5.93
1,850.00	3.69	295.96	1,849.18	-18.54	-29.21	18.22	0.43	0.34	4.17
1,941.00	2.73	308.97	1,940.04	-15.89	-33.53	15.53	1.32	-1.05	14.30
2,032.00	1.85	322.68	2,030.96	-13.36	-36.11	12.97	1.13	-0.97	15.07
2,123.00	1.58	11.02	2,121.93	-10.96	-36.76	10.57	1.57	-0.30	53.12
2,214.00	2.46	13.65	2,212.87	-7.83	-36.06	7.44	0.97	0.97	2.89
2,305.00	2.90	5.22	2,303.77	-3.64	-35.39	3.26	0.65	0.48	-9.26
2,396.00	2.81	19.10	2,394.66	0.76	-34.45	-1.13	0.76	-0.10	15.25
2,486.00	2.46	48.11	2,484.57	4.13	-32.29	-4.48	1.51	-0.39	32.23
2,577.00	2.46	63.22	2,575.49	6.31	-29.09	-6.63	0.71	0.00	16.60
2,667.00	3.34	67.44	2,665.37	8.19	-24.94	-8.46	1.01	0.98	4.69
2,759.00	2.90	72.19	2,757.23	9.93	-20.25	-10.15	0.55	-0.48	5.16
2,851.00	2.99	64.28	2,849.11	11.68	-15.88	-11.85	0.45	0.10	-8.60
2,942.00	2.02	83.61	2,940.03	12.89	-12.14	-13.02	1.40	-1.07	21.24
3,032.00	2.29	85.55	3,029.96	13.21	-8.78	-13.30	0.31	0.30	2.16
3,123.00	2.73	77.81	3,120.87	13.81	-4.84	-13.86	0.61	0.48	-8.51
3,214.00	2.37	93.81	3,211.79	14.14	-0.85	-14.15	0.87	-0.40	17.58
3,304.00	2.73	105.06	3,301.70	13.46	3.08	-13.42	0.68	0.40	12.50
3,395.00	2.02	123.16	3,392.62	12.02	6.51	-11.95	1.13	-0.78	19.89
3,485.00	1.93	131.25	3,482.57	10.15	8.98	-10.05	0.33	-0.10	8.99
3,667.00	2.11	110.16	3,664.46	6.98	14.43	-6.82	0.42	0.10	-11.59
3,848.00	1.93	92.58	3,845.34	5.69	20.60	-5.47	0.35	-0.10	-9.71
4,031.00	2.64	118.24	4,028.20	3.56	27.39	-3.26	0.67	0.39	14.02
4,215.00	2.55	153.57	4,212.03	-2.11	32.95	2.47	0.86	-0.05	19.20
4,396.00	3.08	151.64	4,392.81	-10.00	37.05	10.40	0.30	0.29	-1.07
4,578.00	3.25	159.55	4,574.53	-19.13	41.18	19.58	0.26	0.09	4.35
4,758.00	3.52	167.11	4,754.22	-29.30	44.19	29.78	0.29	0.15	4.20
4,940.00	3.52	185.74	4,935.88	-40.31	44.88	40.79	0.63	0.00	10.24
5,122.00	3.61	197.70	5,117.53	-51.33	42.58	51.78	0.41	0.05	6.57
5,308.00	2.29	219.84	5,303.28	-59.76	38.42	60.17	0.93	-0.71	11.90
5,490.00	2.20	275.57	5,485.17	-62.21	32.61	62.56	1.15	-0.05	30.62
5,671.00	2.20	278.56	5,666.03	-61.36	25.72	61.63	0.06	0.00	1.65
5,852.00	1.93	297.01	5,846.92	-59.46	19.57	59.66	0.39	-0.15	10.19

