Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, New Mexico

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Table of Contents

	Page
Terminology and Definitions Used in the Report	3
I. Abstract and Introduction	4
II. Increasing Drilling Activity; Oil, Gas, and Water Production and Recent Water Injection Development in the Vicinity of WIPP	9
a. Latest Study Area Drilling Activity	15
III. Water Injection Development & Trends	22
a. Reservoir Mass Balancing: Water Flooding in the WIPP Study Area	29
b. Injection Volumes from Hydraulic Fracturing	33
IV. Injection Well Regulatory Frameworks	34
a. Injection Well Testing and Reporting	34
b. Types of Injection Well Failures	37
V. Historical Injection Well Failures	38
VI. Seismicity: Introduction, Data Reporting, and Acquisition	39
a. Seismic Intensity	42
b. Surface Motion	44
c. Subsurface Effects	44
d. Crustal Faulting and State of Stress	45
VII. Increasing Seismic Activity, 4-State Seimic History, Del Basin & WIPP Site Area	51
a. Potash Industry	56
VIII. Induced Seismicity Causation: State, Federal and Industry Oversight	59
a. Texas, the Permian Basin and Delaware Basin Seismicity	61
b. New Mexico Seismicity and Industry and Regulatory Oversight	63
IX. Conclusions	67
a. Drilling Activity	67
b. Water Injection	68
c. Seismicity	69

Terminology and Definitions Used in the Report

BOPD	barrels of oil per day
Mcf, Mcfpd	1000 cubic feet, 1000 cubic feet per day
BWPD	barrels of water per day
BWIPD	barrels of water injected per day
SWD	saltwater disposal well used for the disposal of oil field produced waste water
EUR	estimated ultimate recoveries
EOR	enhanced oil recovery
Injection Well	a well utilized for pressure management or secondary recovery of oil gas
Completion Fluids	fluids used in hydraulically fracturing oil and gas production wells
Frac	hydraulically inducing fractures within a subsurface formation
Injection Well	UIC Class II injection well (for EOR or SWD)
Seismicity	the occurrence or frequency of earthquakes in a region
Seismic Event	a registered, measured, seismic event with recorded magnitude, depth and time/date
Shallow Injection	injection occurring above the top of the Wolfcamp Formation
Deep Injection	injection occurring below the top of the Wolfcamp Formation
Water Well	well used to extract fresh or brackish groundwater
WIPP	waste isolation pilot plant
WSA	WIPP Study Area – the 9 townships (9x36 square miles) including & surrounding the WIPP site
WLWA	WIPP land withdrawal area of 16 square miles
USGS	United States Geological Survey (www.usgs.gov)
NMOCD	State of New Mexico Energy Minerals and Natural Resources Department's Oil Conservation Division (https://www.emnrd.nm.gov/ocd/)
EPA	United States Environmental Protection Agency (https://www.epa.gov/)
AAPG	American Association of Petroleum Geologists (https://www.aapg.org/)
Pending Injection Application	an application still in NMOCD, not yet approved
UIC	Underground Injection Control (USEPA) See https://www.epa.gov/uic/underground-injection-control-regulations#:~:text=The%20goal%20of%20federal%20regulations,and%20closure%20of%20injection%20wells.
Approved Injection Application	a UIC application is approved
Drilling Permit	a permit issued to drill a well
Modeled Injection Rate	current months calculated injection rate based off historical injection records
Injection Pressure	injection pressure measured at the surface of an injection well
SRA (also ISA)	seismic response area (induced seismic area) where a close seismic event watch is underway and SW injection restrictions in force or in consideration
DMG	Delaware Mountain Group of Formations
SENM	Southeastern New Mexico

Report on Increased Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, New Mexico

SECTION I: ABSTRACT AND INTRODUCTION

The advent of the recent age of horizontal drilling has changed the oil and gas world in a dramatic way. The newly adopted drilling and well stimulation technologies are affecting not only the oil and gas supplies around the world but having a large impact on the numbers of new wells in the vicinity of the Waste Isolation Pilot Plant (WIPP) site in southeastern Eddy County, New Mexico. The largest impacts have come in the last five years after previous reports (Kirkes, et al (1997)[1] that reviewed oil field related injection practices in the nine townships around the Waste Isolation Pilot Plant.

Critics of the WIPP have often cited the existence of exploration activities and production of petroleum resources in the immediate vicinity of the site as sufficient reason to abandon the repository for use as a nuclear waste disposal facility. One reason given is that the petroleum industry routinely uses water flooding techniques for pressure maintenance or secondary recovery of petroleum or utilizes wells for the purpose of waste (salt) water disposal. These activities are isolated from the WIPP site area by several miles but are postulated by WIPP critics that they might force water into the WIPP repository under pressure. Critics assert this entry could possibly lead to rapid movement of radionuclides dissolved in brine disposal rooms thus leading to a violation of the release standards of Title 40 Code of Federal Regulations (CFR) Part 191 (EPA, 1993).

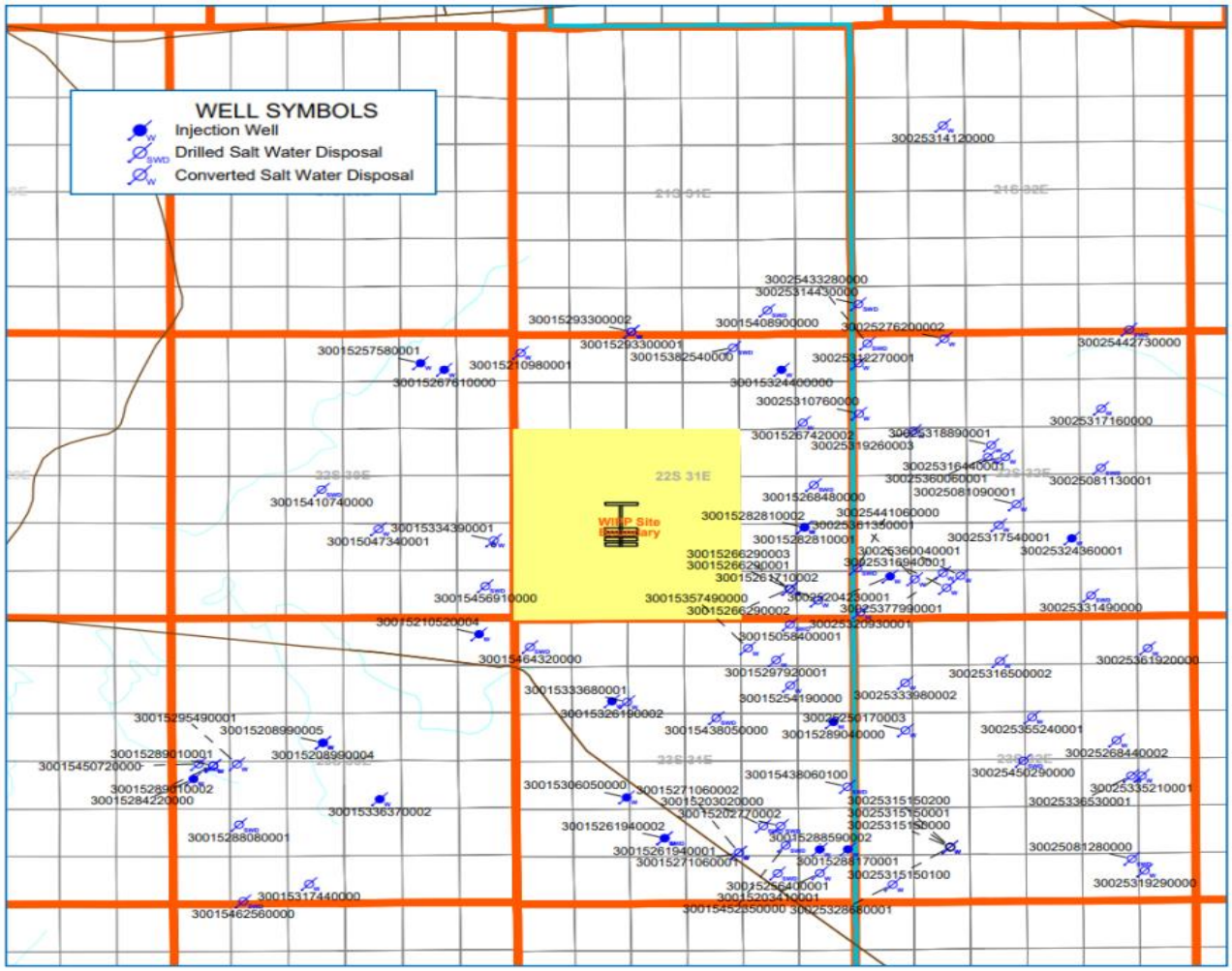
The 1997 report cited above provided important input data "of the failure rate of water injection (WI) and salt water disposal wells (SWD)" for computer models to predict the consequences of activities in and near the WIPP site. In many respects, this current report updates the data from the initial and subsequent reports. Consequently, many references are made to the prior reports, and many, but not all, of the discussions previously offered are repeated herein. However, this report expands on the changing drilling, hydraulic fracturing, and water injection statistics and adds considerations related to the frequency of earthquake activity in the southeastern region of New Mexico and the 9-township area including the WIPP site.

This report analyzed all active and inactive water injection wells as of January 1, 2023 as well as those that are no longer injecting and are shut-in or plugged. Figure 1 displays the location of active injection wells which are important to divide into two general categories: 1) waterflood wells providing pressure maintenance in an oil producing formation and 2) salt water disposal (SWD) wells which are injecting water into non-commercial formations (see map legend). These latter wells are ostensibly increasing reservoir pressure without the advantage of fluid removal often referred to as 'mass balancing.'

[1] Kirkes, G. Ross and Evans, Ronald D. "Injection Methods: Current Practices and Failure Rates in the Delaware Basin", DOE/WIPP-97-2240, June 1997

The active SWD injection wells are further divided into two categories (a) wells which historically produced hydrocarbons but were later converted to water injection wells and (b) wells drilled, never commercially produced, and used as SWD injection wells. For this last group, the well may have been originally drilled to test for hydrocarbon production but, after usually producing little or limited quantities of hydrocarbons, was re-permitted to become a SWD injection well. With the advent of the horizontal well revolution in the last five years, this report recognizes that some wells are now permitted and drilled for the exclusive purpose of SWD.

Figure 1: WIPP 9-Township Area Water Injection Well Map (IDs are API Well Identifiers)



To emphasize a key point, the terminology used herein for water injection wells can be thought of as 1) designed to enhance hydrocarbon production rates for oil recovery (waterflooding) or 2) as a waste (SWD) water injection well. For the water injector wells for waterflooding, they have historically been used, some actively injecting for decades, to maintain pressure in the oil producing zone. Alternatively, the primary purpose for a salt water disposal well (SWD) is to dispose of produced water, a common byproduct of hydrocarbon production. For these SWD wells, water is typically injected into either (1) a

non-commercial depleted hydrocarbon bearing reservoir or (2) a hydrocarbon bearing reservoir of sufficient distance from oil and gas productive wells as to exhibit little or no effect on production.

The category of waterflood wells has been ongoing for five or more decades with little evidence of inducing earthquakes in the WIPP area or around the world due to their pressure maintenance function, i.e., their location in proximal association with producing wells. It should also be noted that this function of enhancing production through the use of water injection can be followed by injection of carbon dioxide (CO_2 flooding) and is treated in a separate report (Melzer, L.S., (2023))[2]. The second injection well category, a SWD well, has seen heightened activity in the last five years and is particularly important for discussion of the seismicity issue. The increases in SWD wells and volumes injected in this report are due to the large formation water volumes produced from the new horizontal wells. Those SWD wells are a result of the need to depressurize the reservoir to produce the oil and gas. Since reinjecting the water would slow the depressurization, the water is not reinjected into the producing zone but is disposed further away or into a reservoir without nearby fluid removal.

Most drilling occurring in the WIPP Study Area (WSA)[3] are horizontal wells with at least one-mile-long horizontal 'legs', often referred to as 'laterals.' There have also been several new vertical SWD wells drilled within the WSA since 2018. Figure 2 provides a map of the area illustrating the location and paths of the new horizontal wells. These newer wells are being drilled in the formations below the WIPP into the deeper Bone Springs and Wolfcamp formations (see Figure 3 for the stratigraphic section in the WIPP vicinity). The horizontal (lateral) portions of the two formations "land" the horizontals at subsurface depths as shallow as 6500' to just over 10,000' with an average landing depth of 9000'.

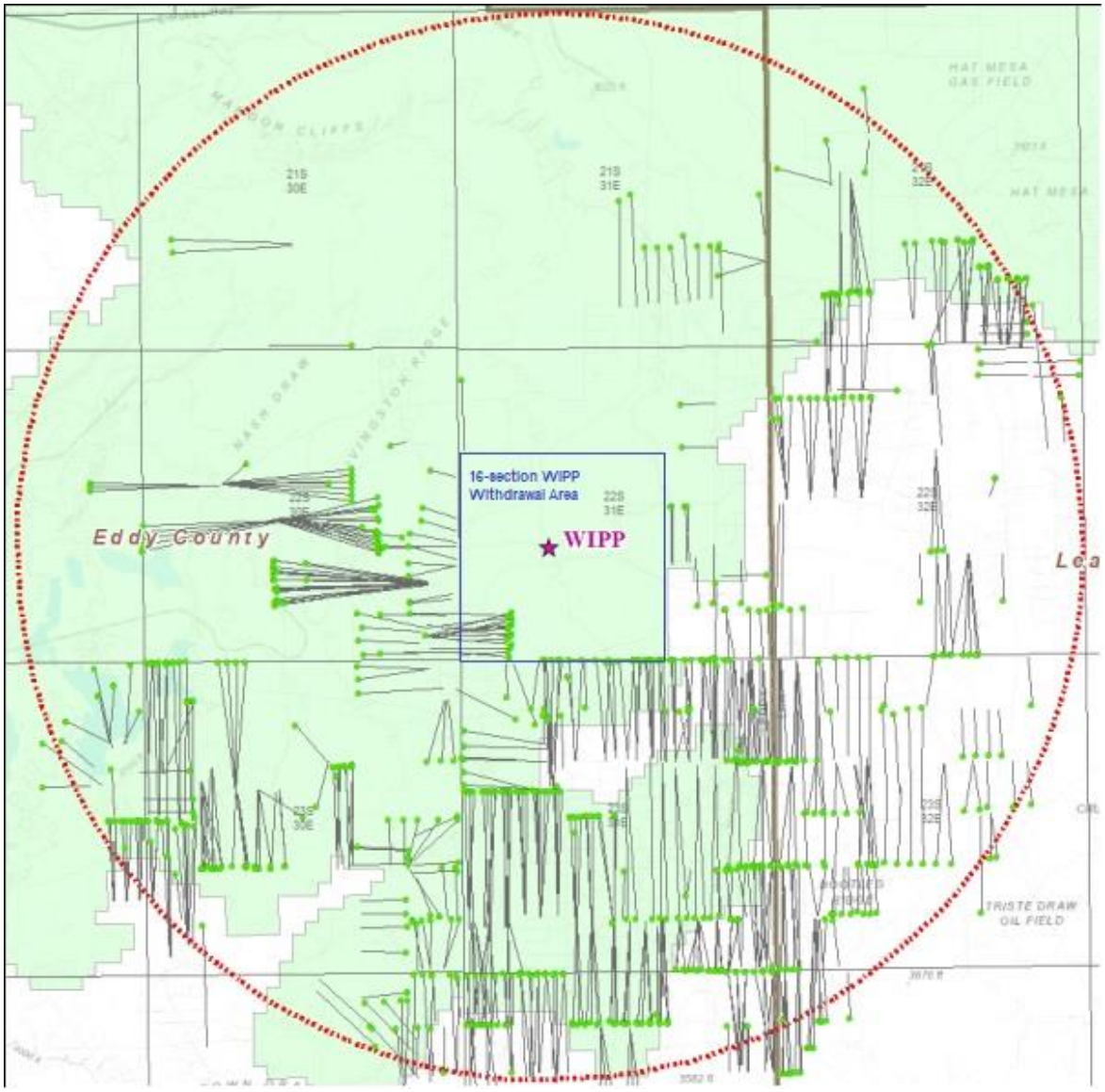
The horizontal wells require hydraulic fracturing (hydrofracs) of multiple clusters of perforations generally spaced 200-300 feet apart. The designs of the hydrofrac treatments are intended to induce a 'fractured volume' of the reservoir out to approximately 300-500' from the wellbores. The multiple stages of hydrofracs result in well completions that are commonly projected to produce in excess of 500,000 barrels of oil, 1.5-2.5 billion cubic feet of gas, and often co-producing 1.5-2.5 million barrels of formation water.

A portion of the produced water from the horizontal wells is stored for processing on the surface and reuse in new well drilling and completions. The remainder requires disposal into the shallower Delaware Mountain Group (DMG) or the deeper Devonian Formation (Figure 3). The accumulating volumes of disposed water injected into the disposal formations in southeastern New Mexico (SENM) has led to detection of an increased frequency of seismic events. Past seismic activity in SENM has occurred but the recent activity has led to the installation of new seismic arrays for purposes of better detection of

[2] Melzer, L.S, (2023), CO2 Enhanced Oil Recovery in the Vicinity of the WIPP Site, in preparation

[3] The WIPP Study area (WSA) is defined here to be the 3x3 Township area (~324 mi^2) roughly centered around the 16-sq mile WIPP withdrawal area shown in the Figure. A ten-mile radius around the WIPP is occasionally used

Figure 2: Active Producing Horizontal Wells in a ten-mile Radius around the WIPP site

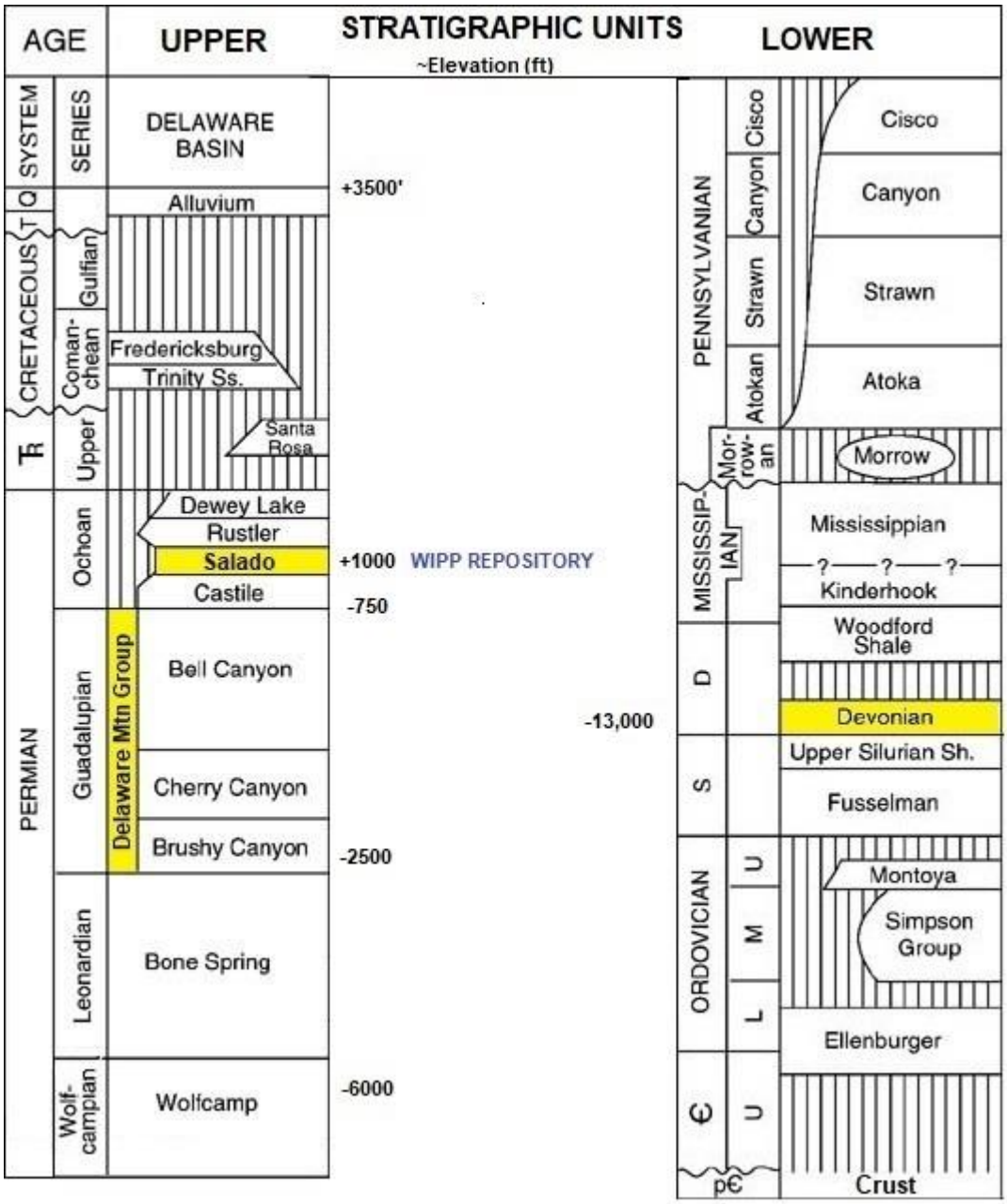


the seismic events. The largest of the SENM events reached close to a magnitude of $4M_L$[4] which is the threshold of locally observed human perception but below the threshold of damage to any surface structures. The largest recorded event in the vicinity of was a 3.2 magnitude event in November 2021 approximately 12 miles to the east of WIPP.

The regulations of New Mexico oil and gas activity, including the categories of all water injection, including disposal, have been under the guidance of the State of New Mexico Energy, Minerals and Natural Resources Department since 1935. There has been new and increased attention at the agency placed on the oversight of SWD wells due to the increased frequency of recorded earthquakes to the south in Texas and, to a lesser degree, in the NM portion of the Delaware Basin. The new regulatory oversight has been informed by previous experiences of regulators in Oklahoma and Texas who also

[4] Earthquake Richter Magnitude Scale - see https://www.usgs.gov/programs/earthquake-hazards/earthquake-magnitude-energy-release-and-shaking-intensity

Figure 3: Geologic Column with Approximate Vertical Subsea Elevations of Formations in the Vicinity of the WIPP Site (depths approximate and not to scale)



have witnessed increased seismicity now widely understood to be affected by the large volumes of water disposal and related to the increased drilling and fluid production from horizontal wells.

Despite the increasing SWD volumes, the WSA offers many seismic related advantages in relationship to other regions of the U.S. and Permian Basin. First, the sources of earthquakes are the crustal rocks and they are very deep and many hundreds of feet below the SWD injection intervals. Secondly, seismicity in

and near the area remains well below magnitudes and frequencies of concern. Lastly, the New Mexico Minerals and Natural Resources Department's Oil Conservation Division (NMOCD) has instituted seismic related policies designed to specifically monitor and avoid accelerated seismicity concerns. An example of this is designating new rules for Seismic Response Areas (SRAs) where policies can be quickly imposed and enhanced if observing regions of growing seismicity. The rules range from allowing limited SWD injection volumes to disallowing new SWD permits, both with objectives of preventing any further escalation. No SRA has been declared in the 9-township WSA.

SECTION II: INCREASING DRILLING ACTIVITY; OIL, GAS, AND WATER PRODUCTION AND RECENT WATER INJECTION DEVELOPMENT IN THE VICINITY OF WIPP

Oil and gas in the WSA, itself a part of the vast Delaware Basin, are produced from several different formations, including Delaware Mountain Group (DMG), Bone Spring, Wolfcamp, Atoka, and Morrow. Figure 3 shows the vertical sequence at which these formations are encountered in southeastern NM and the WIPP regional area. Additional general WIPP area background material is provided in Appendix IX.

Within the WSA, the DMG produces from the Bell Canyon, the Cherry Canyon, and the deeper Brushy Canyon. Each formation includes layers of clastic sands, organic-rich siltstones and carbonate materials. In general, the cementing material is calcareous and porosity appears to be controlled by the amount of the cementing material present. "Cyclicity was a major factor in the deposition of the Brushy Canyon" (Catalano et al (1995).[5] Glacial periods in the Permian age were responsible for changes in sea level. These allowed for massive carbonate buildups along the shelf-basin margin which, during periods of relatively high sea level, trapped sediments on the shelf. When sea level fell, the trapped clastics flowed toward the basin and were deposited in vast sandstone and siltstone units. The sea level changes occurred repeatedly and numerous layers of sand and siltstone occur in these reservoirs. Consequently, reservoirs are typically discontinuous, both laterally and vertically and the reason few waterfloods exist in this part of the Delaware Basin.

The prolific reef build-up around the boundaries of the Delaware Basin was eventually the cause of its own death. Margin reefs gradually grew together and blocked the flow of sea water from the shelf margin (Cook (1966).[6] This, along with changing climate conditions, produced periods of evaporation and increasing water salinities in the Delaware Basin. The result was the formation of the large evaporite sections of salt, gypsum, and anhydrite and represent the dying stages of the Permian as the basin was cut off from the open seas to the southwest.

The Bone Spring Formation of Leonardian age is composed of three carbonate units that are separated by three clastic units. The sands were deposited as debris flows from the Abo-Yeso shelf edge during periods of relatively low sea level and extend many miles into the basin. The carbonates, in contrast,

[5] Catalano, and Markus D. Thomerson, M.D. (1995), "Reservoir Characteristics and Petrophysical Analysis of the Upper Brushy Canyon Sandstones, East Livingston Ridge Delaware Field Lea County, New Mexico." A Symposium of Oil and Gas Fields of Southeastern New Mexico. New Mexico: Roswell Geological Society 1995.

[6] Cook, V. O.(1966), "Regional Geology of the Delaware Basin." Journal of Petroleum Technology (1966) : 1260-1266

were deposited during high sea level when carbonate production was greatest (Weis et al)[7]. Facies changes are frequent, both due to depositional conditions and diagenetic changes. Porous dolomitic lenses often change to non-porous limestone while porous sandstones frequently change laterally to non-porous dolomite and siltstone. As with the DMG of formations, reservoirs are very discontinuous, so much so that different facies are often observed in adjacent wells. For example, a carbonate deposit in one well may become almost absent in an east or west well offset and transition to sand. This type of facies change is especially prevalent to the north, closer to the shelf margin.

The Morrow formation encompasses three distinct clastic intervals – Lower, Middle and Upper – each separated by a major flooding surface with the Lower Morrow boundary at the top of the Mississippian unconformity. The intervals are each dominated by a particular depositional environment with the Lower Morrow being delta plain, the Middle Morrow being delta front and the Upper Morrow being carbonate shelf (Roberts and Kohles (1999)[8]; Mallan and Casavant 1999)[9]. Although these were the dominant environments, numerous sub-environments (facies) also existed including distributary channel-fill sands, channel mouth bars, and beach and barrier bar deposits. These later facies reflect the reworking of the upper portions of sand deposits by wave and wind action. The many sand deposits are typically capped by transgressive marine shales and thin carbonate deposits. Because of the complex depositional environment, the Morrow age sands typically cover a limited areal extent and the sands encountered in one well are very often different than those encountered in an offset well.

The common trait of all of these formations is reservoir discontinuity. Hence reservoirs may be characterized as relatively small, separated units. Even in a single field, production is normally from several different reservoirs. For example, in the Cabin Lake (Delaware) Field, production is from multiple sands in both the Cherry Canyon and Brushy Canyon intervals.

Table 1 shows the relative contribution of each formation as it relates to well count, cumulative oil production, cumulative gas production and cumulative water

Table 1: Cumulative Oil and Gas Production in Study Area on 12/31/2022 (data from IHS)

Formation	Completions	Cumulative Oil (barrels)	Cumulative Gas (Mcf)	Cumulative Injection (barrels)
Delaware	1214	123,156,000	298,203,000	491,778,300
Bone Spring (V)	144	8,064,000	27,386,160	42,510,500
Bone Spring (H)	468	146,120,800	432,828,600	0
Wolfcamp	156	48,303,000	150,091,000	2,783,100
Devonian	15	202,000	424,000	190,033,200
Atoka	45	775,000	126,710,000	0
Morrow	108	1,938,000	270,172,000	0
Dry Holes	304	0	0	0
Other	15	701,500	15,400,000	0

[7] W. Weis, A. Ouenes, A. Sultan (1995), and New Mexico Petroleum Recovery Research Center, "Characterization of a Delaware Slope Basin Reservoir for Optimal Development." SPE Paper 29597, presented at the SPE Rocky Mountain Regional/Low-Permeability Reservoirs Symposium held in Denver, CO, U.S.A., 20-22 March 1995.

[8] Roberts, and Kevin M. Kohles (1999), "The Morrow of Southeastern New Mexico: A Detailed Look at the Big Picture." A Symposium of Oil and Gas Fields of Southeastern New Mexico. New Mexico: Roswell Geol Soc 1999.

[9] Mallan, and Robert R. Casavant (1999), "Facies and Reservoir Characterization of the Morrow Sandstones, White City Penn Gas Pool, Eddy County, New Mexico." A Symposium of Oil and Gas Fields of Southeastern New Mexico. New Mexico: Roswell Geological Society 1999.

injection. As this table shows, Delaware wells (1,214) constitute the vast majority of total producing wellbores, followed by Bone Spring (612) then Wolfcamp (156). The vertical Delaware and vertical Bone Spring oil wells typically are drilled on 40-acre spacing (16 wells per section). A tight spacing is required to better drain the formations due to the following reasons: (1) the reservoirs tend to be laterally and areally discontinuous, (2) the reservoirs are low permeability and (3) the produced fluids (oil and water) are relatively viscous. Hence many vertical wellbores are needed to effectively drain these reservoirs. Even on 40-acre spacing, recovery efficiency is fairly poor and would likely benefit from denser spacing. If the very short term producing wells are excluded, the average cumulative production is 106,000 barrels and 260,000 thousand cubic feet (Mcf) for each Delaware well (1,214 wells). A normalized rate versus time plot for the Delaware wells in the study area is included in Appendix IV. Based upon the normalized production curve, remaining reserves in the Delaware completions are 53,000 barrels and 136,000 Mcf, yielding a Delaware per well estimated ultimate recovery (EUR) of 156,000 barrels and 383,000 Mcf. Table 2 provides further details for the four major formations for resource extraction activities.

Bone Spring vertical completions average just under 60,000 barrels and 208,000 Mcf cumulative production per well. A normalized rate versus time plot for the Bone Spring wells in the study area is included in Appendix IV. Based upon the normalized production curve, remaining reserves in the Bone Spring vertical completions are 7,800 barrels and 55,300 Mcf, resulting in a Bone Spring per well EUR of 67,500 barrels and 262,800 Mcf.

Table 2: Average Well Production and Projected Oil and Gas Recoveries in Study Area (All Volumes are Average Values per Well)

	Delaware	Bone Spring (V)	Bone Spring (H)	Wolfcamp	Morrow
Cumulative Oil Production (bbl)	106,300	59,700	312,200	311,600	18,600
Estimated Remaining Oil (bbl)	33,700	7,800	264,800	368,400	400
Estimated Ultimate Oil (bbl)	**140,000**	**67,500**	**577,000**	**680,000**	**19,000**
Cumulative Gas Production (mcf)	260,600	207,500	924,800	968,300	2,501,600
Estimated Remaining Gas (mcf)	73,400	55,300	1,475,200	2,031,700	738,400
Estimated Ultimate Gas (mcf)	**340,000**	**262,800**	**2,400,000**	**3,000,000**	**3,240,000**
Cumulative Equiv Bbl	149,800	94,300	466,400	473,000	435,600
Estimated Remaining Equiv Bbl	46,900	17,000	510,600	707,000	123,400
Estimated Ultimate Equiv Bbl	**196,700**	**111,300**	**977,000**	**1,180,000**	**559,000**

Beginning in 2010, Bone Spring drilling began shifting from vertical to horizontal completions due advanced drilling and completion technologies and more favorable economics. The technologies continued to advance and today horizontal drilling represents 95 percent of all rigs running in the Permian Basin. Early Bone Spring horizontal completions were typically 1 mile long, however recent wells tend towards 2-mile to 3-mile laterals. Oil and gas recoveries are greatly improved in the horizontal wells when compared to older vertical completions with oil and gas EURs in the study area projected at 577,000 barrels and 2,400,000 Mcf, respectively. Since these are relatively new completions, cumulative oil and gas production are fairly low at 312,200 barrels and 924,800 Mcf, respectively. Remaining reserves, as determined from normalized rate-time graphs, are 264,800 barrels and 1,475,200 Mcf. In the attached normalized rate-time graph, production for the horizontal Bone Spring wells is limited to 36 months as well count drops significantly past this period.

The Wolfcamp formation was relatively a non-commercial drilling target until the technologies for horizontal drilling and improved well stimulations vastly improved fluid recoveries. Drilling horizontal Wolfcamp wells started in earnest in 2008 and, today, account for about one-third of horizontal

completions in the nine-township study area. The horizontal Wolfcamp wells perform much like horizontal Bone Spring wells, however, longer Wolfcamp lateral lengths skew the average reserves (older Bone Spring laterals are shorter and make less oil and gas). Wells completed to date for the Wolfcamp formation are projected to yield oil and gas EURs of 680,000 barrels and 3,000,000 Mcf with remaining reserves of 368,400 barrels and 2,031,700 Mcf.

The deeper Morrow gas wells, while sharing the characteristic discontinuity, produce a lower viscosity fluid (gas) and are capable of draining a larger area. Studies by Hall (2003)[10] suggest the average area drained by Morrow wells is between 90 to 100 acres with some wells draining in excess of 400 acres. Therefore, only 108 Morrow gas wells are encountered in the study area. Remaining Morrow reserves are projected at 0.738 Bcf and 400 barrels, yielding a per well EUR of 3.240 Bcf and 19,000 barrels for Morrow gas wells.

Wells drilled inside the WIPP 16-section land withdrawal area (WLWA) were addressed by Broadhead et al (1997)[11]. The report identified three wells drilled within the boundaries of the WIPP site boundary Badger Federal no. 1, Grace Cotton Baby Federal no. 1, and the James Ranch no. 13[12]. The report also notes "Bass Enterprises submitted applications to drill eight wells within the boundaries of the WLWA from surface locations outside of the site (Table 6) for purposes of establishing hydrocarbon production. The applications to drill were denied by the U. S. Bureau of Land Management in August 1994."

On May 7, 2008, EOG Resources applied to drill the James Ranch Unit no. 112H as a horizontal well in the Southeast Quahada Ridge Delaware field with a surface location 200 feet outside the WLWA and a bottom hole location approximately 4,970 feet inside the WLWA area in section 31 22S 31E. The application was approved by NMOCD on October 6, 2008. The NMOCD Conditions of Approval identified the well as being "located within 330' of the WLWA boundary." As a result, EOG Resources, Inc. was required to submit daily logs and deviation survey information to the Department of Energy per requirements of the Joint Power Agreement. Information from this well will be included in the Quarterly Drilling Report."

On April 26, 2009, the well tested at 195 barrels of oil per day (bopd), 274 Mcfpd, and 346 barrel of water per day (bwpd) in the Delaware formation from perforations of 8,000 feet to 11,289 feet. Total vertical depth of the horizontal lateral was approximately 7,600 feet. In June 2009, ownership of the well was transferred from EOG to BOPCO (Bass Enterprises operating entity). In May 2019 ownership of the James Ranch Unit no. 112H was transferred to XTO Permian Operating. As of 12/31/2022, cumulative oil and gas production is 155,300 barrels and 414,900 Mcf, respectively.

In late-2009, EOG Resources drilled another Delaware horizontal well within the WLWA, the James Ranch Unit no. 113H. This well was located north of the James Ranch Unit no. 112H on essentially a parallel path. In 2011, BOPCO, now the owner of the James Ranch Unit, added two additional Delaware horizontal wells, James Ranch Unit nos. 129H and 130H, both located north of the first two wells and again, essentially on parallel paths.

[10] Hall, R.K. (2003), Memo to McCombs Energy. Houston, Texas. 20 March 2003.

[11] Broadhead, Luo, and Speer (1997) ,

[12] Contrary to the report citation, this well does not appear to be within the WIPP Site Boundary Area

In late-2013, BOPCO drilled two horizontal Bone Spring wells, the James Ranch Unit nos. 148H and 144H in roughly the same area as the prior Delaware wells with bottom hole locations in sec 31 22S 31E. The wells are stacked laterals at depths of 9,220 feet (2nd Bone Spring) and 10,970 feet (3rd Bone Spring), respectively. Oil production is significantly better in the deeper 3rd Bone Spring well. On a length normalized basis cumulative oil is 53,900 barrels per 1,000 feet of casing length in the 3rd Bone Spring well versus 22,500 barrels per 1,000 feet length in the 2nd Bone Spring well.

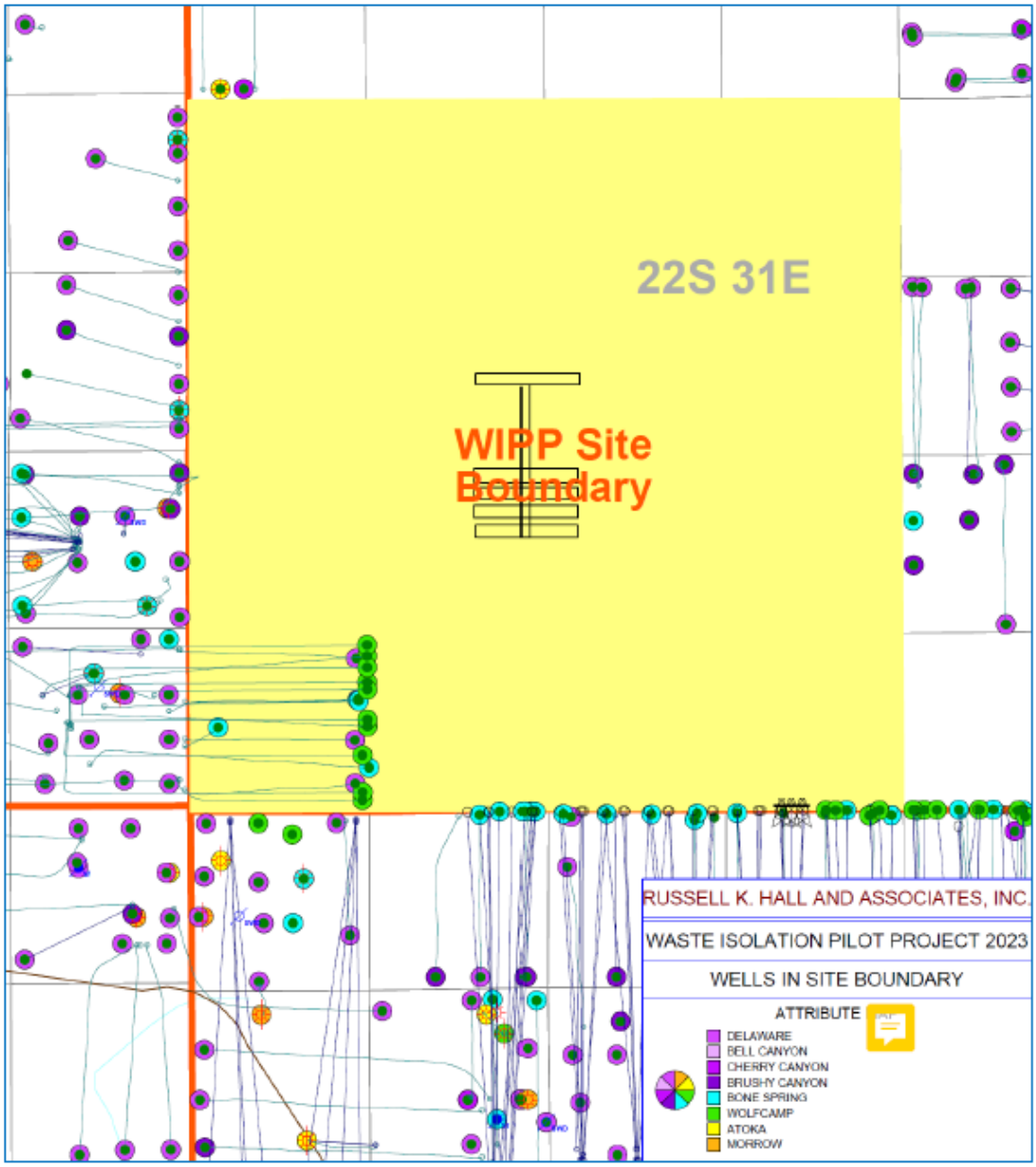
Four years later, in mid-2017, BOPCO drilled the James Ranch Unit no 146H in the South Los Medanos Wolfcamp field at a TVD of 11,200 ft with a bottom hole location in sec 31 22S 31E. Oil production from this Wolfcamp well greatly exceeded any of the previous horizontal wells completed in the Delaware and Bone Spring formations and nearly all horizontal wells drilled since in this section have targeted the Wolfcamp formation. Cumulative production from the James Ranch Unit #146H is 504,300 barrels and 1,187,000 Mcf at 12/31/2022.

In January 2020, XTO Permian, now the owner of James Ranch Unit, filed an application to drill a horizontal Bone Spring well, the James Ranch Unit DI 8 Eagle no. 110H with a bottom hole location in section 31 22S 31E. In February, XTO revised the application to target the Wolfcamp formation. The well was completed in May 2021 and has cumulative production of 546,300 barrels and 1,548,000 Mcf at 12/31/2022. XTO completed two more wells in the section during 2021 called the James Ranch Unit DI Eagle no. 900 H and the James Ranch DI Eagle no. 111H, into the 3rd Bone Spring and Wolfcamp formations from approximate depths of 7000 and 10,000 feet, respectively. Each has cumulative oil production of about 430,000 barrels at 12/31/2022.

XTO completed two more wells in the section during 2021, the James Ranch Unit DI Eagle no. 900 H and the James Ranch DI Eagle no. 111H, into the 3rd Bone Spring and Wolfcamp formations, respectively. Each has cumulative oil production of about 430,000 barrels at 12/31/2022.

In 2022, XTO drilled 7 additional Wolfcamp wells with bottom hole locations in section 31 22S 31E. The Wolfcamp wells are completed but no production was reported as of December 2022. Figure 4 shows the location of the wells located in section 31 T22S R31E.

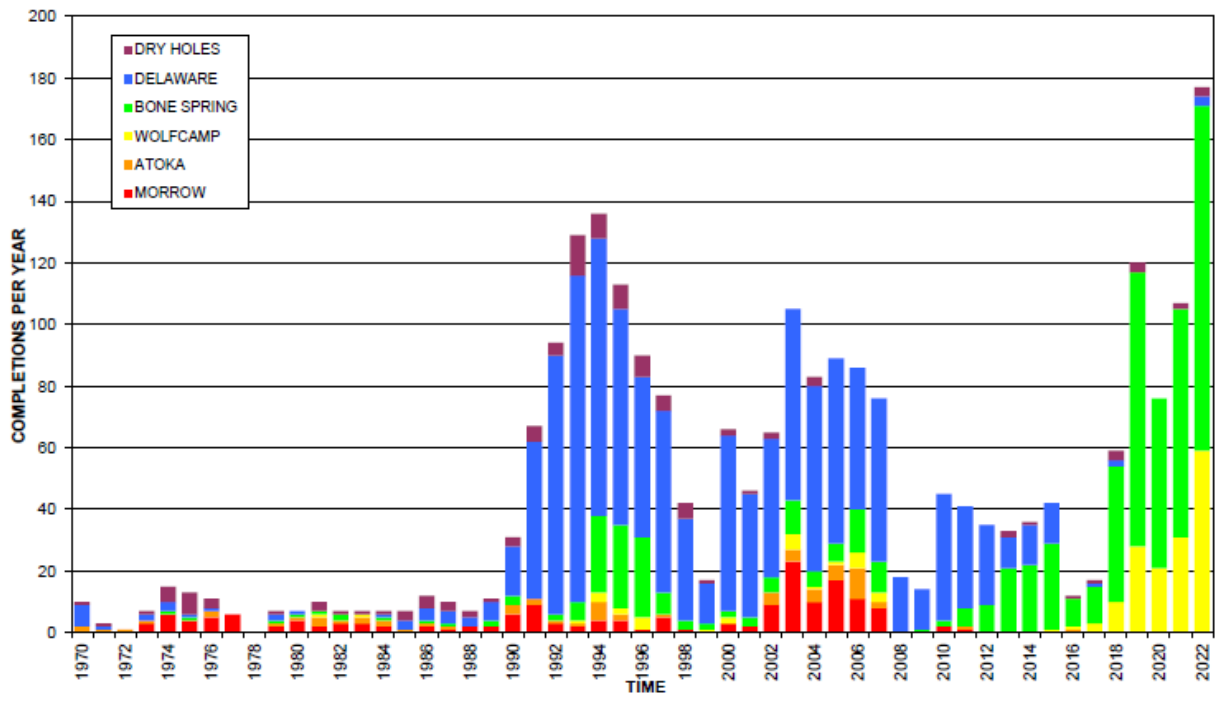
Figure 4: Wells Near and Within the WIPP Land Withdrawal Boundary



Latest Study Area Drilling Activity

Figure 5 illustrates the annual well development in the WSA area since 1970, Additional information for these wells is found in Appendix III. The Figure shows gradual ongoing development of oil and gas wells during the first two decades with a marked increase in the oil well development starting in 1990.

Figure 5: Well Completions vs. Time in the WIPP Study Area



As illustrated in Figure 5, wells targeting the DMG constituted the majority of drilling from 1985 through 2012. A significant change began in 2010, however, as the oil and gas industry began shifting from vertical to horizontal well drilling. The 2008 review included only three but by 2016 the horizontal rigs accounted for fully 90 percent of the average 2016 Permian Basin rig count of 980. Because of the horizontal drilling and improved stimulations, formations previously deemed marginal could be developed profitably and, in New Mexico, operators began targeting the Bone Spring, Wolfcamp, and Yeso formations (carbonate shelf equivalent to the Bone Springs formation – see Figure 3).

The predominant style of drilling continues to be horizontal and, in the first half of 2022, over 80% of the 500-600 U.S. active rigs were horizontal wells[13]. A quick check of the drilling in the WSA (see Figure 6 for total active rig counts) suggests that 100% of the wells are horizontal in early 2023.

Another new trend has developed with drilling of longer laterals. The increased lateral length trend started during the year 2016. In the first part of the year most wells targeted one-mile length laterals. Today, 2 to 2.5 mile-length laterals are common. In the last two years, some 4.5-mile length laterals

[13] https://www.eia.gov/todayinenergy/detail.php?id=52138

have been drilled to the south in T24S R30E that extend northward into T23S R30E and in the potash mining region. One-mile-long laterals are still being permitted by operators due to land lease considerations but, today, they are considered less economic projects than the longer length lateral projects. Figure 7 illustrates the numbers of drilling permits submitted by Exxon in the 12 Townships (4 added to the south in T20S). Four of the 4.5-mile laterals have been drilled as of early 2023.

Figure 6: Active Rig Counts in the U.S. and Permian Basin

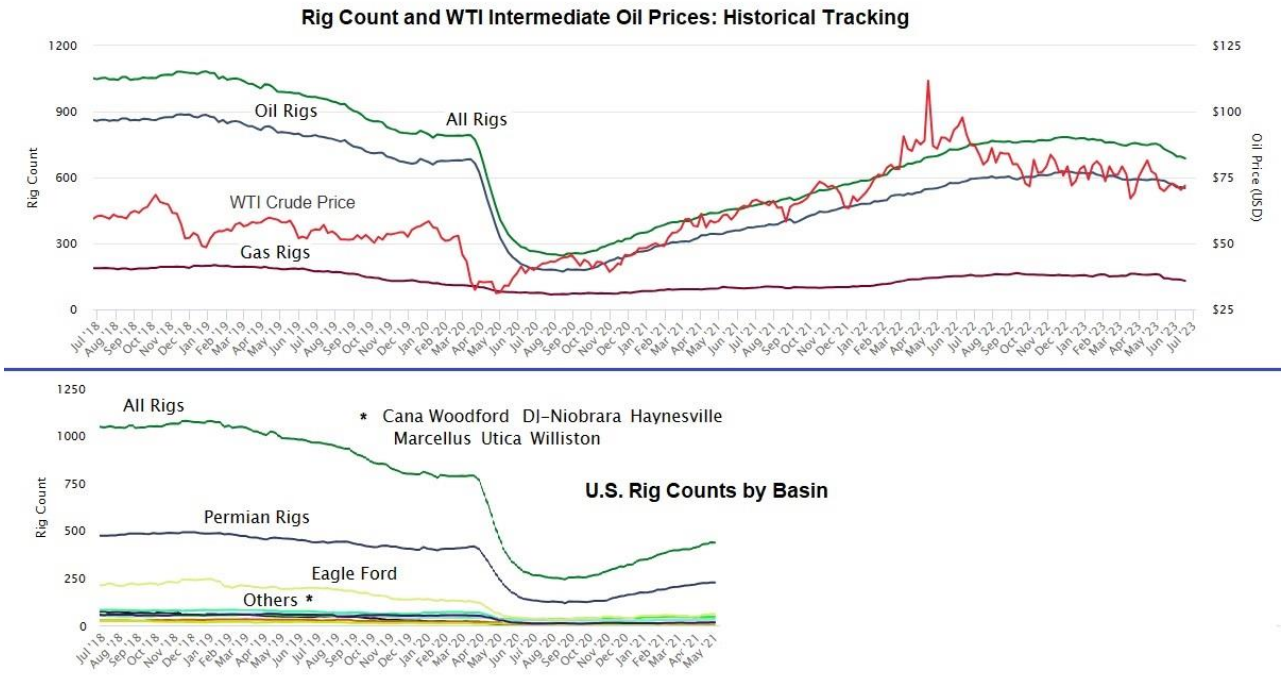
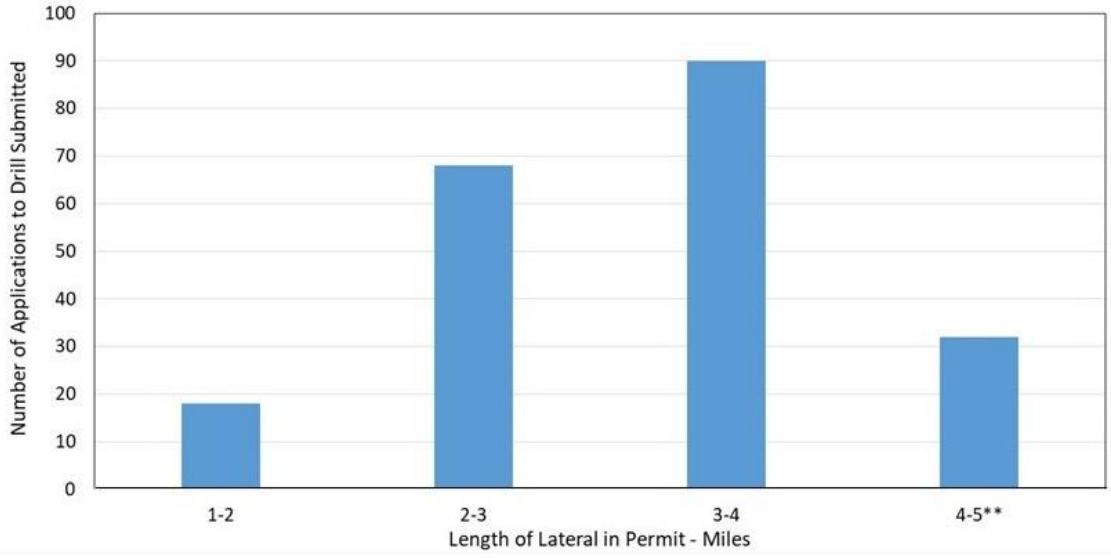


Figure 7: Exxon Horizontal Well Permits in the 12-Township* Area (as of Apr '23)



* The 9-Townships of the WIPP Study Area plus the 3 along the south border
** Maximum Lateral Length is 4.5 miles

In 2015 a new industry statistic was added to better reflect changing trends. The concept of the number of active hydrofracing crews (aka "frac fleets") was added as an industry index. The term most commonly used today is "frac spread count[14]" and it averaged 675 crews in 2016. Much like the rig count statistics, the numbers have fallen where they are averaging near 275 in the first half of 2023. Most of the increasing lateral length, rig count and frac spread statistics cited above can be considered to apply in general to the WSA.

In the WSA, historical vertical Bone Spring wells offered relatively low reserves of approximately 67,500 equivalent barrels and 0.26 Bcf per well. In contrast, horizontal Bone Spring wells are expected to recover 577,000 barrels and nearly 1.5 Bcf per well (Table 2). Furthermore, the initial oil rates are high with a first month's production of 25,000 barrels per month in a normalized analysis thereby offering quick expense recoveries (well payouts).

As illustrated in Figure 5 above and Figure 8 below, vertical Delaware wells were displaced by more economically attractive horizontal Wolfcamp and, more currently, Bone Spring wells. Delaware drilling, although economic in the past, appears largely unattractive today. Figure 9 illustrates oil production in the 9-township study area by formation expressed as a percentage of total production. The DMG (Delaware – orange, Brushy Canyon – lt. green, Cherry Canyon - yellow, and Bell Canyon – brown) provided most of the oil production from 1985 through 2015, a period of 30 years. With the advent of horizontal drilling, the Bone Spring (light blue) and Wolfcamp (dark green) formations emerged as the dominant oil productive formations. When combined, these formations surpassed one-half of oil production in the WSA in 2015 and today account for 97 percent of the total oil production. Appendix VII charts the production from current wells though and production projections through early 2023. At present, 118 horizontal wells are in some stage of drilling or completion in the 9-township study area. This compares to 177 new well completions in 2022 and suggests new horizontal Bone Spring and Wolfcamp wells can remain economically attractive to E&P companies today at 2023 service company costs and oil prices in the $70/barrel range.

[14] See https://primaryvision.co/

Figure 8: Oil Production by Formation (percentage) versus Time

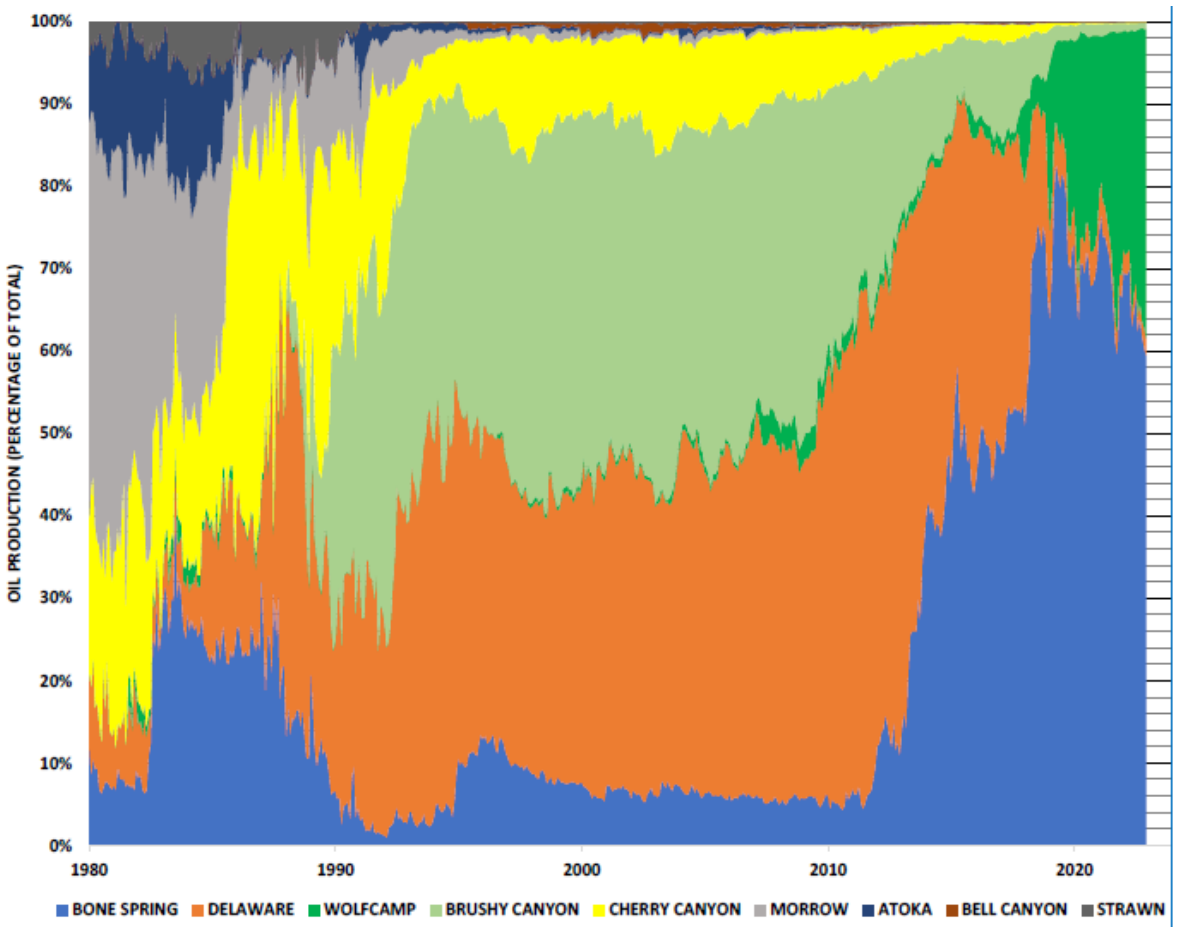


Figure 2 provided a map-based illustration of the wells in the WSA. Figure 9 adds the wells that have been permitted (but not drilled as of mid-year 2023). This filing of permits to drill a new well offers another valuable insight into today's economic viability for the 9-township study area. Permitting always precedes drilling of course and the economic conditions at the time of permit filing can often change by the time drilling is to commence. If prices improve, drilling will likely accelerate, however, if prices deteriorate, the new well may not be drilled and the permit allowed to expire. At NMOCD, permits expire after two years.

In 2020, permits were filed for 462 wells with 195 eventually drilled. As a result of the Covid-19 pandemic, hydrocarbon prices (especially oil), plummeted in early 2020, dropping from about $75 per barrel at the beginning of the year to $15 per barrel in April 2020. The desire to drill new horizontal wells fell along with oil prices and only 142 permits were filed in 2021. To date, 84 of those have been drilled. By early 2022, oil prices improved to about pre-pandemic values and in 2022 permit filings increased to 211. Of these, 55 have been drilled. While all permitted wells are not drilled, the metric

further indicates the economic viability of these horizontal Bone Spring and Wolfcamp wells in today's price environment.

Figure 9: Repeat of Figure 2 but Adding Permitted and Undrilled Wells (as of June '23)

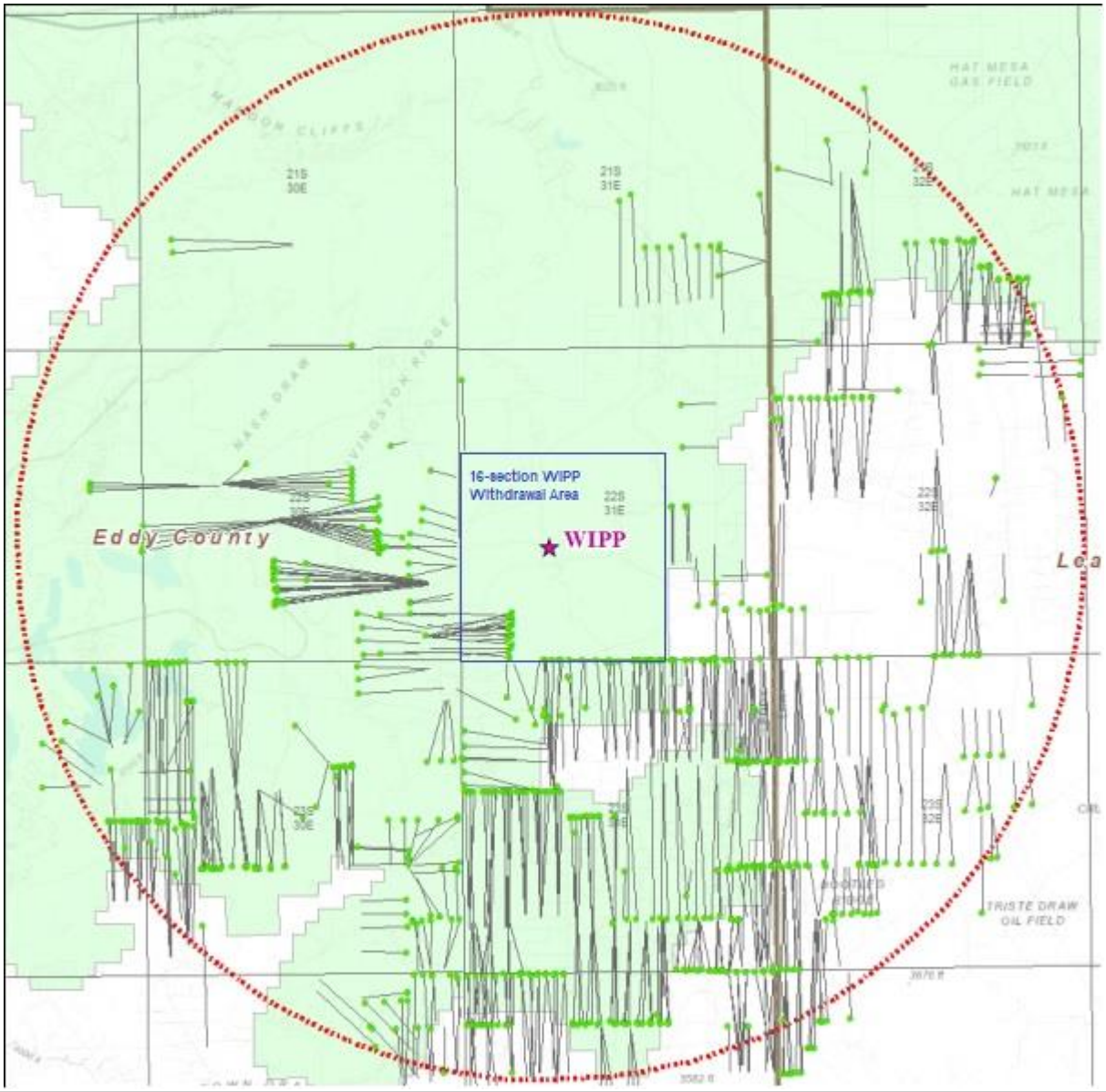


Figure 10 illustrates the rather dramatic increases in oil production due to the horizontal drilling in the WSA. The rapid growth of the last five years can be seen in both the associated gas and oil production but, as will be shown in the next figure and section, a similar rapid increase in water production would be expected. The gas produced is a commodity providing revenues to the well owners when nearby pipelines can be connected to the new wellheads. This is contrasted to the highly saline produced water and provides no value unless some percentage can be recycled for drilling or hydrofracing of future wells. The unused remainder needs to be injected into wells dedicated for disposal, i.e., salt water disposal wells or SWD's.

Figure 10: WIPP 9-Township Oil & Gas Horizontal Well Production

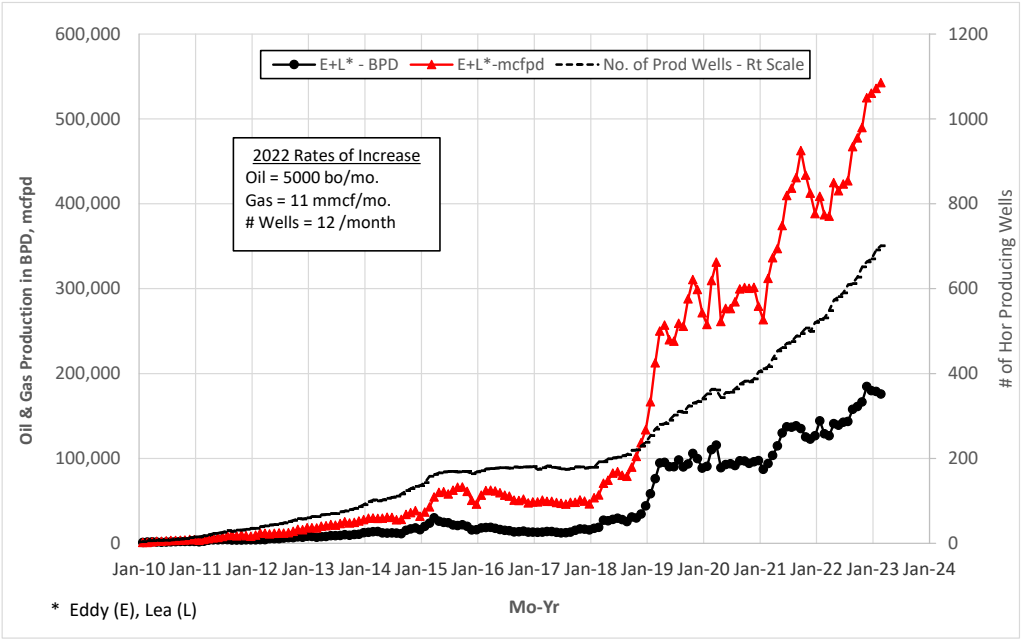
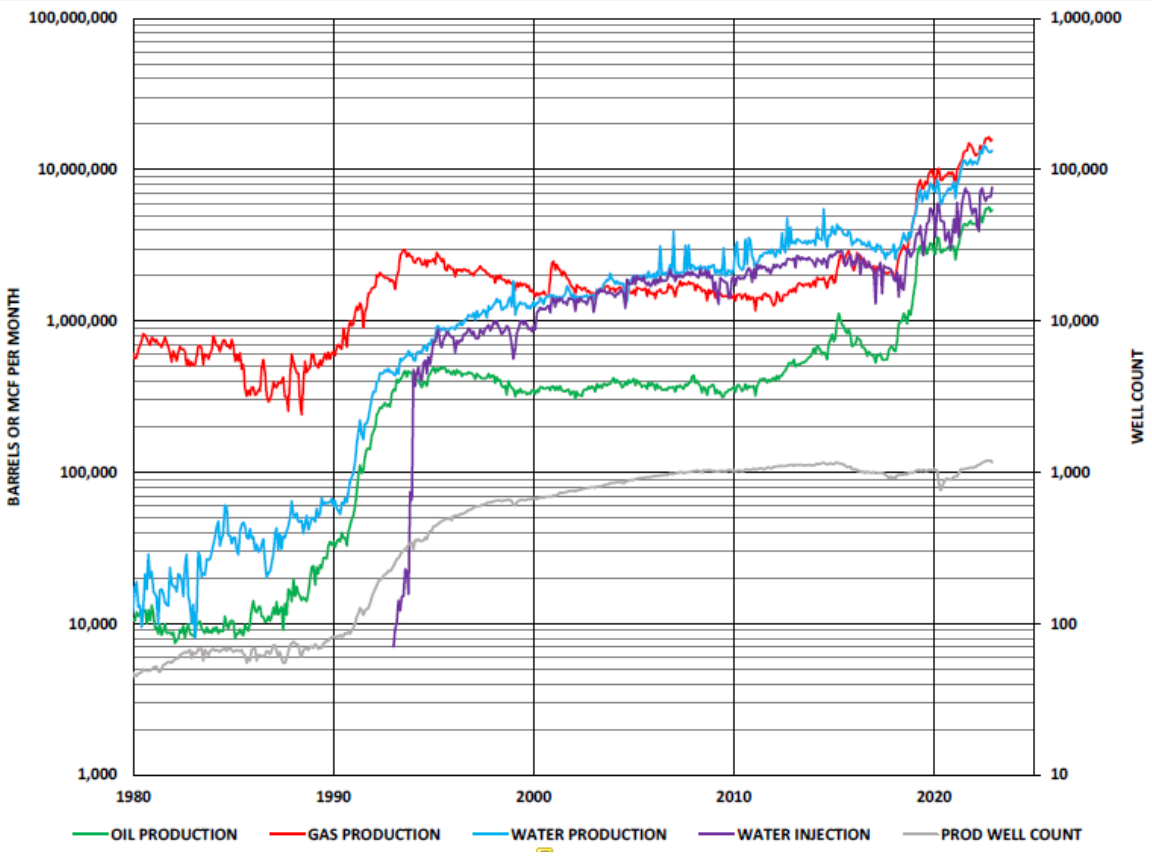


Figure 11 also displays the increasing numbers of horizontal wells actively producing in the WSA surrounding the WIPP site. As mentioned earlier, one can note that the rates of drilling changed in late 2018. The rate of change was dramatic for several months then levelled out and has found an average of ~12 new wells per month in year 2022. Oil prices vary of course and were somewhat elevated at over $90/barrel for the 2022 year; natural gas prices were also elevated making both oil and gas revenues more robust.

As shown here in Figures 9 and 10 and was also apparent in Figure 2, the horizontal drilling interest is very high in the region around the WIPP site. The darker points shown earlier in Figure 9 are the surface locations and the lighter ones the "toe" of the horizontal lateral. Note that in Figure 9 the existing wells are shown along with those that have been permitted as of the 1st Quarter of 2023. New well permitting and drilling was accelerating in 2022 but prices have fallen back in 2023 and many of the 2022 permitted wells may or may not be drilled with the current prices in 2023.

Figure 11 provides an alternative depiction of the oil, gas and well counts but now adds monthly water production and injection for all of the wells in the 9-township study area. Note that here the changes in magnitudes of the products require vertical scale display in a logarithmic format. The monthly volumes are plotted versus time for a period from 1970 through 2022. Unlike the previous Figure 10, this graph includes all wells regardless of productive interval (Morrow, Atoka, Bone Spring, DMG, Wolfcamp, etc.) and includes the two types of water injection wells (SWDs and WI wells) but does not include the water used in stimulating the horizontal wells (hydraulic fracture fluid).

Figure 11: Production Summary for Wells in the Study Area



The graph illustrates several important features for wells in this area. Most importantly, total water injection is essentially equal to water production for the early years prior the fast changes starting in 2018. The produced water provided the required water for mass balancing the water floods in the region and little or no make-up water was needed/injected. During the five years, from 2013 through 2017, water production averaged 111,163 barrels of water per day while water injection averaged 91,370 barrels of water per day. The authors suspect the difference between these two values probably represents inaccuracies in water measurement and, after considering this factor, the values are essentially equal. Since produced water, unlike oil or gas, is not sold, most operators tolerate some error in measuring produced water volumes.

The departure of produced vs injected water in the WSA, beginning in 2018, will be addressed in greater detail in the next section.

An unfortunate attribute of the horizontal wells is that they do not just make oil and gas. With all the new commercial production comes a considerable amount of associated produced salt water. Some ask why the water is not just reinjected back into the same formation to act much like a water flood and sweep more oil and gas to the remaining producing wells. However, the formation is not a conventional one, i.e., possessing sufficient permeability to move injected fluids to nearby wells within a reasonable time frame. As a result, the produced water must be injected into conventional reservoirs with their greater permeabilities. This leads one to conclude the horizontal (unconventional) drilling plays are essentially primary recovery plays without an opportunity to become a flood and, as a result, rely on depressuring the reservoir. With the lowering pressures, the entrained gas expands and pushes some of the formation liquids to the pressure 'sink' (wellbore). If the water were to be injected back into the producing unconventional formation, it would be a very long duration and limited process. In addition, it would be partially repressuring the formation and slowing the needed gas expansion thereby reducing the volumes of oil and gas that will be produced. This unconventional reservoir play therefore requires that the produced water be disposed into other formations and salt water disposal (SWD) wells are used for this purpose. For this reason, and the large volumes of produced water, it is important then to look both at the past and new development of injection and SWD wells in the recent years as the horizontal well activity ramped up.

SECTION III: WATER INJECTION DEVELOPMENT AND TRENDS

The water injection data used herein consists of several sources of information to include well injection volume data and well testing data. The previously presented well volumes of oil, gas, water and water injection were obtained from a combination of sources including the New Mexico Oil Conservation Division, New Mexico Oil & Gas Engineering Committee, IHS Production Data[15], and Enverus[16]. Both Enverus and IHS maintain proprietary databases derived from public records. Unfortunately, access by the public requires a membership. Well test data were obtained from well files at the NMOCD office in Santa Fe, New Mexico and from the Risk Based Data Management System (RBDMS) database in the NMOCD District I office in Hobbs, New Mexico and the OCD District II office in Artesia, New Mexico. All presented data were obtained during March 2023 and include all data available through December 2022.

The multiplicity of water injection (and water production) data leads to a variety of inconsistencies in the reported water data sets. Publicly reported data is commonly thought to be inadequate in representing water data reality in addition to being outdated since data reporting is generally done only on an annual basis. IHS and Enverus sources attempt to reconcile the various well operator report forms to better represent the well and lease statistics; however, they still have the outdated issue. Both the regulators and industry parties are aware of the public water data ambiguities and reporting delays and have attempted to contract additional third parties to assist in obtaining more reliable and informed water data on a timely basis. B3 insight is a company that has taken on that task for the NM and TX

[15] See https://www.spglobal.com/commodityinsights/en/ci/products/us-well-data.html

[16] See https://www.enverus.com/

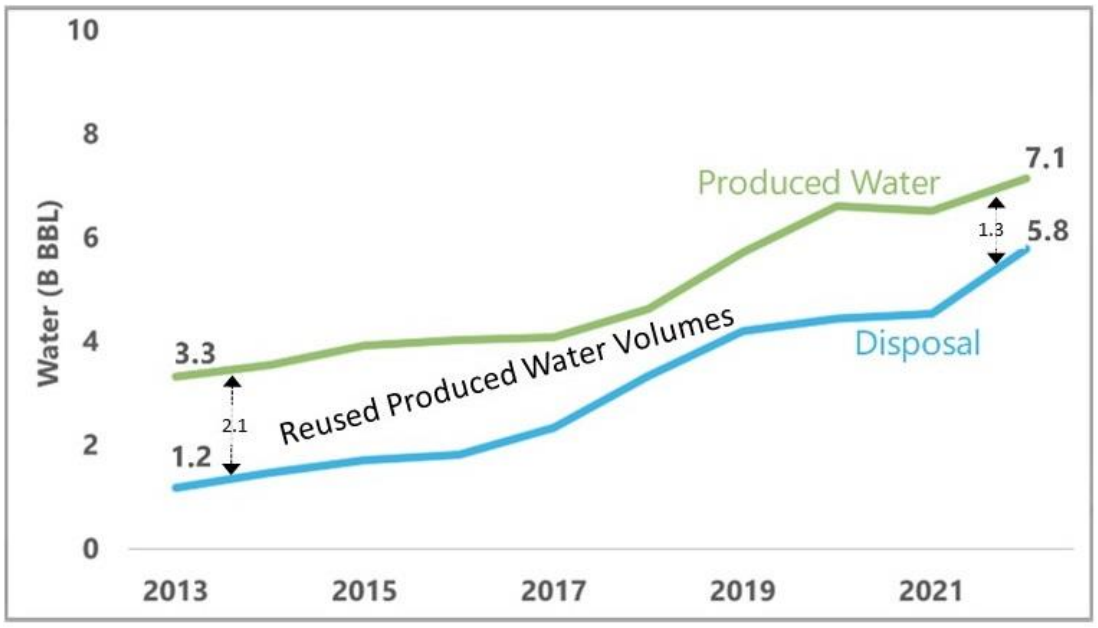
parties most concerned with the produced water and injection data. The authors of this report contracted with B3 to assist in acquiring the most reliable data for this report and suggest that the B3 data be considered most reliable herein.

The Kirkes, et al (1997) report on current injection practices and failure rates in the WSA of the Delaware Basin identified a total of 26 total injection wells with 21 of those active SWD wells, three active flood support wells, and two temporarily abandoned (TA'd) injection wells. The updated 2003 report listed 39 total injection wells with 36 of those being SWD wells and 3 inactive or abandoned wells. The numbers updated in 2008 increased to 54 total injector wells with 51 SWDs and 3 TA'd or abandoned. By 2013, the reporting included 64 total injectors with 58 SWDs and 6 TA'd or inactive. By 2018 a total of 74 SWDs were noted with 11 wells TA'd or inactive. This report, effective January 1, 2023 finds 66 active and 17 inactive injectors for a total of 83 in the WSA. While the newer numbers do not seem to reflect the growing trends in producing wells, the depths of the SWD wells have changed dramatically.

Since the July 2018 Injection report, 10 new SWD wells began operating with all injecting into the deep Devonian formation. Average daily injection of all wells is now at approximately 203,800 barrels of water injected per day (BWIPD) or approximately 3,100 BWIPD per active WI plus SWD well. This compares to average daily injection of 91,400 BWIPD at the end of 2017 or approximately 1,270 BWIPD per well. Therefore, total injection has increased and is now more than doubled the rate of 5 years ago.

