Anomaly Detection Report - Well 1

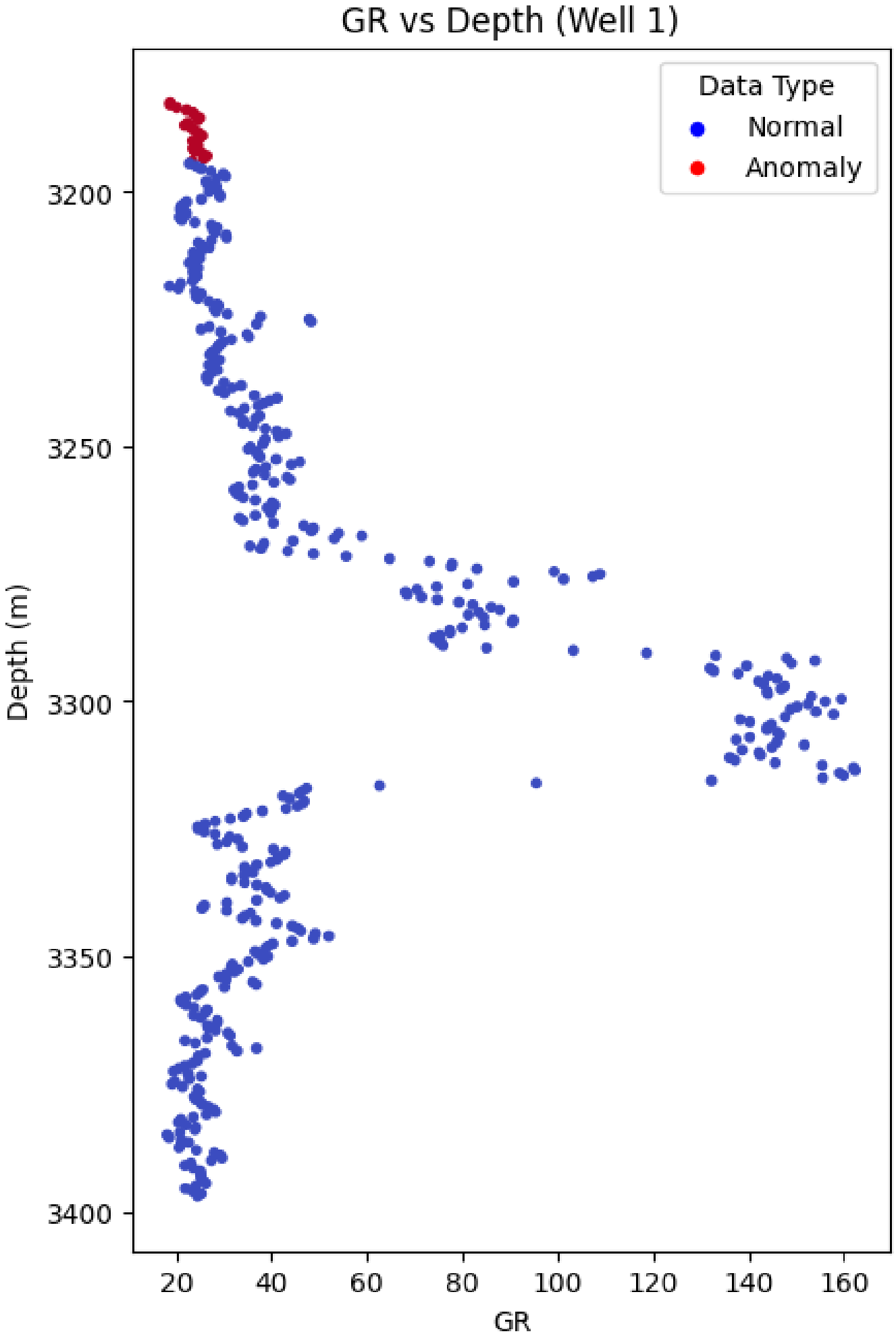
Total Data Points: 567

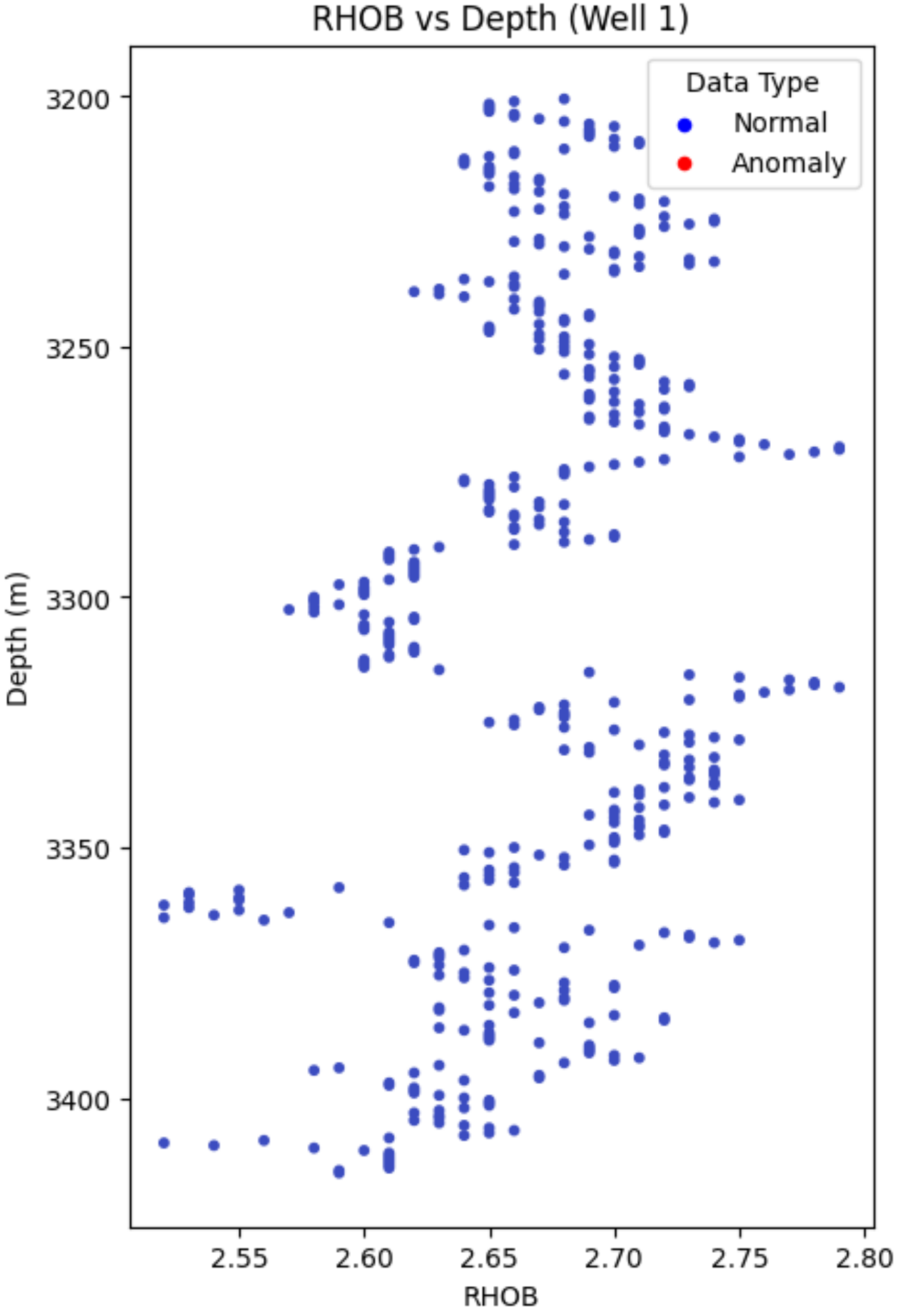
Detected Anomalies: 29 (5.11%)

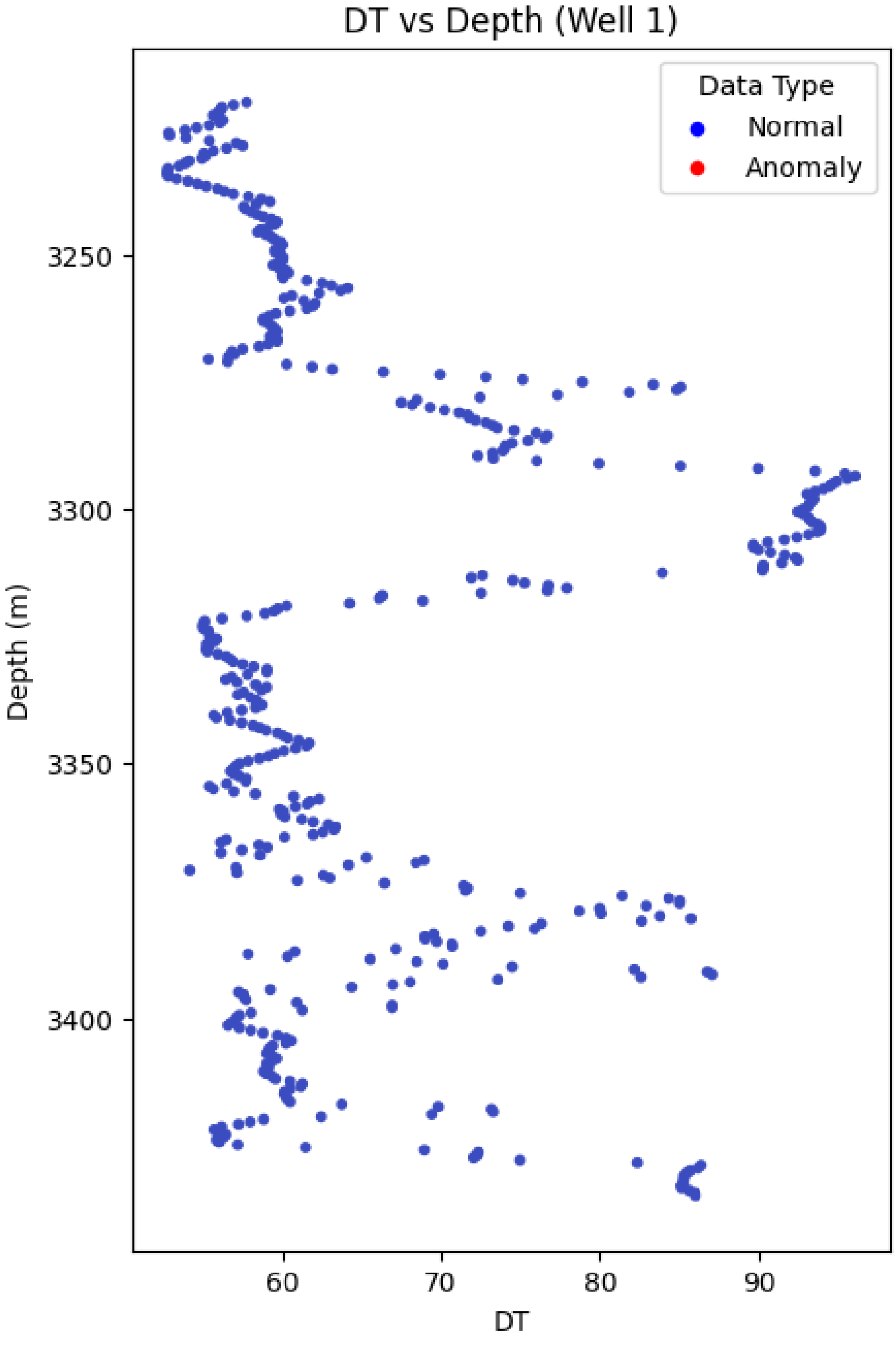
Feature-wise Statistics (Normal vs Anomalous):

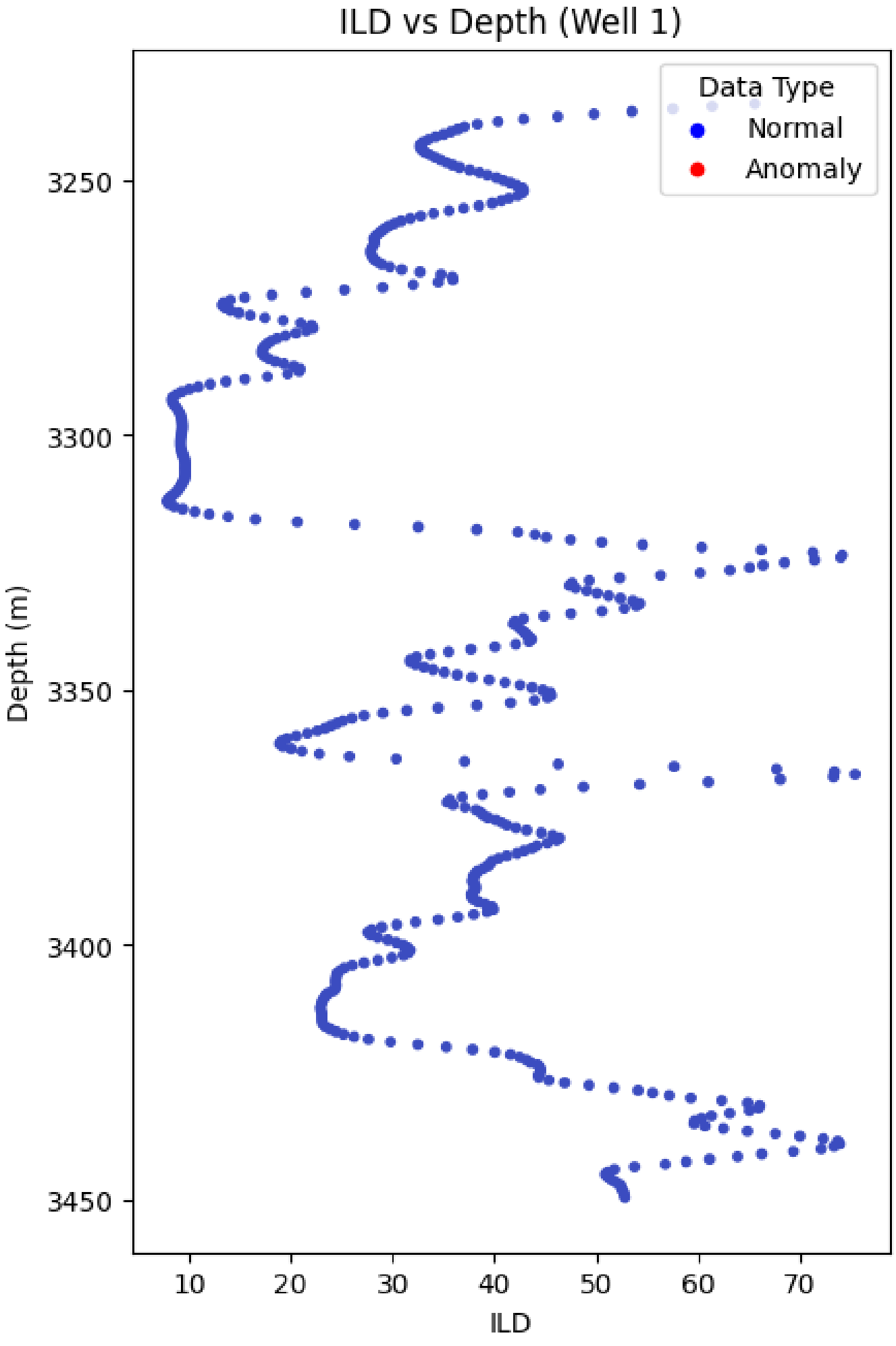
ANOMALY		Anomaly	Normal
GR	count	24.000000	406.000000
	mean	23.432083	50.620493
	std	2.015378	39.947697
	min	18.650000	18.070000
	25%	22.945000	26.012500
	50%	23.820000	34.015000
	75%	24.717500	47.747500
	max	26.370000	162.330000
RHOB	count	0.000000	430.000000
	mean	NaN	2.666953
	std	NaN	0.050750
	min	NaN	2.520000
	25%	NaN	2.630000
	50%	NaN	2.670000
	75%	NaN	2.700000
	max	NaN	2.790000
DT	count	0.000000	431.000000
	mean	NaN	66.307610
	std	NaN	12.032302
	min	NaN	52.780000
	25%	NaN	57.670000
	50%	NaN	60.190000
	75%	NaN	73.015000
	max	NaN	96.070000
ILD	count	0.000000	430.000000
	mean	NaN	35.080698
	std	NaN	16.602672
	min	NaN	7.860000
	25%	NaN	23.062500
	50%	NaN	35.415000
	75%	NaN	44.422500
	max	NaN	75.420000
SP	count	0.000000	431.000000
	mean	NaN	-8.579791
	std	NaN	20.221279
	min	NaN	-40.550000
	25%	NaN	-27.040000
	50%	NaN	-12.140000
	75%	NaN	10.690000
	max	NaN	40.840000
CALD	count	0.000000	430.000000
	mean	NaN	7.707000
	std	NaN	0.183575
	min	NaN	6.720000

