SPEE Denver Chapter October 8, 2025, Luncheon Meeting. Speaker: Mr. Phil Kandel will be speaking on

How to Calculate Your RBL Borrowing Base

Abstract.: The introduction will focus on the context for Bank Engineers duties and roles in the reserves-based loan process and being an employee of the Bank. The heart of the presentation will walk through the data required and the process of evaluation undertaken by the Bank Engineer, including the timeline for the process. Finally, after the individual inputs are discussed, the final amount of the Borrowing Base or Loan Amount will be calculated. With some input from your specific bank, the evaluator will be able to estimate, for their particular company, the loan amount before setting foot through your bank's doors.

Speaker Bio.: After graduating with a Bachelor of Applied Science degree in Geological Engineering from the University of Toronto, **Phil Kandel** spent the first few years of his career as an open pit Mining Engineer with Syncrude Canada Ltd in the Tar Sands of Northern Canada at Fort McMurray Alberta in the late 1970's. He later joined AMOCO Canada and began his career as a Petroleum Engineer in the Pembina Field near Drayton Valley Alberta. He specialized in Reserves Evaluations beginning with the Royal Bank of Canada in Calgary Alberta and Denver CO in the early-to-mid 1980's. He continued as a Reserves Engineer with junior and intermediate sized oil and gas companies and a natural gas pipeline company until the early 1990's. Later, he spent a dozen years as a consultant reserves engineer with both Sproule Associates and AJM Petroleum Consultants in Calgary before returning to Denver to join the oil and gas division of Wells Fargo Bank in 2007. Phil retired after almost 14 years with Wells Fargo approximately five years ago and has presented at the SPEE annual meeting in Halifax in 2015 and Hilton Head in 2025. He is a lifetime member of SPE, holds a PE in Colorado, Texas and Alberta and has been a member of the SPEE since 1998. He served as Membership Coordinator for the Calgary Chapter of the SPEE from 2001 to 2007 and Chairman of the Qualifications Committee of the national SPEE from 2012-2014.

HOW TO CALCULATE YOUR RBL BORROWING BASE

WHAT DO BANK ENGINEERS REALLY DO?

Phil Kandel, PE, P.Eng.

Topics

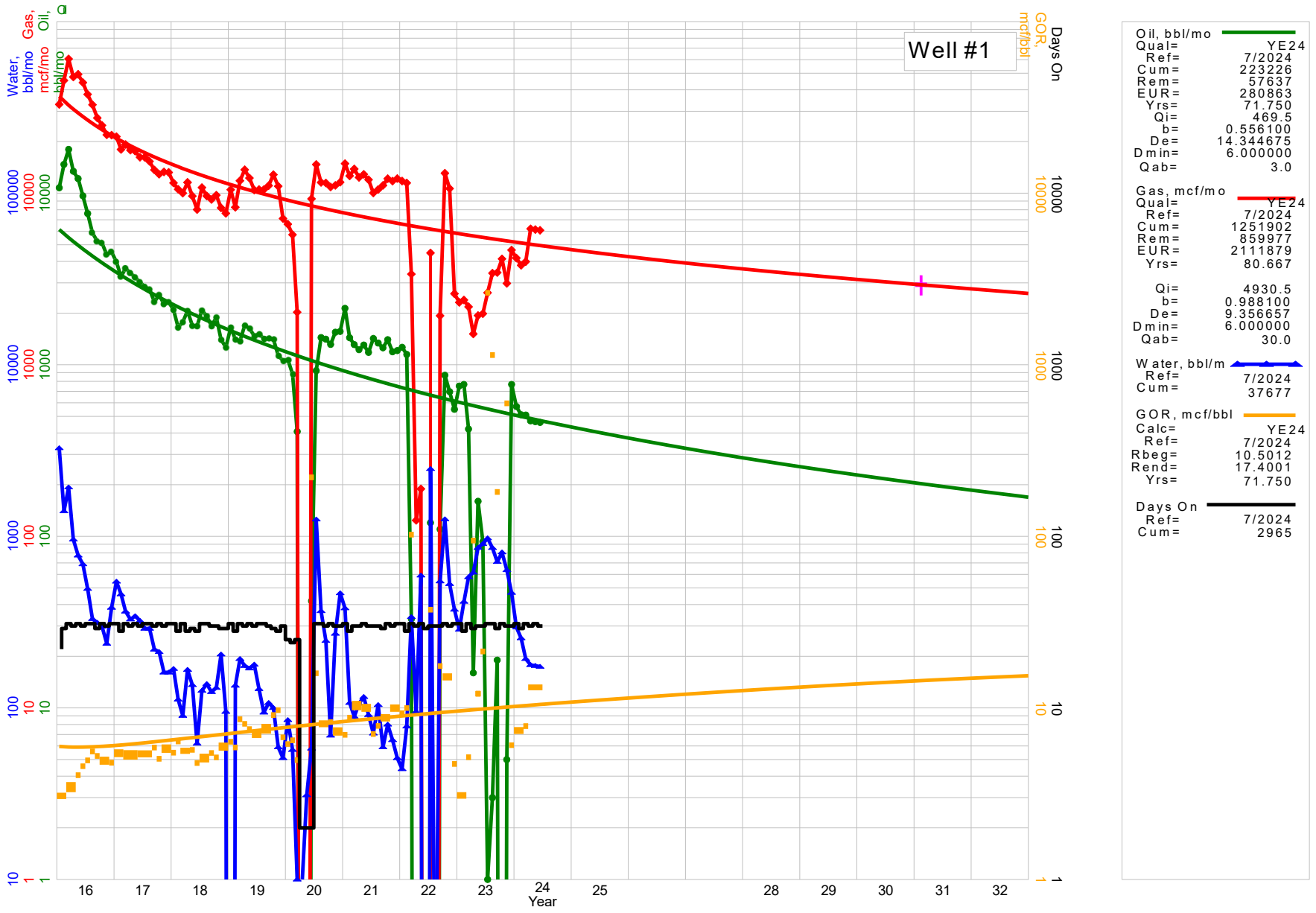
- Introduction
- Reserve Forecasts
- Production Forecasts
- LOS
  - Actual Commodity Prices Received and Differentials
  - Opex
  - Historical Production
- Hedges
- BB Calculation
- Summary

INTRODUCTION

- Small (<$2-5 million) vs. Large Loans (>$5 million)
- Information Required:
    - ARIES/PHDWin (most common) Database
    - PDP, PDNP, PUD and Total Proved Outputs
    - One-Line Summaries (optional)
    - 12 months of LOS (ideal; at least minimum for new company; reconciliation to forecast in database if large variance used in evaluation)
    - Commodity contract details
    - Hedging Information (actual) or Assumptions (usually set by Banker/Company)
    - Bank Price Deck
- Match Run
- Timeline