Precision Drilling Corporation

Survey Report

Company:	IMPETRO OPERATING LLC	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, New Mexico	TVD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Site:	Wildhog BWX State Com	MD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Well:	#1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,034.00	1.41	272.23	6,028.84	-57.98	14.60	58.13	0.48	-0.29	-13.62
6,215.00	1.58	290.33	6,209.78	-57.02	10.03	57.13	0.28	0.09	10.00
6,396.00	1.06	280.84	6,390.73	-55.84	6.05	55.90	0.31	-0.29	-5.24
6,578.00	1.76	343.77	6,572.68	-52.84	3.61	52.88	0.87	0.38	34.58
6,761.00	2.02	341.31	6,755.58	-47.09	1.80	47.10	0.15	0.14	-1.34
6,941.00	1.58	352.38	6,935.50	-41.62	0.45	41.62	0.31	-0.24	6.15
7,123.00	1.67	332.52	7,117.42	-36.78	-1.11	36.77	0.31	0.05	-10.91
7,304.00	1.41	354.32	7,298.36	-32.23	-2.54	32.20	0.35	-0.14	12.04
7,485.00	0.88	340.61	7,479.32	-28.70	-3.23	28.66	0.33	-0.29	-7.57
7,666.00	1.58	357.13	7,660.28	-24.90	-3.81	24.85	0.43	0.39	9.13
7,847.00	1.49	18.05	7,841.22	-20.17	-3.21	20.13	0.31	-0.05	11.56
8,028.00	1.41	46.17	8,022.16	-16.39	-0.87	16.38	0.39	-0.04	15.54
8,211.00	1.32	52.15	8,205.11	-13.53	2.42	13.56	0.09	-0.05	3.27
8,393.00	1.67	61.29	8,387.05	-10.97	6.40	11.04	0.23	0.19	5.02
8,577.00	1.58	73.95	8,570.98	-8.98	11.19	9.11	0.20	-0.05	6.88
8,759.00	1.14	75.35	8,752.92	-7.83	15.35	8.00	0.24	-0.24	0.77
8,938.00	2.11	92.40	8,931.85	-7.52	20.36	7.74	0.60	0.54	9.53
9,120.00	2.29	91.35	9,113.72	-7.75	27.35	8.04	0.10	0.10	-0.58
9,301.00	2.11	108.22	9,294.58	-8.87	34.13	9.24	0.37	-0.10	9.32
9,483.00	2.20	88.54	9,476.46	-9.83	40.80	10.27	0.41	0.05	-10.81
9,667.00	2.55	86.43	9,660.30	-9.49	48.42	10.01	0.20	0.19	-1.15
9,848.00	3.17	72.89	9,841.08	-7.76	57.22	8.38	0.50	0.34	-7.48
10,030.00	1.93	76.58	10,022.89	-5.57	65.01	6.28	0.69	-0.68	2.03
10,212.00	1.85	54.61	10,204.80	-3.16	70.39	3.92	0.40	-0.04	-12.07
10,394.00	1.85	18.40	10,386.71	1.33	73.71	-0.53	0.63	0.00	-19.90
10,486.00	1.14	41.78	10,478.68	3.42	74.79	-2.61	1.00	-0.77	25.41
10,577.00	1.76	6.80	10,569.65	5.48	75.56	-4.67	1.16	0.68	-38.44
10,668.00	3.69	351.50	10,660.54	9.77	75.29	-8.95	2.25	2.12	-16.81
10,758.00	5.45	350.45	10,750.25	16.85	74.15	-16.04	1.96	1.96	-1.17
10,849.00	7.12	352.03	10,840.70	26.69	72.65	-25.91	1.84	1.84	1.74
10,939.00	6.24	352.91	10,930.09	37.07	71.28	-36.30	0.98	-0.98	0.98
11,030.00	6.77	347.99	11,020.50	47.23	69.55	-46.47	0.84	0.58	-5.41
11,121.00	8.00	346.23	11,110.75	58.62	66.93	-57.90	1.37	1.35	-1.93
11,212.00	8.97	349.22	11,200.75	71.74	64.09	-71.05	1.17	1.07	3.29
11,302.00	8.18	350.80	11,289.74	84.96	61.76	-84.28	0.92	-0.88	1.76
11,394.00	7.65	353.44	11,380.87	97.50	60.01	-96.85	0.70	-0.58	2.87
11,485.00	8.09	356.78	11,471.01	109.91	58.96	-109.27	0.70	0.48	3.67
11,574.00	7.47	2.58	11,559.19	121.94	58.87	-121.30	1.12	-0.70	6.52
11,666.00	6.60	7.32	11,650.50	133.16	59.81	-132.51	1.14	-0.95	5.15
11,722.00	6.57	9.17	11,706.13	139.52	60.73	-138.85	0.38	-0.05	3.30
11,768.00	5.76	9.26	11,751.86	144.39	61.52	-143.72	1.76	-1.76	0.20
11,813.00	3.32	6.53	11,796.72	147.92	62.03	-147.24	5.44	-5.42	-6.07
11,859.00	1.87	337.27	11,842.67	149.93	61.89	-149.25	4.17	-3.15	-63.61