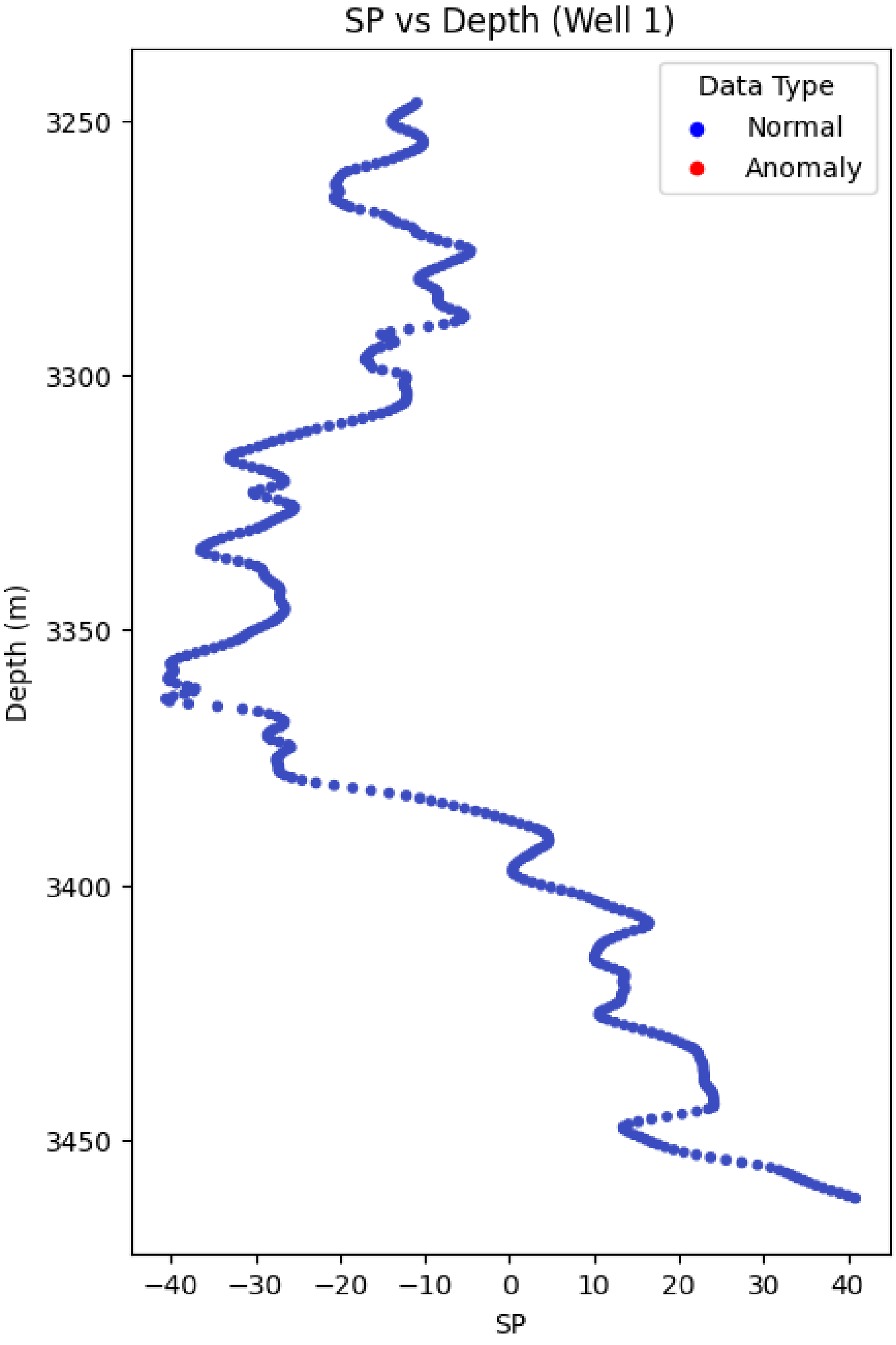
	25%	NaN	7.650000
	50%	NaN	7.770000
	75%	NaN	7.800000
	max	NaN	7.800000
DRHO	count	0.000000	430.000000
	mean	NaN	0.028233
	std	NaN	0.039539
	min	NaN	-0.010000
	25%	NaN	0.010000
	50%	NaN	0.020000
	75%	NaN	0.030000
	max	NaN	0.230000

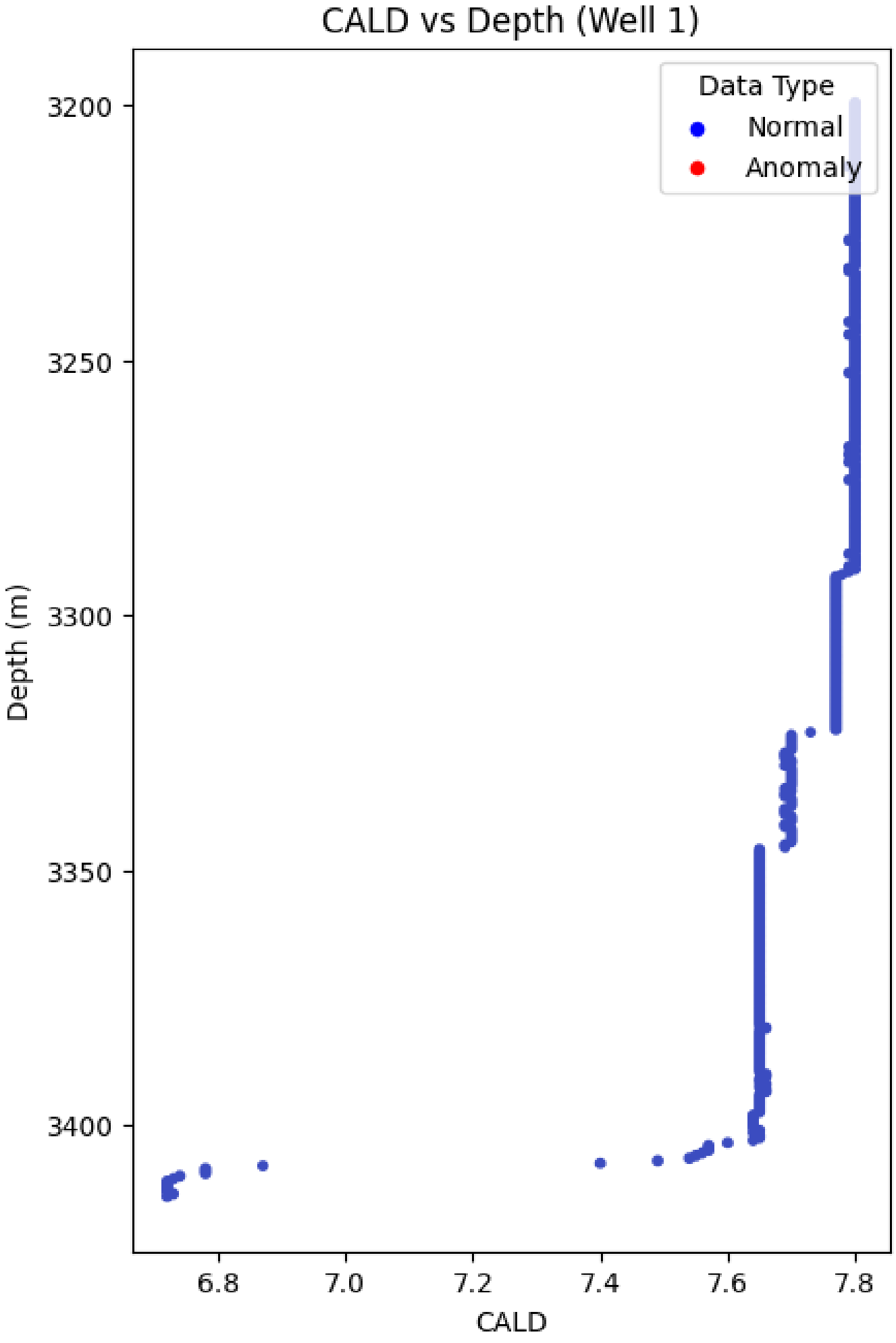

GR vs Depth (Well 1)
Data Type
Normal
Anomaly
Depth (m)
3200
3250
3300
3350
3400
20
40
60
80
100
120
140
160
GR

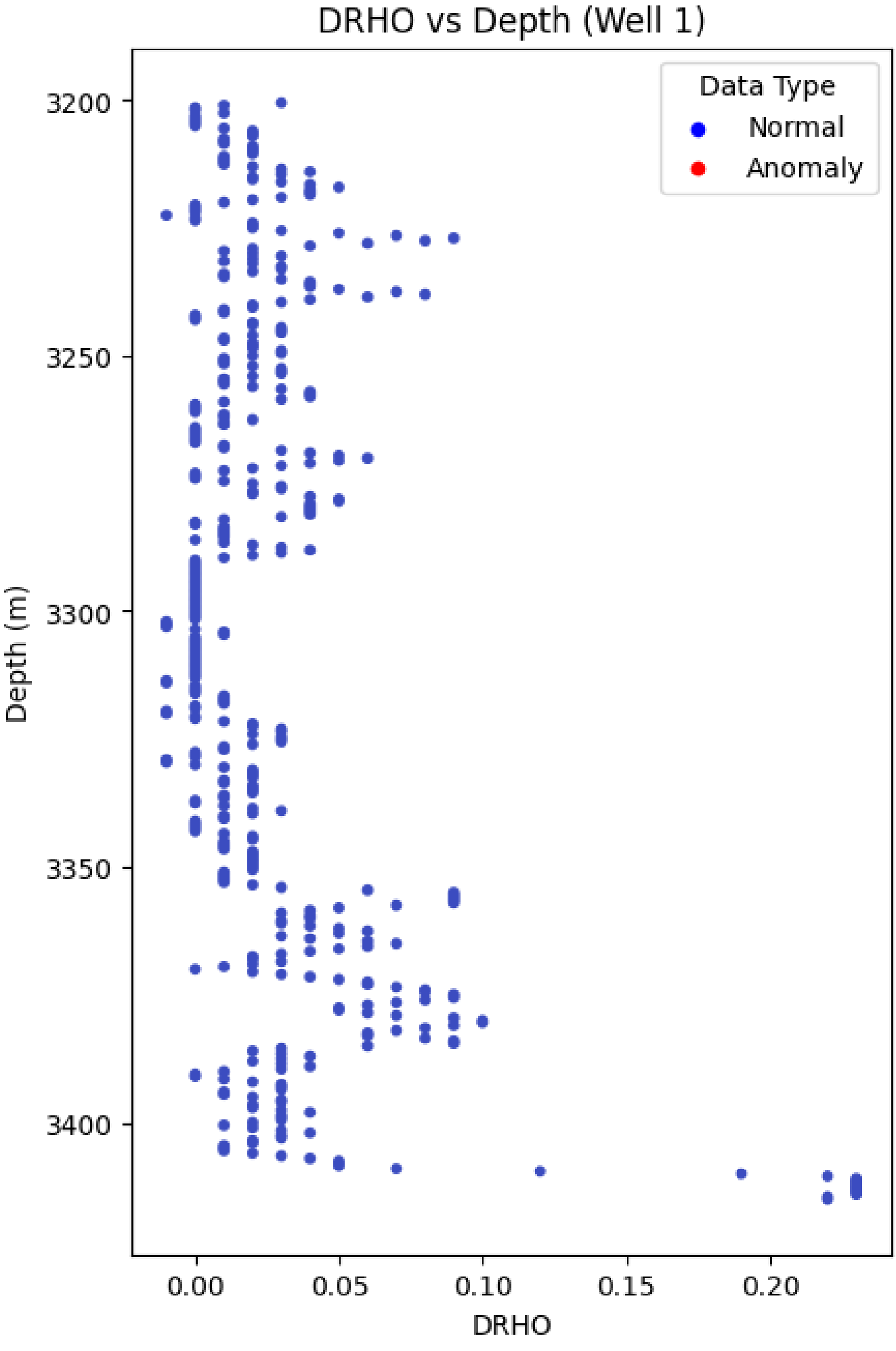

RHOB vs Depth (Well 1)
Data Type
Normal
Anomaly
Depth (m)
3200
3250
3300
3350
3400
2.55
2.60
2.65
2.70
2.75
2.80
RHOB


DT vs Depth (Well 1)
Data Type
Normal
Anomaly
3250
3300
3350
3400
Depth (m)
60
70
80
90
DT


ILD vs Depth (Well 1)
Data Type
Normal
Anomaly
Depth (m)
3250
3300
3350
3400
3450
10
20
30
40
50
60
70
ILD


SP vs Depth (Well 1)
Data Type
Normal
Anomaly
Depth (m)
3250
3300
3350
3400
3450
−40
−30
−20
−10
0
10
20
30
40
SP


CALD vs Depth (Well 1)
Data Type
Normal
Anomaly
Depth (m)
3200
3250
3300
3350
3400
6.8
7.0
7.2
7.4
7.6
7.8
CALD


DRHO vs Depth (Well 1)
Data Type
Normal
Anomaly
Depth (m)
3200
3250
3300
3350
3400
0.00
0.05
0.10
0.15
0.20
DRHO