April 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 BANKER AND ENGINEERS MEETING: Engineer begins analysis; Banker begins analysis	2	3 BANK ENGINEER PROVIDES REPORT	4	5
6	7	8 LOAN DOCUMENTS SUBMITTED TO FIRST LEVEL CREDIT SUPERVISOR	9	10 FIRST LEVEL INTERNAL APPROVAL BY LEAD BANK	11	12
13	14 SECOND LEVEL INTERNAL APPROVAL BY LEAD BANK	15	16 FINAL INTERNAL APPROVALS BY LEAD BANK	17	18 RESPONSE FROM SYNDICATE BANKS REQUIRED	19
20	21 ALLOTMENTS TO SYNDICATE BANKING GROUP	22 LOAN CLOSE AND FUNDING	23	24	25	26
27	28	29	30			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Oil, bbl/mo
Gas, mcf/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
Oil, bbl/mo
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Ref= 7/2024
Cum= 223226
Rem= 57637
EUR= 280863
Yrs= 71.750
Qi= 469.5
b= 0.556100
De= 14.344675
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 1251902
Rem= 859977
EUR= 2111879
Yrs= 80.667
Qi= 4930.5
b= 0.988100
De= 9.356657
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 37677
GOR, mcf/bbl
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Yrs= 71.750
Days On
Ref= 7/2024
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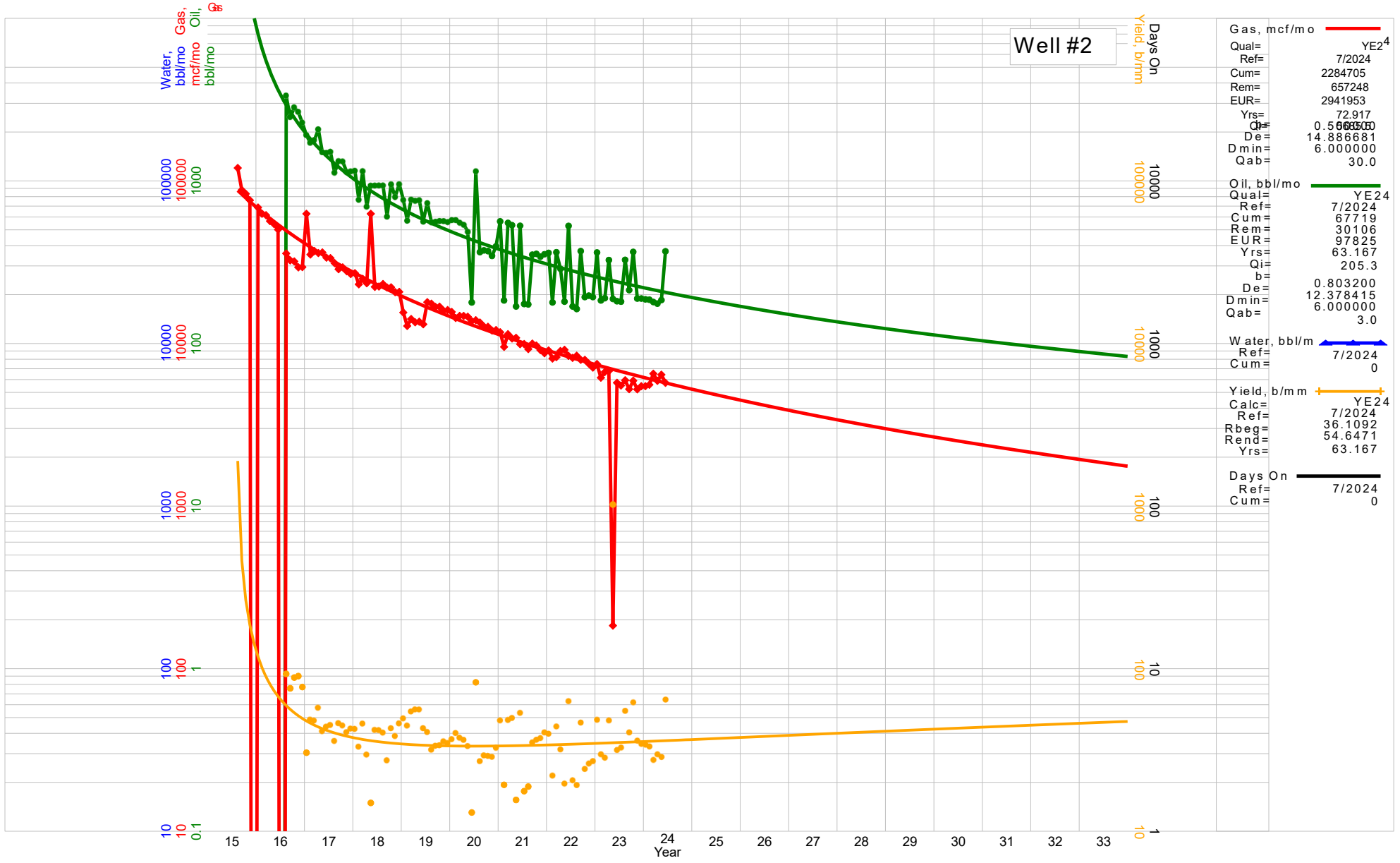
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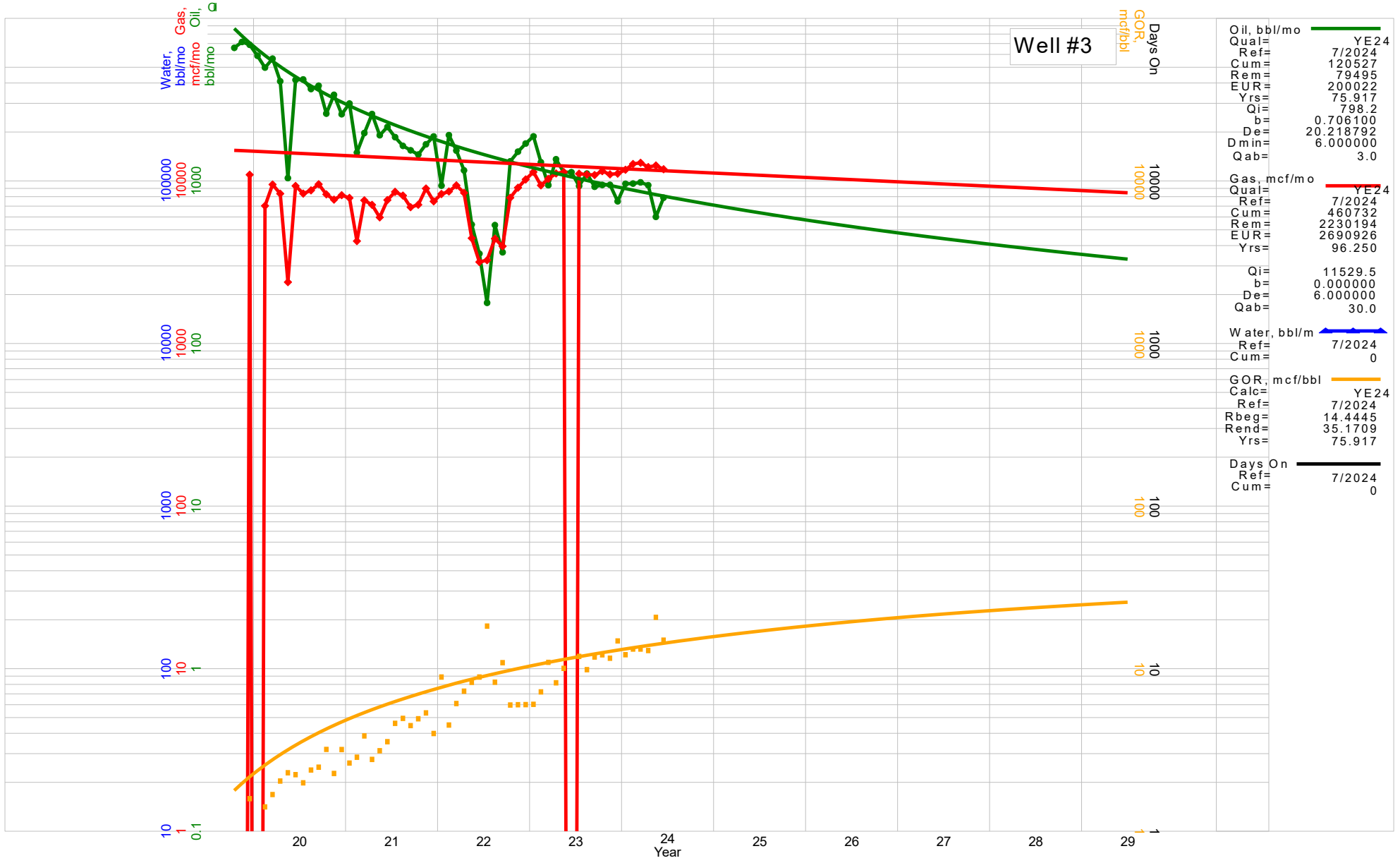
Oil, bbl/mo
Water, bbl/mo
Yield, b/mm
Days On
Year
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 2284705
Rem= 657248
EUR= 2941953
Yrs= 72.917
Qi= 0.5668550
De= 14.886681
Dmin= 6.000000
Qab= 30.0
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 67719
Rem= 30106
EUR= 97825
Yrs= 63.167
Qi= 205.3
b= 0.803200
De= 12.378415
Dmin= 6.000000
Qab= 3.0
Water, bbl/m
Ref= 7/2024
Cum= 0
Yield, b/mm
Calc= YE24
Ref= 7/2024
Rbeg= 36.1092
Rend= 54.6471
Yrs= 63.167
Days On
Ref= 7/2024
Cum= 0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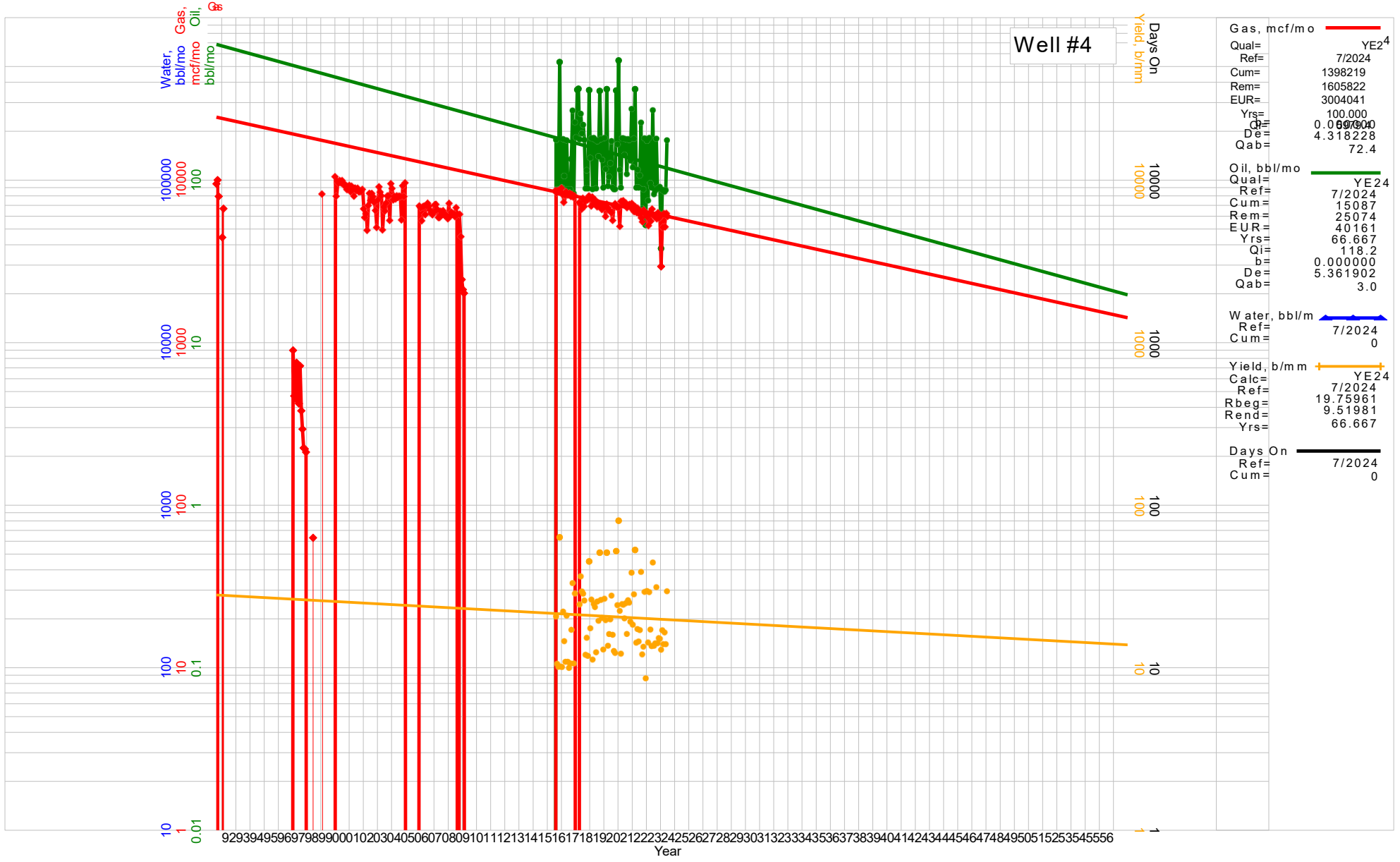
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 120527
Rem= 79495
EUR= 200022
Yrs= 75.917
Qi= 798.2
b= 0.706100
De= 20.218792
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 460732
Rem= 2230194
EUR= 2690926
Yrs= 96.250
Qi= 11529.5
b= 0.000000
De= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 14.4445
Rend= 35.1709
Yrs= 75.917
Days On
Ref= 7/2024
Cum= 0
Water, bbl/mo
Gas, mcf/mo
Oil, bbl/mo
GOR, mcf/bbl
Days On
Year
20
21
22
23
24
25
26
27
28
29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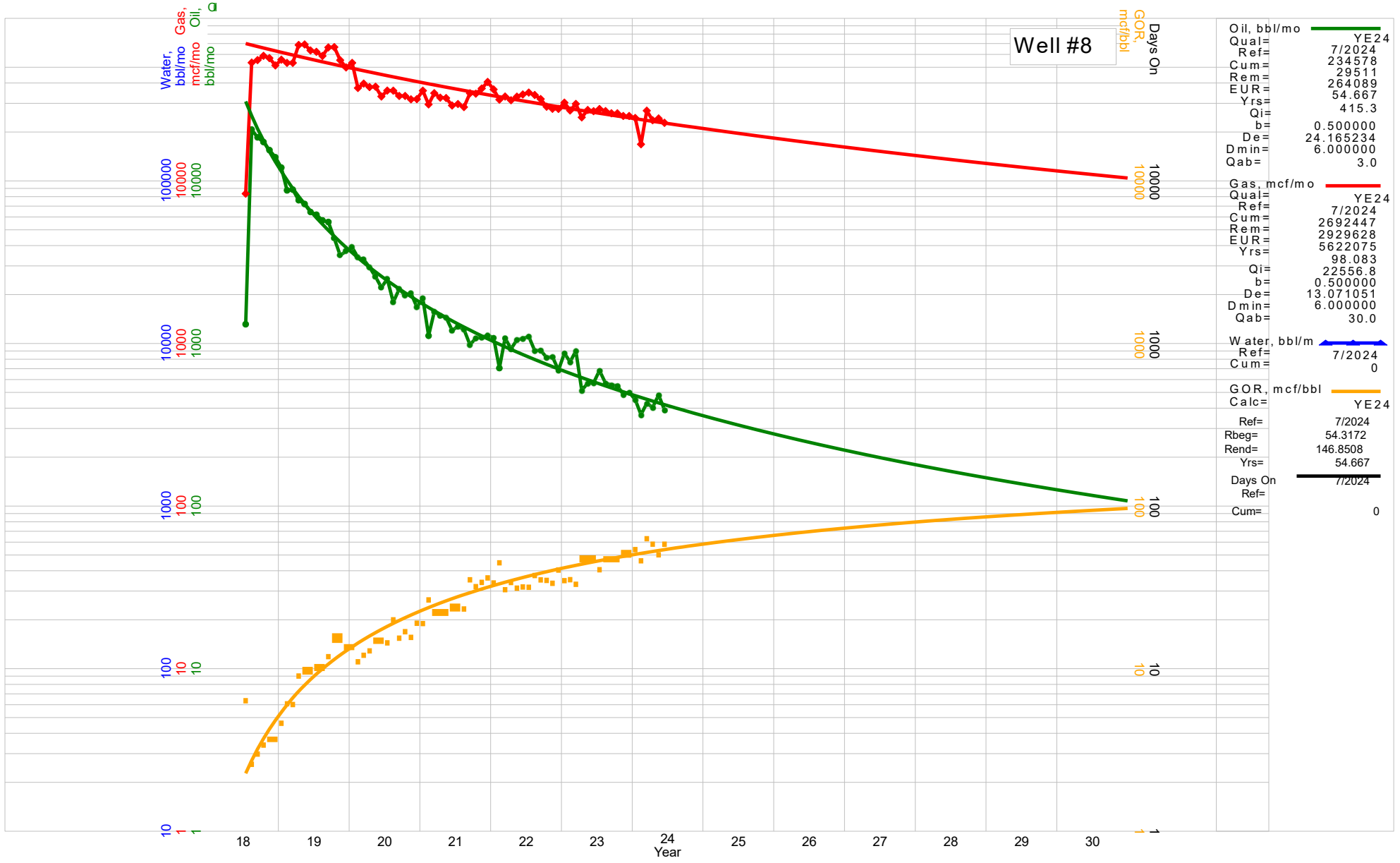
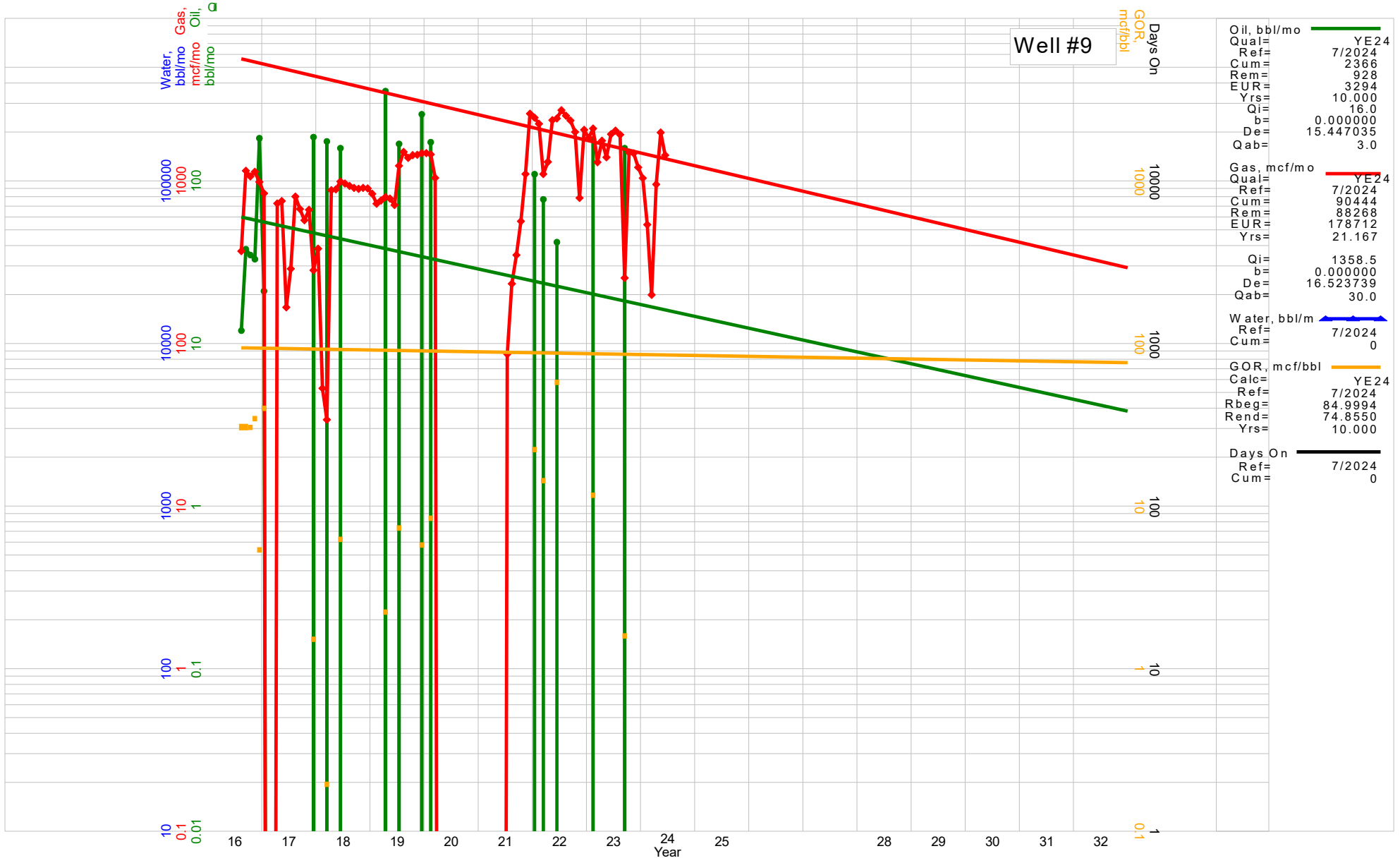
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 1398219
Rem= 1605822
EUR= 3004041
Yrs= 100.000
Qi= 697.04
De= 4.318228
Qab= 72.4
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 15087
Rem= 25074
EUR= 40161
Yrs= 66.667
Qi= 118.2
b= 0.000000
De= 5.361902
Qab= 3.0
Water, bbl/m
Ref= 7/2024
Cum= 0
Yield, b/mm
Calc= YE24
Ref= 7/2024
Rbeg= 19.75961
Rend= 9.51981
Yrs= 66.667
Days On
Ref= 7/2024
Cum= 0
Gas, Oil, Water, bbl/mo mcf/mo bbl/mo
Yield, b/mm
Days On
Year