Precision Drilling Corporation

Survey Report

Company:	IMPETRO OPERATING LLC	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, New Mexico	TVD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Site:	Wildhog BWX State Com	MD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Well:	#1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,904.00	2.04	254.12	11,887.65	150.39	60.84	-149.72	5.77	0.38	-184.78	
11,950.00	4.55	219.76	11,933.58	148.76	58.88	-148.12	6.71	5.46	-74.70	
11,995.00	7.38	204.68	11,978.33	144.76	56.54	-144.14	7.14	6.29	-33.51	
12,041.00	9.58	196.74	12,023.83	138.41	54.20	-137.82	5.41	4.78	-17.26	
12,086.00	13.03	189.91	12,067.95	129.83	52.25	-129.25	8.21	7.67	-15.18	
12,131.00	16.92	184.75	12,111.42	118.30	50.83	-117.74	9.13	8.64	-11.47	
12,177.00	21.78	183.74	12,154.81	103.10	49.72	-102.56	10.59	10.57	-2.20	
12,218.00	27.08	184.69	12,192.12	86.20	48.46	-85.67	12.96	12.93	2.32	
12,263.00	31.92	183.46	12,231.28	64.10	46.90	-63.59	10.84	10.76	-2.73	
12,309.00	37.90	180.65	12,268.98	37.81	46.01	-37.31	13.46	13.00	-6.11	
12,354.00	45.20	178.54	12,302.64	7.99	46.26	-7.49	16.52	16.22	-4.69	
12,399.00	51.62	178.01	12,332.50	-25.63	47.28	26.14	14.29	14.27	-1.18	
12,408.00	53.11	178.01	12,337.99	-32.76	47.53	33.27	16.56	16.56	0.00	
12,505.00	58.81	178.80	12,392.27	-113.07	49.74	113.60	5.91	5.88	0.81	
12,524.00	60.03	179.12	12,401.93	-129.42	50.04	129.96	6.59	6.44	1.67	
330' Entry										
12,537.00	60.87	179.33	12,408.34	-140.73	50.19	141.27	6.59	6.44	1.64	
12,569.00	63.51	179.50	12,423.27	-169.03	50.48	169.57	8.26	8.25	0.53	
12,600.00	67.49	179.33	12,436.12	-197.23	50.77	197.77	12.85	12.84	-0.55	
12,631.00	72.76	179.41	12,446.66	-226.38	51.09	226.92	17.00	17.00	0.26	
12,663.00	78.83	180.73	12,454.51	-257.38	51.05	257.92	19.39	18.97	4.13	
12,758.00	89.55	182.49	12,464.11	-351.71	48.38	352.22	11.43	11.28	1.85	
12,853.00	90.52	181.88	12,464.05	-446.64	44.76	447.10	1.21	1.02	-0.64	
12,947.00	91.90	181.88	12,462.07	-540.57	41.68	540.99	1.47	1.47	0.00	
13,042.00	91.62	181.26	12,459.15	-635.49	39.08	635.87	0.72	-0.29	-0.65	
13,137.00	88.19	179.68	12,459.31	-730.47	38.30	730.84	3.98	-3.61	-1.66	
13,232.00	87.44	180.29	12,462.93	-825.40	38.32	825.76	1.02	-0.79	0.64	
13,327.00	87.22	180.82	12,467.36	-920.29	37.40	920.64	0.60	-0.23	0.56	
13,422.00	86.91	179.77	12,472.22	-1,015.16	36.91	1,015.50	1.15	-0.33	-1.11	
13,517.00	87.55	178.71	12,476.81	-1,110.04	38.17	1,110.39	1.30	0.67	-1.12	
13,612.00	87.09	179.06	12,481.25	-1,204.92	40.02	1,205.28	0.61	-0.48	0.37	
13,706.00	87.59	178.10	12,485.62	-1,298.79	42.35	1,299.17	1.15	0.53	-1.02	
13,801.00	87.35	179.77	12,489.81	-1,393.68	44.11	1,394.07	1.77	-0.25	1.76	
13,896.00	87.40	181.17	12,494.16	-1,488.57	43.33	1,488.95	1.47	0.05	1.47	
13,991.00	89.09	181.44	12,497.07	-1,583.50	41.17	1,583.85	1.80	1.78	0.28	
14,086.00	89.57	181.26	12,498.18	-1,678.46	38.93	1,678.79	0.54	0.51	-0.19	
14,181.00	90.30	180.64	12,498.29	-1,773.45	37.36	1,773.75	1.01	0.77	-0.65	
14,275.00	90.96	180.65	12,497.26	-1,867.44	36.30	1,867.72	0.70	0.70	0.01	
14,370.00	91.51	179.68	12,495.21	-1,962.41	36.03	1,962.69	1.17	0.58	-1.02	
14,465.00	89.18	179.24	12,494.64	-2,057.40	36.92	2,057.68	2.50	-2.45	-0.46	
14,559.00	88.87	179.06	12,496.24	-2,151.38	38.31	2,151.67	0.38	-0.33	-0.19	
14,654.00	87.62	178.71	12,499.15	-2,246.31	40.16	2,246.62	1.37	-1.32	-0.37	
14,749.00	90.21	177.39	12,500.94	-2,341.23	43.39	2,341.56	3.06	2.73	-1.39	
14,843.00	92.76	178.45	12,498.51	-2,435.13	46.81	2,435.49	2.94	2.71	1.13	