Some of the produced water can be reused for drilling fluids and hydraulic fracture treatments. But, as the volumes of produced water increase, the percentage of water reuse may have to change. Figure 12 [17] illustrates both the shrinking volumes of produced water reuse and the overall growth of disposal

Figure 12: Changing volumes of Produced and Disposed Salt Water within the WIPP Area



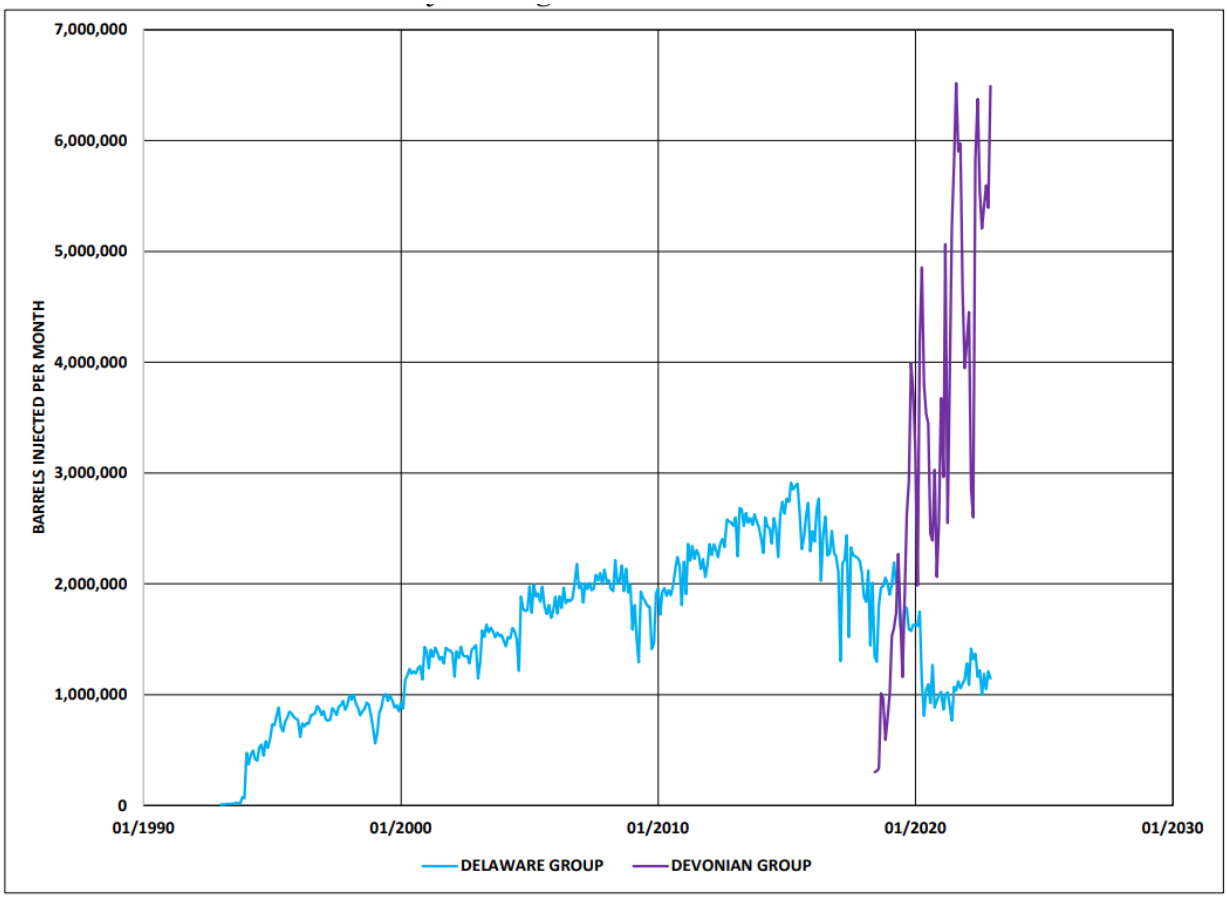
[17] Data provided by personal communication from B3 Insight (May 2023)

volumes in the WSA. B3 Insight data is compiled from a variety of sources and modeled to arrive at better estimates for total water statistics[18].

Figure 13 shows the injection by formation group (shallow formations are grouped together and termed Delaware Group (see Figure 3) as most of these wells inject into the DMG of formations). Injection into the DMG peaked in 2015 at about 95,000 BWIPD and has declined to about 35,000 BWIPD or at present. The deep Devonian SWDs are expensive since the formation is at approximately 16,500' depth but are justified due to the need to dispose of the large volumes of produced salt water and the permeabilities of the deep Devonian formation.

The salt water disposal into the Devonian formation has grown at an impressive rate since 2018 and today is about 189,000 BWIPD. On a per well basis, the Devonian Group injects about 14,500 BWIPD compared to 700 BWIPD for the DMG. The huge changes in disposal volumes are not necessarily reflected in the numbers of SWD injecting wells and due to the change of injecting depth and higher disposal capacity wells. What the data clearly show is that water injection in the 9-township area has transitioned from the shallow Delaware formation to the much deeper Devonian formation.

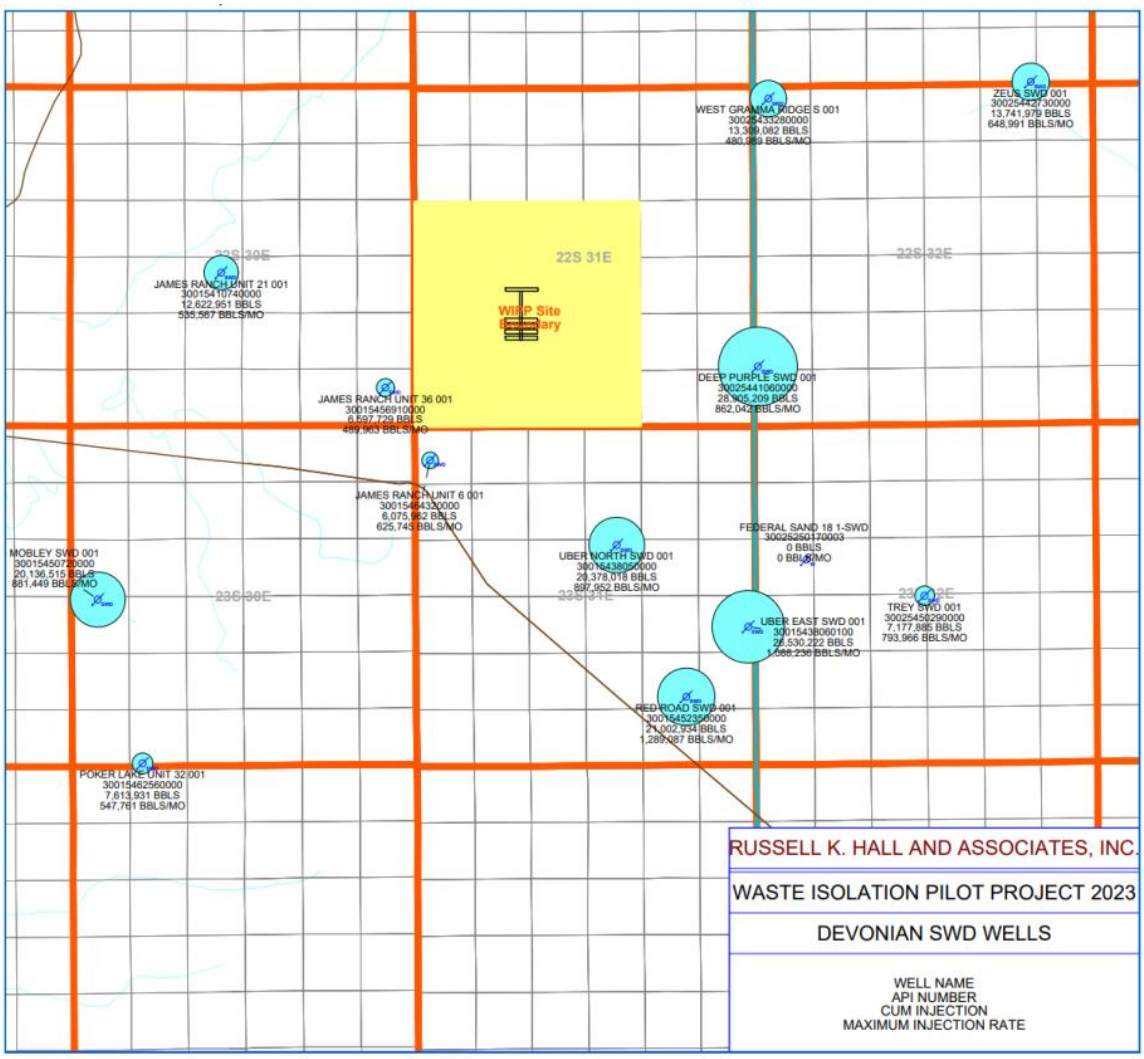
Figure 13: Water Injection versus time in the WIPP 9-township area



[18] Ibid, B3 Insight

Figure 14 maps the locations of the deep Devonian SWD wells. Cumulative injection volumes (denoted by the contrasting sizes of circle diameters). The maximum injection rates are posted on the map. The Devonian formation occurs at a depth of approximately 16,500 feet and slowly increasing in depth to the southwest across the subject area. The Devonian thickness varies from 500 to 800 ft and, throughout the Northwest Shelf, the Devonian formation typically is a fractured dolomite with occasional karst development and vuggy porosity. In its occasional productive well, it usually exhibits a water drive (an occasional thin oil column structurally trapped on top of thick water column).

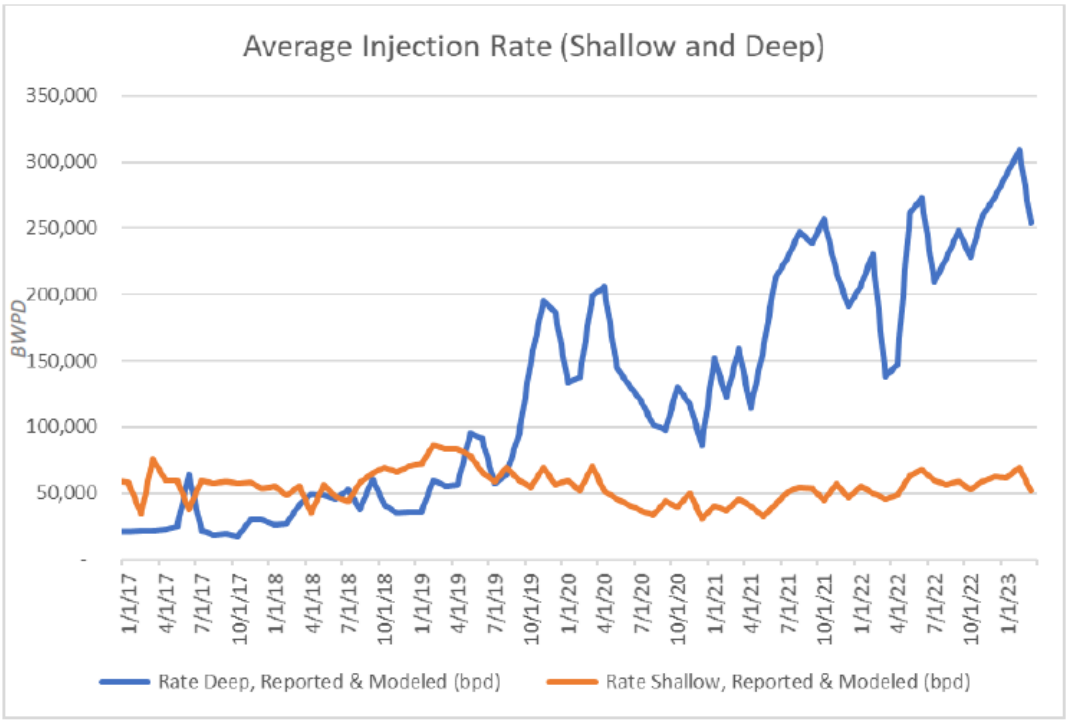
Figure 14: Deep (Devonian) SWD Well Map



With the growing interest in horizontal wells in the Permian Basin, the need for accommodating disposal of large volumes of salt water, and an awareness of growing seismicity in areas of the Permian Basin, a robust industry effort was initiated in an attempt to model how the injecting formations are responding to the changing disposal volumes. The study was able to obtain access to a key modeling company[19] and chartered a regional study of actual surface and assumed formation pressures within the WSA. The modelling of the reported injection data to the NMOCD, almost always dated to at least 12 months in the past, meant the fast-changing disposal information was not current. One of the purposes of the chartered modeling was to provide more current information. Their model uses the "officially" reported monthly data but using some algorithms and augmented data to bring all well results to early 2023.

Figure 15 illustrates the total injection rates in the WSA for the separate shallow and deep (Delaware and Devonian) injection intervals from January 2017 to January 2023. The shallow volumes are showing relatively constant levels for the six years while the deep clearly emphasizes the increasing reliance on deep WSA SWDs.

Figure 15: WSA Average Injection Rate (Shallow and Deep Disposal Intervals)



[19] B3 Insight, https://www.b3insight.com/

Figure 16: Average Surface Injection Pressure for the Shallow and Deep Injection Intervals (WSA)

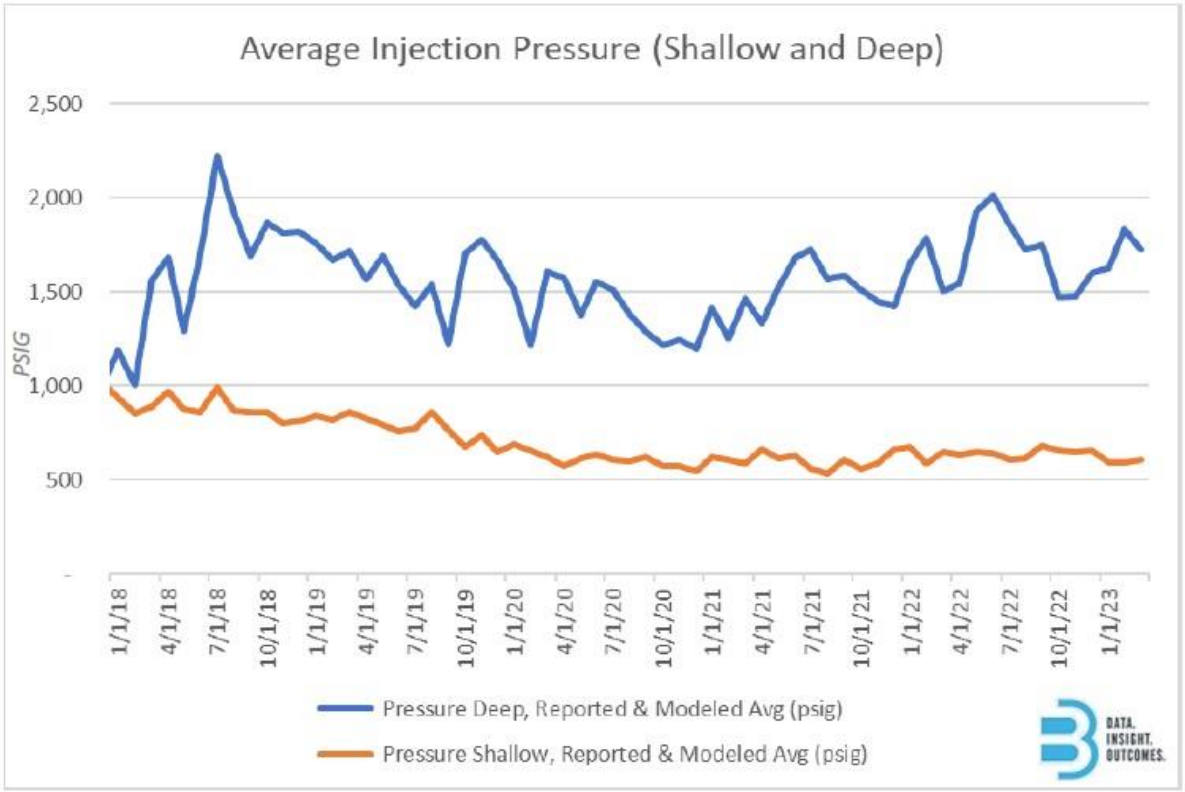
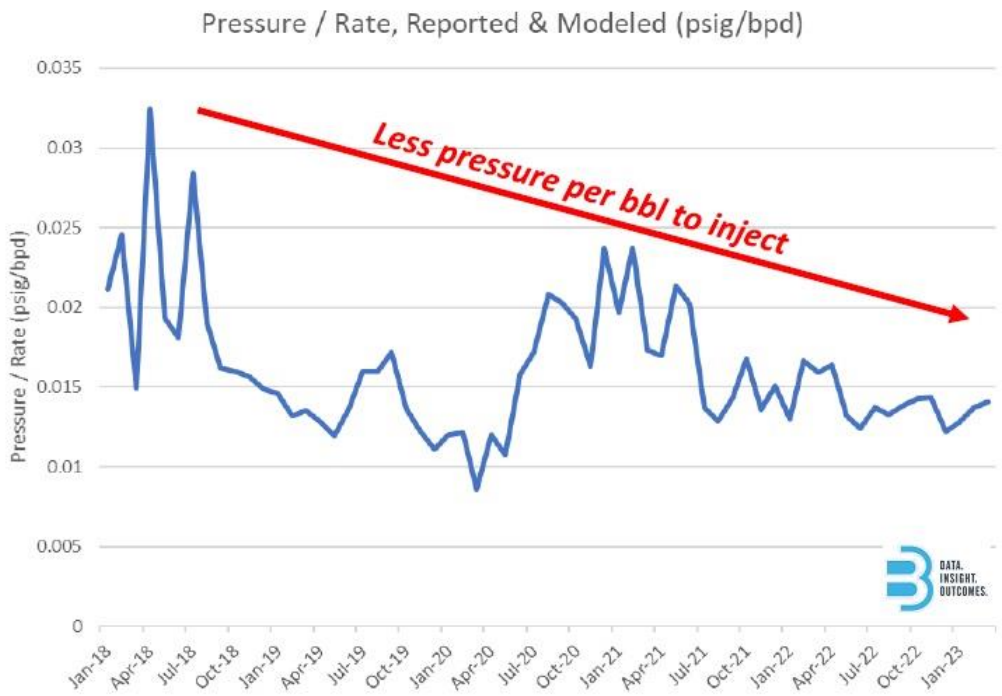


Figure 16 utilizes the data of volumes and reported surface pressures to model reservoir pressures to arrive at the trends of pressure vs. time. The trend of the decreasing shallow DMG (shallow) pressures leads to a conclusion that some of the volumes that were going into the shallow injectors have been diverted to the deep ones. The deep injectors have shown in increase in surface pressures in the early year (2018) but are showing a leveling off in spite of the increasing volumes being injected. One is led to the conclusion that the reservoir volumes in the deep Devonian formation are sufficiently large that, regionally at least, the volumes are not reaching a reservoir barrier that would increase the overall pressure.

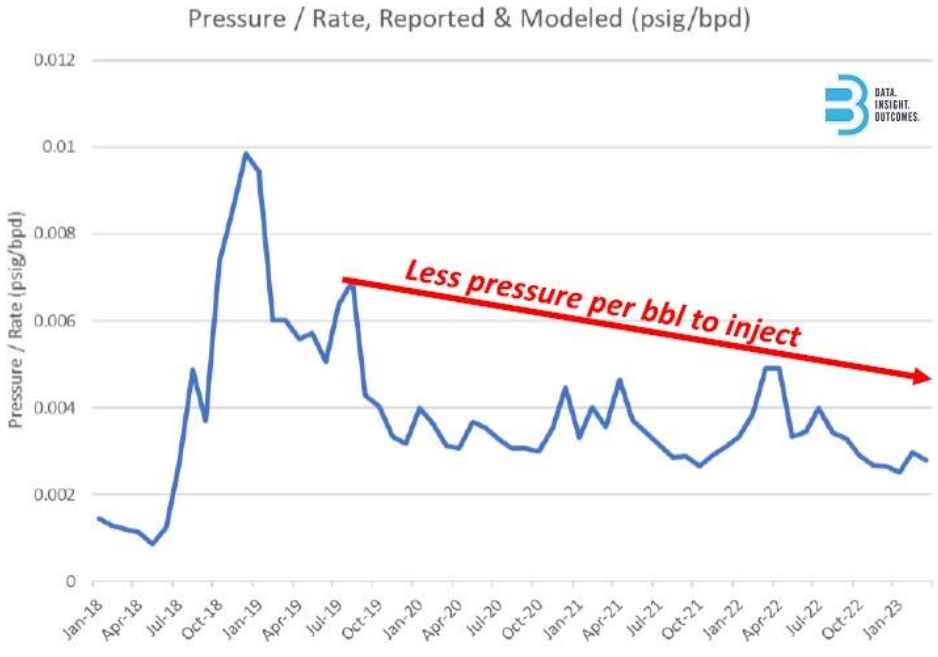
The model can also be used to examine another parameter of importance related to “injection efficiency” or the pressure it takes to inject of barrel of salt water. Figures 17 and 18 look at the 6-year declining trend of the parameter for the shallow and deep reservoir intervals, respectively.

Figure 17: Average WSA Shallow Injection Well Zone – Injection Efficiency



Increasing injection efficiency trend in shallow injection wells

Figure 18: Average WSA Deep Injection Well Zone – Injection Efficiency

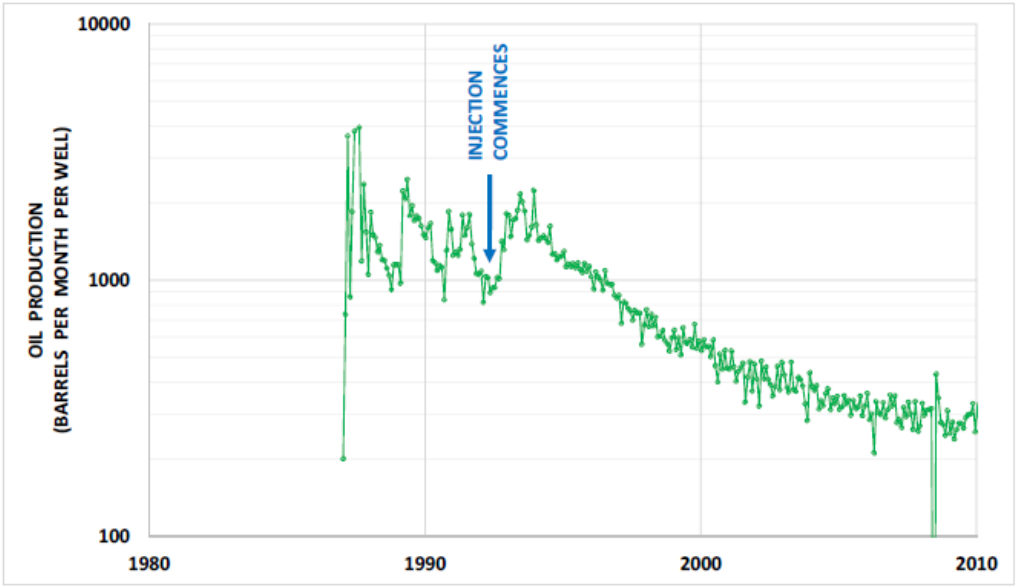


Increasing injection efficiency trend in deep injection wells

Reservoir Mass Balancing: Water Flooding in the WSA

The authors reviewed the performance of every DMG producing well in the WSA to determine if there is ample evidence that water injection influences oil and gas production. The first group of wells with injection response is found northwest of the WIPP site in township 22S 30E in the Cabin Lake (Delaware) Field (see map in Appendix II with Appendix VIII being the key to the shown well symbols). Individual well production charts are shown in Appendix VII.

Figure 19: Oil Production Rate for Cabin Lake Field (average per well)



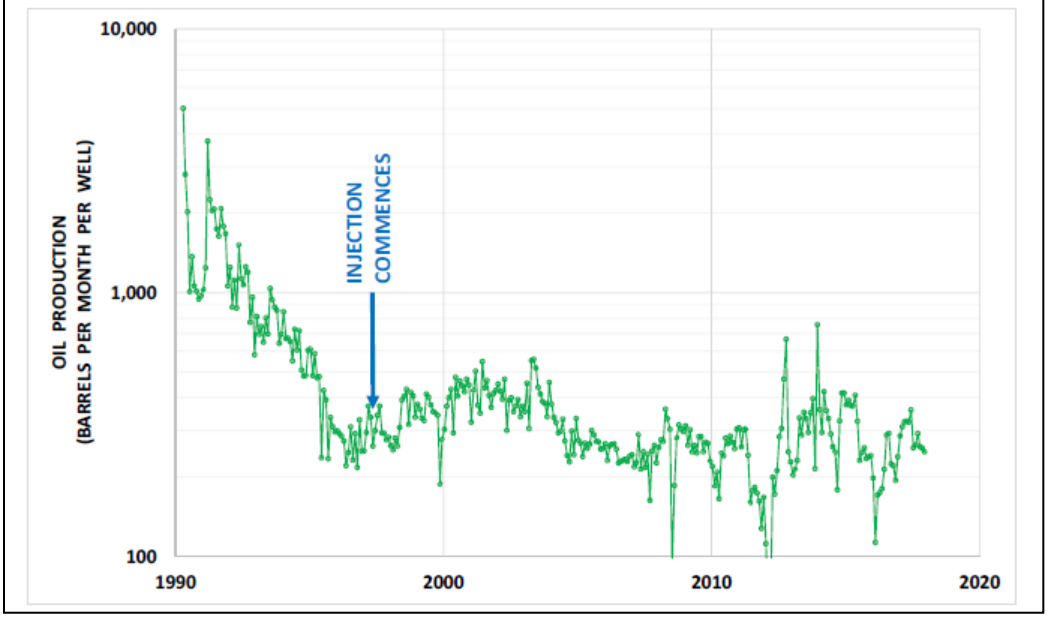
Six producing wells responded to water injection in 1992 as shown in figure 19. In this instance, Delaware oil wells exhibited either (1) increasing production or (2) production that declines more gradually than is generally expected based upon field-wide characteristics.

ConocoPhillips Company operates both the injection wells and producing wells. Discussions with the operator indicate no plans are presently in place to expand injection, either with larger volumes in the existing wells or with additional injection wells. Furthermore, the operator believes further study of the Delaware formation is needed before the working interest owners could approve such an expansion project. We believe the operator will not pursue an expansion of this project for several reasons. These include: (1) staff and financial resources do not appear to be directed toward such a project, (2) the total project is relatively small and offers little incentive for a large major company, (3) lifting costs would increase substantially which appear contrary to corporate goals, and (4) the Delaware formation is complex with challenging lateral connectivity and limited current understanding as to productive or injective intervals (both Cherry Canyon and Brushy Canyon intervals are open in producers and injectors).

These hurdles are significant and, consequently, it appears that the expansion of water injection activities in the Cabin Lake (Delaware) Field by Conoco Phillips Company is unlikely and that the pressure support via injection of produced water is likely to be maintained only at current levels.

The second area with response to water injection is found in the Livingston Ridge (Delaware) Field. Three wells exhibited improvement in oil production in 1998, due to water injection in the Neff Federal no. 3 (see figure no. 20).

Figure 20: Oil Production Rate for Livingstone Ridge Area (average per well)



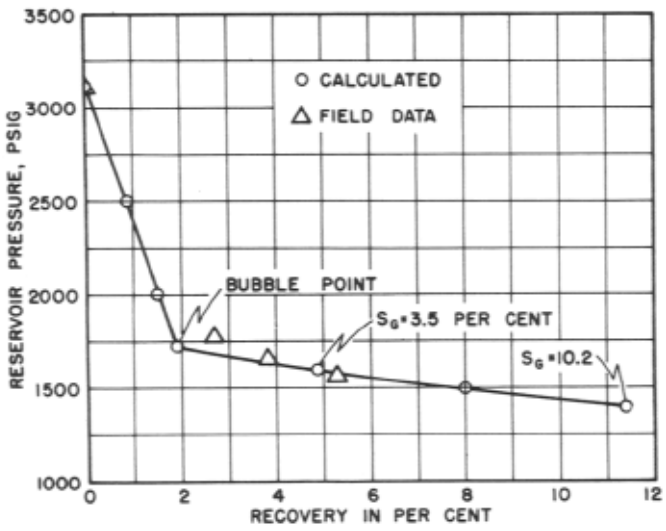
The primary recovery phase performance of the East Livingston (Delaware) Field was characterized by Weiss et al. (1995)[20]. This field is located in T22S R32E, about five miles east of the WIPP site boundary. Their work compared actual primary performance to a reservoir model consisting of seven layers, each corresponding to a different geological interval in the Brushy Canyon formation. After matching the model's projected production to three years of production data, Weiss et al suggested a very low primary recovery factor (0.67 percent) for the current 23 producing wells. This low primary recovery is consistent with the Avalon field to the west of the WSA with a projected primary recovery of 1.5 percent reported by Kane and Cantrell (1995).[21] To improve total recovery, the authors modeled both (1) an infill drilling project and (2) a secondary recovery project using two uneconomic producers converted to water injection. For the water injection project, they concluded "the high water cut, a low oil recovery characteristic of the simulated waterflood suggest that it is not a viable strategy. In addition, Jenkins

[20] Weis, W., Ouenes, A., Sultan A. (1995), and New Mexico Petroleum Recovery Research Center, "Characterization of a Delaware Slope Basin Reservoir for Optimal Development." SPE Paper 29597, presented at the SPE Rocky Mountain Regional/Low-Permeability Reservoirs Symp, Denver, CO, U.S.A., Mar 20-22, 1995.

[21] Kane, and Cantrell, D.L., "Production History and Geology Avalon (Delaware) Field." A Symposium of Oil and Gas Fields of Southeastern New Mexico. Roswell (NM) Geol Soc 1995.

(1961)[22] suggested that there is the factor of high interstitial water saturations that might result in inefficient flooding of the Delaware sands. Based on lack of response to injection in this field, these conclusions seem reasonable. The anticipated lack of response to the secondary (enhanced) oil recovery, the use of reservoir pressure support, water injection (WI) wells in the Delaware Basin is likely to remain limited.

Figure 21: Reservoir Pressure vs. % Oil Recovery



As reservoir fluids (oil, gas, water) are produced in undersaturated oil reservoirs, reservoir pressure decreases. The Delaware formation in the study area is considered an undersaturated oil reservoir based on performance characteristics. Figure 21), after Craft and Hawkins (1959)[23], depicts how pressure typically declines in solution-gas drive reservoirs. (Please note, the graph represents a typical solution-gas drive reservoir, the Kelly Snyder Field, and is not calculated from any of the fields in the study area. As shown in Figure 21 as this graph illustrates, reservoir pressure decreases as fluids are withdrawn (shown percent oil recovery). The pressure decrease is most pronounced above the bubble point when gas remains in solution and fluid expansion is the dominant drive mechanism. This is because reservoir fluids are relatively incompressible and small changes in volume (delta V) translate into large changes in pressure (delta p). The reservoir pressure changes more gradually once pressure falls below the bubble point as expansion of the fluid is a combination of fluid expansion and increasing gas saturation. Since the DMG formations produce under a solution gas drive mechanism, average reservoir pressure decreases with time, provided total withdrawals exceed total injection. Hence if total fluid production (oil, gas, water) is a larger volume (at reservoir conditions) than total fluid injection (water) the average reservoir pressure has decreased with time. This assumes the injection is evenly distributed throughout the reservoir such that no area receives a disproportionate injection volume in relation to production. This assumption will, for now be accepted, but will be shown correct later in this discussion. Figure 22 shows the injection / withdraw ratio versus time for the DMG in the study area. With a ratio = 1, the injection would be equal to the fluid withdrawals and the reservoir remains in a mass balanced condition.

[22] Jenkins, R.E. (1961), "Characteristics of the Delaware Formation." Journal Petr Technology : 1230-1236, 1961

[23] Craft, B.C. and Hawkins, M.F. (1959). Applied Petroleum Reservoir Engineering. New Jersey: Prentice-Hall, 1959

Figure 22: Delaware Formation Injection to Withdrawal Ratio vs. Time in the Study Area

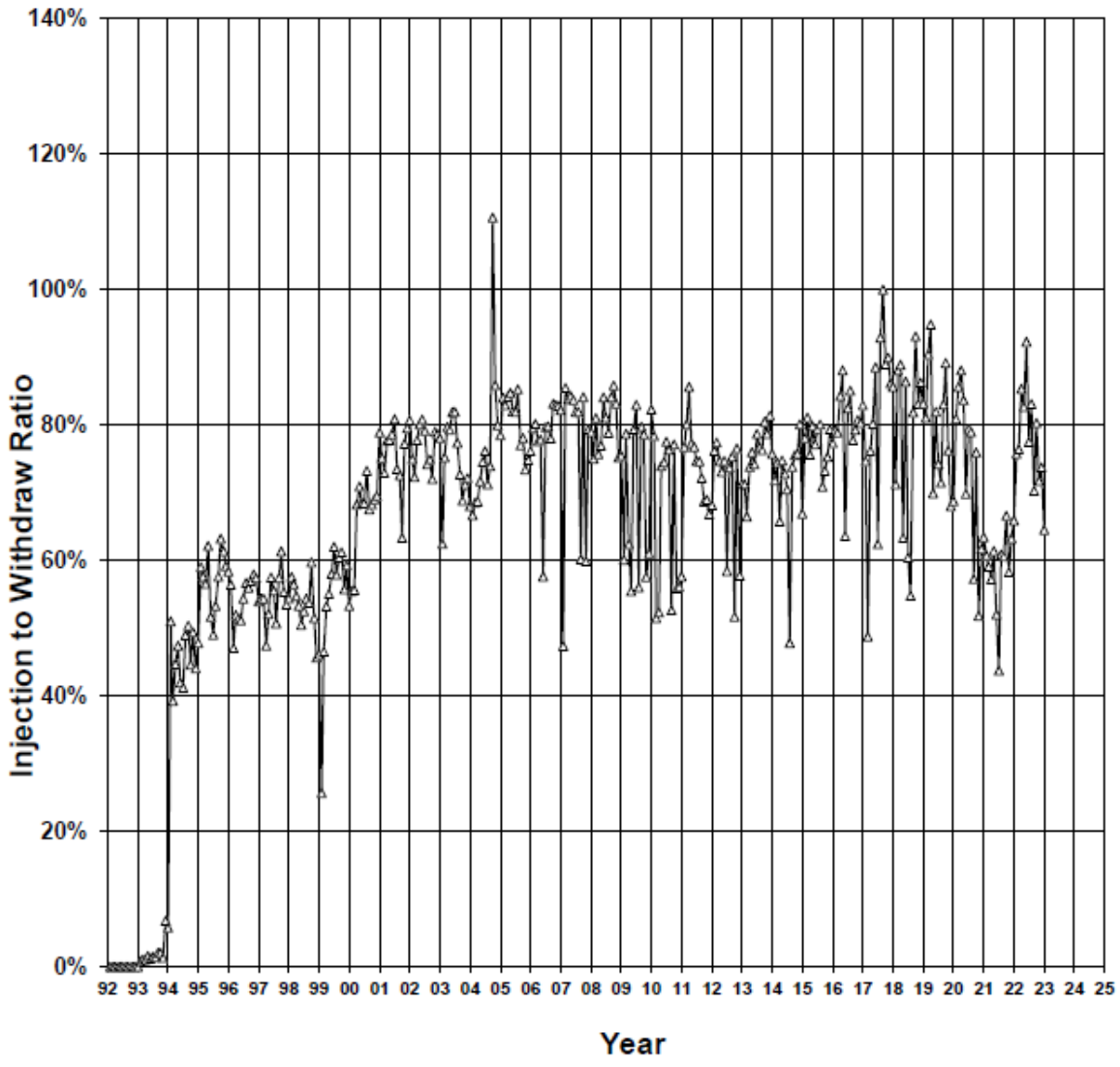


Figure 22 shows the injection to withdraw ratio continues to remain less than one. Overall (1) withdraws outpaced injection, (2) reservoir voidage continues to increase and (3) reservoir pressure in the DMG is declining. Although DMG injection has declined, production has also dropped, resulting in injection / withdraw ratio remaining relatively constant. Presently the current net voidage is approximately 253,000,000 reservoir barrels. At the present water injection rate into the DMG of 1,200,000 BWIPM, it would take about 32 years to fill-up the current voidage. This calculation assumes production declines 8 percent per year which is the current trend.

The highest rate Delaware injection well in the study area is the Todd 36 State no. 1 with its peak injection of 10,950 BWIPD in March 2015. Average injection during the past five years is 3,600 BWIPD

for this well. This well accounts for 8.4 percent of the total volume injected into the Delaware formation in the 9-township study area (need to update if possible)

The section with the highest reported Delaware injection rate is section 16 in T22S R30E with an average injection of 5,300 barrels of water per day into one well representing about 12.4 percent of the total. Fourteen additional sections have average injection ranging from 1,100 BWIPD to 3,800 BWIPD per day. The fifteen sections with the highest injection volumes account for 65.1 percent of the total injection in the study area during the past five years. These fifteen sections are scattered throughout the area, one is in township 21S 31E, two are in township 22S 32E, one is in T22S R30E, three are in T22S R31E, three are in T22S R32E, two are in T22S R30E, two are in T22S R31E, and one is in T23S R32E. A map of the nine-township study area (Figure no. 23) illustrates the injection percentage by township.

Figure 23: Percentage Injection by Township (5Yr)

21S 30E 0.0%	21S 31E 3.6%	21S 32E 2.6%
22S 30E 8.8%	22S 31E 14.8%	22S 32E 25.9%
23S 30E 9.7%	23S 31E 26.6%	23S 32E 8.1%

Injection Volumes from Hydraulic Fracturing

The overall subject of reservoir water injection is often broadened to include the process of stimulating a well to induce high permeability flow paths to the wellbore which accelerates its production of fluids. The horizontal wells in the vicinity of WIPP are drilled penetrating formations that possess low flow characteristics thus requiring the stimulation that is more often called hydraulic fracturing (hydrofracs). The horizontal portion of the well (the 'lateral') is divided into sections where clusters of perforations are isolated from other sections and are generally 200-300 feet apart. During completion of a well, the first of the hydrofracs starts at the 'toe' of the lateral and moves back toward the vertical portion of the well to the 'heel'. The designs of the individual hydrofrac treatments are intended to induce a 'fractured volume' of the reservoir out to approximately 300-500' from the laterals. When the last heel stage is complete, the multiple stages are recombined by drilling out the interstage isolation plugs. The volumes of fluid utilized in the hydrofrac treatments in 2022 was estimated at 70 million barrels in the perforated intervals.[24]

Once on production, the well performance can vary significantly but can result in well completions that are initially flowing back stimulation fluids and oil, gas and water and ultimately begin to make volumes sometimes in excess of several hundreds of bopd, equal to twice the amount of formation water, and several hundreds of Mcfpd. A good well will commonly be projected to produce in excess of 500,000 barrels of oil, 1.5-2.5 billion cubic feet of gas, and often co-producing 1.5-2.5 million barrels of formation water.

[24] B3 Insight Modeling of the WSA water injection

SECTION IV: INJECTION REGULATORY FRAMEWORKS

The study area surrounding the WIPP lies exclusively within the State of New Mexico and is subject to the Uniform Injection Code, which is administered by the New Mexico Oil Conservation Division (NMOCD). The Uniform Injection Code applies to all wells located in New Mexico whether the minerals are owned by private individuals, the State of New Mexico or the U. S. Federal government. The regulations governing water injection are stated in rules **19.15.9.701** through **19.15.9.710** and are included as Appendix V. The rules apply to injection for secondary or other enhanced recovery, pressure maintenance, salt water disposal and underground storage. Rule **19.15.9.701**.a states "The injection of gas, liquefied petroleum gas, air, water, or any other medium into any reservoir for the purpose of maintaining reservoir pressure or for the purpose of secondary or other enhanced recovery or for storage or the injection of water into any formation for the purpose of water disposal shall be permitted only by order of the Division after notice and hearing, unless otherwise provided herein."[25] Consequently, permitting and monitoring of water injection wells are closely regulated by the NMOCD to maximize hydrocarbon recovery, protect correlative rights[26] and ensure protection of the environment, both above and below the ground surface. New Mexico rules for injection are equal to or more stringent than nationwide rules associated with oil and gas production injection projects so the State of New Mexico applied for as was granted "primacy" in 1982 from the US EPA. In 2010, the EPA created a separate injection well class (VI) related to CO_2 injection and currently retains all authority for permitting of CO_2 wells for sequestration purposes in NM. This is addressed in a companion report on CO_2 injection[27].

Injection Well Testing and Reporting

Injection wells move water from surface facilities to subsurface reservoirs. The rate of fluid movement is proportional to the pressure differential between the sand face[28] and the average reservoir pressure. Thus, water injection wells involve some form of pressure in the wellbore, resulting from a combination of hydrostatic pressure (the weight of the water column) and injection pumps. To ensure the injection water is disposed into only the target interval, the NMOCD outlines cementing requirements (see NMAC **19.15.9.702**), operational procedures (see NMAC **19.15.9.703**) and periodic testing (see NMAC **19.15.9.704**). Cementing requirements state the wellbore casing "shall be so set and cemented as to prevent the movement of formation or injected fluid from the injection zone into any other zone or to the surface around the outside of any casing string (Catalano et al. 1995[29]).

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[25] New Mexico, Title 19 Natural Resources & Wildlife, Chapter 15 Oil & Gas, Part 9 Secondary or Other Enhanced Recovery, Pressure Maintenance, Salt Water Disposal, and Underground Storage, February 1, 1996

[26] Rights of nearby mineral owners in the producing interval

[27] 2023 CO_2 Report in Preparation

[28] Boundary of the well bore and cement sheath to the formation

[29] Catalano and Markus D. Thomerson, M.D., (1995), "Reservoir Characteristics and Petrophysical Analysis of the Upper Brushy Canyon Sandstones, East Livingston Ridge Delaware Field Lea County, New Mexico." Symposium of Oil and Gas Fields of Southeastern NM," NM Roswell Geological Society 1995.

The NMOCD uses two types of tests to ensure wellbore integrity of water injection wells, the Bradenhead Test and the Mechanical Integrity Test. Typically, a Bradenhead Test (BHT) is conducted annually and a Mechanical Integrity Test (MIT) is conducted at five-year intervals or anytime that a well is taken off-line for repairs.

The BHT is performed by opening the bradenhead valve (connected to the annulus between the surface casing and the next innermost casing) to the atmosphere. If gas or water flow is observed or indicated, flow through the bradenhead valve is allowed to continue for a minimum of fifteen minutes. During this period, pressures are recorded at five-minute intervals on the production, intermediate and surface casing. Any fluids flowing from the bradenhead valve, including measured or estimated rates of flow, are described in detail.

The BHT tests the integrity of the tubing and packer. The tubing annulus, the volume between the tubing and the casing, is typically filled with a corrosion-inhibiting fluid. If a leak in the tubing or packer exists, the annulus becomes pressurized and flow occurs when the valve is opened.

The MIT tests the integrity of the casing and must be performed prior to injection and/or any time the tubing is pulled or the packer is reseated. In this test the tubing-casing annulus is pressurized to a minimum of 300 psia. A pressure recorder shows any loss of pressure over a 30-minute period. A sudden drop in pressure indicates annular fluids are leaking out and constitutes a test failure. If a well fails a test, it is shut-in and the operator must take corrective action before returning the well to service.

The NMOCD changed the record keeping procedure for BHT and MIT tests. Previously, hard copy reports were filed at each regional NMOCD office. For our 2003 evaluation, we visited the Artesia and Hobbs offices and copied these reports. In 2005, the NMOCD converted to an electronic database system (RBDMS) to track Underground Injection Control (UIC) test results. This system replaced the manual filing system and eliminated the need to retain hard copy reports. For the 2008, 2013, and 2018 evaluations, we requested a query of the electronic database from each regional office and received an ASCI text file containing the subject data. In 2018, the NMOCD transitioned from RBDMS to ODC-Permitting, a cloud-based filing system. Field data is collected and transmitted to NMOCD with significant input from oil and gas operators. Implementation of the system was hindered by the Covid-19 pandemic.

For the current injection report, we reviewed documents on the NMODC website to identify BHT and MIT tests. Table 3 summarizes the missing UIC tests in the study area based on website records and denotes missing tests in a five-year period, from 2018 through 2022. Missing tests are indicated by an “X” in the corresponding year. Based on the NMOCD website files, 69 wells are missing tests during the past five years. In the prior review, only 10 wells were missing test data. Visits with NMOCD staff suggest the website data is correct.

Table 3: Missing UIC Tests in Study Area

WELL	OPERATOR	API NO	COUNTY	MISSING TEST DATA 2018	2019	2020	2021	2022
APACHE 25 FEDERAL 08	HARVARD PETROLEUM	30-015-33439	EDDY	X	X	X	X	X
ARACANGA FEDERAL 01	OXY USA	30-025-31650	LEA	X	X	X		
BARCLAY 11 H FEDERAL 01	DEVON ENERGY	30-015-25419	EDDY	X	X	X		
BARCLAY STATE 04	PENROC OIL	30-015-29792	EDDY	X		X	X	X
BILBREY SWD 01	OWL SWD OPERATING	30-025-27620	LEA			X		X
BITSY FEDERAL SWD 01	FOUNDATION ENERGY	30-025-33398	LEA					X
CAL MON 05	OXY USA	30-015-25640	EDDY	X	X			
CHARGER 29 FEDERAL 01	DEVON ENERGY	30-015-28808	EDDY		X	X	X	X
CLEARY FEDERAL SWD 02	OWL SWD OPERATING	30-025-31926	LEA			X	X	
CUERVO FEDERAL 01	STRATA PRODUCTION	30-025-26844	LEA					X
DAVID ROSS FEDERAL SWD 01	OWL SWD OPERATING	30-015-26629	EDDY	X	X	X	X	
DEEP PURPLE SWD 01	NGL WATER SOLUTIONS	30-025-44106	LEA			X		X
DIAMONDTAIL 23 FEDERAL 02	HARVARD PETROLEUM	30-025-33653	LEA			X	X	X
DIAMONDTAIL 24 FEDERAL A 01	HARVARD PETROLEUM	30-025-33521	LEA			X		X
FEDERAL 12 01	OXY USA	30-015-26742	EDDY	X	X	X	X	X
FEDERAL SWD 18	DEVON ENERGY	30-025-25017	LEA				X	X
FLAMENCO FEDERAL 01	OWL SWD OPERATING	30-025-31076	LEA			X	X	
FORTY NINER RIDGE UNIT 06	STRATA PRODUCTION	30-015-33637	EDDY	X	X	X	X	X
GETTY 24 FEDERAL 05	CHEVRON USA	30-015-26848	EDDY		X	X	X	X
GILMORE 01	STRATA PRODUCTION	30-025-08109	LEA		X	X	X	X
JAMES RANCH UNIT 21 FED SWD 01	XTO ENERGY	30-015-41074	EDDY	X	X			
JAMES RANCH UNIT 36 01	XTO ENERGY	30-015-45691	EDDY				X	
JAMES RANCH UNIT 6 01	XTO ENERGY	30-015-46432	EDDY				X	
KIWI SWD 05	OWL SWD OPERATING	30-025-31644	LEA			X		
KIWI SWD 08	OWL SWD OPERATING	30-025-31889	LEA			X		X
KIWI SWD 10	OWL SWD OPERATING	30-025-36006	LEA			X		
LOST TANK 3 FEDERAL 25	OXY USA	30-015-38254	EDDY	X	X			
LOST TANK 33 FEDERAL 02	OXY USA	30-015-29330	EDDY	X	X			
LOST TANK 35 STATE SWD 01	OXY USA	30-015-40890	EDDY	X				X
LOST TANK SWD 01	TLT SWD	30-025-31443	LEA					X
LOTUS SWD 01	OWL SWD OPERATING	30-025-36004	LEA			X	X	X
LOTUS SWD 02	OWL SWD OPERATING	30-025-31694	LEA			X		X
LOTUS SWD 04	OWL SWD OPERATING	30-025-36135	LEA			X		X
LOTUS SWD 12	OWL SWD OPERATING	30-025-37799	LEA			X	X	X
MEDANO STATE 01	PENROC OIL	30-015-26171	EDDY	X	X		X	X
MOBLEY SWD 01	SOLARIS WATER MIDSTREAM	30-015-45072	EDDY			X	X	X
NEFF FED 03	OXY USA	30-015-28281	EDDY	X	X			
NORTH PURE GOLD 9 FEDERAL 11	HARVARD PETROLEUM	30-015-32619	EDDY	X	X		X	X
NORTH PURE GOLD 9 FEDERAL 17	HARVARD PETROLEUM	30-015-33368	EDDY	X	X	X	X	X
PRIZE FEDERAL 04	OXY USA	30-025-32436	LEA	X		X	X	X
PROMIXITY 31 FEDERAL 04	OXY USA	30-025-20423	LEA			X		X
PURGE GOLD B FEDERAL 20	OXY USA	30-015-30605	EDDY	X	X			X
RED ROAD SWD 01	NGL WATER SOLUTIONS	30-015-45235	EDDY					X
RED TANK 28 FEDERAL 03	OXY USA	30-025-31754	LEA	X		X		X
RED TANK 35 FEDERAL 03	OXY USA	30-025-33149	LEA	X	X	X		X
RED TANK FEDERAL 02	EOG RESOURCES	30-025-08113	LEA			X		
REMUDA BASIN 19 FEDERAL 02	XTO ENERGY	30-015-28901	EDDY	X	X	X	X	X
REMUDA BASIN STATE 01	XTO ENERGY	30-015-28422	EDDY	X	X	X	X	
REMUDA BASIN SWD 01	DEVON ENERGY	30-015-29549	EDDY		X		X	X
ROSEMARY SWD 01	OWL SWD OPERATING	30-025-31227	LEA			X		
SAND DUNES 28 FEDERAL 01	OXY USA	30-015-26194	EDDY	X				X
SDE 31 FEDERAL 09	HARVARD PETROLEUM	30-025-32868	LEA	X	X	X		X
SILVERTON 31 FEDERAL 01	MATADOR PRODUCTION	30-025-32093	LEA				X	X
STATE 2 05	OXY USA	30-015-32440	EDDY	X	X			
STATE AA-2 01	PENROC OIL	30-015-05840	EDDY	X	X		X	X
SWEET PEA SWD 01	TLT SWD	30-015-35749	EDDY	X	X			
TODD 25 N FEDERAL 14	HARVARD PETROLEUM	30-015-28859	EDDY	X	X	X	X	X
TODD 25 P FEDERAL 16	HARVARD PETROLEUM	30-015-28817	EDDY	X	X	X	X	X
TODD 26 F FEDERAL 03	DEVON ENERGY	30-015-20302	EDDY	X	X	X		
TODD 26 G FEDERAL 02	HARVARD PETROLEUM	30-015-20277	EDDY	X	X	X	X	X
TODD 27 P FEDERAL 16	HARVARD PETROLEUM	30-015-27106	EDDY	X	X		X	X
TODD 36 STATE 01	HARVARD PETROLEUM	30-015-20341	EDDY	X	X		X	X
TOMCAT 15 FEDERAL 03	HARVARD PETROLEUM	30-025-35524	LEA			X	X	X
TREY SWD 01	NGL WATER SOLUTIONS	30-025-45029	LEA			X		X
UBER EAST SWD 01	NGL WATER SOLUTIONS	30-015-43806	EDDY					X
UBER NORTH SWD 01	NGL WATER SOLUTIONS	30-015-43805	EDDY					X
UNION AJS FEDERAL 01	OWL SWD OPERATING	30-025-31412	LEA			X	X	X
WEST GRAMMA RIDGE SWD 01	NGL WATER SOLUTIONS	30-025-43328	LEA			X		X
ZEUS SWD 01	SOLARIS WATER MIDSTREAM	30-025-44273	LEA					X

Types of Injection Well Failures

The original Injection Report (Kirkes et al. 1997) identified five types of injection well failures. These include (1) tubing leak, (2) packer leak, (3) casing leak, (4) breakdown of cement sheath and (5) hydraulic fracturing by injecting fluids out of zone. Based upon NMOCD practices, we would add a sixth type of failure, (6) an inability to conduct a test. Although this does not constitute a mechanical failure, the NMOCD considers a test failed if the test cannot be conducted. The bradenhead test and mechanical integrity test are designed to detect the first three types of failures. Sudden changes in annular pressure occur during these types of failures as the injection fluids pressurize the annulus during a tubing or packer leak while annular fluids migrate into a surrounding reservoir during a casing leak, thereby decreasing pressure (please see Appendix VI for an injection well wellbore schematic). Individually these failures do not cause out of zone injection. The original Injection report (Kirkes et al. 1997) found "given the infrequency of tubing and packer leaks…, and the infrequency of casing leaks, the probability of these two leaks occurring simultaneously is very, very low". This conclusion remains valid, based on recent failure data. Furthermore, these failures are readily detected and repaired. Therefore, these failures do not impact the WIPP site since any injected fluids are contained within either the tubing or casing and do not migrate out of the desired injection interval.

For the fourth failure type, breakdown of cement sheath, the prior report summarizes this condition very well. The report states, "the breakdown of the cement sheath between the casing and/or the borehole wall, is the only leak scenario that has the potential to impact the WIPP repository. This type of failure can only be detected by a radioactive tracer test (RTT) survey conducted inside the cased wellbore. This type of test is not a normal regulatory requirement, but may be conducted if it appears there may be fluid migration behind casing. There are several diagnostic tools for indirectly detecting fluid migration behind casing. For example, if a WI well operated to enhance oil production (i.e., waterflood operations) caused migration out of zone, anticipated recovery would not meet the predetermined expectations of the operator, thereby affecting the economics of the waterflood project. Prudent operators of waterflood projects will not allow injection fluids to migrate out of zone. Further, it is a violation of NMOCD regulations to allow migration of fluid out of the target zone (NMOCD 1996)[30]. We would add that most operators of waterflood operations conduct periodic temperature surveys to identify the intervals where injected water travels. Since the injected water is cooler than the surrounding formations, intervals of injection exhibit below normal temperatures. This diagnostic tool is used to identify problems with injection conformance and to confirm the success of corrective actions.

The original Injection report (Kirkes et al. 1997) also noted "if the cement sheath in a SWD is compromised by the injection process and fluid migrates upward, it is more likely that this event would go undetected for a greater period of time than for a WI well. However, the low permeability of the cement will preclude the migration of injected water through the cement sheath. One hundred percent bonding between cement/casing and cement/formation is not necessary to insure a hydraulic seal. Sixty to eighty percent cement bonding over a distance of 25 – 50 feet for 5.5-inch casing and 60 – 125 feet bonding for 8.625-inch casing is adequate to insure a hydraulic seal for injection purposes (Schlumberger 1989)[31]. Note that the minimum length of any cement sheath (production casing) within

[30] Op Cit, NMOCD 1996.

[31] Schlumberger 1989

the study area is 140 feet." We have not reviewed wells drilled since this 1997 report to determine if any wells have cement sheaths less than 140 feet.

Failure type 5: In the case of vertical wells, hydraulic fracture of injection fluids out of zone could occur if the pressure of the injection fluid exceeded the fracture pressure of the formation at the sand face. In general, for carbonate rocks like those present in SE New Mexico, fracture pressures typically exceed 0.8 psi per foot of depth, thus for depths ranging from 5,000 feet to 8,000 feet, the respective fracture pressures would be approximately 4,000 psi and 6,400 psi. The NMOCD requires the surface pressure not exceed 0.2 psia per foot of depth to the top of the perforations. Since the hydrostatic pressure of a column of water is .435 psi per foot (for a salt saturated solution), the maximum sand face pressures are 2,175 psi at 5,000 feet and 3,480 psi at 8,000 feet. Both are significantly below the corresponding fracture pressure at depth and are therefore incapable of inducing a fracture.

The sole exception to the NMOCD ban on vertical well injection above 0.2 psi per foot of depth are for temporary tests, known as step-rate tests, to determine actual formation parting pressure (the pressure that induces a vertical fracture). In this test, water is initially injected at a low pressure and the injection rate measured. The injection rate is then "stepped-up" to a higher pressure using a predefined increment of perhaps 100 psi or 200 psi. The injection rate is measured again. The process is then repeated at successively higher injection pressures. As long as the injection pressure is below the parting pressure, the increase in injection will be proportional to pressure (Erlougher 1977)[32]. Thus each 100 psi increase in injection pressure translates into a like increase in injected volume. Mathematically this yields a ratio such as 5 barrels per psi. Once the injection pressure exceeds the parting pressure, the injection rates increase much more rapidly, thus the ratio of injection to pressure increases, perhaps to 10 barrels per psi. The parting pressure, the pressure that induces a fracture, is determined from the pressure at which injection rate first increases rapidly, and the maximum pressure allowed is set below the measured limit. Although the formation is fractured or parted during the test, the fracture heals once the pressure in the fracture drops below the parting pressure. Thus, the fracture results of the test are temporary.

Finally, the original injection report extensively addressed the geometry of a fracture created by injecting above parting pressure (see Kirkes et al, 1997, pg. 10 and 11 for the detailed discussion). To summarize, because water, the injectant, has a relatively low viscosity (0.60 centipoises at 140 ^{o}F), the fluid moves rapidly into the surrounding formation and generates little fracture height. This behavior, known as leak-off, results in very little fracture volume due to saltwater injection. Thus, the creation of a vertical fracture (with height in excess of a few tens of feet) is highly improbable at the injection rates reviewed in this report.

SECTION V: HISTORICAL INJECTION WELL FAILURES

Appendix I summarizes all the Bradenhead and Mechanical Integrity Tests for wells in the study area. Table no. 4 itemizes Bradenhead and Mechanical Integrity Test failures in the nine-township study area since 2017. Furthermore, the table shows the cause for the failed test and the remedial action required to return the well to injection.

[32] Erlougher, R.C. (1977), Advances in Well Test Analysis Monograph, Vol. 5: Soc Petr Engrs of AIME, 1977

Three test failures were identified for the 84 injection wells in the study area. The most common cause for failure was the inability to hold pressure during a MIT test.

Table 4: BHT and MIT Failures in the Study Area

Well Name	Test Date	Test Type	Reason For Failure	Action	Failure Type
CUERVO FEDERAL 01	04/27/2021	MIT	Tested 4 times. Would not hold pressure.	Repair CSG leak. Return to inj 3/17/22	3
MEDANO STATE 01	08/04/2020	MIT	Well tested at 400 rather than 500 psi	No additional data available on NMOCD	?
NORTH PURE GOLD 8 FEDERAL 11	05/04/2020	MIT	Pressure fell from 520 to 498 psi	No additional data available on NMOCD	?

SECTION VI: SEISMICITY: INTRODUCTION, DATA REPORTING, AND ACQUISITION

Although the modern drilling rig counts have not seen accelerated activity, as shown in Figure 6), the levels of produced fluids in the WSA are setting historical records (Figures 11 and 12). This is especially true for both the Permian Basin and the WSA due to the horizontal well revolution and nature of the fine-grained basinal sediments of the Bone Springs and Wolfcamp formations. The dichotomy of the rig count metric is that it is no longer a good index of new well production. If one drilling rig exposes a mile or more of formation to exposure to the wellbore via the horizontal portion, i.e., the 'leg', a better measure would be the total footage of formations penetrated and exposed to production. The length of exposure of a formation to production has clearly grown at an amazing pace in recent years.

With the increasing formation exposure and levels of produced fluids, any water in the pore space must also be produced. The produced salt water is highly saline making it expensive and difficult to purify and essentially valueless today. Some is being reused in the form drilling and hydrofrac fluids but most must be disposed as a waste product. The 5.8 billion barrels per year figure shown in Figure 13 highlighted the unprecedented magnitudes of produced water requiring disposal in the WSA.

Historically, produced water volumes were not so overwhelming and could be reused for reservoir mass balancing in WI wells in the DMG water floods. A few SWD wells were required but non-productive (dry holes) wells were converted to SWDs and could easily handle the volumes involved. The formation able to be used was almost exclusively what this report has called the shallow zone, i.e., the DMG of formations (Figure 3). And, for the early years of horizontal well development (2008-2017), the produced water continued to be disposed into the DMG.

Disposal injection inevitably leads to increases in formation pressure and transport away within the formation to regions of lower formation pressure. Nearby producing fields, unless being water flooded, will possess lower formation pressures and the nearby disposal wells can invade a producing field. Several unreported examples of salt water infringement into producing DMG oil fields have occurred in the last five years. One of these is reportedly the Avalon field in the eastern regions of the horizontal well development area in southeastern New Mexico. Concerns on behalf of the operator of the DMG

field along with the NMOCD awareness of incidences at other fields along the Texas/New Mexico border have led to an unofficial embargo on permitting of new DMG SWD wells.[33]

Recent horizontal drilling has exacerbated the need for new SWD wells and a new sub-industry was developing to examine deeper disposal alternatives. The deeper disposal ended up focusing on the Devonian formation (see Figure 3). The new SWD vertical wells were considerably more expensive than the shallow DMG SWDs but were needed due to the inability to permit shallower zones. Fortunately, the higher cost of water disposal could be borne by the economics of the horizontal wells. Figure 14 illustrated the relatively new deep disposal wells in the WSA.

Deep and higher volume disposal wells are not new in the regions of the horizontal well regions but the numbers have grown dramatically in recent years; both in terms of both proliferating locations and in the volumes disposed. Some of the deep formations targeted for large volume disposal lie on top of the crustal basement rocks ('crust' in Figure 3)[34,35]. In several regions around the U.S. and World, the excess pressures have found their way into the crustal fractures resulting in seismic events.[36,37,38] There have been enough of these seismic events in various parts of the U.S. and World that a strong correlation has emerged to the deep water disposal wells. This 'induced seismicity' is generally widely accepted today and papers are being written to acknowledge the correlation and attempt to forecast vulnerability and magnitudes of induced earthquakes[39]. The "field laboratories" of Oklahoma, Texas and New Mexico are leading the way but other locales are following suit, both in the U.S. and abroad. Much of the work is being done quietly within the oil and gas companies due to the sensitivity of the companies to the public reaction to the earthquakes and the effect that it could have on future drilling activity. But the industry is not alone in the interest and especially notable is the work underway at three institutions with funding from both the oil and gas industry and governmental bodies:

1) New Mexico Tech's Seismological Observatory[40],
2) the University of Texas Bureau of Economic Geology's (TxBEG) TexNet Research and the Center for Injection and Seismicity Research[41],

[33] Some DMG SWD permits were submitted as early as 2018 and still have not be approved

[34] https://earth.stanford.edu/news/earthquakes-oil-field-wastewater

[35] Zoback, M.D. (2007, 2010), Reservoir Geomechanics, Cambridge University Press; ISBN 978-0-521-77069-9

[36] This report uses the terms seismic events and seismicity in its general definition relating to the occurrence or frequency of earthquakes in a region regardless of the magnitude of the event

[37] Bidgoli, T.S.,Holubnyak, Y, and FazelAlavi, M (2015), Evaluating Potential for Induced Seismicity Through Reservoir-Geomechanical Analysis of Fluid Injection in the Arbuckle Saline Aquifer, South Central Kansas, KS Geol Sry, Univ Kansas, June 2015

[38] https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/injection-storage-permits/oil-and-gas-waste-disposal/injection-disposal-permit-procedures/seismicity-review/seismicity-response/

[39] Simpson, D.W. (1986), "Triggered Earthquakes," Annual Review of Earth and Planetary Sciences, Vol. 14, p.21; Bibliographic Code: 1986AREPS..14...21S

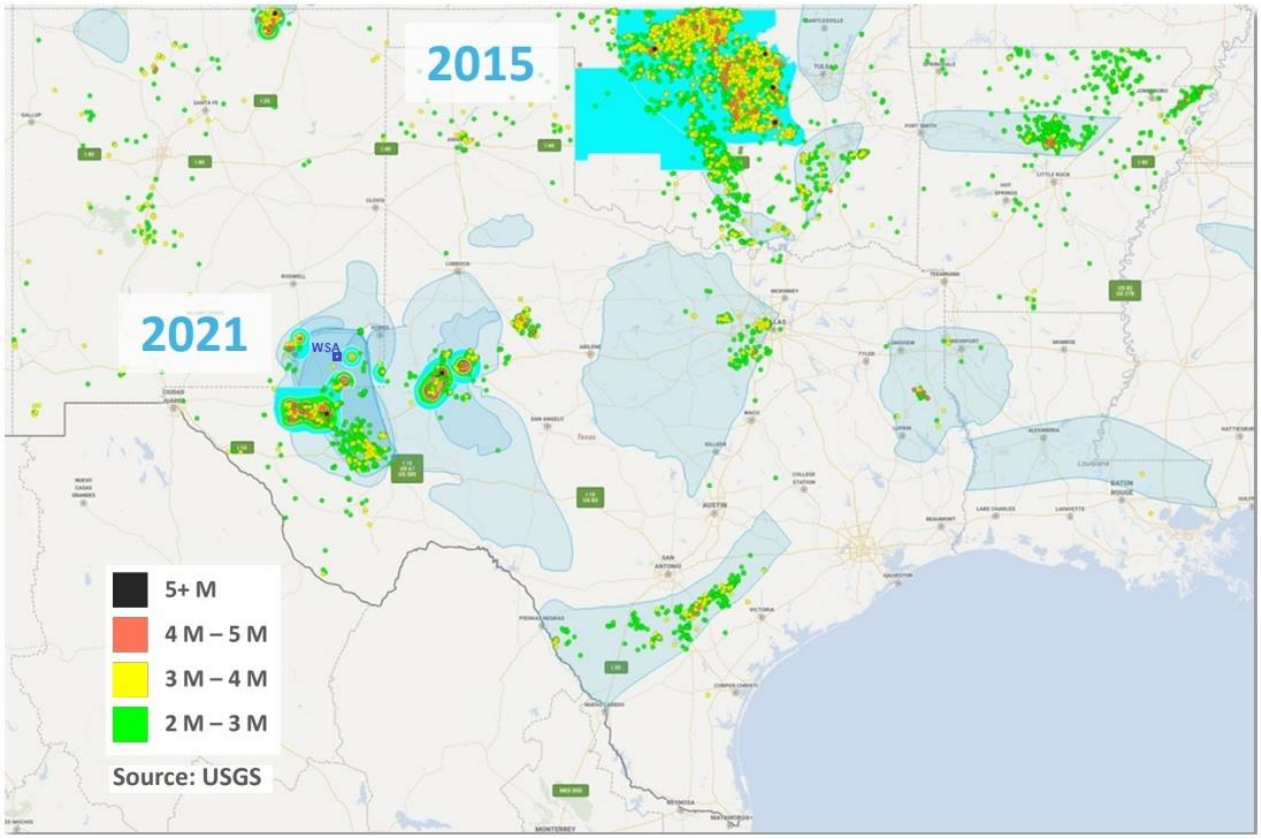
[40] https://geoinfo.nmt.edu/nmtso/home.html

3) Stanford University's Center for Induced and Triggered Seismicity[42], and

4) work underway at the Oklahoma Geological Survey[43].

Figure 24 provides a perspective on the frequency of seismicity in the southwestern part of the U.S. where horizontal drilling has become commonplace. It can be said that Oklahoma was an early leader in large volume disposal. Much of the disposal there was into the Arbuckle formation which lies on top of the crustal rocks. The widely accepted explanation now is that the SWD injection led to a general but fairly small pressure increase in pore pressures within the formation. The elevated pressures found fractures and migrated the pressure increases into the faulted crustal rock causing the faults to slip and create the earthquakes. Another key contributor was the fact that the Arbuckle formation is heavily fractured and without a bottom seal. Figure 25 illustrates a general concept of water management in the oil and gas horizontal well industry with the deep disposal scenario that can lead to seismicity without a bottom seal below the injection interval.

Figure 24: Four State Regional Seismicity (Magnitude 2.0 or Greater)

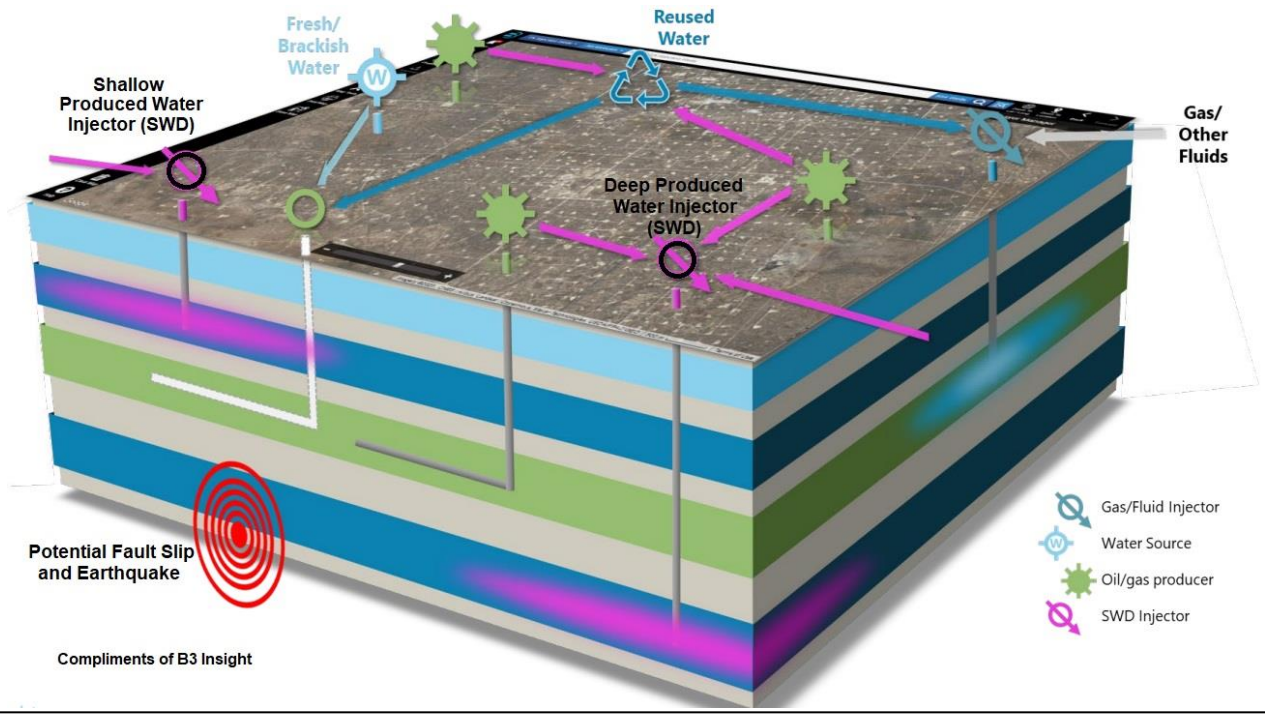


[41] https://www.beg.utexas.edu/texnet-cisr

[42] https://scits.stanford.edu/

[43] https://www.ou.edu/ogs/research/earthquakes

Figure 25: Conceptual Graphic of Water Management in the Oil Field with Shallow and Deep SWD Wells



Seismic Intensity

Induced seismicity is deep seated and in critically stressed hard rocks, usually in the crust, and is classified by several intensity scales, the most common of which are the Richter Magnitude and Modified Mercalli scales. The idea of a logarithmic based earthquake magnitude scale was first developed by Charles Richter in the 1930's for measuring the size of earthquakes occurring in southern California using relatively high-frequency data from nearby seismograph stations. This magnitude scale was referred to as ML, with the L standing for local. This is what was to eventually become known as the Richter magnitude. Subsequently, the US Geological Survey (USGS) developed an Instrumental Intensity scale, which can be more general and not specific to high frequency shaking. This concept maps peak ground acceleration and peak ground velocity on an intensity scale similar to the 'felt' Mercalli scale. These values are used to create shake maps by seismologists around the world. For the description of seismic events in this report, the Richter magnitude scale of earthquakes induced by salt water disposal is expected to be approximately the same as the moment magnitude.

Figure 26 compares the Richter and Modified Mercalli scales while attempting to describe the ground surface sensations according to the level of the quake.

As more seismograph stations were installed around the world, it became apparent that the method developed by Richter was strictly valid only for certain frequency and distance ranges. In order to take advantage of the growing number of globally distributed seismograph stations, new magnitude scales that are an extension of Richter's original idea were developed. These include body wave magnitude (Mb) and surface wave magnitude (Ms). Each is valid for a particular frequency range and type of seismic signal. In its range of validity, each is equivalent to the Richter magnitude.[44]

Figure 26: Relationships between the Richter Magnitude and Modified Mercalli Scale & Surface Detection/Effects

Modified Mercalli Scale		Richter Magnitude Scale
I	Detected only by sensitive instruments	1.5
II	Felt by few persons at rest, especially on upper floors; delicately suspended objects may swing	2
III	Felt noticeably indoors, but not always recognized as earthquake; standing autos rock slightly, vibration like passing truck	2.5
IV	Felt indoors by many, outdoors by few, at night some may awaken; dishes, windows, doors disturbed; autos rock noticeably	3
V	Felt by most people; some breakage of dishes, windows, and plaster; disturbance of tall objects	3.5
VI	Felt by all, many frightened and run outdoors; falling plaster and chimneys, damage small	4
VII	Everybody runs outdoors; damage to buildings varies depending on quality of construction; noticed by drivers of autos	4.5
VIII	Panel walls thrown out of frames; fall of walls, monuments, chimneys; sand and mud ejected; drivers of autos disturbed	5
IX	Buildings shifted off foundations, cracked, thrown out of plumb; ground cracked; underground pipes broken	5.5
X	Most masonry and frame structures destroyed; ground cracked, rails bent, landslides	6
XI	Few structures remain standing; bridges destroyed, fissures in ground, pipes broken, landslides, rails bent	6.5
XII	Damage total; waves seen on ground surface, lines of sight and level distorted, objects thrown up in air	7
		7.5
		8

Because of the limitations of all three magnitude scales (ML, Mb, and Ms), a new more uniformly applicable extension of the magnitude scale, known as **moment magnitude** or **Mw**, was developed. In particular and for very large earthquakes, moment magnitude gives the most reliable estimate of earthquake size. Moment is a physical quantity proportional to the slip on the fault multiplied by the area of the fault surface that slips. Mw is thereby related to the total energy released in the earthquake. The moment can be estimated from seismograms (and also from geodetic measurements). The moment is then converted into a number similar to other earthquake magnitudes by a standard formula. The result is called the moment magnitude. The moment magnitude provides an estimate of earthquake size that is valid over the complete range of magnitudes, a characteristic that was lacking in other magnitude scales. The quake reporting at the State and Federal levels have mainly adopted the Mw scale of intensity.

[44] https://www.usgs.gov/faqs/

Surface Motion

The peak ground acceleration (PGA), of which peak horizontal acceleration (PHA) is the most commonly used parameter of measurement, is made with accelerometers. It is often used within earthquake engineering (including seismic building codes) and it is commonly plotted on seismic hazard maps. In an earthquake, damage to buildings and infrastructure is related more closely to ground motion, of which PGA is a measure, rather than the magnitude of the earthquake itself. For moderate earthquakes, PGA is a reasonably good determinant of damage; however, in severe earthquakes, damage is more often correlated with peak ground velocity[45].

Subsurface Effects

Embedded structures and tunnels have behaved better than above ground structures during recent strong earthquakes (Pitilakis, K. & Tsinidis, G. (2017))[46]. High frequency seismic waveforms will pass through a subsurface structure with little to no effect until the amplitudes rise to moderate levels. Figure 27 provides a rough correlation between the surface magnitude scales, the ground levels of motion, the perceived shaking, and the potential subsurface damage.

Generally, shallow tunnels in soft soil were found to be more vulnerable compared to deeper tunnels in rock, while the vulnerability was increased for cut and cover tunnels. During an earthquake, tunnels may be subjected to ground shaking and/or permanent ground displacements due to lateral spreading, landslides (e.g., near portals) and fault rupture. This response is generally dominated by the kinematic loading induced by the shaking of surrounding ground, while the inertial loads stemming from the oscillation of the structure itself are of secondary importance. This feature renders the seismic response of tunnels distinct compared to above ground structures (Pitilakis, K. & Tsinidis, G. (2017)).[47]

[45] "ShakeMap Scientific Background. Rapid Instrumental Intensity Maps". Earthquake Hazards Program. U. S. Geological Survey. 23 June 2011

[46] Pitilakis, K & Tsinidis, G. (2017), “On the transversal seismic response and analysis of shallow rectangular and circular tunnels,” 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering (Vancouver 2017) https://www.issmge.org/uploads/publications/59/57/pbdiiiPaper527.pdf

[47] Ibid. Pitilakis, K & Tsinidis, G. (2017), “On the transversal seismic response and analysis of shallow rectangular and circular tunnels,” 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering (Vancouver 2017) https://www.issmge.org/uploads/publications/59/57/pbdiiiPaper527.pdf

Figure 27: Quake Intensity Table for subsurface structures

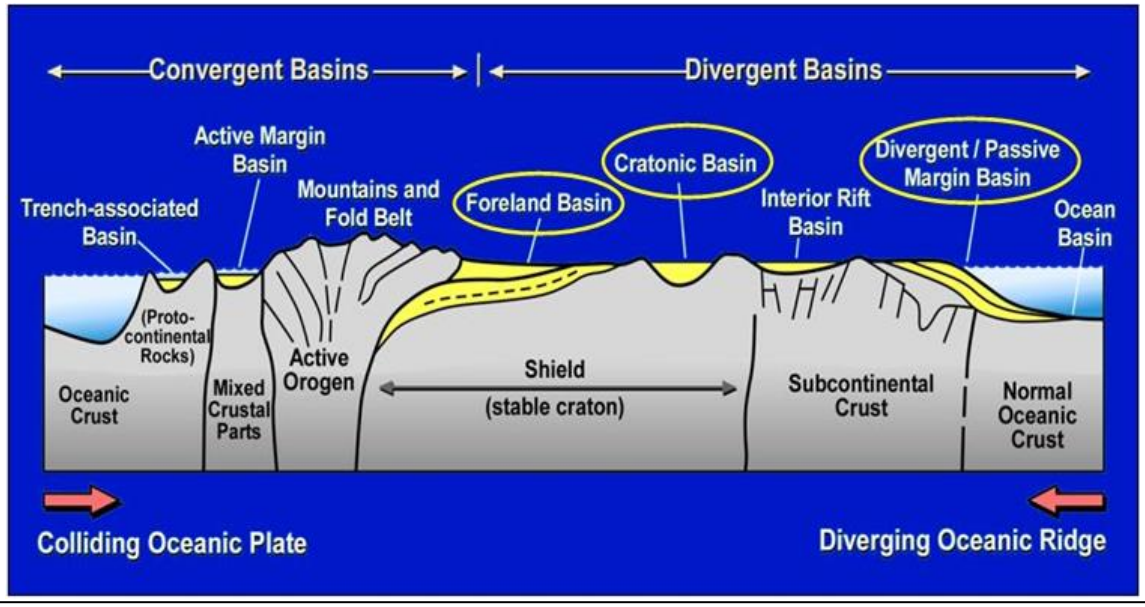
Mercalli Intensity	Instrumental Accereration (g)	Instrumental Velocity (cm/s)	Percv'd shaking	Potential damage
I	< 0.000464	< 0.0215	Not felt	None
II–III	0.000464 – 0.00297	0.135 – 1.41	Weak	None
IV	0.00297 – 0.0276	1.41 – 4.65	Light	None
V	0.0276 – 0.115	4.65 – 9.64	Moderate	Very light
VI	0.115 – 0.215	9.64 – 20	Strong	Light
VII	0.215 – 0.401	20 – 41.4	Very strong	Moderate
VIII	0.401 – 0.747	41.4 – 85.8	Severe	Moderate to heavy
IX	0.747 – 1.39	85.8 – 178	Violent	Heavy
X+	> 1.39	> 178	Extreme	Very heavy

The presence of deep underground structures other than the WIPP facility is worthy of note here and will be discussed further in the coming sections.