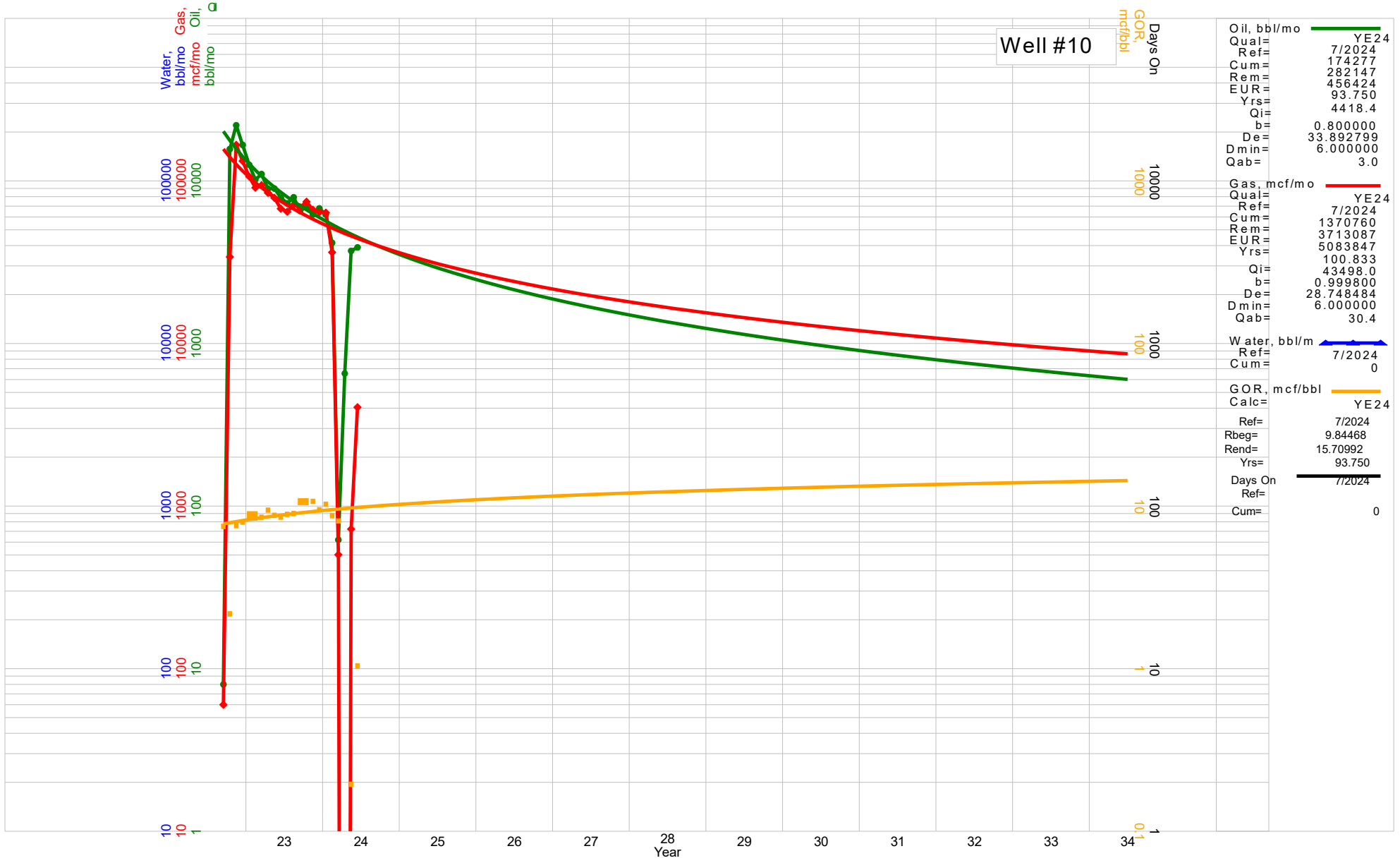

Well #5
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
18
19
20
21
22
23
24
25
26
27
28
29
30
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 266577
Rem= 23460
EUR= 290037
Yrs= 45.667
Qi= 389.5
b= 0.400000
De= 25.516146
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 3650488
Rem= 4251401
EUR= 7901889
Yrs= 105.083
Qi= 29168.7
b= 0.500000
De= 11.261492
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 74.8785
Rend= 395.1801
Yrs= 45.667
Days On
Ref= 7/2024
Cum= 0

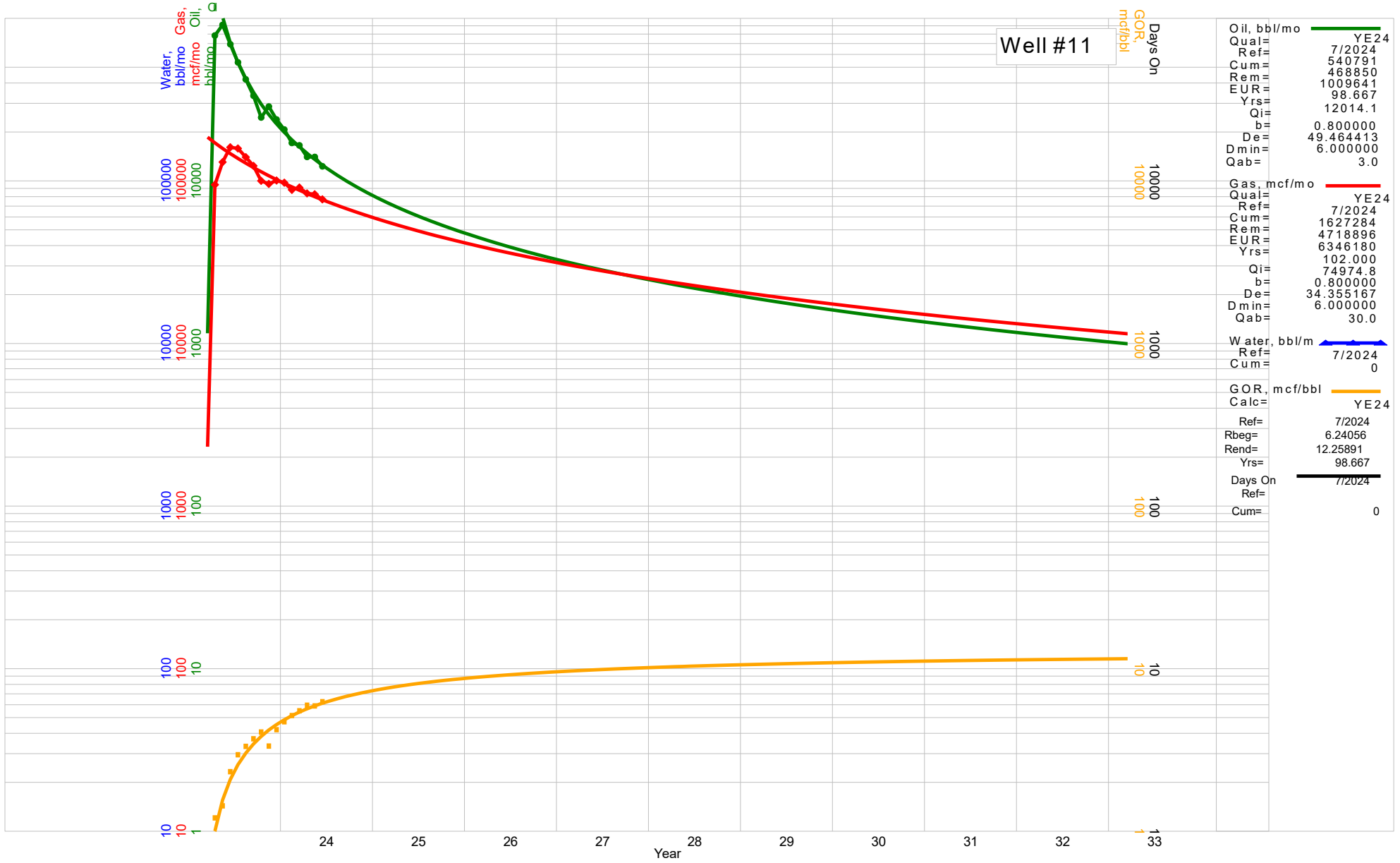

Well #6
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 103190
Rem= 79163
EUR= 182353
Yrs= 79.083
Qi= 496.5
b= 1.058000
De= 11.720513
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 994882
Rem= 1815431
EUR= 2810313
Yrs= 88.917
Qi= 9902.2
b= 0.000000
De= 6.317160
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 19.9433
Rend= 19.0048
Yrs= 79.083
Days On
Ref= 7/2024
Cum= 0
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
18
19
20
21
22
23
24
25
26
27
28
29
30