Precision Drilling Corporation

Survey Report

Company:	IMPETRO OPERATING LLC	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, New Mexico	TVD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Site:	Wildhog BWX State Com	MD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Well:	#1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,938.00	93.64	177.92	12,493.21	-2,529.93	49.81	2,530.32	1.08	0.93	-0.56
15,033.00	93.94	179.15	12,486.93	-2,624.69	52.23	2,625.10	1.33	0.32	1.29
15,128.00	93.44	181.26	12,480.81	-2,719.49	51.89	2,719.89	2.28	-0.53	2.22
15,223.00	89.84	183.72	12,478.09	-2,814.34	47.77	2,814.69	4.59	-3.79	2.59
15,317.00	90.01	183.90	12,478.21	-2,908.13	41.52	2,908.41	0.26	0.18	0.19
15,412.00	89.07	182.23	12,478.98	-3,002.98	36.44	3,003.20	2.02	-0.99	-1.76
15,508.00	86.67	181.35	12,482.55	-3,098.86	33.44	3,099.04	2.66	-2.50	-0.92
15,603.00	87.79	179.94	12,487.14	-3,193.74	32.38	3,193.91	1.89	1.18	-1.48
15,726.00	87.70	179.85	12,491.98	-3,316.65	32.60	3,316.81	0.10	-0.07	-0.07
15,821.00	90.14	179.42	12,493.77	-3,411.62	33.21	3,411.78	2.61	2.57	-0.45
15,916.00	91.62	179.68	12,492.31	-3,506.60	33.95	3,506.77	1.58	1.56	0.27
16,011.00	92.19	180.21	12,489.15	-3,601.55	34.04	3,601.71	0.82	0.60	0.56
16,106.00	93.26	180.73	12,484.63	-3,696.44	33.27	3,696.58	1.25	1.13	0.55
16,201.00	90.14	180.82	12,481.82	-3,791.38	31.98	3,791.50	3.29	-3.28	0.09
16,296.00	89.20	180.21	12,482.36	-3,886.37	31.13	3,886.48	1.18	-0.99	-0.64
16,390.00	89.75	180.56	12,483.22	-3,980.36	30.50	3,980.46	0.69	0.59	0.37
16,485.00	89.55	180.29	12,483.80	-4,075.36	29.79	4,075.44	0.35	-0.21	-0.28
16,579.00	88.96	180.47	12,485.03	-4,169.35	29.17	4,169.42	0.66	-0.63	0.19
16,674.00	88.60	179.33	12,487.05	-4,264.32	29.33	4,264.39	1.26	-0.38	-1.20
16,769.00	88.38	179.85	12,489.55	-4,359.29	30.01	4,359.36	0.59	-0.23	0.55
16,864.00	87.35	179.24	12,493.09	-4,454.22	30.77	4,454.29	1.26	-1.08	-0.64
16,958.00	86.28	179.06	12,498.31	-4,548.06	32.16	4,548.14	1.15	-1.14	-0.19
17,053.00	86.21	179.59	12,504.54	-4,642.85	33.28	4,642.94	0.56	-0.07	0.56
17,121.00	85.35	178.80	12,509.54	-4,710.66	34.23	4,710.75	1.72	-1.26	-1.16
17,153.00	85.95	178.95	12,511.97	-4,742.56	34.86	4,742.66	1.94	1.88	0.47
330' Exit									
17,196.00	86.76	179.15	12,514.70	-4,785.47	35.57	4,785.57	1.94	1.88	0.47
17,244.00	86.76	179.15	12,517.41	-4,833.38	36.28	4,833.49	0.00	0.00	0.00

Precision Drilling Corporation

Survey Report

Company:	IMPETRO OPERATING LLC	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, New Mexico	TVD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Site:	Wildhog BWX State Com	MD Reference:	2943'GL+26'KB @ 2969.00usft (Trinidad 117)
Well:	#1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Surface Wildhog #1H	0.00	0.00	0.00	0.00	0.00	378,208.10	864,883.50	32.035475°N	103.289220°W
- actual wellpath hits target center									
- Point									
PBHL Wildhog #1H pi	0.00	0.00	12,489.7 0	-4,749.72	51.40	373,458.38	864,934.90	32.022419°N	103.289202°W
- actual wellpath misses target center by 28.04usft at 17159.01usft MD (12512.38 TVD, -4748.55 N, 34.96 E)									
- Point									
BHL Wildhog #1H	0.00	0.00	12,517.4 1	-4,833.38	36.28	373,374.71	864,919.78	32.022189°N	103.289254°W
- actual wellpath hits target center									
- Point									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,524.00	12,401.93	-129.42	50.04	330' Entry
17,153.00	12,511.97	-4,742.56	34.86	330' Exit



Directional Survey Report

Company Name: Impetro Operating LLC
Well Name: WildHog BWX State com #1H
Field: Wolf Camp
Rig ID: Trinidad 117

State/Prov: New Mexico
County: Lea County
Location: Beckham Ranch
API/UWI: 30-025-42733