Anomaly Detection Report - Well 2

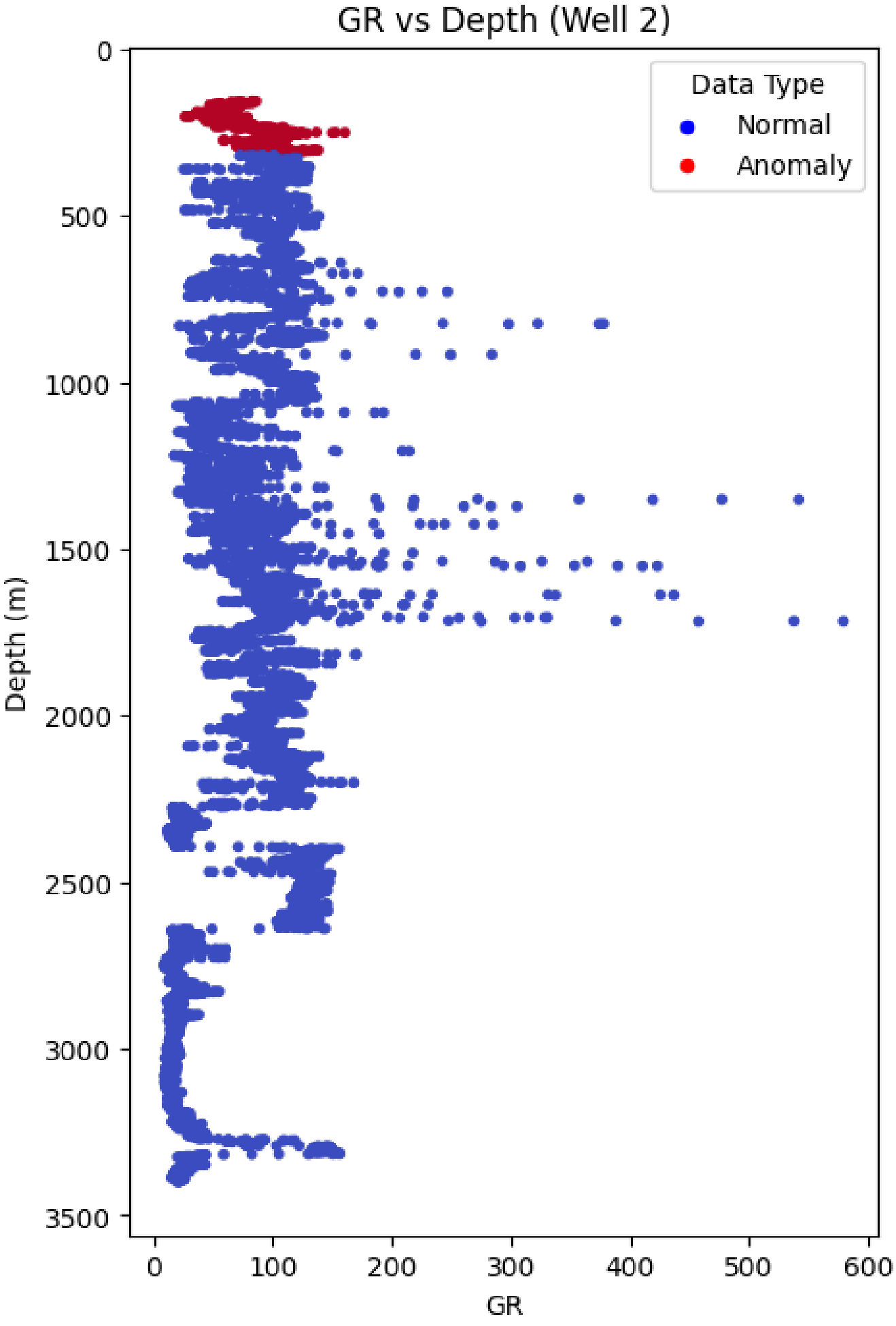
Total Data Points: 6622

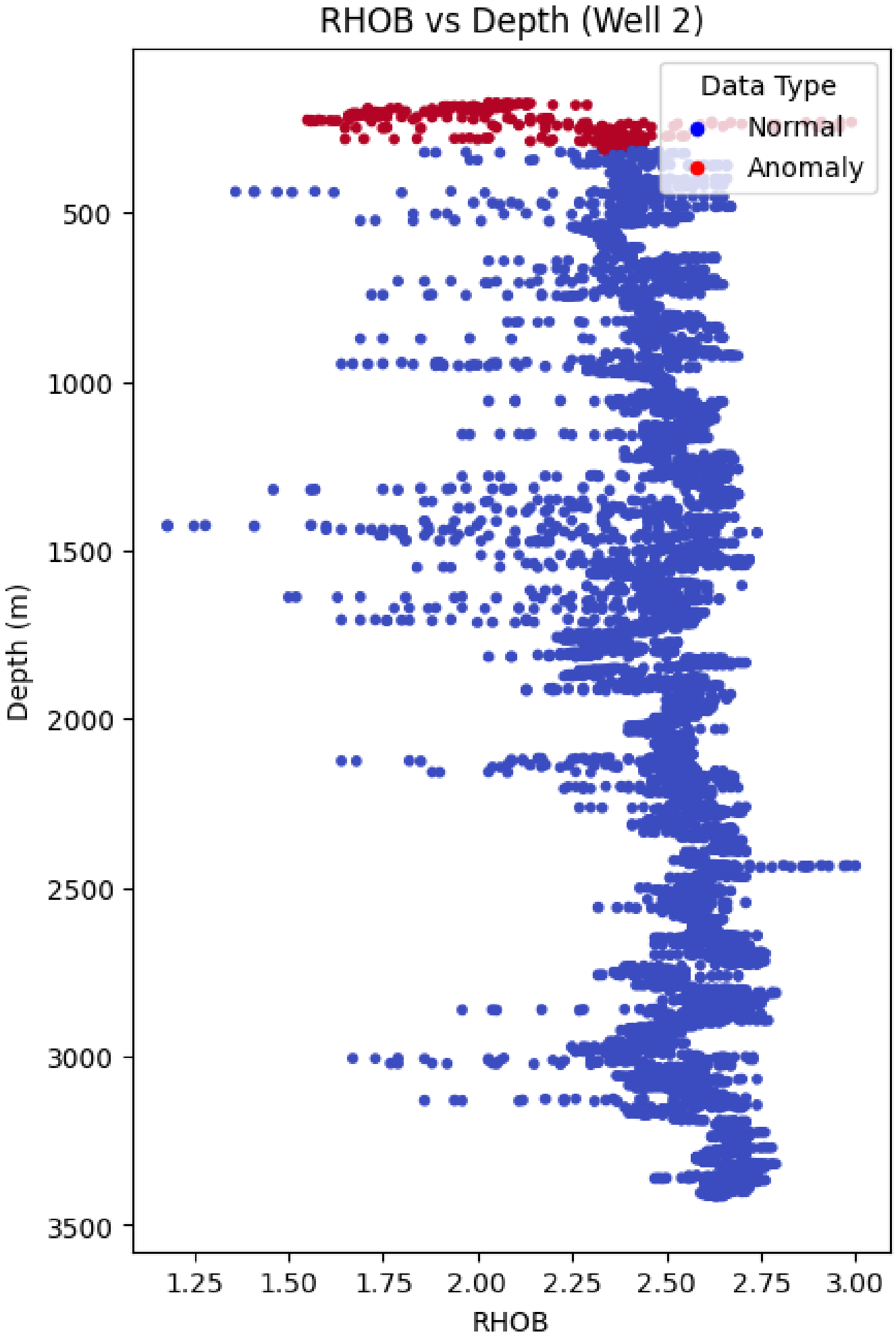
Detected Anomalies: 332 (5.01%)

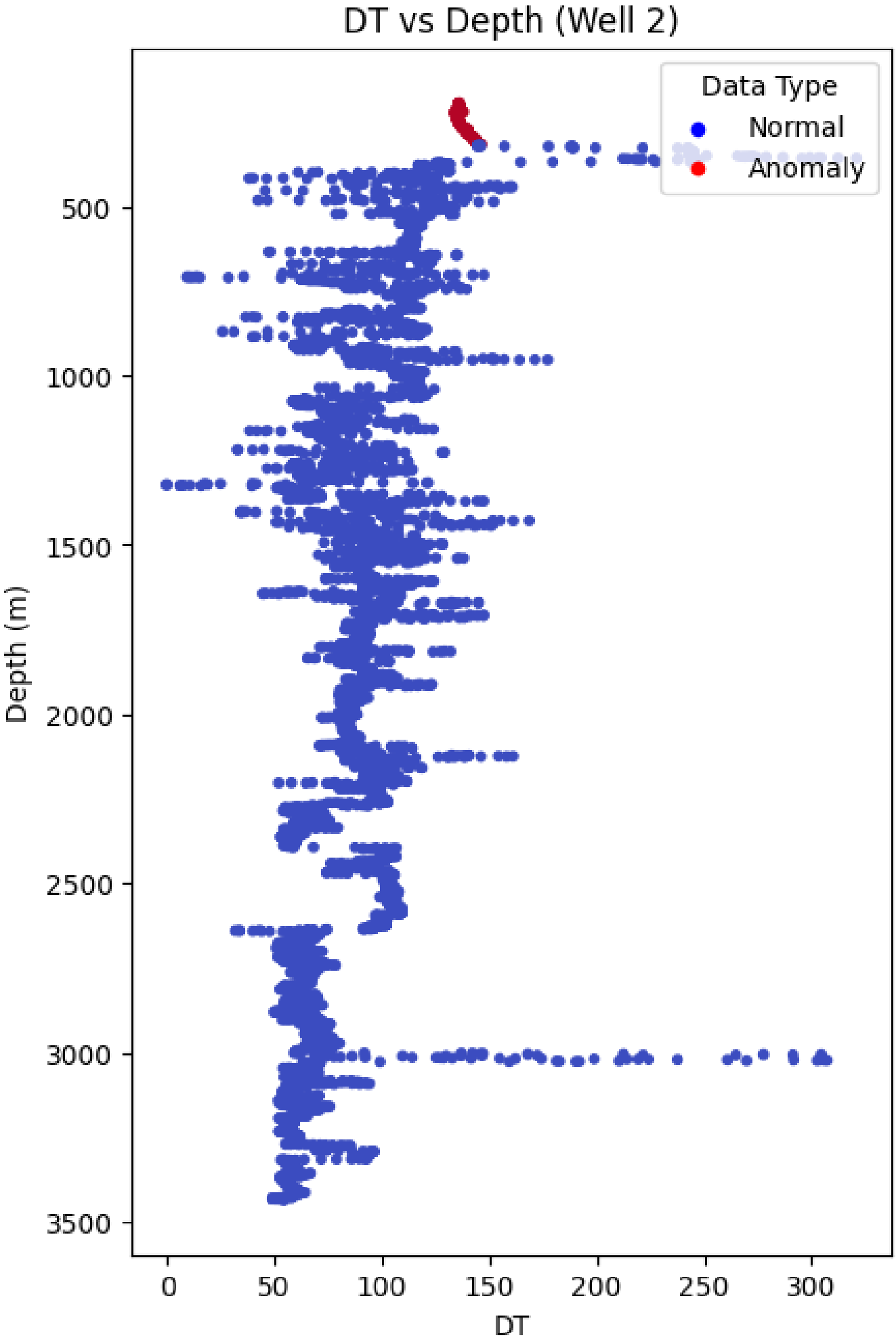
Feature-wise Statistics (Normal vs Anomalous):

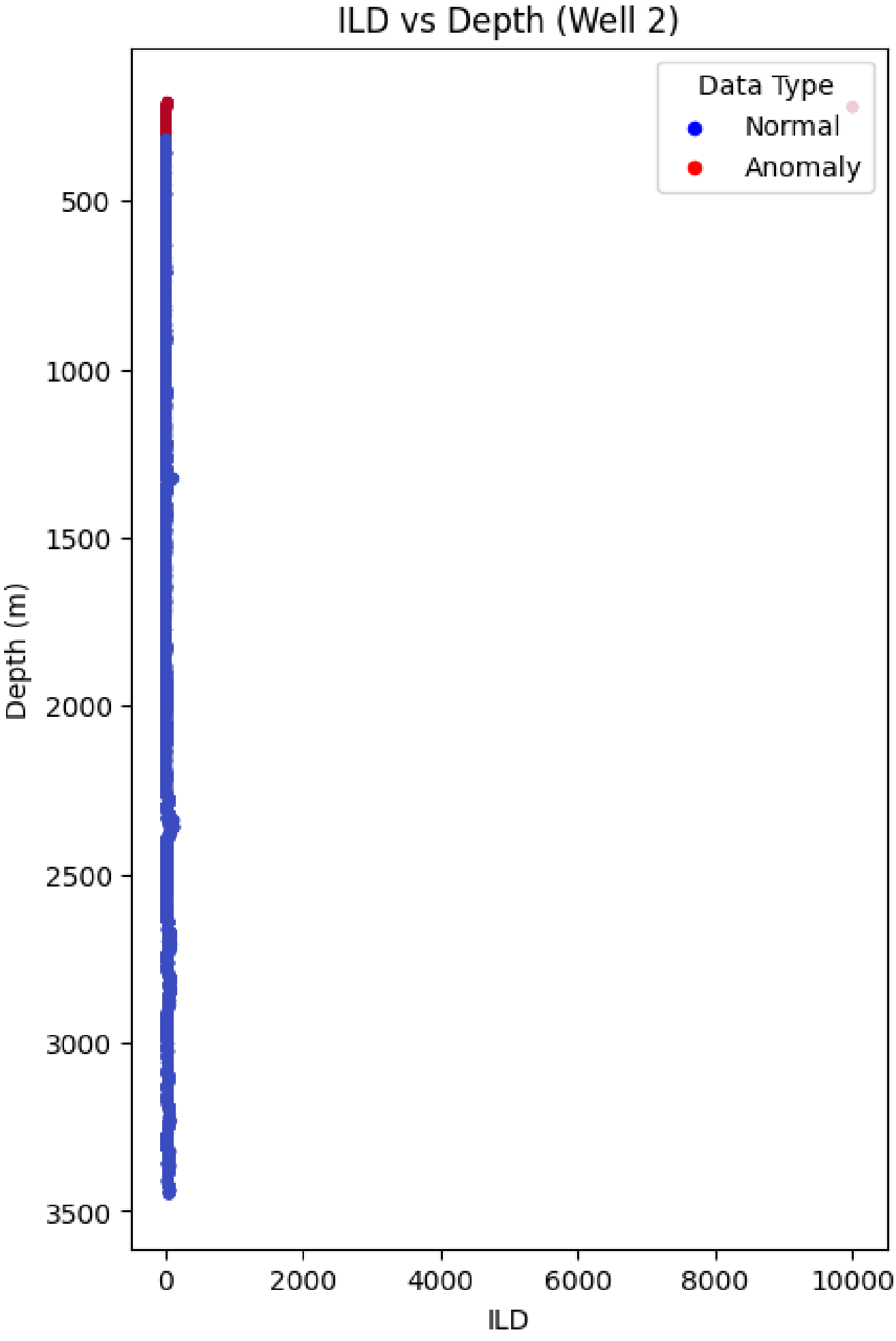
ANOMALY		Anomaly	Normal
GR	count	326.000000	6159.000000
	mean	82.097914	76.102911
	std	26.047589	48.616202
	min	26.400000	8.740000
	25%	59.257500	30.960000
	50%	79.160000	80.450000
	75%	104.137500	111.015000
	max	160.750000	579.130000
RHOB	count	290.000000	6194.000000
	mean	2.170207	2.494026
	std	0.308673	0.169594
	min	1.550000	1.180000
	25%	1.960000	2.430000
	50%	2.275000	2.520000
	75%	2.370000	2.600000
	max	2.990000	3.000000
DT	count	251.000000	6235.000000
	mean	138.295657	89.522245
	std	3.406471	31.217260
	min	133.970000	0.000000
	25%	135.650000	66.260000
	50%	136.380000	87.540000
	75%	140.670000	104.440000
	max	146.290000	320.850000
ILD	count	221.000000	6263.000000
	mean	366.377738	15.008729
	std	1871.248862	18.675562
	min	1.490000	0.980000
	25%	2.240000	3.445000
	50%	2.360000	7.650000
	75%	3.010000	18.395000
	max	10000.000000	126.990000
SP	count	198.000000	6287.000000
	mean	-3.049949	-22.335707
	std	5.048528	14.230670
	min	-14.090000	-66.450000
	25%	-6.020000	-31.115000
	50%	-3.810000	-22.740000
	75%	0.815000	-12.175000
	max	7.840000	11.310000
CALD	count	289.000000	6192.000000
	mean	5.286436	8.132091
	std	3.070119	0.319977
	min	2.410000	6.950000