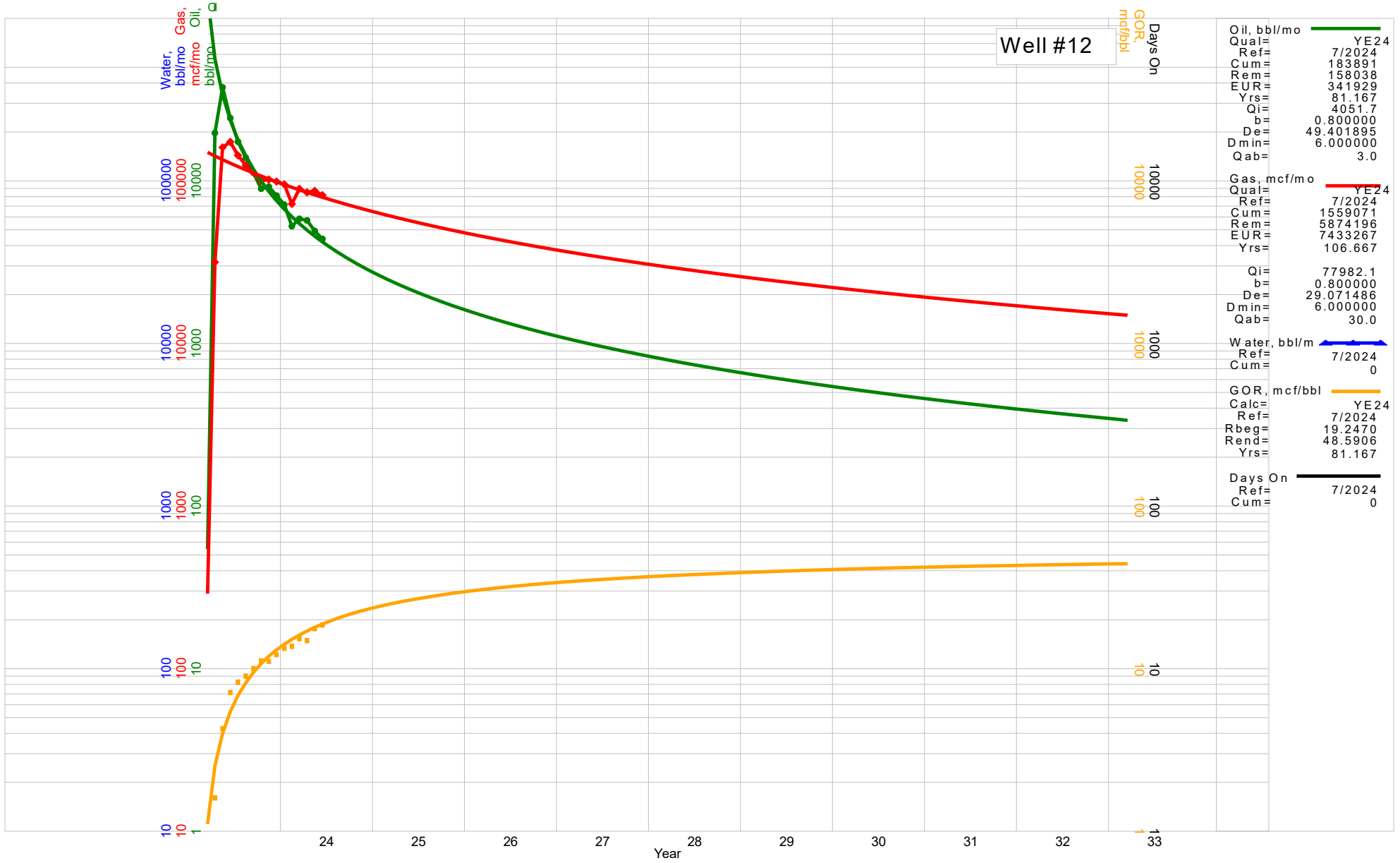

Well #7
Gas, Oil, Water, bbl/mo mcf/mo bbl/mo
Yield, b/mm
Days On
Year
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
Gas, mcf/mo
Qual= YE
Ref= 2 7/2024
Cum= 12732355
Rem= 1165153
EUR= 13897508
Yrs= 62.667
Qi= 8839.9
b= 0.000000
De= 8.673960
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 7304
Rem= 3077
EUR= 10381
Yrs= 24.000
Qi= 26.3
b= 0.000000
De= 8.670628
Water, bbl/m
Ref= 7/2024
Cum= 0
Yield, b/mm
Calc= YE24
Ref= 7/2024
Rbeg= 2.97016
Rend= 2.97276
Yrs= 24.000
Days On
Ref= 7/2024
Cum= 0

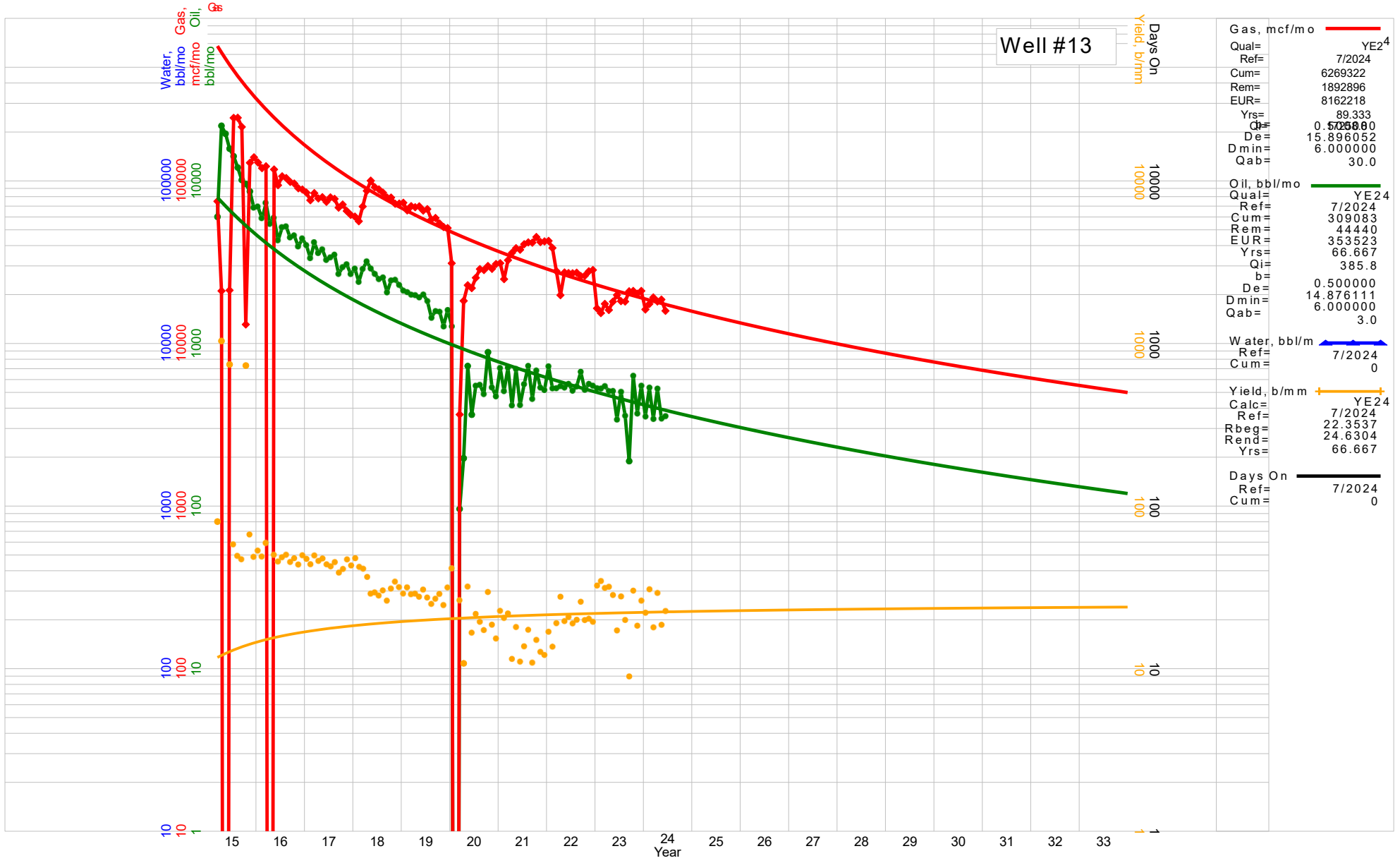

Well #8
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 234578
Rem= 29511
EUR= 264089
Yrs= 54.667
Qi= 415.3
b= 0.500000
De= 24.165234
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 2692447
Rem= 2929628
EUR= 5622075
Yrs= 98.083
Qi= 22556.8
b= 0.500000
De= 13.071051
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 54.3172
Rend= 146.8508
Yrs= 54.667
Days On
Ref= 7/2024
Cum= 0

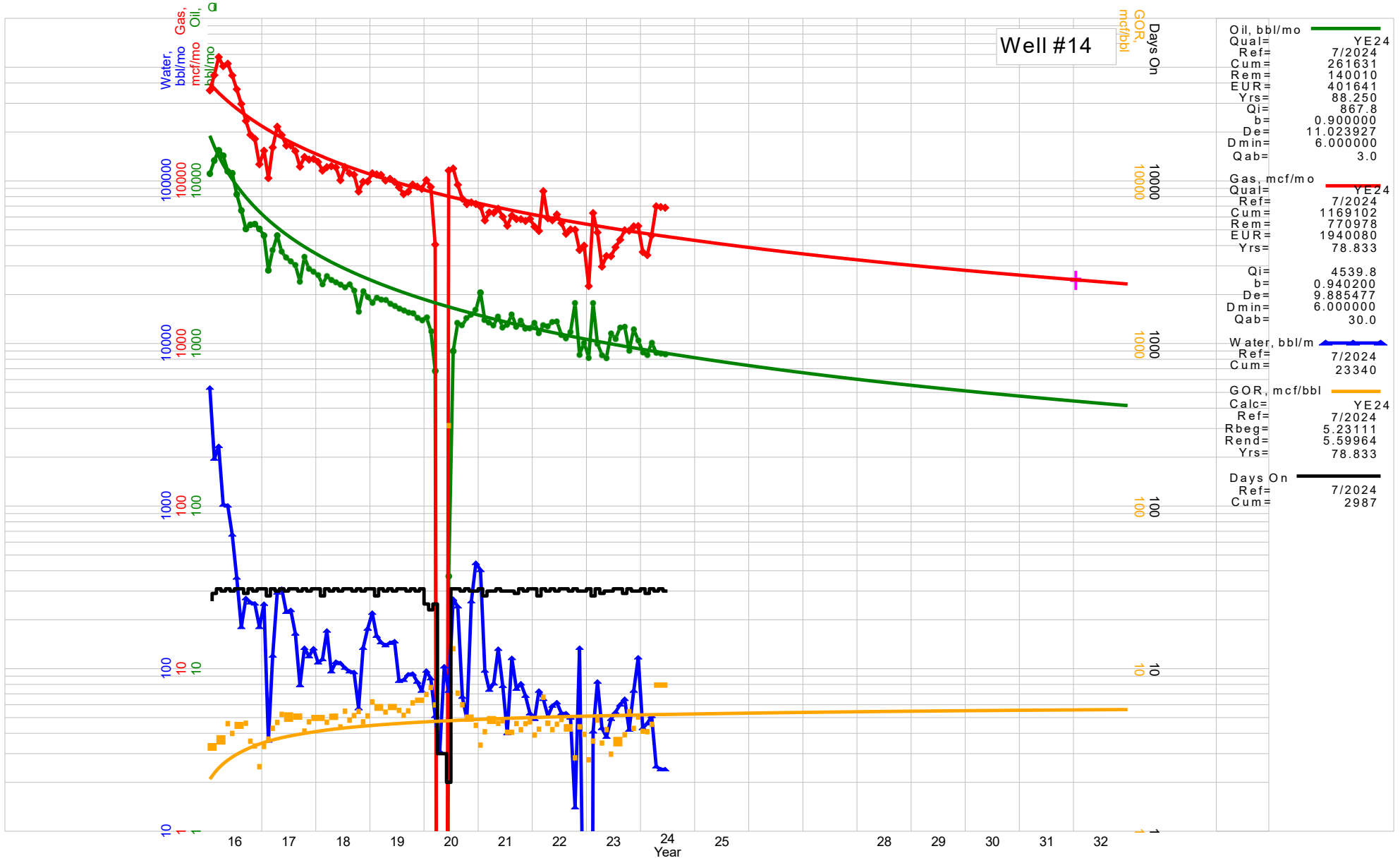

Well #9
Gas, Oil, Water, bbl/mo mcf/mo bbl/mo
GOR, mcf/bbl
Days On
Year
16 17 18 19 20 21 22 23 24 25 28 29 30 31 32
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 2366
Rem= 928
EUR= 3294
Yrs= 10.000
Qi= 16.0
b= 0.000000
De= 15.447035
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 90444
Rem= 88268
EUR= 178712
Yrs= 21.167
Qi= 1358.5
b= 0.000000
De= 16.523739
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 84.9994
Rend= 74.8550
Yrs= 10.000
Days On
Ref= 7/2024
Cum= 0


Well #10
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 174277
Rem= 282147
EUR= 456424
Yrs= 93.750
Qi= 4418.4
b= 0.800000
De= 33.892799
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 1370760
Rem= 3713087
EUR= 5083847
Yrs= 100.833
Qi= 43498.0
b= 0.999800
De= 28.748484
Dmin= 6.000000
Qab= 30.4
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 9.84468
Rend= 15.70992
Yrs= 93.750
Days On
Ref= 7/2024
Cum= 0
Water, bbl/mo
Gas, mcf/mo
Oil, bbl/mo
GOR, mcf/bbl
Days On
Year


Well #11
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 540791
Rem= 468850
EUR= 1009641
Yrs= 98.667
Qi= 12014.1
b= 0.800000
De= 49.464413
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 1627284
Rem= 4718896
EUR= 6346180
Yrs= 102.000
Qi= 74974.8
b= 0.800000
De= 34.355167
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 6.24056
Rend= 12.25891
Yrs= 98.667
Days On
Ref= 7/2024
Cum= 0