Survey Company: Precision Directional Services, Inc.
Job Number: WT-170003
Latitude: 32.035475
Longitude: -103.28922
Proposed Azimuth: 179.38
Declination: 6.27
North Reference: Grid
KB: 2969

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	Northing	Easting
TieIn	0	0	0	0	0	0	0	0	0	0
1	221	0.62	184.51	221.00	-1.19	-0.09	1.19	0.28	-1.19	-0.09
2	312	0.88	192.42	311.99	-2.37	-0.28	2.36	0.31	-2.37	-0.28
3	374	0.79	192.25	373.98	-3.25	-0.48	3.24	0.15	-3.25	-0.48
4	462	0.97	198.22	461.97	-4.55	-0.84	4.54	0.23	-4.55	-0.84
5	525	0.88	206.84	524.96	-5.49	-1.22	5.47	0.26	-5.49	-1.22
6	584	0.70	214.57	583.96	-6.19	-1.63	6.17	0.35	-6.19	-1.63
7	643	0.70	204.38	642.95	-6.81	-1.99	6.79	0.21	-6.81	-1.99
8	720	1.23	196.11	719.94	-8.03	-2.41	8.01	0.71	-8.03	-2.41
9	828	1.76	195.76	827.90	-10.74	-3.18	10.71	0.49	-10.74	-3.18
10	864	1.67	190.31	863.89	-11.79	-3.42	11.76	0.52	-11.79	-3.42
11	974	1.49	188.38	973.85	-14.78	-3.92	14.74	0.17	-14.78	-3.92
12	1064	1.85	188.20	1,063.81	-17.38	-4.30	17.33	0.40	-17.38	-4.30
13	1156	1.32	202.44	1,155.77	-19.83	-4.91	19.78	0.71	-19.83	-4.91
14	1247	1.41	218.09	1,246.75	-21.68	-6.00	21.61	0.42	-21.68	-6.00
15	1337	1.32	245.16	1,336.72	-22.99	-7.63	22.90	0.72	-22.99	-7.63
16	1427	1.76	260.10	1,426.69	-23.66	-9.93	23.55	0.66	-23.66	-9.93
17	1519	2.02	273.28	1,518.64	-23.81	-12.94	23.67	0.55	-23.81	-12.94
18	1610	2.55	282.95	1,609.57	-23.26	-16.52	23.08	0.72	-23.26	-16.52
19	1700	3.25	288.40	1,699.45	-22.01	-20.89	21.78	0.84	-22.01	-20.89
20	1774	3.43	292.79	1,773.33	-20.49	-24.92	20.22	0.42	-20.49	-24.92
21	1850	3.69	295.96	1,849.18	-18.54	-29.21	18.22	0.43	-18.54	-29.21
22	1941	2.73	308.97	1,940.04	-15.89	-33.53	15.53	1.32	-15.89	-33.53
23	2032	1.85	322.68	2,030.96	-13.36	-36.11	12.97	1.13	-13.36	-36.11
24	2123	1.58	11.02	2,121.93	-10.96	-36.76	10.57	1.57	-10.96	-36.76
25	2214	2.46	13.65	2,212.87	-7.83	-36.06	7.44	0.97	-7.83	-36.06
26	2305	2.90	5.22	2,303.77	-3.64	-35.39	3.26	0.65	-3.64	-35.39
27	2396	2.81	19.10	2,394.66	0.76	-34.45	-1.13	0.76	0.76	-34.45
28	2486	2.46	48.11	2,484.57	4.13	-32.29	-4.48	1.51	4.13	-32.29
29	2577	2.46	63.22	2,575.49	6.31	-29.09	-6.63	0.71	6.31	-29.09
30	2667	3.34	67.44	2,665.37	8.19	-24.94	-8.46	1.01	8.19	-24.94
31	2759	2.90	72.19	2,757.23	9.93	-20.25	-10.15	0.55	9.93	-20.25
32	2851	2.99	64.28	2,849.11	11.68	-15.88	-11.85	0.45	11.68	-15.88
33	2942	2.02	83.61	2,940.03	12.89	-12.14	-13.02	1.40	12.89	-12.14