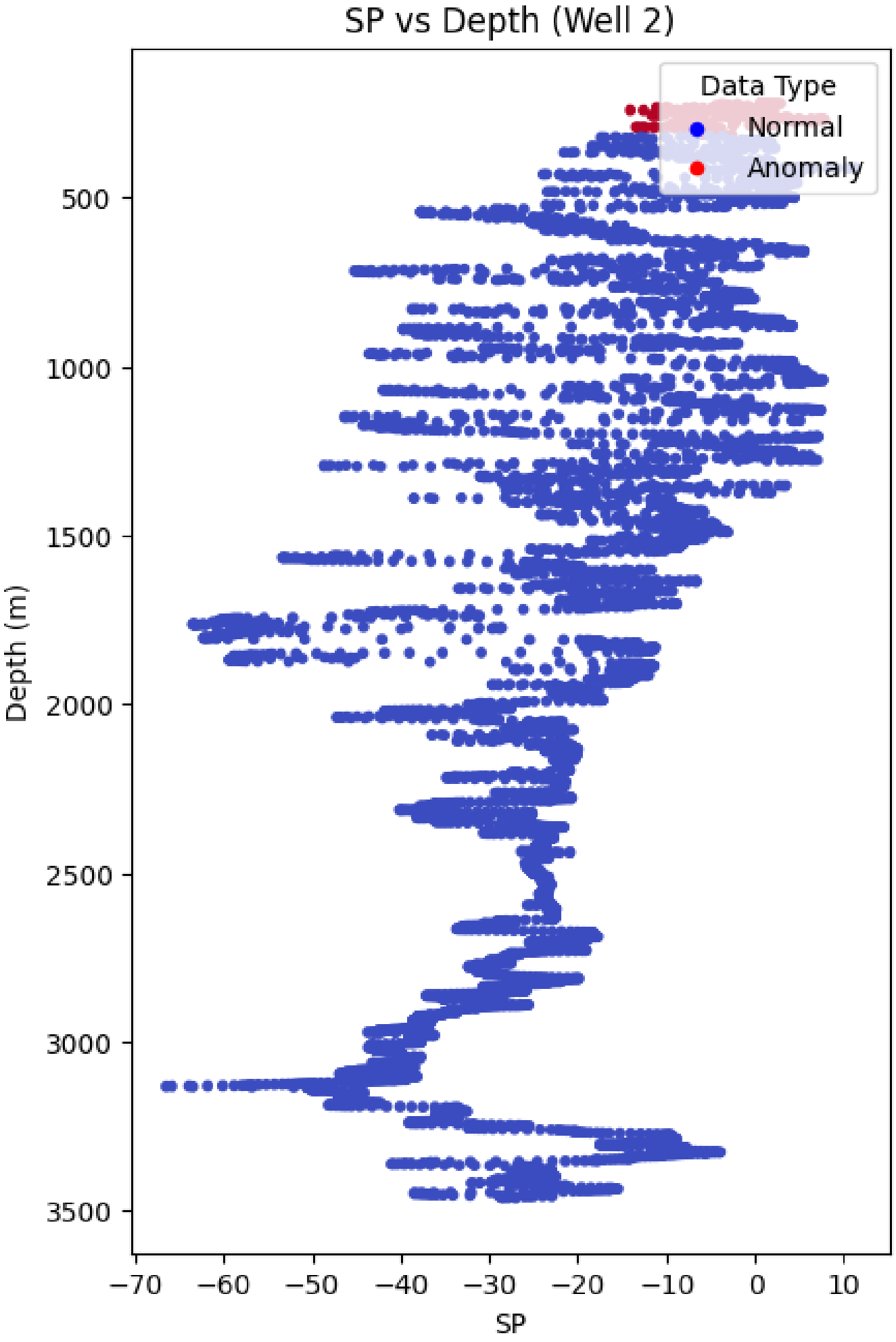
	25%	2.420000	7.920000
	50%	2.420000	8.150000
	75%	8.300000	8.250000
	max	11.140000	12.360000
DRHO	count	290.000000	6194.000000
	mean	0.167897	0.041035
	std	0.191853	0.061841
	min	-0.290000	-0.150000
	25%	0.030000	0.000000
	50%	0.120000	0.020000
	75%	0.270000	0.060000
	max	1.070000	0.500000

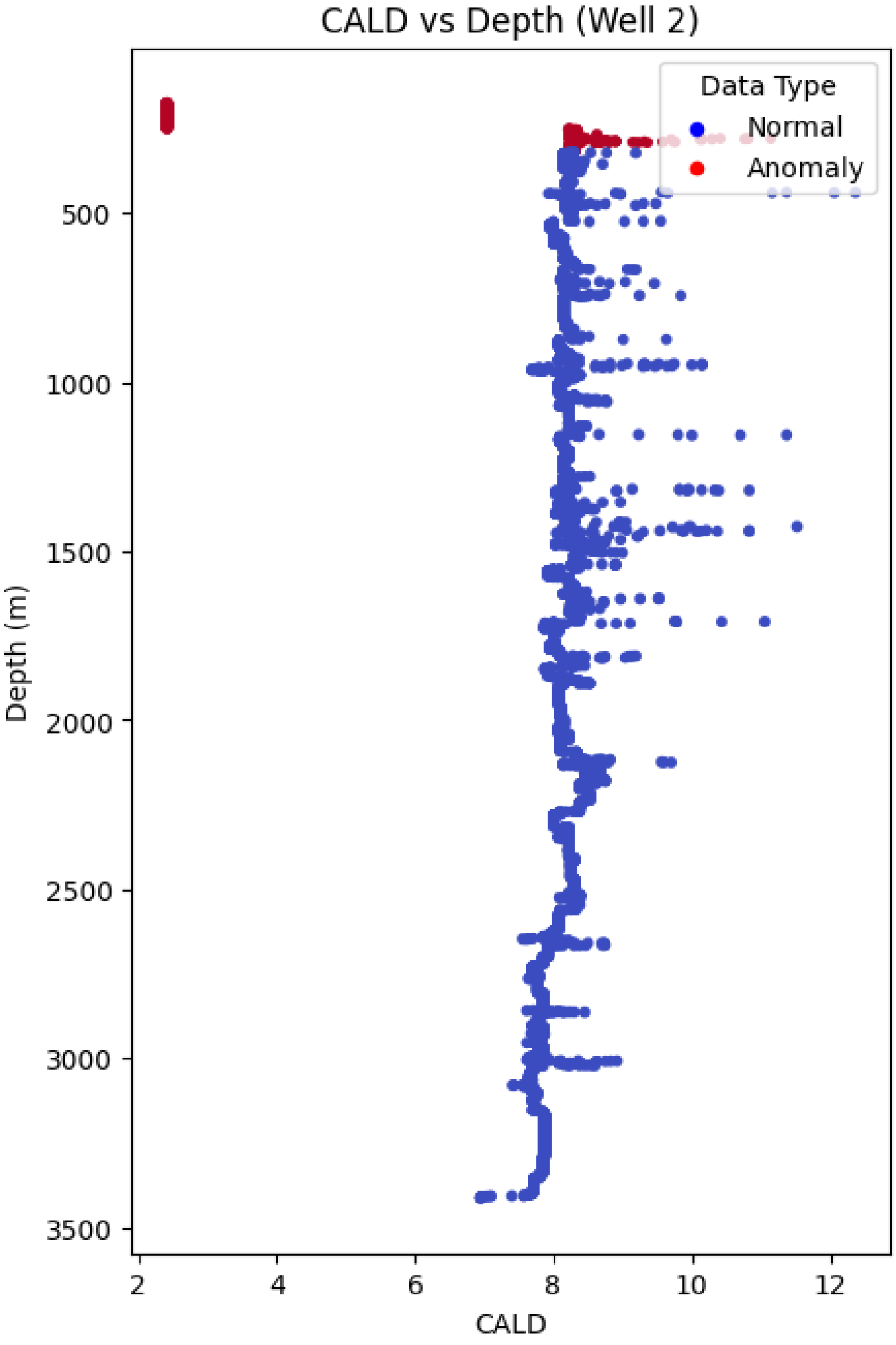

GR vs Depth (Well 2)
Data Type
Normal
Anomaly
Depth (m)
0
500
1000
1500
2000
2500
3000
3500
0
100
200
300
400
500
600
GR

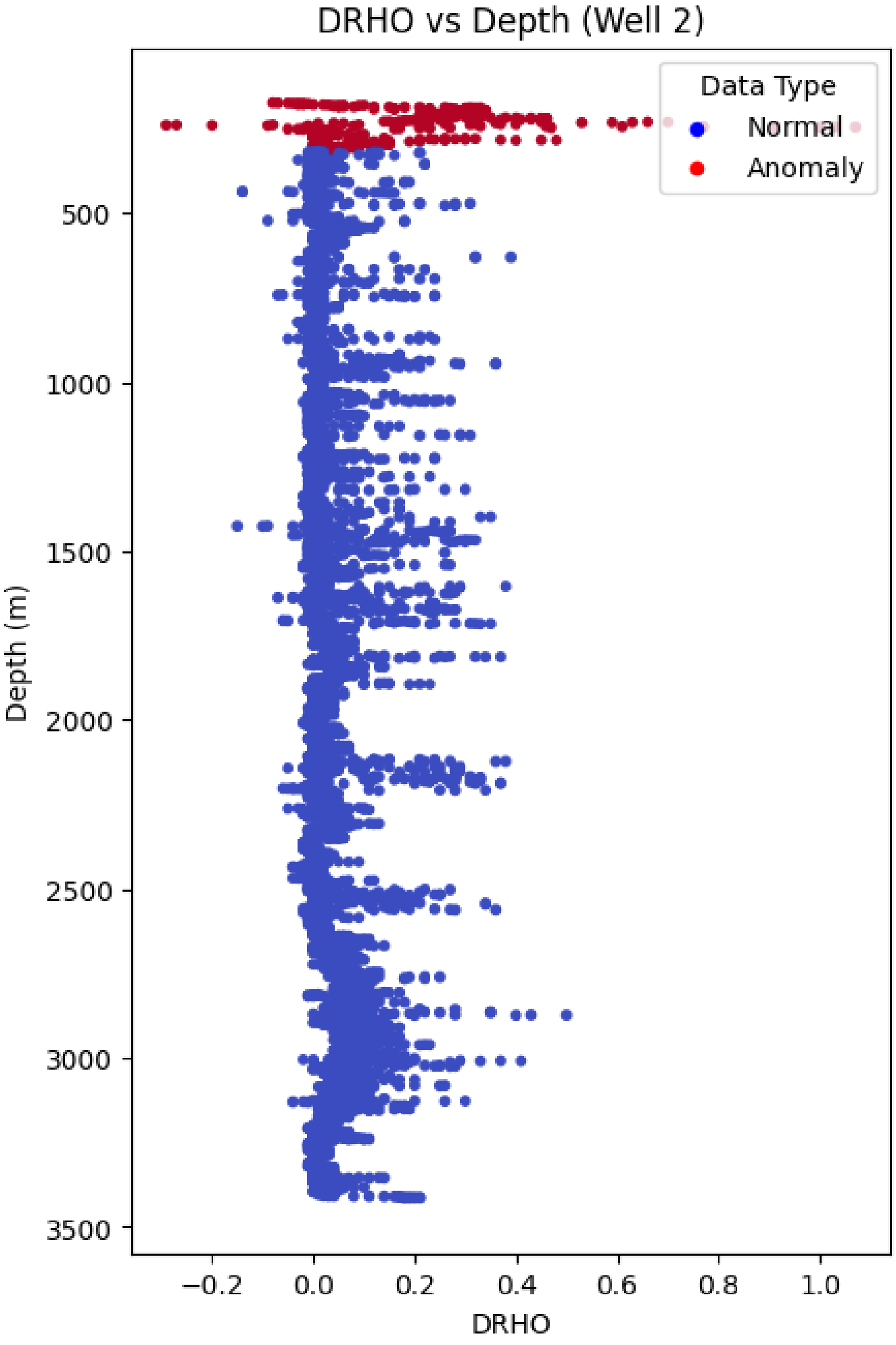

RHOB vs Depth (Well 2)
Data Type
Normal
Anomaly
Depth (m)
500
1000
1500
2000
2500
3000
3500
1.25
1.50
1.75
2.00
2.25
2.50
2.75
3.00
RHOB


DT vs Depth (Well 2)
Data Type
Normal
Anomaly
Depth (m)
500
1000
1500
2000
2500
3000
3500
0
50
100
150
200
250
300
DT


ILD vs Depth (Well 2)
Data Type
Normal
Anomaly
Depth (m)
500
1000
1500
2000
2500
3000
3500
0
2000
4000
6000
8000
10000
ILD


SP vs Depth (Well 2)
Data Type
Normal
Anomaly
Depth (m)
500
1000
1500
2000
2500
3000
3500
−70
−60
−50
−40
−30
−20
−10
0
10
SP


CALD vs Depth (Well 2)
Data Type
Normal
Anomaly
Depth (m)
500
1000
1500
2000
2500
3000
3500
2
4
6
8
10
12
CALD