Well #12
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 183891
Rem= 158038
EUR= 341929
Yrs= 81.167
Qi= 4051.7
b= 0.800000
De= 49.401895
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 1559071
Rem= 5874196
EUR= 7433267
Yrs= 106.667
Qi= 77982.1
b= 0.800000
De= 29.071486
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 19.2470
Rend= 48.5906
Yrs= 81.167
Days On
Ref= 7/2024
Cum= 0


Well #13
Gas, Oil, Water, bbl/mo mcf/mo bbl/mo
Days On Yield, b/mm
Year
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 6269322
Rem= 1892896
EUR= 8162218
Yrs= 89.333
Qi= 5758.80
De= 15.896052
Dmin= 6.000000
Qab= 30.0
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 309083
Rem= 44440
EUR= 353523
Yrs= 66.667
Qi= 385.8
b= 0.500000
De= 14.876111
Dmin= 6.000000
Qab= 3.0
Water, bbl/m
Ref= 7/2024
Cum= 0
Yield, b/mm
Calc= YE24
Ref= 7/2024
Rbeg= 22.3537
Rend= 24.6304
Yrs= 66.667
Days On
Ref= 7/2024
Cum= 0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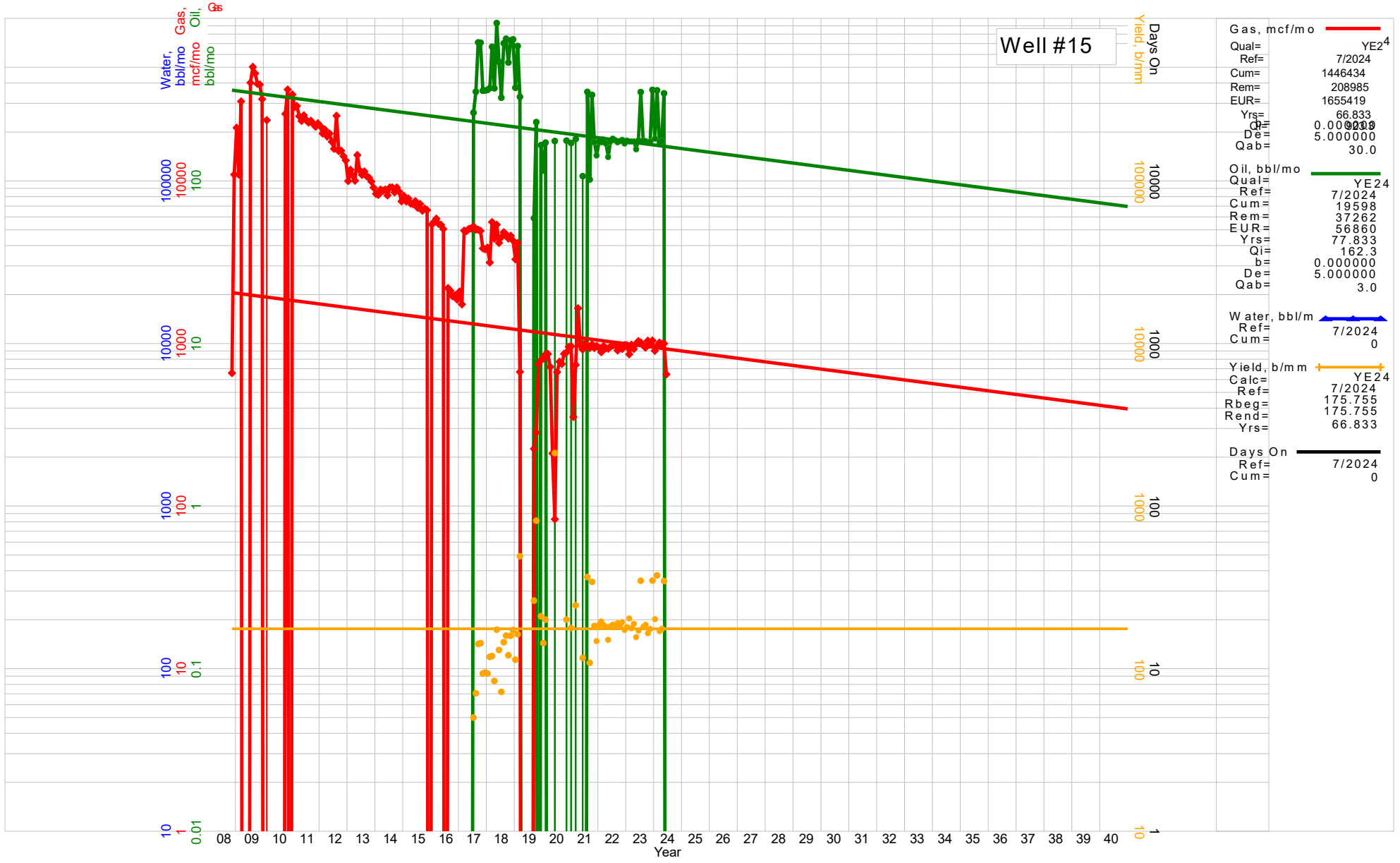
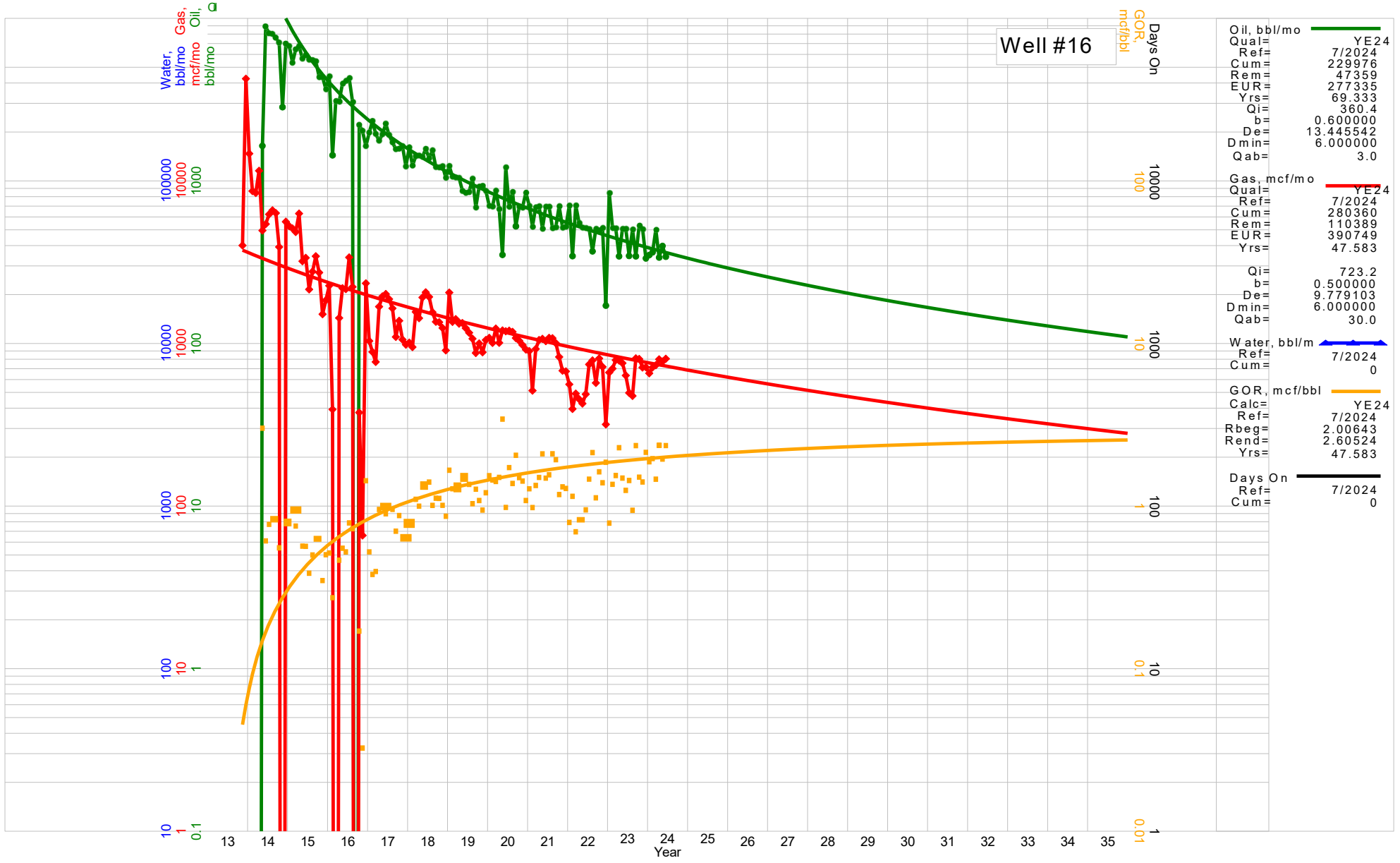
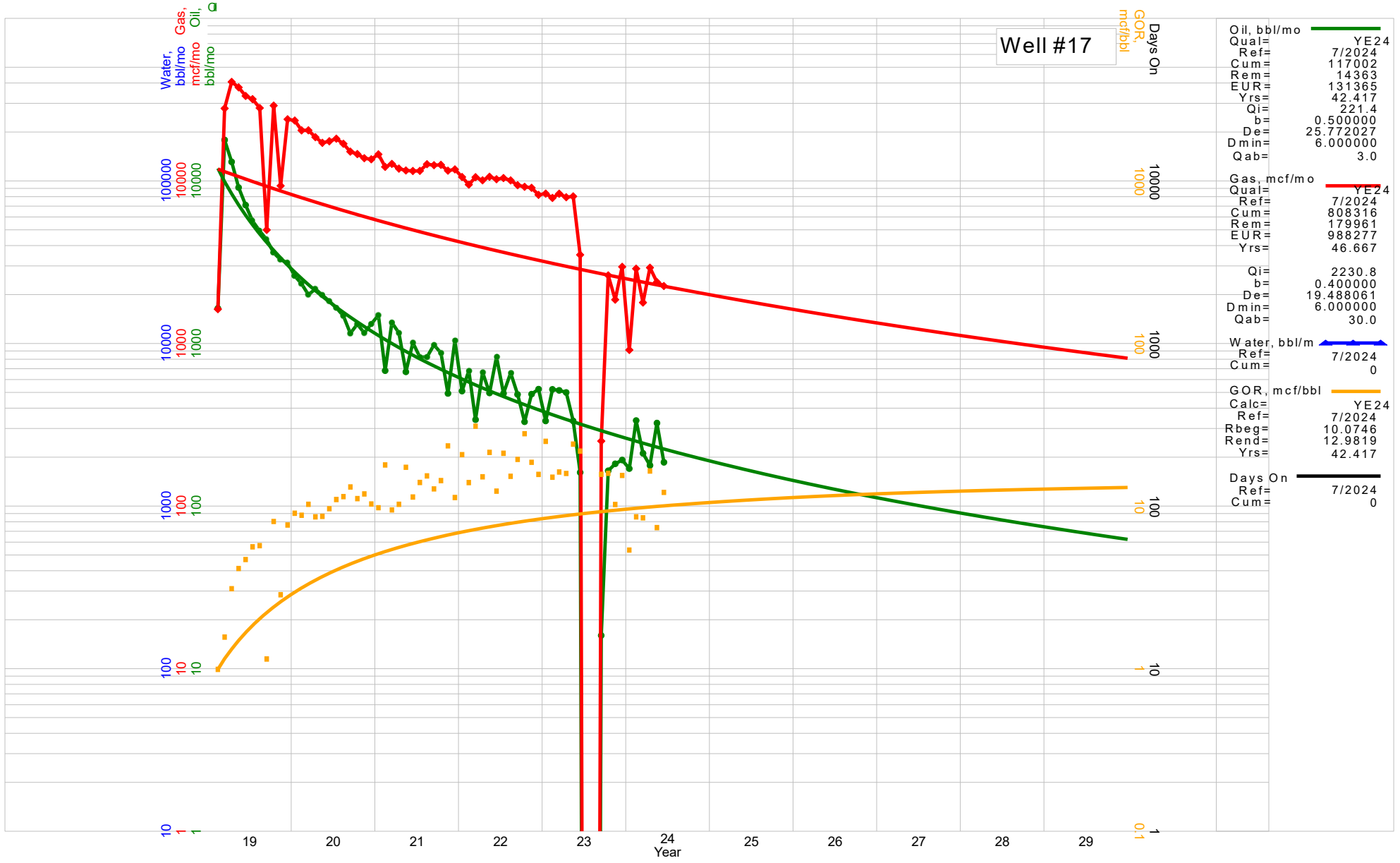
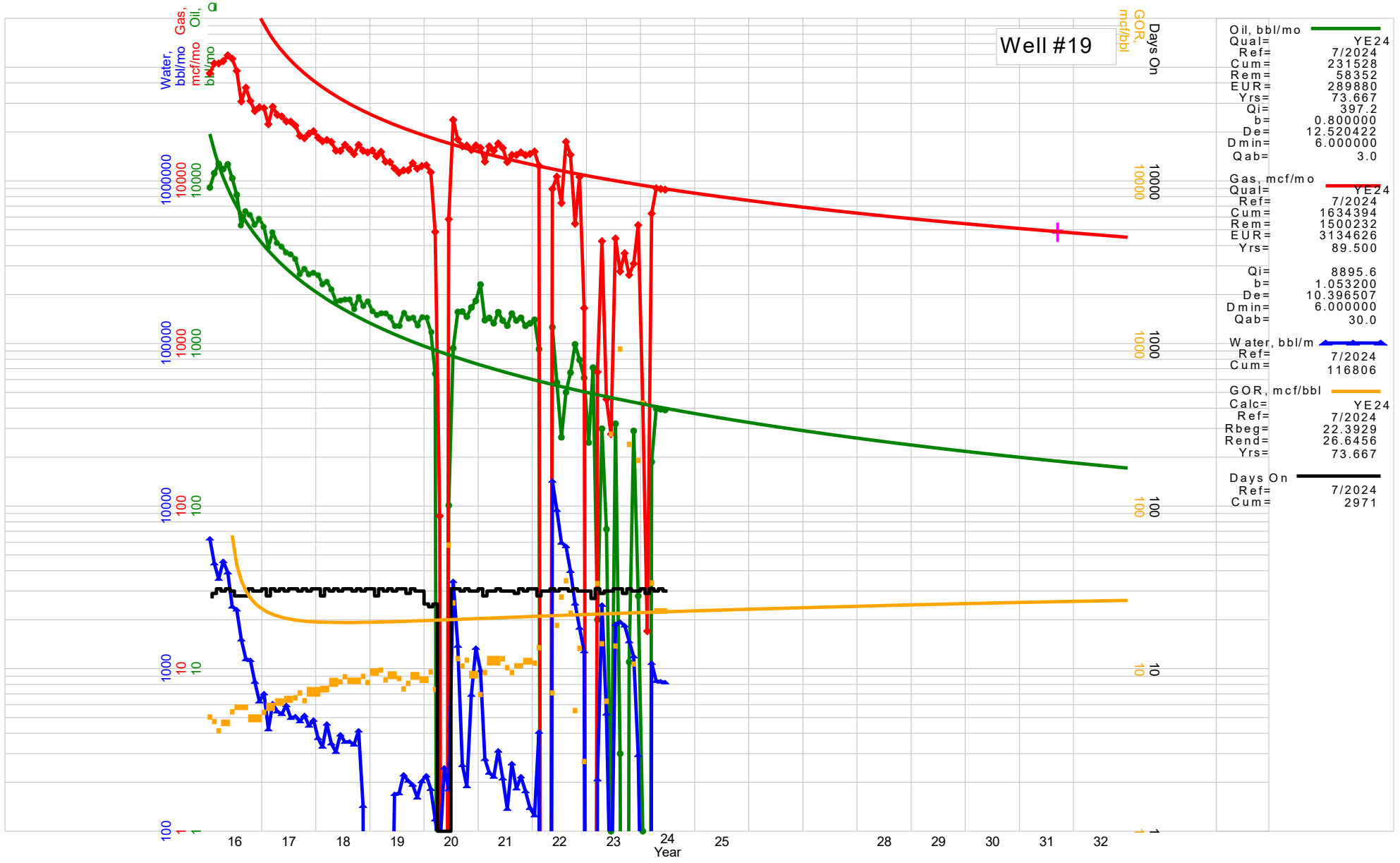
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 261631
Rem= 140010
EUR= 401641
Yrs= 88.250
Qi= 867.8
b= 0.900000
De= 11.023927
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 1169102
Rem= 770978
EUR= 1940080
Yrs= 78.833
Qi= 4539.8
b= 0.940200
De= 9.885477
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 23340
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 5.23111
Rend= 5.59964
Yrs= 78.833
Days On
Ref= 7/2024
Cum= 2987