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	Northing	Easting
34	3032	2.29	85.55	3,029.96	13.21	-8.78	-13.30	0.31	13.21	-8.78
35	3123	2.73	77.81	3,120.87	13.81	-4.84	-13.86	0.61	13.81	-4.84
36	3214	2.37	93.81	3,211.79	14.14	-0.85	-14.15	0.87	14.14	-0.85
37	3304	2.73	105.06	3,301.70	13.46	3.08	-13.42	0.68	13.46	3.08
38	3395	2.02	123.16	3,392.62	12.02	6.51	-11.95	1.13	12.02	6.51
39	3485	1.93	131.25	3,482.57	10.15	8.98	-10.05	0.33	10.15	8.98
40	3667	2.11	110.16	3,664.46	6.98	14.43	-6.82	0.42	6.98	14.43
41	3848	1.93	92.58	3,845.34	5.69	20.60	-5.47	0.35	5.69	20.60
42	4031	2.64	118.24	4,028.20	3.56	27.39	-3.26	0.67	3.56	27.39
43	4215	2.55	153.57	4,212.03	-2.11	32.95	2.47	0.86	-2.11	32.95
44	4396	3.08	151.64	4,392.81	-10.00	37.05	10.40	0.30	-10.00	37.05
45	4578	3.25	159.55	4,574.53	-19.13	41.18	19.58	0.26	-19.13	41.18
46	4758	3.52	167.11	4,754.22	-29.30	44.19	29.78	0.29	-29.30	44.19
47	4940	3.52	185.74	4,935.88	-40.31	44.88	40.79	0.63	-40.31	44.88
48	5122	3.61	197.70	5,117.53	-51.33	42.58	51.78	0.41	-51.33	42.58
49	5308	2.29	219.84	5,303.28	-59.76	38.42	60.17	0.93	-59.76	38.42
50	5490	2.20	275.57	5,485.16	-62.21	32.61	62.56	1.15	-62.21	32.61
51	5671	2.20	278.56	5,666.03	-61.36	25.72	61.63	0.06	-61.36	25.72
52	5852	1.93	297.01	5,846.92	-59.46	19.57	59.66	0.39	-59.46	19.57
53	6034	1.41	272.23	6,028.84	-57.98	14.60	58.13	0.48	-57.98	14.60
54	6215	1.58	290.33	6,209.78	-57.02	10.03	57.13	0.28	-57.02	10.03
55	6396	1.06	280.84	6,390.73	-55.84	6.05	55.90	0.31	-55.84	6.05
56	6578	1.76	343.77	6,572.68	-52.84	3.61	52.88	0.87	-52.84	3.61
57	6761	2.02	341.31	6,755.58	-47.09	1.80	47.10	0.15	-47.09	1.80
58	6941	1.58	352.38	6,935.50	-41.62	0.45	41.62	0.31	-41.62	0.45
59	7123	1.67	332.52	7,117.42	-36.78	-1.11	36.77	0.31	-36.78	-1.11
60	7304	1.41	354.32	7,298.36	-32.23	-2.54	32.20	0.35	-32.23	-2.54
61	7485	0.88	340.61	7,479.32	-28.70	-3.23	28.66	0.33	-28.70	-3.23
62	7666	1.58	357.13	7,660.28	-24.90	-3.81	24.85	0.43	-24.90	-3.81
63	7847	1.49	18.05	7,841.22	-20.17	-3.21	20.13	0.31	-20.17	-3.21
64	8028	1.41	46.17	8,022.16	-16.39	-0.87	16.38	0.39	-16.39	-0.87
65	8211	1.32	52.15	8,205.11	-13.53	2.42	13.56	0.09	-13.53	2.42
66	8393	1.67	61.29	8,387.05	-10.97	6.40	11.04	0.23	-10.97	6.40
67	8577	1.58	73.95	8,570.97	-8.98	11.19	9.11	0.20	-8.98	11.19
68	8759	1.14	75.35	8,752.92	-7.83	15.35	8.00	0.24	-7.83	15.35
69	8938	2.11	92.40	8,931.85	-7.52	20.36	7.74	0.60	-7.52	20.36
70	9120	2.29	91.35	9,113.72	-7.75	27.35	8.04	0.10	-7.75	27.35
71	9301	2.11	108.22	9,294.58	-8.87	34.13	9.24	0.37	-8.87	34.13
72	9483	2.20	88.54	9,476.46	-9.83	40.80	10.27	0.41	-9.83	40.80
73	9667	2.55	86.43	9,660.30	-9.49	48.42	10.01	0.20	-9.49	48.42
74	9848	3.17	72.89	9,841.08	-7.76	57.22	8.38	0.50	-7.76	57.22
75	10030	1.93	76.58	10,022.89	-5.57	65.01	6.28	0.69	-5.57	65.01
76	10212	1.85	54.61	10,204.80	-3.16	70.39	3.92	0.40	-3.16	70.39
77	10394	1.85	18.40	10,386.71	1.33	73.71	-0.53	0.63	1.33	73.71
78	10486	1.14	41.78	10,478.68	3.42	74.79	-2.61	1.00	3.42	74.79