DRHO vs Depth (Well 2)
Data Type
Normal
Anomaly
Depth (m)
500
1000
1500
2000
2500
3000
3500
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
DRHO

Anomaly Detection Report - Well 3

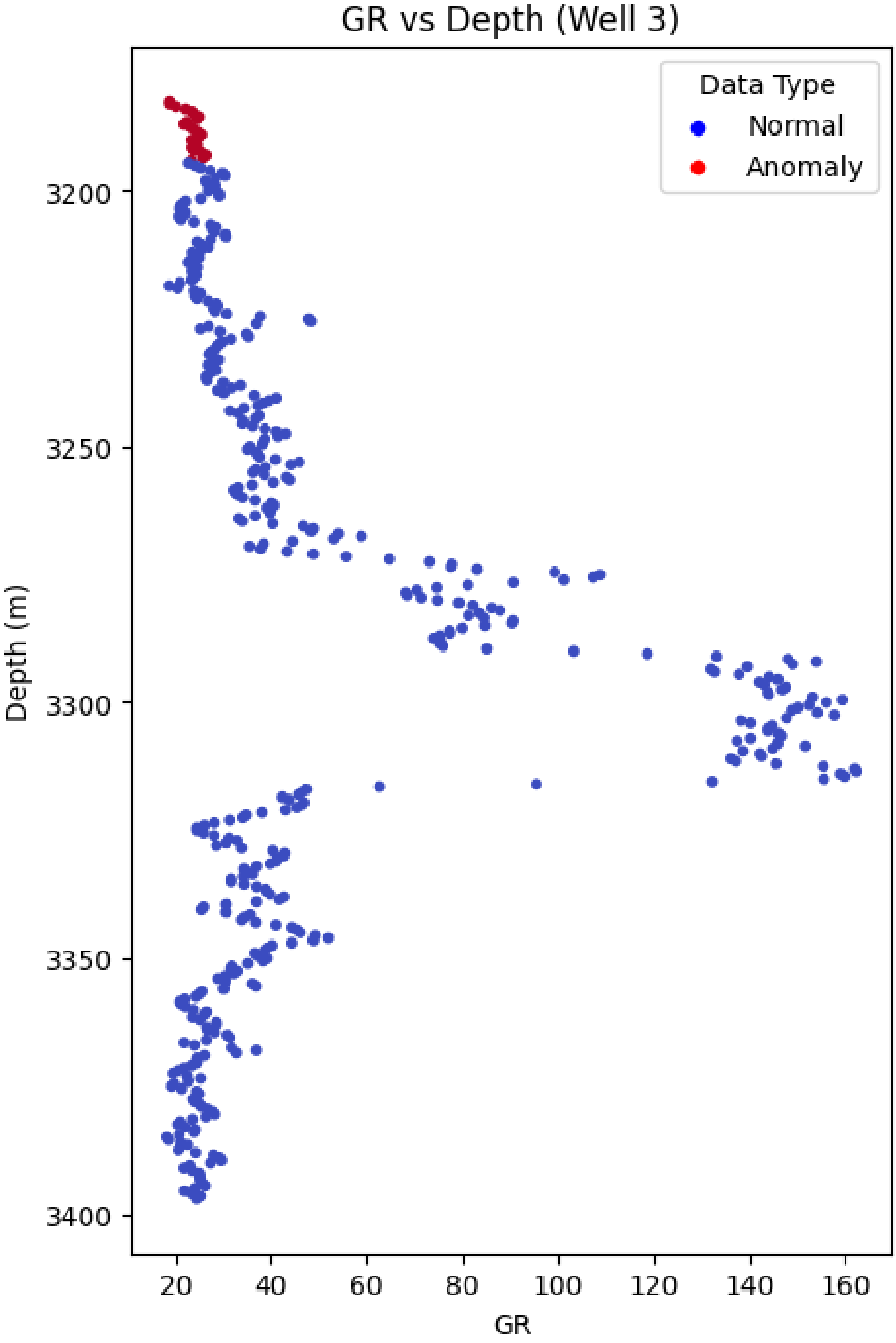
Total Data Points: 567

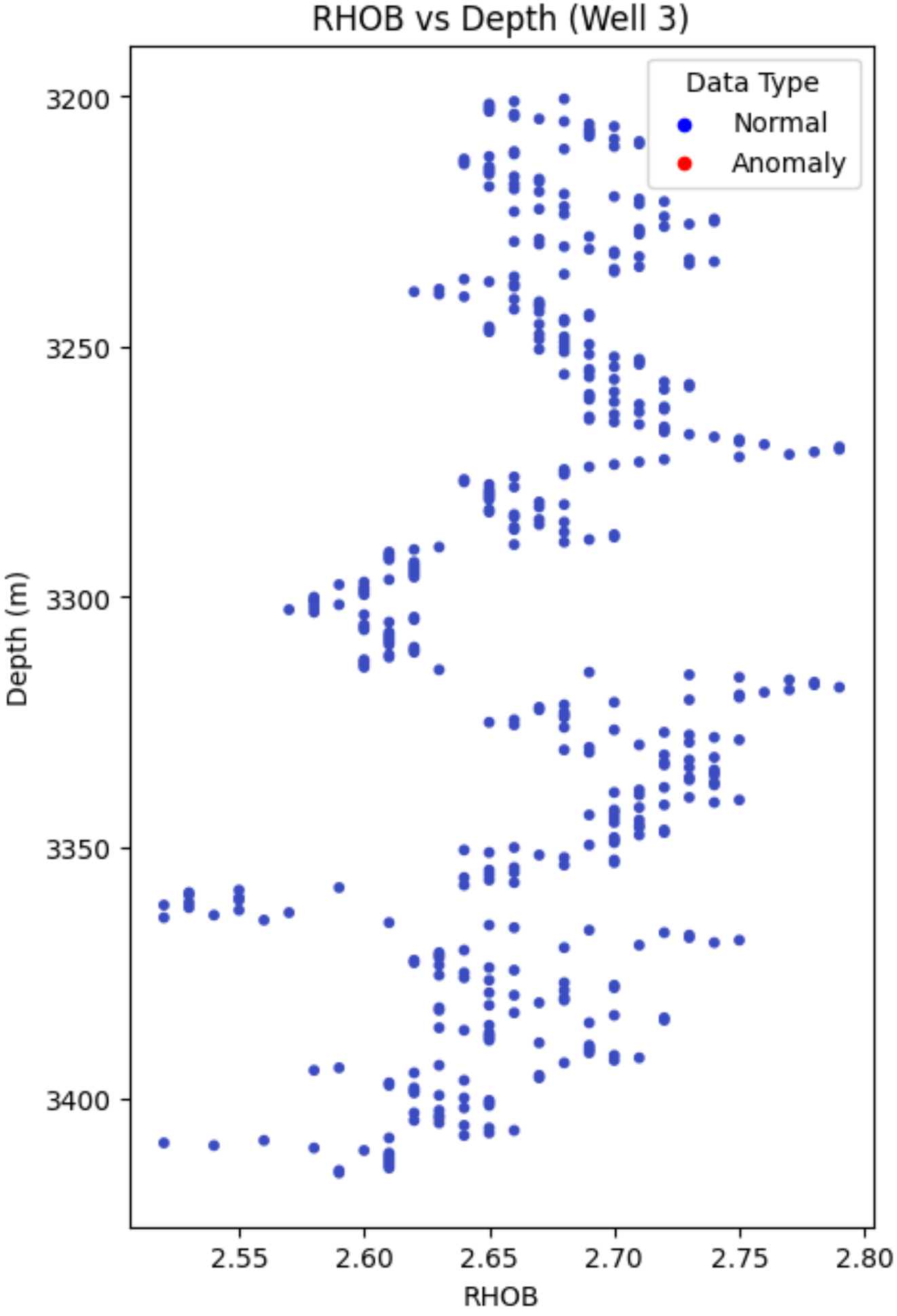
Detected Anomalies: 29 (5.11%)

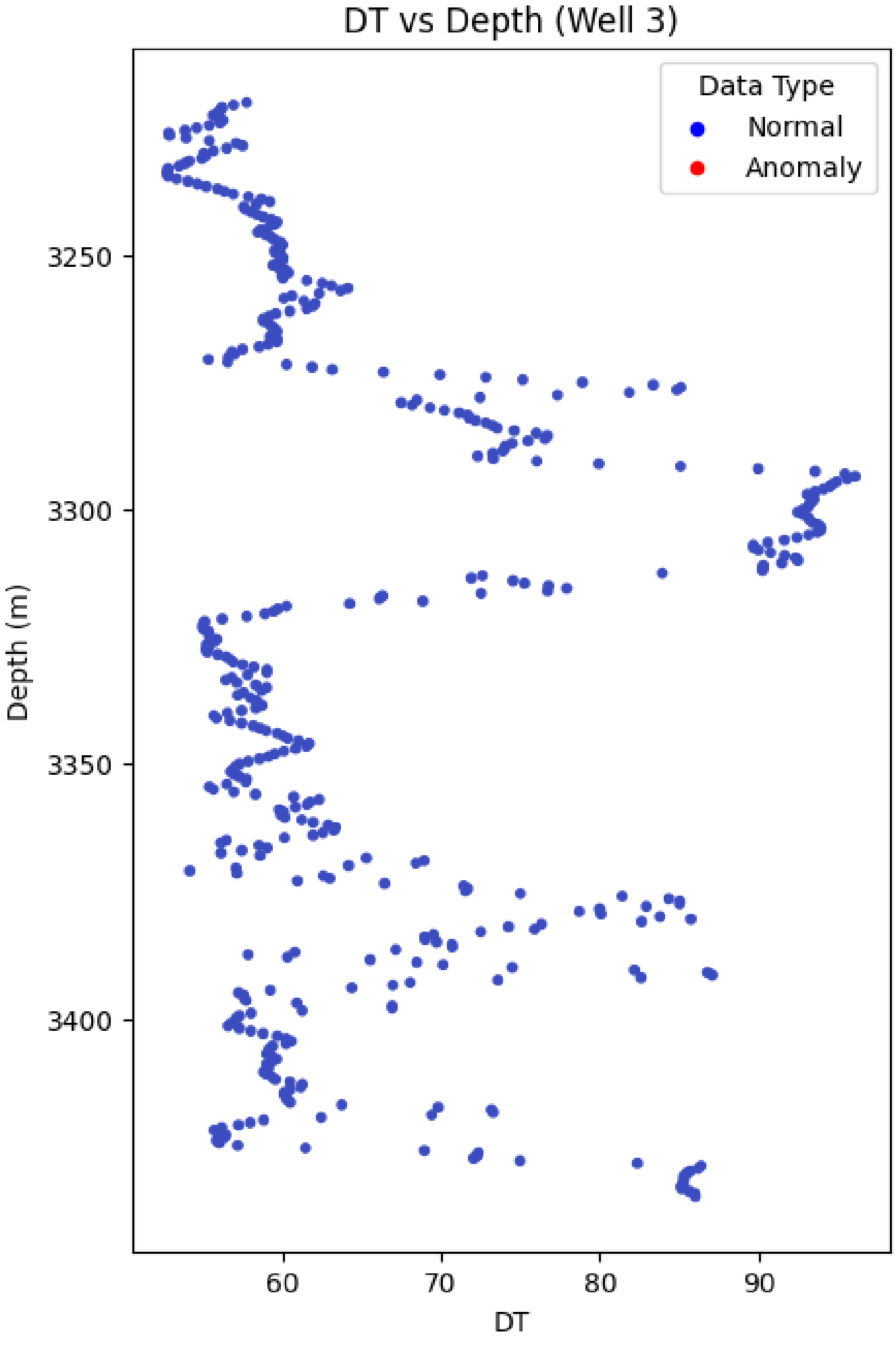
Feature-wise Statistics (Normal vs Anomalous):

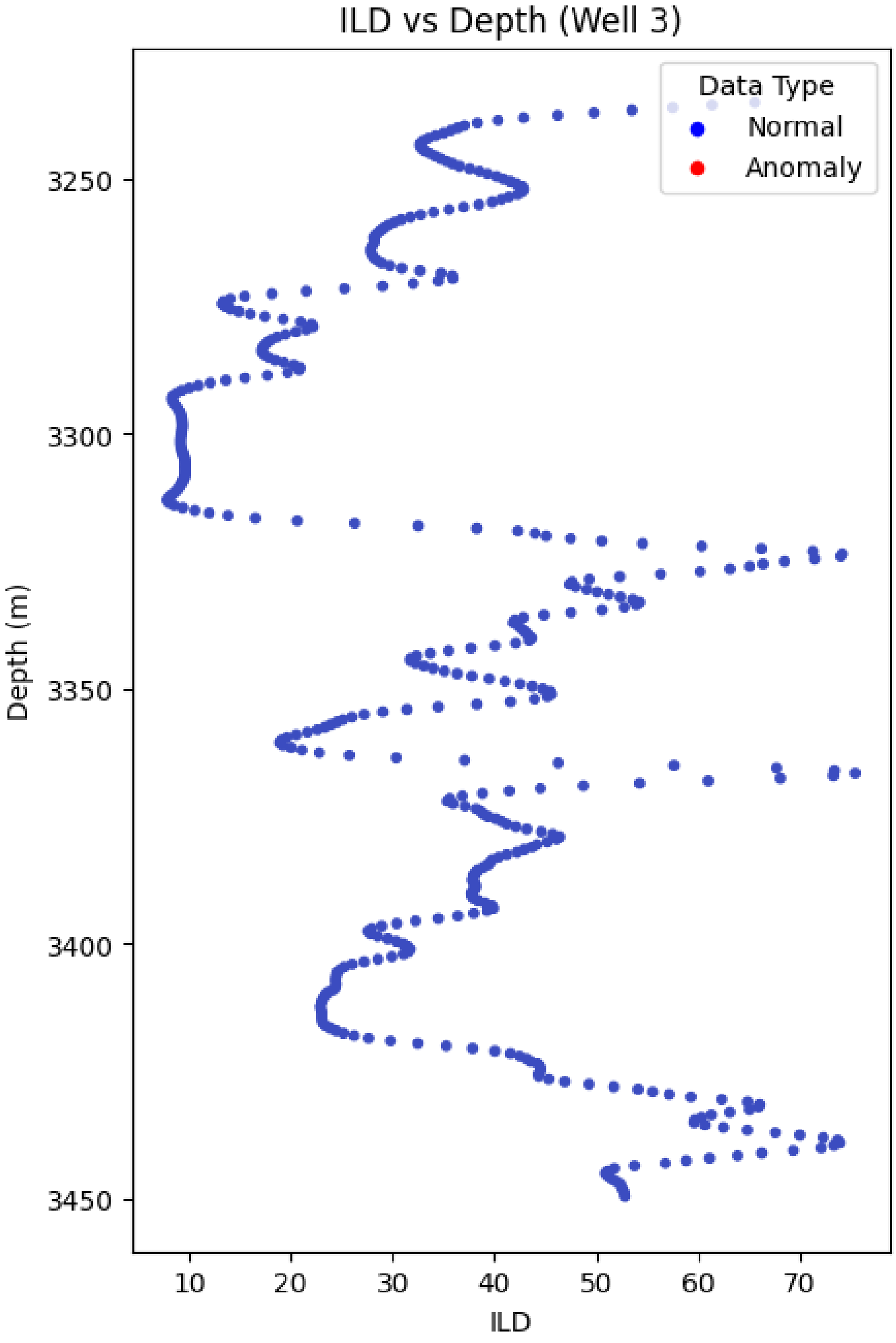
ANOMALY		Anomaly	Normal
GR	count	24.000000	406.000000
	mean	23.432083	50.620493
	std	2.015378	39.947697
	min	18.650000	18.070000
	25%	22.945000	26.012500
	50%	23.820000	34.015000
	75%	24.717500	47.747500
	max	26.370000	162.330000
RHOB	count	0.000000	430.000000
	mean	NaN	2.666953
	std	NaN	0.050750
	min	NaN	2.520000
	25%	NaN	2.630000
	50%	NaN	2.670000
	75%	NaN	2.700000
	max	NaN	2.790000
DT	count	0.000000	431.000000
	mean	NaN	66.307610
	std	NaN	12.032302
	min	NaN	52.780000
	25%	NaN	57.670000
	50%	NaN	60.190000
	75%	NaN	73.015000
	max	NaN	96.070000
ILD	count	0.000000	430.000000
	mean	NaN	35.080698
	std	NaN	16.602672
	min	NaN	7.860000
	25%	NaN	23.062500
	50%	NaN	35.415000
	75%	NaN	44.422500
	max	NaN	75.420000
SP	count	0.000000	431.000000
	mean	NaN	-8.579791
	std	NaN	20.221279
	min	NaN	-40.550000
	25%	NaN	-27.040000
	50%	NaN	-12.140000
	75%	NaN	10.690000
	max	NaN	40.840000
CALD	count	0.000000	430.000000
	mean	NaN	7.707000
	std	NaN	0.183575
	min	NaN	6.720000