Well #15
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 1446434
Rem= 208985
EUR= 1655419
Yrs= 66.833
Qi= 0.000000
De= 5.000000
Qab= 30.0
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 19598
Rem= 37262
EUR= 56860
Yrs= 77.833
Qi= 162.3
b= 0.000000
De= 5.000000
Qab= 3.0
Water, bbl/m
Ref= 7/2024
Cum= 0
Yield, b/mm
Calc= YE24
Ref= 7/2024
Rbeg= 175.755
Rend= 175.755
Yrs= 66.833
Days On
Ref= 7/2024
Cum= 0
Gas, Oil, Water, bbl/mo mcf/mo bbl/mo
Yield, b/mm
Days On
Year


Well #16
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 229976
Rem= 47359
EUR= 277335
Yrs= 69.333
Qi= 360.4
b= 0.600000
De= 13.445542
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 280360
Rem= 110389
EUR= 390749
Yrs= 47.583
Qi= 723.2
b= 0.500000
De= 9.779103
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 2.00643
Rend= 2.60524
Yrs= 47.583
Days On
Ref= 7/2024
Cum= 0


Well #17
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 117002
Rem= 14363
EUR= 131365
Yrs= 42.417
Qi= 221.4
b= 0.500000
De= 25.772027
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 808316
Rem= 179961
EUR= 988277
Yrs= 46.667
Qi= 2230.8
b= 0.400000
De= 19.488061
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 10.0746
Rend= 12.9819
Yrs= 42.417
Days On
Ref= 7/2024
Cum= 0


Well #18
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 197705
Rem= 186163
EUR= 383868
Yrs= 90.417
Qi= 1616.0
b= 0.650000
De= 16.538331
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 201643
Rem= 362228
EUR= 563871
Yrs= 60.667
Qi= 4063.1
b= 0.500000
De= 19.505195
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 0
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 2.51425
Rend= 1.58684
Yrs= 60.667
Days On
Ref= 7/2024
Cum= 0
Water, bbl/mo
Gas, mcf/mo
Oil, bbl/mo
GOR, mcf/bbl
Days On
Year
20
21
22
23
24
25
26
27
28
29


Well #19
Gas, mcf/mo
Oil, bbl/mo
Water, bbl/mo
GOR, mcf/bbl
Days On
Year
Oil, bbl/mo
Qual= YE24
Ref= 7/2024
Cum= 231528
Rem= 58352
EUR= 289880
Yrs= 73.667
Qi= 397.2
b= 0.800000
De= 12.520422
Dmin= 6.000000
Qab= 3.0
Gas, mcf/mo
Qual= YE24
Ref= 7/2024
Cum= 1634394
Rem= 1500232
EUR= 3134626
Yrs= 89.500
Qi= 8895.6
b= 1.053200
De= 10.396507
Dmin= 6.000000
Qab= 30.0
Water, bbl/m
Ref= 7/2024
Cum= 116806
GOR, mcf/bbl
Calc= YE24
Ref= 7/2024
Rbeg= 22.3929
Rend= 26.6456
Yrs= 73.667
Days On
Ref= 7/2024
Cum= 2971

PRODUCTION FORECASTS

- “Green Production” Risk Adjustment
    - Minimum 6 months of production
    - Was 100% excluded pre-1990’s
    - Engineer’s judgement (50% to 100%)
- “Concentration” Risk Adjustment
    - No one well >15% of PDP or TP PW9%
- Roll Forward to next BB Redetermination Date
    - If April 1 2025 BBRD then database and as of date is October 1 2025

LEASE OPERATING STATEMENTS

- Net production of nearest historical period
- Historical net prices received
- LOE
- Workovers
- Recurring “Non-Recurring” Expenses
- Abandonments