Crustal Faulting and State of Stress

The discussion in reference to the conceptual faulting in Figure 25 illustrated the correlation of large SWD volumes with possible connections to faults in the crustal rocks. There have been large on-going studies to provide a better understanding of the both the state of stress and the locations of the crustal faults. With regard to the modern states of crustal stress, the potential for fault slippage is an obvious parameter of interest. Critically stressed faults are more likely to slip and create the earthquakes. To illustrate the importance, Figure 28[48] is a very generalized view of worldwide stress conditions as they

Figure 28: Cross Sectional Representation of Various Types of Sedimentary Basins



[48] Hitchon et al, Dynamic basin analysis: an integrated approach with large data bases, Geological Society, London, Special Publications 1987, 34:31-44

are related to the tectonic plates and their interaction.

One should note the leftmost view illustrates where crustal plates are colliding (converging) while the right side depicts divergent plates. The horizontal stresses are intensified when plates converge and mountain building represents a classic example. Plate spreading eases horizontal stresses and basins, like the Permian Basin of southeastern NM and west Texas, can form.

The circled divergent basin examples were highlighted by the authors as particularly suited for large volume injection targets. Two caveats to the simple converging and diverging plate motion model needs to be made:

1) stress states also have a shear stress component where plate motion can be partially (or dominantly) transverse. Strike-slip motion, like the infamous San Andres fault in California, is a classic example of this.

2) Plate motion is never static and stress conditions change over geologic time. A compressive stress dominated system can see relaxing conditions and crustal stress become relaxed. For this reason and others, examination of current states of stress become pertinent to estimating potential for fault slip and inducing earthquakes with high volume injection.

Figure 29 provides the current status of a long-term North American specific study by the Stanford Center for Induced and Triggered Seismicity intended to better describe the knowledge around the state of stress in the earth crust (Lund Snee, J. and Mark D. Zoback, M.D. (2022)[49]. Note "the Figure 7 annotation" in Figure 29 is Figure 30 in this report and focuses the work specifically on the Permian Basin portion of their study.

Basement (crustal) fault mapping yet another way to examine geological stress conditions but also to identify where faults may slip in the future. This mapping work (Ewing, T (1990))[50] incorporated key studies of faults that are faintly noticeable on their maps. Figure 31 is the Ewing map and Figure 32 is some of the latest work where researchers at the University of the Texas Bureau of Economic Geology (UTBEG) are consolidating previous and new studies to identify crustal faults.[51]

[49] Lund Snee, J. and Zoback, M.D. (2022), AAPG Bulletin, v. 106, no. 2 (February 2022), pp. 355–385. DOI:10.1306/08102120151

[50] Ewing, T.E. (1990), Tectonic map of Texas: The University of Texas at Austin, Bureau of Economic Geology, 4 sheets, scale 1: 750,000.

[51] Horne, E.A., Hennings, P.H., and Zahm, C.K., 2021, Basement-Rooted Faults of the Delaware Basin and Central Basin Platform (O. A. Callahan & P. Eichhubl, Eds.): The geologic basement of Texas: a volume in honor of Peter T. Flawn: The University of Texas, Bureau of Economic Geology Report of Investigations No. 286, doi:10.23867/RI0286C6.

Fig. 29: State of Stress in Central and Eastern North America and Style of Faulting Parameter Aϕ [40]

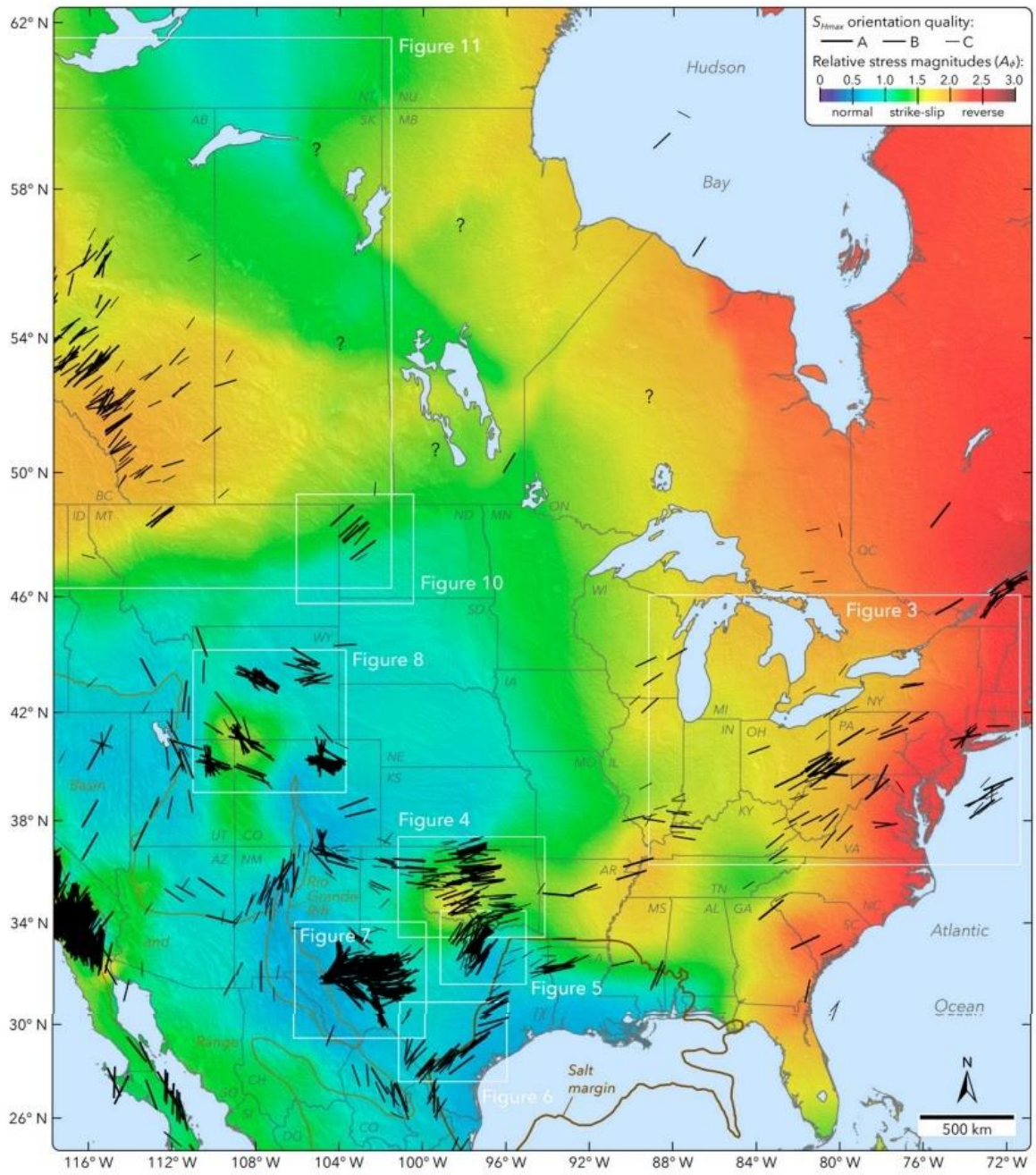


Figure 29 State of stress in central and eastern North America, showing orientations of the maximum horizontal principal stress (S_{Hmax}) and the style of faulting (A_ϕ). Data are principally from the World Stress Map (Heidbach et al., 2018), Lund Snee and Zoback (2020a), and sources therein, but also include several new S_{Hmax} orientations. The Gulf of Mexico salt margin is after Pindell and Kennan (2009).

Figure 30: State of Stress and Directions of Maximum Horiz Stresses in the Deep Sedimentary Rocks[40]

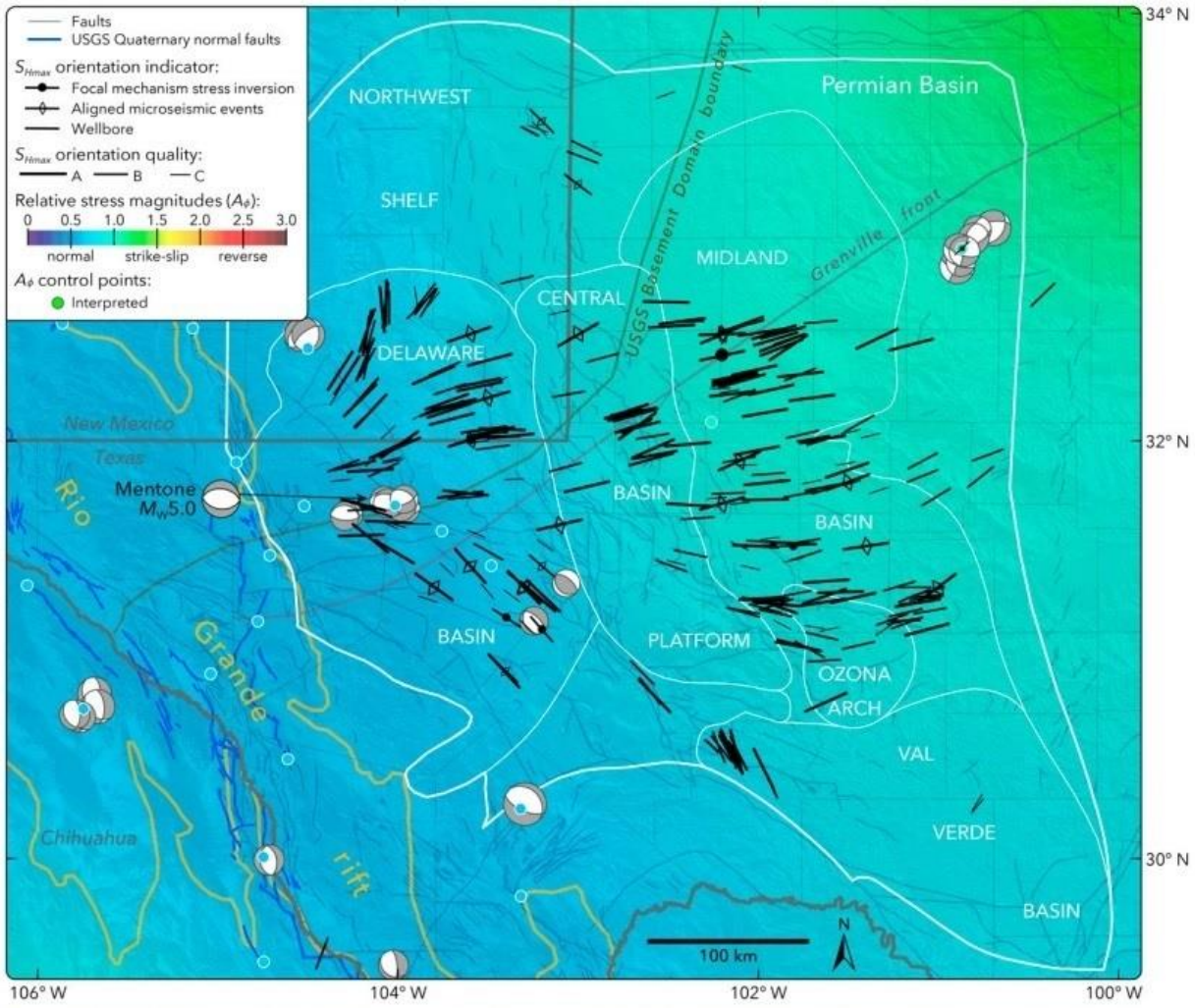
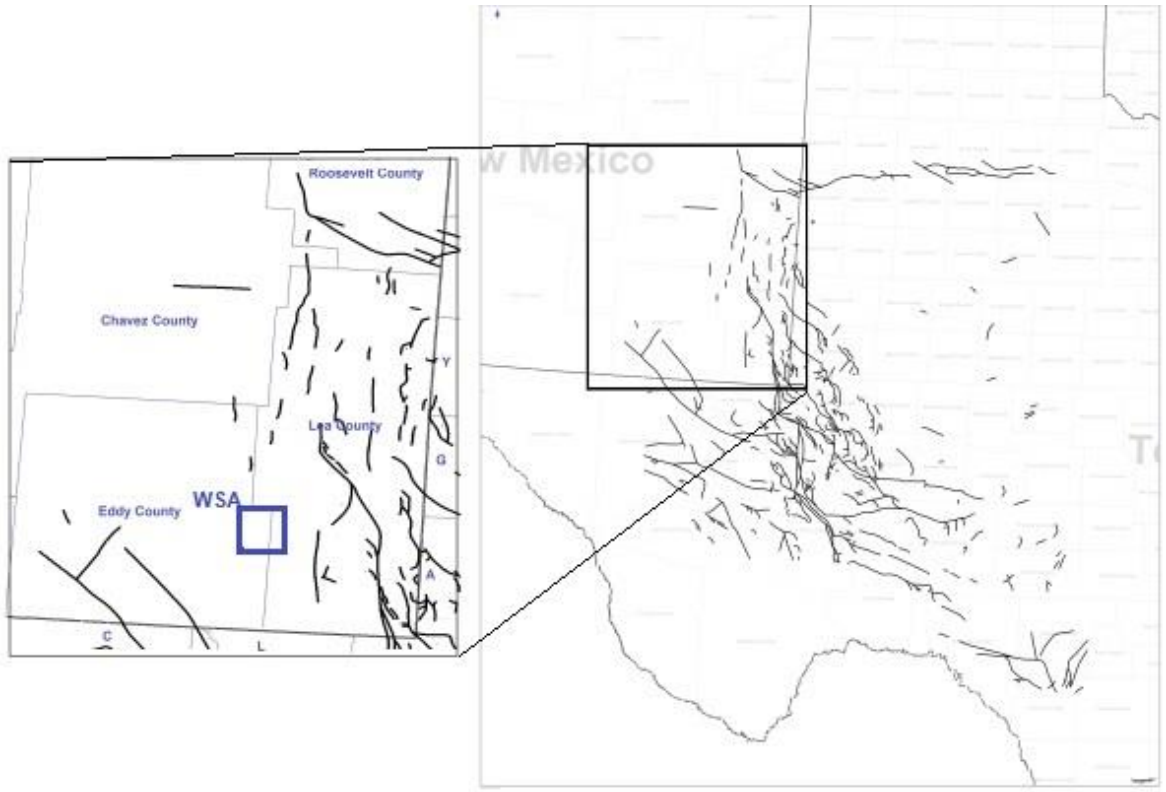


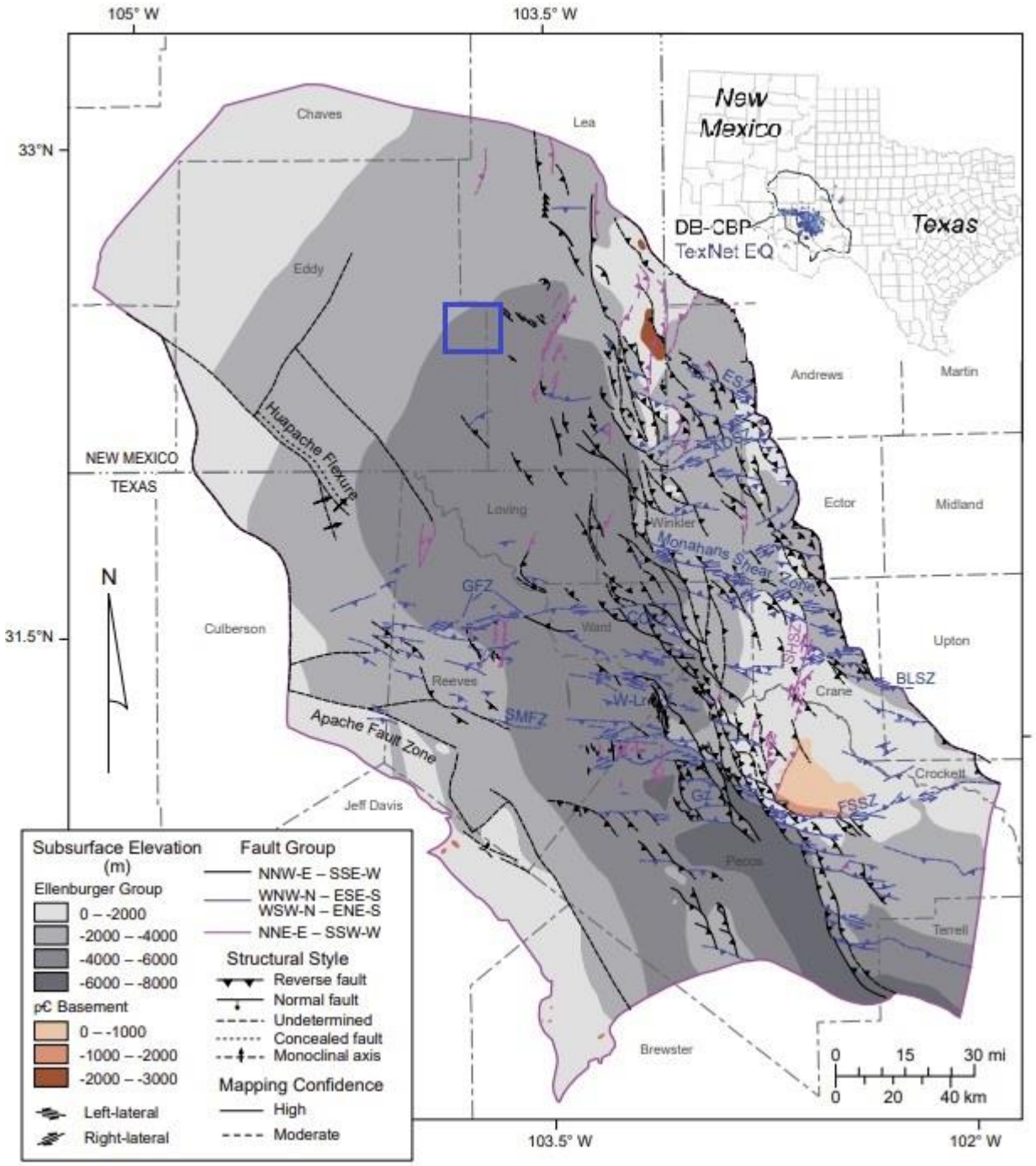
Figure 30 State of stress in the Permian Basin, western Texas and southeastern New Mexico. The map has been updated from the versions published by Lund Snee and Zoback (2016, 2018) to include more maximum horizontal principal stress (S_{Hmax}) orientations and an improved map of A_ϕ that excludes borehole measurements of stress magnitudes. The boundary between the Shawnee and Mazatzal basement domains is from Lund et al. (2015) and the Grenville front is from Thomas (2006). Light blue faults are from Ewing et al. (1990), Green and Jones (1997), and Ruppel et al. (2005). Bold, bright blue faults have experienced normal-sense offset during Quaternary time (Crone and Wheeler, 2000). Subdomain boundaries are from the Texas Bureau of Economic Geology Permian Basin Geological Synthesis Project. Focal mechanisms (principally from Herrmann et al., 2011) illustrate how the nodal plane orientations rotate southward across the basin consistent with the S_{Hmax} orientation indicators from the sedimentary succession. See Figure 1 for map location. M_W = moment magnitude; USGS = US Geological Survey.

Figure 31: Basement Fault Mapping for the Permian Basin Region (after Ewing (1990))



What is apparent from all of the crustal stress and fault mapping is that the WSA possesses two attributes of key importance to seismic conditions: 1) it lies above the region of critically stressed rock undergoing seismic activity to the south and into the Texas portion of the Delaware Basin and 2) it lies in an area with no known basement faulting. We should add a cautionary note to the latter point. The crust lies very deep (~20,000 feet) in the WSA and seismic surveys may have some limitations in discriminating the presence of any crustal faulting and wellbore crustal penetrations are almost zero so we should not say that some faults do not exist but the data mapping conducted by multiple researchers clearly does not support their presence.

Figure 32: Basement Rooted Faults of the Delaware Basin and Central Basin Platform (after Horne et al 2023) – WSA outlined as the box in Eddy and Lea Counties, NM

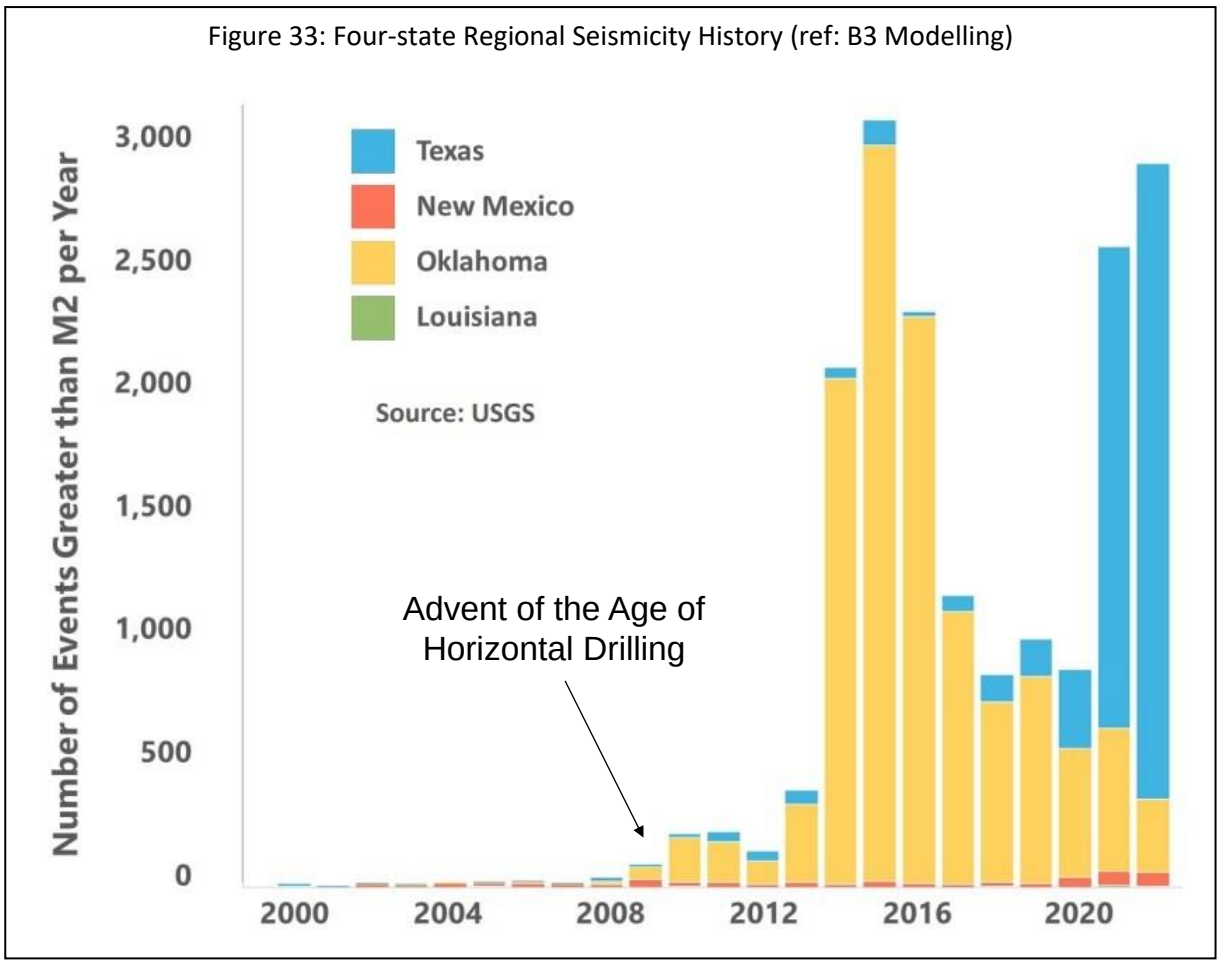


SECTION VII: INCREASING SEISMIC ACTIVITY

It is useful to pause and define what the term seismicity actually means. It is often misunderstood to mean seismic damage as in surface facility responses to an earthquake. The actual definition is much broader: it can be stated as a worldwide or local distribution of earthquakes in space, time, and magnitude. More specifically, it often refers to the measure of the frequency of earthquakes in a region—for example, the number of earthquakes of magnitude (Mw) between 5 and 6 per 100 square km (39 square miles).

The general trend of increasing SWD injection, as was shown in Figures 12-14, is coincident with a similar growing trend in induced seismicity in the greater Permian Basin. This was also true in the four-state area map shown in Figure 24. Figure 33 is a graphical display of a compilation of the USGS seismic data history from the turn of the century. It illustrates the Mw>2 seismic frequency of four States through 2022. Note that the age of horizontal drilling, with its large volumes of produced and disposed water, begins about the same year as the Mw >2 seismic events begin[52].

Figure 33: Four-state Regional Seismicity History (ref: B3 Modelling)



[52] https://www.usgs.gov/programs/earthquake-hazards/seismic-hazard-model-maps-and-site-specific-data

With specific regard to the frequency of occurrence component in the seismicity definition, note here that the frequency of earthquakes in the State of Oklahoma occurred first and has declined in recent years. The possible reasons for this will be addressed in the next section.

In regard to the magnitude component in seismicity, we repeat Figure 24 here to make the point that a magnitude Mw of 5 has been a rare event, isolated to five different events in Oklahoma and Texas. Figure 26 stated that a magnitude 5 is felt at the surface by most people with some breakage of dishes, windows and plaster and disturbance of tall objects. The next level down (Mw = 4) is still quite uncommon: felt indoors by many, outdoors by a few. Figures 26 and 27 showed that a Mw 4 is likely characterized by surface shaking perceived as "moderate" with corresponding likelihood of damage to shallow underground structures characterized as "very light" to "light".

Figure 24 (Repeated): 4-state Regional Seismicity (USGS data)

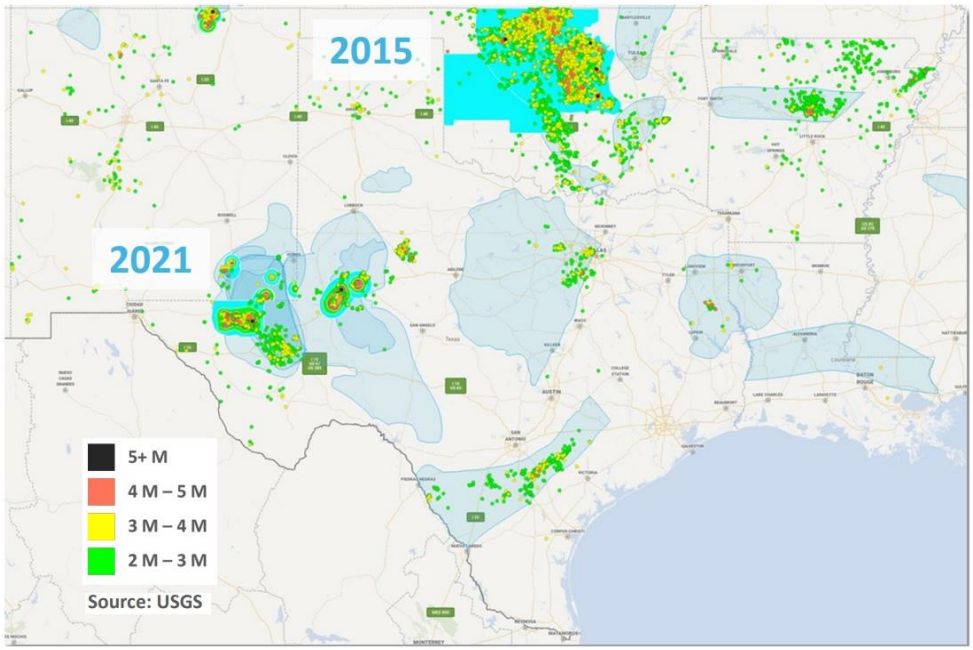


Figure 24 (Repeated) also shows that the Delaware Basin has seen considerable seismicity in Texas south of the New Mexico border. Figure 34 provides the seismic surface position (epicenter) data in the Delaware Basin providing a map of the seismic events from the years of 2017-2021 (Zoback (2021))[53] Note the intensity of events along the State Line and the West Central area in Texas. Figure 35 illustrates both the deep SWDs and presents a seismic 'heat map' (B3 Insight personal communication, June 2023 and also included in Appendix X hereto) to illustrate the areal density of events. Note that the more seismically active areas further to the south of the WSA near the Texas and New Mexico border.

The next set of maps (Figures 33, 35-38) are provided from the B3 Insight contract (also shown in Appendix X) which is intended to provide 1) a higher confidence and more current status of water injection and production while characterizing and mapping the 2) SENM seismicity through mid-year

[53] Zoback, M.D. (2021), "Earthquake Triggering and Large-scale Geologic Storage of Carbon Dioxide," Presentation to the 2021 CO2 Conf in Midland, Tx, Dec 8, 2021.

2023. The discrepancies previously noted in Section III with the publicly available water data are better reconciled in the B3 data and modeling work.

Figure 36 illustrates the southeastern region of NM including the injection well locations, the seismic events and the SRAs. Note the two designations of commercial and non-commercial injection wells. The commercial category of SWDs would include those wells referred to earlier that belong to the subindustry that has emerged to handle produced water to be disposed into deep wells from several producing well operators. A non-commercial disposal well would be the typical operated disposal well by a producing well company for their exclusive use.

Figure 34: Delaware Basin Seismicity around the WSA (blue square) 2017-2021 (Zoback, 2021)

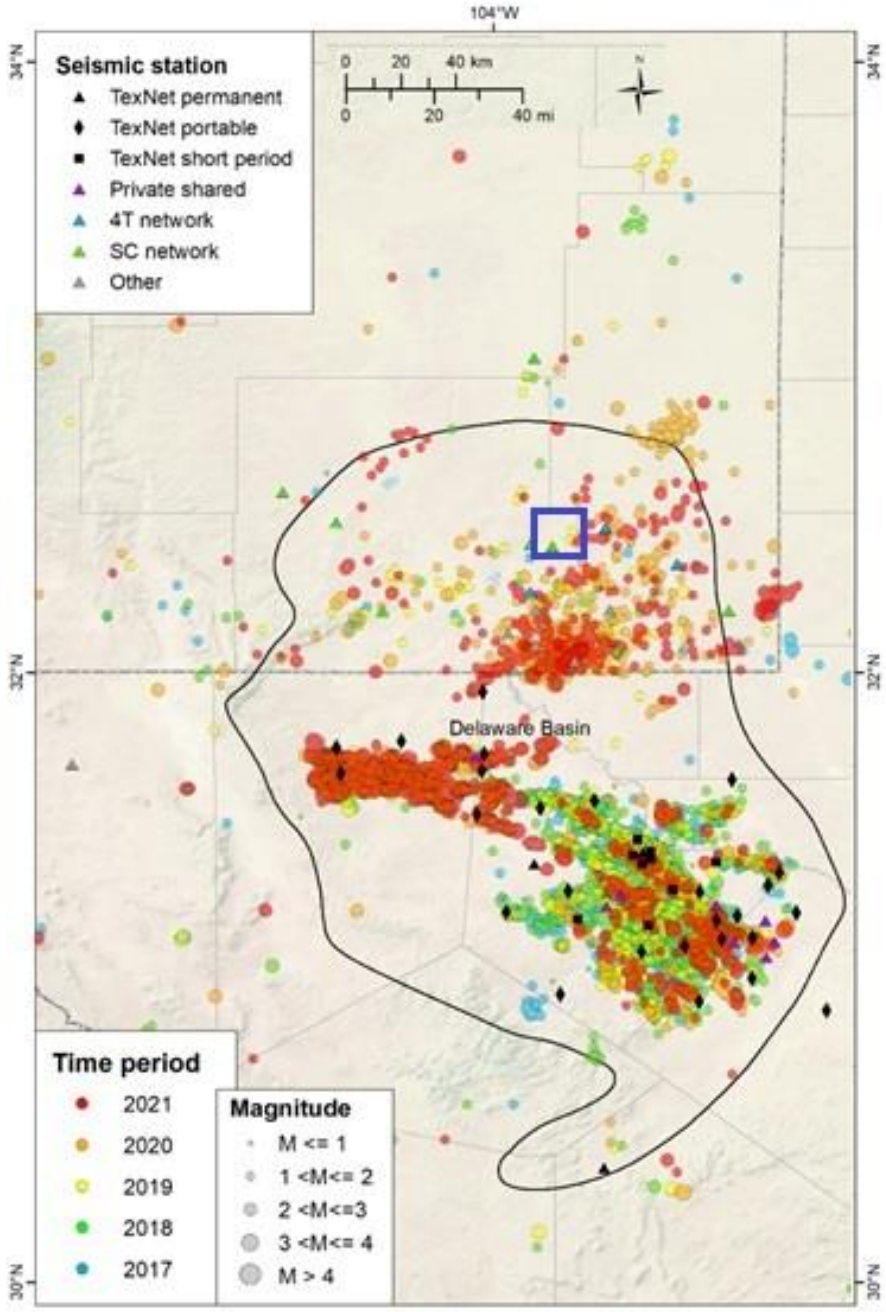


Figure 35: Deep Permian Basin SWDs with Superimposed Seismic Event Heat Map (ref B3 Modelling)

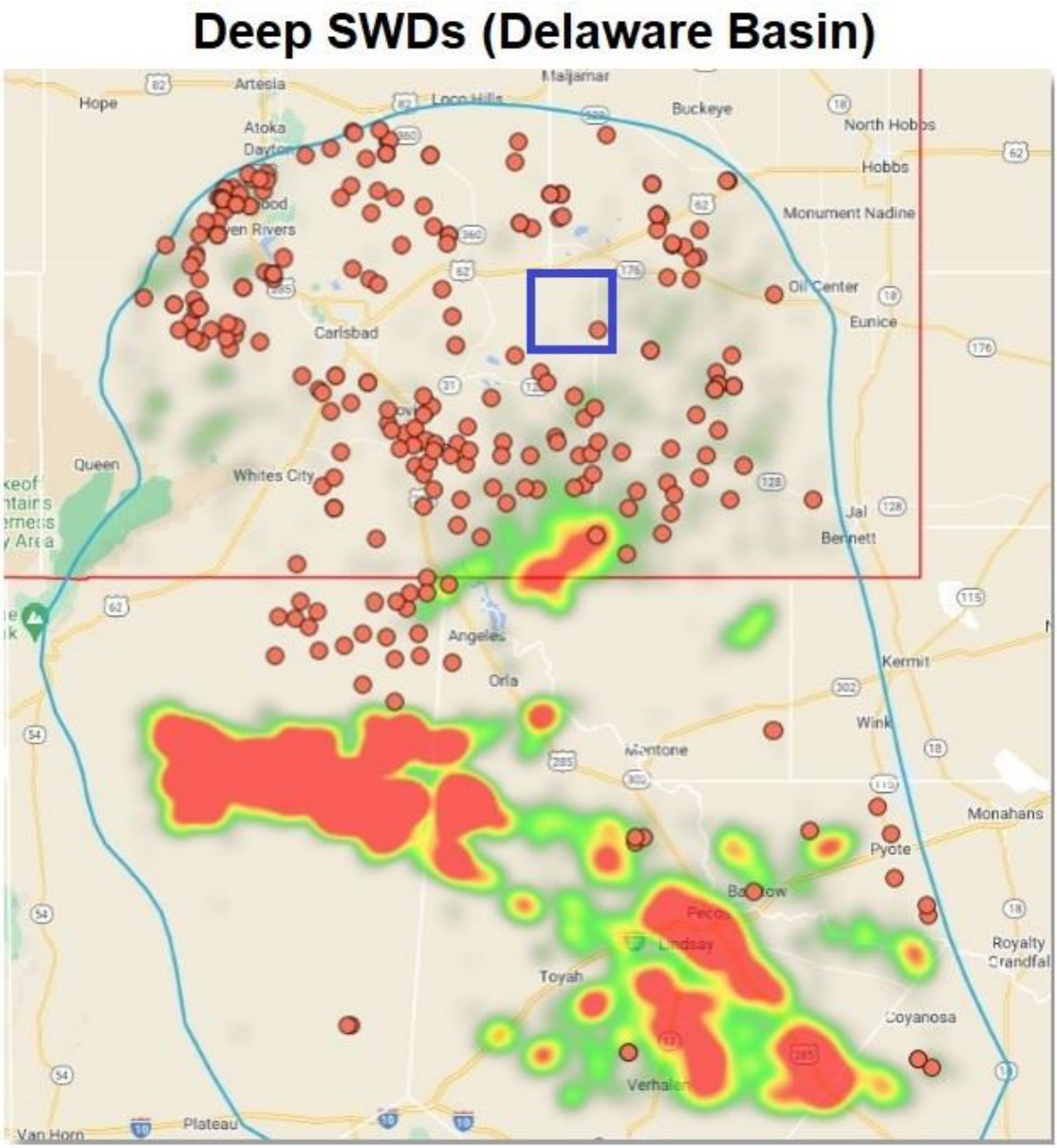


Figure 37 zooms in closer to the WIPP site and brings the seismic data up to date in the WSA. Note that the largest of the events has been a Mw of 3.2 just outside the WSA to the east. The rest of the events are in the Mw 2-3 range. Note also that the Hat Mesa Seismic Response Area to the east is delineated as is the State Line SRA is to the south. These area-based designations get to be quite significant to the operators of the SWD wells and will be more carefully outlined in the next section. Figure 38 includes the B3 modeled SWD injection rates.

Figure 36: Southeastern NM SRAs and Seismicity 2020 to May 2023 (ref B3 Modelling)

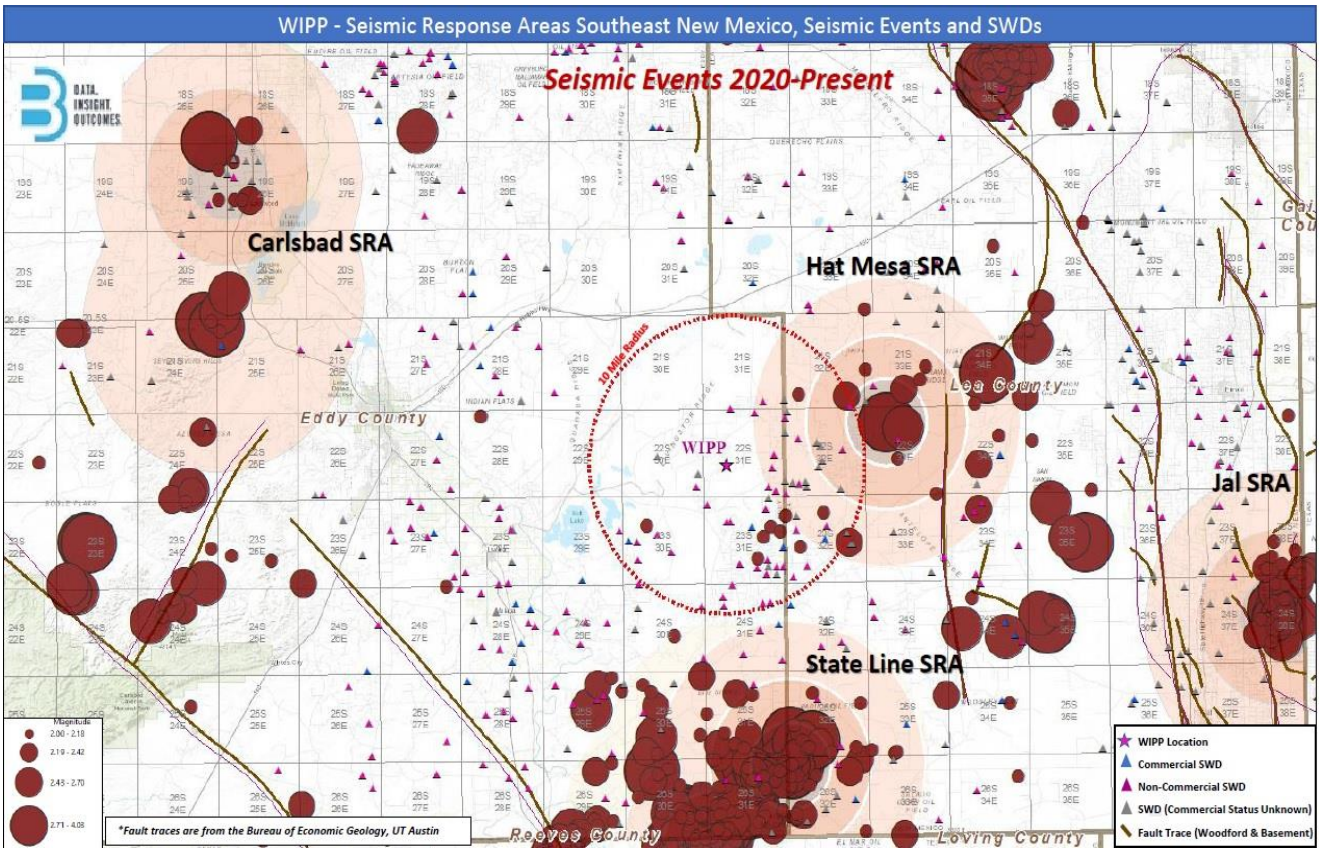


Figure 37: WIPP Area SRAs and Seismic Events >Magnitude 2 thru May 2023 (ref B3 Modelling)

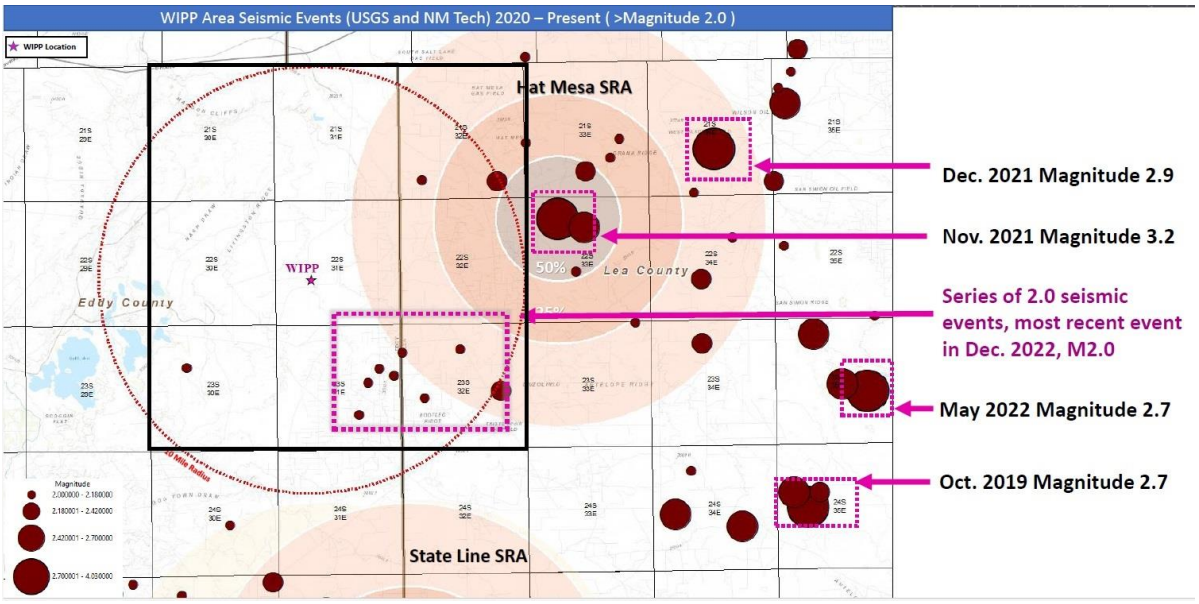
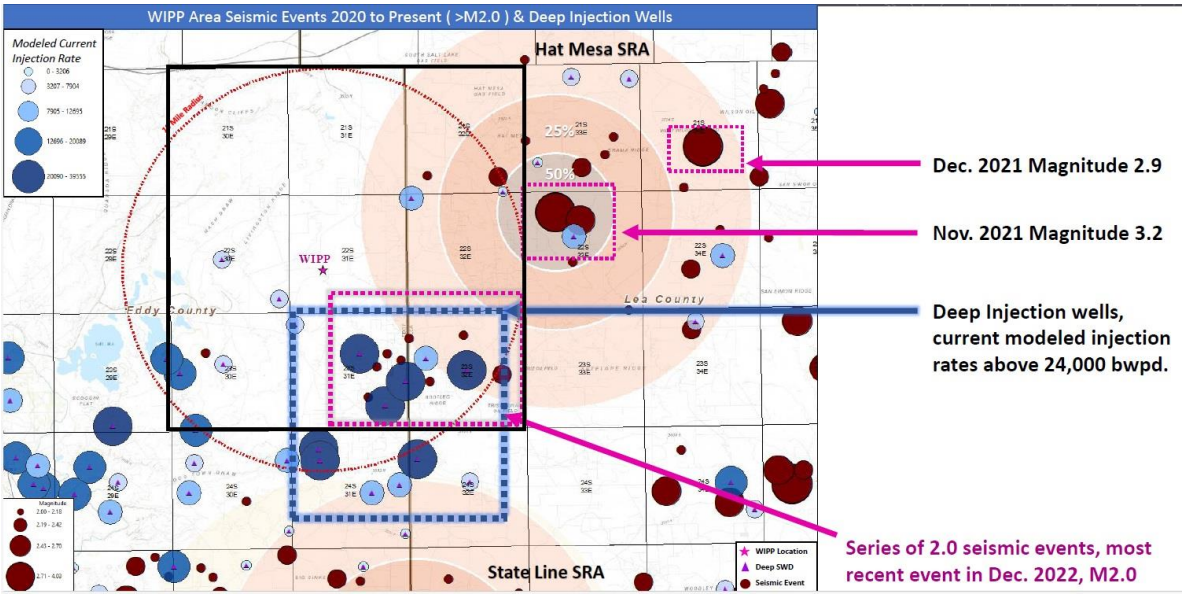


Figure 38: WIPP Study Area Deep Injection and Seismic Events thru May 2023 (ref B3 Modelling)



Potash Mining

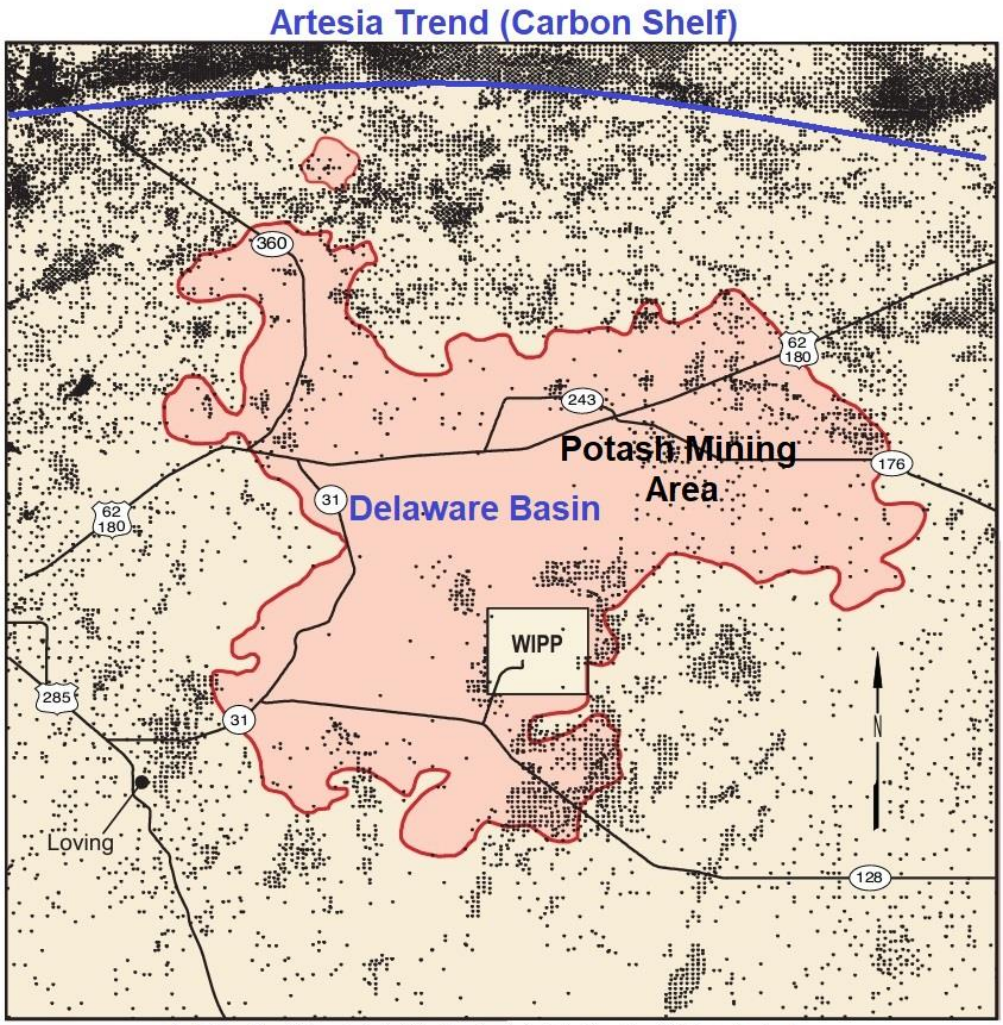
It is instructive at this point to draw parallels of the WSA and its waste facility to the potash industry region with its mining practices. We are reminded that the WIPP analog potash mines are at similar depths to the WIPP site. Like in the construction of the WIPP facility, the potash mining techniques rely on rock boring machines to create the underground cavities. And, similar to WIPP, the potash industry is an important contributor to the State economy and employs ~750 direct jobs in NM[54]. Preserving the viability of both industries remains a priority for the State and the continuing assurances of stability and safety of the shafts is an imperative. The Texas region of the Delaware Basin to the south does not possess the same interests where their State regulatory oversight is singularly focused on the oil and gas industry.

Figures 39 illustrates the areas of potash resource. Figure 40a illustrates an example of an underground passageway in a potash mine while 40b is a picture of the "continuous miner" for grinding the potash resource for surface processing and sale.

Figure 39 shows that the 16-mi^2 WLWA (land withdrawal area) is clearly within the Potash resource area but it precludes potash mining since the mining and facility depths are both within the Salado formation (Figure 3). Preservation of the WIPP and Potash mine openings are at least part of the considerations for the regulatory oversight of the NMOCD.

[54] https://www.blm.gov/programs/energy-and-minerals/mining-and-minerals/about/new-mexico/leasable-minerals/potash

Figure 39: Map of the Eddy and Lea County Area in the Delaware Basin illustrating the Potash Mining Region and the WIPP Site



Ref: https://geoinfo.nmt.edu/publications/periodicals/earthmatters/8/n2/em_v8_n2.pdf
dated mid-year 2008

Figure 40a: Photographic Example of part of a Potash Underground Mining Adit

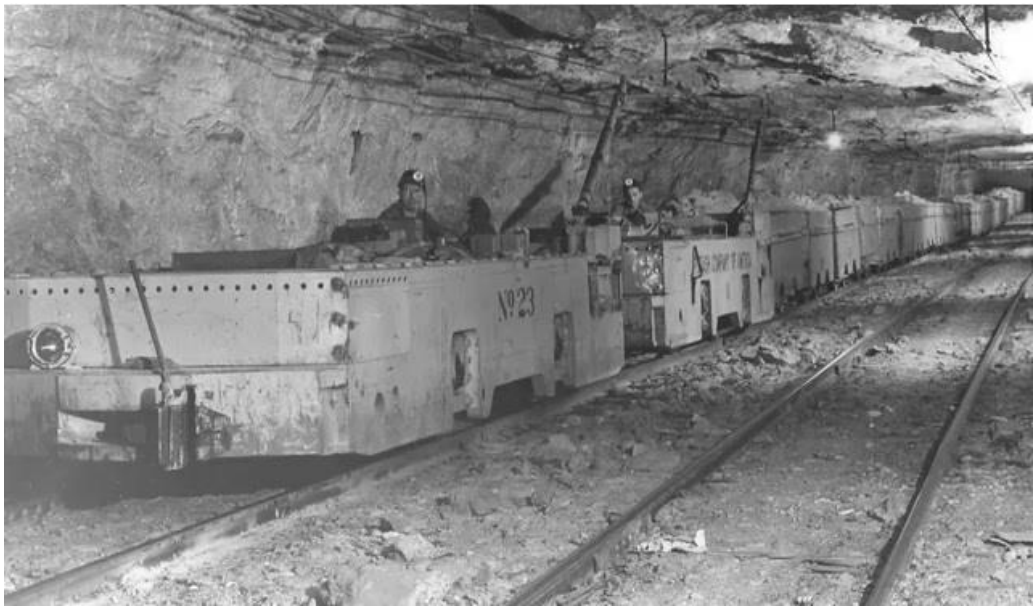


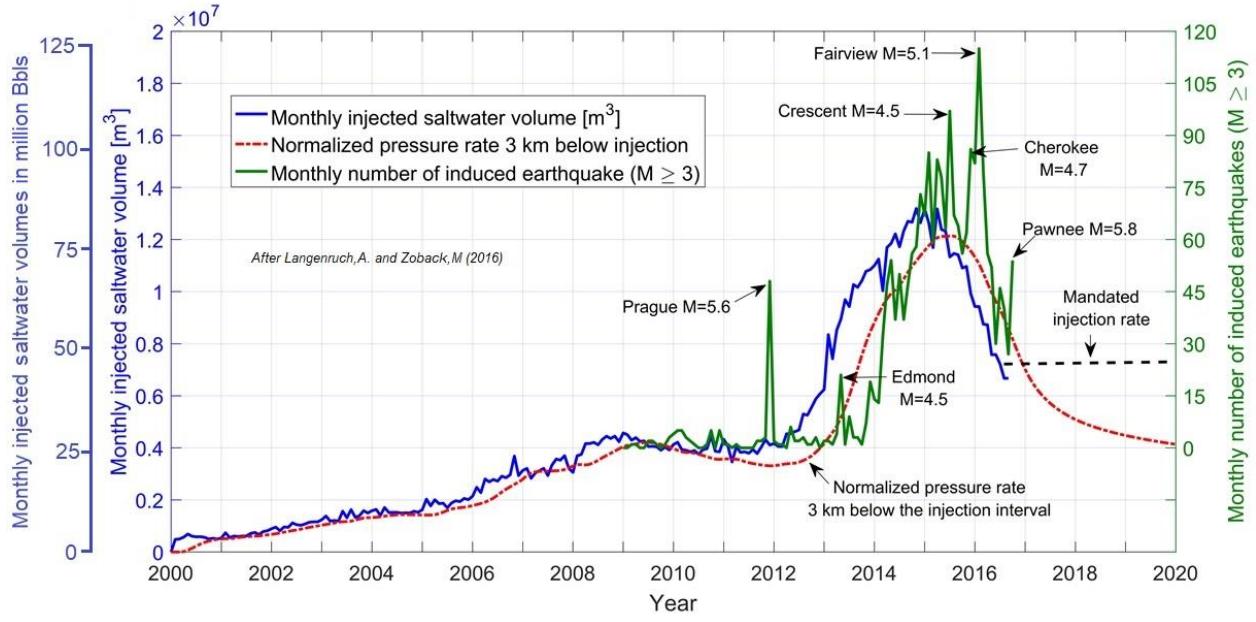
Figure 40b: 'Continuous Miner' in a Potash Mine



SECTION VIII: INDUCED SEISMICITY CAUSATION: STATE, FEDERAL AND INDUSTRY OVERSIGHT

Induced (triggered) seismicity concerns are relatively new to the oil and gas scene. Historical water injection volumes were comparatively small in comparison to those today. The new developments in horizontal drilling with its large produced volumes of oil, gas and accompanying water have rather suddenly brought it to the attention of the industry and public. Induced seismicity from fluid injection has been noted before[55] but most would contend that the issue has been present in only in a very, very limited way. Oklahoma was the first state to intervene in SWD oversight and started in the 2010-time frame. Figure 41[56] illustrates a M5+ seismic event in Prague, Oklahoma that created some very visible surface damage. The Oklahoma Corporate Commission (OCC) felt compelled to hire experts to attribute the cause as they were reluctant to take action until sufficiently convincing evidence pointed to the cause. The evidence gathering was cumbersome at first and the process of attribution took four years but eventually the work determined the causal factor was the large volume disposal wells[57]. In 2016 the OCC felt justified to enact rules to limit the injected salt water injection volumes. In some future cases

Figure 41: Oklahoma Correlations of the Rate of Produced Water Disposal Controlling the Rate of Induced Earthquakes – after ref [46]



[55] Folger, P (2016), Human-Induced Earthquakes from Deep-Well Injection: A Brief Overview, Congressional Research Service 7-5700 www.crs.gov R43836, https://sgp.fas.org/crs/misc/R43836.pdf

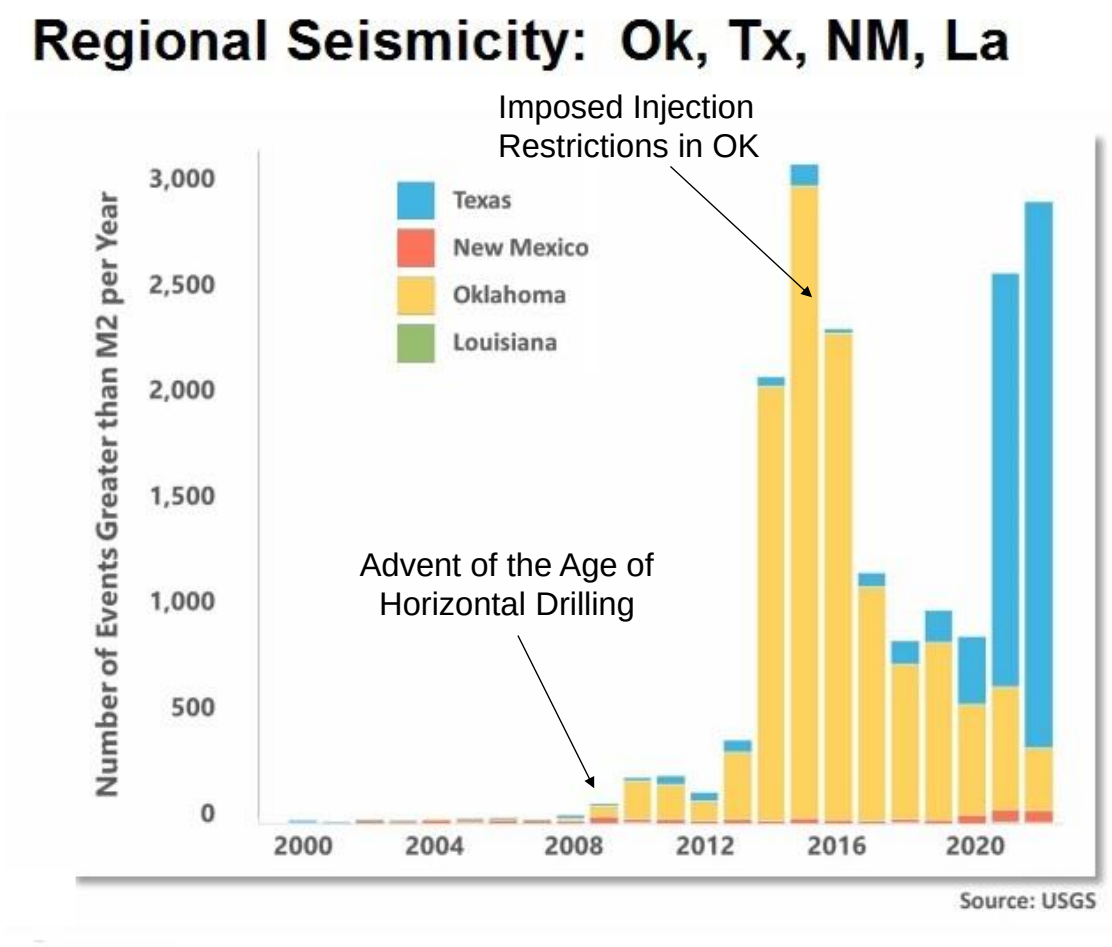
[56] Langenbruch, A. and Zoback, M (2016), "How will induced seismicity in Oklahoma respond to decreased saltwater injection rates?," in Science Advances, Vol 2, No.11, Nov 2016.

[57] Ibid. after Langenbruch, A. and Zoback, M (2016).

after 2018, they implemented SWD injection permit denials and eliminated some existing disposal wells from any injection.

In recalling Figure 33. which displayed the four-state regional seismicity history beginning with the advent of the horizontal drilling revolution, one could note the peak in seismic event frequency in Oklahoma in 2015 followed by a quite noticeable decline of industry's voluntary injection reductions in 2015 followed by enacting of injection curtailments to certain prescribed levels in late 2015. Figure 40 extends the time frame of Figure 42 through 2022 to illustrate the encouraging outcome of the enacted and continuing application of the new Oklahoma rules.

Figure 42: Four State Seismicity and Effect of Oklahoma's Imposed SWD Curtailments in 2015



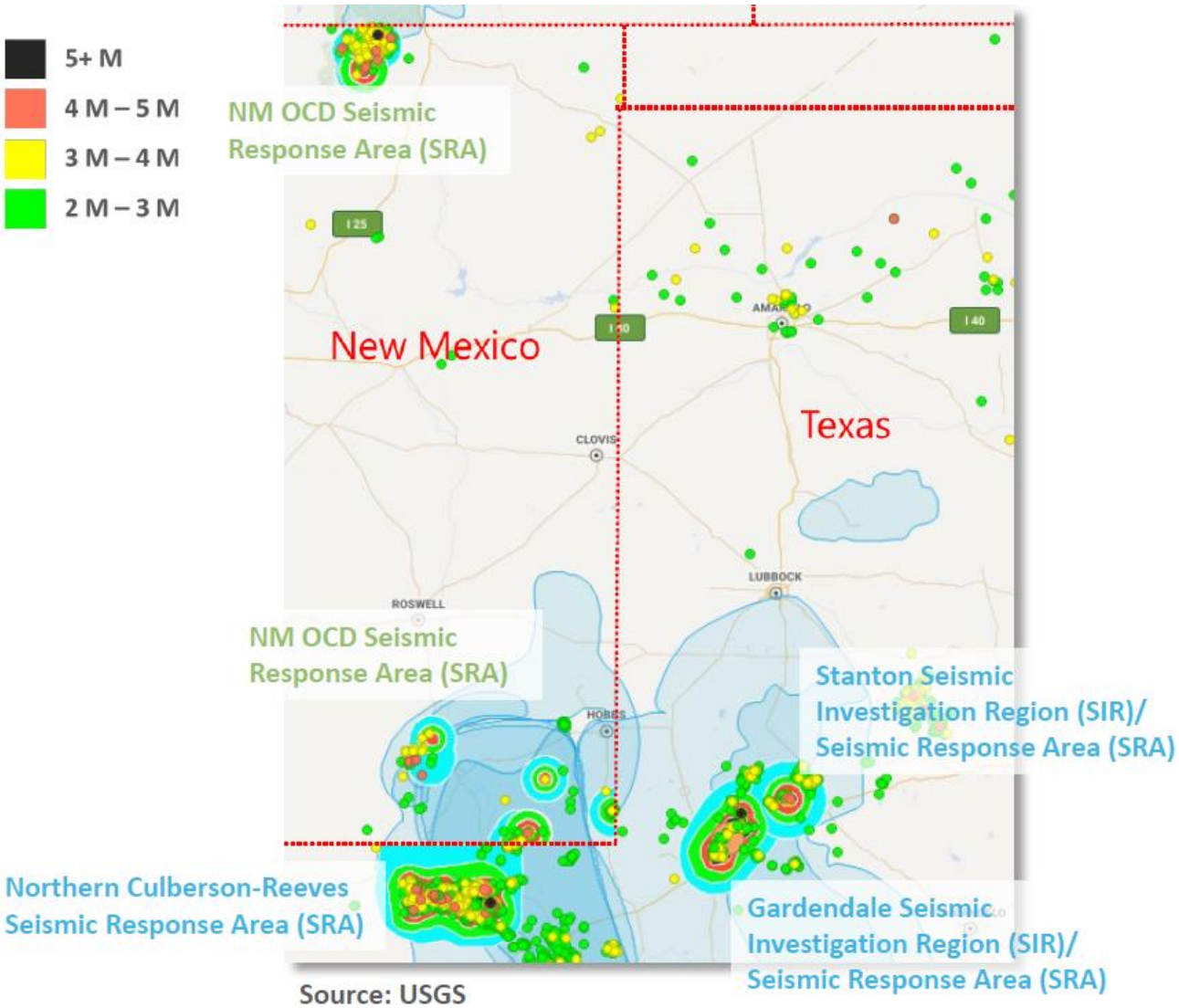
The issue of fully understanding induced seismicity can be complicated of course. Some local and regional areas seem to be especially prone to events while others less so. The most critical factor, as shown in Figure 39, is the magnitude of on-going deep SWD. As discussed earlier, in addition to the depth of injection, the presence of bottom seals isolating the increasing formation pressures from the crustal rocks and the state of stress in the crust are clearly key ones. The States facing increasing seismicity are all recognizing local geomechanical factors can play a large role. It is safe to say that

regulators are universally reluctant to apply rules across State-wide regions and impose restrictions on a local scale.

Texas, the Permian Basin and Delaware Basin Seismicity

Figure 42 clearly shows Texas is climbing up the seismic frequency curve at the present time. The Texas Railroad Commission has studied the precedence established by Oklahoma and is undergoing the same hesitation to action as researchers gather similar causation evidence that the OCC underwent. Forcing changes of business plans (both injection and drilling) by new regulations, i.e., forcing cessation of deep injection or limiting injection volumes, is never an easy decision for a critical industry to the State's economy. Fortunately, the industry is cooperating as they did in Oklahoma and assisting with the needed regulatory guidelines and actions. Voluntary actions by companies are underway but, as a

Figure 43: Seismic Response Area Based Regulations in West TX and eastern NM (as of mid-year 2023)



group, they recognize that some State regulatory oversight needs to be applied to assure that all companies are compliant. For example, the rules need to be criteria based if they lead to a designation of a seismic response area (SRA). Figure 41 illustrates the current SRAs in the Permian Basin region of west Texas

Figure 42 illustrated that the levels of induced seismicity in Louisiana and New Mexico are very low through end of year 2022. Louisiana may be a special case in that horizontal wells are more limited in numbers there unlike the Permian Basin and Oklahoma. In addition, the formations are soft sediments where fault displacement is unlike actual 'rupture' and more like 'creep' without pulses of large displacement. In addition, the crustal rocks are well below any of the producing formations for most of the State.

The newly established frequencies of Texas and NM Delaware Basin seismicity comes along later as is seen in Figure 42. The key factor for the regulators in NM and TX is that they have an analogue for a "go by." As the Figure shows, the seismic frequency in the Texas side is much more common and Figure 41 shows that many of the earthquakes are more intense in magnitude than they are to the north. The next subsection will suggest why that is the case and that the industry and NMOCD are more interactive and proactive, ostensibly for reasons of protecting both the potash and WIPP industries. We can say that, excepting the Northern Culberson Reeves SRA, the Texas RRC has applied more SRA restrictions and SWD permit denials due to the pressure from the public after the large 5+ magnitude events closer to population centers.

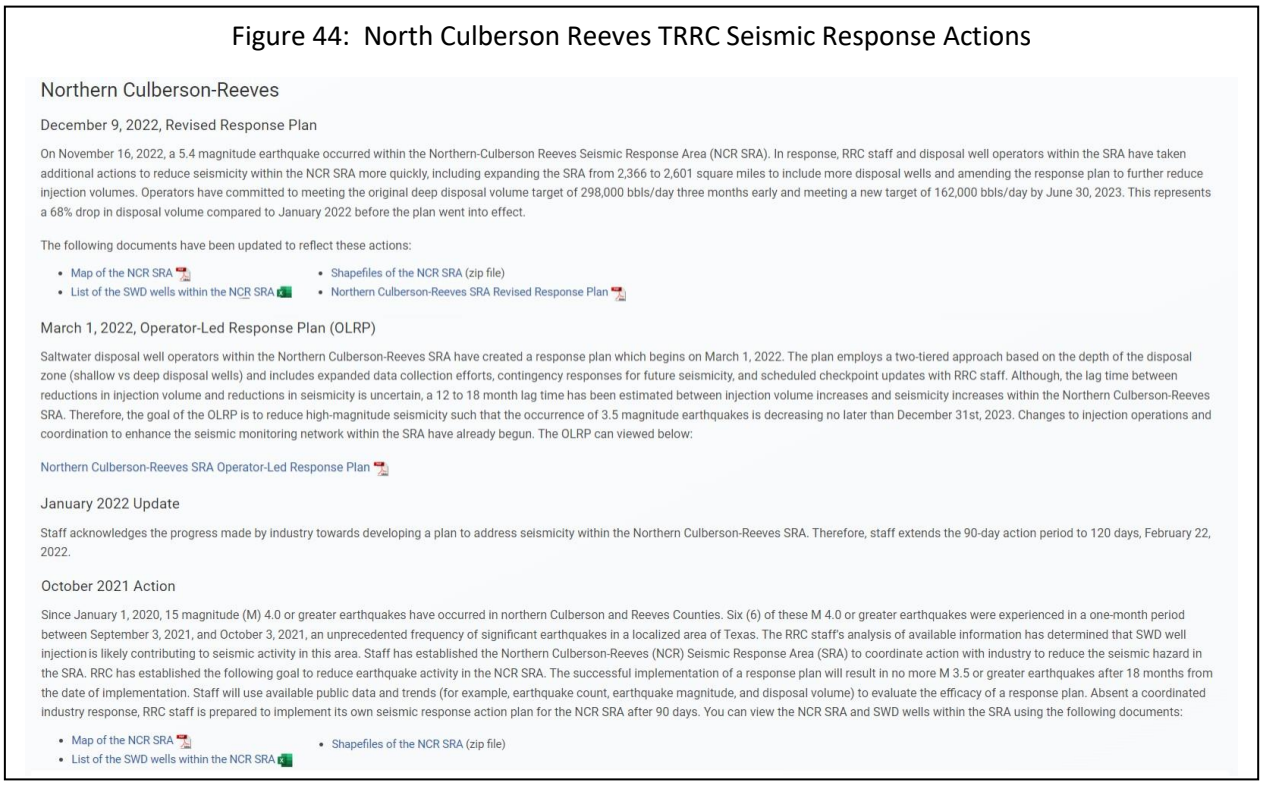
As several figures have shown, this more frequent seismic activity in the Permian Basin is effectively new and within the last several years. And, despite the growing levels of interest in the legislatures, regulatory bodies, and newly created research that is underway, most information is not yet out in publicly available reports. The latest observations, a key to this section of the report, must be based upon the latest data from websites like the TRRC[58] and NMOCD[59] but with a heavy emphasis derived from the contracted B3 Insight data and models (see Appendix X). The TRRC's recent proposals and directives suggest that they are clearly on their way to imposing more injection restrictions as more events occur. The level of event frequency in Texas does not suggest (through 2022 at least) that the "growing public concerns" have declined as it has in OK. But, with what the regulators and the industry are currently doing, gives hope that an update of Figure 40 in 2023 will show a decline in Texas in both frequency and intensity.

[58] Op Cit. TRRC website

[59] http://octane.nmt.edu/gotech/

Figure 44 outlines the seismic response actions for the North Culberson Reeves (NCR) SRA[60] south of the NM/TX state line[61]. Note that the most recent action was a result of a November 16, 2022 5.4 magnitude earthquake occurred within the Northern-Culberson Reeves Seismic Response Area (NCR SRA). In response, the RRC staff and disposal well operators within the SRA have taken additional actions to reduce seismicity within the NCR SRA more quickly, including expanding the SRA from 2,366 to 2,601 square miles to include more disposal wells and amending the response plan to further reduce injection volumes. Operators have committed to meeting the original deep disposal volume target of 298,000 bbls/day three months early and meeting a new target of 162,000 bbls/day by June 30, 2023. This represents a 68% drop in disposal volume compared to January 2022 before the plan went into effect.

Figure 44: North Culberson Reeves TRRC Seismic Response Actions



Northern Culberson-Reeves

December 9, 2022, Revised Response Plan

On November 16, 2022, a 5.4 magnitude earthquake occurred within the Northern-Culberson Reeves Seismic Response Area (NCR SRA). In response, RRC staff and disposal well operators within the SRA have taken additional actions to reduce seismicity within the NCR SRA more quickly, including expanding the SRA from 2,366 to 2,601 square miles to include more disposal wells and amending the response plan to further reduce injection volumes. Operators have committed to meeting the original deep disposal volume target of 298,000 bbls/day three months early and meeting a new target of 162,000 bbls/day by June 30, 2023. This represents a 68% drop in disposal volume compared to January 2022 before the plan went into effect.

The following documents have been updated to reflect these actions:

- Map of the NCR SRA
- List of the SWD wells within the NCR SRA
- Shapefiles of the NCR SRA (zip file)
- Northern Culberson-Reeves SRA Revised Response Plan

March 1, 2022, Operator-Led Response Plan (OLRP)

Saltwater disposal well operators within the Northern Culberson-Reeves SRA have created a response plan which begins on March 1, 2022. The plan employs a two-tiered approach based on the depth of the disposal zone (shallow vs deep disposal wells) and includes expanded data collection efforts, contingency responses for future seismicity, and scheduled checkpoint updates with RRC staff. Although, the lag time between reductions in injection volume and reductions in seismicity is uncertain, a 12 to 18 month lag time has been estimated between injection volume increases and seismicity increases within the Northern Culberson-Reeves SRA. Therefore, the goal of the OLRP is to reduce high-magnitude seismicity such that the occurrence of 3.5 magnitude earthquakes is decreasing no later than December 31st, 2023. Changes to injection operations and coordination to enhance the seismic monitoring network within the SRA have already begun. The OLRP can viewed below:

Northern Culberson-Reeves SRA Operator-Led Response Plan

January 2022 Update

Staff acknowledges the progress made by industry towards developing a plan to address seismicity within the Northern Culberson-Reeves SRA. Therefore, staff extends the 90-day action period to 120 days, February 22, 2022.

October 2021 Action

Since January 1, 2020, 15 magnitude (M) 4.0 or greater earthquakes have occurred in northern Culberson and Reeves Counties. Six (6) of these M 4.0 or greater earthquakes were experienced in a one-month period between September 3, 2021, and October 3, 2021, an unprecedented frequency of significant earthquakes in a localized area of Texas. The RRC staff's analysis of available information has determined that SWD well injection is likely contributing to seismic activity in this area. Staff has established the Northern Culberson-Reeves (NCR) Seismic Response Area (SRA) to coordinate action with industry to reduce the seismic hazard in the SRA. RRC has established the following goal to reduce earthquake activity in the NCR SRA. The successful implementation of a response plan will result in no more M 3.5 or greater earthquakes after 18 months from the date of implementation. Staff will use available public data and trends (for example, earthquake count, earthquake magnitude, and disposal volume) to evaluate the efficacy of a response plan. Absent a coordinated industry response, RRC staff is prepared to implement its own seismic response action plan for the NCR SRA after 90 days. You can view the NCR SRA and SWD wells within the SRA using the following documents:

- Map of the NCR SRA
- List of the SWD wells within the NCR SRA
- Shapefiles of the NCR SRA (zip file)

Similar seismic response actions have been taken for the Gardendale and Stanton SRAs to the east in the Midland Basin. The criteria and seismic thresholds are stricter there due to the population density and public concerns but are not repeated here due to the distance from the WSA.

New Mexico Seismicity and Industry and Regulatory Oversight

The NM earthquake frequency is much less than in the Texas portion of the Delaware Basin as was shown with Figure 42. The NMOCD regulator has acted more quickly and stringently with the SRA and

[60] https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/injection-storage-permits/oil-and-gas-waste-disposal/injection-disposal-permit-procedures/seismicity-review/seismicity-response/#NCR

[61] A better resolution image of these TRRC regulatory actions and a map file are provided in Appendix XI

SIR (seismic investigation region) designations. The SRA rules are more rigid, injection thresholds lower, and have been invoked more quickly than the regulators across the border in Texas.

Like in Oklahoma and Texas, the industry players have formed groups watching and recommending action as well and have contracted 3rd parties like B3 Insight[62] (commonly referenced here) to assist in the injection documentation and seismic oversight. They gather the disposal volume data and model injection formation pressures to help all parties avoid future large events. To repeat what was stated earlier, the NMOCD has enacted stricter restrictions in the Delaware Basin on water disposal and imposed the curtailments quicker than has Texas. We are reminded that New Mexico regulators have two reasons to be more proactive with the presence of the potash and WIPP site facilities than does the regulator south of the border. We should also offer that deep disposal into the Devonian with its injection depth equal to or greater than 1000 feet above the crustal rocks may be a likely barrier to moving fluids and pressure into the crustal rocks. That has some folks believing that it is more "insulated" to increasing the triggering pressures into the crustal faults where the earthquakes are generated.

We are repeating Figure 36 here to provide a mid-year 2023 look at the SRAs and SIRs in New Mexico. The State Line area in SW NM, the Carlsbad and Jal areas, and the area in northern NM (see Figure 41), have caused the NMOCD to institute Seismic Response Areas (SRAs) to try and reduce numbers and levels of future earthquakes by curtailing SWD injection. Some of these have been in response to larger magnitude seismic events and some to increased event frequency. In most cases, some new SWD permits have been disapproved. A summary of the new rules imposed on disposal well operators are provided in Figure 45[63,64,65].

It is noticeable that new injection volume reporting requirements and NM SRA rules have been instituted particularly earlier than when Oklahoma or Texas regulators imposed their rules. They also have the advantage of the mutual interest of well operators in both Texas and NM cooperating with injection reporting and supporting research conducting reservoir modeling work looking specifically at injection formation pressures.

The newly imposed SWD disposal injection rates reduction in the SENM SRA follow. Figure 46 displays those in map form.