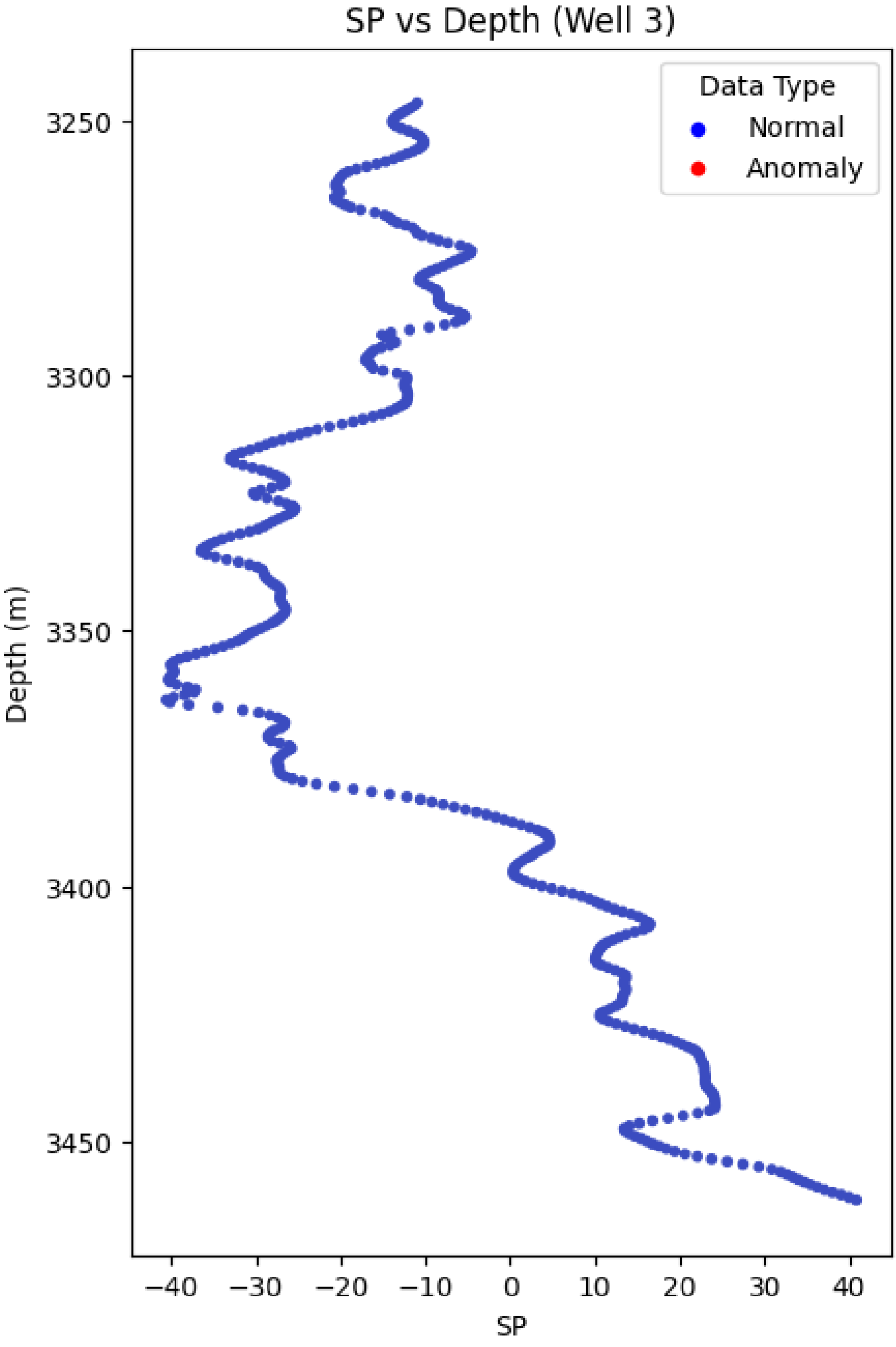
	25%	NaN	7.650000
	50%	NaN	7.770000
	75%	NaN	7.800000
	max	NaN	7.800000
DRHO	count	0.000000	430.000000
	mean	NaN	0.028233
	std	NaN	0.039539
	min	NaN	-0.010000
	25%	NaN	0.010000
	50%	NaN	0.020000
	75%	NaN	0.030000
	max	NaN	0.230000

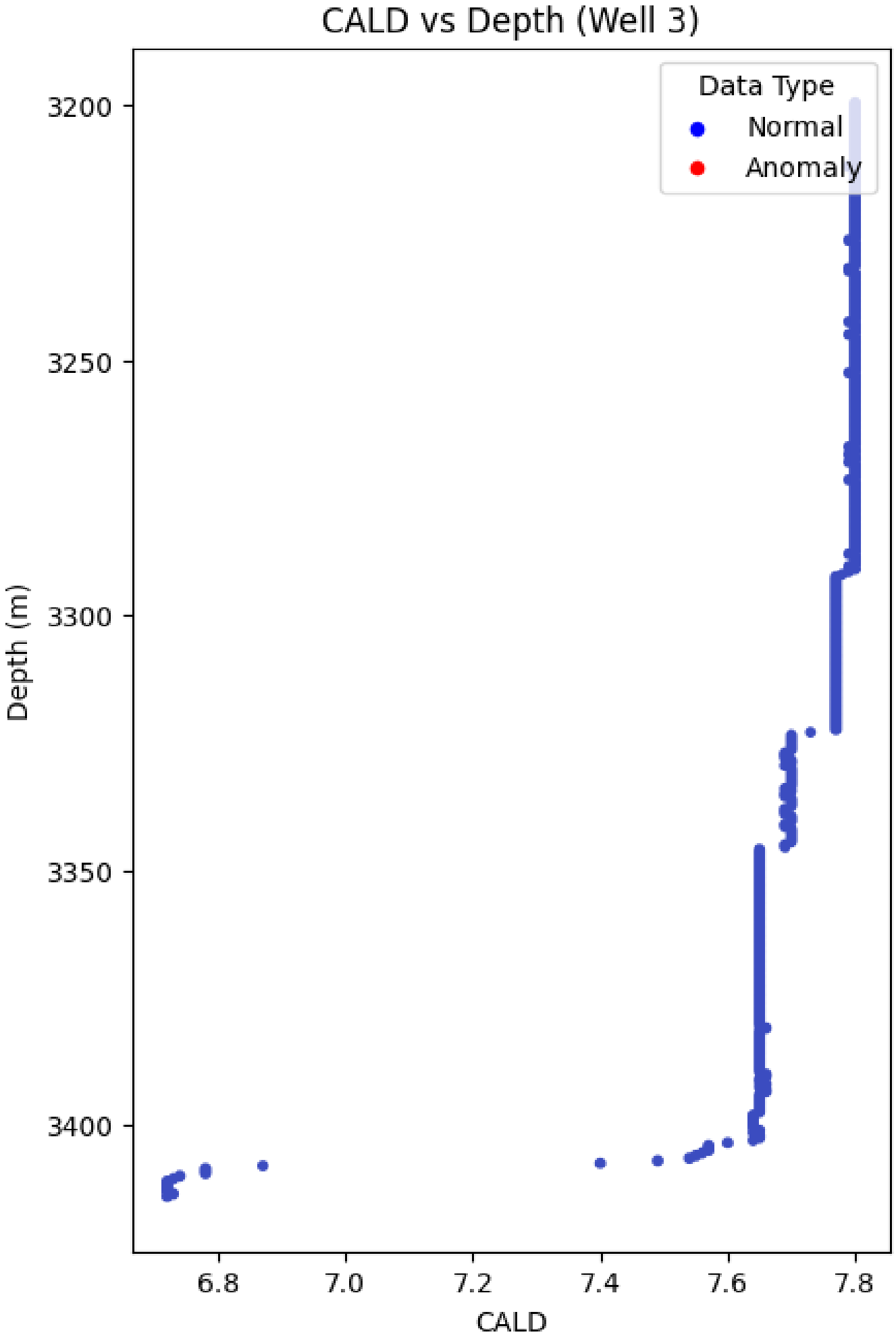

GR vs Depth (Well 3)
Data Type
Normal
Anomaly
Depth (m)
3200
3250
3300
3350
3400
20
40
60
80
100
120
140
160
GR

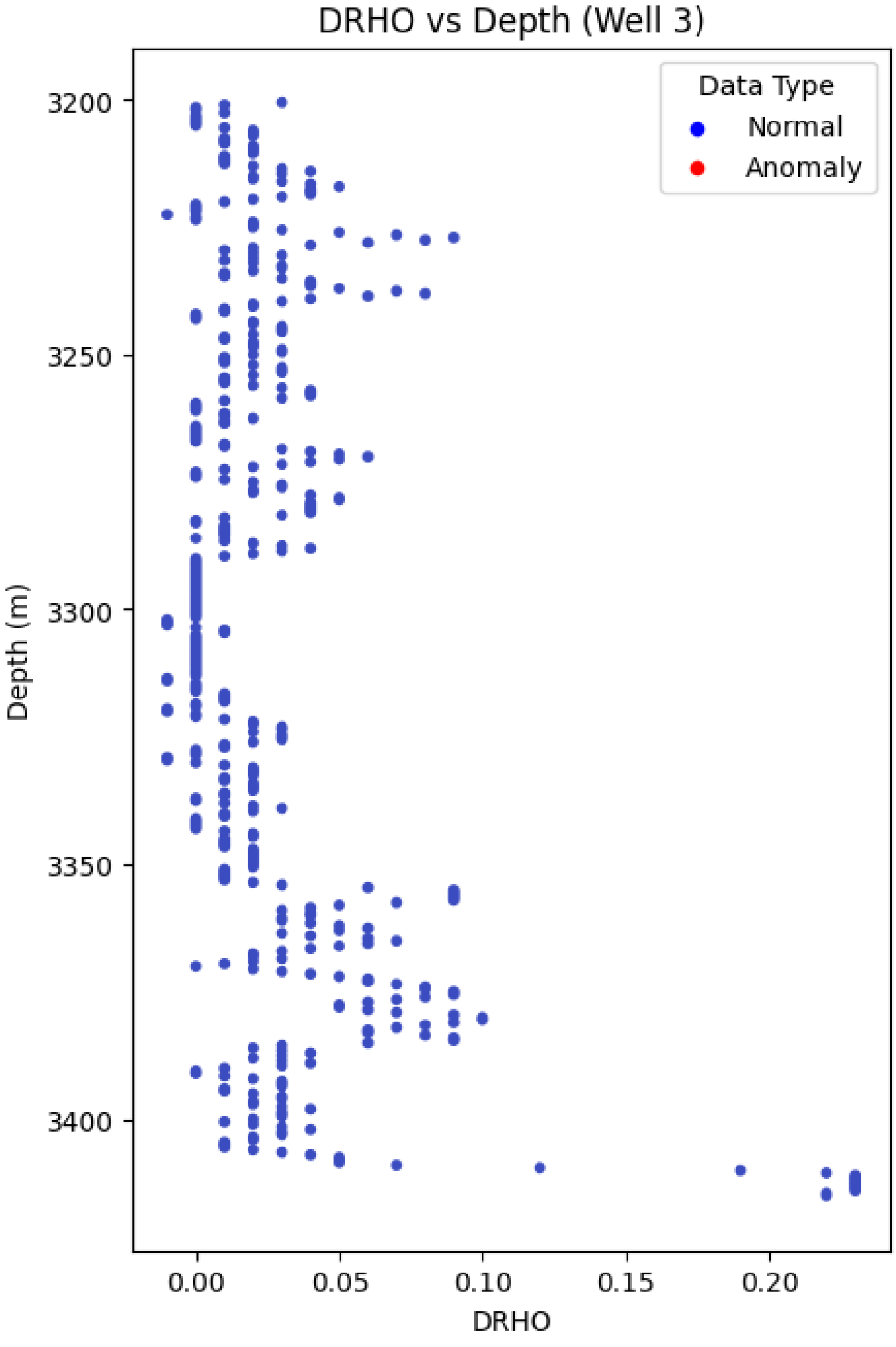

RHOB vs Depth (Well 3)
Data Type
Normal
Anomaly
Depth (m)
3200
3250
3300
3350
3400
2.55
2.60
2.65
2.70
2.75
2.80
RHOB


DT vs Depth (Well 3)
Data Type
Normal
Anomaly
3250
3300
3350
3400
Depth (m)
60
70
80
90
DT


ILD vs Depth (Well 3)
Data Type
Normal
Anomaly
Depth (m)
3250
3300
3350
3400
3450
10
20
30
40
50
60
70
ILD


SP vs Depth (Well 3)
Data Type
Normal
Anomaly
Depth (m)
3250
3300
3350
3400
3450
−40
−30
−20
−10
0
10
20
30
40
SP


CALD vs Depth (Well 3)
Data Type
Normal
Anomaly
Depth (m)
3200
3250
3300
3350
3400
6.8
7.0
7.2
7.4
7.6
7.8
CALD


DRHO vs Depth (Well 3)
Data Type
Normal
Anomaly
Depth (m)
3200
3250
3300
3350
3400
0.00
0.05
0.10
0.15
0.20
DRHO