	2022 31	2022 28	2022 31	2022 30	2022 31	2022 30	2022 31	2022 31	2022 30	2022 31	2022 30	2022 31	2023 31	2023 28	2023 31	2023 30	2023 31	2023 30	2021 365	2022 365	2023 181	4/30/2023 91	1/31/2023 181	7/31/2022 365	911	7/31/2022 4/30/2023	304
																											(USD $)
	1/31/2022	2/28/2022	3/31/2022	4/30/2022	5/31/2022	6/30/2022	7/31/2022	8/31/2022	9/30/2022	10/31/2022	11/30/2022	12/31/2022	1/31/2023	2/28/2023	3/31/2023	4/30/2023	5/31/2023	6/30/2023	2021	2022	2023	L3M	L6M	LTM	ITD	Custom Period	
Oil + Condendate Volumes (BBLS)	52,479.21	47,417.53	52,520.16	48,311.37	49,474.25	45,039.58	49,235.71	49,206.99	42,297.57	45,913.82	46,126.05	40,843.67	46,524.04	35,955.19	38,013.76	38,706.04	37,248.88	-	985,125.85	568,865.91	196,447.91	75,954.92	196,447.91	470,071.72	1,750,439.67	432,822.84	
Gas Volume (MCF)	780,889.29	679,984.98	752,398.18	675,626.41	734,762.35	706,955.06	694,214.44	680,890.17	651,614.54	663,269.43	658,592.33	650,318.20	593,897.11	538,039.57	595,421.81	598,997.82	607,299.21	-	9,667,444.02	8,329,515.38	2,933,655.52	1,206,297.03	2,933,655.52	6,932,554.63	20,930,614.92	6,325,255.42	
NGL Volume (BBLS)	84,518.69	77,255.21	83,628.37	81,616.49	83,828.02	83,999.41	83,648.66	86,223.17	74,904.91	82,654.90	74,400.69	70,441.53	69,769.86	65,208.43	71,765.91	66,565.76	64,479.62	-	1,025,290.73	967,120.03	337,789.57	131,045.38	337,789.57	810,063.42	2,330,200.33	745,583.81	
MBOE	**267,146.11**	**238,003.57**	**261,548.23**	**242,532.26**	**255,762.66**	**246,864.83**	**248,586.77**	**248,911.85**	**225,804.90**	**239,113.63**	**230,292.13**	**219,671.56**	**215,276.75**	**190,836.88**	**209,016.64**	**205,104.77**	**202,945.03**	**-**	**3,621,657.25**	**2,924,238.51**	**1,023,180.07**	**408,049.80**	**1,023,180.07**	**2,435,560.92**	**7,569,075.82**	**2,232,615.88**	
MBOE/d	*8,617.62*	*8,500.13*	*8,437.04*	*8,084.41*	*8,250.41*	*8,228.83*	*8,018.93*	*8,029.41*	*7,526.83*	*7,713.34*	*7,676.40*	*7,086.18*	*6,944.41*	*6,815.60*	*6,742.47*	*6,836.83*	*6,546.61*	*-*	*9,922.35*	*8,011.61*	*5,652.93*	*4,484.06*	*5,652.93*	*6,672.77*	*8,308.54*	*7,344.13*	
WTI Price ($)	*83.22*	*91.64*	*108.50*	*101.78*	*109.55*	*114.84*	*101.62*	*93.67*	*84.26*	*87.55*	*84.37*	*76.44*	*78.12*	*76.83*	*73.28*	*79.45*	*71.58*	*70.25*	*66.17*	*95.16*	*75.97*	*75.59*	*75.97*	*83.25*	*76.69*	*84.26*	
HH Price ($)	*4.38*	*4.69*	*4.90*	*6.60*	*8.14*	*7.70*	*7.28*	*8.81*	*7.88*	*5.66*	*5.45*	*5.53*	*3.27*	*2.38*	*2.31*	*2.16*	*2.15*	*2.18*	*3.86*	*6.40*	*2.45*	*2.15*	*2.45*	*4.95*	*4.67*	*5.22*	
Oil + Condensate Difs (to WTI)	*(3.14)*	*(1.88)*	*(1.44)*	*0.52*	*(3.55)*	*(1.94)*	*(3.32)*	*(3.07)*	*(1.17)*	*(1.75)*	*(0.69)*	*(1.18)*	*(7.49)*	*4.22*	*(2.05)*	*(2.60)*	*(0.28)*	*n/a*	*(3.09)*	*(1.92)*	*(1.96)*	*(1.46)*	*(1.96)*	*(1.94)*	*(2.58)*	*(2.08)*	
Gas Difs (to HH)	*0.91*	*0.25*	*(0.23)*	*(0.76)*	*(0.82)*	*0.80*	*(0.55)*	*(0.01)*	*0.53*	*(0.21)*	*(0.13)*	*2.42*	*3.50*	*2.31*	*0.12*	*(0.08)*	*(0.25)*	*n/a*	*0.70*	*0.17*	*1.09*	*(0.17)*	*1.09*	*0.65*	*0.55*	*0.73*	
NGL % WTI	*52.2%*	*51.4%*	*49.5%*	*47.1%*	*41.1%*	*37.8%*	*39.6%*	*40.4%*	*40.7%*	*33.8%*	*36.8%*	*36.8%*	*35.4%*	*39.9%*	*41.0%*	*36.0%*	*34.6%*	*30.2%*	*n/a*	*50.8%*	*42.4%*	*36.4%*	*32.6%*	*36.4%*	*37.4%*	*46.4%*	*37.9%*	
Realized Oil + Condensate Price	80.08	89.76	107.06	102.30	106.00	112.90	98.30	90.60	83.09	85.80	83.68	75.26	70.63	81.05	71.23	76.85	71.30	n/a	63.08	93.24	74.01	74.13	74.01	81.32	74.11	82.18	
Realized Gas Price	5.29	4.94	4.67	5.84	7.32	8.50	6.73	8.80	8.41	5.45	5.32	7.95	6.77	4.69	2.43	2.08	1.90	n/a	4.56	6.57	3.54	1.99	3.54	5.60	5.22	5.95	
Realized NGL Price	43.42	47.09	53.73	47.97	44.98	43.35	40.26	37.87	34.26	29.62	31.02	27.07	31.15	31.51	26.35	27.50	21.65	n/a	33.64	40.32	27.67	24.62	27.67	31.12	35.54	31.94	
Oil + Condensate Revenue	4,202,295.35	4,255,985.70	5,622,711.14	4,942,217.69	5,244,445.30	5,084,780.47	4,839,912.23	4,458,349.30	3,514,346.55	3,939,601.65	3,859,748.61	3,074,078.92	3,285,868.95	2,914,001.96	2,707,846.07	2,974,726.24	2,655,944.18	-	62,141,384.15	53,038,472.91	14,538,387.40	5,630,670.42	14,538,387.40	38,224,424.66	129,718,244.46	35,568,480.48	
Gas Revenue	4,132,170.03	3,361,703.72	3,510,387.12	3,948,317.91	5,377,726.04	6,006,058.01	4,670,910.55	5,991,547.98	5,478,080.57	3,612,895.35	3,503,151.93	5,168,222.31	4,020,098.38	2,524,305.26	1,445,184.73	1,246,149.41	1,151,319.76	-	44,068,014.47	54,761,171.52	10,387,057.54	2,397,469.17	10,387,057.54	38,811,866.23	109,216,243.53	37,660,546.47	
NGL Revenue	3,669,562.59	3,638,183.83	4,493,528.02	3,915,506.01	3,770,775.81	3,641,575.21	3,367,439.97	3,265,445.41	2,566,531.30	2,448,040.46	2,307,820.87	1,906,679.54	2,173,491.09	2,054,787.47	1,891,337.87	1,830,273.12	1,395,753.28	-	34,490,095.99	38,991,089.02	9,345,642.83	3,226,026.40	9,345,642.83	25,207,600.38	82,826,827.84	23,811,847.10	
Total Production Revenue	**12,004,027.97**	**11,255,873.25**	**13,626,626.28**	**12,806,041.61**	**14,392,947.15**	**14,732,413.69**	**12,878,262.75**	**13,715,342.69**	**11,558,958.42**	**10,000,537.46**	**9,670,721.41**	**10,148,980.77**	**9,479,458.42**	**7,493,094.69**	**6,044,368.67**	**6,051,148.77**	**5,203,017.22**	**-**	**140,699,494.61**	**146,790,733.45**	**34,271,087.77**	**11,254,165.99**	**34,271,087.77**	**102,243,891.27**	**321,761,315.83**	**97,040,874.05**	
Midstream Revenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(85,200.79)	-	-	-	-	-	(85,200.79)	-	
Other Revenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Revenue	**12,004,027.97**	**11,255,873.25**	**13,626,626.28**	**12,806,041.61**	**14,392,947.15**	**14,732,413.69**	**12,878,262.75**	**13,715,342.69**	**11,558,958.42**	**10,000,537.46**	**9,670,721.41**	**10,148,980.77**	**9,479,458.42**	**7,493,094.69**	**6,044,368.67**	**6,051,148.77**	**5,203,017.22**	**-**	**140,614,293.82**	**146,790,733.45**	**34,271,087.77**	**11,254,165.99**	**34,271,087.77**	**102,243,891.27**	**321,676,115.04**	**97,040,874.05**	
Oil + Condensate Production Tax	(134,090.13)	(135,294.71)	(194,243.22)	(158,901.06)	(160,007.14)	(146,535.04)	(129,575.37)	(440,456.53)	(341,897.78)	(389,787.13)	(381,365.10)	(302,340.50)	(327,588.91)	(288,262.34)	(273,986.51)	(298,403.40)	(266,982.69)	-	(588,740.22)	(2,914,493.71)	(1,455,223.85)	(565,386.09)	(1,455,223.85)	(3,440,646.26)	(4,958,457.78)	(3,173,663.57)	
Gas Production Tax	(51,711.62)	(42,345.36)	(44,300.69)	(48,970.51)	(68,650.81)	(75,704.10)	(60,257.39)	(485,431.04)	(583,786.58)	(383,342.45)	(370,129.74)	(546,725.42)	(424,509.54)	(265,231.84)	(152,623.41)	(130,417.79)	(120,279.45)	-	(199,306.85)	(2,761,355.71)	(1,093,062.03)	(250,697.24)	(1,093,062.03)	(3,522,734.65)	(4,053,724.59)	(3,402,455.20)	
NGL Production Tax	(45,470.01)	(44,740.37)	(55,607.37)	(49,690.14)	(48,827.58)	(47,229.67)	(43,985.94)	(254,516.82)	(274,633.67)	(259,343.39)	(244,354.27)	(201,681.75)	(230,096.07)	(216,884.41)	(200,017.42)	(190,222.29)	(145,754.39)	-	(323,395.87)	(1,570,080.98)	(982,974.58)	(335,976.68)	(982,974.58)	(2,261,490.42)	(2,876,451.43)	(2,115,736.03)	
Ad Val Tax	(791,026.08)	(741,764.75)	(897,368.47)	(848,617.45)	(978,663.65)	(1,001,190.85)	(865,396.17)	-	-	-	-	-	-	-	-	-	-	-	(11,385,383.55)	(6,124,027.42)	-	-	-	(865,396.17)	(17,509,410.97)	(865,396.17)	
Other Tax	(18,009.20)	(16,885.38)	(20,157.91)	(19,162.02)	(21,638.89)	(22,162.54)	(19,502.83)	-	-	-	-	-	-	-	-	-	-	-	(121,537.60)	(137,518.77)	-	-	-	(19,502.83)	(259,056.37)	(19,502.83)	
Total Tax	**(1,040,307.04)**	**(981,030.57)**	**(1,211,677.66)**	**(1,125,341.18)**	**(1,277,788.07)**	**(1,292,822.20)**	**(1,118,717.70)**	**(1,180,404.39)**	**(1,200,318.03)**	**(1,032,472.97)**	**(995,849.11)**	**(1,050,747.67)**	**(982,194.52)**	**(770,378.59)**	**(626,627.34)**	**(619,043.48)**	**(533,016.53)**	**-**	**(12,618,364.09)**	**(13,507,476.59)**	**(3,531,260.46)**	**(1,152,060.01)**	**(3,531,260.46)**	**(10,109,770.33)**	**(29,657,101.14)**	**(9,576,753.80)**	
Oil + Condensate After-Tax Revenue	4,068,205.22	4,120,690.99	5,428,467.92	4,783,316.63	5,084,438.16	4,938,245.43	4,710,336.86	4,017,892.77	3,172,448.77	3,549,814.52	3,478,383.51	2,771,738.42	2,958,280.04	2,625,739.62	2,433,859.56	2,676,322.84	2,388,961.49	-	61,552,643.93	50,123,979.20	13,083,163.55	5,065,284.33	13,083,163.55	34,783,778.40	124,759,786.68	32,394,816.91	
Gas After-Tax Revenue	4,080,458.41	3,319,358.36	3,466,086.43	3,899,347.40	5,309,075.23	5,930,353.91	4,610,653.16	5,506,116.94	4,894,293.99	3,229,552.90	3,133,022.19	4,621,496.89	3,595,588.84	2,259,073.42	1,292,561.32	1,115,731.62	1,031,040.31	-	43,868,707.62	51,999,815.81	9,293,995.51	2,146,771.93	9,293,995.51	35,289,131.58	105,162,518.94	34,258,091.27	
NGL After-Tax Revenue	3,624,092.58	3,593,443.46	4,437,920.65	3,865,815.87	3,721,948.23	3,594,345.54	3,323,454.03	3,010,928.59	2,291,897.63	2,188,697.07	2,063,466.60	1,704,997.79	1,943,395.02	1,837,903.06	1,691,320.45	1,640,050.83	1,249,998.89	-	34,166,700.12	37,421,008.04	8,362,668.25	2,890,049.72	8,362,668.25	22,946,109.96	79,950,376.41	21,696,111.07	
Total After-Tax Production Revenue	**11,772,756.21**	**11,033,492.81**	**13,332,475.00**	**12,548,479.90**	**14,115,461.62**	**14,462,944.88**	**12,644,444.05**	**12,534,938.30**	**10,358,640.39**	**8,968,064.49**	**8,674,872.30**	**9,098,233.10**	**8,497,263.90**	**6,722,716.10**	**5,417,741.33**	**5,432,105.29**	**4,670,000.69**	**-**	**139,588,051.67**	**139,544,803.05**	**30,739,827.31**	**10,102,105.98**	**30,739,827.31**	**93,019,019.94**	**309,872,682.03**	**88,349,019.25**	
Total After-Tax Revenue	**10,963,720.93**	**10,274,842.68**	**12,414,948.62**	**11,680,700.43**	**13,115,159.08**	**13,439,591.49**	**11,759,545.05**	**12,534,938.30**	**10,358,640.39**	**8,968,064.49**	**8,674,872.30**	**9,098,233.10**	**8,497,263.90**	**6,722,716.10**	**5,417,741.33**	**5,432,105.29**	**4,670,000.69**	**-**	**127,995,929.73**	**133,283,256.86**	**30,739,827.31**	**10,102,105.98**	**30,739,827.31**	**92,134,120.94**	**292,019,013.90**	**87,464,120.25**	
LOE Fixed Less OH	(368,495.14)	(657,620.87)	(549,250.31)	(532,315.15)	(457,916.75)	(591,532.51)	(374,853.30)	(185,927.93)	(541,636.28)	(577,589.18)	(885,856.27)	(283,385.19)	(860,157.02)	(634,938.49)	(628,066.77)	(534,082.82)	(593,955.65)	(209,733.53)	(3,599,200.82)	(6,006,378.88)	(3,460,934.28)	(1,337,772.00)	(3,460,934.28)	(6,310,182.43)	(13,066,513.98)	(5,506,493.25)	
LOE Variable	(129,746.39)	(141,721.66)	(134,824.89)	(103,595.29)	(113,720.54)	(77,993.44)	(76,802.88)	(20,905.66)	(113,865.68)	(169,418.90)	(173,229.90)	(42,567.12)	(186,157.44)	(80,357.03)	(83,453.60)	(80,002.36)	(60,402.87)	(17,052.09)	(1,361,783.86)	(1,298,392.35)	(507,425.39)	(157,457.32)	(507,425.39)	(1,104,215.53)	(3,167,601.60)	(1,026,760.57)	
Workover	(5,501.52)	(28,993.21)	(100,939.06)	(8,685.20)	(3,917.25)	(7,049.00)	(19,518.73)	(178.92)	(5,748.54)	(1,180.43)	(450.16)	-	(116.65)	(7,475.27)	(28,137.51)	(1,671.18)	-	-	(397,084.62)	(182,162.02)	(37,400.61)	(1,671.18)	(37,400.61)	(64,477.39)	(616,647.25)	(64,477.39)	
Midstream LOE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Overhead	(115,934.17)	(103,459.09)	(107,530.44)	(109,505.26)	(215,831.24)	-	(113,648.43)	(109,374.08)	(103,763.74)	(115,201.62)	(120,476.29)	(116,736.80)	(114,252.65)	(113,871.74)	(110,258.37)	(117,135.86)	(106,387.87)	(120,309.88)									
Other Expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total LOE	**(619,677.22)**	**(931,794.83)**	**(892,544.70)**	**(754,100.90)**	**(791,385.78)**	**(676,574.95)**	**(584,823.34)**	**(316,386.59)**	**(765,014.24)**	**(863,390.13)**	**(1,180,012.62)**	**(442,689.11)**	**(1,160,683.76)**	**(836,642.53)**	**(849,916.25)**	**(732,892.22)**	**(760,746.39)**	**(347,095.50)**	**(7,034,722.90)**	**(8,818,394.41)**	**(4,687,976.65)**	**(1,840,734.11)**	**(4,687,976.65)**	**(8,840,292.68)**	**(20,541,093.96)**	**(7,732,450.79)**	
Oil + Condensate Transportation Expense	(50,405.49)	(104,662.70)	(115,796.37)	(330,379.62)	(406,640.61)	(113,366.30)	(89,823.27)	(93,944.48)	(57,956.35)	(76,690.24)	(77,095.74)	(63,225.67)	(65,501.80)	(55,319.78)	(62,226.70)	(71,481.84)	(48,552.81)	-	(906,889.19)	(1,579,986.84)	(303,082.93)	(120,034.65)	(303,082.93)	(761,818.68)	(2,789,958.96)	(713,265.87)	
Gas Transportation Expense	(944,693.63)	(831,302.19)	(895,692.33)	(1,027,233.45)	(1,083,256.35)	(1,030,711.79)	(1,019,695.01)	(995,418.88)	(921,008.79)	(939,227.68)	(970,273.32)	(978,914.00)	(937,325.59)	(847,300.78)	(903,884.58)	(919,795.47)	(942,847.17)	-	(26,059,030.64)	(11,637,427.42)	(4,551,153.59)	(1,862,642.64)	(4,551,153.59)	(10,375,691.27)	(42,247,611.65)	(9,432,844.10)	
NGL Transportation Expense	(618,129.77)	(571,260.09)	(609,629.83)	(759,432.81)	(738,872.01)	(738,211.80)	(746,477.71)	(766,756.53)	(646,649.62)	(720,152.69)	(675,896.39)	(653,551.68)	(676,599.21)	(632,299.98)	(674,025.46)	(629,129.13)	(620,913.07)	-	(677,206.78)	(8,245,020.93)	(3,232,966.85)	(1,250,042.20)	(3,232,966.85)	(7,442,451.47)	(12,155,194.56)	(6,821,538.40)	
Total Transportation Expense	**(1,613,228.89)**	**(1,507,224.98)**	**(1,621,118.53)**	**(2,117,045.88)**	**(2,228,768.97)**	**(1,882,289.89)**	**(1,855,995.99)**	**(1,856,119.89)**	**(1,625,614.76)**	**(1,736,070.61)**	**(1,723,265.45)**	**(1,695,691.35)**	**(1,679,426.60)**	**(1,534,920.54)**	**(1,640,136.74)**	**(1,620,406.44)**	**(1,612,313.05)**	**-**	**(27,643,126.61)**	**(21,462,435.19)**	**(8,087,203.37)**	**(3,232,719.49)**	**(8,087,203.37)**	**(18,579,961.42)**	**(57,192,765.17)**	**(16,967,648.37)**	
Total Operating Expenses	**(2,232,906.11)**	**(2,439,019.81)**	**(2,513,663.23)**	**(2,871,146.78)**	**(3,020,154.75)**	**(2,558,864.84)**	**(2,440,819.33)**	**(2,172,506.48)**	**(2,390,629.00)**	**(2,599,460.74)**	**(2,903,278.07)**	**(2,138,380.46)**	**(2,840,110.36)**	**(2,371,563.07)**	**(2,490,052.99)**	**(2,353,298.66)**	**(2,373,059.44)**	**(347,095.50)**	**(34,677,849.51)**	**(30,280,829.60)**	**(12,775,180.02)**	**(5,073,453.60)**	**(12,775,180.02)**	**(27,420,254.10)**	**(77,733,859.13)**	**(24,700,099.16)**	
Total Operating Income	**8,730,814.82**	**7,835,822.87**	**9,901,285.39**	**8,809,553.65**	**10,095,004.33**	**10,880,726.65**	**9,318,725.72**	**10,362,431.82**	**7,968,011.39**	**6,368,603.75**	**5,771,594.23**	**6,959,852.64**	**5,657,153.54**	**4,351,153.03**	**2,927,688.34**	**3,078,806.63**	**2,296,941.25**	**(347,095.50)**	**93,318,080.22**	**103,002,427.26**	**17,964,647.29**	**5,028,652.38**	**17,964,647.29**	**64,713,866.84**	**214,285,154.77**	**62,764,021.09**	
P&A Expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Capital Expenditures	(20,847.58)	(35,746.89)	(167,771.11)	(443,732.95)	(79,491.78)	(25,115.15)	(142,804.96)	(1,415.45)	(198,757.95)	(2,625,159.66)	(10,100.85)	(7,682.39)	(11,214.65)	(533.37)	(6,802.33)	(62,023.47)	(56,301.04)	(958.59)	(20,561.26)	(3,758,626.72)	(137,833.45)	(119,283.10)	(137,833.45)	(3,123,754.71)	(3,917,021.43)	(3,066,495.08)	
Free Cash Flow	**8,709,967.24**	**7,800,075.98**	**9,733,514.28**	**8,365,820.70**	**10,015,512.55**	**10,855,611.50**	**9,175,920.76**	**10,361,016.37**	**7,769,253.44**	**3,743,444.09**	**5,761,493.38**	**6,952,170.25**	**5,645,938.89**	**4,350,619.66**	**2,920,886.01**	**3,016,783.16**	**2,240,640.21**	**(348,054.09)**	**93,297,518.96**	**99,243,800.54**	**17,826,813.84**	**4,909,369.28**	**17,826,813.84**	**61,590,112.13**	**210,368,133.34**	**59,697,526.01**	