[62] See https://www.b3insight.com/solutions/

[63] https://www.emnrd.nm.gov/wp-content/uploads/11-23-21-NOTICE-Induced-Seismicity-Immediate-Response-Plan.pdf

[64] https://www.emnrd.nm.gov/ocd/wp-content/uploads/sites/6/11-23-21-FINAL-NMOCD-Seismic-Mitigation-Protocol-Table.pdf

[65] A better resolution image of these NMOCD regulatory actions is provided in Appendix XI

Figure 36R: Mid-year 2023 Seismic Events and Seismic Response Areas in SW NM

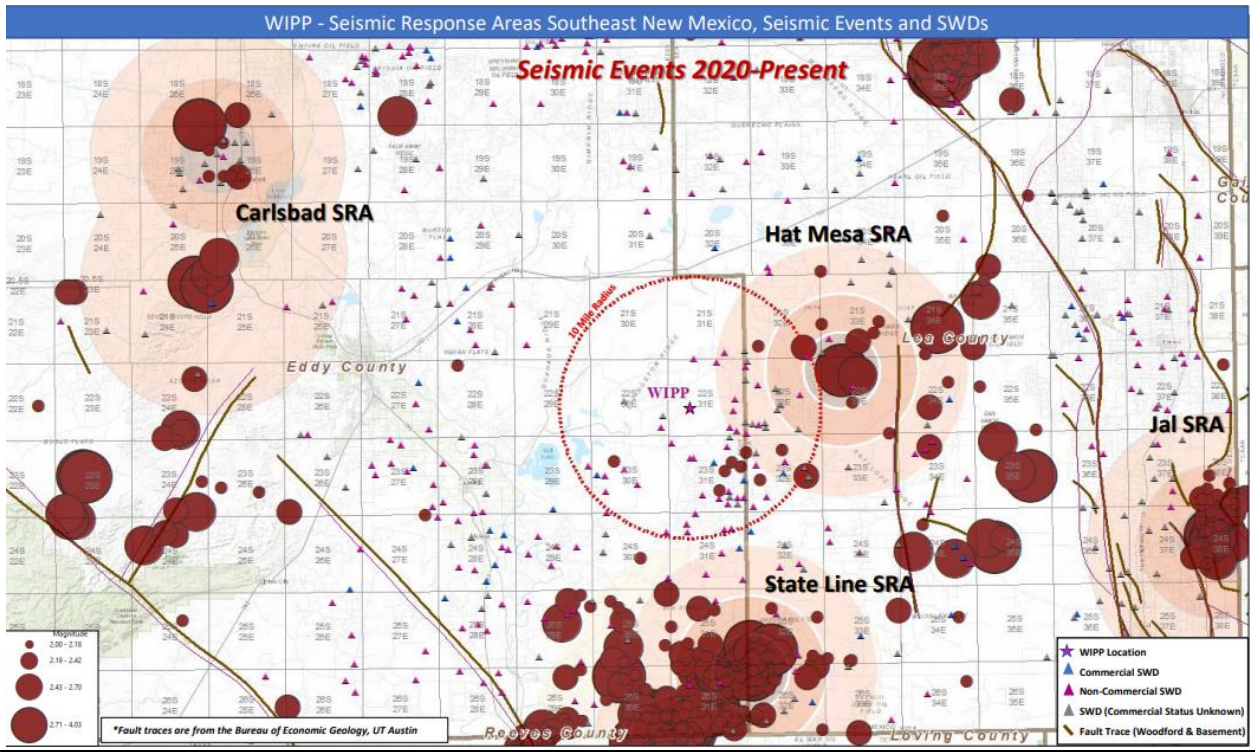


Figure 45: Mid-year 2023 NMOCD rules for operators and justification (red box)

State of New Mexico
Energy, Minerals and Natural Resources
Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division

NOTICE TO OPERATORS

IMMEDIATE RESPONSE PLAN FOR SEISMIC EVENTS RELATED TO CLASS II UNDERGROUND INJECTION CONTROL WELLS

November 23, 2021

The New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division ("OCD") has the authority under the Oil and Gas Act (Section 70-1-1 *et seq.*, NMSA 1978) and pursuant to delegated authority from the U.S. Environmental Protection Agency under the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*) to regulate all aspects of Underground Injection Control ("UIC") Class II well development and operation, and decommissioning, including their contribution to induced seismic activity. See 19.15.26 NMAC. This Notice sets forth OCD's framework for responding to seismicity related to UIC Class II injection well operations wherever it may occur across New Mexico.

The USGS and New Mexico Bureau of Geology has detected increasing seismic activity over the last two years in the vicinity of several UIC wells located across New Mexico, including:

- Seven earthquakes of magnitude from M2.5 to M4.0 between March 2021 and September 2021, in an area known as the County Line Seismic Response Area ("County Line SRA") located approximately 35 miles east southeast of Malaga, NM;
- Thirteen earthquake events ranging from M1.8 to M2.7 in a location approximately six miles northeast of Jal, NM, that started in August 2020 and have occurred periodically to the present;
- A swarm of 21 earthquakes ranging between M2.3 and M3.3 over a three-day period in June 2020 located in an area approximately 12 miles southwest of Lovington, NM; and,
- A collection of earthquakes in the last month, including:
  - A M3.2 event in an area approximately 24 miles southwest of Monument, NM;
  - A M4.0 event in an area approximately 15 miles North of Cimarron, NM; and,
  - A M2.5 event in an area approximately 15 miles north northeast of Ute Park, NM.

OCD has actively engaged with UIC well operators in these areas to gather data on the seismic events and to understand their causes. Based on the available data, the location of the seismic activity, and its proximity to existing UIC injection activities, as well as the experience of other states managing oil and gas related induced seismicity, OCD believes that these seismic events are directly related to UIC injection activities. These seismic events demonstrate the need for OCD to marshal available tools and data to mitigate induced seismicity and ensure that appropriate measures are established to manage it going forward.

To that end, the OCD announces the following statewide induced seismicity mitigation and response framework (see Attachment A). The framework incorporates requirements that will be implemented either through voluntary actions by operators and/or orders issued by the OCD. The OCD has the authority to institute the framework under the Oil and Gas Act, including 19.15.26.11 NMAC, which provides for:

1) "more comprehensive testing of [an] ...injection well when deemed advisable, including the use of tracer surveys, noise logs, temperature logs or other test procedures or devices," and,
2) "special tests [of an injection well] ...if the division believes conditions so warrant."

Testing under this authority may include but is not limited to: (1) operational curtailment of injection volumes and shut-ins,[1] (2) pressure monitoring, (3) well communication testing, and (4) phased-in reinstatement of operational activities. Consistent with this authority, the OCD expects the following actions in response to seismic events depending on the timing and magnitude of the observed event:

1. Following the occurrence of two seismic events equal to or greater than M2.5 within a 30-day period and within a 10-mile radius, OCD expects all UIC well operators within 10 miles of the epicenter of the seismic events (the "Seismic AOI") to:
   a. comply with the Category 1 Seismicity Response Protocols identified in Attachment A to this notice until such time as OCD determines appropriate mitigation actions in response to the observed seismic events have occurred.
2. Following the occurrence of one seismic event equal to or greater than M3.0, OCD expects all UIC well operators within the Seismic AOI to:
   a. Implement all the monitoring and reporting requirements in the Category 1 Seismicity Response Protocols set forth in Attachment A, plus
   b. The additional operational controls in the Category 2 Seismicity Response Protocols set forth in Attachment A.
3. OCD expects the duration the of any measures identified above will be until such time as OCD determines, in its sole discretion, that appropriate mitigation actions in response to the observed seismic events have occurred. Factors the OCD will consider, without limitation, including the lack of additional seismic activity for 6 months after the triggering event and/or approval of an operator/industry response plan to the seismic activity.
4. Attachment B contains OCD's Seismicity Response Protocol Information Form, which OCD in its discretion may convert into an online form.

OCD may add additional requirements in any order issued in response to a seismic event as it deems necessary and appropriate to address the specific circumstances.

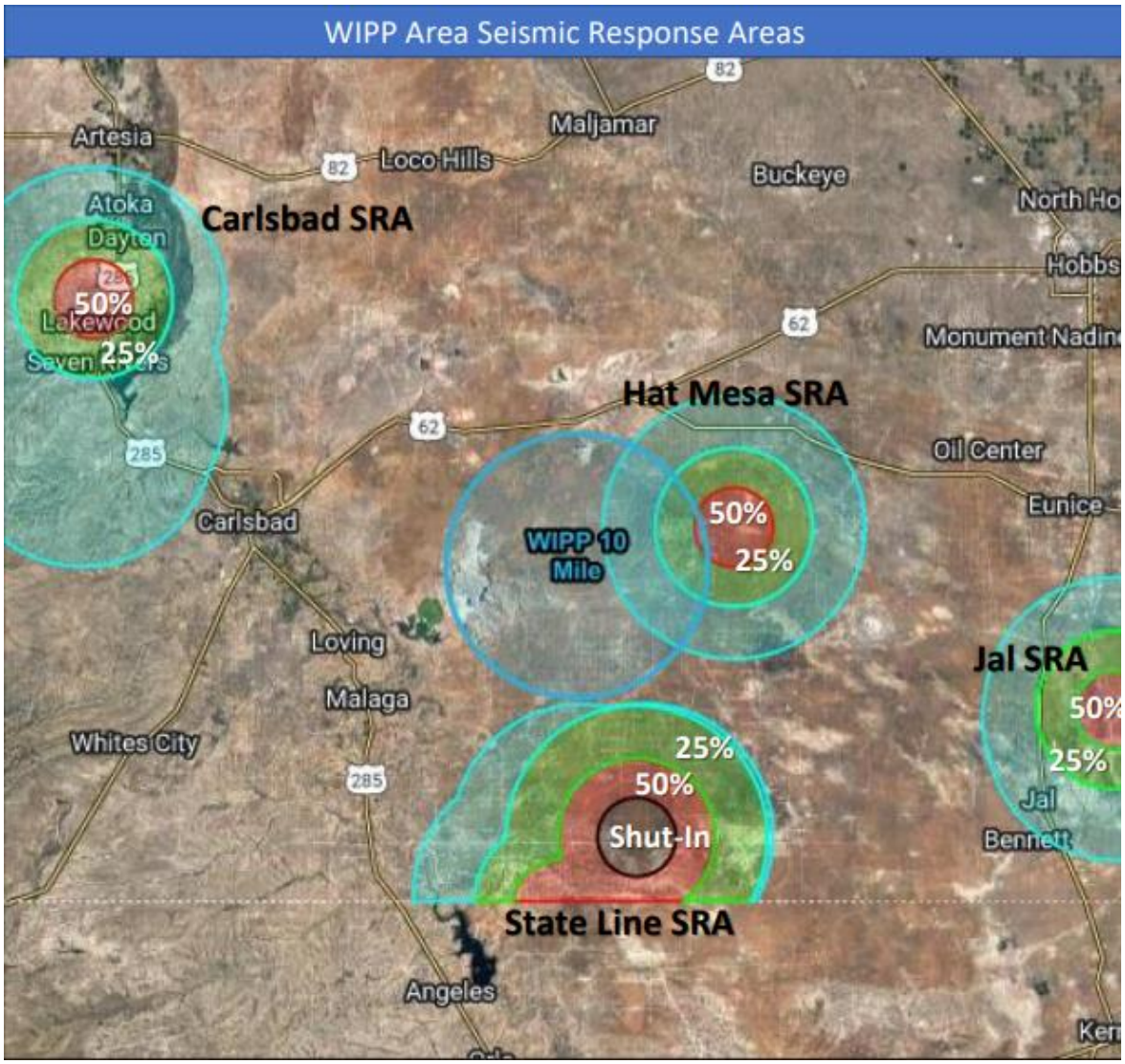
Finally, OCD will consider an operator's voluntary implementation of the measures outlined in this Notice when deciding whether and when to issue an order. For additional information, contact OCD.Engineer@state.nm.us.

Attachments:
Attachment A: OCD, Seismicity Response Protocol
Attachment B: OCD, Seismicity Response Protocol Information Form (*form shall be submitted using OCD's e-permitting system*)

[1] Operational controls are intended to test the geologic response to reductions in disposal volumes.

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.nm.gov/ocd

Figure 46: Seismic Response Area Injection Rate Reductions in SENM



Hat Mesa: Rate Reduction: 50%, 25%

State Line: Rate Reduction: Shut In, 50%, 25%

Jal: Rate Reduction: 50%, 25%

Carlsbad: Rate Reduction: 50%, 25%

Notice to all SENM SRAs (from NMOCD)[66,67]: Rate Reduction Note: All rates should be reduced from the previous 6-month daily average of active injection days. Reductions to rate should start immediately and

[66] www.emnrd.nm.gov/officeofsecretary/wp-content/uploads/sites/2/OCDSeimicityGuidance112321.pdf

be completed within a week. Notify OCD of pertinent information within 24 hours or next business day, whichever is latest, of an event using the OCD Seismicity Response Protocol Information Form.

Monitoring & Reporting Protocols: Digitally measure injection volume and pressure (data must be recorded on an hourly basis at a minimum and archived for delivery upon request). Weekly reporting of daily injection volumes and average daily surface pressure. Provide the Seismicity Response Protocol Information Form to OCD within 24 hours or next business day, whichever is latest, of an event using the OCD form. Provide the Daily Injection Report to OCD by the Wednesday following the weekly reporting period. Monitor for seismicity >M2.5 for 10 miles around well using USGS/NMTSO data.

These NM rate reductions are creating issues for new wells having a disposal option for their produced waste water. In addition, but anecdotal at this time, the industry is seeing that injection permits, especially shallow DMG permits, have had long delays in getting approvals in SENM. One of the inevitable results is that a significant percentage of the very southern produced water volumes in NM have moved south to the Texas SWD wells. This has created what could be called a "hub" of produced water disposal. This situation has likely exacerbated local disposal formation pressures and led to the continuing intensity of seismic activity along the TX/NM state border as was seen in the heat map of Figure 35.

Finally, it is important to reemphasize that all of the public reactions, sensor readings, and any observed damage is obviously ground-based surface data. Those effects at the surface are enhanced with surface seismic waves which are not specific to mines and other deep subsurface cavities. The frequencies of ground motion vibration are different as well.

For the report here, it seems very important to make these points as to explain the differences in NM regulatory oversight that is occurring.

SECTION IX: CONCLUSIONS

Drilling Activity

Based up our study of current drilling and well completion data in the 9-township WIPP study area (WSA), we offer the following conclusions

1. The primary drilling activity in the 9-township WSA has changed in recent years from vertical wells to horizontal drilling laterals from 1- to 2.5-miles in length[68]. A few exceptions are vertical salt water disposal (SWD) wells that have been drilled in the last 5 years targeting the Devonian Formation at 16,500-17,500' depth.

2. Historically, the vertical wells targeted the Delaware Mountain Group (DMG) at 3000-6000' depth, greater than 2500' below the WIPP facility depth, and outside the 16-section WIPP land withdrawal area.

[67] http://energymakersag.com/seismicity-response-protocol-announced-in-new-mexico/

[68] A select few laterals up to 4.5 miles in length have been drilled to the south of the WSA

3. The horizontal wells land in the deeper zones: the Bone Springs formation at 6000-8500' depth with a few landing in the Wolfcamp formation from 8000-10,000' depth.

4. The horizontal wells require hydraulic fracturing within individual 'stages' most generally spaced 200-300 feet apart within the lateral sections and designed to stimulate the formation to fluid flow up to 300-500' away from the wellbores

5. The horizontal wells produce dramatically more fluids than the historically drilled vertical wells. The production varies but the longer laterals initially produce as much as 1000-2000 barrels of oil per day (bpd), twice as much formation water, and 2-3.5 million cubic feet of natural gas per day.

6. Ongoing development of oil and gas bearing reservoirs in the study area will continue throughout the next five years provided economic returns remain favorable (i.e., oil and gas prices, drilling costs, service company prices, and water disposal prices remain comparable). At current price and cost conditions, development of 100 to 200 new Bone Spring and Wolfcamp horizontal wells per year is likely. The rate of vertical well drilling for the DMG (Bell Canyon, Cherry Canyon, Brushy Canyon) oil wells is at least delayed for several years as horizontal wells offer more favorable economic returns. The deeper Pennsylvanian gas well completions in the Atoka and Morrow formations are not attractive at current gas prices.

Water Injection

Based upon the study of data from both producing and injection wells in the WSA, we offer the following water injection conclusions:

7. Devonian SWD injection is markedly up and now comprises over 80 percent of all injection. New SWD wells will be needed to handle the additional volumes of produced water from new oil and gas wells. Water production for horizontal wells is about twice the volume of oil production and will continue to increase as additional wells are drilled. These new SWD wells will likely be in the Devonian formation.

8. There is no nearby oil or gas production from the Devonian formation thus salt water disposal into the formation is not offset by any withdrawals. The current evidence is ambiguous but continuing injection volumes into the Devonian formation will likely continue to increase reservoir pressure.

9. Improving commodity prices and advancing technology would encourage additional drilling activity. If oil and gas prices remain relatively constant, the anticipated development of 100 to 200 new horizontal wells per year appears reasonable. Should commodity prices drop, then fewer wells will likely be drilled. Conversely, should commodity prices rise, then the development of new wells is likely to proceed at a faster pace. Water disposal/treatment costs are rising, will likely continue to increase, and may provide a barrier to sustained drilling rates.

10. Strawn and Wolfcamp reservoirs alone offer poor economics. These reservoirs, however, are reasonable targets in existing wells as deeper Atoka and Morrow sands become depleted.

11. The depositional environments in this region of the Delaware Basin suggest small, discontinuous reservoirs. Well performance and geological interpretation further support the concept of compartmentalized reservoirs and unlikely implementation of new water floods.

12. For the study area, water injection into the DMG formations has not proven to stimulate new waterfloods and is principally a water disposal operation. Therefore, water injection volumes are virtually the same as produced water volumes. Several significant factors, such as poor response to injection and lack of economic feasibility, are disincentives to waterflooding of the Delaware reservoirs. Therefore, the status quo should continue and any increases in water injection may simply mirror increases in water production in the Delaware reservoirs.

13. Reservoir voidage in the DMG formations continues to increase. Consequently, average reservoir pressure is declining.

14. NMOCD regulations governing the operation of SWD and WI wells appear to successfully control the injection pressures and mechanical failures of both disposal and injection wells. Mechanical failure rates are low and water injection and disposal out of zone rarely occurs under these conditions; however, the current NMOCD cloud-based reporting system is not adequately capturing BHT and MIT tests.

15. Mandated testing ensures that mechanical failure of tubing, packer or casing is routinely detected and repaired. Furthermore, operators observe the statutory maximum injection pressures, thereby preventing out-of-zone fracturing. Operators of SWD wells generally seek to maintain low injectivity pressure and thereby minimize pumping costs. Such preferred lower pressures further reduce the potential for fracturing and migration out-of-zone. As drilling increases so will the need to dispose of increased volumes of produced waters. Careful and prudent operation of disposal wells, as well as consistent enforcement of the governing injection rules, are important to help ensure the injected waters are retained in the intended zones.

Seismicity

Based upon the WSA seismicity study, SWD injection study, and modeling work to examine disposal reservoir pressures, we offer the following conclusions.

16. The increase in observed crustal depth seismic events in multi-state areas of horizontal drilling correlate to the unprecedented large volumes of produced water requiring disposal into formations with connections to crustal faults.

17. Mass balanced water injection has been on-going for over 70 years with very few incidents of induced seismicity (i.e., water flooding). The large volumes of oil and gas being produced in horizontal wells are, unfortunately, accompanied by large volumes of produced waste water requiring disposal (with no mass balancing fluid removal) and is becoming generally accepted as the responsible seismicity stimulant.

18. New Mexico seismicity is considerably delayed and less pronounced, both in time and magnitude, than the induced seismicity in Oklahoma or across the border in the Delaware Basin in Texas.

19. The maximum magnitude of seismic events within 12 miles of the WIPP site is a Mw of 3.2. The effects of a 3.2 are characterized as only a light shaking at the surface and no damage to structures. It is widely understood that effects in an underground structure are significantly less pronounced than at the surface.

20. Both industry and regulatory oversight recognizes that the cause of the recent enhanced seismicity is the large volume deep water disposal. Both are working to control any escalation of induced seismicity through daily reporting of disposed water volumes in the areas prone to seismic events and water disposal injection reductions within the seismic response areas (SRAs).

21. The WSA lies within area with no known deep faults in the crustal rocks. Seismicity analyses of the WSA suggest that an analog of the State Line SRA south of the WSA is not appropriate for the WSA for three reasons:

1) the volumes of salt water disposal are significantly higher along the state line and across the border into Texas,

2) as was illustrated in Figure 30, the geomechanical studies of critical stress conditions in the active seismic area to the south in Texas change crustal fault density and stress orientations as contrasted to the conditions to the north in the WSA, and

3) the regulatory and industry oversight of salt water disposal is more intense and the thresholds of disposal volume restrictions are lower and more restrictive than the historical restrictions and oversight in the Texas portion of the Delaware Basin to the south. The larger Texas Delaware Basin waste water injection volumes and earlier seismic activity in Texas continue to heightened NM State regulatory and industry attention to seismicity causation and injection control.

Appendices to the Report on

Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, New Mexico

L. Stephen Melzer

Melzer CO2nsulting

Russell Hall

RK Hall and Associates

APPENDIX I: Summary Tables of all the Bradenhead and Mechanical Integrity Tests for Wells in the WSA

APPENDIX II: Normalized Production Curves for the Morrow through Delaware Producing Formations

APPENDIX III: Well by Well Inventory Tables Within the WSA Area Since 1970

APPENDIX IV: Normalized Rate versus Time Tables and Plots for the Morrow through Delaware Formations

APPENDIX V: State of New Mexico Published Rules for Injection Wells and Well Testing

APPENDIX VI: State of New Mexico Underground Injection Control Rules for Class II Injection Wells

APPENDIX VII: Production Charts for Vertical Wells in the WSA

APPENDIX VIII: Well Symbols Key (for Public Maps and as Used in Appendix II)

APPENDIX IX: WIPP Site Area Background

APPENDIX X: WIPP Site Area Seismic Activity Review

APPENDIX XI: Main Report Figures 44 & 45 Providing Better Resolution Images of TRRC and NMOCD Regulatory Directives

Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, NM

August 2023

APPENDIX I

Summary Tables of all the Bradenhead and Mechanical Integrity Tests for Wells in the WSA

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
1	APACHE 25 FEDERAL	008	25	22	S	30	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
1	APACHE 25 FEDERAL	008	25	22	S	30	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
1	APACHE 25 FEDERAL	008	25	22	S	30	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
1	APACHE 25 FEDERAL	008	25	22	S	30	E	09/09/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
1	APACHE 25 FEDERAL	008	25	22	S	30	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
1	APACHE 25 FEDERAL	008	25	22	S	30	E	09/27/2017	Brdhd Test	Acceptable	ANNTST	BTST
2	ARACANGA FEDERAL	001	4	23	S	32	E	06/03/2014	Std. Annulus PT	Acceptable	5YRTST	SAPT
2	ARACANGA FEDERAL	001	4	23	S	32	E	06/03/2014	Std. Annulus PT	Acceptable	ANNTST	SAPT
2	ARACANGA FEDERAL	001	4	23	S	32	E	11/20/2015	Brdhd Test	Acceptable	ANNTST	BTST
2	ARACANGA FEDERAL	001	4	23	S	32	E	01/24/2017	Brdhd Test	Acceptable	ANNTST	BTST
2	ARACANGA FEDERAL	001	4	23	S	32	E	10/12/2021	Brdhd Test	Acceptable	ANNTST	BTST
2	ARACANGA FEDERAL	001	4	23	S	32	E	11/04/2022	Brdhd Test	Acceptable	ANNTST	BTST
3	BARCLAY 11 H FEDERAL	001	11	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
3	BARCLAY 11 H FEDERAL	001	11	23	S	31	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
3	BARCLAY 11 H FEDERAL	001	11	23	S	31	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
3	BARCLAY 11 H FEDERAL	001	11	23	S	31	E	09/09/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
3	BARCLAY 11 H FEDERAL	001	11	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
3	BARCLAY 11 H FEDERAL	001	11	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
3	BARCLAY 11 H FEDERAL	001	11	23	S	31	E	12/11/2017	Std. Annulus PT	Failure	ANNTST	SAPT
3	BARCLAY 11 H FEDERAL	001	11	23	S	31	E	03/02/2021				
4	BARCLAY STATE	004	2	23	S	31	E	12/19/2012	Brdhd Test	Acceptable	ANNTST	BTST
4	BARCLAY STATE	004	2	23	S	31	E	11/13/2013	Brdhd Test	Acceptable	ANNTST	BTST
4	BARCLAY STATE	004	2	23	S	31	E	11/25/2014	Std. Annulus PT	Acceptable	5YRTST	SAPT
4	BARCLAY STATE	004	2	23	S	31	E	10/22/2015	Brdhd Test	Acceptable	ANNTST	BTST
4	BARCLAY STATE	004	2	23	S	31	E	11/01/2016	Brdhd Test	Acceptable	ANNTST	BTST
4	BARCLAY STATE	004	2	23	S	31	E	05/10/2017	Brdhd Test	Acceptable	ANNTST	BTST
4	BARCLAY STATE	004	2	23	S	31	E	12/20/2019	Std. Annulus PT	Acceptable	5YRTST	SAPT
5	BILBREY SWD	001	5	22	S	32	E	02/28/2013	Brdhd Test	Acceptable	ANNTST	BTST
5	BILBREY SWD	001	5	22	S	32	E	02/26/2014	Brdhd Test	Acceptable	ANNTST	BTST
5	BILBREY SWD	001	5	22	S	32	E	06/24/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT
5	BILBREY SWD	001	5	22	S	32	E	03/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
5	BILBREY SWD	001	5	22	S	32	E	03/15/2017	Brdhd Test	Acceptable	ANNTST	BTST
5	BILBREY SWD	001	5	22	S	32	E	06/12/2018	Brdhd Test	Acceptable	ANNTST	BTST
5	BILBREY SWD	001	5	22	S	32	E	07/22/2019	Brdhd Test	Acceptable	ANNTST	BTST
5	BILBREY SWD	001	5	22	S	32	E	08/04/2021	Brdhd Test	Acceptable	ANNTST	BTST
6	BITSY FEDERAL SWD	001	7	23	S	32	E	06/04/2013	Std. Annulus PT	Acceptable	5YRTST	SAPT
6	BITSY FEDERAL SWD	001	7	23	S	32	E	07/23/2014	Brdhd Test	Acceptable	ANNTST	BTST
6	BITSY FEDERAL SWD	001	7	23	S	32	E	12/03/2015	Brdhd Test	Acceptable	ANNTST	BTST
6	BITSY FEDERAL SWD	001	7	23	S	32	E	03/31/2016	Brdhd Test	Acceptable	ANNTST	BTST
6	BITSY FEDERAL SWD	001	7	23	S	32	E	08/31/2017	Brdhd Test	Acceptable	ANNTST	BTST
6	BITSY FEDERAL SWD	001	7	23	S	32	E	08/28/2018	Brdhd Test	Acceptable	ANNTST	BTST
6	BITSY FEDERAL SWD	001	7	23	S	32	E	08/29/2019	Std. Annulus PT	Acceptable	5YRTST	SAPT
6	BITSY FEDERAL SWD	001	7	23	S	32	E	06/03/2020	Brdhd Test	Acceptable	ANNTST	BTST
6	BITSY FEDERAL SWD	001	7	23	S	32	E	08/11/2021	Brdhd Test	Acceptable	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	10/31/2012	Brdhd Test	Acceptable	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	10/31/2012	Brdhd Test	Acceptable	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	09/13/2013	Brdhd Test	Acceptable	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	09/24/2014	Brdhd Test	Acceptable	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	08/13/2015	Std. Annulus PT	Failure	5YRTST	SAPT
7	CAL MON	005	35	23	S	31	E	09/08/2015	Std. Annulus PT	Acceptable	WRKOVR	SAPT
7	CAL MON	005	35	23	S	31	E	08/12/2016	Brdhd Test	Acceptable	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	03/27/2017	Std. Annulus PT	Acceptable	WRKOVR	SAPT
7	CAL MON	005	35	23	S	31	E	09/22/2017	Brdhd Test	Failure	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	10/10/2017	Std. Annulus PT	Acceptable	WRKOVR	SAPT
7	CAL MON	005	35	23	S	31	E	10/12/2020	Brdhd Test	Acceptable	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	09/09/2021	Brdhd Test	Acceptable	ANNTST	BTST
7	CAL MON	005	35	23	S	31	E	12/05/2022	Std. Annulus PT	Acceptable	5YRTST	SAPT
8	CAMPANA	001	6	22	S	31	E					
9	CHARGER 29 FEDERAL	001	29	23	S	30	E	11/28/2012	Brdhd Test	Acceptable	ANNTST	BTST
9	CHARGER 29 FEDERAL	001	29	23	S	30	E	10/31/2013	Brdhd Test	Acceptable	ANNTST	BTST
9	CHARGER 29 FEDERAL	001	29	23	S	30	E	11/05/2014	Brdhd Test	Acceptable	ANNTST	BTST
9	CHARGER 29 FEDERAL	001	29	23	S	30	E	10/13/2015	Std. Annulus PT	Failure	5YRTST	SAPT
9	CHARGER 29 FEDERAL	001	29	23	S	30	E	12/31/2015	Std. Annulus PT	Acceptable	WRKOVR	SAPT
9	CHARGER 29 FEDERAL	001	29	23	S	30	E	10/27/2016	Brdhd Test	Acceptable	ANNTST	BTST

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
9	CHARGER 29 FEDERAL	001	29	23	S	30	E	09/19/2017	Brdhd Test	Acceptable	ANNTST	BTST
9	CHARGER 29 FEDERAL	001	29	23	S	30	E	08/16/2018	Brdhd Test	Acceptable	ANNTST	BTST
10	CLEARY FEDERAL SWD	002	17	22	S	32	E	02/20/2013	Brdhd Test	Acceptable	ANNTST	BTST
10	CLEARY FEDERAL SWD	002	17	22	S	32	E	03/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
10	CLEARY FEDERAL SWD	002	17	22	S	32	E	02/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
10	CLEARY FEDERAL SWD	002	17	22	S	32	E	03/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
10	CLEARY FEDERAL SWD	002	17	22	S	32	E	03/15/2017	Std. Annulus PT	Acceptable	ANNTST	SAPT
10	CLEARY FEDERAL SWD	002	17	22	S	32	E	06/12/2018	Brdhd Test	Acceptable	ANNTST	BTST
10	CLEARY FEDERAL SWD	002	17	22	S	32	E	07/17/2019	Brdhd Test	Acceptable	ANNTST	BTST
10	CLEARY FEDERAL SWD	002	17	22	S	32	E	11/09/2022	Std. Annulus PT	Acceptable	ANNTST	SAPT
11	CUERVO FEDERAL	001	14	23	S	32	E	10/30/2014	Brdhd Test	Acceptable	ANNTST	BTST
11	CUERVO FEDERAL	001	14	23	S	32	E	05/04/2015	Brdhd Test	Acceptable	ANNTST	BTST
11	CUERVO FEDERAL	001	14	23	S	32	E	05/04/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT
11	CUERVO FEDERAL	001	14	23	S	32	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
11	CUERVO FEDERAL	001	14	23	S	32	E	10/23/2017	Brdhd Test	Acceptable	ANNTST	BTST
11	CUERVO FEDERAL	001	14	23	S	32	E	04/10/2018	Brdhd Test	Acceptable	ANNTST	BTST
11	CUERVO FEDERAL	001	14	23	S	32	E	03/12/2019	Brdhd Test	Acceptable	ANNTST	BTST
11	CUERVO FEDERAL	001	14	23	S	32	E	04/27/2021	Std. Annulus PT	Failure	ANNTST	SAPT
11	CUERVO FEDERAL	001	14	23	S	32	E	05/04/2021	Brdhd Test	Failure	WRKOVR	BTST
12	DAVID ROSS FEDERAL SWD	001	35	22	S	31	E	10/17/2012	Brdhd Test	Acceptable	ANNTST	BTST
12	DAVID ROSS FEDERAL SWD	001	35	22	S	31	E	03/06/2013	Brdhd Test	Acceptable	ANNTST	BTST
12	DAVID ROSS FEDERAL SWD	001	35	22	S	31	E	09/29/2014	Brdhd Test	Acceptable	ANNTST	BTST
12	DAVID ROSS FEDERAL SWD	001	35	22	S	31	E	03/31/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
12	DAVID ROSS FEDERAL SWD	001	35	22	S	31	E	06/15/2016	Brdhd Test	Acceptable	ANNTST	BTST
12	DAVID ROSS FEDERAL SWD	001	35	22	S	31	E	03/09/2017	Brdhd Test	Acceptable	ANNTST	BTST
12	DAVID ROSS FEDERAL SWD	001	35	22	S	31	E	02/22/2022	Std. Annulus PT	Acceptable	5YRTST	SAPT
13	DEEP PURPLE SWD	001	30	22	S	32	E	01/30/2018	Std. Annulus PT	Acceptable	INITAL	SAPT
13	DEEP PURPLE SWD	001	30	22	S	32	E	06/04/2019	Brdhd Test	Acceptable	ANNTST	BTST
13	DEEP PURPLE SWD	001	30	22	S	32	E	07/02/2021	Brdhd Test	Acceptable	ANNTST	BTST
14	DIAMONDTAIL 23 FEDERAL	002	23	23	S	32	E	09/24/2012	Brdhd Test	Acceptable	ANNTST	BTST
14	DIAMONDTAIL 23 FEDERAL	002	23	23	S	32	E	03/21/2013	Brdhd Test	Acceptable	ANNTST	BTST
14	DIAMONDTAIL 23 FEDERAL	002	23	23	S	32	E	10/01/2014	Brdhd Test	Acceptable	ANNTST	BTST
14	DIAMONDTAIL 23 FEDERAL	002	23	23	S	32	E	02/19/2016	Brdhd Test	Acceptable	ANNTST	BTST
14	DIAMONDTAIL 23 FEDERAL	002	23	23	S	32	E	02/01/2017	Std. Annulus PT	Acceptable	ANNTST	SAPT
14	DIAMONDTAIL 23 FEDERAL	002	23	23	S	32	E	09/01/2018	Brdhd Test	Acceptable	ANNTST	BTST
14	DIAMONDTAIL 23 FEDERAL	002	23	23	S	32	E	04/26/2019	Brdhd Test	Acceptable	ANNTST	BTST
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	09/24/2012	Brdhd Test	Acceptable	ANNTST	BTST
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	03/21/2013	Std. Annulus PT	Failure	5YRTST	SAPT
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	04/22/2013	Std. Annulus PT	Failure	OTHER	SAPT
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	03/05/2014	Std. Annulus PT	Acceptable	WRKOVR	SAPT
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	01/20/2015	Brdhd Test	Failure	ANNTST	BTST
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	04/14/2015	Std. Annulus PT	Failure	ANNTST	SAPT
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	04/27/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	02/19/2016	Brdhd Test	Acceptable	ANNTST	BTST
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	02/19/2016	Std. Annulus PT	Acceptable	ANNTST	SAPT
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	02/01/2017	Brdhd Test	Acceptable	ANNTST	BTST
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	09/04/2018	Brdhd Test	Acceptable	ANNTST	BTST
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	04/25/2019	Brdhd Test	Acceptable	ANNTST	BTST
15	DIAMONDTAIL 24 FEDERAL A	001	24	23	S	32	E	07/22/2021	Brdhd Test	Acceptable	ANNTST	BTST
16	FEDERAL 12	001	12	22	S	31	E	04/08/2014	Std. Annulus PT	Acceptable	TASTAT	SAPT
16	FEDERAL 12	001	12	22	S	31	E	07/27/2014	Std. Annulus PT	Acceptable	INITAL	SAPT
16	FEDERAL 12	001	12	22	S	31	E	08/14/2015	Brdhd Test	Acceptable	ANNTST	BTST
16	FEDERAL 12	001	12	22	S	31	E	08/12/2016	Brdhd Test	Acceptable	ANNTST	BTST
16	FEDERAL 12	001	12	22	S	31	E	09/25/2017	Brdhd Test	Acceptable	5YRTST	BTST
17	FEDERAL SAND 18	1-SWD	18	23	S	32	E	09/03/2020	Brdhd Test	Acceptable	ANNTST	BTST
18	FLAMENCO FEDERAL	001	7	22	S	32	E	02/20/2013	Brdhd Test	Acceptable	ANNTST	BTST
18	FLAMENCO FEDERAL	001	7	22	S	32	E	03/11/2014	Brdhd Test	Acceptable	ANNTST	BTST
18	FLAMENCO FEDERAL	001	7	22	S	32	E	06/24/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
18	FLAMENCO FEDERAL	001	7	22	S	32	E	03/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
18	FLAMENCO FEDERAL	001	7	22	S	32	E	03/15/2017	Brdhd Test	Acceptable	ANNTST	BTST
18	FLAMENCO FEDERAL	001	7	22	S	32	E	04/24/2017	Std. Annulus PT	Acceptable	WRKOVR	SAPT
18	FLAMENCO FEDERAL	001	7	22	S	32	E	06/11/2018	Brdhd Test	Acceptable	ANNTST	BTST
18	FLAMENCO FEDERAL	001	7	22	S	32	E	07/16/2016	Brdhd Test	Acceptable	ANNTST	BTST

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
18	FLAMENCO FEDERAL	001	7	22	S	32	E	11/09/2022	Brdhd Test	Acceptable	ANNTST	BTST
19	FORTY NINER RIDGE UNIT	001	16	23	S	30	E	08/29/2012	Brdhd Test	Acceptable	ANNTST	BTST
19	FORTY NINER RIDGE UNIT	001	16	23	S	30	E	08/29/2012	Brdhd Test	Acceptable	ANNTST	BTST
19	FORTY NINER RIDGE UNIT	001	16	23	S	30	E	11/22/2014	Std. Annulus PT	Acceptable	WRKOVR	SAPT
19	FORTY NINER RIDGE UNIT	001	16	23	S	30	E	11/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
19	FORTY NINER RIDGE UNIT	001	16	23	S	30	E	11/29/2016	Brdhd Test	Acceptable	ANNTST	BTST
19	FORTY NINER RIDGE UNIT	001	16	23	S	30	E	11/17/2017	Brdhd Test	Acceptable	ANNTST	BTST
19	FORTY NINER RIDGE UNIT	001	16	23	S	30	E	07/30/2019	Brdhd Test	Acceptable	ANNTST	BTST
20	FORTY NINER RIDGE UNIT	006	22	23	S	30	E	12/18/2013	Std. Annulus PT	Acceptable	INITAL	SAPT
20	FORTY NINER RIDGE UNIT	006	22	23	S	30	E	10/27/2014	Brdhd Test	Acceptable	ANNTST	BTST
20	FORTY NINER RIDGE UNIT	006	22	23	S	30	E	11/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
20	FORTY NINER RIDGE UNIT	006	22	23	S	30	E	11/29/2016	Brdhd Test	Acceptable	ANNTST	BTST
20	FORTY NINER RIDGE UNIT	006	22	23	S	30	E	11/17/2017	Brdhd Test	Acceptable	ANNTST	BTST
21	GETTY 24 FEDERAL	005	24	22	S	31	E	10/10/2012	Brdhd Test	Acceptable	ANNTST	BTST
21	GETTY 24 FEDERAL	005	24	22	S	31	E	10/25/2013	Brdhd Test	Acceptable	ANNTST	BTST
21	GETTY 24 FEDERAL	005	24	22	S	31	E	11/20/2014	Brdhd Test	Failure	ANNTST	BTST
21	GETTY 24 FEDERAL	005	24	22	S	31	E	07/17/2015	Std. Annulus PT	Acceptable	WRKOVR	SAPT
21	GETTY 24 FEDERAL	005	24	22	S	31	E	12/01/2016	Brdhd Test	Acceptable	ANNTST	BTST
21	GETTY 24 FEDERAL	005	24	22	S	31	E	10/18/2017	Brdhd Test	Acceptable	ANNTST	BTST
21	GETTY 24 FEDERAL	005	24	22	S	31	E	09/17/2018	Brdhd Test	Acceptable	ANNTST	BTST
22	GILMORE	001	21	22	S	32	E	10/30/2014	Brdhd Test	Acceptable	ANNTST	BTST
22	GILMORE	001	21	22	S	32	E	05/04/2015	Brdhd Test	Acceptable	ANNTST	BTST
22	GILMORE	001	21	22	S	32	E	05/04/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT
22	GILMORE	001	21	22	S	32	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
22	GILMORE	001	21	22	S	32	E	10/23/2017	Brdhd Test	Acceptable	ANNTST	BTST
22	GILMORE	001	21	22	S	32	E	04/10/2018	Brdhd Test	Acceptable	ANNTST	BTST
22	GILMORE	001	21	22	S	32	E	03/12/2019	Brdhd Test	Acceptable	ANNTST	BTST
22	GILMORE	001	21	22	S	32	E	05/04/2021	Brdhd Test	Acceptable	ANNTST	BTST
23	HUDSON FEDERAL	001	1	23	S	30	E	10/15/2012	Brdhd Test	Acceptable	ANNTST	BTST
23	HUDSON FEDERAL	001	1	23	S	30	E	09/04/2013	Brdhd Test	Acceptable	ANNTST	BTST
23	HUDSON FEDERAL	001	1	23	S	30	E	11/04/2014	Brdhd Test	Acceptable	ANNTST	BTST
23	HUDSON FEDERAL	001	1	23	S	30	E	10/21/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
23	HUDSON FEDERAL	001	1	23	S	30	E	10/26/2016	Brdhd Test	Acceptable	ANNTST	BTST
23	HUDSON FEDERAL	001	1	23	S	30	E	10/19/2017	Brdhd Test	Acceptable	ANNTST	BTST
23	HUDSON FEDERAL	001	1	23	S	30	E	03/28/2018				
24	JAMES A	003	2	22	S	30	E	11/13/2012	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	11/25/2013	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	10/29/2014	Std. Annulus PT	Acceptable	5YRTST	SAPT
24	JAMES A	003	2	22	S	30	E	12/04/2014	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	03/30/2015	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	02/26/2016	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	03/09/2017	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	04/11/2018	Std. Annulus PT	Acceptable	5YRTST	SAPT
24	JAMES A	003	2	22	S	30	E	02/13/2019	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	03/09/2020	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	03/05/2021	Brdhd Test	Acceptable	ANNTST	BTST
24	JAMES A	003	2	22	S	30	E	02/08/2022	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	11/13/2012	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	11/19/2013	Std. Annulus PT	Acceptable	WRKOVR	SAPT
25	JAMES A	012	2	22	S	30	E	11/25/2013	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	12/04/2014	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	03/30/2015	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	02/26/2016	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	03/09/2017	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	04/11/2018	Std. Annulus PT	Acceptable	5YRTST	SAPT
25	JAMES A	012	2	22	S	30	E	02/13/2019	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	02/13/2020	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	03/05/2021	Brdhd Test	Acceptable	ANNTST	BTST
25	JAMES A	012	2	22	S	30	E	02/08/2022	Brdhd Test	Acceptable	ANNTST	BTST
26	JAMES FEDERAL	001	29	23	S	32	E	08/20/2014	Brdhd Test	Acceptable	ANNTST	BTST
26	JAMES FEDERAL	001	29	23	S	32	E	12/03/2014	Std. Annulus PT	Acceptable	ANNTST	SAPT
26	JAMES FEDERAL	001	29	23	S	32	E	12/23/2015	Brdhd Test	Acceptable	ANNTST	BTST
26	JAMES FEDERAL	001	29	23	S	32	E	09/28/2016	Brdhd Test	Acceptable	ANNTST	BTST
26	JAMES FEDERAL	001	29	23	S	32	E	08/24/2017	Brdhd Test	Acceptable	ANNTST	BTST

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
26	JAMES FEDERAL	001	29	23	S	32	E	08/14/2018	Brdhd Test	Acceptable	ANNTST	BTST
26	JAMES FEDERAL	001	29	23	S	32	E	08/20/2019	Std. Annulus PT	Acceptable	ANNTST	SAPT
26	JAMES FEDERAL	001	29	23	S	32	E	08/28/2020	Brdhd Test	Acceptable	ANNTST	BTST
26	JAMES FEDERAL	001	29	23	S	32	E	07/22/2021	Brdhd Test	Acceptable	ANNTST	BTST
26	JAMES FEDERAL	001	29	23	S	32	E	07/15/2022	Brdhd Test	Acceptable	ANNTST	BTST
27	JAMES FEDERAL	001	35	23	S	32	E					
28	JAMES RANCH UNIT 21 FEDERAL SWD	001	21	22	S	30	E	05/27/2014	Std. Annulus PT	Acceptable	INITAL	SAPT
28	JAMES RANCH UNIT 21 FEDERAL SWD	001	21	22	S	30	E	10/21/2015	Brdhd Test	Acceptable	ANNTST	BTST
28	JAMES RANCH UNIT 21 FEDERAL SWD	001	21	22	S	30	E	10/26/2016	Brdhd Test	Acceptable	ANNTST	BTST
28	JAMES RANCH UNIT 21 FEDERAL SWD	001	21	22	S	30	E	10/19/2017	Brdhd Test	Acceptable	ANNTST	BTST
28	JAMES RANCH UNIT 21 FEDERAL SWD	001	21	22	S	30	E	08/10/2020	Std. Annulus PT	Acceptable	ANNTST	WRKOVR
28	JAMES RANCH UNIT 21 FEDERAL SWD	001	21	22	S	30	E	03/09/2022	Std. Annulus PT	Acceptable	ANNTST	SAPT
29	JAMES RANCH UNIT 36	001	36	22	S	30	E	05/01/2020	Brdhd Test	Acceptable	INITIAL	BTST
29	JAMES RANCH UNIT 36	001	36	22	S	30	E	05/18/2022	Brdhd Test	Acceptable	ANNTST	BTST
30	JAMES RANCH UNIT 6	001	6	23	S	31	E	09/08/2020	Brdhd Test	Acceptable	INITIAL	BTST
30	JAMES RANCH UNIT 6	001	6	23	S	31	E	05/24/2022	Brdhd Test	Acceptable	INITIAL	BTST
31	KIWI SWD	005	16	22	S	32	E	02/20/2013	Brdhd Test	Acceptable	ANNTST	BTST
31	KIWI SWD	005	16	22	S	32	E	03/11/2014	Brdhd Test	Acceptable	ANNTST	BTST
31	KIWI SWD	005	16	22	S	32	E	06/24/2015	Brdhd Test	Acceptable	ANNTST	BTST
31	KIWI SWD	005	16	22	S	32	E	06/24/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
31	KIWI SWD	005	16	22	S	32	E	03/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
31	KIWI SWD	005	16	22	S	32	E	02/16/2017	Std. Annulus PT	Acceptable	WRKOVR	SAPT
31	KIWI SWD	005	16	22	S	32	E	03/15/2017	Brdhd Test	Acceptable	ANNTST	BTST
31	KIWI SWD	005	16	22	S	32	E	06/12/2018	Brdhd Test	Acceptable	ANNTST	BTST
31	KIWI SWD	005	16	22	S	32	E	07/18/2019	Brdhd Test	Acceptable	ANNTST	BTST
31	KIWI SWD	005	16	22	S	32	E	08/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
31	KIWI SWD	005	16	22	S	32	E	11/09/2022	Brdhd Test	Acceptable	ANNTST	BTST
32	KIWI SWD	008	16	22	S	32	E	02/28/2013	Std. Annulus PT	Acceptable	5YRTST	SAPT
32	KIWI SWD	008	16	22	S	32	E	03/11/2014	Brdhd Test	Acceptable	ANNTST	BTST
32	KIWI SWD	008	16	22	S	32	E	02/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
32	KIWI SWD	008	16	22	S	32	E	03/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
32	KIWI SWD	008	16	22	S	32	E	03/15/2017	Brdhd Test	Acceptable	ANNTST	BTST
32	KIWI SWD	008	16	22	S	32	E	06/11/2018	Std. Annulus PT	Acceptable	ANNTST	SAPT
32	KIWI SWD	008	16	22	S	32	E	07/18/2019	Brdhd Test	Acceptable	ANNTST	BTST
32	KIWI SWD	008	16	22	S	32	E	08/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
33	KIWI SWD	010	16	22	S	32	E	02/20/2013	Brdhd Test	Acceptable	ANNTST	BTST
33	KIWI SWD	010	16	22	S	32	E	03/11/2014	Brdhd Test	Acceptable	ANNTST	BTST
33	KIWI SWD	010	16	22	S	32	E	02/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
33	KIWI SWD	010	16	22	S	32	E	03/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
33	KIWI SWD	010	16	22	S	32	E	03/15/2017	Std. Annulus PT	Acceptable	ANNTST	SAPT
33	KIWI SWD	010	16	22	S	32	E	06/12/2018	Brdhd Test	Acceptable	ANNTST	BTST
33	KIWI SWD	010	16	22	S	32	E	07/18/2019	Brdhd Test	Acceptable	ANNTST	BTST
33	KIWI SWD	010	16	22	S	32	E	08/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
33	KIWI SWD	010	16	22	S	32	E	11/09/2022	Std. Annulus PT	Acceptable	ANNTST	SAPT
34	LEGG FEDERAL	001	27	22	S	30	E	09/04/2013	Brdhd Test	Acceptable	ANNTST	BTST
34	LEGG FEDERAL	001	27	22	S	30	E	11/04/2014	Brdhd Test	Acceptable	ANNTST	BTST
34	LEGG FEDERAL	001	27	22	S	30	E	10/21/2015	Brdhd Test	Acceptable	ANNTST	BTST
34	LEGG FEDERAL	001	27	22	S	30	E	10/25/2016	Brdhd Test	Acceptable	ANNTST	BTST
34	LEGG FEDERAL	001	27	22	S	30	E	06/02/2017				
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	10/31/2012	Brdhd Test	Acceptable	ANNTST	BTST
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	09/13/2013	Brdhd Test	Acceptable	ANNTST	BTST
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	09/24/2014	Brdhd Test	Acceptable	ANNTST	BTST
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	08/14/2015	Brdhd Test	Acceptable	ANNTST	BTST
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	08/12/2016	Std. Annulus PT	Acceptable	5YRTST	SAPT
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	10/07/2020	Brdhd Test	Acceptable	ANNTST	BTST
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	08/30/2021	Brdhd Test	Acceptable	ANNTST	BTST
35	LOST TANK 3 FEDERAL	025	3	22	S	31	E	10/20/2022	Std. Annulus PT	Acceptable	ANNTST	SAPT
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	10/31/2012	Brdhd Test	Acceptable	ANNTST	BTST
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	09/13/2013	Brdhd Test	Acceptable	ANNTST	BTST
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	09/24/2014	Brdhd Test	Acceptable	ANNTST	BTST
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	08/13/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	08/12/2016	Std. Annulus PT	Acceptable	5YRTST	SAPT
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	10/07/2020	Brdhd Test	Acceptable	ANNTST	BTST
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	08/30/2021	Brdhd Test	Acceptable	ANNTST	BTST
36	LOST TANK 33 FEDERAL	002	33	21	S	31	E	10/20/2022	Std. Annulus PT	Acceptable	5YRTST	SAPT
37	LOST TANK 35 STATE SWD	001	35	21	S	31	E	06/28/2014	Std. Annulus PT	Acceptable	INITAL	SAPT
37	LOST TANK 35 STATE SWD	001	35	21	S	31	E	08/14/2015	Brdhd Test	Acceptable	ANNTST	BTST
37	LOST TANK 35 STATE SWD	001	35	21	S	31	E	08/12/2016	Brdhd Test	Acceptable	ANNTST	BTST
37	LOST TANK 35 STATE SWD	001	35	21	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
37	LOST TANK 35 STATE SWD	001	35	21	S	31	E	10/31/2019	Std. Annulus PT	Acceptable	5YRTST	SAPT
37	LOST TANK 35 STATE SWD	001	35	21	S	31	E	10/07/2020	Brdhd Test	Acceptable	ANNTST	BTST
37	LOST TANK 35 STATE SWD	001	35	21	S	31	E	08/30/2021	Brdhd Test	Acceptable	ANNTST	BTST
38	LOST TANK SWD	001	31	21	S	32	E	06/17/2014	Std. Annulus PT	Acceptable	WRKOVR	SAPT
38	LOST TANK SWD	001	31	21	S	32	E	08/20/2014	Brdhd Test	Acceptable	ANNTST	BTST
38	LOST TANK SWD	001	31	21	S	32	E	06/09/2015	Brdhd Test	Acceptable	ANNTST	BTST
38	LOST TANK SWD	001	31	21	S	32	E	06/09/2015	Brdhd Test	Acceptable	ANNTST	BTST
38	LOST TANK SWD	001	31	21	S	32	E	07/17/2017	Brdhd Test	Acceptable	ANNTST	BTST
38	LOST TANK SWD	001	31	21	S	32	E	10/12/2018	Brdhd Test	Acceptable	ANNTST	BTST
38	LOST TANK SWD	001	31	21	S	32	E	03/14/2019	Brdhd Test	Acceptable	WRKOVR	BTST
38	LOST TANK SWD	001	31	21	S	32	E	06/25/2019	Std. Annulus PT	Acceptable	ANNTST	SAPT
38	LOST TANK SWD	001	31	21	S	32	E	08/28/2020	Brdhd Test	Acceptable	ANNTST	BTST
38	LOST TANK SWD	001	31	21	S	32	E	08/30/2021	Brdhd Test	Acceptable	ANNTST	BTST
39	LOTUS SWD	001	32	22	S	32	E	03/06/2013	Brdhd Test	Acceptable	ANNTST	BTST
39	LOTUS SWD	001	32	22	S	32	E	03/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
39	LOTUS SWD	001	32	22	S	32	E	02/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
39	LOTUS SWD	001	32	22	S	32	E	02/03/2016	Std. Annulus PT	Acceptable	5YRTST	SAPT
39	LOTUS SWD	001	32	22	S	32	E	03/09/2017	Brdhd Test	Acceptable	ANNTST	BTST
39	LOTUS SWD	001	32	22	S	32	E	06/11/2018	Brdhd Test	Acceptable	ANNTST	BTST
39	LOTUS SWD	001	32	22	S	32	E	07/10/2019	Brdhd Test	Acceptable	ANNTST	BTST
40	LOTUS SWD	002	32	22	S	32	E	01/29/2013	Std. Annulus PT	Acceptable	INITAL	SAPT
40	LOTUS SWD	002	32	22	S	32	E	03/06/2013	Brdhd Test	Acceptable	ANNTST	BTST
40	LOTUS SWD	002	32	22	S	32	E	03/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
40	LOTUS SWD	002	32	22	S	32	E	02/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
40	LOTUS SWD	002	32	22	S	32	E	02/03/2016	Brdhd Test	Acceptable	ANNTST	BTST
40	LOTUS SWD	002	32	22	S	32	E	03/09/2017	Brdhd Test	Acceptable	ANNTST	BTST
40	LOTUS SWD	002	32	22	S	32	E	06/11/2018	Std. Annulus PT	Acceptable	ANNTST	SAPT
40	LOTUS SWD	002	32	22	S	32	E	12/17/2019	Brdhd Test	Acceptable	ANNTST	BTST
40	LOTUS SWD	002	32	22	S	32	E	08/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
41	LOTUS SWD	004	32	22	S	32	E	05/15/2013	Std. Annulus PT	Acceptable	INITAL	SAPT
41	LOTUS SWD	004	32	22	S	32	E	03/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
41	LOTUS SWD	004	32	22	S	32	E	02/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
41	LOTUS SWD	004	32	22	S	32	E	02/03/2016	Brdhd Test	Acceptable	ANNTST	BTST
41	LOTUS SWD	004	32	22	S	32	E	03/09/2017	Brdhd Test	Acceptable	ANNTST	BTST
41	LOTUS SWD	004	32	22	S	32	E	06/11/2018	Std. Annulus PT	Acceptable	ANNTST	SAPT
41	LOTUS SWD	004	32	22	S	32	E	07/16/2019	Brdhd Test	Acceptable	ANNTST	BTST
41	LOTUS SWD	004	32	22	S	32	E	08/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
42	LOTUS SWD	012	32	22	S	32	E	03/06/2013	Brdhd Test	Acceptable	ANNTST	BTST
42	LOTUS SWD	012	32	22	S	32	E	03/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
42	LOTUS SWD	012	32	22	S	32	E	02/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
42	LOTUS SWD	012	32	22	S	32	E	03/02/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT
42	LOTUS SWD	012	32	22	S	32	E	02/03/2016	Brdhd Test	Acceptable	ANNTST	BTST
42	LOTUS SWD	012	32	22	S	32	E	03/09/2017	Brdhd Test	Acceptable	ANNTST	BTST
42	LOTUS SWD	012	32	22	S	32	E	06/11/2018	Brdhd Test	Acceptable	ANNTST	BTST
42	LOTUS SWD	012	32	22	S	32	E	07/16/2019	Brdhd Test	Acceptable	ANNTST	BTST
43	MEDANO STATE	001	36	22	S	31	E	12/19/2012	Brdhd Test	Acceptable	ANNTST	BTST
43	MEDANO STATE	001	36	22	S	31	E	11/13/2013	Brdhd Test	Acceptable	ANNTST	BTST
43	MEDANO STATE	001	36	22	S	31	E	11/25/2014	Brdhd Test	Acceptable	ANNTST	BTST
43	MEDANO STATE	001	36	22	S	31	E	10/22/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
43	MEDANO STATE	001	36	22	S	31	E	11/01/2016	Brdhd Test	Acceptable	ANNTST	BTST
43	MEDANO STATE	001	36	22	S	31	E	05/10/2017	Brdhd Test	Acceptable	ANNTST	BTST
43	MEDANO STATE	001	36	22	S	31	E	08/04/2020	Std. Annulus PT	Failure	ANNTST	SAPT
44	MOBLEY SWD	001	19	23	S	30	E	01/30/2019	Std. Annulus PT	Acceptable	ANNTST	INITIAL
45	NEFF FEDERAL	003	25	22	S	31	E	10/31/2012	Brdhd Test	Failure	ANNTST	BTST

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
45	NEFF FEDERAL	003	25	22	S	31	E	12/05/2012	Std. Annulus PT	Acceptable	WRKOVR	SAPT
45	NEFF FEDERAL	003	25	22	S	31	E	09/13/2013	Brdhd Test	Failure	ANNTST	BTST
45	NEFF FEDERAL	003	25	22	S	31	E	09/24/2014	Brdhd Test	Acceptable	ANNTST	BTST
45	NEFF FEDERAL	003	25	22	S	31	E	08/14/2015	Brdhd Test	Acceptable	ANNTST	BTST
45	NEFF FEDERAL	003	25	22	S	31	E	08/12/2016	Brdhd Test	Acceptable	ANNTST	BTST
45	NEFF FEDERAL	003	25	22	S	31	E	01/24/2017	Brdhd Test	Acceptable	ANNTST	BTST
45	NEFF FEDERAL	003	25	22	S	31	E	09/22/2017	Std. Annulus PT	Acceptable	5YRTST	SAPT
45	NEFF FEDERAL	003	25	22	S	31	E	10/07/2020	Brdhd Test	Acceptable	ANNTST	BTST
45	NEFF FEDERAL	003	25	22	S	31	E	08/30/2021	Brdhd Test	Acceptable	ANNTST	BTST
45	NEFF FEDERAL	003	25	22	S	31	E	10/24/2022	Std. Annulus PT	Acceptable	5YRTST	SAPT
46	NORTH PURE GOLD 8 FEDERAL	011	8	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
46	NORTH PURE GOLD 8 FEDERAL	011	8	23	S	31	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
46	NORTH PURE GOLD 8 FEDERAL	011	8	23	S	31	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
46	NORTH PURE GOLD 8 FEDERAL	011	8	23	S	31	E	09/09/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
46	NORTH PURE GOLD 8 FEDERAL	011	8	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
46	NORTH PURE GOLD 8 FEDERAL	011	8	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
46	NORTH PURE GOLD 8 FEDERAL	011	8	23	S	31	E	05/04/2020	Brdhd Test	Failure	5YRTST	BTST
47	NORTH PURE GOLD 9 FEDERAL	017	9	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
47	NORTH PURE GOLD 9 FEDERAL	017	9	23	S	31	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
47	NORTH PURE GOLD 9 FEDERAL	017	9	23	S	31	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
47	NORTH PURE GOLD 9 FEDERAL	017	9	23	S	31	E	09/09/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
47	NORTH PURE GOLD 9 FEDERAL	017	9	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
47	NORTH PURE GOLD 9 FEDERAL	017	9	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
48	POKER LAKE UNIT	170	33	23	S	30	E					
49	POKER LAKE UNIT 32	001	32	23	S	30	E	05/06/2022	Std. Annulus PT	Acceptable	ANNTST	INITIAL
50	PRIZE FEDERAL	004	27	22	S	32	E	06/10/2014	Std. Annulus PT	Acceptable	5YRTST	SAPT
50	PRIZE FEDERAL	004	27	22	S	32	E	08/04/2015	Brdhd Test	Acceptable	ANNTST	BTST
50	PRIZE FEDERAL	004	27	22	S	32	E	01/24/2017	Brdhd Test	Acceptable	ANNTST	BTST
50	PRIZE FEDERAL	004	27	22	S	32	E	08/29/2019	Std. Annulus PT	Acceptable	5YRTST	SAPT
51	PROHIBITION FEDERAL UNIT	002	11	22	S	32	E	05/07/2013	Std. Annulus PT	Acceptable	5YRTST	SAPT
51	PROHIBITION FEDERAL UNIT	002	11	22	S	32	E	04/28/2014	Brdhd Test	Acceptable	ANNTST	BTST
51	PROHIBITION FEDERAL UNIT	002	11	22	S	32	E	03/26/2015	Brdhd Test	Acceptable	ANNTST	BTST
51	PROHIBITION FEDERAL UNIT	002	11	22	S	32	E	04/01/2016	Brdhd Test	Acceptable	ANNTST	BTST
51	PROHIBITION FEDERAL UNIT	002	11	22	S	32	E	07/11/2017	Brdhd Test	Acceptable	ANNTST	BTST
51	PROHIBITION FEDERAL UNIT	002	11	22	S	32	E	08/29/2018	Std. Annulus PT	Acceptable	5YRTST	SAPT
51	PROHIBITION FEDERAL UNIT	002	11	22	S	32	E	10/02/2019				
52	PROXIMITY 31 FEDERAL	004	31	22	S	32	E	06/03/2014	Std. Annulus PT	Acceptable	ANNTST	SAPT
52	PROXIMITY 31 FEDERAL	004	31	22	S	32	E	08/04/2015	Brdhd Test	Acceptable	ANNTST	BTST
52	PROXIMITY 31 FEDERAL	004	31	22	S	32	E	01/24/2017	Brdhd Test	Acceptable	ANNTST	BTST
52	PROXIMITY 31 FEDERAL	004	31	22	S	32	E	05/07/2018	Brdhd Test	Acceptable	ANNTST	BTST
52	PROXIMITY 31 FEDERAL	004	31	22	S	32	E	06/03/2019	Std. Annulus PT	Acceptable	ANNTST	SAPT
52	PROXIMITY 31 FEDERAL	004	31	22	S	32	E	08/30/2021	Brdhd Test	Acceptable	ANNTST	BTST
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	10/31/2012	Brdhd Test	Acceptable	ANNTST	BTST
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	09/13/2013	Brdhd Test	Acceptable	ANNTST	BTST
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	09/24/2014	Brdhd Test	Acceptable	ANNTST	BTST
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	08/13/2015	Std. Annulus PT	Failure	5YRTST	SAPT
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	10/02/2015	Std. Annulus PT	Acceptable	WRKOVR	SAPT
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	08/12/2016	Brdhd Test	Acceptable	ANNTST	BTST
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	09/22/2017	Brdhd Test	Acceptable	ANNTST	BTST
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	10/13/2020	Std. Annulus PT	Acceptable	5YRTST	SAPT
53	PURE GOLD B FEDERAL	020	20	23	S	31	E	09/09/2021	Brdhd Test	Acceptable	ANNTST	BTST
54	RED ROAD SWD	001	26	23	S	31	E	04/03/2019	Brdhd Test	Acceptable	INITIAL	BTST
54	RED ROAD SWD	001	26	23	S	31	E	10/20/2020	Brdhd Test	Acceptable	ANNTST	BTST
54	RED ROAD SWD	001	26	23	S	31	E	05/24/2021	Brdhd Test	Acceptable	ANNTST	BTST
55	RED TANK 28 FEDERAL	003	28	22	S	32	E	06/03/2014	Std. Annulus PT	Acceptable	5YRTST	SAPT
55	RED TANK 28 FEDERAL	003	28	22	S	32	E	08/04/2015	Brdhd Test	Acceptable	ANNTST	BTST
55	RED TANK 28 FEDERAL	003	28	22	S	32	E	01/24/2017	Brdhd Test	Acceptable	ANNTST	BTST
55	RED TANK 28 FEDERAL	003	28	22	S	32	E	06/07/2019	Std. Annulus PT	Acceptable	5YRTST	SAPT
55	RED TANK 28 FEDERAL	003	28	22	S	32	E	10/11/2021	Brdhd Test	Acceptable	ANNTST	BTST
56	RED TANK 35 FEDERAL	003	35	22	S	32	E	08/04/2015	Std. Annulus PT	Failure	ANNTST	SAPT
56	RED TANK 35 FEDERAL	003	35	22	S	32	E	09/29/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
56	RED TANK 35 FEDERAL	003	35	22	S	32	E	10/27/2015	Std. Annulus PT	Acceptable	WRKOVR	SAPT
56	RED TANK 35 FEDERAL	003	35	22	S	32	E	11/20/2015	Brdhd Test	Acceptable	ANNTST	BTST
56	RED TANK 35 FEDERAL	003	35	22	S	32	E	01/24/2017	Brdhd Test	Acceptable	ANNTST	BTST
56	RED TANK 35 FEDERAL	003	35	22	S	32	E	10/06/2021	Brdhd Test	Acceptable	ANNTST	BTST
57	RED TANK FEDERAL	002	14	22	S	32	E	09/27/2012	Std. Annulus PT	Acceptable	5YRTST	SAPT
57	RED TANK FEDERAL	002	14	22	S	32	E	07/25/2013	Brdhd Test	Failure	ANNTST	BTST
57	RED TANK FEDERAL	002	14	22	S	32	E	10/29/2013	Std. Annulus PT	Acceptable	WRKOVR	SAPT
57	RED TANK FEDERAL	002	14	22	S	32	E	09/11/2014	Brdhd Test	Acceptable	ANNTST	BTST
57	RED TANK FEDERAL	002	14	22	S	32	E	08/21/2015	Brdhd Test	Acceptable	ANNTST	BTST
57	RED TANK FEDERAL	002	14	22	S	32	E	07/21/2016	Brdhd Test	Acceptable	ANNTST	BTST
57	RED TANK FEDERAL	002	14	22	S	32	E	09/13/2017	Brdhd Test	Acceptable	ANNTST	BTST
57	RED TANK FEDERAL	002	14	22	S	32	E	06/11/2018	Std. Annulus PT	Acceptable	5YRTST	SAPT
57	RED TANK FEDERAL	002	14	22	S	32	E	07/22/2019	Brdhd Test	Acceptable	ANNTST	BTST
57	RED TANK FEDERAL	002	14	22	S	32	E	06/09/2021	Brdhd Test	Acceptable	ANNTST	BTST
57	RED TANK FEDERAL	002	14	22	S	32	E	10/26/2022	Brdhd Test	Acceptable	ANNTST	BTST
58	REMUDA BASIN 19 FEDERAL	002	19	23	S	30	E	09/05/2012	Brdhd Test	Acceptable	ANNTST	BTST
58	REMUDA BASIN 19 FEDERAL	002	19	23	S	30	E	09/12/2013	Std. Annulus PT	Acceptable	5YRTST	SAPT
58	REMUDA BASIN 19 FEDERAL	002	19	23	S	30	E	09/09/2014	Brdhd Test	Acceptable	ANNTST	BTST
58	REMUDA BASIN 19 FEDERAL	002	19	23	S	30	E	09/11/2015	Brdhd Test	Acceptable	ANNTST	BTST
58	REMUDA BASIN 19 FEDERAL	002	19	23	S	30	E	09/15/2016	Brdhd Test	Acceptable	ANNTST	BTST
58	REMUDA BASIN 19 FEDERAL	002	19	23	S	30	E	09/28/2017	Brdhd Test	Acceptable	ANNTST	BTST
58	REMUDA BASIN 19 FEDERAL	002	19	23	S	30	E	01/30/2023				
59	REMUDA BASIN STATE	001	19	23	S	30	E	09/05/2012	Brdhd Test	Acceptable	ANNTST	BTST
59	REMUDA BASIN STATE	001	19	23	S	30	E	09/12/2013	Brdhd Test	Acceptable	ANNTST	BTST
59	REMUDA BASIN STATE	001	19	23	S	30	E	09/09/2014	Brdhd Test	Acceptable	ANNTST	BTST
59	REMUDA BASIN STATE	001	19	23	S	30	E	09/11/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
59	REMUDA BASIN STATE	001	19	23	S	30	E	09/14/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
59	REMUDA BASIN STATE	001	19	23	S	30	E	09/15/2016	Brdhd Test	Acceptable	ANNTST	BTST
59	REMUDA BASIN STATE	001	19	23	S	30	E	09/28/2017	Brdhd Test	Acceptable	ANNTST	BTST
59	REMUDA BASIN STATE	001	19	23	S	30	E	07/13/2022				
60	REMUDA BASIN SWD	001	20	23	S	30	E	09/06/2012	Brdhd Test	Acceptable	ANNTST	BTST
60	REMUDA BASIN SWD	001	20	23	S	30	E	09/30/2013	Brdhd Test	Acceptable	ANNTST	BTST
60	REMUDA BASIN SWD	001	20	23	S	30	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
60	REMUDA BASIN SWD	001	20	23	S	30	E	09/08/2015	Brdhd Test	Acceptable	ANNTST	BTST
60	REMUDA BASIN SWD	001	20	23	S	30	E	08/25/2016	Std. Annulus PT	Acceptable	5YRTST	SAPT
60	REMUDA BASIN SWD	001	20	23	S	30	E	09/19/2017	Brdhd Test	Acceptable	ANNTST	BTST
60	REMUDA BASIN SWD	001	20	23	S	30	E	08/16/2018	Brdhd Test	Acceptable	ANNTST	BTST
60	REMUDA BASIN SWD	001	20	23	S	30	E	09/01/2020	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	02/20/2013	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	03/11/2014	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	06/18/2014	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	02/18/2015	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	03/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	03/15/2017	Std. Annulus PT	Acceptable	5YRTST	SAPT
61	ROSEMARY SWD	001	6	22	S	32	E	06/11/2018	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	07/16/2019	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	08/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
61	ROSEMARY SWD	001	6	22	S	32	E	11/09/2022	Brdhd Test	Acceptable	ANNTST	BTST
62	SAND DUNES 28 FEDERAL	001	28	23	S	31	E	09/13/2013	Brdhd Test	Acceptable	ANNTST	BTST
62	SAND DUNES 28 FEDERAL	001	28	23	S	31	E	09/24/2014	Std. Annulus PT	Acceptable	5YRTST	SAPT
62	SAND DUNES 28 FEDERAL	001	28	23	S	31	E	08/13/2015	Brdhd Test	Acceptable	ANNTST	BTST
62	SAND DUNES 28 FEDERAL	001	28	23	S	31	E	08/12/2016	Brdhd Test	Acceptable	ANNTST	BTST
62	SAND DUNES 28 FEDERAL	001	28	23	S	31	E	09/22/2017	Brdhd Test	Acceptable	ANNTST	BTST
62	SAND DUNES 28 FEDERAL	001	28	23	S	31	E	10/31/2019	Std. Annulus PT	Acceptable	5YRTST	SAPT
62	SAND DUNES 28 FEDERAL	001	28	23	S	31	E	10/12/2020	Brdhd Test	Acceptable	ANNTST	BTST
62	SAND DUNES 28 FEDERAL	001	28	23	S	31	E	09/09/2021	Brdhd Test	Acceptable	ANNTST	BTST
63	SDE 31 FEDERAL	009	31	23	S	32	E	04/24/2013	Brdhd Test	Acceptable	ANNTST	BTST
63	SDE 31 FEDERAL	009	31	23	S	32	E	03/24/2014	Brdhd Test	Acceptable	ANNTST	BTST
63	SDE 31 FEDERAL	009	31	23	S	32	E	05/23/2016	Std. Annulus PT	Failure	5YRTST	SAPT
63	SDE 31 FEDERAL	009	31	23	S	32	E	06/23/2016	Brdhd Test	Acceptable	WRKOVR	BTST
63	SDE 31 FEDERAL	009	31	23	S	32	E	06/23/2016	Std. Annulus PT	Acceptable	WRKOVR	SAPT
63	SDE 31 FEDERAL	009	31	23	S	32	E	05/24/2017	Brdhd Test	Acceptable	ANNTST	BTST
63	SDE 31 FEDERAL	009	31	23	S	32	E	07/22/2021	Std. Annulus PT	Acceptable	5YRTST	SAPT
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	12/17/2014	Brdhd Test	Acceptable	OTHER	BTST

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	02/26/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	02/26/2015	Brdhd Test	Acceptable	ANNTST	BTST
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	08/31/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	07/19/2016	Brdhd Test	Acceptable	ANNTST	BTST
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	11/07/2017	Brdhd Test	Acceptable	ANNTST	BTST
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	09/04/2018	Brdhd Test	Acceptable	ANNTST	BTST
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	08/21/2019	Brdhd Test	Acceptable	ANNTST	BTST
64	SILVERTON 31 FEDERAL	001	31	22	S	32	E	08/14/2020	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	10/31/2012	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	09/13/2013	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	09/24/2014	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	08/14/2015	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	08/12/2016	Std. Annulus PT	Acceptable	5YRTST	SAPT
65	STATE 2	005	2	22	S	31	E	01/24/2017	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	10/13/2020	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	03/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	10/04/2021	Brdhd Test	Acceptable	ANNTST	BTST
65	STATE 2	005	2	22	S	31	E	10/20/2022	Std. Annulus PT	Acceptable	5YRTST	SAPT
66	STATE AA-2	001	2	23	S	31	E	12/19/2012	Brdhd Test	Acceptable	ANNTST	BTST
66	STATE AA-2	001	2	23	S	31	E	11/13/2013	Std. Annulus PT	Failure	5YRTST	SAPT
66	STATE AA-2	001	2	23	S	31	E	02/27/2014	Std. Annulus PT	Acceptable	WRKOVR	SAPT
66	STATE AA-2	001	2	23	S	31	E	10/22/2015	Brdhd Test	Acceptable	ANNTST	BTST
66	STATE AA-2	001	2	23	S	31	E	11/01/2016	Brdhd Test	Acceptable	ANNTST	BTST
66	STATE AA-2	001	2	23	S	31	E	05/10/2017	Brdhd Test	Acceptable	ANNTST	BTST
66	STATE AA-2	001	2	23	S	31	E	07/30/2020	Std. Annulus PT	Acceptable	5YRTST	SAPT
67	SWEET PEA SWD	001	2	23	S	31	E	09/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
67	SWEET PEA SWD	001	2	23	S	31	E	09/24/2013	Brdhd Test	Acceptable	ANNTST	BTST
67	SWEET PEA SWD	001	2	23	S	31	E	09/29/2014	Brdhd Test	Acceptable	ANNTST	BTST
67	SWEET PEA SWD	001	2	23	S	31	E	09/28/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
67	SWEET PEA SWD	001	2	23	S	31	E	02/02/2016	Std. Annulus PT	Acceptable	WRKOVR	SAPT
67	SWEET PEA SWD	001	2	23	S	31	E	07/17/2017	Brdhd Test	Acceptable	ANNTST	BTST
67	SWEET PEA SWD	001	2	23	S	31	E	03/05/2020				
68	THYME APY FEDERAL	011	1	23	S	32	E	03/13/2013	Std. Annulus PT	Acceptable	OPREPT	SAPT
68	THYME APY FEDERAL	011	1	23	S	32	E	09/24/2014	Brdhd Test	Acceptable	ANNTST	BTST
68	THYME APY FEDERAL	011	1	23	S	32	E	11/02/2015	Brdhd Test	Acceptable	ANNTST	BTST
68	THYME APY FEDERAL	011	1	23	S	32	E	06/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
68	THYME APY FEDERAL	011	1	23	S	32	E	03/22/2017	Brdhd Test	Acceptable	ANNTST	BTST
68	THYME APY FEDERAL	011	1	23	S	32	E	04/06/2018	Std. Annulus PT	Acceptable	ANNTST	SAPT
68	THYME APY FEDERAL	011	1	23	S	32	E	04/25/2019	Brdhd Test	Acceptable	ANNTST	BTST
68	THYME APY FEDERAL	011	1	23	S	32	E	03/27/2020				
69	TODD 13 B FEDERAL	002	13	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
69	TODD 13 B FEDERAL	002	13	23	S	31	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
69	TODD 13 B FEDERAL	002	13	23	S	31	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
69	TODD 13 B FEDERAL	002	13	23	S	31	E	09/09/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
69	TODD 13 B FEDERAL	002	13	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
69	TODD 13 B FEDERAL	002	13	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
69	TODD 13 B FEDERAL	002	13	23	S	31	E	02/01/2019				
70	TODD 25 N FEDERAL	014	25	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
70	TODD 25 N FEDERAL	014	25	23	S	31	E	10/08/2013	Std. Annulus PT	Acceptable	5YRTST	SAPT
70	TODD 25 N FEDERAL	014	25	23	S	31	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
70	TODD 25 N FEDERAL	014	25	23	S	31	E	09/09/2015	Brdhd Test	Acceptable	ANNTST	BTST
70	TODD 25 N FEDERAL	014	25	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
70	TODD 25 N FEDERAL	014	25	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
71	TODD 25 P FEDERAL	016	25	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
71	TODD 25 P FEDERAL	016	25	23	S	31	E	10/08/2013	Std. Annulus PT	Acceptable	5YRTST	SAPT
71	TODD 25 P FEDERAL	016	25	23	S	31	E	10/09/2013	Std. Annulus PT	Acceptable	WRKOVR	SAPT
71	TODD 25 P FEDERAL	016	25	23	S	31	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
71	TODD 25 P FEDERAL	016	25	23	S	31	E	09/09/2015	Brdhd Test	Acceptable	ANNTST	BTST
71	TODD 25 P FEDERAL	016	25	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
71	TODD 25 P FEDERAL	016	25	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
72	TODD 26 F FEDERAL	003	26	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
72	TODD 26 F FEDERAL	003	26	23	S	31	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
72	TODD 26 F FEDERAL	003	26	23	S	31	E	11/12/2014	Brdhd Test	Failure	ANNTST	BTST

INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
72	TODD 26 F FEDERAL	003	26	23	S	31	E	04/15/2015	Std. Annulus PT	Acceptable	WRKOVR	SAPT
72	TODD 26 F FEDERAL	003	26	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
72	TODD 26 F FEDERAL	003	26	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
72	TODD 26 F FEDERAL	003	26	23	S	31	E	06/23/2021				
73	TODD 26 G FEDERAL	002	26	23	S	31	E	10/08/2012	Std. Annulus PT	Acceptable	WRKOVR	SAPT
73	TODD 26 G FEDERAL	002	26	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
73	TODD 26 G FEDERAL	002	26	23	S	31	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
73	TODD 26 G FEDERAL	002	26	23	S	31	E	11/12/2014	Brdhd Test	Acceptable	ANNTST	BTST
73	TODD 26 G FEDERAL	002	26	23	S	31	E	09/09/2015	Brdhd Test	Acceptable	ANNTST	BTST
73	TODD 26 G FEDERAL	002	26	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
73	TODD 26 G FEDERAL	002	26	23	S	31	E	09/25/2017	Std. Annulus PT	Failure	ANNTST	SAPT
73	TODD 26 G FEDERAL	002	26	23	S	31	E	10/27/2017	Std. Annulus PT	Acceptable	WRKOVR	SAPT
74	TODD 27 P FEDERAL	016	27	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
74	TODD 27 P FEDERAL	016	27	23	S	31	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
74	TODD 27 P FEDERAL	016	27	23	S	31	E	05/30/2014	Std. Annulus PT	Acceptable	INITAL	SAPT
74	TODD 27 P FEDERAL	016	27	23	S	31	E	09/09/2015	Brdhd Test	Acceptable	ANNTST	BTST
74	TODD 27 P FEDERAL	016	27	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
74	TODD 27 P FEDERAL	016	27	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
74	TODD 27 P FEDERAL	016	27	23	S	31	E	05/04/2020	Std. Annulus PT	Acceptable	5YRTST	SAPT
75	TODD 36 STATE	001	36	23	S	31	E	10/12/2012	Brdhd Test	Acceptable	ANNTST	BTST
75	TODD 36 STATE	001	36	23	S	31	E	10/08/2013	Brdhd Test	Acceptable	ANNTST	BTST
75	TODD 36 STATE	001	36	23	S	31	E	09/09/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
75	TODD 36 STATE	001	36	23	S	31	E	08/23/2016	Brdhd Test	Acceptable	ANNTST	BTST
75	TODD 36 STATE	001	36	23	S	31	E	09/25/2017	Brdhd Test	Acceptable	ANNTST	BTST
75	TODD 36 STATE	001	36	23	S	31	E	05/04/2020	Std. Annulus PT	Acceptable	5YRTST	SAPT
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	09/24/2012	Brdhd Test	Acceptable	ANNTST	BTST
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	03/21/2013	Std. Annulus PT	Acceptable	5YRTST	SAPT
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	01/20/2015	Brdhd Test	Failure	ANNTST	BTST
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	01/23/2015	Brdhd Test	Failure	ANNTST	BTST
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	04/16/2015	Std. Annulus PT	Failure	ANNTST	SAPT
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	05/19/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	02/19/2016	Brdhd Test	Acceptable	ANNTST	BTST
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	02/01/2017	Brdhd Test	Acceptable	ANNTST	BTST
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	09/04/2018	Brdhd Test	Acceptable	ANNTST	BTST
76	TOMCAT 15 FEDERAL	003	15	23	S	32	E	04/26/2019	Brdhd Test	Acceptable	ANNTST	BTST
77	TREY SWD	001	21	23	S	32	E	06/05/2019	Brdhd Test	Acceptable	INITIAL	BTST
77	TREY SWD	001	21	23	S	32	E	07/02/2021	Brdhd Test	Acceptable	ANNTST	BTST
78	TRISTE DRAW 36 STATE	001	36	23	S	32	E	09/27/2012	Std. Annulus PT	Acceptable	5YRTST	SAPT
78	TRISTE DRAW 36 STATE	001	36	23	S	32	E	07/25/2013	Brdhd Test	Acceptable	ANNTST	BTST
78	TRISTE DRAW 36 STATE	001	36	23	S	32	E	09/11/2014	Brdhd Test	Acceptable	ANNTST	BTST
78	TRISTE DRAW 36 STATE	001	36	23	S	32	E	08/21/2015	Brdhd Test	Acceptable	ANNTST	BTST
78	TRISTE DRAW 36 STATE	001	36	23	S	32	E	07/21/2016	Brdhd Test	Acceptable	ANNTST	BTST
78	TRISTE DRAW 36 STATE	001	36	23	S	32	E	10/04/2017	Std. Annulus PT	Acceptable	5YRTST	SAPT
78	TRISTE DRAW 36 STATE	001	36	23	S	32	E	07/11/2018	Brdhd Test	Acceptable	ANNTST	BTST
78	TRISTE DRAW 36 STATE	001	36	23	S	32	E	01/11/2019				
79	UBER EAST SWD	001	24	23	S	31	E	01/17/2019	Brdhd Test	Acceptable	INITIAL	BTST
79	UBER EAST SWD	001	24	23	S	31	E	06/04/2019	Brdhd Test	Acceptable	ANNTST	BTST
79	UBER EAST SWD	001	24	23	S	31	E	02/16/2020	Brdhd Test	Acceptable	ANNTST	BTST
79	UBER EAST SWD	001	24	23	S	31	E	07/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
80	UBER NORTH SWD	001	24	23	S	31	E	12/20/2018	Brdhd Test	Acceptable	INITIAL	BTST
80	UBER NORTH SWD	001	24	23	S	31	E	06/04/2019	Brdhd Test	Acceptable	ANNTST	BTST
80	UBER NORTH SWD	001	24	23	S	31	E	07/16/2020	Brdhd Test	Acceptable	ANNTST	BTST
80	UBER NORTH SWD	001	24	23	S	31	E	07/03/2021	Brdhd Test	Acceptable	ANNTST	BTST
81	UNION AJS FEDERAL	001	8	21	S	32	E	02/20/2013	Brdhd Test	Acceptable	ANNTST	BTST
81	UNION AJS FEDERAL	001	8	21	S	32	E	02/26/2014	Brdhd Test	Acceptable	ANNTST	BTST
81	UNION AJS FEDERAL	001	8	21	S	32	E	06/24/2015	Std. Annulus PT	Acceptable	ANNTST	SAPT
81	UNION AJS FEDERAL	001	8	21	S	32	E	06/24/2015	Brdhd Test	Acceptable	ANNTST	BTST
81	UNION AJS FEDERAL	001	8	21	S	32	E	03/02/2016	Brdhd Test	Acceptable	ANNTST	BTST
81	UNION AJS FEDERAL	001	8	21	S	32	E	03/15/2017	Brdhd Test	Acceptable	ANNTST	BTST
81	UNION AJS FEDERAL	001	8	21	S	32	E	06/12/2018	Brdhd Test	Acceptable	ANNTST	BTST
81	UNION AJS FEDERAL	001	8	21	S	32	E	07/17/2019	Brdhd Test	Acceptable	ANNTST	BTST
82	WEST GRAMMA RIDGE SWD	001	6	22	S	32	E	08/24/2018	Brdhd Test	Acceptable	INITIAL	BTST

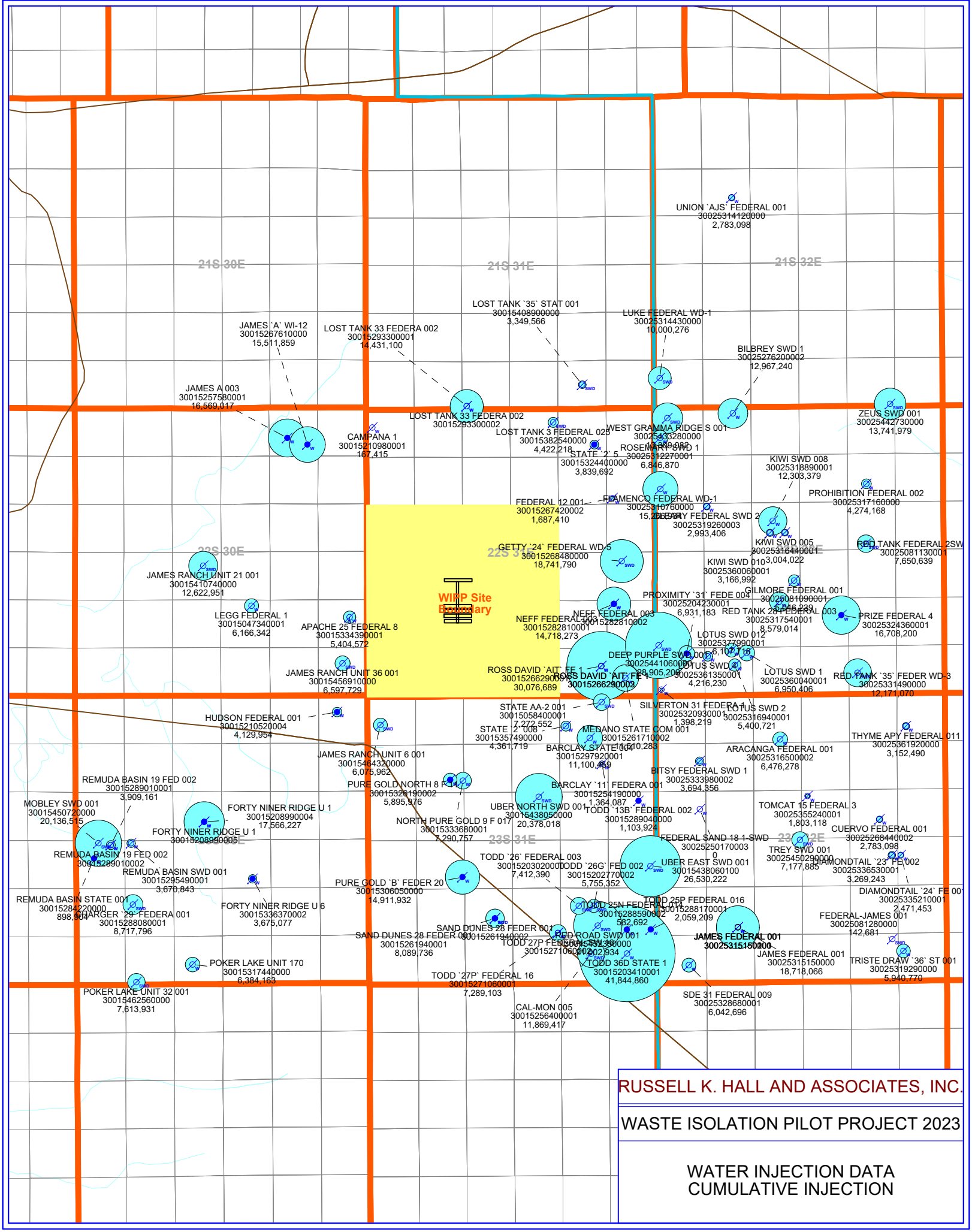
INDEX	WELL NAME	WELL NO	SECTION	TOWNSHIP	TWP DIR	RANGE	RNG DIR	TEST DATE	TEST TYPE	RESULT	TEST RSN	TEST METHOD
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82	WEST GRAMMA RIDGE SWD	001	6	22	S	32	E	07/02/2021	Brdhd Test	Acceptable	ANNTST	BTST
83	ZEUS SWD	001	35	21	S	32	E	12/17/2018	Brdhd Test	Acceptable	INITIAL	BTST
83	ZEUS SWD	001	35	21	S	32	E	07/30/2019	Brdhd Test	Acceptable	ANNTST	BTST
83	ZEUS SWD	001	35	21	S	32	E	04/28/2020	Brdhd Test	Acceptable	ANNTST	BTST
83	ZEUS SWD	001	35	21	S	32	E	04/12/2021	Brdhd Test	Acceptable	ANNTST	BTST
84	POKER LAKE UNIT	071	33	23	S	30	E	10/15/2012	Brdhd Test	Acceptable	ANNTST	BTST
84	POKER LAKE UNIT	071	33	23	S	30	E	09/04/2013	Brdhd Test	Acceptable	ANNTST	BTST
84	POKER LAKE UNIT	071	33	23	S	30	E	10/27/2014	Brdhd Test	Acceptable	ANNTST	BTST
84	POKER LAKE UNIT	071	33	23	S	30	E	10/21/2015	Std. Annulus PT	Acceptable	5YRTST	SAPT
84	POKER LAKE UNIT	071	33	23	S	30	E	10/24/2016	Brdhd Test	Acceptable	ANNTST	BTST
84	POKER LAKE UNIT	071	33	23	S	30	E	10/19/2017	Brdhd Test	Acceptable	ANNTST	BTST
84	POKER LAKE UNIT	071	33	23	S	30	E	02/16/2018				

Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, NM

August 2023

APPENDIX II

Normalized Production Curves for the Morrow through Delaware Producing Formations

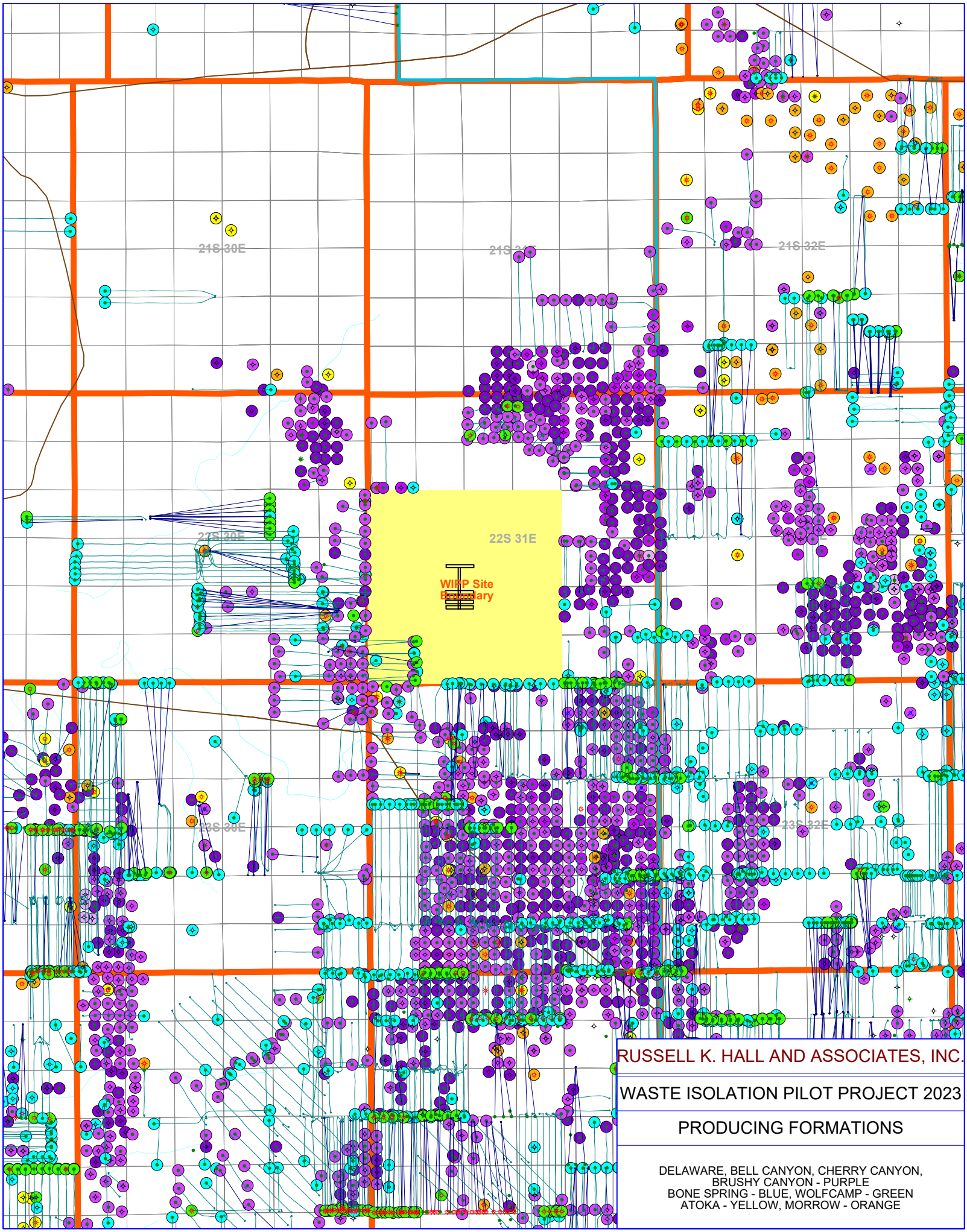


RUSSELL K. HALL AND ASSOCIATES, INC.

WASTE ISOLATION PILOT PROJECT 2023

WATER INJECTION DATA
CUMULATIVE INJECTION

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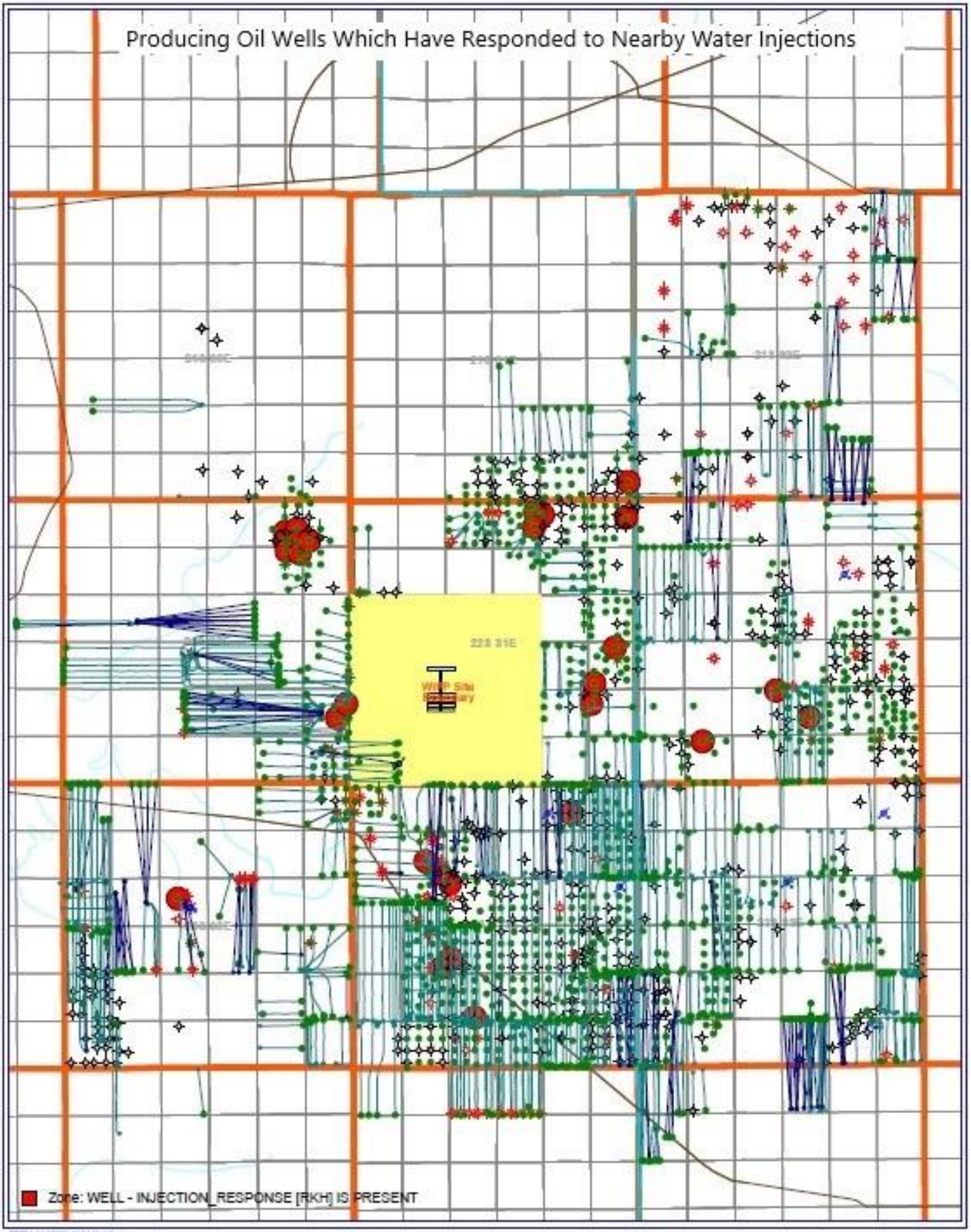
RUSSELL K. HALL AND ASSOCIATES, INC.

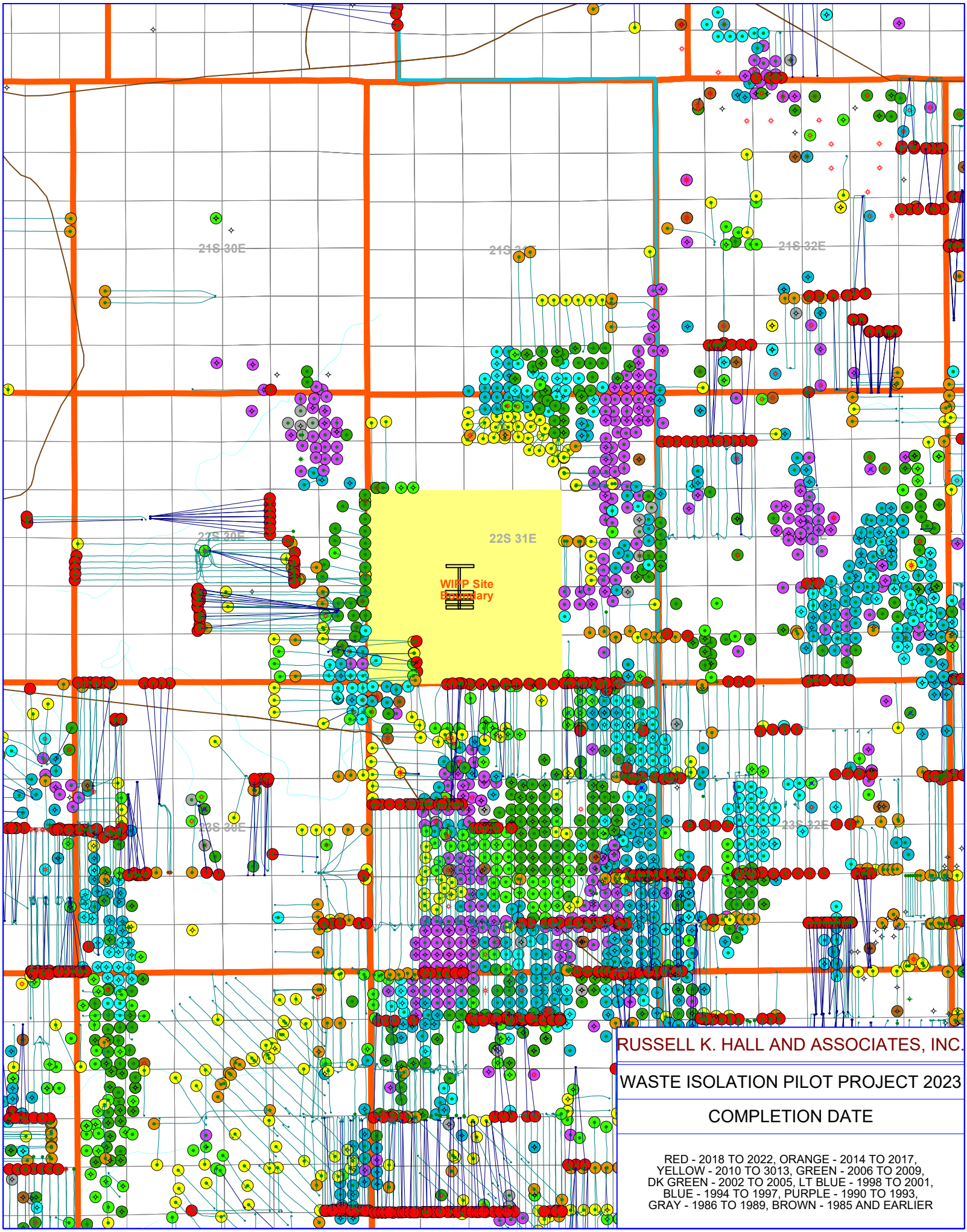
WASTE ISOLATION PILOT PROJECT 2023

PRODUCING FORMATIONS

DELAWARE, BELL CANYON, CHERRY CANYON,
BRUSHY CANYON - PURPLE
BONE SPRING - BLUE, WOLFCAMP - GREEN
ATOKA - YELLOW, MORROW - ORANGE

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Producing Oil Wells Which Have Responded to Nearby Water Injections
223 31E
Zone: WELL - INJECTION_RESPONSE [RKH] IS PRESENT



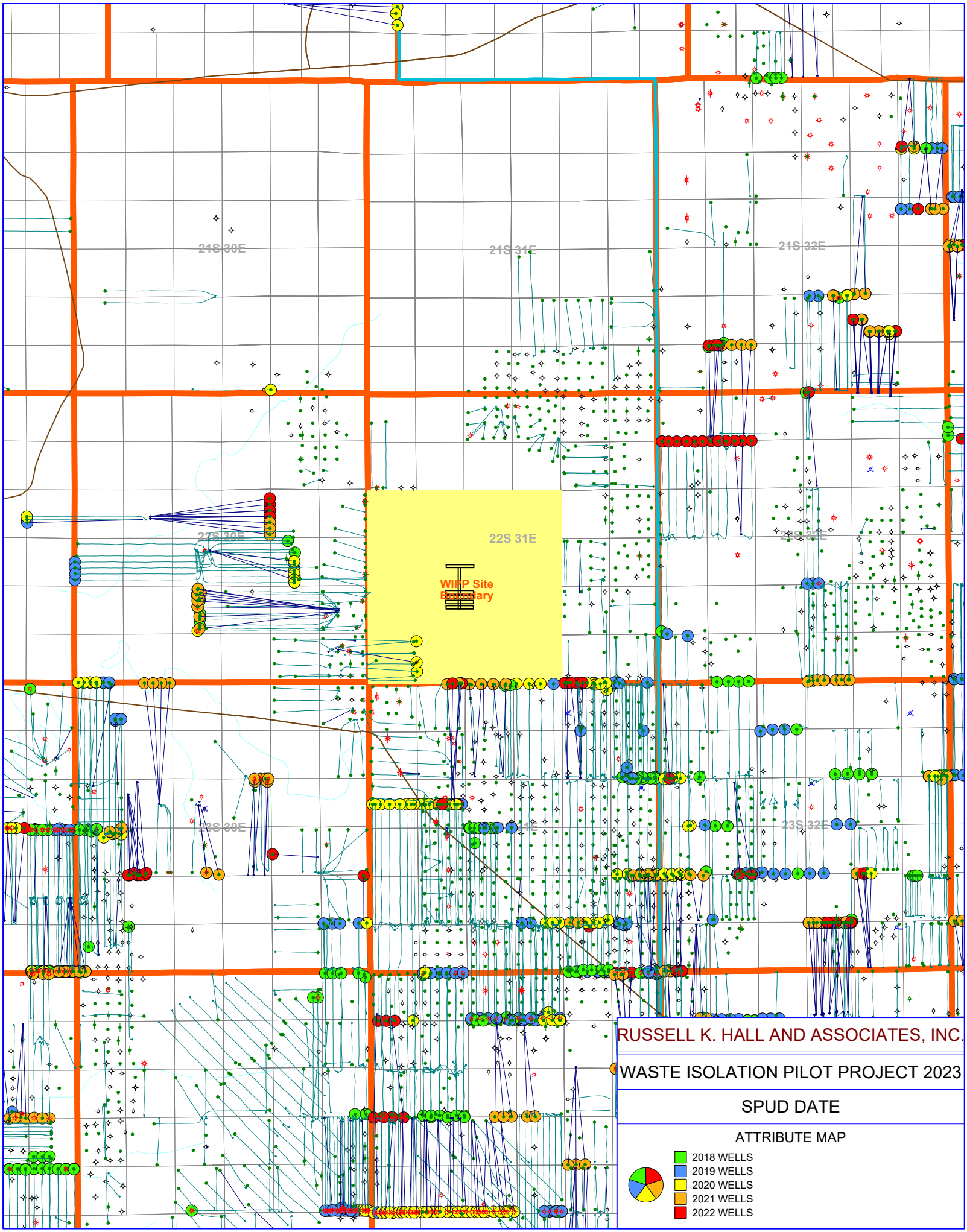
RUSSELL K. HALL AND ASSOCIATES, INC.

WASTE ISOLATION PILOT PROJECT 2023

COMPLETION DATE

RED - 2018 TO 2022, ORANGE - 2014 TO 2017,
YELLOW - 2010 TO 3013, GREEN - 2006 TO 2009,
DK GREEN - 2002 TO 2005, LT BLUE - 1998 TO 2001,
BLUE - 1994 TO 1997, PURPLE - 1990 TO 1993,
GRAY - 1986 TO 1989, BROWN - 1985 AND EARLIER

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RUSSELL K. HALL AND ASSOCIATES, INC.

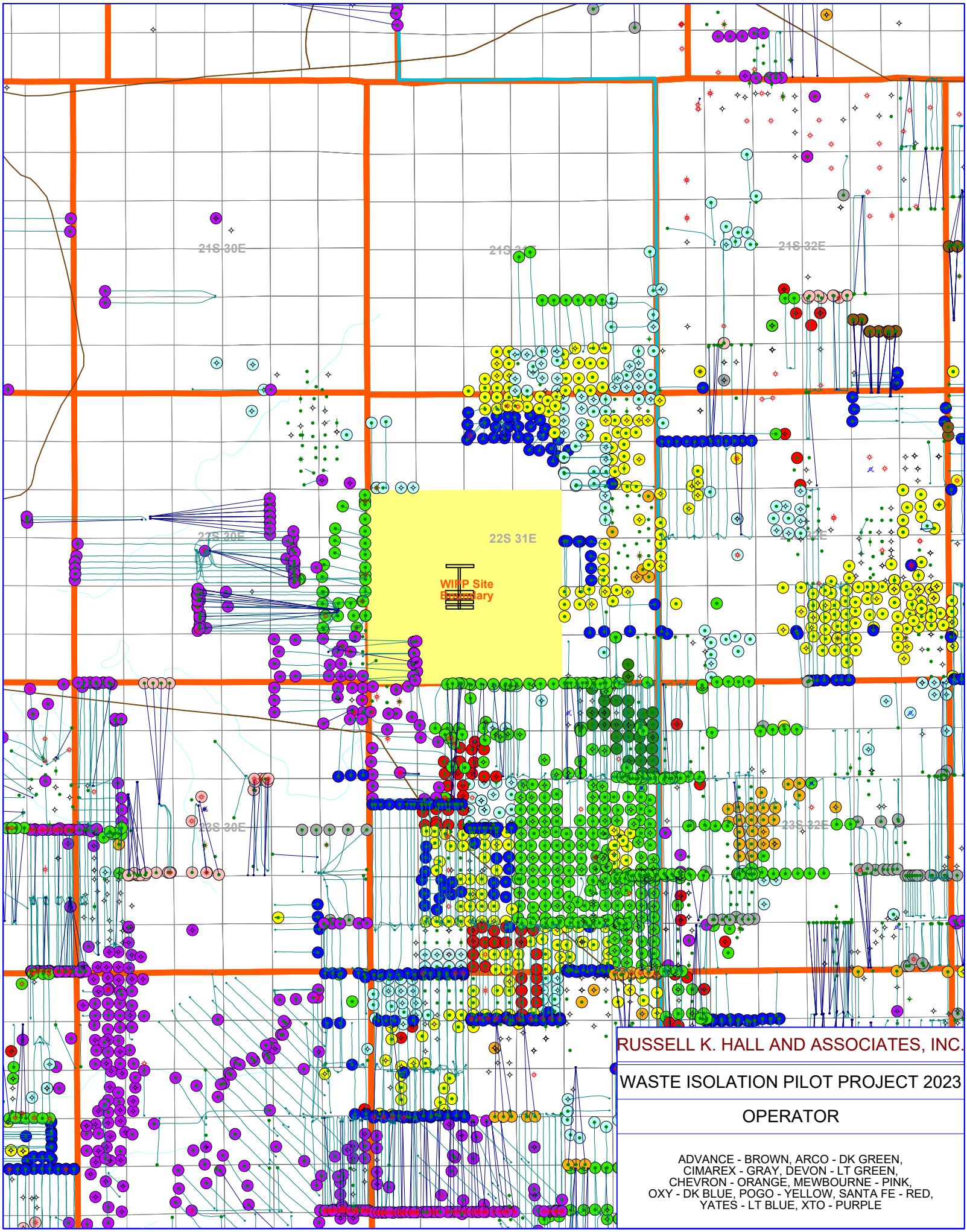
WASTE ISOLATION PILOT PROJECT 2023

SPUD DATE

ATTRIBUTE MAP

- 2018 WELLS
- 2019 WELLS
- 2020 WELLS
- 2021 WELLS
- 2022 WELLS

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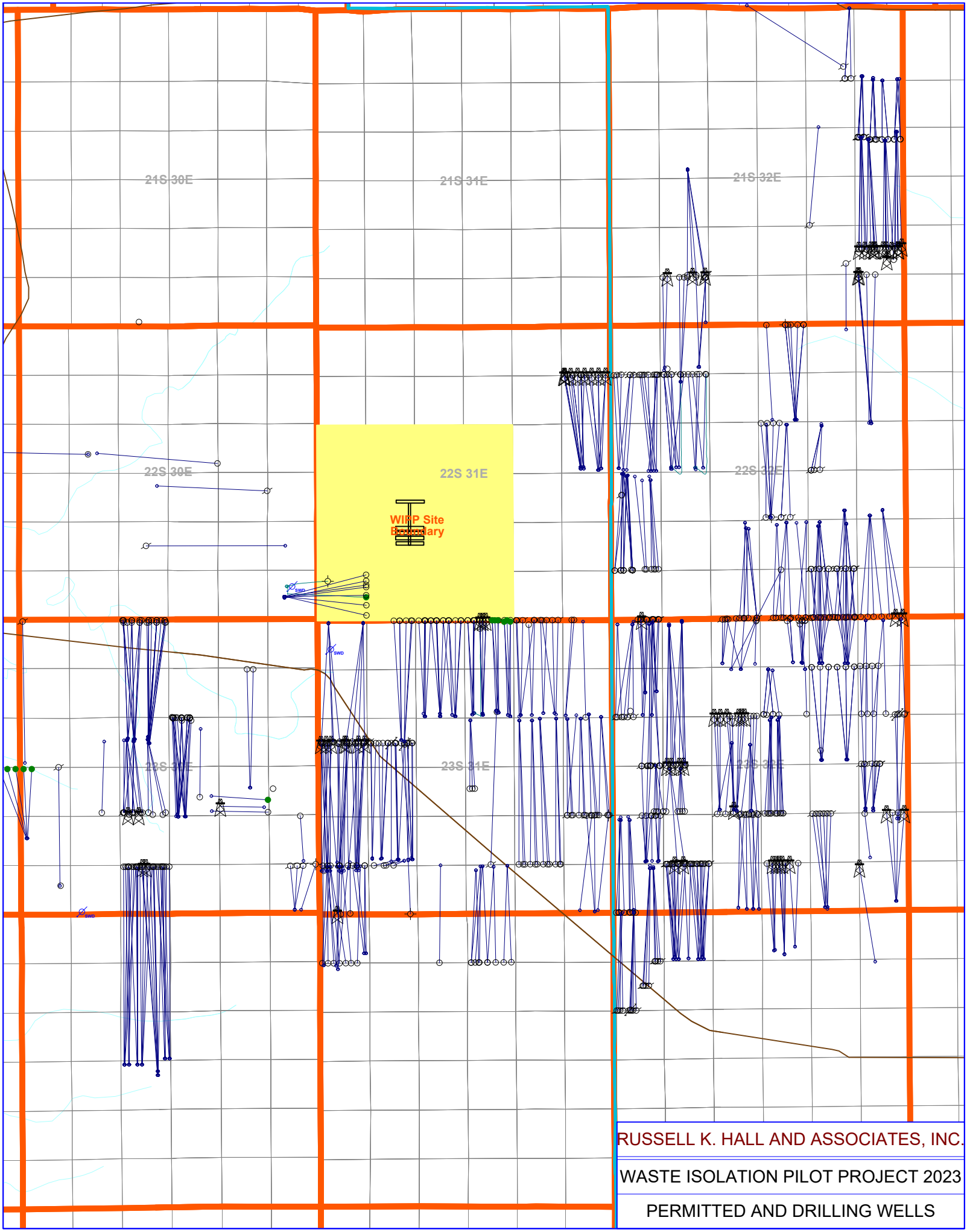
RUSSELL K. HALL AND ASSOCIATES, INC.

WASTE ISOLATION PILOT PROJECT 2023

OPERATOR

ADVANCE - BROWN, ARCO - DK GREEN,
CIMAREX - GRAY, DEVON - LT GREEN,
CHEVRON - ORANGE, MEWBOURNE - PINK,
OXY - DK BLUE, POGO - YELLOW, SANTA FE - RED,
YATES - LT BLUE, XTO - PURPLE

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RUSSELL K. HALL AND ASSOCIATES, INC.

WASTE ISOLATION PILOT PROJECT 2023

PERMITTED AND DRILLING WELLS

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Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, NM

August 2023

APPENDIX III

Well by Well Inventory Tables Within the WSA Area Since 1970

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
1	30-015-27434-0000	APACHE `13` FEDERAL 1	MITCHELL ENERGY CORP	GAS	LIVINGSTON RDG NE	ATOKA	26,646	4,791,326	4,307		4/1/1993	5/15/1993	9/22/1993
2	30-015-27587-0001	APACHE `24` FEDERAL 1	MITCHELL ENERGY CORP	GAS	LOS MEDANOS	ATOKA	432	391,590	3,070		10/1/1994	11/5/1994	11/16/1994
3	30-015-27410-0000	APACHE `25` FEDERAL 1	MITCHELL ENERGY CORP	GAS	LOS MEDANOS	ATOKA	3,299	1,808,829	1,776		4/1/1993	5/5/1993	10/15/1993
4	30-015-20423-0000	ARCO-STATE 1	EL PASO NAT GAS CO	DRY	SAND DUNES WEST	ATOKA	107,263	552,606	758,995		4/1/1971	4/15/1971	8/15/1971
5	30-015-21529-0001	BIG EDDY UNIT 44	BEPCO LP	DRY	MAROON CLIFFS	ATOKA	36,221	1,872,040	768		7/1/2006	8/7/2006	9/7/2006
6	30-015-22708-0000	BIG EDDY UNIT 67	BLANKS W C	DRY	EDDY UNDESIGNATED	ATOKA		1,458			10/1/1978	10/18/1978	3/1/1979
7	30-025-30886-0001	BILBREY `32` STATE 1	TEXACO EXPL&PROD INC	DRY	BILBREY WEST	ATOKA	7,632	686,491	244		1/1/1999	1/18/1999	2/11/1999
8	30-025-30781-0001	BILBREY `33` FEDERA 1	TEXACO EXPL&PROD INC	DRY	BILBREY NORTH	ATOKA		4,708	34		8/1/1998	4/12/1999	6/4/1999
9	30-025-35946-0001	BILBREY 32 STATE CO 2	CIMAREX ENERGY OF CO	DRY	BILBREY WEST	ATOKA	35	565	13		2/1/2008	2/11/2008	3/12/2008
10	30-025-24947-0000	COVINGTON `A` FEDER 001	GULF OIL CORP	DRY	RED TANK EAST	ATOKA	623	577,515	4,226		1/1/1975	2/7/1975	6/16/1975
11	30-025-31089-0000	FEDERAL `31` 1	POGO PRODUCING CO	GAS	BILBREY	ATOKA	42,185	6,180,089	14,857		11/1/1990	12/10/1990	3/16/1991
12	30-025-27473-0001	FEDERAL `CK` COM 1	KAISER-FRANCIS OIL	DRY	BILBREY WEST	ATOKA	1,908	326,462	26,098		7/1/1996	7/18/1996	8/18/1996
13	30-015-24232-0000	FEDERAL `SCL` 2	POGO PRODUCING CO	DRY	RED TANK	ATOKA		1,413	433		8/1/1982	8/29/1982	12/15/1982
14	30-015-35033-0000	FORTY NINER RIDGE U 102	MEWBOURNE OIL CO	GAS	LOS MEDANOS WEST	ATOKA	2,265	199,197	3,106		8/1/2006	8/21/2006	1/8/2007
15	30-015-23348-0000	GETTY FEDERAL `24` 1	GETTY OIL CO	SUSGAS	LIVINGSTON RIDGE	ATOKA	299	443,624	49,357		5/1/1980	6/5/1980	2/2/1981
16	30-025-24215-0001	GRACE FEDERAL 1	YATES PETROLEUM CORP	GAS	RED TANK	ATOKA	76	69,533	31,923		12/1/2002	12/3/2002	3/18/2003
17	30-015-21052-0000	HUDSON FEDERAL 001	BELCO PETROLEUM CORP	DRY	LOS MEDANOS	ATOKA	7,182	911,766	69,471		11/1/1973	2/25/1974	7/26/1974
18	30-015-28012-0000	JAMES RANCH UNIT 070	BASS ENTRPRS PROD CO	DRY	LIVINGSTON RDG NE	ATOKA	11,765	3,614,425	10,401		6/1/1994	10/15/1994	3/10/1995
19	30-015-04735-0000	JAMES RANCH UNIT 1	SHELL OIL CO	DRY	LOS MEDANOS	ATOKA	276,961	27,920,861	15,678		11/1/1956	11/30/1956	3/1/1958
20	30-015-23075-0000	JAMES RANCH UNIT 10	BELCO PET NRTH AMER	GAS	LOS MEDANOS	ATOKA	56,780	11,406,561	515,632		1/1/1980	1/13/1980	4/17/1980
21	30-015-23377-0000	JAMES RANCH UNIT 11	BELCO PET NRTH AMER	GAS	LOS MEDANOS	ATOKA	4,248	1,244,628	6,494		9/1/1980	9/18/1980	6/15/1981
22	30-015-22162-0000	JAMES RANCH UNIT 12	BASS PERRY R	GAS	LIVINGSTON RIDGE	ATOKA	4,996	1,095,440	125,013		6/1/1980	9/4/1980	1/9/1981
23	30-015-24062-0000	JAMES RANCH UNIT 13	BASS PERRY R	SUSGAS	LOS MEDANOS	ATOKA	47,753	12,670,310	13,304		1/1/1982	2/6/1982	9/13/1982
24	30-015-24780-0001	JAMES RANCH UNIT 15	BASS ENTRPRS PROD CO	GAS	LOS MEDANOS	ATOKA	173	463,899	106,269		3/1/1991	1/28/1991	2/11/1991
25	30-015-34644-0000	LIVINGSTON RIDGE 36 001	SAMSON RESOURCES CO	DRY	RED TANK SOUTH	ATOKA	290	707,695	43,247		3/1/2006	3/25/2006	8/29/2006
26	30-015-21501-0000	LIVINGSTON RIDGE U 1X	GRACE CORINE	DRY	CABIN LAKE	ATOKA	134	225,124	179		3/1/1975	3/28/1975	12/20/1975
27	30-015-28093-0000	LLAMA `ALL` FEDERAL 1	YATES PETROLEUM CORP	GAS	LIVINGSTON RDG NE	ATOKA	1,523	452,678	709		8/1/1994	8/30/1994	12/3/1994
28	30-025-27151-0001	LOOMIS C A 1	BASS PERRY R	GAS	LEA CO UNDESIGNTD	ATOKA	18,308	1,534,283	11,702		10/1/1983	10/11/1983	10/19/1983
29	30-015-21672-0000	NASH UNIT 2	MESA PETROLEUM CO	GAS	NASH DRAW	ATOKA	2,067	4,813,043	5,613		10/1/1975	11/6/1975	4/23/1976
30	30-025-26610-0001	NM FEDERAL `G` COM 1	SAMSON RESOURCES CO	GAS	SALT LAKE SOUTH	ATOKA	262	363,484	1,740		12/1/2002	1/3/2003	1/13/2003
31	30-025-27603-0002	NORTH BILBREY `7` F 1	TEXACO PROD INC	GAS	BILBREY NORTH	ATOKA	23,104	3,429,909	36,273		7/1/1990	7/29/1990	8/10/1990
32	30-015-34594-0000	NORTH PURE GOLD 8 F 010	DEVON ENERGY PRODUCT	GAS	LOS MEDANOS	ATOKA	576	247,687	739		3/1/2006	3/21/2006	11/1/2006
33	30-015-26509-0000	P G `4` FEDERAL 1	SANTA FE ENR OP PRTN	DRY	SAND DUNES WEST	ATOKA		457,293	53,617		10/1/1990	10/29/1990	6/29/1992
34	30-025-32142-0000	PROHIBITION FEDERAL 003	MARALO INC	DRY	BOOTLEG RIDGE	ATOKA	1,820	217,916	24,952		7/1/1993	10/2/1993	2/15/1994
35	30-015-27270-0001	PURE GOLD `B` FEDER 2	ENRON OIL & GAS CO	SUSGAS	SAND DUNES WEST	ATOKA	958	1,493,259	7,749		8/1/1993	8/24/1993	9/23/1993
36	30-015-23992-0001	PURE GOLD `C` FEDER 1	SANTA FE ENERGY CO	GAS	SAND DUNES WEST	ATOKA	2,438	2,222,977	91,314		2/1/1986	3/1/1986	3/7/1986
37	30-015-26021-0000	PURE GOLD `C-17` FE 2	SANTA FE ENR OP PRTN	GAS	SAND DUNES WEST	ATOKA	1,261	3,346,380	99,419		9/1/1989	9/27/1989	12/19/1989
38	30-015-24069-0000	PURE GOLD `D` FEDER 1	POGO PRODUCING CO	DRY	SAND DUNES WEST	ATOKA	18,496	53,599	82,684		6/1/1985	6/23/1985	1/1/1986
39	30-015-23739-0000	PURE GOLD`B`FEDERAL 1	COQUINA OIL CORP	GAS	SAND DUNES WEST	ATOKA	398	1,913,943	2,115		7/1/1981	7/11/1981	5/27/1982
40	30-025-31720-0000	RED TANK `34` FEDER 1	POGO PRODUCING CO	GAS	DIAMONDTAIL NORTH	ATOKA	3,361	794,985	1,982		9/1/1992	9/23/1992	1/9/1993
41	30-025-35035-0001	RED TANK 24 FED COM 1	EOG RESOURCES INC	GAS	BOOTLEG RIDGE	ATOKA	1,744	650,086	348		11/1/2004	12/1/2004	1/6/2005
42	30-015-20242-0000	TODD-FEDERAL `26` 001	TEXAS AMERICAN OIL	DRY	SAND DUNES	ATOKA		25,034,513	3,400,168		7/1/1969	7/29/1969	12/12/1969
43	30-025-33356-0001	TOMCAT FEDERAL 21 C 001	PENWELL ENERGY INC	DRY	TRISTE DRAW NORTH	ATOKA	7,645	632,066	16,869		3/1/1997	4/1/1997	4/8/1997
44	30-025-36336-0001	TORY 3 FEDERAL 1	BASS ENTRPRS PROD CO	OIL	SALT LAKE SOUTH	ATOKA	52,049	840,489	3,485		12/1/2003	12/18/2003	1/2/2004
45	30-025-27655-0000	TRIST DRW FDRL-GULF 1	SUPERIOR OIL CO THE	DRY	DIAMONDTAIL	ATOKA	55	43,799	580		11/1/1981	11/25/1981	5/3/1983
		ATOKA TOTAL					**775,231**	**126,710,544**	**5,646,953**	**0**			
		ATOKA AVERAGE					**19,381**	**2,815,790**	**128,340**				
		ATOKA MAX					**276,961**	**27,920,861**	**3,400,168**				
1	30-015-27587-0003	APACHE `24` FEDERAL 1	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS NORTH	BONE SPRING	23,694	54,696	80,990		5/1/2012	6/1/2012	7/31/2012
2	30-015-27434-0003	APACHE 13 FEDARAL 1	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	20,732	64,943	126,436		7/1/2011	7/31/2011	8/31/2011
3	30-015-27478-0002	APACHE 25 FEDERAL 2	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	102,969	282,694	128,107		3/1/2003	3/1/2003	3/18/2003
4	30-015-32720-0001	APACHE 25 FEDERAL 5	DEVON ENERGY PRODUCT	SUSOIL	LOS MEDANOS SOUTH	BONE SPRING	8,640	26,759	9,465		3/1/2003	3/31/2003	6/22/2003
5	30-025-33354-0000	APRIL APZ STATE 001	YATES PETROLEUM CORP	DRY	DIAMONDTAIL	BONE SPRING	38,666	36,628	670,434		3/1/1996	3/29/1996	9/26/1996
6	30-025-27620-0000	BILBREY `5` FEDERAL 1	GETTY OIL CO	OIL	BILBREY BASIN	BONE SPRING	45,305	55,844	560		11/1/1981	11/26/1981	6/10/1982
7	30-025-27620-0001	BILBREY `5` FEDERAL 1	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RDG NE	BONE SPRING	1,121	2,842	34,806		1/1/1993	1/20/1993	3/14/1993
8	30-025-27620-0002	BILBREY SWD 1	YATES PETROLEUM CORP	CONWIW	SWD	BONE SPRING				12,967,240	12/1/2003	12/10/2003	1/6/2004
9	30-025-33398-0000	BITSY FEDERAL 1	MYCO INDUSTRIES INC	OIL	SAND DUNES	BONE SPRING	17,516	114,412	31,031		4/1/1996	5/4/1996	6/13/1996
10	30-025-33398-0002	BITSY FEDERAL SWD 1	ENERVEST OPERATING	CONWIW	SWD	BONE SPRING				3,694,356	1/1/2009	3/30/2009	4/6/2009
11	30-025-39818-0000	BLUE QUAIL FEDERAL 003	ENERVEST OPERATING	OIL	SAND DUNES	BONE SPRING	25,035	261,727	165,025		7/1/2010	10/18/2010	12/16/2010
12	30-025-33222-0000	BLUE QUAIL FEDERAL 1	MYCO INDUSTRIES INC	SUSOIL	SAND DUNES	BONE SPRING	33,758	222,478	69,961		12/1/1995	12/27/1995	1/26/1996
13	30-015-26885-0000	CAL-MON FEDERAL 6	POGO PRODUCING CO	OIL	INGLE WELLS	BONE SPRING	102,645	357,113	102,355		2/1/1992	2/20/1992	3/24/1992
14	30-025-31907-0000	CHECKERBOARD `23` F 002	MERIDIAN OIL INC	DRY	RED TANK	BONE SPRING	263,527	404,712	860,026		2/1/1993	3/5/1993	4/19/1993
15	30-025-32864-0000	CHECKERBOARD `23` F 013	MERIDIAN OIL INC	DRY	RED TANK WEST	BONE SPRING	51,344	96,977	30,714		2/1/1995	2/26/1995	4/13/1995
16	30-025-31906-0000	CHECKERBOARD `23` F 1	MERIDIAN OIL INC	DRY	RED TANK	BONE SPRING	28,617	59,352			3/1/1993	4/8/1993	7/8/1993
17	30-025-32376-0000	CHECKERBOARD `23` F 5	MERIDIAN OIL INC	DRY	RED TANK	BONE SPRING	49,784	126,623	193,464		1/1/1994	1/21/1994	3/2/1994
18	30-025-32945-0000	CHECKERS `24` FEDER 1	PENWELL ENERGY INC	OIL	RED TANK	BONE SPRING	98,149	641,735	1,288		8/1/1997	8/20/1997	10/14/1997
19	30-025-34023-0000	CHECKERS `24` FEDER 7	PENWELL ENERGY INC	DRY	RED TANK	BONE SPRING	39,151	554,106	2,223		6/1/1997	4/9/1998	5/23/1998
20	30-025-24823-0002	CLEARY `AKC` FEDERA 1	YATES PETROLEUM CORP	DRY	LEA LAKE	BONE SPRING	87	798	2,221		12/1/2003	12/17/2003	2/26/2004
21	30-025-20428-0002	CONTINENTAL `APJ` F 1	YATES PETROLEUM CORP	DRY	LEA CO UNDESIGNTD	BONE SPRING	1,906	1,328	5,473		8/1/1995	8/25/1995	9/25/1995
22	30-025-33574-0000	CORIANDER `AOC` STA 2	YATES PETROLEUM CORP	DRY	RED TANK	BONE SPRING	5,603	34,891	86,402		9/1/1996	9/30/1996	10/30/1996
23	30-025-33531-0000	CORIANDER AOC STATE 001	YATES PETROLEUM CORP	DRY	RED TANK	BONE SPRING	33,269	234,248	179,838		8/1/1996	8/25/1996	9/26/1996
24	30-025-24947-0001	COVINGTON `A` FEDER 001	CHEVRON U S A INC	DRY	RED TANK	BONE SPRING	108,255	394,097	64,689		7/1/1990	8/7/1990	10/23/1990
25	30-025-33399-0000	COVINGTON `A` FEDER 014	POGO PRODUCING CO	DRY	RED TANK	BONE SPRING	21,038	116,330	1,914		4/1/1996	4/27/1996	5/28/1996
26	30-025-33224-0000	COVINGTON `A` FEDER 016	POGO PRODUCING CO	DRY	RED TANK	BONE SPRING	1,758	5,210	218		12/1/1995	7/23/1996	8/25/1996
27	30-025-32581-0000	COVINGTON `A` FEDER 10	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	42,877	186,711	842		5/1/1995	5/19/1995	6/23/1995
28	30-025-33074-0000	COVINGTON `A` FEDER 11	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	122,600	412,347	523,844		10/1/1995	10/28/1995	11/21/1995
29	30-025-33142-0000	COVINGTON `A` FEDER 13	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	21,997	144,112	1,600		12/1/1995	12/27/1995	1/23/1996
30	30-025-33319-0000	COVINGTON `A` FEDER 15	POGO PRODUCING CO	DRY	RED TANK WEST	BONE SPRING	42,442	313,693	14,278		7/1/1997	7/31/1997	8/28/1997
31	30-025-35940-0000	COVINGTON `A` FEDER 17	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	2,864	7,449	24,776		6/1/2002	10/12/2002	12/24/2002
32	30-025-32037-0000	COVINGTON `A` FEDER 18	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	280,537	356,798	1,074,100		7/1/1993	7/24/1993	10/3/1993
33	30-025-31850-0000	COVINGTON `A` FEDER 2	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	223,280	272,228	697,561		11/1/1993	11/18/1993	1/17/1994
34	30-025-32445-0000	COVINGTON `A` FEDER 3	POGO PRODUCING CO	SUSOIL	RED TANK	BONE SPRING	41	89	32		6/1/1995	3/4/1998	4/9/1998
35	30-025-34479-0000	COVINGTON `A` FEDER 36	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	405	3,136	314		8/1/1998	8/6/1998	9/2/1998
36	30-025-34455-0000	COVINGTON `A` FEDER 37	POGO PRODUCING CO	SUSOIL	RED TANK	BONE SPRING	122	866	44		9/1/1999	9/16/1999	10/27/1999
37	30-025-32290-0000	COVINGTON `A` FEDER 4	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	10,439	66,266	1,878		1/1/1996	1/12/1996	2/13/1996
38	30-025-32446-0000	COVINGTON `A` FEDER 5	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	8,974	45,522	713		3/1/1996	4/9/1996	5/27/1996
39	30-025-31851-0000	COVINGTON `A` FEDER 6	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	8,969	25,038	231		7/1/1995	8/4/1995	9/18/1995
40	30-025-32023-0000	COVINGTON `A` FEDER 8	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	59,731	53,463	33,886		6/1/1994	6/11/1994	7/16/1994
41	30-025-33262-0000	DARIUS `ADS` FEDERA 1	MERIDIAN OIL INC	OIL	SAND DUNES SOUTH	BONE SPRING	48,624	288,464	74,007		3/1/1996	3/19/1996	5/3/1996
42	30-025-33653-0000	DIAMONDTAIL `23` FE 002	PENWELL ENERGY INC	OIL	DIAMONDTAIL	BONE SPRING	3,987		2,475		10/1/1996	12/9/1996	3/1/1997
43	30-025-33653-0001	DIAMONDTAIL `23` FE 002	CONCHO RESOURCES INC	CONWIW	SWD	BONE SPRING				3,269,243	11/1/1999	11/10/1999	11/18/1999
44	30-025-33521-0000	DIAMONDTAIL `24` FE 001	PENWELL ENERGY INC	OIL	DIAMONDTAIL	BONE SPRING	2,669	988	15,373		7/1/1996	8/26/1996	10/12/1996
45	30-025-33521-0001	DIAMONDTAIL `24` FE 001	CONCHO RESOURCES INC	CONWIW	SWD	BONE SPRING				2,471,453	11/1/1999	11/22/1999	6/14/2001
46	30-025-33344-0000	DIAMONDTAIL `24` FE 1	PENWELL ENERGY INC	OIL	DIAMONDTAIL	BONE SPRING	36,874	74,778	509,062		3/1/1996	3/26/1996	8/25/1996
47	30-025-33020-0000	DIAMONDTAIL `34` FE 3	MERIDIAN OIL INC	SUSOIL	LEA CO UNDESIGNTD	BONE SPRING	16,320	15,055	39,921		9/1/1995	9/22/1995	11/2/1995
48	30-015-26988-0000	FEDERAL `1` 7	POGO PRODUCING CO	OIL	LOST TANK	BONE SPRING	26,942	48,575	164,709		5/1/1992	5/17/1992	6/17/1992
49	30-015-26940-0000	FEDERAL `26` 6	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BONE SPRING	141,241	154,306	832,646		3/1/1992	4/2/1992	5/5/1992
50	30-025-32999-0000	FEDERAL `WBR` 2	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	12,281	9,581	21,050		6/1/1995	6/26/1995	8/5/1995
51	30-025-33026-0000	FEDERAL `WBR` 3	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	48,015	118,802	256,499		11/1/1995	12/5/1995	12/30/1995
52	30-025-25017-0000	FEDERAL SAND 18 1	SKELLY OIL CO	OIL	SAND DUNES	BONE SPRING	82,349	339,302	16,935		4/1/1975	4/16/1975	8/25/1975
53	30-015-35008-0000	FORTY NINER RIDGE U 009	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	BONE SPRING	250,509	539,881	1,154,450		6/1/2006	2/19/2008	8/23/2008

Russell K. Hall and Associates, Inc.
Reservoir Evaluation Engineers
3/15/2023

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
54	30-015-20899-0001	FORTY NINER RIDGE U 1	GETTY OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	2,744		2,999		5/1/1982	5/25/1982	6/26/1982
55	30-015-21175-0001	FORTY NINER RIDGE U 2	GETTY OIL CO	SUSOIL	FORTY NINER RIDGE	BONE SPRING	16,920	30,899	8,568		8/1/1977	8/19/1977	10/19/1977
56	30-015-30787-0000	GOLD RUSH `31` FEDE 002	MARALO LLC	DRY	NASH DRAW	BONE SPRING	42,786	308,009	103,043		10/1/1999	11/24/1999	1/6/2000
57	30-015-21052-0002	HUDSON FEDERAL 001	ENRON OIL & GAS CO	DRY	LOS MEDANOS	BONE SPRING	5,834	38,220	24,064		10/1/1996	10/23/1996	11/18/1996
58	30-025-32878-0001	JACKALOPE `24` FEDE 1	BURLINGTON RES O&G	DRY	RED TANK	BONE SPRING	55,890	368,982	16,964		1/1/1998	1/13/1998	1/22/1998
59	30-025-35478-0000	JACKALOPE `24` FEDE 2	EOG RESOURCES INC	OIL	RED TANK	BONE SPRING	70,672	349,229	68,802		3/1/2001	7/30/2001	1/10/2002
60	30-025-33085-0000	JAMES FEDERAL `19` 1	HARVARD PET CORP	OIL	SAND DUNES SOUTH	BONE SPRING	100,510	556,584	534,223		10/1/1995	10/12/1995	11/13/1995
61	30-025-33100-0000	JAMES FEDERAL `19` 2	HARVARD PET CORP	OIL	SAND DUNES SOUTH	BONE SPRING	61,648	245,451	727,150		3/1/1996	3/18/1996	4/13/1996
62	30-015-27686-0000	JAMES RANCH UNIT 036	ENRON OIL & GAS CO	DRY	QUAHADA RIDGE SE	BONE SPRING	75,675	214,184	176,113		9/1/1993	11/26/1993	1/21/1994
63	30-015-23377-0001	JAMES RANCH UNIT 11	BASS ENTRPRS PROD CO	OIL	LOS MEDANOS	BONE SPRING	351,744	668,854	52,244		10/1/2003	10/7/2003	12/3/2003
64	30-015-27784-0000	JAMES RANCH UNIT 17	ENRON OIL & GAS CO	OIL	LOS MEDANOS	BONE SPRING	138,326	317,258	37,293		12/1/1993	12/14/1993	1/24/1994
65	30-015-31033-0000	JAMES RANCH UNIT 27	EOG RESOURCES INC	OIL	LOS MEDANOS	BONE SPRING	165,976	500,039	318,991		3/1/2000	7/13/2000	9/16/2000
66	30-015-27704-0000	JAMES RANCH UNIT 30	BASS ENTRPRS PROD CO	OIL	LOS MEDANOS	BONE SPRING	182,076	335,657	37,578		10/1/1993	10/13/1993	11/25/1993
67	30-015-21247-0001	JAMES RANCH UNIT 7	CONOCO INC	OIL	LOS MEDANOS	BONE SPRING	136,583	341,750	21,600		7/1/1982	8/10/1982	9/4/1982
68	30-015-27927-0000	JAMES RANCH UNIT 71	ENRON OIL & GAS CO	OIL	LOS MEDANOS SOUTH	BONE SPRING	222,598	532,397	213,209		9/1/1994	9/14/1994	11/5/1994
69	30-015-33114-0000	JAMES RANCH UNIT 75	BASS ENTRPRS PROD CO	OIL	LOS MEDANOS	BONE SPRING	71,844	165,399	81,205		6/1/2004	7/2/2004	8/21/2004
70	30-025-32481-0002	LITTLE JACK `30` FE 002	MERIDIAN OIL INC	DRY	SAND DUNES SOUTH	BONE SPRING	39,549	158,576	81,628		3/1/1995	3/16/1995	3/31/1995
71	30-025-32176-0000	LITTLE JACK `30` FE 1	MERIDIAN OIL INC	OIL	SAND DUNES SOUTH	BONE SPRING	77,485	319,030	317,849		12/1/1993	12/27/1993	2/16/1994
72	30-015-34299-0000	LLAMA ALL FEDERAL 6	YATES PETROLEUM CORP	DRY	CABIN LAKE	BONE SPRING	3,523	14,486	203,769		8/1/2005	1/23/2006	3/24/2006
73	30-015-20423-0002	MEDANO `VA` STATE 1	YATES PETROLEUM CORP	DRY	JAMES RANCH	BONE SPRING	1,827		20,753		9/1/1987	9/15/1987	10/12/1987
74	30-015-26171-0000	MEDANO STATE 001	UNION OIL CO OF CA	OIL	LIVINGSTON RIDGE	BONE SPRING	12,503	186,464	7,899		8/1/1989	10/24/1989	5/26/1990
75	30-015-26171-0002	MEDANO STATE COM 001	ARCO PERMIAN	CONWIW	SWD	BONE SPRING				11,510,283	3/1/1998	3/20/1998	4/5/1998
76	30-025-36836-0003	MESAVERDE 15 FEDERA 001	THREE RIVERS OPER	DRY	HAT MESA SOUTH	BONE SPRING	39,348	170,756	58,778		9/1/2011	9/19/2011	10/3/2011
77	30-025-32837-0000	MULE DEER `36` STAT 001	MERIDIAN OIL INC	DRY	RED TANK	BONE SPRING	50,768	155,611	2,594		1/1/1995	4/7/1995	5/3/1995
78	30-025-33239-0000	MULE DEER `36` STAT 005	MERIDIAN OIL INC	DRY	RED TANK	BONE SPRING	58,888	465,111	62,426		1/1/1996	1/14/1996	2/16/1996
79	30-025-33014-0000	MULE DEER `36` STAT 2	MERIDIAN OIL INC	OIL	RED TANK	BONE SPRING	48,767	204,761	1,415		7/1/1995	7/14/1995	8/25/1995
80	30-025-33093-0000	MULE DEER `36` STAT 3	MERIDIAN OIL INC	OIL	RED TANK	BONE SPRING	44,781	311,356	850		9/1/1995	9/22/1995	10/22/1995
81	30-025-33107-0000	MULE DEER `36` STAT 4	MERIDIAN OIL INC	OIL	RED TANK	BONE SPRING	55,785	330,806	1,699		9/1/1995	10/9/1995	11/9/1995
82	30-025-33498-0000	MULE DEER `36` STAT 6	BURLINGTON RES O&G	OIL	RED TANK	BONE SPRING	34,042	290,918	5,005		7/1/1996	8/1/1996	9/24/1996
83	30-025-33823-0000	MULE DEER `36` STAT 8	BURLINGTON RES O&G	DRY	RED TANK	BONE SPRING	21,708	138,325	1,654		3/1/1997	3/15/1997	5/1/1997
84	30-025-25751-0001	NEW MEXICO `A` FEDE 2	STRATA PRODUCTION CO	SUSOIL	HAT MESA	BONE SPRING	11,499	9,038	10,465		10/1/1988	10/27/1988	12/1/1988
85	30-025-33863-0000	PARSLEY `ARA` FEDER 1	YATES PETROLEUM CORP	OIL	TRISTE DRAW	BONE SPRING	11,506	10,639	88,814		2/1/1997	2/28/1997	5/12/1997
86	30-025-29361-0000	PLATINUM `6` FEDERA 1	SANTA FE ENERGY CO	DRY	LEA CO UNDESIGNTD	BONE SPRING	28,794	14,040	13,354		9/1/1985	9/14/1985	1/19/1986
87	30-015-27170-0000	POKER LAKE `32` STA 4	ENRON OIL & GAS CO	OIL	SAND DUNES WEST	BONE SPRING	256,079	604,303	195,063		10/1/1992	11/10/1992	12/23/1992
88	30-015-26084-0102	POKER LAKE UNIT 71A	BEPCO LP	DRY	NASH DRAW	BONE SPRING	1,397	456	10,044		9/1/2010	9/19/2010	10/19/2010
89	30-025-37819-0000	PROHIBITION 12 FEDE 010	COG OPERATING LLC	DRY	RED TANK	BONE SPRING	10,036	85,920	10,812		4/1/2006	6/30/2006	8/16/2006
90	30-025-32142-0002	PROHIBITION FEDERAL 003	MARALO INC	DRY	RED TANK	BONE SPRING	25,006	74,335	404		7/1/1998	8/3/1998	8/13/1998
91	30-025-33538-0000	PRONGHORN `12` FEDE 1	BURLINGTON RES O&G	DRY	DIAMONDTAIL	BONE SPRING	5,088		4,662		8/1/1996	8/26/1996	10/8/1996
92	30-015-26509-0001	PURE GOLD 4 FEDERAL 1	DEVON ENERGY PRODUCT	DRY	SAND DUNES WEST	BONE SPRING	3,455	2,972	8,472		5/1/2007	7/3/2007	11/21/2007
93	30-015-32619-0000	PURE GOLD NORTH 8 F 11	DEVON SFS OPER INC	OIL	LOS MEDANOS	BONE SPRING	2,692	7,926	24,035		1/1/2003	2/10/2003	4/8/2003
94	30-015-32619-0002	PURE GOLD NORTH 8 F 11	DEVON ENERGY PRODUCT	INJ	LOS MEDANOS	BONE SPRING				5,895,976	9/1/2004	9/29/2004	1/24/2005
95	30-025-35689-0000	RED TANK `23` FED C 2	EOG RESOURCES INC	OIL	BOOTLEG RIDGE	BONE SPRING	35,859	69,337	57,758		9/1/2001	10/2/2001	12/23/2001
96	30-025-31695-0000	RED TANK `23` FEDER 1	POGO PRODUCING CO	SUSOIL	RED TANK	BONE SPRING	5,144	4,037	3,235		9/1/1992	9/11/1992	11/6/1992
97	30-025-32326-0000	RED TANK `24` FEDER 1	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	121,711	253,627	665,744		11/1/1994	12/3/1994	12/29/1994
98	30-025-32320-0000	RED TANK `24` FEDER 2	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	68,679	205,511	308,392		8/1/1995	8/24/1995	10/30/1995
99	30-025-32462-0000	RED TANK `26` FEDER 2	POGO PRODUCING CO	OIL	RED TANK WEST	BONE SPRING	136,395	283,456	999,922		5/1/1994	5/21/1994	6/21/1994
100	30-025-32655-0000	RED TANK `34` FEDER 14	POGO PRODUCING CO	OIL	RED TANK WEST	BONE SPRING	145,014	292,460	898,873		9/1/1994	9/21/1994	10/31/1994
101	30-025-31951-0000	RED TANK `34` FEDER 3	POGO PRODUCING CO	OIL	RED TANK WEST	BONE SPRING	201,316	204,237	454,484		1/1/1994	2/8/1994	3/23/1994
102	30-015-32225-0000	REMUDA BASIN `19` F 004	CHEVRON U S A INC	SUSOIL	NASH DRAW	BONE SPRING	34,083	246,307	263,084		2/1/2002	3/23/2002	5/23/2002
103	30-015-28422-0000	REMUDA BASIN STATE 001	TEXACO EXPL&PROD INC	INJ	NASH DRAW	BONE SPRING				898,904	3/1/1995	2/16/1996	3/12/1996
104	30-015-28422-0001	REMUDA BASIN STATE 001Q	XTO ENERGY INC	DRY	NASH DRAW	BONE SPRING	84,571	665,274	344,504		9/1/2010	9/22/2010	10/6/2010
105	30-025-32908-0000	SDE `19` FEDERAL 003	TEXACO EXPL&PROD INC	DRY	SAND DUNES SOUTH	BONE SPRING	40,733	393,768	157,180		4/1/1995	4/24/1995	5/25/1995
106	30-025-32909-0000	SDE `19` FEDERAL 4	TEXACO EXPL&PROD INC	OIL	SAND DUNES SOUTH	BONE SPRING	34,517	276,969	245,984		5/1/1995	6/4/1995	7/17/1995
107	30-025-32916-0000	SDE `31` FEDERAL 014	TEXACO EXPL&PROD INC	DRY	SAND DUNES SOUTH	BONE SPRING	107,200	277,838	363,081		5/1/1995	5/15/1995	6/16/1995
108	30-025-32701-0000	SDE `31` FEDERAL 2	TEXACO EXPL&PROD INC	OIL	TRISTE DRAW WEST	BONE SPRING	179,110	769,059	750,117		10/1/1994	10/15/1994	12/3/1994
109	30-025-32716-0000	SDE `31` FEDERAL 4	TEXACO EXPL&PROD INC	OIL	SAND DUNES SOUTH	BONE SPRING	207,829	1,043,013	967,170		12/1/1994	12/26/1994	3/18/1995
110	30-025-32717-0000	SDE `31` FEDERAL 5	TEXACO EXPL&PROD INC	DRY	SAND DUNES SOUTH	BONE SPRING	26,298	215,530	8,230		1/1/1995	1/15/1995	4/25/1995
111	30-025-32867-0001	SDE `31` FEDERAL 8	TEXACO EXPL&PROD INC	OIL	SAND DUNES SOUTH	BONE SPRING	64,974	481,356	116,059		7/1/1995	7/19/1995	12/4/1995
112	30-025-38138-0000	SDE 31 FEDERAL 016	XTO ENERGY INC	OIL	TRISTE DRAW WEST	BONE SPRING	38,154	98,664	458,775		9/1/2006	11/18/2006	4/15/2007
113	30-025-38088-0000	SDE 31 FEDERAL 017	XTO ENERGY INC	OIL	SAND DUNES SOUTH	BONE SPRING	21,152	155,797	81,420		8/1/2006	9/29/2006	2/15/2007
114	30-025-38088-0001	SDE 31 FEDERAL 017	XTO ENERGY INC	SUSOIL	SAND DUNES SOUTH	BONE SPRING	34,708	47,091	374,780		12/1/2006	12/14/2006	7/3/2007
115	30-025-25622-0000	SDE-18 FEDERAL 1	GETTY OIL CO	DRY	LEA	BONE SPRING	29,164	179,143	133,899		10/1/1979	11/7/1979	12/27/1979
116	30-025-33054-0000	SHARBRO FEDERAL 1	MYCO INDUSTRIES INC	OIL	SAND DUNES	BONE SPRING	43,228	360,991	66,636		8/1/1995	8/30/1995	12/12/1995
117	30-025-40218-0000	SHARBRO FEDERAL 10	ENERVEST OPERATING	OIL	SAND DUNES	BONE SPRING	14,716	208,443	13,302		8/1/2011	8/29/2011	10/22/2011
118	30-025-20810-0002	SHELL STATE 1	STRATA PRODUCTION CO	OIL	RED TANK	BONE SPRING	74,963	25,952	195,293		1/1/1993	1/12/1993	2/10/1993
119	30-025-27136-0003	STATE `IG` 1	MARSHALL & WINSTON	SUSOIL	SAND DUNES SOUTH	BONE SPRING	10,093	9,544	35,229		11/1/1986	11/19/1986	1/26/1987
120	30-015-36784-0000	TANKLESS `35` FEDER 001	OGX RESOURCES LLC	DRY	LIVINGSTON RIDGE	BONE SPRING	30,911	63,034	535,824		11/1/2008	1/18/2009	3/4/2009
121	30-025-33370-0000	THYME `APY` FEDERAL 001	YATES PETROLEUM CORP	DRY	RED TANK	BONE SPRING	53,938	382,018	32,445		3/1/1996	4/9/1996	5/12/1996
122	30-025-33529-0000	THYME `APY` FEDERAL 2	YATES PETROLEUM CORP	DRY	RED TANK	BONE SPRING	24,235	120,669	20,554		8/1/1996	9/10/1996	10/15/1996
123	30-025-33530-0000	THYME `APY` FEDERAL 3	YATES PETROLEUM CORP	DRY	RED TANK	BONE SPRING	30,116	193,513	40,797		7/1/1996	7/31/1996	8/30/1996
124	30-015-27105-0000	TODD `26O` FEDERAL 015	DEVON ENERGY CORP	DRY	INGLE WELLS	BONE SPRING	76,369	314,202	438,275		9/1/1992	11/25/1992	1/25/1993
125	30-025-35524-0000	TOMCAT `15` FEDERAL 3	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL	BONE SPRING	7,171	5,391	69,703		4/1/2001	7/11/2001	8/27/2001
126	30-025-33364-0000	TOMCAT `18` FEDERAL 1	SANTA FE ENRGY RESCS	OIL	SAND DUNES	BONE SPRING	43,924	466,428	802		4/1/1996	5/9/1996	6/9/1996
127	30-025-35103-0000	TOMCAT `21` FEDERAL 4	CONCHO RESOURCES INC	DRY	DIAMONDTAIL STHWT	BONE SPRING	99,958	195,846	473,671		7/1/2000	10/11/2000	1/6/2001
128	30-025-35524-0001	TOMCAT 15 FEDERAL 3	DEVON ENERGY PRODUCT	CONWIW	SWD	BONE SPRING			75	1,803,118	5/1/2008	5/29/2008	7/23/2008
129	30-025-38367-0000	TOMCAT 8 FEDERAL 1	ROFF OPERATING CO	DRY	DIAMONDTAIL STHWT	BONE SPRING	9,634	15,908	323,484		3/1/2007	7/24/2007	1/10/2008
130	30-025-27478-0000	TRESNOR FEDERAL 001	SUPERIOR OIL CO THE	OIL	SAND DUNES SOUTH	BONE SPRING	121,621	110,117	20,821		6/1/1981	7/30/1981	8/14/1982
131	30-025-32041-0000	TRESNOR FEDERAL 002	MITCHELL ENERGY CORP	DRY	SAND DUNES SOUTH	BONE SPRING	15,097	148,767	5,164		6/1/1993	9/11/1993	10/21/1993
132	30-025-32688-0000	TRESNOR-MITCHELL `3 001	ENRON OIL & GAS CO	DRY	SAND DUNES SOUTH	BONE SPRING	68,515	520,322	519,453		9/1/1994	10/12/1994	11/13/1994
133	30-025-32754-0000	TRESNOR-MITCHELL `3 002	ENRON OIL & GAS CO	DRY	SAND DUNES SOUTH	BONE SPRING	41,957	231,879	76,389		11/1/1994	12/18/1994	1/21/1995
134	30-025-32891-0000	TRESNOR-MITCHELL `3 003	SANTA FE ENRGY RESCS	DRY	SAND DUNES SOUTH	BONE SPRING	36,092	233,860	20,312		3/1/1995	5/24/1995	6/16/1995
135	30-015-25769-0000	TRIPLE S `33` FEDER 1	SANTA FE ENERGY CO	SUSOIL	INGLE WELLS	BONE SPRING	3,056	7,200	552		7/1/1987	7/13/1987	10/5/1987
136	30-025-27655-0002	TRISTE DRAW FEDERAL 1	HAPPY OIL CO INC	DRY	DIAMONDTAIL	BONE SPRING	4,799	1,931	56,387		10/1/1986	10/30/1986	1/2/1987
137	30-025-27708-0000	TRISTE DRAW FEDERAL 2	SUPERIOR OIL CO THE	DRY	DIAMONDTAIL	BONE SPRING	11,789	3,809	37,406		1/1/1982	1/12/1982	9/8/1982
138	30-025-30137-0001	WBR FEDERAL 1	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	40,560	118,283	348,193		9/1/2003	9/25/2003	10/21/2003
139	30-025-36064-0000	WBR FEDERAL 10	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	85,434	260,094	120,396		12/1/2002	5/18/2003	7/4/2003
140	30-025-37929-0000	WBR FEDERAL 11	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING		2,748	2,591		5/1/2006	9/28/2006	12/10/2006
141	30-025-36415-0000	WBR FEDERAL 12	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	53,624	142,520	126,714		8/1/2003	9/26/2003	11/14/2003
142	30-025-35256-0000	WBR FEDERAL 5	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	104,718	414,789	381,082		11/1/2000	12/19/2000	7/7/2001
143	30-025-35722-0000	WBR FEDERAL 7	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	99,990	282,642	157,735		10/1/2001	8/16/2002	9/28/2002
144	30-025-36063-0000	WBR FEDERAL 9	POGO PRODUCING CO	OIL	RED TANK	BONE SPRING	77,052	226,052	115,011		10/1/2002	1/19/2003	3/26/2003
		BONE SPRING VT TOTAL					**8,064,181**	**27,386,160**	**23,752,343**	**42,510,573**			
		BONE SPRING VT AVERAGE					**59,735**	**207,471**	**174,650**				
		BONE SPRING VT MAX					**351,744**	**1,043,013**	**1,154,450**				
1	30-025-41491-0000	AIRBONITA 12 FEDERA 001H	COG OPERATING LLC	OIL	RED TANK	BONE SPRING	245,012	393,409	315,261		10/1/2013	12/1/2013	2/1/2014
2	30-025-40179-0100	AIRBONITA 12 FEDERA 2H	COG OPERATING LLC	OIL	RED TANK	BONE SPRING	179,263	417,422	598,302		6/1/2011	12/7/2011	3/18/2012
3	30-015-38603-0000	ALDABRA `25` FEDERA 007H	DEVON ENERGY PRODUCT	DRY	SAND DUNES SOUTH	BONE SPRING	60,880	387,898	102,282		3/1/2011	4/29/2011	7/20/2011
4	30-015-38612-0000	ALDABRA `25` FEDERA 1H	DEVON ENERGY PRODUCT	OIL	JENNINGS WEST	BONE SPRING	300,054	887,409	802,039		3/1/2011	3/29/2014	9/17/2014
5	30-015-38613-0000	ALDABRA `25` FEDERA 2H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	265,629	623,556	530,559		3/1/2011	5/11/2014	10/18/2014
6	30-015-38624-0000	ALDABRA `26` FEDERA 8H	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BONE SPRING	264,933	635,180	810,660		3/1/2011	11/29/2013	2/9/2014
7	30-015-38625-0000	ALDABRA `27` FEDERA 1H	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BONE SPRING	205,457	551,785	1,038,492		3/1/2011	12/25/2013	3/22/2014