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Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	Northing	Easting
79	10577	1.76	6.80	10,569.65	5.48	75.56	-4.67	1.16	5.48	75.56
80	10668	3.69	351.50	10,660.54	9.77	75.29	-8.95	2.25	9.77	75.29
81	10758	5.45	350.45	10,750.25	16.85	74.15	-16.04	1.96	16.85	74.15
82	10849	7.12	352.03	10,840.70	26.69	72.65	-25.91	1.84	26.69	72.65
83	10939	6.24	352.91	10,930.09	37.07	71.28	-36.30	0.98	37.07	71.28
84	11030	6.77	347.99	11,020.50	47.23	69.55	-46.47	0.84	47.23	69.55
85	11121	8	346.23	11,110.75	58.62	66.93	-57.90	1.37	58.62	66.93
86	11212	8.97	349.22	11,200.75	71.74	64.09	-71.05	1.17	71.74	64.09
87	11302	8.18	350.80	11,289.74	84.96	61.76	-84.28	0.92	84.96	61.76
88	11394	7.65	353.44	11,380.87	97.50	60.01	-96.85	0.70	97.50	60.01
89	11485	8.09	356.78	11,471.01	109.91	58.96	-109.27	0.70	109.91	58.96
90	11574	7.47	2.58	11,559.19	121.94	58.87	-121.30	1.12	121.94	58.87
91	11666	6.60	7.32	11,650.50	133.16	59.81	-132.51	1.14	133.16	59.81
92	11722	6.57	9.17	11,706.13	139.52	60.73	-138.85	0.38	139.52	60.73
93	11768	5.76	9.26	11,751.86	144.39	61.52	-143.72	1.76	144.39	61.52
94	11813	3.32	6.53	11,796.72	147.92	62.03	-147.24	5.44	147.92	62.03
95	11859	1.87	337.27	11,842.67	149.93	61.89	-149.25	4.17	149.93	61.89
96	11904	2.04	254.12	11,887.65	150.39	60.84	-149.72	5.77	150.39	60.84
97	11950	4.55	219.76	11,933.58	148.76	58.88	-148.12	6.71	148.76	58.88
98	11995	7.38	204.68	11,978.33	144.76	56.54	-144.14	7.14	144.76	56.54
99	12041	9.58	196.74	12,023.83	138.41	54.20	-137.82	5.41	138.41	54.20
100	12086	13.03	189.91	12,067.95	129.83	52.25	-129.25	8.21	129.83	52.25
101	12131	16.92	184.75	12,111.42	118.30	50.83	-117.74	9.13	118.30	50.83
102	12177	21.78	183.74	12,154.81	103.10	49.72	-102.56	10.59	103.10	49.72
103	12218	27.08	184.69	12,192.12	86.20	48.46	-85.67	12.96	86.20	48.46
104	12263	31.92	183.46	12,231.28	64.10	46.90	-63.59	10.84	64.10	46.90
105	12309	37.90	180.65	12,268.98	37.81	46.01	-37.31	13.46	37.81	46.01
106	12354	45.20	178.54	12,302.64	7.99	46.26	-7.49	16.52	7.99	46.26
107	12399	51.62	178.01	12,332.49	-25.63	47.28	26.14	14.29	-25.63	47.28
108	12408	53.11	178.01	12,337.99	-32.76	47.53	33.27	16.56	-32.76	47.53
109	12505	58.81	178.80	12,392.27	-113.07	49.74	113.60	5.91	-113.07	49.74
110	12537	60.87	179.33	12,408.34	-140.73	50.19	141.27	6.59	-140.73	50.19
111	12569	63.51	179.50	12,423.27	-169.03	50.48	169.57	8.26	-169.03	50.48
112	12600	67.49	179.33	12,436.12	-197.23	50.77	197.77	12.85	-197.23	50.77
113	12631	72.76	179.41	12,446.66	-226.38	51.09	226.92	17.00	-226.38	51.09
114	12663	78.83	180.73	12,454.51	-257.38	51.05	257.92	19.39	-257.38	51.05
115	12758	89.55	182.49	12,464.11	-351.71	48.38	352.22	11.43	-351.71	48.38
116	12853	90.52	181.88	12,464.05	-446.64	44.76	447.10	1.21	-446.64	44.76
117	12947	91.90	181.88	12,462.07	-540.57	41.68	540.99	1.47	-540.57	41.68
118	13042	91.62	181.26	12,459.15	-635.49	39.08	635.87	0.72	-635.49	39.08
119	13137	88.19	179.68	12,459.31	-730.47	38.30	730.84	3.98	-730.47	38.30
120	13232	87.44	180.29	12,462.93	-825.40	38.32	825.76	1.02	-825.40	38.32
121	13327	87.22	180.82	12,467.36	-920.29	37.40	920.64	0.60	-920.29	37.40
122	13422	86.91	179.77	12,472.22	-1,015.16	36.91	1,015.50	1.15	-1,015.16	36.91
123	13517	87.55	178.71	12,476.81	-1,110.04	38.17	1,110.39	1.30	-1,110.04	38.17