--END-- MO-YEAR	GROSS OIL PRODUCTION ---MBBLS---	GROSS GAS PRODUCTION ----MMCF---	NET OIL PRODUCTION ---MBBLS---	NET GAS PRODUCTION ----MMCF---	NET OIL PRICE ---$/BBL---	NET GAS PRICE ---$/MCF---	NET OIL SALES -----M$----	NET GAS SALES -----M$----	TOTAL NET SALES -----M$----
12-2025	119.857	322588.160	77.530	163075.744	67.982	1.597	5270.592	260399.568	396863.072
12-2026	99.350	281648.928	65.656	144002.528	68.006	1.597	4465.023	229988.960	354176.704
12-2027	84.813	250911.440	56.559	129397.208	68.031	1.598	3847.788	206759.680	320808.480
12-2028	73.388	225818.800	49.229	117435.704	68.054	1.599	3350.218	187769.888	293233.376
12-2029	64.101	205505.552	43.230	107561.080	68.074	1.600	2942.877	172053.248	270060.640
12-2030	56.274	187684.128	38.068	98803.144	68.096	1.600	2592.271	158131.360	249563.504
12-2031	49.460	172344.192	33.767	91012.792	68.107	1.601	2299.760	145735.904	231026.960
12-2032	44.297	158618.944	30.291	83856.512	68.124	1.602	2063.528	134379.920	214279.280
12-2033	39.683	145656.784	27.154	77213.752	68.143	1.603	1850.390	123808.224	198443.104
12-2034	35.699	134180.208	24.422	71349.288	68.165	1.604	1664.698	114462.648	184381.408
12-2035	32.136	123873.936	21.956	65844.244	68.176	1.605	1496.854	105708.968	171168.128
12-2036	29.036	113479.136	19.817	60354.244	68.192	1.607	1351.375	96982.304	158168.880
12-2037	26.433	103765.864	18.016	55123.660	68.211	1.609	1228.915	88668.640	145821.312
12-2038	23.935	94632.064	16.282	50174.220	68.224	1.610	1110.784	80789.592	134001.640
12-2039	21.559	86172.768	14.651	45735.880	68.244	1.612	999.833	73732.984	123310.600
S TOT	800.022	2606880.768	536.627	1360940.160	68.082	1.601	36534.908	2179371.776	3445306.880
AFTER	201.291	767963.008	137.248	402718.816	68.197	1.629	9359.862	656214.400	1198827.392
TOTAL	1001.313	3374843.904	673.875	1763659.008	68.106	1.608	45894.768	2835586.048	4644134.400

--END-- MO-YEAR	AD VALOREM TAX -----M$----	PRODUCTION TAX -----M$----	DIRECT OPER EXPENSE -----M$----	INTEREST PAID -----M$----	CAPITAL REPAYMENT -----M$----	EQUITY INVESTMENT -----M$----	FUTURE NET CASHFLOW -----M$----	CUMULATIVE CASHFLOW -----M$----	CUM. DISC. CASHFLOW -----M$----
12-2025	10942.365	11108.447	233340.512	0.000	0.000	0.000	25726.492	25726.492	26047.030
12-2026	9762.874	10029.823	211385.744	0.000	0.000	0.000	115358.808	141085.296	126243.696
12-2027	8803.253	9142.661	193774.544	0.000	0.000	0.000	101943.264	243028.560	206711.104
12-2028	8025.782	8394.763	179013.808	0.000	0.000	0.000	89168.624	332197.184	270679.936
12-2029	7362.093	7756.894	166661.248	0.000	0.000	0.000	80643.144	412840.320	323278.656
12-2030	6816.246	7193.628	155556.464	0.000	0.000	0.000	74115.688	486956.000	367213.920
12-2031	6325.753	6671.089	145331.072	0.000	0.000	0.000	64099.612	551055.616	401760.288
12-2032	5863.657	6198.889	136011.760	0.000	0.000	0.000	60087.564	611143.168	431204.160
12-2033	5427.302	5754.312	126901.104	0.000	0.000	0.000	52325.272	663468.416	454520.544
12-2034	5039.300	5367.593	118917.952	0.000	0.000	0.000	48165.160	711633.600	474025.056
12-2035	4676.476	4992.336	111312.504	0.000	0.000	0.000	43621.636	755255.232	490089.152
12-2036	4340.328	4630.385	103498.360	0.000	0.000	0.000	38436.708	793691.968	502964.256
12-2037	4011.103	4300.381	95905.008	0.000	0.000	0.000	33549.782	827241.728	513181.792
12-2038	3689.147	3973.391	88492.096	0.000	0.000	0.000	30106.622	857348.352	521515.744
12-2039	3414.239	3674.762	81837.536	0.000	0.000	0.000	26517.908	883866.240	528176.864
S TOT	94499.912	99189.360	2147939.840	0.000	0.000	0.000	883866.240	883866.240	528176.864
AFTER	34900.840	37150.528	836100.672	0.000	0.000	0.000	171359.264	1055225.600	555245.056
TOTAL	129400.752	136339.888	2984040.448	0.000	0.000	0.000	1055225.472	1055225.600	555245.056

	OIL	GAS
GROSS WELLS	---------	--------- 30.0 6281.0
GROSS ULT., MB & MMF	13421.083	15915937.792
GROSS CUM., MB & MMF	12419.770	12541094.912
GROSS RES., MB & MMF	1001.313	3374843.136
NET RES., MB & MMF	673.875	1763658.624
NET REVENUE, M$	45894.772	2835586.304
INITIAL PRICE, $	68.117	1.590
INITIAL N.I., PCT.	58.077	50.086

	P.W. %	P.W., M$
LIFE, YRS.	50.00	------ 8.00 -------- 616117.056
DISCOUNT %	10.00	10.00 555238.464
UNDISCOUNTED PAYOUT, YRS.	0.00	12.00 504839.648
DISCOUNTED PAYOUT, YRS.	0.00	15.00 443832.832
UNDISCOUNTED NET/INVEST.	0.00	20.00 368814.688
DISCOUNTED NET/INVEST.	0.00	25.00 315203.744
RATE-OF-RETURN, PCT.	150.00	35.00 244137.824
INITIAL W.I., PCT.	68.341	45.00 199502.208
		75.00 130588.216
		150.00 75574.440

HEDGES

- Swaps
- 2-way Collars

- Measured Against Bank Price Deck (not current strip)

- Say 2,000 bbl/month from April 1 2025 to March 31 2028 as SWAP
- Say Strike Price is $65/bbl in 2025
- If Forecast Price is $70; Hedge value is -$5/bbl/month x Volume x 9 months
- If Forecast Price is $45/bb; Hedge value is +$20/bbl/month x Volume x 9 months

- Say 2,000 bbl/month from April 1 2025 to March 31 2028 as 2-Way Collar
- Say low price is $40/bbl and higher price is $60/bbl in collar
- If Forecast Price is $70/bbl; Hedge value is -$10/bbl/month x Volume
- If Forecast Price is $45/bbl; Hedge value is +$15/bbl/month x Volume
- If Forecast Price is $35/bbl; Hedge value is +$5/bbl/month x Volume

- PW9% Value
- Usually Contribute 100%

BB Calculation Inputs

- PDP (PW9%)—100%
- Hedges (PW9%)—100%
- PDNP (PW9%)—15% to 35%
- PUD (PW9%)—10% to 30%
- ADVANCE Rate—60% to 70%
- Blowdown Overhead (Bank to Bank; Payout Limitation)
- FNR Half-Life (Bank to Bank; Payout Limitation)
- Downside Price Deck (Bank to Bank; BB Limitation)

BB Calculation Example

	BANK ENGINEER'S CASHFLOWS	Particular BANK's POLICY			
	$M	Contribution Allowed	$M	Advance Rate	$M
PDP (PW9%)	5,000	100%	5,000	65%	3,250.0
HEDGES (PW9%)	200	100%	200	65%	130.0
PDNP (PW9%)	250	20%	50	65%	32.5
PUD (PW9%)	2,000	10%	200	65%	130.0
			5,450	65%	3,542.5

ENGINEER's BORROWING BASE	3,542.5

SUMMARY

- Talk to Your Bank's Engineer/Banker
- Provide LOS Reconciliation
- Provide Hedges and Commodity Contract Info
- Process is "Highly" Transparent

Questions?

- Phil Kandel

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