Russell K. Hall and Associates, Inc.
Reservoir Evaluation Engineers
3/15/2023

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
8	30-015-38614-0000	ALDABRA 25 FEDERAL 3H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	227,531	759,899	406,787		3/1/2011	3/31/2013	6/18/2013
9	30-015-46964-0000	ALEUTIAN 10-3 FED C 211H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	323,636	565,751	669,051		4/1/2020	7/5/2020	1/4/2021
10	30-015-46965-0100	ALEUTIAN 10-3 FED C 212H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	312,510	801,524	615,296		8/1/2020	8/29/2020	1/4/2021
11	30-015-46966-0100	ALEUTIAN 10-3 FED C 213H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	275,065	724,019	539,074		4/1/2020	6/30/2020	1/4/2021
12	30-015-45570-0000	ALEUTIAN 10-3 FED C 214H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	374,664	733,627	753,879		12/1/2018	3/7/2019	8/10/2019
13	30-025-45064-0000	ALLEY CAT 17 FED CO 211H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	364,106	892,538	512,635		7/1/2018	8/25/2018	2/7/2019
14	30-025-45065-0000	ALLEY CAT 17 FEDERA 212H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	357,023	853,502	461,012		7/1/2018	9/10/2018	2/7/2019
15	30-025-49552-0000	ALLEY CAT 17-20 FED 124H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	73,528	130,869	223,643		10/1/2021	1/25/2022	5/1/2022
16	30-025-49602-0000	ALLEY CAT 17-20 FED 125H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	62,338	150,553	247,339		11/1/2021	1/20/2022	5/1/2022
17	30-025-45066-0000	ALLEY CAT 17-20 FED 215H	DEVON ENERGY PRODUCT	OIL	SALT LAKE	BONE SPRING	680,723	1,745,509	990,755		7/1/2018	9/15/2018	3/4/2019
18	30-025-45067-0000	ALLEY CAT 17-20 FED 216H	DEVON ENERGY PRODUCT	OIL	SALT LAKE	BONE SPRING	639,373	1,617,714	882,180		7/1/2018	9/11/2018	2/15/2019
19	30-025-46023-0000	ALLEY CAT 17-20 FED 524H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	482,503	2,505,376	418,547		5/1/2019	9/20/2019	2/28/2020
20	30-025-46251-0000	ALLEY CAT 17-20 FED 525H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	446,331	2,748,968	481,592		7/1/2019	8/31/2019	2/25/2020
21	30-025-46252-0000	ALLEY CAT 17-20 FED 526H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	524,672	2,320,008	524,663		7/1/2019	8/7/2019	3/2/2020
22	30-025-41780-0100	ANDERSON `35` 003H	OXY USA WTP LP	OIL	RED TANK	BONE SPRING	103,232	65,213	429,383		4/1/2014	7/24/2014	11/12/2014
23	30-025-42123-0000	ANDERSON `35` 005H	OXY USA WTP LP	OIL	RED TANK	BONE SPRING	61,406	117,595	265,918		9/1/2014	12/4/2014	2/6/2015
24	30-025-48891-0000	ANDERSON FED COM 501H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	80,111	81,515	232,955		4/1/2021	4/1/2022	6/1/2022
25	30-025-48993-0000	ANDERSON FED COM 502H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	78,851	106,671	284,865		4/1/2021	5/10/2021	5/24/2022
26	30-025-48994-0000	ANDERSON FED COM 503H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	68,029	94,215	295,240		4/1/2021	8/12/2021	5/1/2022
27	30-025-48005-0000	ANDERSON FED COM 504H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	220,794	265,957	732,784		11/1/2020	12/6/2020	4/1/2021
28	30-025-49428-0000	ANDERSON FED COM 505H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	161,528	174,633	456,111		9/1/2021	10/1/2021	5/1/2022
29	30-025-49404-0000	ANDERSON FED COM 506H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	189,692	258,764	468,842		9/1/2021	10/14/2021	6/1/2022
30	30-025-49405-0000	ANDERSON FED COM 507H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	128,078	158,211	484,484		9/1/2021	10/1/2021	5/1/2022
31	30-025-49429-0000	ANDERSON FED COM 508H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	48,070	88,864	356,167		9/1/2021	4/21/2022	5/2/2022
32	30-025-48995-0000	ANDERSON FED COM 551H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	131,480	143,933	178,824		4/1/2021	2/1/2022	5/1/2022
33	30-025-48996-0000	ANDERSON FED COM 552H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	153,157	169,324	272,026		4/1/2021	11/29/2021	5/1/2022
34	30-025-48997-0000	ANDERSON FED COM 553H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	50,656	57,225	238,244		4/1/2021	10/14/2021	5/1/2022
35	30-025-48998-0000	ANDERSON FED COM 554H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	120,424	139,906	156,647		4/1/2021	9/21/2021	5/24/2022
36	30-025-48999-0000	ANDERSON FED COM 555H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	60,870	67,762	333,850		4/1/2021	9/8/2021	5/31/2022
37	30-025-49000-0000	ANDERSON FED COM 556H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	126,207	199,737	158,378		4/1/2021	10/14/2021	5/15/2022
38	30-025-48007-0000	ANDERSON FED COM 558H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	218,379	321,333	364,511		11/1/2020	12/6/2020	4/1/2021
39	30-025-49001-0000	ANDERSON FED COM 601H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	61,925	110,345	492,999		4/1/2021	1/5/2022	5/1/2022
40	30-025-49002-0000	ANDERSON FED COM 602H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	61,279	113,160	376,506		4/1/2021	8/17/2021	5/24/2022
41	30-025-49003-0000	ANDERSON FED COM 603H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	47,124	62,816	229,968		4/1/2021	11/8/2021	5/1/2022
42	30-025-48077-0000	ANDERSON FED COM 604H	ADVANCE ENERGY PRTR	OIL	RED TANK	BONE SPRING	131,834	279,708	1,041,641		11/1/2020	12/3/2020	4/1/2021
43	30-015-42551-0000	APACHE 24 23 FED CO 012H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	573,761	1,353,673	964,320		7/1/2014	3/11/2015	6/26/2015
44	30-015-42552-0000	APACHE 24 23 FEDERA 13H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	229,194	548,067	687,470		7/1/2014	2/5/2015	7/7/2015
45	30-015-41116-0000	APACHE 25 FEDERAL 017H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	489,763	1,416,545	428,122		2/1/2013	4/14/2013	7/1/2013
46	30-015-41395-0000	APACHE 25 FEDERAL 018H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	472,285	828,008	431,441		5/1/2013	9/3/2013	1/3/2014
47	30-015-40828-0000	APACHE 25 FEDERAL 19H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	428,238	743,621	563,763		10/1/2012	10/26/2013	2/20/2014
48	30-015-43027-0000	ARK `36` STATE 002H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	301,219	831,745	675,251		4/1/2015	8/15/2015	5/10/2017
49	30-015-42082-0000	ARK 36 STATE 1H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	496,590	1,167,843	710,317		2/1/2014	6/20/2014	11/21/2014
50	30-015-46618-0000	ARKENSTONE 31 FEDER 003H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	175,448	422,025			1/1/2020	1/21/2022	4/12/2022
51	30-015-46619-0000	ARKENSTONE 31 FEDER 004H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	149,669	331,447			1/1/2020	1/23/2022	4/12/2022
52	30-015-46320-0000	ARKENSTONE 31 FEDER 006H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	360,153	898,814	688,251		9/1/2019	12/30/2020	4/21/2021
53	30-015-46322-0000	ARKENSTONE 31 FEDER 009H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	188,656	435,577			9/1/2019	1/16/2022	4/12/2022
54	30-025-44736-0000	AVION FEDERAL COM 301H	COG OPERATING LLC	OIL	DIAMONDTAIL	BONE SPRING	374,715	2,886,502	332,592		4/1/2018	9/10/2018	12/1/2018
55	30-025-46351-0000	AZTEC 14 23 3BS FED 003H	CHISHOLM ENERGY OPER	OIL	UNNAMED	BONE SPRING	377,505	631,259	1,048,065		8/1/2019	10/25/2019	1/1/2020
56	30-025-48473-0000	AZTEC 14-23 2BS FED 006H	EARTHSTONE OPER LLC	OIL	HAT MESA	BONE SPRING	209,695	264,508	280,784		11/1/2020	9/2/2021	7/1/2022
57	30-025-46350-0000	AZTEC 14-23 3BS FED 002H	CHISHOLM ENERGY OPER	OIL	UNNAMED	BONE SPRING	357,585	693,161	1,217,495		8/1/2019	9/20/2019	1/1/2020
58	30-025-48321-0000	BEDLINGTON FEDERAL 501H	COG OPERATING LLC	OIL	TRISTE DRAW	BONE SPRING	129,825	205,547			12/1/2020	5/13/2022	9/1/2022
59	30-025-48322-0000	BEDLINGTON FEDERAL 502H	COG OPERATING LLC	OIL	TRISTE DRAW	BONE SPRING	152,137	253,945			12/1/2020	5/27/2022	9/1/2022
60	30-025-48334-0000	BEDLINGTON FEDERAL 503H	COG OPERATING LLC	OIL	TRISTE DRAW	BONE SPRING	187,944	300,293			12/1/2020	12/28/2020	9/1/2022
61	30-015-46705-0000	BELLOQ 11 2 FED STA 514H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	511,802	1,455,300	577,223		1/1/2020	3/7/2020	8/25/2020
62	30-015-46759-0000	BELLOQ 11 2 FED STA 613H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	324,986	713,030	1,364,691		2/1/2020	3/9/2020	9/5/2020
63	30-015-45275-0000	BELLOQ 11 FEDERAL 222H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	145,111	270,517	196,312		9/1/2018	1/17/2019	8/13/2019
64	30-015-45276-0000	BELLOQ 11-2 FED STA 223H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	354,326	699,292	844,397		9/1/2018	3/12/2019	8/7/2019
65	30-015-45277-0000	BELLOQ 11-2 FED STA 231H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	388,165	718,558	620,636		9/1/2018	1/15/2019	8/12/2019
66	30-015-45278-0000	BELLOQ 11-2 FED STA 234H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	447,979	829,404	800,409		9/1/2018	3/11/2019	8/8/2019
67	30-015-46762-0000	BELLOQ 11-2 FED STA 812H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	46,077	207,688	158,957		2/1/2020	6/1/2022	11/1/2022
68	30-015-42897-0000	BELLOQ 2 STATE 006H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	79,494	166,892	278,939		1/1/2015	4/21/2015	9/22/2015
69	30-015-42896-0000	BELLOQ 2 STATE 5H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	311,924	727,359	582,432		1/1/2015	2/14/2015	10/17/2015
70	30-025-47064-0000	BIG BUCKS FED COM 501H	MATADOR PROD CO	OIL	UNNAMED	BONE SPRING	68,912	179,027	247,251		3/1/2020	3/22/2021	2/1/2022
71	30-025-47435-0000	BIG BUCKS FED COM 502H	MATADOR PROD CO	OIL	UNNAMED	BONE SPRING	84,621	176,426	202,584		7/1/2020	4/19/2021	2/1/2022
72	30-025-43196-0000	BIG CAT 16-9 STATE 001H	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL STHWT	BONE SPRING	571,774	1,553,891	725,769		4/1/2016	4/26/2019	10/14/2019
73	30-025-45726-0000	BIG CAT 16-9 STATE 213H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	469,709	1,323,593	882,106		1/1/2019	5/3/2019	10/12/2019
74	30-025-45727-0000	BIG CAT 16-9 STATE 215H	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL STHWT	BONE SPRING	379,438	912,829	746,295		1/1/2019	5/10/2019	12/4/2019
75	30-025-45201-0000	BIG CAT 16-9 STATE 217H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	304,996	749,888	632,830		9/1/2018	9/28/2018	3/27/2019
76	30-015-42008-0000	BIG EDDY UNIT DI9 034H	BOPCO LP	OIL	UNNAMED	BONE SPRING	211,613	333,562	422,864		1/1/2014	7/18/2014	10/24/2014
77	30-015-42007-0100	BIG EDDY UNIT DI9 35H	BOPCO LP	OIL	UNNAMED	BONE SPRING	204,506	331,254	446,424		1/1/2014	4/17/2014	7/30/2014
78	30-025-46548-0000	BIG MOOSE FED COM 604H	ASCENT ENERGY LLC	OIL	SALT LAKE	BONE SPRING	354,378	656,716	1,163,704		11/1/2019	12/28/2019	10/29/2020
79	30-025-46498-0000	BIG MOOSE FEDERAL C 505H	ASCENT ENERGY LLC	OIL	UNNAMED	BONE SPRING	222,141	337,778	680,748		11/1/2019	12/31/2019	9/2/2020
80	30-025-46547-0000	BIG MOOSE FEDERAL C 506H	ASCENT ENERGY LLC	OIL	SALT LAKE	BONE SPRING	205,481	343,756	560,951		11/1/2019	12/26/2019	9/3/2020
81	30-025-47066-0000	BIG STAG FED COM 504H	MATADOR PROD CO	OIL	UNNAMED	BONE SPRING	98,364	182,248	214,961		3/1/2020	2/13/2022	3/1/2022
82	30-025-46979-0000	BIG STAG FEDERAL CO 552H	MATADOR PROD CO	OIL	UNNAMED	BONE SPRING	143,978	211,960	319,450		3/1/2020	7/29/2021	2/1/2022
83	30-025-46978-0000	BIG STAGG FEDERAL C 503H	MATADOR PROD CO	OIL	UNNAMED	BONE SPRING	85,804	157,425	231,758		3/1/2020	6/7/2021	3/1/2022
84	30-025-41806-0000	BILBREY `33` FEDERA 003H	DEVON ENERGY PRODUCT	OIL	BILBREY BASIN	BONE SPRING	371,821	805,380	1,110,953		4/1/2014	7/26/2014	11/28/2014
85	30-025-41807-0000	BILBREY `33` FEDERA 004H	DEVON ENERGY PRODUCT	OIL	BILBREY BASIN	BONE SPRING	409,585	879,838	1,370,173		4/1/2014	6/23/2014	10/14/2014
86	30-025-43872-0000	BILBREY 34-27 B2MD 001H	MEWBOURNE OIL CO	OIL	SALT LAKE	BONE SPRING	530,178	1,071,963	1,317,867		6/1/2017	8/8/2017	11/28/2017
87	30-025-43276-0000	BILBREY 34-27 B2NC 001H	MEWBOURNE OIL CO	OIL	BILBREY BASIN	BONE SPRING	527,012	726,098	1,502,732		5/1/2016	9/9/2016	3/23/2017
88	30-025-45009-0000	BILBREY 34-27 B2OB 002H	MEWBOURNE OIL CO	OIL	BILBREY BASIN	BONE SPRING	446,528	634,851	1,253,351		7/1/2018	8/13/2018	12/19/2018
89	30-025-43918-0000	BILBREY 34-27 B2PA 001H	MEWBOURNE OIL CO	OIL	BILBREY BASIN	BONE SPRING	381,552	539,803	1,709,580		7/1/2017	11/4/2020	5/4/2021
90	30-025-40987-0100	BILBREY BASIN 5 STA 1H	DEVON ENERGY PRODUCT	OIL	BILBREY BASIN	BONE SPRING	171,751	378,650	399,647		2/1/2013	7/14/2013	9/28/2013
91	30-015-47103-0000	BORA BORA 13 24 FED 213H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	209,892	347,295	400,232		5/1/2020	11/28/2020	6/2/2021
92	30-015-47101-0000	BORA BORA 13-24 FED 212H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	202,925	355,134	359,837		5/1/2020	11/29/2020	6/2/2021
93	30-015-46387-0000	BORA BORA 13-24 FED 214H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	323,024	591,874	984,956		10/1/2019	1/31/2020	9/27/2020
94	30-015-46117-0000	BORA BORA 13-24 FED 215H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	355,909	766,477	925,628		6/1/2019	2/3/2020	9/26/2020
95	30-015-46118-0000	BORA BORA 13-24 FED 216H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	278,134	647,830	831,177		6/1/2019	2/2/2020	9/26/2020
96	30-025-45068-0000	BOUNDARY RAIDER 5 F 231H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	283,488	627,351	352,479		7/1/2018	10/13/2018	12/28/2018
97	30-025-44146-0000	BOUNDARY RAIDER 6 7 212H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	663,708	1,809,982	594,818		10/1/2017	12/8/2017	3/10/2018
98	30-025-41884-0000	BOUNDARY RAIDER 6 F 002H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	524,581	1,523,933	344,070		5/1/2014	8/24/2014	12/7/2014
99	30-025-44145-0000	BOUNDARY RAIDER 6-7 211H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	653,699	1,201,249	662,795		10/1/2017	11/27/2017	4/24/2018
100	30-025-44147-0000	BOUNDARY RAIDER 6-7 213H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	813,426	2,406,747	652,958		10/1/2017	11/11/2017	4/6/2018
101	30-025-47572-0000	BOUNDARY RAIDER 6-7 301H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	176,283	283,805	186,763		8/1/2020	4/11/2022	6/1/2022
102	30-025-47569-0000	BOUNDARY RAIDER 6-7 611H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	155,927	410,254	814,521		8/1/2020	12/12/2020	7/11/2021
103	30-025-44292-0000	BOUNDARY RAIDER 7 F 214H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	313,430	577,202	349,571		11/1/2017	1/5/2018	2/27/2018
104	30-015-43670-0000	BULTACO STATE 003H	COG OPERATING LLC	OIL	LIVINGSTON RIDGE	BONE SPRING	275,955	896,411	496,863		3/1/2016	10/12/2016	6/13/2017
105	30-015-41038-0000	BULTACO STATE 1H	COG OPERATING LLC	OIL	LIVINGSTON RIDGE	BONE SPRING	293,210	658,388	302,873		2/1/2013	8/23/2014	11/14/2014
106	30-015-41298-0000	BULTACO STATE 2H	COG OPERATING LLC	OIL	LIVINGSTON RIDGE	BONE SPRING	428,662	890,705	335,899		4/1/2013	10/17/2013	12/24/2013
107	30-015-45523-0001	CAL MON 35 FEDERAL 174H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	1,753	26,916			5/1/2022	5/31/2022	9/1/2022
108	30-015-43140-0200	CAL-MON `35` FEDERA 041H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	382,399	1,001,050	433,989		3/1/2017	8/3/2017	11/7/2017
109	30-015-45524-0000	CAL-MON `35` FEDERA 175H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	189,835	602,955	271,419		11/1/2018	12/27/2018	3/27/2019

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
110	30-015-44771-0000	CAL-MON MDP1 `35` F 001H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	245,775	981,713	547,590		2/1/2018	3/28/2018	6/15/2018
111	30-015-44772-0000	CAL-MON MDP1 `35` F 002H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	256,056	1,242,094	507,091		2/1/2018	3/29/2018	6/17/2018
112	30-015-44773-0000	CAL-MON MDP1 `35` F 003H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	345,330	1,210,091	519,122		2/1/2018	3/8/2018	6/12/2018
113	30-015-44774-0000	CAL-MON MDP1 `35` F 004H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	333,677	712,668	485,257		2/1/2018	3/9/2018	6/12/2018
114	30-015-44775-0000	CAL-MON MDP1 `35` F 005H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	402,734	974,249	515,699		2/1/2018	3/11/2018	5/31/2018
115	30-015-44776-0000	CAL-MON MDP1 `35` F 006H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	320,760	690,015	583,801		2/1/2018	3/13/2018	5/18/2018
116	30-025-45087-0000	CAPER 20-29 B2CN FE 001H	MEWBOURNE OIL CO	OIL	BILBREY BASIN	BONE SPRING	500,573	641,334	766,845		8/1/2018	10/15/2018	2/7/2019
117	30-025-45156-0000	CAPER 20-29 B3CN FE 002H	MEWBOURNE OIL CO	OIL	BILBREY BASIN	BONE SPRING	462,946	794,644	1,436,305		8/1/2018	9/28/2018	2/14/2019
118	30-025-47306-0000	CATTY SHACK 6-7 FED 210H	DEVON ENERGY PRODUCT	OIL	MESA VERDE	BONE SPRING	454,840	827,659	984,907		6/1/2020	8/24/2020	1/31/2021
119	30-025-47307-0000	CATTY SHACK 6-7 FED 211H	DEVON ENERGY PRODUCT	OIL	MESA VERDE	BONE SPRING	596,481	1,340,209	833,962		6/1/2020	8/21/2020	1/19/2021
120	30-025-47308-0000	CATTY SHACK 6-7 FED 212H	DEVON ENERGY PRODUCT	OIL	MESA VERDE	BONE SPRING	432,166	919,489	1,113,761		6/1/2020	7/23/2020	1/25/2021
121	30-025-44692-0000	CHEDDAR 3BS FEDERAL 001H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	543,187	1,071,691	2,379,300		4/1/2018	5/19/2018	8/5/2018
122	30-025-46298-0100	CHEDDAR FED COM 401H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	236,508	398,492	427,999		8/1/2019	7/17/2022	9/1/2022
123	30-025-44861-0000	CHEDDAR FED COM 501H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	86,661	106,147	288,510		4/1/2018	4/21/2022	9/1/2022
124	30-025-46297-0000	CHEDDAR FED COM 651H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	59,240	111,306	342,956		8/1/2019	5/7/2022	9/1/2022
125	30-025-49737-0000	CHEDDAR FEDERAL COM 502H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	92,176	110,801	281,953		8/1/2021	4/23/2022	9/1/2022
126	30-025-42183-0000	COLIBRI 10 AV FEDER 024H	MARATHON OIL PERMIAN	OIL	DIAMONDTAIL	BONE SPRING	226,239	1,249,186	97,800		10/1/2014	10/3/2018	1/1/2019
127	30-025-42181-0000	COLIBRI 10 FB FEDER 020H	MARATHON OIL PERMIAN	OIL	DIAMONDTAIL	BONE SPRING	248,515	1,093,165	166,499		10/1/2014	9/26/2018	1/4/2019
128	30-025-43736-0000	CORIANDER AOC 1-12 001H	CIMAREX ENERGY CO	OIL	DIAMONDTAIL	BONE SPRING	400,422	2,422,693	515,397		4/1/2017	8/1/2017	1/21/2018
129	30-025-43737-0000	CORIANDER AOC 1-12 002H	CIMAREX ENERGY CO	OIL	DIAMONDTAIL	BONE SPRING	189,325	1,019,081	593,053		4/1/2017	8/26/2018	11/11/2018
130	30-025-43738-0000	CORIANDER AOC 1-12 003H	CIMAREX ENERGY CO	OIL	DIAMONDTAIL	BONE SPRING	248,060	3,920,207	330,183		4/1/2017	8/6/2018	11/16/2018
131	30-025-44548-0100	CORTELL NINA FED CO 121H	MATADOR PROD CO	OIL	BILBREY BASIN	BONE SPRING	173,793	605,145	280,298		10/1/2018	10/13/2018	12/22/2018
132	30-025-41520-0000	COX 35 FEDERAL 001H	ENERGEN RES CORP	OIL	TRISTE DRAW	BONE SPRING	169,575	439,680	170,233		11/1/2013	7/22/2014	9/27/2014
133	30-025-41521-0000	COX 35 FEDERAL 002H	ENERGEN RES CORP	OIL	TRISTE DRAW	BONE SPRING	233,715	350,030	290,576		11/1/2013	1/11/2014	3/2/2014
134	30-025-40559-0100	CUERVO FEDERAL 20H	CIMAREX ENERGY OF CO	OIL	DIAMONDTAIL	BONE SPRING	113,410	226,832	200,063		5/1/2012	9/1/2012	10/22/2012
135	30-025-41495-0000	CUERVO FEDERAL 21H	CIMAREX ENERGY OF CO	OIL	DIAMONDTAIL	BONE SPRING	194,040	870,583	372,573		11/1/2013	6/22/2014	10/16/2014
136	30-025-41921-0100	CUERVO FEDERAL 23H	CIMAREX ENERGY OF CO	OIL	DIAMONDTAIL	BONE SPRING	225,793	856,241	431,725		6/1/2014	8/29/2014	12/29/2014
137	30-025-42094-0000	CUERVO FEDERAL 26H	CIMAREX ENERGY OF CO	OIL	DIAMONDTAIL	BONE SPRING	250,255	1,055,011	550,258		9/1/2014	1/1/2015	3/21/2015
138	30-025-40780-0000	DIAMONDTAIL 23 FEDE 1H	CIMAREX ENERGY CO	GAS	UNNAMED	BONE SPRING	161,343	1,077,441	294,751		9/1/2012	12/12/2013	3/25/2014
139	30-025-40781-0000	DIAMONDTAIL 23 FEDE 2H	CIMAREX ENERGY CO	OIL	DIAMONDTAIL	BONE SPRING	106,239	1,232,862	155,277		9/1/2012	12/27/2013	10/31/2014
140	30-025-40770-0000	DIAMONDTAIL 23 FEDE 4H	CIMAREX ENERGY OF CO	OIL	DIAMONDTAIL	BONE SPRING	208,706	1,724,259	276,246		9/1/2012	8/13/2013	10/29/2013
141	30-025-40771-0000	DIAMONDTAIL 23 FEDE 5H	CIMAREX ENERGY CO	OIL	DIAMONDTAIL	BONE SPRING	165,791	1,951,390	247,317		9/1/2012	1/23/2014	2/23/2015
142	30-025-40772-0000	DIAMONDTAIL 23 FEDE 6H	CIMAREX ENERGY CO	OIL	DIAMONDTAIL	BONE SPRING	204,499	1,257,721	372,788		9/1/2012	9/5/2014	2/20/2015
143	30-025-40782-0000	DIAMONDTAIL 23 FEDE 7H	CIMAREX ENERGY CO	OIL	DIAMONDTAIL	BONE SPRING	215,219	2,340,118	270,814		9/1/2012	10/27/2014	2/23/2015
144	30-025-40783-0000	DIAMONDTAIL 23 FEDE 8	CIMAREX ENERGY CO	OIL	DIAMONDTAIL	BONE SPRING	223,130	1,175,816	326,560		9/1/2012	10/2/2014	2/18/2015
145	30-025-48952-0000	DR PI FED UNIT 17-1 035H	OXY U S A INC	OIL	BILBREY BASIN S	BONE SPRING	118,771	208,606	237,071		4/1/2021	1/18/2022	8/15/2022
146	30-025-48955-0000	DR PI FED UNIT 17-8 312H	OXY U S A INC	OIL	BILBREY BASIN S	BONE SPRING	177,185	355,847	466,224		4/1/2021	1/23/2022	8/16/2022
147	30-025-48168-0000	DR PI FED UNIT 18-7 313H	OXY U S A INC	OIL	BILBREY BASIN	BONE SPRING	137,306	324,437			11/1/2020	2/4/2022	9/12/2022
148	30-025-49152-0000	DR PI FEDERAL UNIT 311H	OXY U S A INC	OIL	BILBREY BASIN S	BONE SPRING	240,564	534,705	512,470		6/1/2021	1/27/2022	8/29/2022
149	30-025-48166-0000	DR PI FEDERAL UNIT 311H	OXY U S A INC	OIL	BILBREY BASIN	BONE SPRING	117,789	212,299	595,619		11/1/2020	2/8/2022	9/16/2022
150	30-025-48167-0000	DR PI FEDERAL UNIT 312H	OXY U S A INC	OIL	BILBREY BASIN	BONE SPRING	127,236	249,244			11/1/2020	1/31/2022	9/12/2022
151	30-025-42975-0000	EAST LIVINGSTON 31 007H	REGENERATION ENERGY	OIL	SAND DUNES	BONE SPRING	346,129	791,436	180,438		11/1/2015	1/5/2016	3/12/2016
152	30-015-40821-0100	FEDERAL 12 014H	OXY U S A INC	OIL	UNNAMED	BONE SPRING	136,373	198,548	337,549		10/1/2012	1/31/2013	5/9/2013
153	30-015-47630-0000	FIJI 17 5 FED COM 124H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	122,258	198,665	205,484		10/1/2020	4/15/2022	10/1/2022
154	30-015-48134-0000	FIJI 17-5 FED COM 125H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	122,870	202,329	184,581		3/1/2021	5/23/2022	10/1/2022
155	30-015-47631-0000	FIJI 17-5 FED COM 126H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	113,096	180,957	183,324		10/1/2020	4/12/2022	10/1/2022
156	30-015-47632-0000	FIJI 17-5 FED COM 233H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	359,063	521,031	618,856		10/1/2020	8/14/2021	1/1/2022
157	30-015-47633-0000	FIJI 17-5 FED COM 234H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	343,302	495,478	550,981		10/1/2020	8/14/2021	1/1/2022
158	30-025-45069-0000	FLUFFY CAT 16-21 ST 212H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	469,148	1,122,922	793,238		7/1/2018	5/18/2019	10/5/2019
159	30-025-45729-0000	FLUFFY CAT 16-21 ST 214H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	727,881	2,343,414	851,464		1/1/2019	4/14/2019	10/12/2019
160	30-025-45728-0000	FLUFFY CAT 16-21 ST 216H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	577,546	1,897,161	832,959		1/1/2019	6/1/2019	12/4/2019
161	30-025-44979-0000	FLUFFY CAT 16-21 ST 218H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	355,492	1,115,597	874,398		7/1/2018	8/29/2018	3/30/2019
162	30-015-44576-0000	FNR 17-20 B2IP FEDE 001H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	451,408	977,024	847,440		11/1/2017	12/16/2017	8/9/2018
163	30-015-44577-0000	FNR 17-20 B3IP FEDE 002H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	340,164	718,853	1,860,643		11/1/2017	12/15/2017	8/7/2018
164	30-015-49439-0000	FNR FED UNIT 011H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	30,100	54,865	257,056		4/1/2022	6/5/2022	11/1/2022
165	30-015-49477-0000	FNR FED UNIT 016H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	17,869	36,713	207,426		3/1/2022	4/27/2022	11/1/2022
166	30-015-49430-0000	FNR FED UNIT 017H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	57,308	89,069	138,343		3/1/2022	5/1/2022	11/1/2022
167	30-015-49438-0000	FNR FED UNIT 019H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	53,023	88,616	135,816		4/1/2022	5/7/2022	11/1/2022
168	30-015-43239-0000	FNR FEDERAL COM 17/ 1H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	492,289	941,174	877,355		7/1/2015	8/23/2015	10/26/2015
169	30-015-48224-0000	FNR FEDERAL UNIT 007H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	266,689	521,260	682,282		4/1/2021	6/20/2021	1/23/2022
170	30-015-48225-0000	FNR FEDERAL UNIT 008H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	310,358	592,264	708,038		4/1/2021	6/21/2021	1/1/2022
171	30-015-48226-0000	FNR FEDERAL UNIT 009H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	318,253	530,601	718,018		4/1/2021	6/22/2021	1/1/2022
172	30-015-48572-0000	FNR FEDERAL UNIT 010H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	318,118	481,129	722,762		6/1/2021	6/23/2021	1/1/2022
173	30-015-49238-0000	FNR FEDERAL UNIT 013H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	160,839	335,202	395,385		1/1/2022	2/10/2022	5/1/2022
174	30-015-49364-0000	FNR FEDERAL UNIT 014H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	197,058	327,529	383,092		3/1/2022	3/20/2022	5/1/2022
175	30-015-49236-0000	FNR FEDERAL UNIT 015H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	126,205	219,111	354,977		1/1/2022	2/9/2022	5/1/2022
176	30-015-40649-0000	FORTY NINER RIDGE 2 002H	CIMAREX ENERGY OF CO	OIL	FORTY NINER RIDGE	BONE SPRING	189,705	555,440	237,024		8/1/2012	2/23/2013	4/10/2013
177	30-015-40615-0100	FORTY NINER RIDGE 2 1H	CIMAREX ENERGY CO	OIL	FORTY NINER RIDGE	BONE SPRING	186,002	365,153	233,684		8/1/2012	9/22/2012	11/20/2012
178	30-015-41388-0000	FORTY NINER RIDGE 2 1H	CIMAREX ENERGY CO	OIL	FORTY NINER RIDGE	BONE SPRING	146,430	233,222	199,541		5/1/2013	6/1/2013	9/11/2013
179	30-015-38563-0000	FORTY NINER RIDGE U 014H	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	BONE SPRING	156,527	336,673	2,637,176		2/1/2011	7/12/2011	12/27/2011
180	30-015-42708-0000	FORTY NINER RIDGE U 103H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	354,798	502,327	979,306		9/1/2014	1/11/2015	7/7/2015
181	30-015-42707-0000	FORTY NINER RIDGE U 104H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	377,975	680,183	1,113,054		9/1/2014	11/16/2014	2/12/2015
182	30-015-44219-0000	FORTY NINER RIDGE U 105H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	393,417	858,609	1,233,464		3/1/2017	10/9/2017	3/24/2018
183	30-015-44204-0000	FORTY NINER RIDGE U 106H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	362,592	1,059,126	1,293,316		5/1/2017	10/8/2017	3/24/2018
184	30-015-44652-0000	FORTY NINER RIDGE U 107H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	163,397	300,268	405,124		1/1/2018	6/27/2021	2/4/2022
185	30-015-44653-0000	FORTY NINER RIDGE U 108H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	203,889	473,905	455,648		1/1/2018	6/27/2021	2/5/2022
186	30-015-47891-0000	FORTY NINER RIDGE U 117H	MEWBOURNE OIL CO	OIL	FORTY NINER RIDGE	BONE SPRING	171,559	180,582	341,457		12/1/2020	7/22/2021	1/12/2022
187	30-015-47905-0000	FORTY NINER RIDGE U 118H	MEWBOURNE OIL CO	GAS	FORTY NINER RIDGE	BONE SPRING	178,361	391,825	868,004		12/1/2020	7/21/2021	1/12/2022
188	30-015-38562-0000	FORTY NINER RIDGE U 13H	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	BONE SPRING	231,016	700,208	1,492,671		2/1/2011	6/10/2011	12/19/2011
189	30-025-45887-0000	FRIZZLE FRY 15 TB F 001H	MARATHON OIL PERMIAN	OIL	RED TANK	BONE SPRING	253,095	519,840	551,649		3/1/2019	8/15/2019	3/31/2020
190	30-015-47287-0000	GALAPAGOS 14-26 FED 211H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH EAST	BONE SPRING	574,613	886,049	926,722		7/1/2020	1/2/2021	6/9/2021
191	30-015-47295-0000	GALAPAGOS 14-26 FED 212H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH EAST	BONE SPRING	475,036	697,450	915,596		7/1/2020	1/1/2021	6/9/2021
192	30-015-47290-0000	GALAPAGOS 14-26 FED 213H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH EAST	BONE SPRING	598,550	995,649	1,009,813		7/1/2020	12/1/2020	6/10/2021
193	30-015-47289-0000	GALAPAGOS 14-26 FED 214H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH EAST	BONE SPRING	453,093	752,270	905,828		7/1/2020	12/2/2020	6/10/2021
194	30-015-47291-0000	GALAPAGOS 14-26 FED 215H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH EAST	BONE SPRING	491,268	799,628	998,909		7/1/2020	11/24/2020	6/11/2021
195	30-015-47288-0000	GALAPAGOS 14-26 FED 216H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH EAST	BONE SPRING	448,843	752,925	925,687		7/1/2020	11/25/2020	6/11/2021
196	30-025-48617-0100	GOUDA FEDERAL COM 605H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	322,692	724,253	1,071,874		5/1/2021	5/28/2021	7/1/2021
197	30-025-45704-0000	GRUMPY CAT 15 FED 213H	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL	BONE SPRING	411,029	787,486	575,834		1/1/2019	6/26/2019	11/2/2019
198	30-025-45732-0000	GRUMPY CAT 15 FEDER 214H	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL	BONE SPRING	347,517	722,811	479,049		1/1/2019	7/13/2019	11/2/2019
199	30-025-45730-0000	GRUMPY CAT 15-22 FE 211H	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL	BONE SPRING	370,273	651,402	1,145,836		1/1/2019	4/15/2019	10/29/2019
200	30-025-45731-0000	GRUMPY CAT 15-22 FE 212H	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL	BONE SPRING	444,950	805,482	1,042,645		1/1/2019	5/19/2019	11/5/2019
201	30-025-40365-0000	HAT MESA `10` FEDER 2H	CIMAREX ENERGY OF CO	OIL	UNNAMED	BONE SPRING	82,644	122,059	173,862		12/1/2011	1/8/2012	4/22/2012
202	30-015-39473-0100	ICE DANCER 30 FEDER 002H	COG OPERATING LLC	OIL	FRTY NINR RDGE W	BONE SPRING	212,699	491,959	1,330,173		9/1/2011	9/15/2015	2/27/2016
203	30-015-45242-0000	IRIDIUM MDP1 `28-21 001H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	573,366	1,034,723	566,059		8/1/2018	11/27/2018	4/23/2019
204	30-015-45243-0000	IRIDIUM MDP1 `28-21 002H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	419,869	925,277	786,273		8/1/2018	11/28/2018	4/23/2019
205	30-015-45244-0000	IRIDIUM MDP1 `28-21 003H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	514,568	1,147,545	888,475		8/1/2018	11/24/2018	4/30/2019
206	30-015-45245-0000	IRIDIUM MDP1 `28-21 004H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	650,326	1,151,400	556,737		8/1/2018	11/26/2018	5/2/2019
207	30-015-45246-0000	IRIDIUM MDP1 `28-21 005H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	694,974	1,094,955	911,385		8/1/2018	11/2/2018	5/20/2019
208	30-015-45247-0000	IRIDIUM MDP1 `28-21 006H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	1,193,673	1,724,345	1,325,143		8/1/2018	11/2/2018	5/20/2019
209	30-015-45073-0100	IRIDIUM MDP1 `28-21 011H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	370,593	733,191	594,375		6/1/2018	9/20/2018	12/20/2018
210	30-015-45074-0000	IRIDIUM MDP1 `28-21 021H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	360,580	3,836,970	358,438		6/1/2018	7/22/2018	12/26/2018
211	30-015-45075-0000	IRIDIUM MDP1 `28-21 041H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	424,392	1,281,244	1,191,770		6/1/2018	7/23/2018	12/18/2018

Russell K. Hall and Associates, Inc.
Reservoir Evaluation Engineers
3/15/2023

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
212	30-025-42222-0000	JAMES 19 FEDERAL 031H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	172,423	1,193,289	216,098		10/1/2014	1/16/2018	1/29/2019
213	30-025-45020-0000	JAMES 19 FEDERAL 034H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	176,880	1,774,378	150,536		7/1/2018	10/30/2018	1/29/2019
214	30-025-45602-0000	JAMES 20 FEDERAL 037H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	370,844	535,174	1,057,137		1/1/2019	11/7/2019	2/4/2020
215	30-025-42091-0000	JAMES 29 FEDERAL 039H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	210,933	1,693,740	187,909		9/1/2014	12/17/2014	3/4/2015
216	30-025-41831-0000	JAMES 29 FEDERAL 35H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	193,336	2,086,763	231,749		5/1/2014	12/7/2014	3/12/2015
217	30-025-41832-0000	JAMES 29 FEDERAL 36H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	191,825	2,483,966	214,188		5/1/2014	11/10/2014	4/8/2015
218	30-025-41852-0100	JAMES 29 FEDERAL 38H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	134,598	1,963,937	124,872		5/1/2014	10/20/2014	3/18/2015
219	30-025-41251-0100	JAMES FEDERAL 20H	CIMAREX ENERGY OF CO	OIL	SAND DUNES SOUTH	BONE SPRING	253,576	2,384,887	293,177		6/1/2013	9/30/2013	12/5/2013
220	30-025-41362-0000	JAMES FEDERAL 21H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	195,819	2,724,346	183,390		7/1/2013	11/14/2014	3/18/2015
221	30-025-41363-0000	JAMES FEDERAL 22H	CIMAREX ENERGY CO	OIL	SAND DUNES SOUTH	BONE SPRING	224,780	2,355,149	187,565		7/1/2013	8/29/2014	3/20/2015
222	30-015-22162-0100	JAMES RANCH UNIT 12H	BOPCO LP	SUSOIL	UNNAMED	BONE SPRING	171,199	372,096	375,763		3/1/2010	7/19/2011	11/2/2011
223	30-015-41424-0000	JAMES RANCH UNIT 144H	BOPCO LP	OIL	LOS MEDANOS	BONE SPRING	162,492	460,647	573,192		5/1/2013	7/29/2013	10/29/2013
224	30-015-41412-0000	JAMES RANCH UNIT 148H	BOPCO LP	OIL	LOS MEDANOS	BONE SPRING	276,662	913,075	429,261		5/1/2013	6/20/2013	9/5/2013
225	30-015-42145-0000	JAMES RANCH UNIT 190H	BOPCO LP	OIL	LOS MEDANOS	BONE SPRING	411,489	1,380,832	332,541		2/1/2014	3/22/2014	7/8/2014
226	30-015-42324-0000	JAMES RANCH UNIT 195H	BOPCO LP	OIL	LOS MEDANOS	BONE SPRING	330,111	1,191,179	212,798		4/1/2014	5/3/2014	7/24/2014
227	30-015-39254-0000	JAMES RANCH UNIT D1 126H	BOPCO LP	SUSOIL	UNNAMED	BONE SPRING	268,776	751,315	342,364		7/1/2011	7/23/2013	11/18/2013
228	30-015-43231-0000	JAMES RANCH UNIT DI 127H	BOPCO LP	OIL	UNNAMED	BONE SPRING	347,414	1,286,583	797,982		7/1/2015	11/15/2017	4/13/2018
229	30-015-42607-0100	JAMES RANCH UNIT DI 157H	BOPCO LP	OIL	UNNAMED	BONE SPRING	673,033	1,907,571	1,165,225		8/1/2014	8/11/2017	3/1/2019
230	30-015-43607-0000	JAMES RANCH UNIT DI 161H	BOPCO LP	OIL	UNNAMED	BONE SPRING	584,232	1,929,946	1,213,653		1/1/2016	9/6/2017	4/13/2018
231	30-015-42615-0100	JAMES RANCH UNIT DI 162H	BOPCO LP	OIL	UNNAMED	BONE SPRING	339,294	1,242,984	639,277		8/1/2014	11/10/2014	11/16/2016
232	30-015-41694-0000	JAMES RANCH UNIT DI 163H	BOPCO LP	OIL	UNNAMED	BONE SPRING	217,791	720,057	495,316		9/1/2013	10/5/2013	2/9/2014
233	30-015-42628-0000	JAMES RANCH UNIT DI 169H	BOPCO LP	OIL	QUAHADA RIDGE SE	BONE SPRING	305,872	1,377,965	832,111		8/1/2014	10/15/2017	4/13/2018
234	30-015-43259-0000	JAMES RANCH UNIT DI 191H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	733,639	2,110,466	1,619,456		7/1/2015	6/22/2018	4/17/2019
235	30-015-43370-0000	JAMES RANCH UNIT DI 192H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	1,016,308	2,228,241	2,392,371		9/1/2015	8/29/2018	3/29/2019
236	30-015-43368-0000	JAMES RANCH UNIT DI 193H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	1,005,052	2,323,176	2,016,980		9/1/2015	5/1/2018	3/19/2019
237	30-015-44678-0000	JAMES RANCH UNIT DI 194Y	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	1,253,767	2,965,077	2,235,937		2/1/2018	2/17/2018	3/29/2019
238	30-015-43237-0000	JAMES RANCH UNIT DI 203H	XTO PERMIAN OPER LLC	OIL	LIVINGSTON RIDGE	BONE SPRING	647,475	1,782,734	1,760,840		7/1/2015	10/25/2018	6/12/2019
239	30-015-43240-0000	JAMES RANCH UNIT DI 204H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	744,594	2,055,837	1,901,130		7/1/2015	12/15/2018	6/11/2019
240	30-015-43236-0000	JAMES RANCH UNIT DI 206H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	700,823	1,778,053	1,935,109		7/1/2015	1/23/2019	6/13/2019
241	30-015-45398-0000	JAMES RANCH UNIT DI 210H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	433,592	1,586,671	1,012,012		9/1/2018	4/24/2019	6/21/2020
242	30-015-45399-0000	JAMES RANCH UNIT DI 211H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	399,583	1,559,671	964,679		9/1/2018	6/14/2019	6/23/2020
243	30-015-45396-0000	JAMES RANCH UNIT DI 212H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	396,424	1,123,652	707,985		9/1/2018	7/28/2019	6/30/2020
244	30-015-45397-0000	JAMES RANCH UNIT DI 213H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	379,865	1,402,724	941,602		9/1/2018	3/18/2019	6/20/2020
245	30-015-46283-0000	JAMES RANCH UNIT DI 515H	XTO ENERGY INC	OIL	UNNAMED	BONE SPRING	202,190	862,358	1,258,152		9/1/2019	12/5/2019	11/10/2020
246	30-015-45351-0000	JAMES RANCH UNIT DI 700H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	93,948	633,336	528,958		10/1/2018	12/1/2020	5/1/2022
247	30-015-45462-0000	JAMES RANCH UNIT DI 701H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	122,096	215,777	471,271		11/1/2018	12/7/2020	5/1/2022
248	30-015-48534-0000	JAMES RANCH UNIT DI 701H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	142,306	239,366	428,056		5/1/2021	7/6/2021	7/1/2022
249	30-015-46378-0100	JAMES RANCH UNIT DI 702H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	233,116	853,692	869,717		10/1/2019	6/10/2020	12/22/2020
250	30-015-45461-0000	JAMES RANCH UNIT DI 702H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	129,933	245,293	370,835		11/1/2018	12/5/2020	5/1/2022
251	30-015-48533-0000	JAMES RANCH UNIT DI 702H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	131,520	228,701	400,569		5/1/2021	7/10/2021	7/1/2022
252	30-015-48532-0000	JAMES RANCH UNIT DI 703H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	140,690	235,712	393,182		5/1/2021	7/11/2021	7/1/2022
253	30-015-48531-0000	JAMES RANCH UNIT DI 704H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	91,698	171,723	312,370		5/1/2021	7/18/2021	7/1/2022
254	30-015-45402-0000	JAMES RANCH UNIT DI 705H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	125,130	199,477	423,321		9/1/2018	11/19/2021	7/1/2022
255	30-015-45400-0000	JAMES RANCH UNIT DI 706H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	134,653	223,196	431,223		9/1/2018	11/18/2021	7/1/2022
256	30-015-45401-0000	JAMES RANCH UNIT DI 707H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	118,231	183,580	415,194		9/1/2018	11/2/2021	7/1/2022
257	30-015-45326-0000	JAMES RANCH UNIT DI 708H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	147,333	233,843	417,935		9/1/2018	12/1/2021	7/1/2022
258	30-015-47076-0000	JAMES RANCH UNIT DI 805H	XTO PERMIAN OPER LLC	OIL	SWD	BONE SPRING	428,260	1,084,774	865,116		8/1/2018	7/12/2020	3/11/2021
259	30-015-49037-0000	JAMES RANCH UNIT DI 822H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	83,808	112,916	202,285		7/1/2021	2/1/2022	11/1/2022
260	30-015-49036-0000	JAMES RANCH UNIT DI 823H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	105,929	179,702	378,751		7/1/2021	11/27/2021	10/1/2022
261	30-015-46908-0000	JAMES RANCH UNIT DI 900H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	431,720	1,372,578	650,682		3/1/2020	5/9/2020	5/22/2021
262	30-015-45465-0000	JAMES RANCH UNIT DI 901H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	BONE SPRING	310,203	747,803	780,852		10/1/2018	9/21/2019	6/1/2021
263	30-015-49035-0000	JAMES RANCH UNIT DI 922H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	83,238	157,836	310,315		9/1/2021	3/16/2022	10/1/2022
264	30-015-46284-0000	JRU DI 11 WHITLASH 715H	XTO PERMIAN OPER LLC	OIL	INGLE WELLS	BONE SPRING	345,273	773,171	784,964		9/1/2019	10/3/2019	11/1/2020
265	30-015-47508-0000	KO LANTA 9-4 FED CO 231H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	278,669	404,793	504,247		9/1/2020	8/29/2021	1/1/2022
266	30-015-47362-0000	KO LANTA 9-4 FED CO 232H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	330,039	540,017	534,984		8/1/2020	8/30/2021	1/1/2022
267	30-015-47363-0000	KO LANTA 9-4 FED CO 233H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	339,328	587,667	493,323		8/1/2020	7/23/2021	1/1/2022
268	30-015-47402-0000	KO LANTA 9-4 FED CO 234H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	263,294	488,502	483,688		8/1/2020	7/23/2021	1/1/2022
269	30-015-44864-0000	KO LANTA 9-4 FED CO 518H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	247,382	5,339,814	198,171		3/1/2018	5/7/2018	10/19/2018
270	30-015-44865-0100	KO LANTA 9-4 FED CO 528H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	221,336	4,353,989	251,832		3/1/2018	6/16/2018	10/3/2018
271	30-025-45286-0000	LIVINGSTON E 31 FED 008H	REGENERATION ENERGY	OIL	SAND DUNES	BONE SPRING	269,544	309,830	237,285		9/1/2018	1/19/2019	3/8/2019
272	30-025-41926-0000	LIVINGSTON EAST 31 006H	REGENERATION ENERGY	OIL	SAND DUNES	BONE SPRING	340,111	702,086	259,188		6/1/2014	11/29/2014	1/11/2015
273	30-015-40371-0000	LOS MEDANOS 36 23 3 1H	CHESAPEAKE OPERG INC	OIL	UNNAMED	BONE SPRING	81,610	445,078	528,599		6/1/2012	10/24/2012	2/5/2013
274	30-015-46333-0000	LOS MEDANOS 36 23 3 707H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	225,416	427,079	423,399		10/1/2019	11/21/2019	7/18/2020
275	30-015-45311-0000	LOS MEDANOS 36-23-3 401H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	145,895	1,700,738	169,543		10/1/2018	3/18/2019	7/10/2019
276	30-015-45312-0000	LOS MEDANOS 36-23-3 701H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	260,903	611,484	501,281		10/1/2018	2/14/2019	7/18/2019
277	30-015-45313-0000	LOS MEDANOS 36-23-3 702H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	187,866	530,910	481,350		10/1/2018	1/19/2019	7/2/2019
278	30-015-45314-0000	LOS MEDANOS 36-23-3 703H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	259,561	729,655	577,175		10/1/2018	2/14/2019	7/2/2019
279	30-015-46334-0100	LOS MEDANOS 36-23-3 708H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	249,594	448,767	478,437		10/1/2019	1/8/2020	7/19/2020
280	30-015-45315-0000	LOS MEDANOS 36-23-3 801H	XTO PERMIAN OPER LLC	OIL	UNNAMED	BONE SPRING	175,463	511,107	234,338		10/1/2018	1/19/2019	7/11/2019
281	30-025-46474-0000	LOST TANK `30-19` F 001H	OXY U S A INC	OIL	BILBREY BASIN S	BONE SPRING	616,114	1,695,269	861,077		10/1/2019	11/23/2019	1/31/2020
282	30-025-47689-0000	MAGIC CAT 30 FED CO 211H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	157,892	273,486	464,076		7/1/2020	5/20/2021	9/1/2021
283	30-025-47687-0000	MAGIC CAT 30 FEDERA 212H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	70,434	228,181	459,190		7/1/2020	5/19/2021	9/1/2021
284	30-015-45384-0000	MALDIVES 15-27 FED 232H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH	BONE SPRING	892,330	1,776,134	986,814		10/1/2018	10/7/2019	3/7/2020
285	30-015-47061-0000	MALDIVES 15-27 FED 234H	DEVON ENERGY OPER	OIL	JAMES RANCH	BONE SPRING	878,830	2,115,677	780,984		4/1/2020	6/3/2020	12/7/2020
286	30-015-47084-0000	MALDIVES 15-27 FED 235H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH	BONE SPRING	649,391	1,409,413	1,003,424		4/1/2020	7/17/2020	12/7/2020
287	30-015-47062-0000	MALDIVES 15-27 FED 236H	DEVON ENERGY OPER	OIL	JAMES RANCH	BONE SPRING	716,037	1,776,110	957,023		4/1/2020	7/18/2020	12/7/2020
288	30-015-45385-0000	MALDIVES 15-27 FEDE 231H	DEVON ENERGY PRODUCT	OIL	JAMES RANCH	BONE SPRING	1,044,713	2,318,517	729,498		10/1/2018	10/5/2019	3/7/2020
289	30-025-32751-0100	MESA VERDE 6 FEDERA 10H	DEVON ENERGY PRODUCT	OIL	MESA VERDE	BONE SPRING	58,216	630,446	109,968		7/1/2010	7/16/2010	11/27/2010
290	30-025-44857-0000	MINIS 1 FED COM 2BS 011H	CHISHOLM ENERGY OPER	OIL	HAT MESA	BONE SPRING	197,406	220,319	429,249		5/1/2018	10/26/2018	1/8/2019
291	30-025-44849-0000	MINIS 1 FED HKY COM 008H	EARTHSTONE OPER LLC	OIL	UNNAMED	BONE SPRING	82,515	111,539	84,813		5/1/2018	1/24/2022	7/1/2022
292	30-025-44850-0000	MINIS 1 FED HKY COM 009H	EARTHSTONE OPER LLC	OIL	HAT MESA SE	BONE SPRING	106,700	141,572	89,659		5/1/2018	12/22/2021	7/1/2022
293	30-025-44847-0000	MINIS 1 FEDERAL COM 004H	CHISHOLM ENERGY OPER	OIL	UNNAMED	BONE SPRING	324,561	466,866	908,052		5/1/2018	8/27/2020	11/23/2020
294	30-025-44811-0000	MINIS 1 FEDERAL COM 006H	CHISHOLM ENERGY OPER	OIL	HAT MESA	BONE SPRING	379,056	367,354	911,805		5/1/2018	8/1/2019	10/21/2019
295	30-025-44856-0000	MINIS 1 FEDERAL COM 007H	CHISHOLM ENERGY OPER	OIL	HAT MESA	BONE SPRING	387,329	502,871	1,216,485		5/1/2018	8/21/2018	1/8/2019
296	30-025-48616-0000	MOZZARELLA FED COM 604H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	308,825	628,686	1,048,713		4/1/2021	5/13/2021	7/1/2021
297	30-025-46742-0000	MOZZARELLA FEDERAL 602H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	215,014	444,820	1,022,930		1/1/2020	4/20/2021	7/12/2021
298	30-025-46757-0000	MOZZARELLA FEDERAL 603H	CENTENNIAL RES PROD	OIL	BILBREY BASIN	BONE SPRING	238,173	501,107	1,028,883		1/1/2020	4/20/2021	7/16/2021
299	30-015-43081-0000	NASH UNIT 046H	XTO ENERGY INC	OIL	NASH DRAW	BONE SPRING	372,395	2,044,038	1,762,813		4/1/2015	6/4/2017	6/19/2017
300	30-015-45494-0000	NASH UNIT 201H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	652,018	1,677,965	1,298,635		11/1/2018	12/20/2018	2/1/2020
301	30-015-45495-0000	NASH UNIT 202H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	644,417	1,636,049	1,380,083		11/1/2018	4/29/2019	6/30/2021
302	30-015-45496-0000	NASH UNIT 203H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	857,879	2,088,655	1,189,541		11/1/2018	1/11/2019	2/1/2020
303	30-015-45497-0000	NASH UNIT 204H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	507,630	896,611	1,369,416		11/1/2018	6/2/2019	1/31/2020
304	30-015-46584-0000	NASH UNIT 205H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	385,003	1,328,602	606,095		10/1/2019	7/1/2020	4/28/2021
305	30-015-45498-0000	NASH UNIT 206H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	527,510	1,089,813	859,305		11/1/2018	2/18/2020	5/15/2021
306	30-015-45500-0000	NASH UNIT 301H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	552,521	1,360,962	1,990,850		11/1/2018	3/16/2019	1/16/2020
307	30-015-45501-0000	NASH UNIT 302H	XTO ENERGY INC	OIL	FORTY NINER RIDGE	BONE SPRING	487,991	1,087,524	1,716,844		11/1/2018	4/12/2019	2/27/2020
308	30-015-45502-0000	NASH UNIT 303H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	279,522	642,561	1,264,704		11/1/2018	3/8/2020	5/17/2021
309	30-015-46583-0000	NASH UNIT 304H	XTO ENERGY INC	OIL	FRTY NINR RDGE W	BONE SPRING	523,740	1,065,296	1,781,910		9/1/2019	3/1/2020	4/28/2021
310	30-015-41459-0100	NEFF `25` FEDERAL 9H	OXY U S A INC	OIL	LIVINGSTON RIDGE	BONE SPRING	49,873	159,121	217,115		6/1/2013	9/11/2013	11/21/2013
311	30-025-49627-0000	NINA CORTELL FED CO 125H	MATADOR PROD CO	OIL	BILBREY BASIN	BONE SPRING	199,406	257,243	668,631		12/1/2021	1/18/2022	3/1/2022
312	30-015-38282-0000	NORTH PURE GOLD `8` 015H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	75,283	852,719	109,687		10/1/2010	12/12/2010	4/22/2011
313	30-025-47133-0000	PEGASUS 3 FED COM 504H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	268,934	436,682	744,670		3/1/2020	4/4/2021	10/1/2021

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
314	30-025-47174-0000	PEGASUS 3 FED COM 702H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	276,543	644,401	513,416		3/1/2020	2/13/2022	7/1/2022
315	30-025-47241-0000	PEGASUS 3 FEDERAL C 501H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	495,922	752,129	849,714		3/1/2020	4/5/2021	10/25/2021
316	30-025-47242-0000	PEGASUS 3 FEDERAL C 502H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	638,138	1,089,603	801,957		3/1/2020	3/28/2021	10/25/2021
317	30-025-47243-0000	PEGASUS 3 FEDERAL C 503H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	439,456	735,884	935,213		3/1/2020	4/6/2021	10/25/2021
318	30-025-47246-0000	PEGASUS 3 FEDERAL C 505H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	340,509	676,448	937,818		3/1/2020	4/6/2021	10/25/2021
319	30-025-47247-0000	PEGASUS 3 FEDERAL C 506H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	316,522	495,045	818,755		3/1/2020	4/6/2021	10/1/2021
320	30-025-47248-0000	PEGASUS 3 FEDERAL C 507H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	313,965	557,659	627,250		3/1/2020	11/18/2021	4/1/2022
321	30-025-47249-0000	PEGASUS 3 FEDERAL C 508H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	271,971	463,731	682,263		3/1/2020	11/15/2021	4/1/2022
322	30-025-47250-0000	PEGASUS 3 FEDERAL C 509H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	130,296	202,078	527,275		3/1/2020	11/14/2021	4/1/2022
323	30-025-47251-0000	PEGASUS 3 FEDERAL C 510H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	287,178	523,524	511,546		3/1/2020	11/13/2021	4/1/2022
324	30-025-47134-0000	PEGASUS 3 FEDERAL C 511H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	191,823	304,944	626,746		3/1/2020	11/25/2021	4/1/2022
325	30-025-47252-0000	PEGASUS 3 FEDERAL C 581H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	351,061	725,421	544,736		3/1/2020	3/28/2021	10/25/2021
326	30-025-47253-0000	PEGASUS 3 FEDERAL C 582H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	321,808	632,499	564,948		3/1/2020	3/30/2021	10/25/2021
327	30-025-47255-0000	PEGASUS 3 FEDERAL C 584H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	149,584	244,846	508,075		3/1/2020	11/16/2021	4/1/2022
328	30-025-47256-0000	PEGASUS 3 FEDERAL C 585H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	234,647	462,345	264,125		3/1/2020	11/13/2021	4/1/2022
329	30-025-47257-0000	PEGASUS 3 FEDERAL C 586H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	282,941	559,853	273,076		3/1/2020	11/13/2021	4/1/2022
330	30-025-47254-0000	PEGASUS 3 FEDERAL C 711H	EOG RESOURCES INC	OIL	TRISTE DRAW	BONE SPRING	277,728	676,811	255,935		3/1/2020	2/26/2022	7/1/2022
331	30-015-45226-0000	PLATINUM MDP1 `34-3 001H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	546,655	1,351,862	1,162,163		8/1/2018	10/8/2018	3/1/2019
332	30-015-45227-0000	PLATINUM MDP1 `34-3 002H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	559,027	1,258,800	682,741		8/1/2018	10/9/2018	3/1/2019
333	30-015-45229-0000	PLATINUM MDP1 `34-3 004H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	603,513	1,759,107	1,167,614		8/1/2018	11/26/2018	2/6/2019
334	30-015-45171-0000	PLATINUM MDP1 `34-3 005H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	766,281	1,666,870	620,181		8/1/2018	9/17/2018	1/23/2019
335	30-015-45172-0000	PLATINUM MDP1 `34-3 006H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	613,529	1,253,107	935,491		8/1/2018	9/16/2018	1/23/2019
336	30-015-45250-0000	PLATINUM MDP1 `34-3 007H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	630,483	1,405,082	755,307		8/1/2018	11/9/2018	2/6/2019
337	30-015-46179-0000	PLATINUM MDP1 `34-3 013H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	147,584	925,890	525,667		6/1/2019	1/3/2020	12/23/2020
338	30-015-46180-0000	PLATINUM MDP1 `34-3 014H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	231,775	1,107,491	680,378		6/1/2019	1/4/2020	12/23/2020
339	30-015-46192-0000	PLATINUM MDP1 `34-3 023H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	253,572	1,402,106	639,079		7/1/2019	12/31/2019	12/25/2020
340	30-015-46193-0000	PLATINUM MDP1 `34-3 024H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	244,627	3,101,482	328,882		7/1/2019	1/1/2020	1/1/2021
341	30-015-46559-0000	PLATINUM MDP1 `34-3 026H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	246,483	2,780,320	298,958		12/1/2019	1/14/2020	1/5/2021
342	30-015-45231-0000	PLATINUM MDP1 `34-3 172H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	398,472	1,202,083	2,031,097		8/1/2018	5/30/2019	9/29/2019
343	30-015-46558-0000	PLATINUM MDP1 34-3 025H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	176,696	2,834,958	235,448		12/1/2019	1/15/2020	1/2/2021
344	30-015-45228-0000	PLATINUM MDP1`34-3` 003H	OXY U S A INC	OIL	COTTON DRAW	BONE SPRING	483,575	1,122,382	1,048,203		8/1/2018	10/5/2018	2/15/2019
345	30-015-40341-0000	PLU REMUDA BASIN 32 001H	CHESAPEAKE OPERG INC	DRY	FRTY NINR RDGE W	BONE SPRING	24,741	404,103	204,362		5/1/2012	6/16/2012	8/30/2012
346	30-015-40660-0100	PLU REMUDA BASIN 4- 1H	BOPCO LP	OIL	UNNAMED	BONE SPRING	150,169	732,288	486,060		8/1/2012	11/7/2012	2/23/2013
347	30-015-43230-0000	POKER LAKE UNIT 359H	BOPCO LP	OIL	PIERCE CROSSING E	BONE SPRING	1,003,718	2,365,645	1,144,042		7/1/2015	1/19/2018	5/31/2018
348	30-015-46373-0100	PRECIOUS 30-18 FEDE 001H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	441,840	1,183,548	664,865		10/1/2019	12/23/2020	4/2/2021
349	30-015-46473-0000	PRECIOUS 30-18 FEDE 002H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	402,316	1,008,632	806,021		11/1/2019	1/24/2020	3/31/2021
350	30-015-46464-0000	PRECIOUS 30-18 FEDE 004H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	495,104	1,264,174	928,729		11/1/2019	1/19/2020	4/13/2021
351	30-015-46448-0000	PRECIOUS 30-18 FEDE 005H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	423,092	1,309,219	688,195		11/1/2019	1/20/2020	4/19/2021
352	30-015-46465-0000	PRECIOUS 30-18 FEDE 006H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	237,006	781,425	502,187		11/1/2019	1/21/2020	4/19/2021
353	30-015-46372-0000	PRECIOUS 30-18 FEDE 007H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	257,781	896,359	503,976		10/1/2019	1/23/2020	3/30/2021
354	30-015-46523-0000	PRECIOUS 30-18 FEDE 009H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	470,419	1,195,929	708,775		12/1/2019	1/19/2020	4/14/2021
355	30-015-46463-0000	PRECIOUS 30-18 FEDE 010H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	237,459	718,470	696,836		11/1/2019	1/21/2020	4/15/2021
356	30-015-45647-0000	PURE GOLD MDP1 `29- 003H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	547,376	1,271,348	1,051,112		1/1/2019	3/2/2019	7/12/2019
357	30-015-45648-0000	PURE GOLD MDP1 `29- 004H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	508,547	1,302,365	1,214,750		1/1/2019	3/3/2019	7/6/2019
358	30-015-45649-0000	PURE GOLD MDP1 `29- 005H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	635,250	2,101,313	895,608		1/1/2019	2/21/2019	7/19/2019
359	30-015-45650-0000	PURE GOLD MDP1 `29- 006H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	652,338	2,087,059	1,084,071		1/1/2019	2/22/2019	7/19/2019
360	30-015-45754-0100	PURE GOLD MDP1 `29- 008H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	149,618	278,030	753,849		1/1/2019	1/11/2022	4/25/2022
361	30-015-45781-0000	PURE GOLD MDP1 `29 176H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	213,719	461,868	298,580		2/1/2019	1/17/2020	4/20/2022
362	30-015-45712-0000	PURE GOLD MDP1 29 1 007H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	160,781	350,154	258,591		1/1/2019	3/12/2020	4/4/2022
363	30-015-45645-0000	PURE GOLD MDP1 29-1 001H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	747,179	1,888,481	1,211,553		1/1/2019	2/21/2019	6/25/2019
364	30-015-45646-0000	PURE GOLD MDP1 29-1 002H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	585,283	1,384,169	1,431,869		1/1/2019	2/28/2019	6/25/2019
365	30-015-37966-0000	PURE GOLD NORTH 8 F 014H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BONE SPRING	48,567	667,842	81,548		6/1/2010	9/7/2010	11/26/2010
366	30-025-46787-0000	PURRITO 18 19 FEDER 211H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	315,506	662,231	929,359		12/1/2019	2/12/2020	9/25/2020
367	30-025-46788-0000	PURRITO 18 19 FEDER 212H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	289,890	540,196	940,807		1/1/2020	2/10/2020	9/25/2020
368	30-025-46249-0000	PURRITO 18 FEDERAL 213H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	208,402	422,051	545,183		7/1/2019	1/1/2020	9/16/2020
369	30-025-46250-0000	PURRITO 18 FEDERAL 214H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	230,813	516,540	365,080		7/1/2019	12/29/2019	9/16/2020
370	30-025-46786-0000	PURRITO 18-19 FEDER 210H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	365,505	819,380	981,638		1/1/2020	2/13/2020	9/25/2020
371	30-025-42006-0000	QUESO STATE 003H	COG PROD LLC	OIL	TRISTE DRAW	BONE SPRING	238,970	558,132	229,210		7/1/2014	11/28/2014	3/14/2015
372	30-025-40688-0000	QUESO STATE 1H	COG PROD LLC	OIL	TRISTE DRAW	BONE SPRING	233,312	538,701	214,296		7/1/2012	10/24/2013	1/4/2014
373	30-025-40689-0000	QUESO STATE 2H	COG PROD LLC	OIL	TRISTE DRAW	BONE SPRING	384,343	547,794	218,882		7/1/2012	1/21/2013	5/13/2013
374	30-025-41800-0000	QUESO STATE 5H	COG PROD LLC	OIL	TRISTE DRAW	BONE SPRING	213,768	1,104,435	297,219		4/1/2014	12/18/2014	4/5/2015
375	30-025-42741-0000	QUESO STATE 6H	COG PROD LLC	OIL	TRISTE DRAW	BONE SPRING	208,135	1,882,597	161,701		8/1/2015	9/17/2015	1/6/2016
376	30-025-42742-0000	QUESO STATE 7H	COG PROD LLC	OIL	TRISTE DRAW	BONE SPRING	158,868	1,336,987	177,399		8/1/2015	10/6/2015	2/14/2016
377	30-025-43141-0000	QUESO STATE 8H	COG PROD LLC	OIL	TRISTE DRAW	BONE SPRING	105,151	2,341,570	66,909		3/1/2016	6/18/2016	10/28/2016
378	30-025-41127-0000	RED TANK `26` FEDER 10H	OXY U S A INC	OIL	RED TANK	BONE SPRING	179,628	428,443	883,215		4/1/2013	8/23/2014	2/7/2015
379	30-025-40534-0100	RED TANK `4` FEDERA 1H	CIMAREX ENERGY OF CO	OIL	UNNAMED	BONE SPRING	98,758	164,767	216,291		4/1/2012	10/18/2012	1/15/2013
380	30-025-46998-0000	RED TANK 3 FEDERAL 014H	CIMAREX ENERGY CO	OIL	UNNAMED	BONE SPRING	230,894	498,742	428,723		1/1/2019	1/6/2021	7/19/2021
381	30-025-40181-0000	REDTAIL STATE COM 1H	VPR OPERATING LLC	OIL	RED TANK WEST	BONE SPRING	111,931	285,354	587,600		6/1/2011	12/17/2011	4/15/2012
382	30-015-44327-0000	REMUDA NORTH 30 STA 112H	XTO ENERGY INC	OIL	PURPLE SAGE	BONE SPRING	414,353	1,623,369	1,725,131		7/1/2017	7/22/2018	3/24/2019
383	30-025-42170-0100	RESOLVER FEDERAL CO 2H	COG OPERATING LLC	OIL	DIAMONDTAIL	BONE SPRING	257,932	982,905	339,458		10/1/2014	11/14/2015	4/13/2016
384	30-025-47210-0000	RIGHT MEOW 31-30 FE 230H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	287,916	484,331	790,714		5/1/2020	7/24/2020	1/25/2021
385	30-025-47211-0000	RIGHT MEOW 31-30 FE 231H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	309,638	608,628	945,105		5/1/2020	8/23/2020	1/1/2021
386	30-025-47212-0000	RIGHT MEOW 31-30 FE 232H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	300,887	554,399	954,036		5/1/2020	7/23/2020	1/1/2021
387	30-025-47209-0000	RIGHT MEOW 31-6 FED 234H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	250,003	439,762	1,002,433		5/1/2020	8/7/2020	1/1/2021
388	30-025-47309-0000	RIGHT MEOW 31-7 FED 233H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	312,772	574,504	1,225,891		6/1/2020	8/7/2020	1/1/2021
389	30-025-40095-0000	RUM RUNNER `2` FEDE 001H	OXY U S A INC	OIL	RED TANK	BONE SPRING	21,589	489,201	14,810		3/1/2011	8/12/2011	11/25/2011
390	30-015-41793-0000	SANDY FEDERAL 023H	CIMAREX ENERGY CO	OIL	FORTY NINER RIDGE	BONE SPRING	172,085	224,130	197,672		10/1/2013	7/9/2014	9/20/2014
391	30-015-41426-0000	SANDY FEDERAL 20H	CIMAREX ENERGY CO	OIL	FORTY NINER RIDGE	BONE SPRING	143,560	278,700	214,783		5/1/2013	7/6/2013	9/9/2013
392	30-015-41791-0000	SANDY FEDERAL 21H	CIMAREX ENERGY CO	OIL	FORTY NINER RIDGE	BONE SPRING	86,321	136,272	275,492		10/1/2013	4/24/2014	10/15/2014
393	30-015-41792-0000	SANDY FEDERAL 22H	CIMAREX ENERGY CO	OIL	FORTY NINER RIDGE	BONE SPRING	87,537	157,670	244,565		10/1/2013	6/5/2014	10/17/2014
394	30-025-40460-0000	SDE 31 FEDERAL 018H	XTO ENERGY INC	OIL	SAND DUNES SOUTH	BONE SPRING	58,172	102,619	166,727		2/1/2012	11/13/2013	1/14/2014
395	30-025-42265-0000	SPEAK EASY FEDERAL 3H	OXY U S A INC	OIL	RED TANK	BONE SPRING	107,511	94,571	266,921		11/1/2014	12/29/2014	4/9/2015
396	30-025-42266-0000	SPEAK EASY FEDERAL 4H	OXY U S A INC	OIL	RED TANK	BONE SPRING	107,614	112,825	321,658		11/1/2014	12/26/2014	4/6/2015
397	30-025-42267-0000	SPEAK EASY FEDERAL 5H	OXY U S A INC	OIL	BOOTLEG RIDGE NW	BONE SPRING	57,599	68,259	2,184,804		11/1/2014	12/3/2014	4/8/2015
398	30-015-39831-0100	STERLING SILVER 33 001H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	154,545	280,430	232,496		1/1/2012	5/3/2012	7/25/2012
399	30-015-45335-0000	STERLING SILVER MDP 001H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	549,677	1,867,464	852,928		9/1/2018	11/6/2018	3/24/2019
400	30-015-45390-0000	STERLING SILVER MDP 002H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	552,175	1,587,878	728,415		9/1/2018	11/7/2018	3/25/2019
401	30-015-45391-0000	STERLING SILVER MDP 003H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	717,328	1,733,450	1,124,173		9/1/2018	11/12/2018	3/18/2019
402	30-015-45393-0000	STERLING SILVER MDP 005H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	585,100	1,746,239	1,009,264		9/1/2018	11/3/2018	3/20/2019
403	30-015-45386-0000	STERLING SILVER MDP 006H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	715,465	1,347,182	755,043		10/1/2018	11/13/2018	3/18/2019
404	30-015-45389-0000	STERLING SILVER MDP 007H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	514,844	1,110,698	634,296		10/1/2018	11/4/2018	3/20/2019
405	30-015-46048-0000	STERLING SILVER MDP 178H	OXY U S A INC	OIL	INGLE WELLS	BONE SPRING	291,716	1,097,882	311,780		5/1/2019	7/7/2019	10/14/2019
406	30-025-42982-0000	STRAY CAT 8 FED COM 1H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	407,226	1,007,439	325,809		12/1/2015	8/23/2016	11/18/2016
407	30-025-44601-0000	STRAY CAT 8-5 FED C 214H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	553,095	1,341,318	717,819		3/1/2018	8/18/2018	3/4/2019
408	30-025-45150-0000	STRAY CAT 8-5 FEDER 212Y	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	625,905	1,665,964	680,938		8/1/2018	8/29/2018	2/19/2019
409	30-025-44600-0000	STRAY CAT 8-5 FEDER 213H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	686,437	1,970,818	798,294		3/1/2018	8/12/2018	2/14/2019
410	30-025-44933-0000	TACO CAT `27-34` FE 011H	OXY U S A INC	OIL	RED TANK	BONE SPRING	430,165	2,082,300	739,280		6/1/2018	7/29/2018	1/24/2019
411	30-025-44934-0000	TACO CAT `27-34` FE 021H	OXY U S A INC	OIL	RED TANK	BONE SPRING	617,931	870,969	1,064,240		6/1/2018	7/27/2018	2/1/2019
412	30-025-46949-0000	TACO CAT `27-34` FE 024H	OXY U S A INC	OIL	RED TANK	BONE SPRING	162,868	289,046	420,830		2/1/2020	10/2/2021	1/24/2022
413	30-025-46925-0000	TACO CAT `27-34` FE 032H	OXY U S A INC	OIL	RED TANK	BONE SPRING	263,491	472,685	950,108		2/1/2020	10/1/2021	1/13/2022
414	30-025-46934-0000	TACO CAT 27-34 FEDE 025H	OXY U S A INC	OIL	RED TANK	BONE SPRING	176,930	306,098	507,610		2/1/2020	10/6/2021	1/24/2022
415	30-025-46935-0000	TACO CAT 27-34 FEDE 026H	OXY U S A INC	OIL	RED TANK	BONE SPRING	250,507	393,044	434,970		2/1/2020	10/10/2021	1/24/2022