Anomaly Detection Report - Well 4

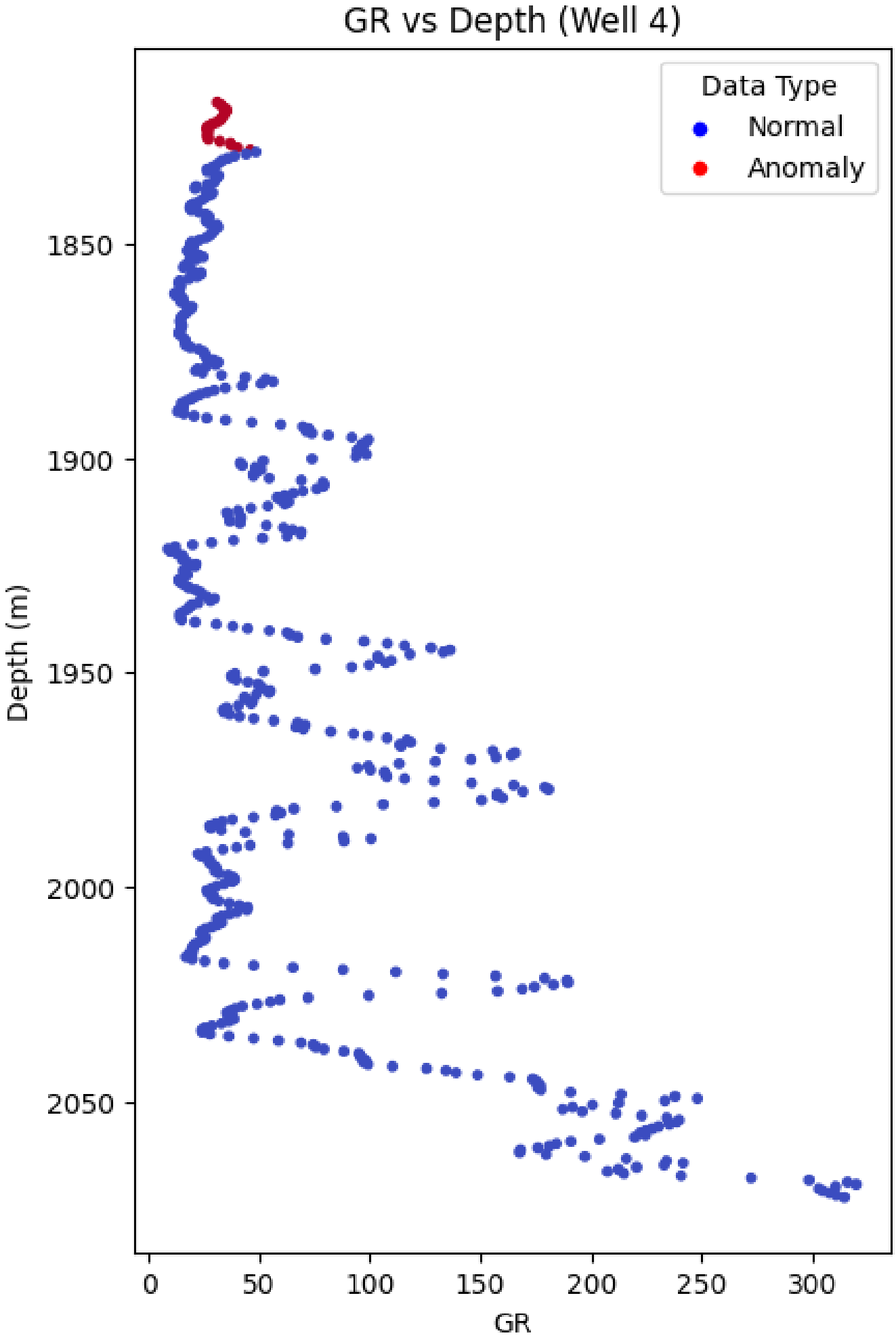
Total Data Points: 565

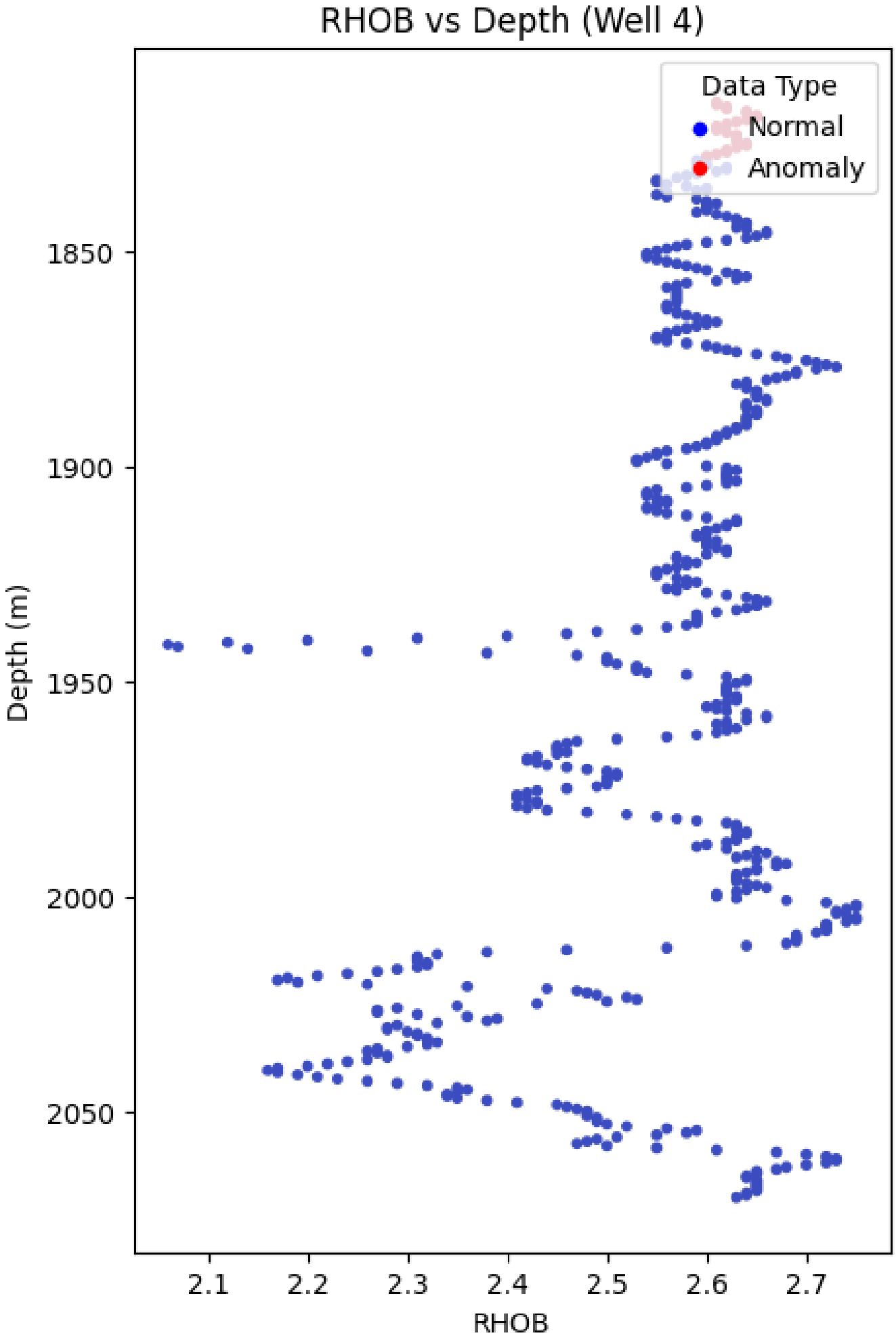
Detected Anomalies: 29 (5.13%)

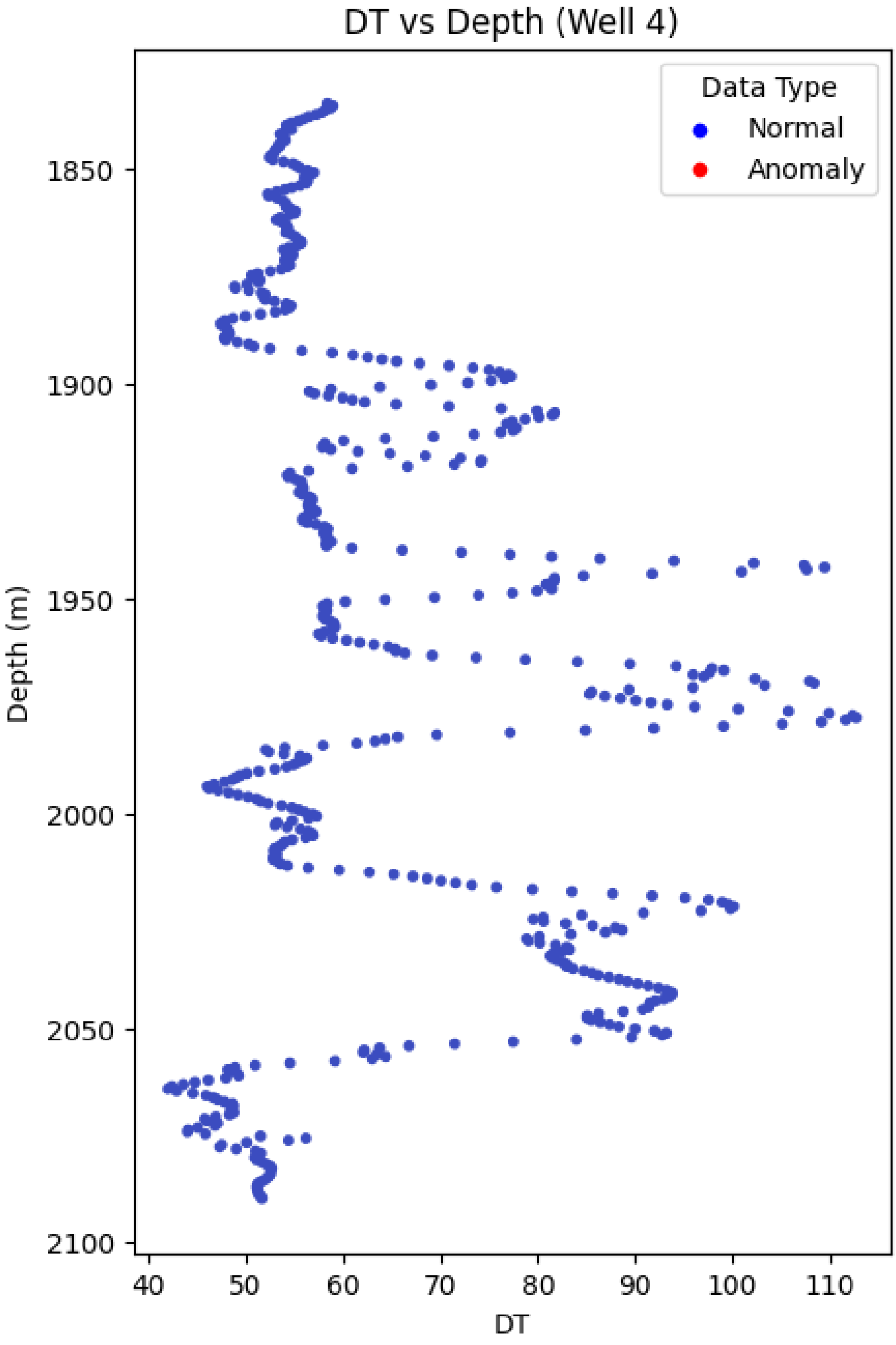
Feature-wise Statistics (Normal vs Anomalous):

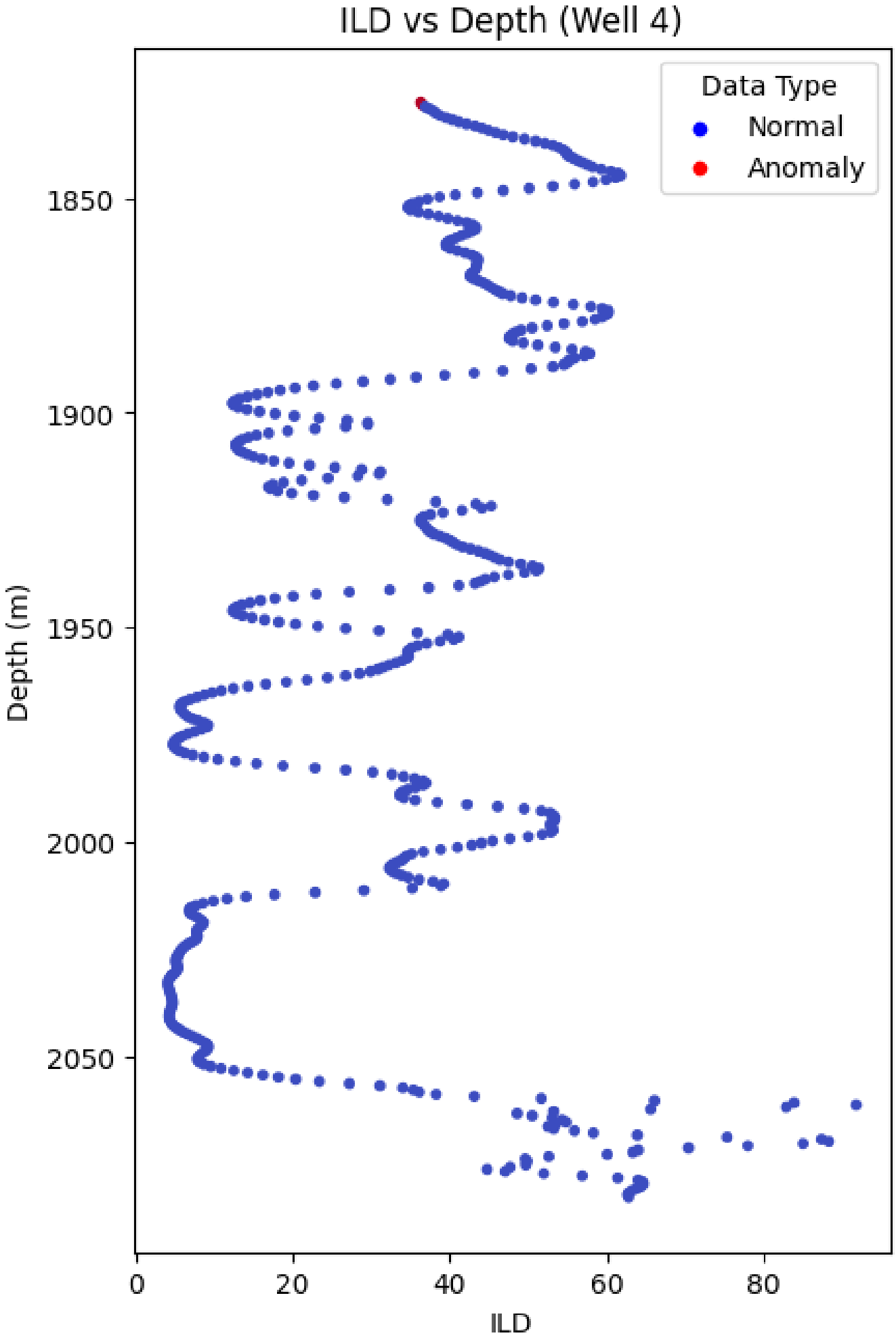
ANOMALY		Anomaly	Normal
GR	count	23.000000	488.000000
	mean	32.297826	72.051783
	std	5.030939	69.093553
	min	26.200000	8.810000
	25%	27.185000	24.642500
	50%	32.690000	40.550000
	75%	34.725000	97.990000
	max	46.020000	319.750000
RHOB	count	27.000000	483.000000
	mean	2.624444	2.545673
	std	0.014233	0.132523
	min	2.600000	2.060000
	25%	2.610000	2.500000
	50%	2.620000	2.590000
	75%	2.635000	2.630000
	max	2.650000	2.750000
DT	count	0.000000	511.000000
	mean	NaN	64.937025
	std	NaN	16.571683
	min	NaN	42.020000
	25%	NaN	53.195000
	50%	NaN	57.070000
	75%	NaN	77.650000
	max	NaN	112.720000
ILD	count	2.000000	509.000000
	mean	36.415000	32.489528
	std	0.120208	19.399420
	min	36.330000	4.130000
	25%	36.372500	13.090000
	50%	36.415000	35.530000
	75%	36.457500	47.070000
	max	36.500000	91.750000
SP	count	0.000000	511.000000
	mean	NaN	428.676086
	std	NaN	20.160505
	min	NaN	385.270000
	25%	NaN	409.135000
	50%	NaN	435.850000
	75%	NaN	445.390000
	max	NaN	452.650000
CALD	count	29.000000	481.000000
	mean	8.421724	8.390894
	std	0.036846	0.076780
	min	8.350000	8.170000