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	Northing	Easting
124	13612	87.09	179.06	12,481.25	-1,204.92	40.02	1,205.28	0.61	-1,204.92	40.02
125	13706	87.59	178.10	12,485.62	-1,298.79	42.35	1,299.17	1.15	-1,298.79	42.35
126	13801	87.35	179.77	12,489.81	-1,393.68	44.11	1,394.07	1.77	-1,393.68	44.11
127	13896	87.40	181.17	12,494.16	-1,488.57	43.33	1,488.95	1.47	-1,488.57	43.33
128	13991	89.09	181.44	12,497.07	-1,583.50	41.17	1,583.85	1.80	-1,583.50	41.17
129	14086	89.57	181.26	12,498.18	-1,678.46	38.93	1,678.79	0.54	-1,678.46	38.93
130	14181	90.30	180.64	12,498.29	-1,773.45	37.36	1,773.75	1.01	-1,773.45	37.36
131	14275	90.96	180.65	12,497.26	-1,867.44	36.30	1,867.72	0.70	-1,867.44	36.30
132	14370	91.51	179.68	12,495.21	-1,962.41	36.03	1,962.69	1.17	-1,962.41	36.03
133	14465	89.18	179.24	12,494.64	-2,057.40	36.92	2,057.68	2.50	-2,057.40	36.92
134	14559	88.87	179.06	12,496.24	-2,151.38	38.31	2,151.67	0.38	-2,151.38	38.31
135	14654	87.62	178.71	12,499.14	-2,246.31	40.16	2,246.62	1.37	-2,246.31	40.16
136	14749	90.21	177.39	12,500.94	-2,341.23	43.39	2,341.56	3.06	-2,341.23	43.39
137	14843	92.76	178.45	12,498.51	-2,435.13	46.81	2,435.49	2.94	-2,435.13	46.81
138	14938	93.64	177.92	12,493.20	-2,529.93	49.81	2,530.32	1.08	-2,529.93	49.81
139	15033	93.94	179.15	12,486.93	-2,624.69	52.23	2,625.10	1.33	-2,624.69	52.23
140	15128	93.44	181.26	12,480.81	-2,719.49	51.89	2,719.89	2.28	-2,719.49	51.89
141	15223	89.84	183.72	12,478.09	-2,814.34	47.77	2,814.69	4.59	-2,814.34	47.77
142	15317	90.01	183.90	12,478.21	-2,908.13	41.52	2,908.41	0.26	-2,908.13	41.52
143	15412	89.07	182.23	12,478.98	-3,002.98	36.44	3,003.20	2.02	-3,002.98	36.44
144	15508	86.67	181.35	12,482.55	-3,098.86	33.44	3,099.04	2.66	-3,098.86	33.44
145	15603	87.79	179.94	12,487.14	-3,193.74	32.38	3,193.91	1.89	-3,193.74	32.38
146	15726	87.70	179.85	12,491.98	-3,316.65	32.60	3,316.81	0.10	-3,316.65	32.60
147	15821	90.14	179.42	12,493.77	-3,411.62	33.21	3,411.78	2.61	-3,411.62	33.21
148	15916	91.62	179.68	12,492.31	-3,506.60	33.95	3,506.77	1.58	-3,506.60	33.95
149	16011	92.19	180.21	12,489.15	-3,601.55	34.04	3,601.71	0.82	-3,601.55	34.04
150	16106	93.26	180.73	12,484.63	-3,696.44	33.27	3,696.58	1.25	-3,696.44	33.27
151	16201	90.14	180.82	12,481.82	-3,791.38	31.98	3,791.50	3.29	-3,791.38	31.98
152	16296	89.20	180.21	12,482.36	-3,886.37	31.13	3,886.48	1.18	-3,886.37	31.13
153	16390	89.75	180.56	12,483.22	-3,980.36	30.50	3,980.46	0.69	-3,980.36	30.50
154	16485	89.55	180.29	12,483.80	-4,075.36	29.79	4,075.44	0.35	-4,075.36	29.79
155	16579	88.96	180.47	12,485.03	-4,169.35	29.17	4,169.42	0.66	-4,169.35	29.17
156	16674	88.60	179.33	12,487.05	-4,264.32	29.33	4,264.39	1.26	-4,264.32	29.33
157	16769	88.38	179.85	12,489.55	-4,359.29	30.01	4,359.36	0.59	-4,359.29	30.01
158	16864	87.35	179.24	12,493.09	-4,454.22	30.77	4,454.29	1.26	-4,454.22	30.77
159	16958	86.28	179.06	12,498.31	-4,548.06	32.16	4,548.14	1.15	-4,548.06	32.16
160	17053	86.21	179.59	12,504.54	-4,642.85	33.28	4,642.94	0.56	-4,642.85	33.28
161	17121	85.35	178.80	12,509.54	-4,710.66	34.23	4,710.75	1.72	-4,710.66	34.23
162	17196	86.76	179.15	12,514.70	-4,785.47	35.57	4,785.57	1.94	-4,785.47	35.57
PTB	17244	86.76	179.15	12,517.41	-4,833.38	36.28	4,833.49	0	-4,833.38	36.28