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
416	30-025-46936-0000	TACO CAT 27-34 FEDE 034H	OXY U S A INC	OIL	RED TANK	BONE SPRING	288,476	546,872	901,599		2/1/2020	9/2/2021	1/22/2022
417	30-015-44434-0000	TANKLESS FEDERAL CO 002H	COG PROD LLC	OIL	LIVINGSTON RIDGE	BONE SPRING	631,700	1,864,551	774,387		8/1/2017	11/20/2017	2/21/2018
418	30-015-45379-0000	TODD 36 STATE 231H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BONE SPRING	181,190	304,343	289,020		10/1/2018	6/21/2019	4/6/2020
419	30-015-45941-0000	TODD 36 STATE 335H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	151,329	421,843	685,967		4/1/2019	8/27/2019	4/2/2020
420	30-015-45906-0000	TODD 36-25 STATE FE 232H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	424,243	835,531	755,511		4/1/2019	7/8/2019	4/7/2020
421	30-015-45909-0000	TODD 36-25 STATE FE 233H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	331,589	550,767	791,941		4/1/2019	7/4/2019	4/14/2020
422	30-015-45907-0000	TODD 36-25 STATE FE 234H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	421,547	751,621	1,002,014		4/1/2019	7/5/2019	4/14/2020
423	30-015-45910-0100	TODD 36-25 STATE FE 235H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	367,389	597,871	1,095,748		8/1/2019	8/14/2019	4/15/2020
424	30-015-47324-0000	TODD 36-25 STATE FE 338H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	254,163	670,080	853,115		7/1/2020	10/30/2021	4/1/2022
425	30-015-38044-0000	TODD 36B STATE 020H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BONE SPRING	70,086	334,757	113,719		7/1/2010	11/12/2010	3/4/2011
426	30-015-42655-0000	TOMB RAIDER 1 FEDER 1H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	384,941	845,943	910,280		9/1/2014	11/18/2014	4/11/2015
427	30-015-43592-0000	TOMB RAIDER 1-12 FE 061H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	467,062	851,999	604,366		12/1/2015	5/22/2017	9/10/2017
428	30-015-43889-0000	TOMB RAIDER 1-12 FE 062H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	449,710	691,294	714,050		8/1/2016	3/27/2017	9/16/2017
429	30-015-44593-0000	TOMB RAIDER 1-12 FE 234H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	493,862	880,813	732,683		11/1/2017	4/15/2018	12/27/2018
430	30-015-44940-0000	TOMB RAIDER 1-12 FE 334H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	345,294	908,395	1,115,297		5/1/2018	5/29/2018	12/12/2018
431	30-015-43593-0000	TOMB RAIDER 1-12 FE 512H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	279,411	2,791,048	304,112		12/1/2015	1/2/2018	3/8/2018
432	30-015-45440-0000	TOMB RAIDER 1-12 FE 514H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	203,858	4,496,945	239,558		10/1/2018	12/8/2018	8/15/2019
433	30-015-45438-0000	TOMB RAIDER 1-12 FE 524H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	169,714	3,671,543	242,803		10/1/2018	12/10/2018	8/18/2019
434	30-015-45439-0000	TOMB RAIDER 1-12 FE 525H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	178,297	3,361,983	296,321		10/1/2018	12/7/2018	8/10/2019
435	30-015-44810-0000	TOMB RAIDER 1-12 FE 528H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	254,476	2,773,633	356,315		3/1/2018	4/17/2018	2/19/2019
436	30-015-44854-0000	TOMB RAIDER 12 FEDE 213H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	191,268	426,087	295,337		3/1/2018	1/4/2019	8/7/2019
437	30-015-45486-0100	TOMB RAIDER 12-1 FE 516H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BONE SPRING	237,004	4,364,543	282,201		12/1/2018	2/2/2019	8/8/2019
438	30-025-40665-0000	TRISTE DRAW `36` ST 2H	CIMAREX ENERGY CO	GAS	TRISTE DRAW	BONE SPRING	195,762	1,750,375	194,859		7/1/2012	1/22/2014	3/27/2014
439	30-025-40343-0000	TRISTE DRAW `36` ST 4H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	295,969	413,040	360,204		11/1/2011	2/28/2012	5/10/2012
440	30-025-40667-0000	TRISTE DRAW `36` ST 5H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	209,640	1,242,856	261,513		7/1/2012	1/19/2013	4/10/2013
441	30-025-42102-0000	TRISTE DRAW 25 FEDE 008H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	243,999	660,059	657,862		8/1/2014	11/22/2017	10/4/2018
442	30-025-42198-0000	TRISTE DRAW 25 FEDE 009H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	261,142	2,517,331	176,457		10/1/2014	12/11/2017	10/4/2018
443	30-025-42082-0000	TRISTE DRAW 25 FEDE 010H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	36,437	65,073	248,110		8/1/2014	12/30/2017	10/5/2018
444	30-025-43997-0000	TRISTE DRAW 25 FEDE 011H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	137,386	2,370,405	86,299		8/1/2017	1/26/2018	10/5/2018
445	30-025-43998-0000	TRISTE DRAW 25 FEDE 012H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	89,979	566,399	302,832		8/1/2017	1/8/2018	9/26/2018
446	30-025-44001-0000	TRISTE DRAW 25 FEDE 013H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	120,706	2,026,449	89,427		8/1/2017	2/3/2018	9/26/2018
447	30-025-40877-0100	TRISTE DRAW 25 FEDE 1H	CIMAREX ENERGY OF CO	OIL	TRISTE DRAW	BONE SPRING	217,911	376,800	144,497		12/1/2012	2/2/2013	4/20/2013
448	30-025-41149-0000	TRISTE DRAW 25 FEDE 2H	CIMAREX ENERGY OF CO	OIL	TRISTE DRAW	BONE SPRING	192,987	365,055	166,888		4/1/2013	9/25/2013	11/18/2013
449	30-025-41150-0000	TRISTE DRAW 25 FEDE 3H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	133,855	158,006	168,112		4/1/2013	12/21/2013	3/27/2014
450	30-025-42105-0000	TRISTE DRAW 25 FEDE 5H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	319,494	2,390,778	277,814		9/1/2014	1/13/2017	3/26/2017
451	30-025-42081-0000	TRISTE DRAW 25 FEDE 7H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	407,464	2,464,753	517,810		8/1/2014	10/19/2015	1/29/2016
452	30-025-40184-0100	TRISTE DRAW 36 STAT 1H	CIMAREX ENERGY OF CO	OIL	TRISTE DRAW	BONE SPRING	80,263	1,006,460	32,594		7/1/2011	11/12/2011	2/20/2012
453	30-025-40578-0000	TRISTE DRAW 36 STAT 6H	CIMAREX ENERGY CO	OIL	TRISTE DRAW	BONE SPRING	207,474	488,241	196,826		5/1/2012	7/19/2012	9/30/2012
454	30-025-42226-0000	URRACA 11 AV FEDERA 024H	MARATHON OIL PERMIAN	OIL	DIAMONDTAIL	BONE SPRING	172,624	1,135,868	170,733		10/1/2014	9/14/2018	1/1/2019
455	30-025-41968-0000	URRACA 11 SB FED CO 004H	MARATHON OIL PERMIAN	OIL	DIAMONDTAIL	BONE SPRING	183,897	397,101	215,865		6/1/2014	6/21/2018	1/4/2019
456	30-025-47639-0000	WILD SALSA FED COM 093H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	499,699	1,640,782	870,392		6/1/2020	2/25/2021	6/26/2021
457	30-025-47635-0000	WILD SALSA FED COM 094H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	506,843	2,576,333	429,979		6/1/2020	6/2/2021	11/3/2021
458	30-025-47633-0000	WILD SALSA FED COM 095H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	272,988	515,680	728,480		6/1/2020	6/5/2021	11/9/2021
459	30-025-47634-0000	WILD SALSA FED COM 096H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	511,902	2,665,647	463,880		6/1/2020	7/7/2021	11/9/2021
460	30-025-47629-0000	WILD SALSA FED COM 215H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	439,001	550,286	663,422		6/1/2020	6/1/2021	11/12/2021
461	30-025-47632-0000	WILD SALSA FED COM 224H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	508,488	657,614	721,908		6/1/2020	5/28/2021	11/14/2021
462	30-025-47636-0000	WILD SALSA FED COM 226H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	454,474	642,086	685,846		6/1/2020	7/6/2021	11/12/2021
463	30-025-47637-0000	WILD SALSA FED COM 323H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	487,330	1,210,568	1,097,072		6/1/2020	2/4/2021	6/19/2021
464	30-025-47638-0100	WILD SALSA FED COM 324H	TITUS OIL & GAS PROD	OIL	DIAMONDTAIL	BONE SPRING	347,359	823,921	854,911		1/1/2021	1/18/2021	6/29/2021
465	30-015-47314-0000	YUKON GOLD 31-19 FE 211H	DEVON ENERGY PRODUCT	OIL	FRTY NINR RDGE W	BONE SPRING	397,090	947,279	856,639		7/1/2020	11/1/2020	5/25/2021
466	30-015-47316-0000	YUKON GOLD 31-19 FE 212H	DEVON ENERGY PRODUCT	OIL	FRTY NINR RDGE W	BONE SPRING	381,482	975,526	846,721		7/1/2020	10/31/2020	5/24/2021
467	30-015-47313-0000	YUKON GOLD 31-19 FE 213H	DEVON ENERGY PRODUCT	OIL	FRTY NINR RDGE W	BONE SPRING	461,553	980,601	745,090		7/1/2020	10/30/2020	5/24/2021
468	30-015-47422-0000	YUKON GOLD 31-19 FE 333H	DEVON ENERGY PRODUCT	OIL	FRTY NINR RDGE W	BONE SPRING	173,907	238,823	826,092		8/1/2020	5/13/2021	10/8/2021
		BONE SPRING HZ TOTAL					**146,120,759**	**432,828,647**	**292,696,317**	**0**			
		BONE SPRING HZ AVERAGE					**312,224**	**924,848**	**637,683**				
		BONE SPRING HZ MAX					**1,253,767**	**5,339,814**	**2,637,176**				
1	30-015-38602-0000	ALDABRA `25` FEDERA 006H	DEVON ENERGY PRODUCT	DRY	SAND DUNES	DELAWARE	71,061	382,027	110,994		3/1/2011	4/1/2011	7/20/2011
2	30-025-31947-0000	AMANDA `AMN` FEDERA 001	YATES PETROLEUM CORP	DRY	DIAMONDTAIL	DELAWARE	52,619	22,875	816,995		4/1/1993	4/21/1993	6/2/1993
3	30-015-28123-0000	AMAX `24` FEDERAL 012	POGO PRODUCING CO	DRY	INGLE WELLS	BRUSHY CANYON	229,634	552,699	520,412		8/1/1994	10/15/1994	11/17/1994
4	30-015-32496-0000	AMAX `24` FEDERAL 015	POGO PRODUCING CO	DRY	INGLE WELLS	BRUSHY CANYON	45,942	151,507	307,789		10/1/2002	10/25/2002	1/29/2003
5	30-015-27412-0000	AMAX `24` FEDERAL 10	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	120,483	373,113	846,375		8/1/1993	9/7/1993	10/7/1993
6	30-015-27391-0000	AMAX `24` FEDERAL 11	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	282,580	642,785	1,013,519		5/1/1993	6/2/1993	7/10/1993
7	30-015-29332-0000	AMAX `24` FEDERAL 13	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	98,171	267,137	427,438		12/1/1996	12/21/1996	1/30/1997
8	30-015-30370-0000	AMAX `24` FEDERAL 14	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	99,647	266,565	413,540		7/1/1998	11/19/1998	1/12/1999
9	30-015-27657-0000	AMAX `24` FEDERAL 5	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	197,524	666,228	616,657		11/1/1994	11/14/1994	11/30/1994
10	30-015-27423-0000	AMAX `24` FEDERAL 6	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	162,930	717,282	464,730		5/1/1994	5/16/1994	6/14/1994
11	30-015-27129-0000	AMAX `24` FEDERAL 7	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	244,335	555,235	498,562		7/1/1993	8/2/1993	8/31/1993
12	30-015-27162-0000	AMAX `24` FEDERAL 8	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	273,346	632,190	471,822		10/1/1992	10/11/1992	11/10/1992
13	30-015-27411-0000	AMAX `24` FEDERAL 9	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	142,464	462,731	590,474		1/1/1994	2/5/1994	3/9/1994
14	30-025-38450-0000	AMAZING BAZ FEDERAL 3	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	CHERRY CANYON	169,637	137,568	503,830		6/1/2007	7/16/2008	10/15/2008
15	30-025-41498-0000	ANDERSON `35` 002H	OXY USA WTP LP	DRY	BILBREY	DELAWARE	26,257	44,454	963,264		11/1/2013	1/23/2014	11/18/2014
16	30-025-31821-0000	ANDERSON 1	MANZANO OIL CORP	DRY	BILBREY	BRUSHY CANYON	4,180		28,989		11/1/1992	12/8/1992	2/10/1993
17	30-015-29894-0000	APACHE `25` FEDERAL 6	MITCHELL ENERGY CORP	OIL	QUAHADA RIDGE SE	DELAWARE	236,428	534,780	574,585		10/1/1997	11/13/1997	4/4/1998
18	30-015-33730-0000	APACHE 13 FEDERAL 006	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	DELAWARE	91,236	229,007	390,960		11/1/2004	2/24/2005	4/10/2005
19	30-015-33075-0000	APACHE 13 FEDERAL 2	DEVON ENERGY PRODUCT	OIL	CABIN LAKE	DELAWARE	112,171	273,503	348,674		10/1/2003	1/14/2004	2/11/2004
20	30-015-33076-0000	APACHE 13 FEDERAL 3	DEVON ENERGY PRODUCT	OIL	CABIN LAKE	DELAWARE	109,882	227,930	434,800		10/1/2003	11/26/2003	1/11/2004
21	30-015-33077-0000	APACHE 13 FEDERAL 4	DEVON ENERGY PRODUCT	OIL	CABIN LAKE	DELAWARE	180,929	324,852	306,875		10/1/2003	2/15/2004	3/13/2004
22	30-015-33078-0000	APACHE 13 FEDERAL 5	DEVON ENERGY PRODUCT	OIL	CABIN LAKE	DELAWARE	127,501	303,995	307,272		10/1/2003	12/13/2003	1/23/2004
23	30-015-34221-0000	APACHE 13 FEDERAL 8	DEVON ENERGY PRODUCT	OIL	CABIN LAKE	DELAWARE	85,211	188,874	308,394		7/1/2005	8/19/2005	11/4/2005
24	30-015-34218-0000	APACHE 24 FEDERAL 10	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	BRUSHY CANYON	163,044	578,382	519,401		6/1/2005	12/18/2005	2/18/2006
25	30-015-34219-0000	APACHE 24 FEDERAL 11H	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	DELAWARE	131,155	336,284	495,536		7/1/2005	9/21/2005	11/29/2005
26	30-015-33079-0000	APACHE 24 FEDERAL 2	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE	DELAWARE	160,877	327,840	354,191		10/1/2003	1/29/2004	3/10/2004
27	30-015-33080-0000	APACHE 24 FEDERAL 3	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE	DELAWARE	168,488	422,985	291,580		10/1/2003	10/27/2003	11/26/2003
28	30-015-33081-0000	APACHE 24 FEDERAL 4	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE	BRUSHY CANYON	125,552	298,021	259,247		10/1/2003	3/3/2004	4/11/2004
29	30-015-33082-0000	APACHE 24 FEDERAL 5	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE	DELAWARE	88,742	271,655	286,362		10/1/2003	11/11/2003	12/15/2003
30	30-015-34020-0000	APACHE 24 FEDERAL 8	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	DELAWARE	172,778	445,522	583,983		10/1/2004	3/29/2005	5/30/2005
31	30-015-35597-0000	APACHE 25 FEDERAL 010H	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	DELAWARE	244,898	432,028	642,013		4/1/2007	7/29/2007	10/9/2007
32	30-015-33112-0000	APACHE 25 FEDERAL 12	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	DELAWARE	156,584	383,655	300,063		11/1/2003	12/29/2003	2/3/2004
33	30-015-33440-0000	APACHE 25 FEDERAL 13	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	BRUSHY CANYON	91,233	246,727	270,795		5/1/2004	6/9/2004	7/21/2004
34	30-015-33791-0000	APACHE 25 FEDERAL 14	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE	BRUSHY CANYON	224,817	447,741	894,142		9/1/2004	1/16/2005	4/4/2005
35	30-015-32719-0000	APACHE 25 FEDERAL 3	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	BRUSHY CANYON	142,408	385,645	226,475		3/1/2003	7/11/2003	8/20/2003
36	30-015-33152-0000	APACHE 25 FEDERAL 4	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE	BRUSHY CANYON	94,597	172,852	386,418		12/1/2003	3/23/2004	5/7/2004
37	30-015-32720-0004	APACHE 25 FEDERAL 5	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS SOUTH	DELAWARE	115,194	281,654	366,315		8/1/2004	9/15/2004	11/8/2004
38	30-015-33439-0000	APACHE 25 FEDERAL 8	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	DELAWARE	18,724	23,651	334,417		5/1/2004	7/3/2004	8/23/2004
39	30-015-33439-0001	APACHE 25 FEDERAL 8	DEVON ENERGY PRODUCT	CONWIW	SWD	DELAWARE				5,404,572	3/1/2010	3/19/2010	4/19/2010
40	30-025-31650-0001	ARACANGA FEDERAL 001	POGO PRODUCING CO	OIL	DIAMONDTAIL NORTH	BRUSHY CANYON	593	608	10,630		7/1/2000	7/30/2000	8/17/2000
41	30-025-31650-0002	ARACANGA FEDERAL 001	POGO PRODUCING CO	CONWIW	SWD	DELAWARE				6,476,278	7/1/2002	7/25/2002	10/8/2002
42	30-025-33862-0001	AVION FEDERAL 2	ECHO PRODUCTION INC	OIL	DIAMONDTAIL	BRUSHY CANYON	74,707		596,598		1/1/1999	2/4/1999	2/12/1999
43	30-015-33438-0000	BAETZ BDU FEDERAL 001	YATES PETROLEUM CORP	DRY	NASH DRAW	DELAWARE	33,682	323,835	561,070		5/1/2004	6/30/2004	9/26/2004
44	30-015-25419-0000	BARCLAY `11` FEDERA 001	UNION OIL CO OF CA	CONWIW	SWD	DELAWARE				1,364,087	8/1/1985	10/3/1985	4/17/1986
45	30-015-27622-0000	BARCLAY `11G` FEDER 007	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	65,041	121,469	446,493		7/1/1993	9/14/1993	10/31/1993

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
46	30-015-32304-0000	BARCLAY `11K` FEDER 11	DEVON ENERGY PRODUCT	SUSOIL	INGLE WELLS	DELAWARE	72,979	112,457	429,215		5/1/2002	6/4/2002	7/22/2002
47	30-015-32333-0000	BARCLAY `11N` FEDER 14	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	20,835	51,427	269,780		6/1/2002	7/1/2003	9/6/2003
48	30-015-25419-0001	BARCLAY 11 H FEDERA 001	DEVON ENERGY PRODUCT	DRY	LIVINGSTON RDG S	BRUSHY CANYON	1,208	1,523	42,213		5/1/2003	6/28/2003	8/23/2003
49	30-015-37580-0000	BARCLAY 11M FEDERAL 013	DEVON ENERGY PRODUCT	DRY	LIVINGSTON RDG S	BRUSHY CANYON	13,563	25,713	141,258		12/1/2009	3/9/2010	5/1/2010
50	30-015-24954-0005	BARCLAY FEDERAL 001	ARCO PERMIAN	DRY	LIVINGSTON RIDGE	DELAWARE	9,764	21,169	393,522		2/1/1999	2/17/1999	3/10/1999
51	30-015-30239-0000	BARCLAY FEDERAL 10	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	49,056	131,562	757,053		4/1/1998	8/3/1998	9/8/1998
52	30-015-30063-0000	BARCLAY FEDERAL 11	ARCO PERMIAN	DRY	LIVINGSTON RIDGE	DELAWARE	168,238	241,057	485,529		10/1/1999	10/13/1999	11/22/1999
53	30-015-29828-0000	BARCLAY FEDERAL 12	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	68,888	141,873	827,750		6/1/1998	6/22/1998	8/11/1998
54	30-015-30090-0000	BARCLAY FEDERAL 13	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	84,840	130,355	960,985		8/1/1998	8/23/1998	9/25/1998
55	30-015-30066-0000	BARCLAY FEDERAL 15	ARCO PERMIAN	DRY	LIVINGSTON RDG S	DELAWARE	25,267	41,219	387,247		12/1/1997	8/18/1998	9/23/1998
56	30-015-33653-0000	BARCLAY FEDERAL 16	FOREST OIL CORP	DRY	LIVINGSTON RDG S	DELAWARE	222		7,560		9/1/2004	12/12/2004	2/21/2005
57	30-015-30238-0000	BARCLAY FEDERAL 17	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	53,638	143,667	1,609,934		4/1/1998	8/6/1998	9/10/1998
58	30-015-30820-0000	BARCLAY FEDERAL 18	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	81,320	235,234	666,640		11/1/1999	11/16/1999	12/29/1999
59	30-015-30284-0000	BARCLAY FEDERAL 19	ARCO PERMIAN	OIL	LIVINGSTON RIDGE	DELAWARE	100,312	258,860	1,199,713		5/1/1998	9/2/1998	10/7/1998
60	30-015-29683-0000	BARCLAY FEDERAL 2	ARCO PERMIAN	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	68,020	129,966	1,468,321		7/1/1997	7/19/1997	9/2/1997
61	30-015-30821-0000	BARCLAY FEDERAL 20	ARCO PERMIAN	OIL	LIVINGSTON RIDGE	DELAWARE	140,382	266,823	1,381,502		11/1/1999	12/3/1999	1/11/2000
62	30-015-30766-0000	BARCLAY FEDERAL 21	ARCO PERMIAN	OIL	LIVINGSTON RIDGE	DELAWARE	65,199	155,694	817,783		9/1/1999	2/25/2000	4/4/2000
63	30-015-33654-0000	BARCLAY FEDERAL 22	FOREST OIL CORP	OIL	LIVINGSTON RDG S	DELAWARE	24,736	81,366	571,913		9/1/2004	11/16/2004	1/10/2005
64	30-015-30597-0000	BARCLAY FEDERAL 25	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	56,192	119,621	1,211,291		9/1/1999	9/24/1999	11/1/1999
65	30-015-30883-0000	BARCLAY FEDERAL 27	ARCO PERMIAN	OIL	LIVINGSTON RDG S	CHERRY CANYON	47,270	148,819	1,061,376		12/1/1999	2/2/2000	3/13/2000
66	30-015-33655-0000	BARCLAY FEDERAL 29	FOREST OIL CORP	OIL	LIVINGSTON RDG S	DELAWARE	52,630	106,116	659,324		9/1/2004	1/6/2005	4/3/2005
67	30-015-29694-0000	BARCLAY FEDERAL 3	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	111,567	216,299	795,142		11/1/1997	11/27/1997	1/25/1998
68	30-015-33656-0000	BARCLAY FEDERAL 33	FOREST OIL CORP	GAS	LIVINGSTON RDG S	DELAWARE	14,783	36,266	357,163		9/1/2004	1/31/2005	4/5/2005
69	30-015-29684-0000	BARCLAY FEDERAL 4	ARCO PERMIAN	OIL	LIVINGSTON RIDGE	DELAWARE	157,928	211,820	1,144,401		4/1/1998	4/12/1998	5/19/1998
70	30-015-29685-0000	BARCLAY FEDERAL 5	ARCO PERMIAN	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	67,973	135,502	961,950		9/1/1997	9/24/1997	1/18/1998
71	30-015-29785-0000	BARCLAY FEDERAL 7	ARCO PERMIAN	DRY	LIVINGSTON RIDGE	CHERRY CANYON	39,294	63,041	378,759		7/1/1997	5/4/1998	6/25/1998
72	30-015-29786-0000	BARCLAY FEDERAL 8	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	86,971	108,478	765,690		7/1/1997	7/20/1998	8/25/1998
73	30-015-29787-0000	BARCLAY FEDERAL 9	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	94,390	216,119	879,214		12/1/1997	12/15/1997	2/3/1998
74	30-015-29792-0000	BARCLAY STATE 004	ARCO PERMIAN	OIL	LIVINGSTON RDG S	BRUSHY CANYON	5,108	5,949	102,868		8/1/1997	9/7/1997	10/5/1997
75	30-015-29792-0001	BARCLAY STATE 004	ARCO PERMIAN	CONWIW	SWD	BRUSHY CANYON				11,100,459	11/1/1998	11/15/1998	11/21/1998
76	30-015-29590-0000	BARCLAY STATE 2	ARCO PERMIAN	DRY	LIVINGSTON RDG S	DELAWARE	58,797	121,712	5,063,035		5/1/1997	8/5/1997	9/10/1997
77	30-015-29527-0000	BARCLAY STATE 3	ARCO PERMIAN	OIL	LIVINGSTON RDG S	BRUSHY CANYON	223,930	245,927	2,978,064		8/1/1997	8/22/1997	10/9/1997
78	30-015-30809-0000	BARCLAY STATE 7	ARCO PERMIAN	DRY	LIVINGSTON RDG S	CHERRY CANYON	63,818	108,466	4,000,983		11/1/1999	4/6/2000	5/8/2000
79	30-015-29926-0000	BARCLAY STATE 8	ARCO PERMIAN	DRY	LIVINGSTON RDG S	BRUSHY CANYON	169,215	173,352	4,288,716		5/1/1998	5/30/1998	7/20/1998
80	30-015-30810-0000	BARCLAY STATE 9	ARCO PERMIAN	OIL	LIVINGSTON RDG S	CHERRY CANYON	118,773	122,542	2,017,018		11/1/1999	3/18/2000	4/27/2000
81	30-015-30065-0000	BARCLEY FEDERAL 14	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	48,173	127,930	1,119,284		3/1/1998	3/24/1998	5/16/1998
82	30-015-26799-0001	BARNEY BEF FEDERAL 1	YATES PETROLEUM CORP	OIL	CABIN LAKE	DELAWARE	15,527	43,352	235,061		6/1/2004	9/30/2004	12/8/2004
83	30-025-32221-0000	BARR NONE FEDERAL 1	WTI LTD	OIL	LEA CO UNDESIGNTD	DELAWARE	86,747	17,881	196,778		9/1/1993	10/5/1993	12/10/1993
84	30-015-40106-0000	BIG ARISTOTLE 27 ST 1H	DEVON ENERGY PRODUCT	OIL	LOST TANK	DELAWARE	429,201	1,050,023	1,349,155		3/1/2012	6/10/2012	8/29/2012
85	30-015-40107-0000	BIG ARISTOTLE 27 ST 2H	DEVON ENERGY PRODUCT	OIL	LOST TANK	DELAWARE	345,576	1,217,202	1,239,622		3/1/2012	6/22/2012	9/5/2012
86	30-025-30757-0001	BILBREY `21` FEDERA 1	V-F PETROLEUM INC	DRY	BILBREY	DELAWARE	643	1,192	7,262		12/1/1989	12/30/1989	12/26/1997
87	30-025-33647-0000	BILBREY `30` FEDERA 5	TEXACO EXPL&PROD INC	DRY	LOST TANK	CHERRY CANYON	28,033	3,858	119,960		11/1/1996	11/30/1996	2/24/1997
88	30-025-31095-0001	BILBREY 27A FEDERAL 001	SANTA FE ENRGY RESCS	DRY	BILBREY NORTH	DELAWARE	55,769	98,470	191,105		8/1/1995	8/26/1995	9/24/1995
89	30-025-30664-0002	BILBREY 28 A FEDERA 1	DEVON ENERGY PRODUCT	DRY	BILBREY	DELAWARE	1,357	16,818	63,868		5/1/2010	6/1/2010	8/9/2010
90	30-025-33222-0001	BLUE QUAIL FEDERAL 1	ENERVEST OPERATING	SUSOIL	SAND DUNES EAST	DELAWARE	36,433	38,614	714,792		2/1/2013	2/23/2013	5/23/2013
91	30-025-35047-0000	BLUE QUAIL FEDERAL 2	MYCO INDUSTRIES INC	SUSOIL	LIVINGSTON RIDGE	DELAWARE	35,644	101,742	862,175		5/1/2000	6/9/2000	9/20/2000
92	30-015-27001-0000	BONNEVILLE AKK FEDE 002	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	27,644	45,872	209,922		4/1/1992	4/28/1992	6/29/1992
93	30-025-31394-0000	BW `31` FEDERAL 1	COLLINS & WARE INC	DHSO	LIVINGSTON RIDGE	DELAWARE	35				9/1/1991	10/8/1991	5/26/1994
94	30-025-41088-0000	CABIN LAKE `31` FED 6H	OXY U S A INC	OIL	LOST TANK	DELAWARE	59,888	36,777	791,334		3/1/2013	6/30/2013	10/20/2013
95	30-015-26631-0000	CABIN LAKE `34` FED 1	YATES HARVEY E CO	DRY	CABIN LAKE	BRUSHY CANYON	5,914	16,404	63,361		1/1/1991	1/31/1991	3/19/1991
96	30-015-25640-0001	CAL-MON 005	POGO PRODUCING CO	DRLWIW	SWD	DELAWARE				11,869,417	6/1/1993	8/4/1993	8/20/1993
97	30-015-27269-0000	CAL-MON 010	POGO PRODUCING CO	DRY	INGLE WELLS	BRUSHY CANYON	88,199	238,893	686,955		2/1/1993	3/2/1993	3/24/1993
98	30-015-28026-0000	CALMON 018	POGO PRODUCING CO	DRY	INGLE WELLS	BRUSHY CANYON	125,631	209,477	1,162,236		6/1/1994	9/30/1994	11/6/1994
99	30-015-27223-0000	CAL-MON 11	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	106,476	276,657	427,939		6/1/1993	7/7/1993	8/5/1993
100	30-015-31645-0000	CAL-MON 12	POGO PRODUCING CO	OIL	INGLE WELLS	DELAWARE	30,281	96,200	152,126		2/1/2001	3/29/2001	5/21/2001
101	30-015-28024-0000	CALMON 17	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	93,932	156,988	198,019		12/1/1996	1/2/1997	2/8/1997
102	30-015-27496-0000	CAL-MON 19	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	110,476	203,675	669,191		9/1/1993	9/22/1993	10/19/1993
103	30-015-25176-0001	CAL-MON 2	POGO PRODUCING CO	DRY	INGLE WELLS	BRUSHY CANYON	53,448	214,078	74,096		11/1/1990	11/20/1990	5/28/1991
104	30-015-27549-0000	CAL-MON 20	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	67,187	223,609	127,753		7/1/1993	7/17/1993	8/24/1993
105	30-015-25405-0000	CAL-MON 3	POGO PRODUCING CO	DRY	SAND DUNES	CHERRY CANYON	33,546	18,576	79,802		8/1/1985	8/27/1985	12/5/1985
106	30-015-27113-0000	CAL-MON 8	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	46,197	237,479	129,805		10/1/1992	11/8/1992	12/22/1992
107	30-015-27206-0000	CAL-MON 9	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	85,246	305,700	182,460		11/1/1992	12/7/1992	1/11/1993
108	30-015-27081-0000	CAL-MON FEDERAL 7	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	73,340	233,694	529,143		7/1/1992	8/10/1992	9/8/1992
109	30-015-21098-0001	CAMPANA 1	DEVON ENERGY PRODUCT	CONWIW	WC	DELAWARE				167,415	6/1/2004	6/15/2004	8/12/2004
110	30-025-39528-0000	CAPELLA BOP FEDERAL 1	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	61,051	192,475	580,974		9/1/2009	10/16/2009	1/10/2010
111	30-025-39529-0000	CAPELLA BOP FEDERAL 2H	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	179,768	521,642	1,280,635		9/1/2009	8/26/2012	11/13/2012
112	30-025-37450-0000	CAPER BFE FEDERAL 003	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	49,922	104,926	1,006,377		8/1/2005	6/13/2006	8/21/2006
113	30-025-38101-0000	CAPER BFE FEDERAL 016H	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	71,342	96,554	412,809		8/1/2006	7/15/2010	12/16/2010
114	30-025-36954-0000	CAPER BFE FEDERAL 1	YATES PETROLEUM CORP	SUSOIL	LOST TANK	BRUSHY CANYON	61,385	195,112	737,490		11/1/2004	12/17/2004	4/13/2005
115	30-025-37439-0000	CAPER BFE FEDERAL 2	YATES PETROLEUM CORP	OIL	LOST TANK	CHERRY CANYON	184,612	255,065	958,672		8/1/2005	9/29/2005	1/18/2006
116	30-025-37449-0000	CAPER BFE FEDERAL 4	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	118,012	189,059	784,051		8/1/2005	9/21/2006	11/13/2006
117	30-025-37448-0000	CAPER BFE FEDERAL 5	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	73,489	142,493	679,149		8/1/2005	8/10/2006	10/30/2006
118	30-025-38091-0000	CAPER BFE FEDERAL 6H	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	139,966	403,485	813,535		8/1/2006	6/19/2010	10/10/2010
119	30-025-31415-0000	CERCION FEDERAL 1	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	CHERRY CANYON	129,591	118,017	738,040		10/1/1991	10/29/1991	1/6/1992
120	30-025-31602-0000	CERCION FEDERAL 2	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	DELAWARE	171,420	162,587	515,185		5/1/1992	6/10/1992	7/20/1992
121	30-025-31665-0000	CERCION FEDERAL 3	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	DELAWARE	41,212	50,732	834,186		8/1/1992	8/11/1992	10/25/1992
122	30-025-31726-0000	CERCION FEDERAL 4	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	CHERRY CANYON	54,013	60,092	143,008		1/1/1993	1/17/1993	3/14/1993
123	30-025-31849-0000	CERCION FEDERAL 5	STRATA PRODUCTION CO	DRY	LIVINGSTON RDG E	DELAWARE	19,687	30,353	65,101		1/1/1993	2/2/1993	3/20/1993
124	30-015-28808-0001	CHARGER `29` FEDERA 001	MARALO INC	DRLWIW	SWD	DELAWARE				8,717,796	6/1/1997	6/5/1997	6/26/1997
125	30-025-32795-0000	CHECKERBOARD `23` F 012	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	70,202	165,161	585,126		12/1/1994	1/20/1995	2/23/1995
126	30-025-32864-0001	CHECKERBOARD `23` F 013	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	62,567	140,227	252,422		4/1/1995	5/2/1995	5/17/1995
127	30-025-31906-0001	CHECKERBOARD `23` F 1	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	122,862	245,359	563,653		8/1/1993	8/25/1993	9/3/1993
128	30-025-32627-0100	CHECKERBOARD `23` F 10	BURLINGTON RES O&G	DRY	RED TANK WEST	DELAWARE	7,168	25,098	63,177		9/1/1997	9/25/1997	10/28/1997
129	30-025-32627-0000	CHECKERBOARD `23` F 10	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	41,803	62,747	115,927		8/1/1994	10/9/1994	11/22/1994
130	30-025-32628-0001	CHECKERBOARD `23` F 11	BURLINGTON RES O&G	OIL	RED TANK	DELAWARE	7,438	8,586	23,222		1/1/1998	1/21/1998	2/10/1998
131	30-025-32628-0000	CHECKERBOARD `23` F 11	MERIDIAN OIL INC	OIL	RED TANK WEST	DELAWARE	115,051	366,199	127,919		8/1/1994	9/6/1994	10/17/1994
132	30-025-32885-0000	CHECKERBOARD `23` F 16	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	29,239	48,328	114,485		3/1/1995	4/2/1995	6/11/1995
133	30-025-32287-0001	CHECKERBOARD `23` F 3	BURLINGTON RES O&G	OIL	RED TANK	DELAWARE	36,921	101,695	104,777		9/1/1996	10/3/1996	10/6/1996
134	30-025-32287-0000	CHECKERBOARD `23` F 3	MERIDIAN OIL INC	OIL	RED TANK WEST	DELAWARE	84,604	209,290	28,483		11/1/1993	12/1/1993	1/19/1994
135	30-025-32396-0000	CHECKERBOARD `23` F 4	MERIDIAN OIL INC	SUSOIL	RED TANK	DELAWARE	108,064	266,874	588,538		1/1/1994	2/10/1994	3/13/1994
136	30-025-32620-0000	CHECKERBOARD `23` F 7	MERIDIAN OIL INC	OIL	RED TANK WEST	DELAWARE	92,796	319,810	246,797		7/1/1994	8/2/1994	8/31/1994
137	30-025-32626-0000	CHECKERBOARD `23` F 8	MERIDIAN OIL INC	OIL	RED TANK WEST	DELAWARE	104,870	276,761	217,917		8/1/1994	8/19/1994	9/29/1994
138	30-025-32660-0000	CHECKERBOARD `23` F 9	MERIDIAN OIL INC	OIL	RED TANK WEST	DELAWARE	94,863	262,834	139,907		9/1/1994	9/25/1994	11/4/1994
139	30-025-32375-0000	CHECKERBOARD 23 FED 006	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	64,688	216,078	249,583		1/1/1994	3/3/1994	4/5/1994
140	30-025-33702-0000	CHECKERS `24` FEDER 005	PENWELL ENERGY INC	DRY	RED TANK WEST	BRUSHY CANYON	39,413	70,695	167,825		11/1/1996	10/25/1997	1/6/1998
141	30-015-27617-0000	CHRISTOPHER `31` FE 002	PHILLIPS PETRLM CO	DRY	EDDY UNDESIGNATED	DELAWARE	70,906	156,085	504,151		7/1/1993	9/5/1993	10/11/1993
142	30-025-24823-0001	CLEARY `AKC` FEDERA 1	YATES PETROLEUM CORP	DRY	LEA CO UNDESIGNTD	DELAWARE	19,161	16,630	590,062		12/1/1991	12/17/1991	2/15/1992
143	30-025-31926-0001	CLEARY AKC FEDERAL 2	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG E	CHERRY CANYON	1,170	2,148	69,517		11/1/2004	12/15/2004	3/5/2005
144	30-025-31926-0003	CLEARY FEDERAL SWD 2	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				2,993,406	2/1/2007	6/22/2007	8/19/2007
145	30-025-31968-0000	COLIBRI FEDERAL 1	STRATA PRODUCTION CO	SUSOIL	DIAMONDTAIL	DELAWARE	5,016		205,239		4/1/1993	5/8/1993	12/8/1995
146	30-025-36049-0000	CONTINENTAL `APJ` F 3	YATES PETROLEUM CORP	DRY	DIAMONDTAIL STHWT	DELAWARE	78,213	88,633	1,238,810		11/1/2002	1/3/2003	3/9/2003
147	30-025-36111-0000	CONTINENTAL APJ FED 6	YATES PETROLEUM CORP	DRY	TRISTE DRAW WEST	CHERRY CANYON	12,744	41,884	440,619		1/1/2003	5/3/2003	6/30/2003

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
148	30-025-37089-0000	CONTINENTAL APJ FED 8	YATES PETROLEUM CORP	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	28,115	66,407	293,842		2/1/2005	11/21/2005	2/25/2006
149	30-025-34901-0000	CORSAIR `27` FEDERA 1	ECHO PRODUCTION INC	SUSOIL	TRISTE DRAW	DELAWARE	98,222	107,817	343,316		1/1/2000	2/21/2000	5/12/2000
150	30-025-35375-0000	CORSAIR `27` FEDERA 4	ECHO PRODUCTION INC	OIL	TRISTE DRAW	DELAWARE	17,270	17,735	66,675		1/1/2001	2/28/2001	5/11/2001
151	30-025-24947-0004	COVINGTON `A` FEDER 001	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE	39,712	84,275	293,694		4/1/2001	7/24/2002	8/2/2002
152	30-025-33399-0001	COVINGTON `A` FEDER 014	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE	48,677	91,048	1,282,639		10/1/2000	6/28/2001	7/13/2001
153	30-025-33224-0001	COVINGTON `A` FEDER 016	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE	224,276	187,219	1,322,846		10/1/1996	10/29/1996	11/12/1996
154	30-025-32581-0001	COVINGTON `A` FEDER 10	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	92,495	179,012	527,025		2/1/1999	3/2/1999	3/16/1999
155	30-025-33142-0001	COVINGTON `A` FEDER 13	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	92,025	165,240	740,230		2/1/1999	3/2/1999	3/26/1999
156	30-025-31853-0001	COVINGTON `A` FEDER 19	POGO PRODUCING CO	DRY	RED TANK WEST	BELL CANYON	39,985	69,098	1,059,966		7/1/1997	8/9/1997	6/3/1998
157	30-025-31853-0000	COVINGTON `A` FEDER 19	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	11,373	10,991	73,837		11/1/1996	11/30/1996	1/12/1997
158	30-025-35898-0000	COVINGTON `A` FEDER 20	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	145,924	145,098	405,439		5/1/2002	5/9/2002	6/22/2002
159	30-025-34075-0000	COVINGTON `A` FEDER 21	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	163,681	198,322	457,807		12/1/1997	12/23/1997	1/25/1998
160	30-025-32851-0000	COVINGTON `A` FEDER 25	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	272,774	236,899	1,625,438		1/1/1995	2/9/1995	4/26/1995
161	30-025-34987-0000	COVINGTON `A` FEDER 26	POGO PRODUCING CO	OIL	RED TANK WEST	CHERRY CANYON	81,804	98,893	1,434,306		3/1/2000	10/22/2000	11/26/2000
162	30-025-32445-0001	COVINGTON `A` FEDER 3	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	158,995	185,549	300,875		5/1/1998	6/9/1998	6/26/1998
163	30-025-34705-0000	COVINGTON `A` FEDER 34	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	165,294	237,047	236,901		9/1/1999	10/10/1999	12/1/1999
164	30-025-34706-0000	COVINGTON `A` FEDER 35	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	52,803	115,213	423,425		9/1/1999	10/31/1999	12/10/1999
165	30-025-34479-0001	COVINGTON `A` FEDER 36	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	233,780	279,066	972,488		10/1/1998	10/13/1998	10/27/1998
166	30-025-34455-0001	COVINGTON `A` FEDER 37	POGO PRODUCING CO	OIL	RED TANK WEST	DELAWARE	57,212	146,529	488,143		10/1/1999	10/28/1999	11/9/1999
167	30-025-34753-0000	COVINGTON `A` FEDER 38	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	43,092	78,767	355,352		10/1/1999	11/24/1999	12/30/1999
168	30-025-32290-0001	COVINGTON `A` FEDER 4	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	80,372	129,297	619,753		9/1/1997	10/3/1997	10/19/1997
169	30-025-35936-0000	COVINGTON `A` FEDER 42	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	59,774	105,883	243,344		6/1/2002	11/25/2002	12/30/2002
170	30-025-32446-0001	COVINGTON `A` FEDER 5	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	96,132	216,362	716,620		1/1/1998	1/27/1998	2/8/1998
171	30-025-31851-0001	COVINGTON `A` FEDER 6	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	317,719	336,668	971,278		1/1/1996	2/5/1996	2/21/1996
172	30-025-33614-0000	COVINGTON `A` FEDER 7	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	274,591	383,942	1,127,283		11/1/1996	11/13/1996	12/16/1996
173	30-025-32023-0001	COVINGTON `A` FEDER 8	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	172,085	193,079	956,077		10/1/1994	10/22/1994	12/7/1994
174	30-025-32036-0000	COVINGTON `A` FEDER 9	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	272,221	394,617	1,356,044		6/1/1993	9/28/1993	11/24/1993
175	30-025-33319-0001	COVINGTON A FEDERAL 15	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	12,670	26,464	116,528		3/1/2004	5/20/2004	6/5/2004
176	30-025-35940-0001	COVINGTON A FEDERAL 17	POGO PRODUCING CO	OIL	RED TANK WEST	DELAWARE	33,017	74,602	251,241		6/1/2003	8/12/2003	8/26/2003
177	30-025-31434-0000	CUERVO FEDERAL 2	STRATA PRODUCTION CO	OIL	DIAMONDTAIL	DELAWARE	180,897	52,358	588,564		11/1/1991	11/21/1991	1/17/1992
178	30-025-38680-0000	CUERVO FEDERAL 3	STRATA PRODUCTION CO	OIL	DIAMONDTAIL	DELAWARE	33,154	12,121	225,152		12/1/2007	9/24/2008	12/25/2008
179	30-025-33262-0001	DARIUS `ADS` FEDERA 1	BURLINGTON RES O&G	OIL	TRISTE DRAW WEST	DELAWARE	78,796	261,458	99,257		9/1/1996	9/23/1996	10/4/1996
180	30-025-35015-0000	DIAMOND `34` FEDERA 1	EOG RESOURCES INC	OIL	TRISTE DRAW	DELAWARE	42,316	44,218	43,772		4/1/2000	6/14/2000	8/5/2000
181	30-025-33112-0000	DIAMOND `34` FEDERA 2	MERIDIAN OIL INC	OIL	TRISTE DRAW	DELAWARE	182,971	209,685	715,489		8/1/1995	8/28/1995	11/29/1995
182	30-025-33351-0001	DIAMOND `34` FEDERA 3	BURLINGTON RES O&G	DRY	TRISTE DRAW WEST	BRUSHY CANYON	5,626	13,464	346,911		2/1/1998	2/13/1998	2/21/1998
183	30-025-33351-0000	DIAMOND `34` FEDERA 3	MERIDIAN OIL INC	DRY	TRISTE DRAW	BRUSHY CANYON	6,272	10,458	62,356		4/1/1996	4/16/1996	5/31/1996
184	30-025-32879-0002	DIAMONDTAIL `34` FE 1	BURLINGTON RES O&G	SUSOIL	TRISTE DRAW	DELAWARE	1,031	2,362	12,403		11/1/1997	11/17/1997	12/19/1997
185	30-025-32879-0000	DIAMONDTAIL `34` FE 1	MERIDIAN OIL INC	OIL	TRISTE DRAW	DELAWARE	188,232	233,753	343,072		3/1/1995	3/18/1995	6/7/1995
186	30-025-32998-0000	DIAMONDTAIL `34` FE 2	MERIDIAN OIL INC	OIL	TRISTE DRAW WEST	DELAWARE	249,090	265,730	956,755		6/1/1995	6/20/1995	9/18/1995
187	30-025-33020-0004	DIAMONDTAIL `34` FE 3	BURLINGTON RES O&G	OIL	TRISTE DRAW	DELAWARE	234,470	236,242	748,339		2/1/1998	3/2/1998	3/7/1998
188	30-015-26547-0000	DOLORES `AIL` FEDER 001	YATES PETROLEUM CORP	DRY	LIVINGSTON RIDGE	CHERRY CANYON	187,146	427,687	481,910		11/1/1990	2/16/1991	3/26/1991
189	30-015-26548-0000	DOLORES `AIL` FEDER 2	YATES PETROLEUM CORP	SUSOIL	LIVINGSTON RIDGE	CHERRY CANYON	562,992	1,065,516	618,030		8/1/1991	8/16/1991	9/24/1991
190	30-015-26722-0000	DOLORES `AIL` FEDER 3	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	CHERRY CANYON	248,745	576,897	661,612		5/1/1991	6/1/1991	7/2/1991
191	30-015-26802-0000	DONELL `3` FEDERAL 1	YATES HARVEY E CO	DRY	CABIN LAKE	BRUSHY CANYON	579	729			7/1/1991	7/29/1991	12/8/1991
192	30-025-33650-0000	EAST LIVINGSTON RID 12	POGO PRODUCING CO	OIL	LIVINGSTON RDG E	BRUSHY CANYON	90,269	51,941	623,723		10/1/1996	10/22/1996	12/6/1996
193	30-025-32149-0000	EAST LIVINGSTON RID 3	POGO PRODUCING CO	DRY	LIVINGSTON RDG E	BRUSHY CANYON	9,917	8,462	188,144		8/1/1993	8/25/1993	9/28/1993
194	30-025-31976-0001	EMERALD FEDERAL 001	MARALO INC	DRY	LIVINGSTON RDG E	CHERRY CANYON	60,270		1,113,184		8/1/1994	9/1/1994	3/11/1995
195	30-025-31902-0000	EXXON `27` FEDERAL 2	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	235,058	468,145	609,746		2/1/1993	2/22/1993	4/27/1993
196	30-025-33001-0000	FALCON `32` STATE 1	SANTA FE ENRGY RESCS	DRY	TRISTE DRAW	DELAWARE	200,936	254,249	696,430		8/1/1995	8/28/1995	10/19/1995
197	30-025-35640-0000	FALCON `32` STATE 3	DEVON SFS OPER INC	OIL	TRISTE DRAW WEST	BRUSHY CANYON	73,979	159,391	573,530		7/1/2001	7/29/2001	10/14/2001
198	30-025-39661-0000	FALCON 32 STATE 005Y-H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	BRUSHY CANYON	162,277	313,512	937,524		2/1/2010	3/1/2010	5/12/2010
199	30-025-36555-0000	FALCON 32 STATE 4	DEVON ENERGY PRODUCT	OIL	TRISTE DRAW WEST	BRUSHY CANYON	55,075	200,329	472,250		1/1/2004	7/10/2005	9/6/2005
200	30-015-26829-0000	FEDERAL `1` 003	POGO PRODUCING CO	DRY	LOST TANK	BRUSHY CANYON	83,566	197,539	207,319		9/1/1991	3/18/1992	4/7/1992
201	30-015-26843-0000	FEDERAL `1` 4	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	92,760	174,482	744,217		2/1/1992	2/13/1992	3/17/1992
202	30-015-26909-0000	FEDERAL `1` 5	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	89,837	185,340	146,446		1/1/1992	1/28/1992	3/4/1992
203	30-015-26910-0000	FEDERAL `1` 6	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	100,206	231,033	183,568		3/1/1992	3/12/1992	4/15/1992
204	30-015-26917-0000	FEDERAL `12` 006	POGO PRODUCING CO	SUSOIL	LIVINGSTON RIDGE	BRUSHY CANYON	113,872	273,317	129,069		1/1/1992	3/2/1992	4/16/1992
205	30-015-40840-0000	FEDERAL `12` 1H	OCCIDENTAL PERMN LP	OIL	QUAHADA RIDGE SE	DELAWARE	158,115	302,982	732,113		11/1/2012	11/23/2012	5/21/2013
206	30-015-26780-0000	FEDERAL `12` 2	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	220,901	402,501	216,572		8/1/1991	8/22/1991	9/19/1991
207	30-015-26858-0000	FEDERAL `12` 3	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	188,845	288,447	170,996		1/1/1992	1/20/1992	2/19/1992
208	30-015-26859-0000	FEDERAL `12` 4	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	180,323	345,101	250,201		10/1/1991	11/9/1991	12/13/1991
209	30-015-26860-0000	FEDERAL `12` 5	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	125,603	270,292	156,778		12/1/1991	12/13/1991	1/19/1992
210	30-015-26918-0000	FEDERAL `12` 7	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	174,675	348,817	212,233		1/1/1992	2/8/1992	3/3/1992
211	30-015-26942-0000	FEDERAL `12` 8	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	191,411	391,600	211,178		3/1/1992	3/28/1992	4/23/1992
212	30-015-26971-0000	FEDERAL `12` 9	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	135,698	170,818	1,248,408		2/1/1995	3/6/1995	4/24/1995
213	30-015-26377-0000	FEDERAL `23` 1	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	195,427	312,830	890,004		6/1/1990	6/22/1990	8/25/1990
214	30-015-39437-0000	FEDERAL `23` 11H	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	487,929	1,209,248	1,390,953		9/1/2011	8/27/2012	12/9/2012
215	30-015-41803-0000	FEDERAL `23` 12H	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	341,538	337,130	2,020,309		11/1/2013	11/24/2014	3/26/2015
216	30-015-41636-0000	FEDERAL `23` 13H	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	465,535	849,212	2,315,849		8/1/2013	10/31/2014	3/8/2015
217	30-015-26932-0000	FEDERAL `23` 2	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	183,078	352,786	549,960		3/1/1992	3/30/1992	4/24/1992
218	30-015-26400-0000	FEDERAL `23` 3	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	197,469	349,407	392,276		6/1/1991	7/5/1991	8/9/1991
219	30-015-26681-0000	FEDERAL `23` 5	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	285,507	420,062	512,932		3/1/1991	3/19/1991	4/25/1991
220	30-015-39436-0001	FEDERAL `23` 7H	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	148,525	127,126	746,446		12/1/2014	9/23/2014	1/19/2015
221	30-015-25305-0000	FEDERAL `24` 1	KANEB OIL	OIL	SAND DUNES	CHERRY CANYON	97,650	98,120	146,462		6/1/1985	6/27/1985	8/10/1985
222	30-015-25408-0000	FEDERAL `24` 2	KANEB PRODUCTION CO	DRY	SAND DUNES	CHERRY CANYON	83,146	75,032	191,785		10/1/1985	10/16/1985	12/10/1985
223	30-015-25407-0000	FEDERAL `24` 3	KANEB PRODUCTION CO	OIL	SAND DUNES	CHERRY CANYON	37,744	71,550	108,863		11/1/1985	11/22/1985	3/10/1986
224	30-015-26376-0000	FEDERAL `26` 1	POGO PRODUCING CO	DRY	LIVINGSTON RIDGE	BRUSHY CANYON	140,782	211,682	1,164,061		5/1/1990	5/30/1990	7/25/1990
225	30-015-41573-0000	FEDERAL `26` 12H	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	118,716	83,534	2,905,040		7/1/2013	9/13/2014	3/30/2015
226	30-015-26638-0000	FEDERAL `26` 2	POGO PRODUCING CO	DRY	LIVINGSTON RIDGE	CHERRY CANYON	64,099	87,686	375,066		2/1/1991	2/21/1991	4/24/1991
227	30-015-26788-0000	FEDERAL `26` 3	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	200,205	209,933	425,619		7/1/1991	7/21/1991	8/25/1991
228	30-015-26866-0000	FEDERAL `26` 4	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	201,739	199,848	838,748		10/1/1991	10/25/1991	12/8/1991
229	30-015-26854-0000	FEDERAL `26` 5	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	177,414	175,357	664,524		11/1/1991	12/3/1991	1/13/1992
230	30-015-26941-0000	FEDERAL `26` 7	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	114,378	129,851	859,182		3/1/1992	4/2/1992	5/19/1992
231	30-015-30355-0000	FEDERAL `26` 9	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	51,442	64,812	1,033,780		7/1/1998	9/28/1998	11/17/1998
232	30-025-32842-0000	FEDERAL `27` 006	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	126,404	108,749	1,473,777		1/1/1995	10/9/1995	11/8/1995
233	30-025-31618-0000	FEDERAL `27` 1	POGO PRODUCING CO	OIL	RED TANK WEST	DELAWARE	172,556	254,147	816,313		6/1/1992	6/19/1992	8/23/1992
234	30-025-33652-0000	FEDERAL `27` 2	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	145,003	126,346	1,234,997		10/1/1996	6/8/1998	7/13/1998
235	30-025-33651-0000	FEDERAL `27` 3	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	101,535	135,099	717,338		10/1/1996	12/27/1997	1/29/1998
236	30-025-32797-0000	FEDERAL `27` 5	POGO PRODUCING CO	SUSOIL	RED TANK WEST	BRUSHY CANYON	5,293	6,027	14,394		11/1/1996	11/11/1996	12/21/1996
237	30-025-32797-0002	FEDERAL `27` 5	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	94,487	106,197	1,212,428		6/1/1999	6/17/1999	6/25/1999
238	30-025-32775-0000	FEDERAL `27` 7	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	155,669	157,792	1,195,084		6/1/1995	7/8/1995	8/9/1995
239	30-015-27312-0000	FEDERAL `29` 4	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	96,338	491,056	285,939		1/1/1993	2/3/1993	3/22/1993
240	30-015-27266-0000	FEDERAL `29` 8	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	120,815	451,041	515,869		1/1/1993	1/29/1993	2/24/1993
241	30-025-31403-0000	FEDERAL `6` 1	POGO PRODUCING CO	DRY	LIVINGSTON RDG NE	BRUSHY CANYON	635				4/1/1994	4/30/1994	6/30/1994
242	30-015-32408-0000	FEDERAL `BA` 001	MARBOB ENERGY CORP	DRY	LOST TANK	DELAWARE	76,284	382,727	401,125		8/1/2002	9/3/2002	10/18/2002
243	30-015-25301-0001	FEDERAL `NEFF` 1	POGO PRODUCING CO	DRY	LIVINGSTON RIDGE	BRUSHY CANYON	51,282	80,939	332,163		10/1/1989	11/1/1989	11/4/1989
244	30-025-32999-0001	FEDERAL `WBR` 2	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	68,514	182,256	560,021		10/1/1995	10/20/1995	10/31/1995
245	30-025-33026-0001	FEDERAL `WBR` 3	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	61,750	126,137	307,706		6/1/1996	7/10/1996	7/26/1996
246	30-015-26775-0000	FEDERAL 1 001	POGO PRODUCING CO	DRY	LIVINGSTON RIDGE	DELAWARE	112,638	234,530	161,383		6/1/1991	11/15/1991	12/16/1991
247	30-015-26828-0000	FEDERAL 1 002	POGO PRODUCING CO	DRY	LOST TANK	BRUSHY CANYON	101,895	187,092	191,519		9/1/1991	1/10/1992	2/5/1992
248	30-015-26742-0000	FEDERAL 12 001	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	142,348	327,231	202,191		5/1/1991	6/18/1991	7/17/1991
249	30-015-26742-0002	FEDERAL 12 001	OXY U S A INC	CONWIW	SWD	BRUSHY CANYON				1,687,410	2/1/2014	5/30/2014	7/23/2014

Russell K. Hall and Associates, Inc.
Reservoir Evaluation Engineers
3/15/2023

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
250	30-015-41344-0000	FEDERAL 12 002H	OCCIDENTAL PERMN LP	OIL	QUAHADA RIDGE SE	DELAWARE	216,346	473,602	1,691,466		4/1/2013	2/21/2014	10/15/2014
251	30-015-41345-0000	FEDERAL 12 3H	OCCIDENTAL PERMN LP	OIL	QUAHADA RIDGE SE	DELAWARE	181,786	382,356	1,673,390		4/1/2013	2/21/2014	6/28/2014
252	30-015-37341-0000	FEDERAL 23 16	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	259,327	285,264	532,226		10/1/2009	1/21/2010	5/18/2010
253	30-015-37336-0000	FEDERAL 23 4	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	58,902	38,344	514,736		10/1/2009	12/12/2009	2/17/2010
254	30-015-37340-0000	FEDERAL 23 6	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	209,650	202,066	574,272		10/1/2009	12/25/2009	3/30/2010
255	30-015-37334-0000	FEDERAL 23 9	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	218,314	204,893	596,022		10/1/2009	1/10/2010	4/5/2010
256	30-015-41600-0000	FEDERAL 26 13H	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	112,836	128,367	2,098,979		7/1/2013	8/16/2014	3/22/2015
257	30-025-32796-0000	FEDERAL 27 004	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	71,383	89,326	1,559,770		11/1/1994	8/9/1996	9/6/1996
258	30-025-32755-0000	FEDERAL 27 008	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	68,111	99,253	1,697,424		5/1/1995	6/9/1995	7/10/1995
259	30-015-37330-0000	FEDERAL 29 001	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	32,602	29,776	545,953		10/1/2009	11/4/2009	4/1/2010
260	30-015-37337-0000	FEDERAL 29 005	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	30,991	76,930	573,889		10/1/2009	11/26/2009	2/24/2010
261	30-015-38230-0000	FEDERAL 29 10	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	31,765	59,483	585,808		9/1/2010	2/28/2011	8/21/2011
262	30-015-37698-0000	FEDERAL 29 11	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	39,347	63,496	167,330		2/1/2010	3/24/2010	8/27/2010
263	30-015-38231-0000	FEDERAL 29 12	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	33,798	67,984	842,078		9/1/2010	3/18/2011	8/21/2011
264	30-015-37697-0000	FEDERAL 29 9	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	25,589	57,542	166,091		2/1/2010	4/21/2010	8/17/2010
265	30-025-31089-0001	FEDERAL 31 1	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	37,923	33,207	482,787		6/1/2002	7/10/2002	8/6/2002
266	30-015-35358-0000	FEDERAL BA 2	MARBOB ENERGY CORP	OIL	LOST TANK	DELAWARE	30,827	156,623	367,327		1/1/2007	10/10/2007	12/23/2007
267	30-025-21320-0000	FEDERAL K 1	UNION OIL CO OF CA	DRY	TRISTE DRAW	DELAWARE	8,578	4,780	11,558		6/1/1965	6/16/1965	7/2/1965
268	30-025-21440-0000	FEDERAL L 1	UNION OIL CO OF CA	DRY	TRISTE DRAW	DELAWARE	3,525	2,782	6,220		9/1/1965	9/18/1965	10/3/1965
269	30-025-31518-0000	FEDERAL N L 2	COLLINS & WARE INC	DRY	LOST TANK	DELAWARE	436	3	9,655		5/1/1992	6/10/1992	11/4/1992
270	30-025-08128-0000	FEDERAL-JAMES 001	PALMER J B & MCCARVE	DRLWIW	SWD	DELAWARE	43,883	55,067	14,085	142,681	12/1/1960	1/26/1961	2/14/1961
271	30-025-08120-0000	FIELDS 002	CONTINENTAL OIL CO	DRY	TRISTE DRAW	DELAWARE	17,533	40,220	135,063		7/1/1962	7/21/1962	8/5/1962
272	30-025-25348-0000	FIELDS 4	CONTINENTAL OIL CO	DRY	CRUZ	DELAWARE	52,873	101,014	589,859		9/1/1976	10/10/1976	12/1/1976
273	30-025-20153-0000	FIELDS-FEDERAL 1	JOHNSTON HUGH L SR	DRY	CRUZ	DELAWARE	22,061	22,032	6,052		4/1/1963	4/15/1963	5/10/1963
274	30-025-08119-0000	FIELDS-FEDERAL 1	CONTINENTAL OIL CO	DRY	CRUZ	DELAWARE	86,039	170,622	741,233		9/1/1961	10/2/1961	11/2/1961
275	30-025-31076-0000	FLAMENCO FEDERAL WD-1	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				15,266,934	11/1/1990	12/10/1990	7/3/1991
276	30-015-26973-0000	FLORA `AKF` STATE 001	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	223,299	283,098	306,654		3/1/1992	4/17/1992	11/3/1994
277	30-015-32028-0000	FLORA `AKF` STATE 004	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	166,442	302,730	230,920		10/1/2001	11/26/2002	1/26/2003
278	30-015-32027-0000	FLORA `AKF` STATE 3	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	93,718	265,702	371,723		10/1/2001	6/2/2002	7/28/2002
279	30-015-26974-0000	FLORA AKF STATE 002	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	229,039	294,919	169,343		2/1/1995	3/14/1995	4/7/1995
280	30-015-30412-0000	FNR `26` FEDERAL 1	POGO PRODUCING CO	OIL	FORTY NINER RG SE	BRUSHY CANYON	63,475	135,121	224,708		10/1/1998	10/15/1998	12/12/1998
281	30-015-42275-0000	FNR `35` FEDERAL 1H	OXY U S A INC	OIL	SAND DUNES SOUTH	DELAWARE	124,822	194,166	1,212,150		3/1/2014	7/10/2014	12/12/2014
282	30-015-42298-0000	FNR `35` FEDERAL 3H	OXY U S A INC	OIL	SAND DUNES SOUTH	DELAWARE	146,835	228,809	1,308,535		4/1/2014	6/14/2014	9/27/2014
283	30-015-41647-0000	FORTY NINER RIDGE ` 002H	OXY U S A INC	OIL	FRTY NINR RDGE SW	DELAWARE	214,113	396,817	1,182,438		8/1/2013	5/13/2014	9/5/2014
284	30-015-41012-0000	FORTY NINER RIDGE ` 4H	OXY U S A INC	OIL	FRTY NINR RDGE SW	DELAWARE	101,966	125,500	488,598		1/1/2013	8/28/2013	6/2/2014
285	30-015-21175-0002	FORTY NINER RIDGE I 1	TEXACO PROD INC	OIL	FORTY NINER RIDGE	DELAWARE	195,559	188,787	1,563,143		7/1/1987	8/9/1987	10/27/1987
286	30-015-20899-0002	FORTY NINER RIDGE U 1	GETTY OIL CO	OIL	FORTY NINER RIDGE	DELAWARE	68,898	60,678	454,153		11/1/1983	7/31/1984	8/15/1984
287	30-015-20899-0004	FORTY NINER RIDGE U 1	STRATA PRODUCTION CO	CONWIW	SWD	DELAWARE			2,006	17,566,227	7/1/2002	3/17/2003	11/6/2004
288	30-015-33743-0000	FORTY NINER RIDGE U 4	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	BRUSHY CANYON	118,401	136,056	446,548		11/1/2004	2/8/2005	3/27/2005
289	30-015-33637-0000	FORTY NINER RIDGE U 6	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	BRUSHY CANYON	21,863	46,524	90,350		9/1/2004	3/3/2005	4/25/2005
290	30-015-33637-0002	FORTY NINER RIDGE U 6	STRATA PRODUCTION CO	INJ	FORTY NINER RIDGE	BRUSHY CANYON				3,675,077	4/1/2012	4/12/2012	4/20/2012
291	30-015-25454-0000	FORTY-NINER RIDGE U 3	TEXACO PROD INC	OIL	FORTY NINER RIDGE	BRUSHY CANYON	89,164	105,444	671,010		12/1/1987	12/31/1987	1/31/1988
292	30-015-29144-0000	GETTY `24 FEDERAL 8	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	CHERRY CANYON	149,553	380,706	642,440		9/1/1996	10/31/1996	2/26/1997
293	30-015-23348-0002	GETTY `24` FEDERAL 1	TEXACO PROD INC	SUSOIL	LIVINGSTON RIDGE	DELAWARE	211,421	231,838	590,251		5/1/1989	5/15/1989	6/12/1989
294	30-015-29581-0000	GETTY `24` FEDERAL 10	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	DELAWARE	247,093	499,886	394,590		4/1/1997	6/29/1997	8/2/1997
295	30-015-31162-0000	GETTY `24` FEDERAL 11	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	145,879	114,808	514,242		11/1/2000	11/29/2000	1/8/2001
296	30-015-31801-0000	GETTY `24` FEDERAL 13	CHEVRON U S A INC	DRY	LIVINGSTON RIDGE	CHERRY CANYON	19,177	27,836	216,158		5/1/2001	8/2/2002	11/18/2002
297	30-015-31802-0000	GETTY `24` FEDERAL 14	CHEVRON U S A INC	OIL	LIVINGSTON RIDGE	CHERRY CANYON	115,339	115,621	1,371,310		5/1/2001	9/15/2002	11/19/2002
298	30-015-31803-0000	GETTY `24` FEDERAL 15	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BELL CANYON	149,869	259,281	936,480		5/1/2001	5/2/2002	6/24/2002
299	30-015-26287-0000	GETTY `24` FEDERAL 2	TEXACO PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	94,061	146,511	705,643		2/1/1990	2/24/1990	3/27/1990
300	30-015-26288-0000	GETTY `24` FEDERAL 3	TEXACO PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	213,174	503,392	772,156		3/1/1990	3/15/1990	5/17/1990
301	30-015-26482-0000	GETTY `24` FEDERAL 4	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	177,774	228,302	981,443		1/1/1991	1/15/1991	2/18/1991
302	30-015-27084-0000	GETTY `24` FEDERAL 6	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	219,860	548,962	580,374		5/1/1996	5/29/1996	8/26/1996
303	30-015-27147-0000	GETTY `24` FEDERAL 7	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	122,950	181,069	1,312,973		6/1/1996	6/15/1996	8/26/1996
304	30-015-29580-0000	GETTY `24` FEDERAL 9	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	198,974	426,045	764,595		4/1/1997	6/13/1997	8/28/1997
305	30-015-26848-0000	GETTY `24` FEDERAL WD-5	TEXACO EXPL&PROD INC	DRLWIW	SWD	DELAWARE				18,741,790	9/1/1991	10/7/1991	11/3/1991
306	30-015-32644-0000	GETTY 24 FEDERAL 16	CHEVRON U S A INC	OIL	LIVINGSTON RIDGE	CHERRY CANYON	58,908	90,750	1,043,575		2/1/2003	4/23/2003	6/28/2003
307	30-025-08109-0001	GILMORE FEDERAL 001	STRATA PRODUCTION CO	CONWIW	SWD	DELAWARE				5,046,239	5/1/1992	5/13/1992	5/21/1992
308	30-015-35313-0000	GLOW WORM `ALX` FED 011	YATES PETROLEUM CORP	DRY	LOS MEDANOS	BRUSHY CANYON	7,084	17,052	323,776		12/1/2006	11/17/2007	12/27/2007
309	30-015-35316-0000	GLOW WORM `ALX` FED 014	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE	5,988	25,405	232,703		12/1/2006	9/12/2007	11/1/2007
310	30-015-35314-0000	GLOW WORM ALX FEDER 012	YATES PETROLEUM CORP	DRY	LOS MEDANOS	BRUSHY CANYON	6,580	18,945	219,367		12/1/2006	11/2/2007	12/14/2007
311	30-015-35315-0000	GLOW WORM ALX FEDER 013	YATES PETROLEUM CORP	DRY	LOS MEDANOS	BRUSHY CANYON	83,668	223,413	322,078		12/1/2006	2/14/2007	7/16/2007
312	30-015-36368-0000	GLOW WORM ALX FEDER 015H	YATES PETROLEUM CORP	DRY	LOS MEDANOS	BRUSHY CANYON	186,596	485,467	1,064,802		5/1/2008	6/20/2008	11/1/2008
313	30-015-36369-0000	GLOW WORM ALX FEDER 016H	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE	95,841	299,850	957,001		5/1/2008	12/2/2010	3/7/2011
314	30-015-37515-0000	GLOW WORM ALX FEDER 019H	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE	62,294	162,339	981,540		1/1/2010	9/28/2011	1/19/2012
315	30-015-28032-0000	GOLD RUSH `30` FEDE 001	MARALO INC	DRY	NASH DRAW	DELAWARE	82,437	360,006	247,205		6/1/1994	7/4/1994	3/9/1995
316	30-015-29747-0000	GOLD RUSH `30` FEDE 002	MARALO INC	DRY	NASH DRAW	DELAWARE	79,486	656,265	168,362		7/1/1997	8/16/1997	9/21/1997
317	30-015-28671-0000	GOLD RUSH `30` FEDE 003	MARALO INC	DRY	NASH DRAW	DELAWARE	60,137	318,464	252,023		9/1/1995	10/2/1995	11/6/1995
318	30-015-28872-0000	GOLD RUSH `30` FEDE 004	MARALO INC	DRY	NASH DRAW	BRUSHY CANYON	83,566	401,972	566,327		3/1/1996	4/24/1996	5/26/1996
319	30-015-31198-0000	GOLD RUSH `30` FEDE 006	MARALO LLC	DRY	NASH DRAW	DELAWARE	29,508	195,939	156,994		6/1/2000	8/13/2000	10/10/2000
320	30-015-29364-0000	GOLD RUSH `30` FEDE 007	MARALO INC	DRY	NASH DRAW	DELAWARE	83,484	413,955	235,151		1/1/1997	2/20/1997	4/2/1997
321	30-015-28922-0000	GOLD RUSH `30` FEDE 5	MARALO INC	DRY	NASH DRAW	DELAWARE	74,714	613,465	163,749		10/1/1997	10/23/1997	12/5/1997
322	30-015-29736-0000	GOLD RUSH `31` FEDE 001	MARALO INC	DRY	NASH DRAW	BRUSHY CANYON	75,106	491,495	267,137		7/1/1997	9/3/1997	10/16/1997
323	30-015-30822-0000	GOLD RUSH `31` FEDE 003	MARALO LLC	DRY	NASH DRAW	BRUSHY CANYON	37,129	567,104	192,523		11/1/1999	9/12/2001	11/15/2001
324	30-015-32768-0000	GOLD RUSH `31` FEDE 004	COG OPERATING LLC	DRY	NASH DRAW	DELAWARE	15,548	182,255	118,564		4/1/2003	3/29/2005	6/26/2005
325	30-015-34081-0000	GOLD RUSH 29 FEDERA 2	COG OPERATING LLC	DRY	NASH DRAW	DELAWARE	2,956	41,067	141,423		4/1/2005	4/30/2005	7/19/2005
326	30-015-34254-0000	GOLD RUSH 30 FEDERA 008	COG OPERATING LLC	DRY	NASH DRAW	BRUSHY CANYON	26,563	338,579	195,709		2/1/2005	4/15/2005	7/1/2005
327	30-015-28356-0000	GR `30` STATE 001	MARALO INC	DRY	NASH DRAW	DELAWARE	70,605	388,821	417,597		2/1/1995	3/15/1995	5/14/1995
328	30-015-28931-0000	GR `30` STATE 002	MARALO INC	DRY	NASH DRAW	DELAWARE	84,657	224,936	863,794		4/1/1996	9/14/1996	11/9/1996
329	30-015-31110-0000	GR `30` STATE 3	MARALO LLC	DRY	FRTY NINR RDGE SW	BELL CANYON	6,814	8,178	193,579		4/1/2000	6/24/2000	8/24/2000
330	30-015-26875-0000	GRAHAM `AKB` STATE 1	YATES PETROLEUM CORP	SUSOIL	LOST TANK	DELAWARE	139,597	274,113	353,550		1/1/1992	2/5/1992	3/16/1992
331	30-015-26876-0000	GRAHAM `AKB` STATE 2	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	214,161	382,521	794,942		3/1/1992	3/24/1992	4/28/1992
332	30-015-31604-0000	GRAHAM `AKB` STATE 3	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	25,344	72,928	211,505		2/1/2001	5/15/2001	8/2/2001
333	30-015-31605-0000	GRAHAM `AKB` STATE 4	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	173,583	235,300	125,496		2/1/2001	2/26/2001	8/3/2001
334	30-015-31911-0000	GRAHAM `AKB` STATE 5	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	66,977	205,916	155,911		7/1/2001	5/8/2002	7/4/2002
335	30-015-31912-0000	GRAHAM `AKB` STATE 6	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	87,143	221,307	405,651		7/1/2001	12/18/2002	2/21/2003
336	30-015-31913-0000	GRAHAM `AKB` STATE 8	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	94,568	257,098	612,940		7/1/2001	4/12/2002	6/30/2002
337	30-015-31606-0000	GRAHAM `AKB` STATE 9	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	73,707	288,913	271,370		2/1/2001	6/28/2001	10/22/2001
338	30-025-26427-0002	HAT MESA 1	BASS ENTRPRS PROD CO	OIL	HAT MESA	DELAWARE	16,847	11,303	75,324		7/1/1997	7/18/1997	10/15/1997
339	30-025-36486-0000	HORNET 6 FEDERAL 1	DEVON ENERGY PRODUCT	DRY	LIVINGSTON RDG SE	DELAWARE	20,184	50,791	417,395		11/1/2003	1/21/2004	4/25/2004
340	30-015-31513-0000	HUDSON `1` FEDERAL 7	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	119,155	271,981	302,613		12/1/2000	1/6/2001	2/15/2001
341	30-015-37272-0000	HUDSON 1 FEDERAL 008H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	292,889	897,752	2,802,136		8/1/2009	1/6/2010	3/19/2010
342	30-015-21052-0001	HUDSON FEDERAL 001	ENRON OIL & GAS CO	DRY	LOS MEDANOS	DELAWARE	32,834	43,694	213,057		7/1/1993	7/26/1993	8/23/1993
343	30-015-21052-0004	HUDSON FEDERAL 001	BOPCO LP	INJ	SWD	DELAWARE				4,129,954	5/1/2009	5/22/2009	6/6/2009
344	30-015-37309-0000	HUDSON FEDERAL 1 10H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	412,230	907,300	2,732,150		9/1/2009	3/13/2010	8/15/2010
345	30-015-37310-0000	HUDSON FEDERAL COM 9H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	430,932	1,009,453	3,352,045		9/1/2009	2/7/2010	9/20/2010
346	30-025-32878-0000	JACKALOPE `24` FEDE 1	BURLINGTON RES O&G	DRY	RED TANK	DELAWARE	13,388	116,562	13,725		11/1/1996	11/30/1996	4/27/1997
347	30-015-30637-0000	JACQUE `AQJ` STATE 004	YATES PETROLEUM CORP	DRY	LOST TANK WEST	DELAWARE	29,938	138,105	334,870		4/1/2002	2/7/2006	4/3/2006
348	30-015-31928-0000	JACQUE `AQJ` STATE 005	YATES PETROLEUM CORP	DRY	LOST TANK WEST	CHERRY CANYON	81,969	231,177	344,364		8/1/2001	9/3/2001	11/23/2001
349	30-015-30635-0000	JACQUE `AQJ` STATE 3	YATES PETROLEUM CORP	OIL	LOST TANK WEST	DELAWARE	159,780	292,449	630,587		4/1/1999	5/11/1999	6/21/1999
350	30-015-30080-0000	JACQUE AQJ STATE 001	YATES PETROLEUM CORP	DRY	LOST TANK WEST	BRUSHY CANYON	67,732	254,148	422,226		2/1/1998	2/24/1998	6/17/1998
351	30-015-30636-0000	JACQUE AQJ STATE 002	YATES PETROLEUM CORP	DRY	LOST TANK WEST	BRUSHY CANYON	69,717	229,666	551,835		5/1/1999	11/29/2004	1/17/2005