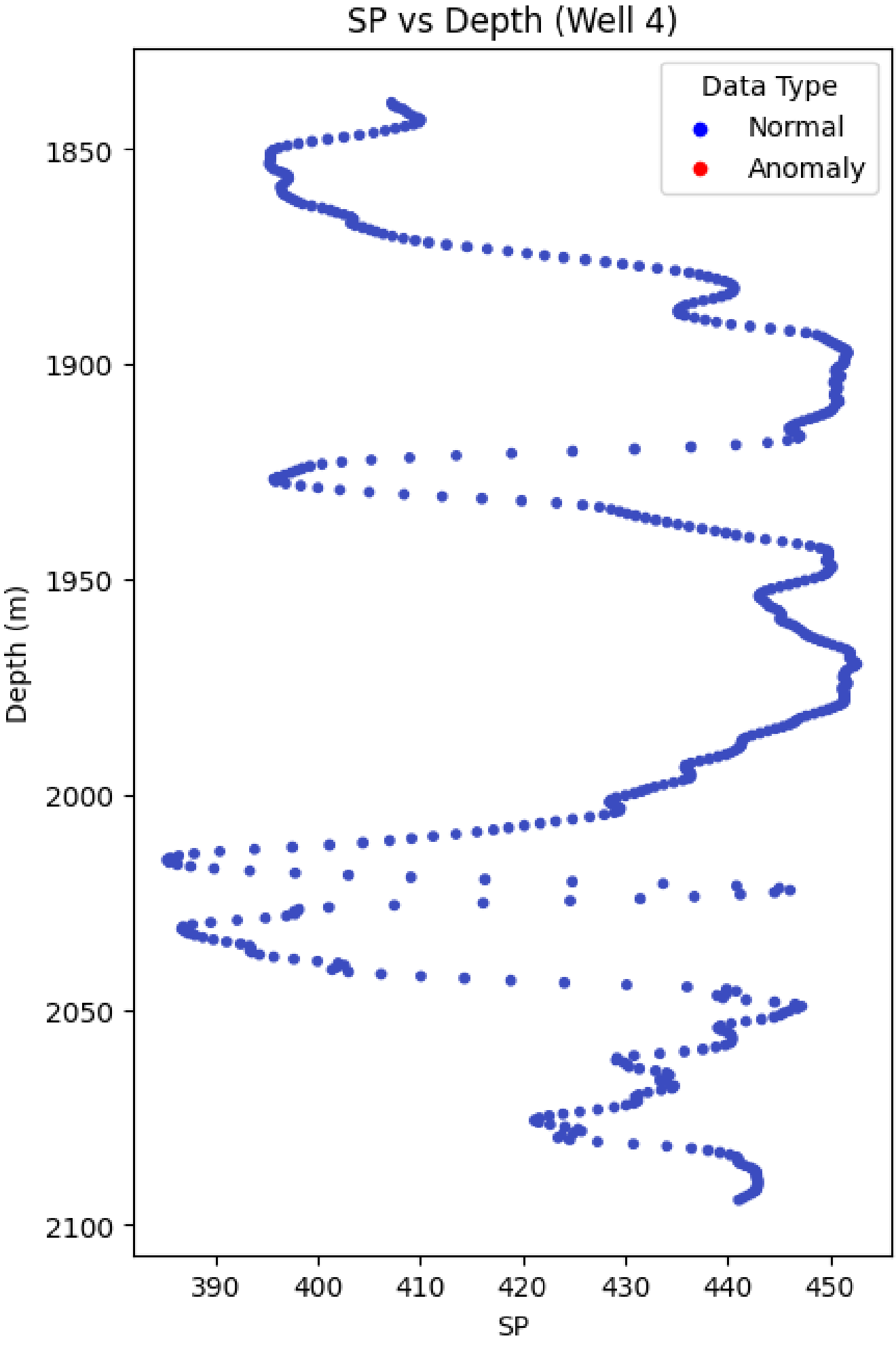
	25%	8.430000	8.350000
	50%	8.440000	8.440000
	75%	8.440000	8.440000
	max	8.450000	8.540000
DRHO	count	27.000000	483.000000
	mean	-0.001481	0.017888
	std	0.011995	0.021093
	min	-0.020000	-0.030000
	25%	-0.010000	0.000000
	50%	0.000000	0.010000
	75%	0.010000	0.030000
	max	0.020000	0.100000

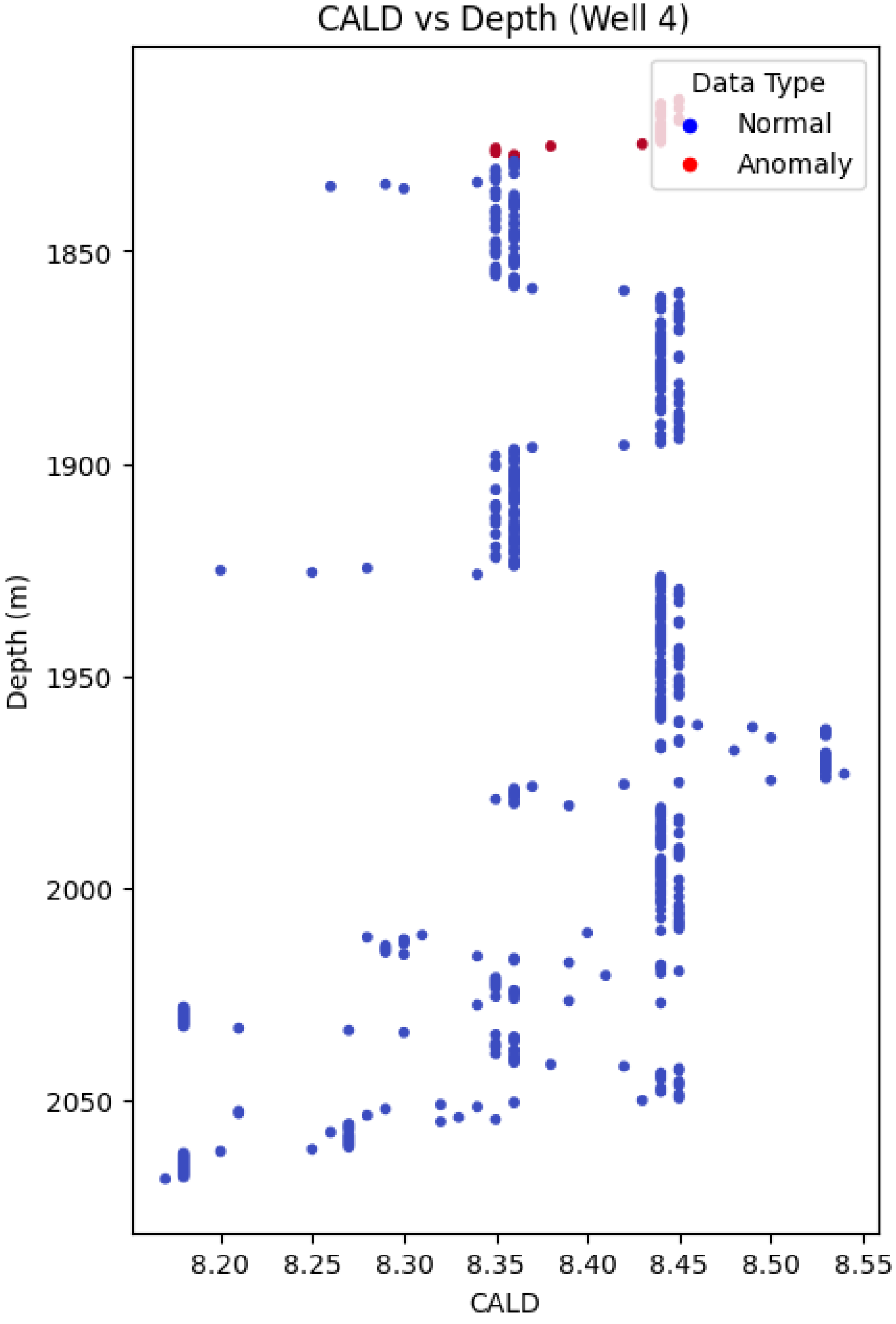

GR vs Depth (Well 4)
Data Type
Normal
Anomaly
Depth (m)
1850
1900
1950
2000
2050
0
50
100
150
200
250
300
GR

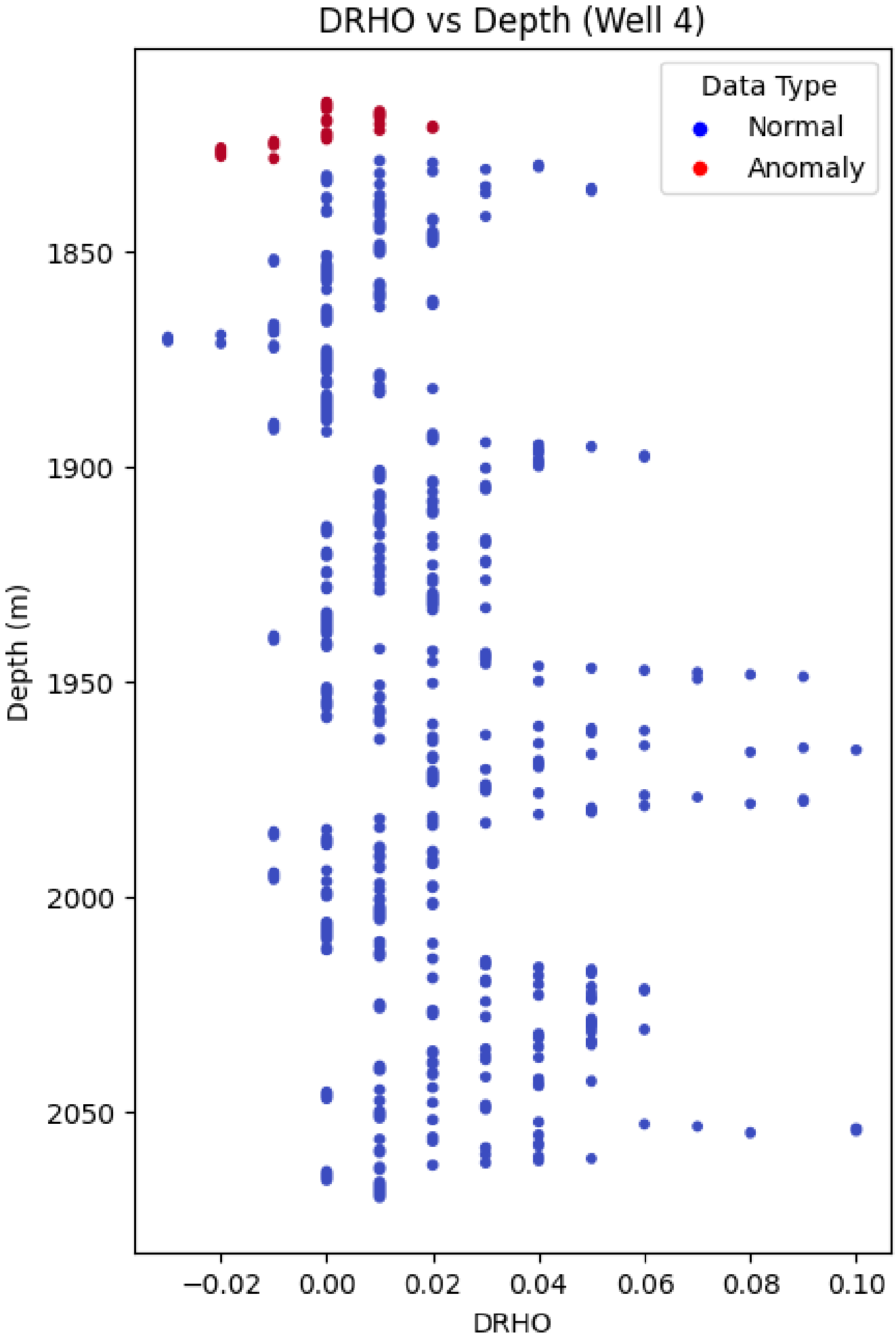

RHOB vs Depth (Well 4)
Data Type
Normal
Anomaly
Depth (m)
1850
1900
1950
2000
2050
2.1
2.2
2.3
2.4
2.5
2.6
2.7
RHOB


DT vs Depth (Well 4)
Data Type
Normal
Anomaly
Depth (m)
1850
1900
1950
2000
2050
2100
40
50
60
70
80
90
100
110
DT


ILD vs Depth (Well 4)
Data Type
Normal
Anomaly
Depth (m)
1850
1900
1950
2000
2050
0
20
40
60
80
ILD


SP vs Depth (Well 4)
Data Type
Normal
Anomaly
Depth (m)
1850
1900
1950
2000
2050
2100
390
400
410
420
430
440
450
SP


CALD vs Depth (Well 4)
Data Type
Normal
Anomaly
Depth (m)
1850
1900
1950
2000
2050
8.20
8.25
8.30
8.35
8.40
8.45
8.50
8.55
CALD


DRHO vs Depth (Well 4)
Data Type
Normal
Anomaly
Depth (m)
1850
1900
1950
2000
2050
−0.02
0.00
0.02
0.04
0.06
0.08
0.10
DRHO