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
352	30-015-33335-0000	JACQUE AQJ STATE 007	YATES PETROLEUM CORP	DRY	LOST TANK WEST	CHERRY CANYON	28,267	128,658	639,775		3/1/2004	3/3/2005	6/8/2005
353	30-015-31929-0000	JACQUE AQJ STATE 6	YATES PETROLEUM CORP	OIL	LOST TANK WEST	BELL CANYON	84,994	208,589	568,858		8/1/2001	5/28/2004	7/27/2004
354	30-015-25758-0000	JAMES `A` 003	PHILLIPS PETRLM CO	OIL	CABIN LAKE	DELAWARE	9,603	14,274	174,073		6/1/1987	6/20/1987	11/7/1987
355	30-015-26314-0000	JAMES `A` 10	PHILLIPS PETRLM CO	DRY	CABIN LAKE	DELAWARE	10,307	15,505	692,086		4/1/1990	5/8/1990	12/13/1990
356	30-015-26510-0000	JAMES `A` 11	PHILLIPS PETRLM CO	SUSOIL	CABIN LAKE	DELAWARE	25,048	27,553	1,356,815		10/1/1990	11/4/1990	1/19/1991
357	30-015-25699-0000	JAMES `A` 2	PHILLIPS PETRLM CO	DRY	CABIN LAKE	DELAWARE	669,131	391,578	2,131,568		12/1/1986	12/20/1986	3/14/1987
358	30-015-25768-0000	JAMES `A` 4	PHILLIPS PETRLM CO	OIL	CABIN LAKE	DELAWARE	76,513	112,350	1,610,014		6/1/1987	7/9/1987	10/21/1987
359	30-015-25962-0000	JAMES `A` 5	PHILLIPS PETRLM CO	SUSOIL	CABIN LAKE	CHERRY CANYON	282,631	218,085	1,188,021		8/1/1988	8/21/1988	10/25/1988
360	30-015-26031-0000	JAMES `A` 6	PHILLIPS PETRLM CO	OIL	CABIN LAKE	CHERRY CANYON	217,520	223,935	4,539,930		12/1/1988	12/17/1988	5/5/1989
361	30-015-26232-0000	JAMES `A` 7	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	337,874	330,146	4,961,092		12/1/1989	12/11/1989	3/3/1990
362	30-015-26313-0000	JAMES `A` 9	PHILLIPS PETRLM CO	OIL	CABIN LAKE	DELAWARE	271,219	343,005	1,855,222		5/1/1990	5/31/1990	12/13/1990
363	30-015-26761-0000	JAMES `A` WI-12	PHILLIPS PETRLM CO	INJ	CABIN LAKE	DELAWARE				15,511,859	9/1/1991	9/28/1991	3/10/1992
364	30-015-26655-0000	JAMES `E` 11	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	346,828	449,052	3,395,955		3/1/1991	3/20/1991	6/17/1991
365	30-015-26644-0000	JAMES `E` 12	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	111,632	202,274	1,699,231		9/1/1991	9/14/1991	1/5/1992
366	30-015-26254-0000	JAMES `E` 3	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	221,463	189,898	1,422,618		12/1/1989	1/8/1990	3/22/1990
367	30-015-26371-0000	JAMES `E` 4	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	253,580	331,684	1,303,272		6/1/1990	6/19/1990	12/11/1990
368	30-015-26380-0000	JAMES `E` 5	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	321,835	548,361	1,034,436		9/1/1990	9/30/1990	12/18/1990
369	30-015-26645-0000	JAMES `E` FEDERAL 13	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	431,143	623,063	1,038,194		10/1/1991	11/3/1991	1/30/1992
370	30-015-26646-0000	JAMES `E` FEDERAL 14	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	49,251	93,788	544,002		11/1/1991	11/22/1991	3/4/1992
371	30-015-27078-0000	JAMES `E` FEDERAL 15	PHILLIPS PETRLM CO	OIL	CABIN LAKE	DELAWARE	363,364	381,652	576,930		7/1/1993	8/9/1993	9/30/1993
372	30-015-26904-0000	JAMES `E` FEDERAL 6	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	150,528	126,163	1,099,034		12/1/1991	12/13/1991	4/21/1992
373	30-015-27441-0000	JAMES `E` FEDERAL 8	PHILLIPS PETRLM CO	OIL	CABIN LAKE	DELAWARE	175,158	219,989	844,168		6/1/1993	6/17/1993	1/20/1994
374	30-015-28056-0000	JAMES `E` FEDERAL 9	PHILLIPS PETRLM CO	OIL	CABIN LAKE	CHERRY CANYON	41,482	77,269	277,026		8/1/1994	11/8/1994	2/7/1995
375	30-025-35288-0000	JAMES 1	ECHO PRODUCTION INC	DRY	DIAMONDTAIL STHWT	DELAWARE	4,029		31,278		12/1/2000	2/9/2001	5/9/2001
376	30-025-37786-0000	JAMES 20 FEDERAL 1	HARVARD PET CORP	OIL	TRISTE DRAW WEST	DELAWARE	48,441	97,647	165,309		4/1/2006	8/8/2006	10/6/2006
377	30-025-38050-0000	JAMES 20 FEDERAL 2	HARVARD PET CORP	OIL	TRISTE DRAW WEST	BRUSHY CANYON	25,647	80,317	127,796		12/1/2005	11/21/2006	1/12/2007
378	30-015-25758-0001	JAMES A 003	PHILLIPS PETRLM CO	INJ	CABIN LAKE	DELAWARE				16,569,017	3/1/1993	4/2/1993	4/3/1993
379	30-015-26304-0000	JAMES A 008	PHILLIPS PETRLM CO	DRY	CABIN LAKE	DELAWARE	162,915	188,834	2,444,981		3/1/1990	4/16/1990	6/21/1990
380	30-025-31515-0000	JAMES FEDERAL 001	HARVARD PET CORP	CONWIW	SWD	DELAWARE				18,718,066	1/1/1992	2/19/1992	5/21/1992
381	30-025-36772-0000	JAMES FEDERAL 10	HARVARD PET CORP	OIL	TRISTE DRAW WEST	BRUSHY CANYON	70,935	119,877	798,050		4/1/2004	8/29/2004	9/24/2004
382	30-025-36773-0000	JAMES FEDERAL 11	HARVARD PET CORP	OIL	TRISTE DRAW WEST	DELAWARE	71,920	116,214	630,461		4/1/2004	12/1/2004	1/2/2005
383	30-025-37778-0000	JAMES FEDERAL 12	HARVARD PET CORP	OIL	TRISTE DRAW WEST	DELAWARE	13,290	32,836	91,614		3/1/2006	9/8/2006	10/17/2006
384	30-025-29495-0001	JAMES FEDERAL 2	HARVARD PET CORP	OIL	TRISTE DRAW WEST	DELAWARE	138,150	272,443	832,461		5/1/1992	5/11/1992	7/17/1992
385	30-025-35812-0000	JAMES FEDERAL 3	HARVARD PET CORP	OIL	TRISTE DRAW WEST	CHERRY CANYON	133,440	195,882	861,957		1/1/2002	4/13/2002	6/23/2002
386	30-025-35843-0000	JAMES FEDERAL 4	HARVARD PET CORP	OIL	TRISTE DRAW WEST	BRUSHY CANYON	152,701	281,937	472,405		2/1/2002	4/29/2002	7/19/2002
387	30-025-36721-0000	JAMES FEDERAL 5	HARVARD PET CORP	OIL	TRISTE DRAW WEST	DELAWARE	22,657	44,396	244,088		5/1/2004	5/30/2004	7/3/2004
388	30-025-35888-0000	JAMES FEDERAL 6	HARVARD PET CORP	OIL	TRISTE DRAW WEST	CHERRY CANYON	106,213	142,207	1,334,930		4/1/2002	8/10/2002	10/8/2002
389	30-025-36028-0000	JAMES FEDERAL 7	HARVARD PET CORP	OIL	TRISTE DRAW WEST	DELAWARE	135,916	166,210	1,667,670		10/1/2002	11/5/2003	12/24/2003
390	30-025-36031-0000	JAMES FEDERAL 9	HARVARD PET CORP	OIL	TRISTE DRAW WEST	DELAWARE	74,866	158,766	1,105,466		10/1/2002	10/31/2002	1/7/2003
391	30-015-27886-0000	JAMES RANCH 56	BASS ENTRPRS PROD CO	OIL	LOS MEDANOS	DELAWARE	87,170	311,055	266,821		5/1/1994	5/13/1994	6/19/1994
392	30-015-27887-0000	JAMES RANCH 57	BASS ENTRPRS PROD CO	SUSOIL	LOS MEDANOS	DELAWARE	81,050	273,434	196,829		6/1/1994	6/12/1994	7/8/1994
393	30-015-27734-0000	JAMES RANCH UNIT 041	BASS ENTRPRS PROD CO	DRY	QUAHADA RIDGE SE	DELAWARE	80,173	184,180	188,698		11/1/1993	7/5/1994	8/4/1994
394	30-015-27791-0000	JAMES RANCH UNIT 048	BASS ENTRPRS PROD CO	DRY	CABIN LAKE	DELAWARE	59,715	114,945	948,685		12/1/1993	2/3/1994	4/13/1994
395	30-015-37175-0000	JAMES RANCH UNIT 103H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	266,350	759,510	922,007		7/1/2009	10/7/2009	1/4/2010
396	30-015-37271-0000	JAMES RANCH UNIT 104H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	433,848	1,080,203	2,489,720		9/1/2009	10/31/2009	1/28/2010
397	30-015-37064-0000	JAMES RANCH UNIT 105H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	301,809	662,427	1,381,605		4/1/2009	6/14/2009	8/24/2009
398	30-015-37063-0000	JAMES RANCH UNIT 106H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	343,977	860,559	1,322,024		4/1/2009	9/10/2009	11/19/2009
399	30-015-37062-0000	JAMES RANCH UNIT 107H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	254,582	370,025	644,919		4/1/2009	5/18/2009	8/4/2009
400	30-015-37273-0000	JAMES RANCH UNIT 108H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	441,318	1,031,135	2,280,211		8/1/2009	12/6/2009	3/28/2010
401	30-015-38114-0000	JAMES RANCH UNIT 109H	BOPCO LP	SUSOIL	QUAHADA RIDGE SE	DELAWARE	164,104	568,961	2,092,914		5/1/2010	12/11/2011	3/1/2012
402	30-015-38115-0000	JAMES RANCH UNIT 110H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	227,257	805,039	2,411,269		5/1/2010	4/16/2011	7/20/2011
403	30-015-38120-0000	JAMES RANCH UNIT 111H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	267,741	1,235,419	3,211,309		6/1/2010	9/12/2011	11/29/2011
404	30-015-36722-0000	JAMES RANCH UNIT 112H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	155,352	414,859	487,704		10/1/2008	1/12/2009	4/21/2009
405	30-015-37046-0000	JAMES RANCH UNIT 113H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	160,591	383,683	709,012		4/1/2009	5/5/2009	7/31/2009
406	30-015-37925-0000	JAMES RANCH UNIT 114H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	76,777	274,595	1,238,222		5/1/2010	11/7/2010	1/27/2011
407	30-015-38118-0000	JAMES RANCH UNIT 115H	BOPCO LP	SUSOIL	QUAHADA RIDGE SE	DELAWARE	93,956	404,638	1,905,643		5/1/2010	2/18/2011	5/14/2011
408	30-015-38117-0000	JAMES RANCH UNIT 119H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	270,032	1,051,623	2,601,964		5/1/2010	12/20/2010	3/20/2011
409	30-015-38116-0000	JAMES RANCH UNIT 120H	BOPCO LP	OIL	QUAHADA RIDGE SE	BRUSHY CANYON	260,518	1,048,329	4,838,054		5/1/2010	6/6/2011	9/3/2011
410	30-015-38119-0000	JAMES RANCH UNIT 121H	BOPCO LP	SUSOIL	QUAHADA RIDGE SE	DELAWARE	176,983	623,739	1,961,723		6/1/2010	1/15/2011	3/5/2011
411	30-015-38113-0000	JAMES RANCH UNIT 124H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	180,902	562,929	1,730,297		5/1/2010	12/6/2010	3/26/2011
412	30-015-38288-0000	JAMES RANCH UNIT 129H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	298,090	815,176	2,322,168		10/1/2010	2/27/2011	5/14/2011
413	30-015-38308-0000	JAMES RANCH UNIT 130H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	158,664	450,272	1,328,095		11/1/2010	6/8/2011	8/7/2011
414	30-015-39809-0000	JAMES RANCH UNIT 140H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	478,567	1,489,877	3,845,684		12/1/2011	3/13/2012	10/9/2012
415	30-015-39972-0000	JAMES RANCH UNIT 141H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	434,005	1,161,601	3,598,127		2/1/2012	3/10/2012	10/9/2012
416	30-015-28623-0000	JAMES RANCH UNIT 16	ENRON OIL & GAS CO	OIL	QUAHADA RIDGE SE	DELAWARE	225,502	561,362	126,016		12/1/1995	12/31/1995	2/13/1996
417	30-015-27784-0001	JAMES RANCH UNIT 17	ENRON OIL & GAS CO	OIL	LOS MEDANOS SOUTH	DELAWARE	78,730	191,336	253,547		1/1/1996	2/1/1996	2/24/1996
418	30-015-27357-0000	JAMES RANCH UNIT 19	ENRON OIL & GAS CO	SUSOIL	QUAHADA RIDGE SE	DELAWARE	151,040	409,373	345,117		3/1/1993	3/22/1993	4/20/1993
419	30-015-27735-0000	JAMES RANCH UNIT 29	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	120,184	297,000	271,289		1/1/1994	1/16/1994	2/19/1994
420	30-015-30829-0000	JAMES RANCH UNIT 31	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	101,592	283,785	269,155		11/1/1999	12/8/1999	1/27/2000
421	30-015-30830-0000	JAMES RANCH UNIT 32	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	64,302	216,214	184,848		11/1/1999	2/27/2000	4/18/2000
422	30-015-31207-0000	JAMES RANCH UNIT 33	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	87,207	248,293	395,878		6/1/2000	7/1/2000	8/30/2000
423	30-015-31064-0000	JAMES RANCH UNIT 34	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	57,856	228,802	228,223		4/1/2000	5/9/2000	6/14/2000
424	30-015-31167-0000	JAMES RANCH UNIT 35	BASS ENTRPRS PROD CO	SUSOIL	QUAHADA RIDGE SE	DELAWARE	87,717	207,575	255,520		5/1/2000	6/5/2000	7/12/2000
425	30-015-27703-0000	JAMES RANCH UNIT 37	ENRON OIL & GAS CO	OIL	QUAHADA RIDGE SE	DELAWARE	81,286	304,650	159,316		10/1/1993	10/23/1993	11/22/1993
426	30-015-30856-0000	JAMES RANCH UNIT 38	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	90,694	232,478	411,362		10/1/1999	1/10/2000	3/12/2000
427	30-015-27589-0000	JAMES RANCH UNIT 55	BASS ENTRPRS PROD CO	OIL	LOS MEDANOS	DELAWARE	184,131	451,215	325,589		2/1/1994	2/25/1994	4/13/1994
428	30-015-35340-0000	JAMES RANCH UNIT 62	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	48,010	137,411	188,184		8/1/2006	1/19/2007	3/4/2007
429	30-015-30857-0000	JAMES RANCH UNIT 63	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	121,468	455,244	231,154		12/1/1999	12/23/1999	2/12/2000
430	30-015-27995-0001	JAMES RANCH UNIT 65	BASS ENTRPRS PROD CO	SUSOIL	QUAHADA RIDGE SE	DELAWARE	26,243	56,206	3,297		3/1/1997	3/11/1997	3/29/1997
431	30-015-31065-0000	JAMES RANCH UNIT 66	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	185,748	445,344	458,980		4/1/2000	4/24/2000	6/9/2000
432	30-015-31004-0000	JAMES RANCH UNIT 67	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	211,068	456,637	446,219		3/1/2000	3/28/2000	5/23/2000
433	30-015-31168-0000	JAMES RANCH UNIT 74	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	91,757	272,386	334,002		5/1/2000	8/29/2000	10/4/2000
434	30-015-33114-0001	JAMES RANCH UNIT 75	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE	DELAWARE	76,665	184,673	380,217		8/1/2004	9/8/2004	10/4/2004
435	30-015-29173-0001	JAMES RANCH UNIT 76	ENRON OIL & GAS CO	OIL	QUAHADA RIDGE SE	DELAWARE	94,371	218,053	221,962		11/1/1996	11/20/1996	3/7/1997
436	30-015-31056-0000	JAMES RANCH UNIT 79	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	184,035	512,446	311,884		3/1/2000	6/10/2000	11/2/2000
437	30-015-32868-0000	JAMES RANCH UNIT 80	BASS ENTRPRS PROD CO	OIL	LOS MEDANOS SOUTH	DELAWARE	199,478	481,208	247,732		7/1/2003	7/29/2003	11/23/2003
438	30-015-31208-0000	JAMES RANCH UNIT 82	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	77,112	197,876	423,947		6/1/2000	7/16/2000	11/16/2000
439	30-015-31580-0000	JAMES RANCH UNIT 83	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	BRUSHY CANYON	71,894	244,447	224,832		1/1/2001	2/14/2001	4/9/2001
440	30-015-31405-0000	JAMES RANCH UNIT 84	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	50,337	193,617	220,520		10/1/2000	1/30/2001	3/13/2001
441	30-015-35322-0000	JAMES RANCH UNIT 85	BEPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	44,367	156,617	258,543		12/1/2006	2/6/2007	3/21/2007
442	30-015-34277-0000	JAMES RANCH UNIT 87	BASS ENTRPRS PROD CO	OIL	LOS MEDANOS	DELAWARE	131,908	249,896	341,997		11/1/2004	9/10/2005	11/15/2005
443	30-015-33601-0000	JAMES RANCH UNIT 91	BASS ENTRPRS PROD CO	OIL	QUAHADA RIDGE SE	DELAWARE	98,523	263,552	414,750		9/1/2004	9/26/2004	11/13/2004
444	30-015-42376-0000	JAMES RANCH UNIT DI 135H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	299,576	511,083	1,685,733		5/1/2014	5/28/2014	8/18/2014
445	30-015-39766-0000	JAMES RANCH UNIT DI 138H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	387,772	1,058,556	3,811,307		12/1/2011	9/11/2013	2/22/2014
446	30-015-39793-0000	JAMES RANCH UNIT DI 139H	BOPCO LP	OIL	QUAHADA RIDGE SE	DELAWARE	404,901	1,055,476	4,367,426		12/1/2011	9/26/2013	2/18/2014
447	30-025-08129-0000	JAMES-FEDERAL 2	P-M DRILLING	DRY	TRISTE DRAW	DELAWARE	52,374	52,307	19,665		2/1/1961	3/2/1961	4/7/1961
448	30-015-26934-0000	JULIA `AJL` FEDERAL 4	YATES PETROLEUM CORP	DRY	CABIN LAKE	DELAWARE	1,727		23,864		1/1/1992	1/31/1992	3/22/1992
449	30-015-27038-0000	KALEIDOSCOPE `AKO` 1	YATES PETROLEUM CORP	DRY	CABIN LAKE	BRUSHY CANYON	2,221	6,420	22,102		6/1/1992	6/30/1992	8/11/1992
450	30-025-31595-0000	KIWI `AKX` STATE 002	YATES PETROLEUM CORP	DRY	LIVINGSTON RDG E	DELAWARE	156,819	293,047	454,500		5/1/1992	5/17/1992	6/11/1992
451	30-025-31599-0000	KIWI `AKX` STATE 003	YATES PETROLEUM CORP	DRY	LIVINGSTON RDG E	DELAWARE	88,440	96,087	551,154		5/1/1992	5/30/1992	7/2/1992
452	30-025-31600-0000	KIWI `AKX` STATE 004	YATES PETROLEUM CORP	DRY	LIVINGSTON RDG E	DELAWARE	92,266	104,826	989,373		5/1/1992	6/9/1992	7/11/1992
453	30-025-31645-0000	KIWI `AKX` STATE 006	YATES PETROLEUM CORP	DRY	LIVINGSTON RDG E	DELAWARE	100,234	95,829	1,639,956		7/1/1992	8/3/1992	9/21/1992

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
454	30-025-31889-0000	KIWI `AKX` STATE 008	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG E	DELAWARE	4,417	6,993	24,484		1/1/1993	2/8/1993	4/2/1993
455	30-025-36006-0000	KIWI `AKX` STATE 010	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG E	DELAWARE	14,254	25,329	267,319		9/1/2002	10/16/2002	11/26/2002
456	30-025-31576-0000	KIWI `AKX` STATE 1	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG E	DELAWARE	427,917	476,127	392,341		4/1/1992	4/28/1992	5/23/1992
457	30-025-31644-0000	KIWI `AKX` STATE 5	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG E	CHERRY CANYON	101,098	105,454	788,367		7/1/1992	7/13/1992	8/19/1992
458	30-025-31762-0000	KIWI `AKX` STATE 7	YATES PETROLEUM CORP	DRY	LIVINGSTON RDG E	DELAWARE	41,596	42,221	496,938		10/1/1992	10/29/1992	11/29/1992
459	30-025-32255-0000	KIWI `AKX` STATE 9	YATES PETROLEUM CORP	DRY	LIVINGSTON RDG E	DELAWARE	22,096	27,840	252,965		10/1/1993	10/11/1993	11/9/1993
460	30-025-31644-0001	KIWI SWD 005	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				3,004,022	4/1/2010	4/27/2010	5/14/2010
461	30-025-31889-0001	KIWI SWD 008	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				12,303,379	9/1/1994	11/19/1994	2/9/1995
462	30-025-36006-0001	KIWI SWD 010	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				3,166,992	4/1/2002	5/2/2010	5/19/2010
463	30-015-27624-0000	LEAH `31` FEDERAL 001	PHILLIPS PETRLM CO	DRY	SAND DUNES WEST	DELAWARE	62,325	187,325	445,556		7/1/1993	9/25/1993	10/23/1993
464	30-025-31495-0000	LECHUZA FEDERAL 1	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	DELAWARE	129,184	111,216	326,948		1/1/1992	1/11/1992	2/29/1992
465	30-025-31603-0000	LECHUZA FEDERAL 2	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	DELAWARE	230,222	169,045	801,833		5/1/1992	5/27/1992	6/28/1992
466	30-025-31753-0000	LECHUZA FEDERAL 3	STRATA PRODUCTION CO	DRY	LIVINGSTON RDG E	DELAWARE	3,060	4,286	18,325		9/1/1992	10/7/1992	12/25/1992
467	30-025-31800-0000	LECHUZA FEDERAL 4	STRATA PRODUCTION CO	DRY	LIVINGSTON RDG E	DELAWARE	11,087	13,343	54,931		12/1/1992	12/29/1992	3/15/1993
468	30-025-31801-0000	LECHUZA FEDERAL 5	STRATA PRODUCTION CO	DRY	LIVINGSTON RDG E	DELAWARE	16,601	31,003	144,292		11/1/1992	11/27/1992	1/29/1993
469	30-015-04734-0001	LEGG FEDERAL 1	BASS ENTRPRS PROD CO	CONWIW	SWD	DELAWARE				6,166,342	3/1/1994	5/22/1994	10/4/1994
470	30-025-32629-0000	LEU 6	TEXACO EXPL&PROD INC	DRY	HAT MESA	DELAWARE	534	2,122	41,354		9/1/1994	10/10/1994	12/4/1994
471	30-025-32145-0000	LITTLE EDDY UNIT 5	TEXACO EXPL&PROD INC	SUSOIL	HAT MESA	BRUSHY CANYON	115,766	370,568	193,497		10/1/1993	10/25/1993	1/1/1994
472	30-025-32602-0000	LITTLE EDDY UNIT 7	APACHE CORP	DRY	HAT MESA	BRUSHY CANYON	16,219	27,113	34,799		6/1/1995	6/11/1995	8/11/1995
473	30-025-32481-0001	LITTLE JACK `30` FE 002	MERIDIAN OIL INC	DRY	TRISTE DRAW WEST	DELAWARE	25,543	129,397	106,765		6/1/1994	6/27/1994	7/12/1994
474	30-025-32478-0001	LITTLE JACK `30` FE 003	BURLINGTON RES O&G	DRY	SAND DUNES SOUTH	DELAWARE	38,428	219,984	148,183		3/1/1998	3/16/1998	3/25/1998
475	30-025-32478-0000	LITTLE JACK `30` FE 003	MERIDIAN OIL INC	DRY	TRISTE DRAW WEST	DELAWARE	258,107	427,961	314,430		4/1/1994	4/15/1994	6/7/1994
476	30-025-32176-0001	LITTLE JACK `30` FE 1	BURLINGTON RES O&G	OIL	TRISTE DRAW WEST	BRUSHY CANYON	147,278	227,019	454,202		3/1/1994	3/15/1994	4/23/1994
477	30-025-32540-0000	LITTLE JACK `30` FE 4	MERIDIAN OIL INC	OIL	TRISTE DRAW WEST	DELAWARE	59,315	177,671	163,068		11/1/1994	11/26/1994	1/3/1995
478	30-025-41496-0000	LITTLE VALLEY FEDER 001H	MANZANO LLC	OIL	LOST TANK	DELAWARE	124,285	219,842	1,151,344		10/1/2013	11/16/2013	4/22/2014
479	30-025-36380-0000	LIVINGSTON EAST `31 001	ECHO PRODUCTION INC	DRY	LIVINGSTON RDG SE	DELAWARE	130,594	185,308	438,019		8/1/2003	6/16/2004	8/9/2004
480	30-025-36381-0000	LIVINGSTON EAST 31 2	ECHO PRODUCTION INC	DRY	LIVINGSTON RIDGE	DELAWARE	77,660	76,904	185,502		8/1/2003	12/28/2003	3/18/2004
481	30-025-36656-0000	LIVINGSTON EAST 31 3	ECHO PRODUCTION INC	SUSOIL	LIVINGSTON RDG SE	DELAWARE	9,769	15,224	83,885		2/1/2004	8/30/2004	10/11/2004
482	30-025-36912-0000	LIVINGSTON EAST 31 5	ECHO PRODUCTION INC	DRY	LIVINGSTON RDG SE	DELAWARE	46	61	113		10/1/2004	12/16/2004	2/26/2005
483	30-025-35960-0000	LIVINGSTON RIDGE `1 1	POGO PRODUCING CO	OIL	LIVINGSTON RDG E	BRUSHY CANYON	125,554	337,677	801,761		7/1/2002	1/1/2003	2/9/2003
484	30-025-32324-0000	LIVINGSTON RIDGE `1 3	POGO PRODUCING CO	DRY	LIVINGSTON RDG E	BRUSHY CANYON	4,507	754	64,009		11/1/1993	12/4/1993	2/13/1994
485	30-025-36029-0000	LIVINGSTON RIDGE `1 3	POGO PRODUCING CO	DRY	LIVINGSTON RDG E	BRUSHY CANYON	24,590	59,979	1,719,656		10/1/2002	6/14/2003	7/31/2003
486	30-025-36012-0000	LIVINGSTON RIDGE 18 4	POGO PRODUCING CO	OIL	LIVINGSTON RDG E	BRUSHY CANYON	129,326	294,983	906,473		9/1/2002	3/24/2003	5/21/2003
487	30-025-36295-0000	LIVINGSTON RIDGE 18 6	POGO PRODUCING CO	OIL	LIVINGSTON RDG E	BRUSHY CANYON	71,521	211,376	965,255		6/1/2003	7/4/2003	8/26/2003
488	30-015-26436-0000	LIVINGSTON RIDGE 2	PHILLIPS PETRLM CO	DRY	CABIN LAKE	BRUSHY CANYON	136,807	161,231	3,331,267		12/1/1990	12/11/1990	6/26/1991
489	30-025-31729-0000	LIVINGSTON RIDGE EA 001	POGO PRODUCING CO	DRY	LIVINGSTON RDG E	DELAWARE	72,999	66,725	205,957		10/1/1992	10/26/1992	1/18/1993
490	30-025-34170-0000	LIVINGSTON RIDGE EA 005	POGO PRODUCING CO	DRY	LIVINGSTON RDG E	DELAWARE	27,531	40,896	399,425		10/1/1997	12/12/1997	1/26/1998
491	30-025-32464-0000	LIVINGSTON RIDGE EA 006	POGO PRODUCING CO	DRY	LIVINGSTON RDG E	DELAWARE	76,123	93,376	331,915		11/1/1995	12/9/1995	12/30/1995
492	30-015-26398-0000	LIVINGSTON RIDGE FE 1	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	642,553	823,842	4,263,828		10/1/1990	10/15/1990	1/17/1991
493	30-015-26437-0000	LIVINGSTON RIDGE FE 3	PHILLIPS PETRLM CO	DRY	CABIN LAKE	BRUSHY CANYON	122,265	156,474	3,678,796		11/1/1990	11/20/1990	2/2/1991
494	30-015-26429-0000	LIVINGSTON RIDGE FE 4	PHILLIPS PETRLM CO	OIL	CABIN LAKE	DELAWARE	103,388	159,666	3,212,824		4/1/1991	4/15/1991	11/30/1991
495	30-015-26408-0000	LIVINGSTON RIDGE FE 6	PHILLIPS PETRLM CO	SUSOIL	CABIN LAKE	BRUSHY CANYON	30,571	35,170	1,011,118		10/1/1991	10/14/1991	4/20/1992
496	30-015-21050-0002	LIVINGSTON RIDGE FE 9	PHILLIPS PETRLM CO	DRY	CABIN LAKE	DELAWARE	51,115	106,053	715,569		2/1/1993	2/22/1993	3/20/1993
497	30-015-28093-0003	LLAMA ALL FEDERAL 1	YATES PETROLEUM CORP	OIL	CABIN LAKE	DELAWARE	260,868	277,826	679,642		5/1/2004	5/11/2004	7/13/2004
498	30-015-34297-0000	LLAMA ALL FEDERAL 4	YATES PETROLEUM CORP	OIL	CABIN LAKE	CHERRY CANYON	78,887	91,813	1,053,261		8/1/2005	10/14/2005	12/30/2005
499	30-015-34298-0000	LLAMA ALL FEDERAL 5	YATES PETROLEUM CORP	DRY	CABIN LAKE	CHERRY CANYON	29,606	71,426	661,880		8/1/2005	10/28/2005	1/24/2006
500	30-015-37190-0000	LLAMA ALL FEDERAL C 10H	YATES PETROLEUM CORP	OIL	CABIN LAKE	DELAWARE	233,883	694,887	2,246,680		7/1/2009	1/14/2011	5/6/2011
501	30-015-37189-0000	LLAMA ALL FEDERAL C 9H	YATES PETROLEUM CORP	OIL	CABIN LAKE	DELAWARE	181,623	333,334	1,747,229		7/1/2009	7/21/2012	11/8/2012
502	30-025-38447-0000	LONECAT FEDERAL 001	BC OPERATING INC	OIL	TRISTE DRAW WEST	BRUSHY CANYON	23,526	66,443	177,942		6/1/2007	7/24/2007	11/14/2007
503	30-015-29988-0000	LOPER `34` STATE 1	PENWELL ENERGY INC	OIL	LOST TANK WEST	BRUSHY CANYON	65,639	12,351	280,371		3/1/1998	6/2/1998	8/9/1998
504	30-015-29638-0000	LOST TANK `3` FEDER 1	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	137,020	585,076	235,189		4/1/1997	4/17/1997	6/9/1997
505	30-015-32345-0000	LOST TANK `3` FEDER 10	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	34,318	139,275	96,282		6/1/2002	6/24/2002	7/29/2002
506	30-015-32725-0000	LOST TANK `3` FEDER 11	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	98,679	195,755	204,092		3/1/2003	4/13/2003	5/21/2003
507	30-015-29682-0000	LOST TANK `3` FEDER 2	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	252,603	304,559	218,211		6/1/1997	6/12/1997	7/18/1997
508	30-015-29859-0000	LOST TANK `3` FEDER 3	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	149,768	344,078	233,584		9/1/1997	10/18/1997	11/21/1997
509	30-015-30418-0000	LOST TANK `3` FEDER 4	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	174,356	500,714	294,889		9/1/1998	10/25/1998	12/3/1998
510	30-015-30586-0000	LOST TANK `3` FEDER 5	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	140,485	278,109	340,742		3/1/1999	2/26/2000	3/31/2000
511	30-015-31887-0000	LOST TANK `3` FEDER 6	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	110,355	323,259	231,714		7/1/2001	7/13/2001	8/28/2001
512	30-015-32167-0000	LOST TANK `3` FEDER 7	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	58,639	215,874	139,585		1/1/2002	3/1/2002	4/12/2002
513	30-015-32168-0000	LOST TANK `3` FEDER 8	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	113,180	384,083	54,952		1/1/2002	1/17/2002	2/27/2002
514	30-015-32169-0000	LOST TANK `3` FEDER 9	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	60,536	161,894	85,518		1/1/2002	5/13/2002	6/26/2002
515	30-015-30167-0000	LOST TANK `33` FEDE 005	POGO PRODUCING CO	DRY	LOST TANK WEST	BRUSHY CANYON	101,684	269,690	401,451		9/1/1996	2/21/1998	3/22/1998
516	30-015-29467-0000	LOST TANK `33` FEDE 006	POGO PRODUCING CO	DRY	LOST TANK WEST	BRUSHY CANYON	43,810	138,985	755,196		2/1/1997	2/10/1997	3/16/1997
517	30-015-29744-0000	LOST TANK `33` FEDE 10	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	123,275	242,974	279,588		6/1/1997	7/6/1997	8/9/1997
518	30-015-29678-0000	LOST TANK `33` FEDE 12	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	29,975	130,466	181,758		7/1/1998	7/20/1998	8/19/1998
519	30-015-29681-0000	LOST TANK `33` FEDE 15	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	45,096	182,795	114,202		6/1/1997	5/7/1998	6/5/1998
520	30-015-29338-0000	LOST TANK `33` FEDE 4	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	161,049	672,209	273,584		11/1/1996	12/6/1996	1/10/1997
521	30-015-29468-0000	LOST TANK `33` FEDE 7	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	57,625	187,725	261,631		1/1/1997	3/11/1997	5/8/1997
522	30-015-29381-0000	LOST TANK `33` FEDE 8	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	55,679	205,003	218,598		2/1/1997	9/18/1997	10/25/1997
523	30-015-29382-0000	LOST TANK `33` FEDE 9	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	106,016	570,696	102,757		2/1/1997	5/27/1997	7/2/1997
524	30-015-40890-0000	LOST TANK `35` STAT 001	OXY U S A INC	DRLWIW	SWD	DELAWARE				3,349,566	12/1/2012	6/28/2013	6/28/2014
525	30-015-32240-0000	LOST TANK `35` STAT 011	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	49,206	156,359	165,141		4/1/2002	9/12/2002	10/22/2002
526	30-015-31361-0000	LOST TANK `35` STAT 1	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	38,921	127,811	96,657		9/1/2000	10/2/2000	11/16/2000
527	30-015-31851-0000	LOST TANK `35` STAT 12	POGO PRODUCING CO	OIL	LOST TANK	DELAWARE	83,927	312,747	234,147		6/1/2001	8/2/2001	10/16/2001
528	30-015-31926-0000	LOST TANK `35` STAT 16	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	69,406	254,116	269,691		8/1/2001	2/6/2002	3/18/2002
529	30-015-32354-0000	LOST TANK `35` STAT 2	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	81,450	162,284	113,084		7/1/2002	7/12/2002	8/17/2002
530	30-015-31608-0000	LOST TANK `35` STAT 3	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	42,000	154,540	76,633		2/1/2001	5/30/2002	7/21/2002
531	30-015-31275-0000	LOST TANK `35` STAT 4	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	89,029	262,337	371,597		7/1/2000	9/11/2000	10/20/2000
532	30-015-32352-0000	LOST TANK `35` STAT 6	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	58,430	195,260	279,982		7/1/2002	10/4/2002	11/16/2002
533	30-015-31640-0000	LOST TANK `35` STAT 7	POGO PRODUCING CO	OIL	LOST TANK	DELAWARE	78,880	238,334	325,561		3/1/2001	3/15/2001	4/23/2001
534	30-015-31641-0000	LOST TANK `35` STAT 8	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	80,896	310,915	382,728		3/1/2001	4/6/2001	5/22/2001
535	30-015-28727-0000	LOST TANK `4` FEDER 1	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	108,209	382,719	506,440		11/1/1995	11/14/1995	11/27/1996
536	30-015-29611-0000	LOST TANK `4` FEDER 2	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	140,564	488,565	227,446		4/1/1997	5/5/1997	6/6/1997
537	30-015-29617-0000	LOST TANK `4` FEDER 3	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	163,041	515,169	407,066		3/1/1997	3/29/1997	5/27/1997
538	30-015-29732-0000	LOST TANK `4` FEDER 5	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	111,464	342,879	209,958		7/1/1997	8/14/1997	9/9/1997
539	30-015-29733-0000	LOST TANK `4` FEDER 6	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	125,532	486,261	174,815		7/1/1997	8/31/1997	10/3/1997
540	30-015-30414-0000	LOST TANK `4` FEDER 7	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	115,240	486,541	234,651		9/1/1998	10/3/1998	11/3/1998
541	30-015-26586-0000	LOST TANK `AIS` STA 003	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	106,423	186,980	755,442		12/1/1990	1/22/1991	3/20/1991
542	30-015-26716-0000	LOST TANK `AIS` STA 005	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	71,449	143,187	355,148		4/1/1991	12/31/1991	1/28/1992
543	30-015-26584-0000	LOST TANK `AIS` STA 1	YATES PETROLEUM CORP	OIL	LOST TANK	CHERRY CANYON	195,188	377,815	408,515		11/1/1991	12/7/1991	1/17/1992
544	30-015-26715-0000	LOST TANK `AIS` STA 4	YATES PETROLEUM CORP	OIL	LOST TANK	CHERRY CANYON	79,811	159,109	336,006		11/1/1991	11/19/1991	12/26/1991
545	30-015-26751-0000	LOST TANK `AIS` STA 6	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	45,043	135,639	230,650		10/1/1991	11/5/1991	12/21/1991
546	30-015-26794-0000	LOST TANK `AIS` STA 8	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	235,780	546,091	616,412		9/1/1991	10/2/1991	11/10/1991
547	30-015-37897-0100	LOST TANK 10 FEDERA 003	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	63,371	298,405	473,786		5/1/2010	2/1/2011	2/14/2012
548	30-015-37959-0000	LOST TANK 10 FEDERA 1	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	68,837	189,295	544,215		6/1/2010	2/8/2011	5/15/2011
549	30-015-37960-0000	LOST TANK 10 FEDERA 2	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	19,136	105,626	189,969		6/1/2010	10/18/2011	12/23/2011
550	30-015-37961-0000	LOST TANK 10 FEDERA 4	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	62,629	166,535	506,410		6/1/2010	12/23/2010	3/27/2011
551	30-015-37924-0000	LOST TANK 10 FEDERA 5	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	51,723	146,076	580,795		5/1/2010	10/4/2010	11/9/2010
552	30-015-37962-0000	LOST TANK 11 FEDERA 1	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	59,135	114,636	594,272		6/1/2010	1/8/2011	5/15/2011
553	30-025-38906-0000	LOST TANK 16 STATE 1	CHESAPEAKE OPERG INC	OIL	LOST TANK	DELAWARE	62,597	106,033	469,205		5/1/2008	7/23/2008	10/7/2008
554	30-025-38907-0000	LOST TANK 16 STATE 4	CHESAPEAKE OPERG INC	OIL	LOST TANK	DELAWARE	175,026	210,570	404,382		5/1/2008	10/27/2008	2/2/2009
555	30-015-37918-0000	LOST TANK 3 FEDERAL 014	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	16,466	46,247	359,042		5/1/2010	1/25/2011	12/3/2012

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
556	30-015-37919-0000	LOST TANK 3 FEDERAL 020	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	44,426	91,122	533,771		5/1/2010	12/10/2010	1/13/2011
557	30-015-38254-0000	LOST TANK 3 FEDERAL 025	OXY U S A INC	DRLWIW	SWD	DELAWARE				4,422,218	10/1/2010	2/18/2011	6/16/2011
558	30-015-32726-0000	LOST TANK 3 FEDERAL 12	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	258,233	293,359	72,040		3/1/2003	5/1/2003	6/7/2003
559	30-015-37950-0000	LOST TANK 3 FEDERAL 13	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	103,219	182,640	594,378		6/1/2010	10/28/2010	12/7/2010
560	30-015-37951-0000	LOST TANK 3 FEDERAL 15	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	93,548	186,122	554,091		6/1/2010	12/13/2010	3/12/2011
561	30-015-37907-0000	LOST TANK 3 FEDERAL 16	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	58,182	56,850	606,200		5/1/2010	10/16/2010	11/24/2010
562	30-015-37908-0000	LOST TANK 3 FEDERAL 18	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	101,806	155,172	790,660		5/1/2010	11/27/2010	1/9/2011
563	30-015-37952-0000	LOST TANK 3 FEDERAL 19	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	104,233	209,880	550,458		6/1/2010	1/22/2011	3/16/2011
564	30-015-37920-0000	LOST TANK 3 FEDERAL 21	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	74,992	181,566	631,534		5/1/2010	10/25/2010	12/1/2010
565	30-015-37921-0000	LOST TANK 3 FEDERAL 22	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	29,647	53,195	519,197		5/1/2010	1/9/2011	2/26/2011
566	30-015-37922-0000	LOST TANK 3 FEDERAL 24	OXY U S A INC	OIL	LOST TANK WEST	BRUSHY CANYON	72,479	130,165	848,167		5/1/2010	11/13/2010	1/3/2011
567	30-015-29330-0001	LOST TANK 33 FEDERA 002	POGO PRODUCING CO	CONWIW	SWD	BELL CANYON				14,431,100	6/1/1998	9/2/1998	10/27/1998
568	30-015-29330-0000	LOST TANK 33 FEDERA 002	POGO PRODUCING CO	OIL	LOST TANK WEST	BRUSHY CANYON	5,535	20,652	38,518		10/1/1996	10/21/1996	11/16/1996
569	30-015-29677-0000	LOST TANK 33 FEDERA 011	POGO PRODUCING CO	DRY	LOST TANK WEST	BRUSHY CANYON	21,153	107,533	227,650		6/1/1997	3/21/1998	4/16/1998
570	30-015-33446-0000	LOST TANK 35 STATE 015	POGO PRODUCING CO	DRY	LOST TANK	BRUSHY CANYON	82,574	157,859	247,554		5/1/2004	5/28/2004	7/12/2004
571	30-015-32512-0000	LOST TANK 35 STATE 10	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	43,664	150,198	268,635		11/1/2002	12/28/2004	2/23/2005
572	30-015-33445-0000	LOST TANK 35 STATE 13	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	135,336	174,349	154,634		6/1/2004	8/7/2004	9/19/2004
573	30-015-33434-0000	LOST TANK 35 STATE 14	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	82,782	163,441	267,809		6/1/2004	7/15/2004	8/31/2004
574	30-015-32511-0000	LOST TANK 35 STATE 9	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	52,900	126,609	465,302		11/1/2002	1/27/2005	3/14/2005
575	30-015-37953-0000	LOST TANK 4 FEDERAL 009	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	37,498	127,201	956,016		6/1/2010	12/10/2010	1/19/2011
576	30-015-37954-0000	LOST TANK 4 FEDERAL 11	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	44,305	136,114	713,559		6/1/2010	11/20/2010	1/22/2011
577	30-015-37955-0000	LOST TANK 4 FEDERAL 12	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	54,558	162,447	836,994		6/1/2010	11/8/2010	12/26/2010
578	30-015-37956-0000	LOST TANK 4 FEDERAL 13	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	59,157	206,172	687,321		6/1/2010	12/30/2010	5/4/2011
579	30-015-37893-0000	LOST TANK 4 FEDERAL 14	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	61,606	142,347	670,893		5/1/2010	1/13/2011	6/7/2011
580	30-015-37894-0000	LOST TANK 4 FEDERAL 15	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	70,811	233,871	411,092		5/1/2010	10/7/2010	11/16/2010
581	30-015-37957-0000	LOST TANK 4 FEDERAL 16	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	73,331	206,604	563,412		6/1/2010	11/22/2010	9/24/2011
582	30-015-37958-0000	LOST TANK 4 FEDERAL 17	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	81,508	219,453	730,841		6/1/2010	2/13/2011	5/25/2011
583	30-015-37895-0000	LOST TANK 4 FEDERAL 18	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	85,382	203,749	246,230		5/1/2010	11/7/2011	1/17/2012
584	30-015-37896-0000	LOST TANK 4 FEDERAL 19	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	31,036	91,229	567,824		5/1/2010	1/31/2011	5/5/2011
585	30-015-37923-0000	LOST TANK 4 FEDERAL 8	OXY U S A INC	OIL	LOST TANK WEST	DELAWARE	74,588	195,572	767,293		5/1/2010	12/27/2010	1/30/2011
586	30-015-26585-0000	LOST TANK AIS STATE 002	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	105,740	210,498	354,680		12/1/1990	10/21/1991	11/30/1991
587	30-015-32522-0000	LOST TANK AIS STATE 10	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	44,606	97,544	415,891		2/1/2003	2/20/2003	4/12/2003
588	30-015-32527-0000	LOST TANK AIS STATE 7	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	73,821	151,197	710,894		11/1/2002	5/21/2003	8/14/2003
589	30-025-36004-0000	LOTUS `ALT` STATE 1	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG SE	DELAWARE	4,782	20,857	309,113		9/1/2002	1/30/2003	4/2/2003
590	30-025-31694-0000	LOTUS `ALT` STATE 2	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG SE	DELAWARE	15,033	71,686	334,207		9/1/1992	9/19/1992	10/22/1992
591	30-025-36005-0000	LOTUS `ALT` STATE 3	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG SE	CHERRY CANYON	268,346	174,479	1,354,242		9/1/2002	11/3/2002	12/19/2002
592	30-025-37799-0000	LOTUS ALT STATE 012	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG SE	DELAWARE	2,576	17,414	170,046		4/1/2006	7/6/2006	9/17/2006
593	30-025-36135-0000	LOTUS ALT STATE 4	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG SE	BRUSHY CANYON	74,957	80,063	1,009,936		1/1/2003	3/24/2003	5/13/2003
594	30-025-36136-0000	LOTUS ALT STATE 5	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG SE	BRUSHY CANYON	50,927	91,476	223,313		1/1/2003	6/3/2003	7/8/2003
595	30-025-36557-0000	LOTUS ALT STATE 8	YATES PETROLEUM CORP	DRY	LIVINGSTON RDG SE	DELAWARE	36,682	79,265	692,533		1/1/2004	5/9/2004	7/29/2004
596	30-025-37661-0000	LOTUS ALT STATE 9	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG SE	DELAWARE	89,542	82,373	667,475		1/1/2006	5/29/2006	10/5/2006
597	30-025-37799-0001	LOTUS SWD 012	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				6,107,716	4/1/2010	5/6/2010	9/23/2010
598	30-025-36004-0001	LOTUS SWD 1	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				6,950,406	3/1/2010	3/29/2010	5/18/2010
599	30-025-31694-0001	LOTUS SWD 2	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				5,400,721	12/1/2011	12/17/2011	1/17/2012
600	30-025-36135-0001	LOTUS SWD 4	YATES PETROLEUM CORP	CONWIW	SWD	CHERRY CANYON				4,216,230	3/1/2013	4/2/2013	7/5/2013
601	30-015-31607-0000	LUCY `ALC` STATE 001	YATES PETROLEUM CORP	DRY	LOST TANK WEST	CHERRY CANYON	131,809	376,648	466,945		2/1/2001	3/16/2001	5/4/2001
602	30-015-31793-0000	LUCY `ALC` STATE 003	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	84,992	423,008	266,954		5/1/2001	7/21/2001	9/4/2001
603	30-015-32000-0000	LUCY `ALC` STATE 004	YATES PETROLEUM CORP	DRY	LOST TANK WEST	CHERRY CANYON	43,346	176,738	263,921		9/1/2001	9/22/2002	12/12/2002
604	30-015-31792-0000	LUCY `ALC` STATE 2	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	96,869	418,657	281,541		5/1/2001	6/7/2001	8/4/2001
605	30-015-32001-0000	LUCY `ALC` STATE 5	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	80,074	261,546	354,353		9/1/2001	3/9/2003	4/17/2003
606	30-015-32003-0000	LUCY `ALC` STATE 7	YATES PETROLEUM CORP	SUSOIL	LOST TANK	CHERRY CANYON	72,748	192,919	696,536		9/1/2001	6/11/2003	8/12/2003
607	30-015-32002-0000	LUCY ALC STATE 006	YATES PETROLEUM CORP	DRY	LOST TANK	CHERRY CANYON	125,408	221,425	700,536		9/1/2001	4/16/2003	5/21/2003
608	30-025-31442-0000	LUKE FEDERAL 2	PHILLIPS PETRLM CO	DRY	LIVINGSTON RIDGE	BRUSHY CANYON	7,969	6,218	93,378		10/1/1991	11/6/1991	1/18/1992
609	30-025-31443-0000	LUKE FEDERAL WD-1	PHILLIPS PETRLM CO	DRLWIW	SWD	DELAWARE				10,000,276	11/1/1991	11/12/1991	5/17/1993
610	30-015-26908-0000	MARTHA `AIK` FEDERA 005	YATES PETROLEUM CORP	DRY	LIVINGSTON RIDGE	CHERRY CANYON	80,890	209,409	683,146		12/1/1991	1/9/1992	2/21/1992
611	30-015-39733-0000	MARTHA `AIK` FEDERA 008H	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	70,237	324,449	1,166,824		11/1/2011	10/7/2013	1/1/2014
612	30-015-26549-0000	MARTHA `AIK` FEDERA 1	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	CHERRY CANYON	175,156	291,723	322,263		11/1/1990	12/7/1990	2/21/1991
613	30-015-37509-0000	MARTHA `AIK` FEDERA 10H	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	116,884	231,024	1,068,167		12/1/2009	11/4/2012	2/14/2013
614	30-015-37556-0000	MARTHA `AIK` FEDERA 14H	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	63,008	41,206	344,578		12/1/2009	11/17/2012	4/12/2013
615	30-015-26650-0000	MARTHA `AIK` FEDERA 2	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	CHERRY CANYON	185,355	318,131	392,677		3/1/1991	3/19/1991	4/17/1991
616	30-015-26723-0000	MARTHA `AIK` FEDERA 3	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	152,651	226,463	327,775		4/1/1991	5/6/1991	6/10/1991
617	30-015-26724-0000	MARTHA `AIK` FEDERA 4	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	CHERRY CANYON	189,197	274,982	687,912		8/1/1991	9/2/1991	10/12/1991
618	30-015-40051-0000	MARTHA `AIK` FEDERA 7H	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	30,011	70,962	309,458		12/1/2011	11/10/2013	2/13/2014
619	30-015-37512-0000	MARTHA `AIK` FEDERA 9H	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	81,947	190,436	923,570		12/1/2009	12/14/2012	4/16/2013
620	30-015-26960-0000	MARTHA AIK FEDERAL 006	YATES PETROLEUM CORP	DRY	LIVINGSTON RIDGE	DELAWARE	88,948	202,951	715,973		2/1/1992	3/9/1992	4/15/1992
621	30-015-37510-0000	MARTHA AIK FEDERAL 11H	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	240,585	338,687	1,006,405		12/1/2009	9/30/2012	3/5/2013
622	30-015-37511-0000	MARTHA AIK FEDERAL 13 H	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	113,878	265,449	1,071,332		12/1/2009	8/15/2010	12/20/2010
623	30-015-26625-0000	MARY `AIV` STATE 001	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	60,707	59,432	229,225		1/1/1991	1/31/1991	4/8/1991
624	30-015-26729-0000	MARY `AIV` STATE 3	YATES PETROLEUM CORP	SUSOIL	LOST TANK	DELAWARE	97,496	105,134	1,058,847		5/1/1991	5/20/1991	7/2/1991
625	30-015-26760-0000	MARY `AIV` STATE 5	YATES PETROLEUM CORP	OIL	LOST TANK	CHERRY CANYON	42,361	72,538	368,801		12/1/1991	12/13/1991	1/30/1992
626	30-015-26591-0000	MEDANO `VA` STATE 003	YATES PETROLEUM CORP	DRY	LOS MEDANOS	BRUSHY CANYON	134,489	279,198	375,713		12/1/1990	1/4/1991	2/21/1991
627	30-015-26591-0001	MEDANO `VA` STATE 003	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE	14,160	4,777	22,501		3/1/1991	3/15/1991	3/16/1991
628	30-015-32044-0000	MEDANO `VA` STATE 10	YATES PETROLEUM CORP	OIL	LOS MEDANOS	BRUSHY CANYON	114,679	254,071	1,133,899		10/1/2001	2/17/2005	7/17/2005
629	30-015-27323-0000	MEDANO `VA` STATE 15	YATES PETROLEUM CORP	SUSOIL	LOS MEDANOS	DELAWARE	73,083	202,028	861,539		6/1/1993	7/6/1993	9/11/1993
630	30-015-27325-0000	MEDANO `VA` STATE 17	YATES PETROLEUM CORP	OIL	LOS MEDANOS	DELAWARE	235,721	778,659	1,169,413		4/1/1993	4/26/1993	5/25/1993
631	30-015-27021-0000	MEDANO `VA` STATE 5	YATES PETROLEUM CORP	OIL	LOS MEDANOS	DELAWARE	169,212	711,845	473,891		4/1/1993	5/9/1993	6/15/1993
632	30-015-26171-0001	MEDANO STATE 001	ARCO PERMIAN	OIL	LIVINGSTON RDG S	DELAWARE	3,070	85	29,248		5/1/1997	5/12/1997	5/26/1997
633	30-015-29525-0000	MEDANO STATE 002	ARCO PERMIAN	DRY	LIVINGSTON RIDGE	DELAWARE	11,070	20,542	1,453,993		4/1/1997	5/27/1997	6/24/1997
634	30-015-26633-0000	MEDANO VA STATE 004	YATES PETROLEUM CORP	DRY	LOS MEDANOS	BRUSHY CANYON	126,784	493,924	672,881		2/1/1991	4/11/1993	5/18/1993
635	30-015-27022-0000	MEDANO VA STATE 006	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE	124,746	372,893	419,742		6/1/1993	6/17/1993	7/10/1993
636	30-015-33401-0000	MEDANO VA STATE 008	YATES PETROLEUM CORP	DRY	LOS MEDANOS	BRUSHY CANYON	140,524	273,503	347,820		5/1/2004	10/16/2004	12/7/2004
637	30-015-27320-0000	MEDANO VA STATE 012	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE	38,114	178,628	346,037		2/1/1993	7/14/1996	8/7/1996
638	30-015-33240-0000	MEDANO VA STATE 014	YATES PETROLEUM CORP	DRY	LOS MEDANOS	BRUSHY CANYON	44,194	116,096	312,393		2/1/2004	1/7/2005	2/15/2005
639	30-015-27324-0000	MEDANO VA STATE 016	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE	106,058	495,357	209,212		2/1/1993	6/1/1993	6/23/1993
640	30-015-33239-0000	MEDANO VA STATE 13	YATES PETROLEUM CORP	OIL	LOS MEDANOS	BRUSHY CANYON	159,706	297,738	964,378		2/1/2004	11/2/2004	1/17/2005
641	30-015-32123-0000	MEDANO VA STATE 7	YATES PETROLEUM CORP	OIL	LOS MEDANOS	DELAWARE	92,729	260,152	894,884		12/1/2001	7/9/2003	8/17/2003
642	30-015-33406-0000	MEDANO VA STATE 9	YATES PETROLEUM CORP	OIL	LOS MEDANOS	BRUSHY CANYON	95,975	224,040	331,837		5/1/2004	6/15/2004	9/4/2004
643	30-015-42385-0000	MERLYN 27-22 FEDERA 1H	DEVON ENERGY PRODUCT	OIL	LOST TANK	DELAWARE	464,490	1,315,553	1,554,764		5/1/2014	11/14/2014	5/22/2015
644	30-015-42386-0000	MERLYN 27-22 FEDERA 2H	DEVON ENERGY PRODUCT	OIL	LOST TANK	DELAWARE	481,200	1,649,222	2,353,493		5/1/2014	1/10/2015	6/19/2015
645	30-025-39444-0000	MESA VERDE `7` FEDE 003	HARVARD PET CO LLC	OIL	MESA VERDE	BRUSHY CANYON	20,153	41,143	196,191		5/1/2009	11/22/2009	4/17/2010
646	30-025-36883-0000	MICRO BREW BEU FEDE 1	YATES PETROLEUM CORP	OIL	RED TANK	DELAWARE	79,087	219,849	674,259		9/1/2004	1/27/2005	6/25/2005
647	30-025-35918-0000	MILLS 19 1	POGO PRODUCING CO	OIL	LIVINGSTON RDG E	BRUSHY CANYON	172,210	197,405	1,538,164		5/1/2002	2/27/2003	5/20/2003
648	30-025-34449-0001	MINIS `2`(R) FEDERA 1	SAMSON RESOURCES CO	OIL	HAT MESA SE	DELAWARE	596,230	309,283	947,105		1/1/2002	2/24/2002	5/21/2002
649	30-025-36956-0000	MINIS 1 FEDERAL 4	COG OPERATING LLC	OIL	HAT MESA SE	DELAWARE	51,038	25,652	27,486		11/1/2004	12/31/2004	3/7/2005
650	30-015-37369-0000	MOBIL FEDERAL 010	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	38,717	99,208	496,378		10/1/2009	3/13/2010	4/20/2010
651	30-015-37335-0000	MOBIL FEDERAL 2	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	54,270	95,473	272,191		10/1/2009	2/3/2010	7/20/2010
652	30-015-37338-0000	MOBIL FEDERAL 3	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	30,650	87,207	648,470		10/1/2009	3/2/2010	7/20/2010
653	30-015-27114-0000	MOBIL FEDERAL 4	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	264,948	1,327,267	156,807		12/1/1992	1/9/1993	2/13/1993
654	30-015-27795-0000	MOBIL FEDERAL 6	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	136,554	1,223,749	88,468		8/1/1994	9/7/1994	10/8/1994
655	30-015-27115-0000	MOBIL FEDERAL 7	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	348,083	757,743	473,531		8/1/1992	8/31/1992	9/28/1992
656	30-015-27319-0000	MOBIL FEDERAL 8	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	266,903	1,025,694	624,260		2/1/1993	2/16/1993	3/25/1993
657	30-015-37339-0000	MOBIL FEDRAL 009	OXY U S A INC	DRY	SAND DUNES WEST	DELAWARE	27,052	67,130	416,054		10/1/2009	4/8/2010	8/12/2010

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
658	30-015-26815-0000	MOLLY STATE 1	PHILLIPS PETRLM CO	OIL	LOST TANK	BRUSHY CANYON	74,508	117,603	226,343		9/1/1991	9/25/1991	11/22/1991
659	30-015-26830-0000	MOLLY STATE 2	PHILLIPS PETRLM CO	SUSOIL	LOST TANK	BRUSHY CANYON	85,206	140,813	334,019		9/1/1991	9/26/1991	11/27/1991
660	30-015-26831-0000	MOLLY STATE 3	PHILLIPS PETRLM CO	OIL	LOST TANK	BRUSHY CANYON	48,361	64,129	175,031		10/1/1991	10/20/1991	12/16/1991
661	30-015-26855-0000	MOLLY STATE 4	PHILLIPS PETRLM CO	OIL	LOST TANK	BRUSHY CANYON	107,762	152,651	136,746		10/1/1991	10/16/1991	12/27/1991
662	30-015-27225-0000	MR `25` FEDERAL 1	MARALO INC	DHSO	LOST TANK	DELAWARE	69				1/1/1993	1/16/1993	10/5/1993
663	30-025-32837-0001	MULE DEER `36` STAT 001	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	27,758	205,217	95,663		6/1/1996	7/10/1996	7/20/1996
664	30-025-33239-0001	MULE DEER `36` STAT 005	EOG RESOURCES INC	DRY	RED TANK	DELAWARE	3,185	12,901	10,685		6/1/2003	6/25/2003	7/9/2003
665	30-025-33014-0001	MULE DEER `36` STAT 2	BURLINGTON RES O&G	OIL	RED TANK WEST	DELAWARE	23,121	176,581	136,057		7/1/1996	7/12/1996	7/15/1996
666	30-025-33107-0001	MULE DEER `36` STAT 4	BURLINGTON RES O&G	OIL	RED TANK	DELAWARE	11,038	146,102	68,648		2/1/1997	2/19/1997	2/28/1997
667	30-025-33688-0000	MULE DEER `36` STAT 7	BURLINGTON RES O&G	OIL	RED TANK	DELAWARE	32,847	397,227	64,521		11/1/1996	12/10/1996	2/19/1997
668	30-015-40127-0000	NANCY `ALH` FEDERAL 001H	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	350,292	404,418	1,056,635		3/1/2012	7/26/2012	10/12/2012
669	30-015-37194-0000	NASH UNIT 042H	XTO ENERGY INC	SUSOIL	NASH DRAW	BRUSHY CANYON	134,624	872,414	1,189,260		7/1/2009	11/15/2009	12/12/2009
670	30-015-43077-0100	NASH UNIT 047H	XTO ENERGY INC	OIL	NASH DRAW	DELAWARE	299,229	1,751,295	1,221,068		4/1/2015	3/8/2017	10/1/2017
671	30-015-27877-0000	NASH UNIT 20	STRATA PRODUCTION CO	OIL	NASH DRAW	BRUSHY CANYON	76,423	580,485	553,981		5/1/1994	5/23/1994	6/30/1994
672	30-015-42195-0000	NASH UNIT 44H	XTO ENERGY INC	OIL	NASH DRAW	DELAWARE	356,400	2,327,715	2,154,263		3/1/2014	8/23/2014	2/17/2015
673	30-015-42048-0000	NASH UNIT 45H	XTO ENERGY INC	OIL	NASH DRAW	DELAWARE	458,256	2,635,392	1,411,829		1/1/2014	7/8/2014	12/13/2014
674	30-015-38663-0000	NASH UNIT 49H	XTO ENERGY INC	OIL	NASH DRAW	DELAWARE	169,352	1,356,101	1,009,405		3/1/2011	6/10/2012	1/18/2013
675	30-015-38991-0000	NASH UNIT 50H	XTO ENERGY INC	OIL	NASH DRAW	BRUSHY CANYON	119,601	923,552	1,251,090		4/1/2011	1/8/2012	5/12/2012
676	30-015-38365-0000	NASH UNIT 51H	XTO ENERGY INC	OIL	NASH DRAW	DELAWARE	95,732	967,982	902,032		11/1/2010	7/20/2012	11/17/2012
677	30-015-21803-0001	NASH UNIT 6	STRATA PRODUCTION CO	OIL	NASH DRAW	BRUSHY CANYON	148,778	734,065	218,822		5/1/1993	6/4/1993	7/7/1993
678	30-015-25899-0000	NEFF `13` FEDERAL 1	POGO PRODUCING CO	DRY	LIVINGSTON RIDGE	BRUSHY CANYON	109,598	211,967	506,238		4/1/1988	4/14/1988	9/27/1988
679	30-015-28708-0000	NEFF `13` FEDERAL 10	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	99,157	256,972	426,868		11/1/1995	12/9/1995	2/12/1996
680	30-015-29582-0000	NEFF `13` FEDERAL 11	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	126,970	278,013	569,992		11/1/1997	12/8/1997	2/21/1998
681	30-015-29247-0000	NEFF `13` FEDERAL 12	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	45,649	170,102	422,511		11/1/1996	11/14/1996	2/25/1997
682	30-015-26165-0000	NEFF `13` FEDERAL 2	TEXACO PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	108,057	168,194	1,298,028		8/1/1989	9/7/1989	10/7/1989
683	30-015-26164-0000	NEFF `13` FEDERAL 3	TEXACO PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	250,960	456,462	495,532		9/1/1989	10/2/1989	10/28/1989
684	30-015-26502-0000	NEFF `13` FEDERAL 4	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	216,547	452,812	444,731		12/1/1990	12/27/1990	2/3/1991
685	30-015-26487-0000	NEFF `13` FEDERAL 5	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	162,257	345,441	556,178		1/1/1991	2/4/1991	5/22/1991
686	30-015-26857-0000	NEFF `13` FEDERAL 6	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	221,845	516,131	482,953		10/1/1991	10/19/1991	12/1/1991
687	30-015-26929-0000	NEFF `13` FEDERAL 7	TEXACO EXPL&PROD INC	SUSOIL	LIVINGSTON RIDGE	BRUSHY CANYON	81,511	221,800	53,822		3/1/1992	4/10/1992	5/7/1992
688	30-015-26929-0001	NEFF `13` FEDERAL 7	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	96,183	269,113	250,118		7/1/2000	7/27/2000	8/18/2000
689	30-015-26979-0000	NEFF `13` FEDERAL 8	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	162,050	434,644	687,158		4/1/1992	4/12/1992	5/14/1992
690	30-015-28125-0000	NEFF `13` FEDERAL 9	TEXACO EXPL&PROD INC	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	174,392	399,049	539,854		11/1/1994	12/7/1994	1/20/1995
691	30-015-41031-0000	NEFF `25` FEDERAL 5H	OXY U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	147,741	304,725	1,026,373		1/1/2013	8/5/2013	2/6/2014
692	30-015-32761-0000	NEFF 13 FEDERAL 16	CHEVRON U S A INC	OIL	LIVINGSTON RIDGE	CHERRY CANYON	65,938	204,189	1,198,461		4/1/2003	5/16/2003	8/2/2003
693	30-015-35359-0000	NEFF 13 FEDERAL 17	CHEVRON U S A INC	OIL	LIVINGSTON RIDGE	DELAWARE	104,776	203,944	1,001,252		1/1/2007	6/23/2007	9/9/2007
694	30-015-28281-0000	NEFF FEDERAL 003	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	1,063	3,646	15,807		12/1/1994	1/20/1995	2/22/1995
695	30-015-28281-0001	NEFF FEDERAL 003	POGO PRODUCING CO	INJ	LIVINGSTON RIDGE	DELAWARE				14,718,273	12/1/1995	12/15/1995	3/18/2006
696	30-015-26639-0000	NEFF FEDERAL 2	POGO PRODUCING CO	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	182,292	199,048	781,441		9/1/1991	10/7/1991	11/12/1991
697	30-025-25751-0002	NEW MEXICO `A` FEDE 2	STRATA PRODUCTION CO	SUSOIL	HAT MESA	DELAWARE	111,455	44,132	312,957		1/1/1990	1/21/1990	1/23/1990
698	30-025-30833-0000	NEW MEXICO `A` FEDE 3	STRATA PRODUCTION CO	SUSOIL	HAT MESA	DELAWARE	145,646	95,431	115,576		3/1/1990	3/15/1990	5/2/1990
699	30-025-30988-0000	NEW MEXICO FEDERAL 4	STRATA PRODUCTION CO	DRY	HAT MESA	DELAWARE	14,791	6,092	79,173		9/1/1990	9/12/1990	10/22/1990
700	30-025-31146-0000	NEW MEXICO FEDERAL 5	STRATA PRODUCTION CO	OIL	HAT MESA	DELAWARE	251,792	492,074	645,630		1/1/1991	2/9/1991	3/22/1991
701	30-025-31377-0000	NEW MEXICO FEDERAL 6	STRATA PRODUCTION CO	DRY	HAT MESA	CHERRY CANYON	50,589	85,950	270,704		9/1/1991	9/14/1991	11/12/1991
702	30-015-34424-0000	NORKOTA 19 FEDERAL 003	DEVON ENERGY PRODUCT	DRY	FRTY NINR RDGE W	BRUSHY CANYON	27,501	282,731	192,586		11/1/2005	1/1/2006	2/3/2006
703	30-015-27600-0000	NORTH PURE GOLD `8` 009	SANTA FE ENR OP PRTN	DRY	LOS MEDANOS	DELAWARE	153,122	745,765	469,898		7/1/1993	10/5/1993	11/1/1993
704	30-015-27597-0000	NORTH PURE GOLD `8` 2	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	166,281	686,375	666,536		1/1/1994	2/7/1994	2/26/1994
705	30-015-27610-0000	NORTH PURE GOLD `8` 3	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	153,653	744,208	421,209		2/1/1994	2/12/1994	3/31/1994
706	30-015-27598-0000	NORTH PURE GOLD `8` 5	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	95,908	349,826	362,380		10/1/1993	10/18/1993	11/16/1993
707	30-015-27618-0000	NORTH PURE GOLD `8` 6	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	129,188	292,482	758,783		1/1/1994	2/10/1994	3/28/1994
708	30-015-27517-0000	NORTH PURE GOLD `9` 009	SANTA FE ENR OP PRTN	DRY	LOS MEDANOS	DELAWARE	56,578	129,988	341,034		6/1/1993	1/21/1994	3/6/1994
709	30-015-36377-0000	NORTH PURE GOLD `9` 010H	DEVON ENERGY PRODUCT	DRY	LOS MEDANOS	BRUSHY CANYON	147,281	231,224	2,154,274		5/1/2008	7/8/2008	9/12/2008
710	30-015-27178-0000	NORTH PURE GOLD `9` 1	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	86,723	238,207	207,046		10/1/1992	10/25/1992	12/28/1992
711	30-015-27442-0000	NORTH PURE GOLD `9` 3	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	200,034	718,982	279,766		6/1/1993	6/19/1993	7/24/1993
712	30-015-27443-0000	NORTH PURE GOLD `9` 4	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	182,577	786,228	421,625		6/1/1993	7/5/1993	8/3/1993
713	30-015-27515-0000	NORTH PURE GOLD `9` 7	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	130,534	251,434	787,500		1/1/1994	1/12/1994	2/17/1994
714	30-015-36427-0000	NORTH PURE GOLD 10 001H	DEVON ENERGY PRODUCT	DRY	LOS MEDANOS	BRUSHY CANYON	35,357	40,025	594,456		7/1/2008	10/3/2008	12/21/2008
715	30-015-33386-0000	NORTH PURE GOLD 10 010	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	BRUSHY CANYON	22,184	35,603	294,603		4/1/2004	8/25/2004	9/24/2004
716	30-015-34756-0000	NORTH PURE GOLD 4 F 002	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	DELAWARE	389,894	1,682,673	688,565		3/1/2006	7/25/2006	1/12/2007
717	30-015-35702-0000	NORTH PURE GOLD 4 F 003	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	DELAWARE	52,557	142,316	272,472		6/1/2007	8/22/2007	10/5/2007
718	30-015-35761-0000	NORTH PURE GOLD 5 F 001H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BRUSHY CANYON	139,998	367,241	532,832		7/1/2007	10/7/2007	12/13/2007
719	30-015-35850-0000	NORTH PURE GOLD 5 F 002H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	DELAWARE	188,095	456,916	963,804		10/1/2007	11/10/2007	1/10/2008
720	30-015-35892-0000	NORTH PURE GOLD 5 F 003H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BRUSHY CANYON	96,605	181,241	626,378		10/1/2007	12/10/2007	2/15/2008
721	30-015-37172-0000	NORTH PURE GOLD 8 F 012H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	DELAWARE	123,884	285,873	372,127		7/1/2009	11/29/2009	1/13/2010
722	30-015-27479-0000	NORTH PURE GOLD 9 F 002	SANTA FE ENR OP PRTN	DRY	LOS MEDANOS	DELAWARE	127,349	621,094	146,475		5/1/1994	5/29/1994	6/23/1994
723	30-015-27914-0000	NORTH PURE GOLD 9 F 005	SANTA FE ENR OP PRTN	DRY	LOS MEDANOS	DELAWARE	242,956	669,802	276,383		4/1/1994	6/12/1994	7/8/1994
724	30-015-37370-0000	NORTH PURE GOLD 9 F 006	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BRUSHY CANYON	42,938	127,298	160,696		10/1/2009	2/23/2010	4/21/2010
725	30-015-34533-0000	NORTH PURE GOLD 9 F 008	DEVON ENERGY PRODUCT	DRY	LOS MEDANOS	DELAWARE	32,370	62,520	150,544		1/1/2006	4/22/2006	6/3/2006
726	30-015-36370-0000	NORTH PURE GOLD 9 F 011H	DEVON ENERGY PRODUCT	DRY	LOS MEDANOS	BRUSHY CANYON	73,276	135,548	1,132,693		5/1/2008	8/14/2008	10/31/2008
727	30-015-33368-0000	NORTH PURE GOLD 9 F 017	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	DELAWARE	1,576	582	16,610		3/1/2004	4/9/2004	5/15/2004
728	30-015-33368-0001	NORTH PURE GOLD 9 F 017	DEVON ENERGY PRODUCT	CONWIW	SWD	DELAWARE				7,290,757	3/1/2005	3/20/2005	4/4/2005
729	30-025-31512-0000	PAISANO FEDERAL 1	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	DELAWARE	193,428	104,462	1,058,372		2/1/1992	3/3/1992	4/22/1992
730	30-025-31615-0000	PAISANO FEDERAL 2	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	DELAWARE	150,015	89,065	690,802		7/1/1992	7/15/1992	10/19/1992
731	30-025-31617-0000	PAISANO FEDERAL 3	STRATA PRODUCTION CO	OIL	LIVINGSTON RDG E	DELAWARE	66,163	51,864	314,529		12/1/1992	12/13/1992	2/15/1993
732	30-025-33863-0002	PARSLEY ARA FEDERAL 1	YATES PETROLEUM CORP	OIL	TRISTE DRAW	DELAWARE	5,973	15,192	65,717		12/1/2014	12/25/2014	1/25/2015
733	30-015-27017-0000	PAULINE `ALB` STATE 002	YATES PETROLEUM CORP	DRY	SAND DUNES WEST	DELAWARE	91,535	580,926	130,780		6/1/1992	1/29/1993	2/26/1993
734	30-015-27019-0000	PAULINE `ALB` STATE 004	YATES PETROLEUM CORP	DRY	SAND DUNES WEST	BRUSHY CANYON	86,829	366,396	123,319		6/1/1992	10/12/1992	11/10/1992
735	30-015-27156-0000	PAULINE `ALB` STATE 008	YATES PETROLEUM CORP	DRY	SAND DUNES WEST	DELAWARE	84,707	511,209	140,468		10/1/1992	2/6/1993	3/23/1993
736	30-015-27018-0000	PAULINE `ALB` STATE 3	YATES PETROLEUM CORP	OIL	SAND DUNES WEST	DELAWARE	94,673	452,127	140,507		12/1/1992	12/29/1992	1/28/1993
737	30-015-27020-0000	PAULINE `ALB` STATE 5	YATES PETROLEUM CORP	OIL	SAND DUNES WEST	BRUSHY CANYON	86,093	386,515	149,635		11/1/1992	11/15/1992	12/18/1992
738	30-015-27016-0000	PAULINE ALB STATE 001	YATES PETROLEUM CORP	DRY	SAND DUNES WEST	DELAWARE	83,339	321,769	118,734		6/1/1992	11/30/1992	12/27/1992
739	30-015-25866-0001	PAULINE ALB STATE 006	YATES PETROLEUM CORP	DRY	INGLE WELLS	DELAWARE	17,036	31,405	26,520		7/1/1992	7/28/1992	9/21/1992
740	30-015-27155-0000	PAULINE ALB STATE 007	YATES PETROLEUM CORP	DRY	SAND DUNES WEST	DELAWARE	73,001	360,699	119,429		10/1/1992	12/14/1992	1/14/1993
741	30-025-29337-0000	PAYNE FEDERAL 4	TEMPO ENERGY INC	DRY	TRISTE DRAW	DELAWARE	26,384	14,989	154,575		7/1/1985	7/31/1985	8/31/1985
742	30-025-08127-0000	PAYNE-FEDERAL 1	P-M DRILLING	DRY	TRISTE DRAW	DELAWARE	89,346	88,412	28,771		5/1/1961	5/18/1961	6/10/1961
743	30-025-08131-0000	PAYNE-FEDERAL 2	P-M DRILLING	DRY	TRISTE DRAW	DELAWARE	71,311	78,114	18,744		5/1/1962	5/16/1962	6/18/1962
744	30-025-21296-0000	PAYNE-FEDERAL 3	P-M DRILLING	DRY	TRISTE DRAW	DELAWARE	29,366	33,972	9,434		7/1/1965	8/8/1965	8/25/1965
745	30-015-26678-0000	PEAK VIEW 1	PHILLIPS PETRLM CO	OIL	CABIN LAKE	BRUSHY CANYON	128,912	269,284	904,299		4/1/1991	5/5/1991	11/14/1991
746	30-015-33737-0000	PEAKVIEW 2	CONOCOPHILLIPS CO	OIL	CABIN LAKE	DELAWARE	238,707	879,222	274,687		4/1/2004	11/7/2004	2/11/2005
747	30-015-34196-0000	PEAKVIEW FEDERAL 003	CONOCOPHILLIPS CO	OIL	CABIN LAKE	DELAWARE	202,564	731,069	317,556		5/1/2005	10/29/2005	12/22/2005
748	30-015-23587-0001	POKER LAKE `32` STA 1	ENRON OIL & GAS CO	DRY	SAND DUNES WEST	DELAWARE	142,668	515,550	130,106		5/1/1992	5/27/1992	6/30/1992
749	30-015-27094-0000	POKER LAKE `32` STA 2	ENRON OIL & GAS CO	SUSOIL	SAND DUNES WEST	DELAWARE	141,315	541,472	144,677		10/1/1992	10/27/1992	12/7/1992
750	30-015-27095-0000	POKER LAKE `32` STA 3	ENRON OIL & GAS CO	SUSOIL	SAND DUNES WEST	DELAWARE	131,235	532,092	155,888		12/1/1992	1/6/1993	2/4/1993
751	30-015-27171-0000	POKER LAKE `32` STA 5	ENRON OIL & GAS CO	OIL	SAND DUNES WEST	BRUSHY CANYON	89,258	493,973	260,924		11/1/1992	11/25/1992	1/4/1993
752	30-015-27096-0000	POKER LAKE `32` STA 6	ENRON OIL & GAS CO	OIL	SAND DUNES WEST	DELAWARE	136,636	528,983	183,011		11/1/1992	12/9/1992	1/26/1993
753	30-015-27177-0000	POKER LAKE `32` STA 7	ENRON OIL & GAS CO	DRY	SAND DUNES WEST	DELAWARE	69,438	333,870	193,242		12/1/1992	12/23/1992	1/26/1993
754	30-015-27097-0000	POKER LAKE `32` STA 8	ENRON OIL & GAS CO	OIL	SAND DUNES WEST	DELAWARE	104,663	472,521	196,967		1/1/1993	1/21/1993	2/14/1993
755	30-015-29715-0000	POKER LAKE UNIT 137	BASS ENTRPRS PROD CO	DRY	NASH DRAW	DELAWARE	42,809	254,053	357,948		7/1/1997	8/7/1997	9/12/1997
756	30-015-29876-0000	POKER LAKE UNIT 140	BASS ENTRPRS PROD CO	DRY	NASH DRAW	BRUSHY CANYON	102,978	346,545	341,430		10/1/1997	11/16/1997	12/17/1997
757	30-015-30039-0000	POKER LAKE UNIT 141	BASS ENTRPRS PROD CO	DRY	NASH DRAW	DELAWARE	68,950	358,111	365,707		2/1/1998	12/3/2000	1/8/2001
758	30-015-30541-0000	POKER LAKE UNIT 144	BASS ENTRPRS PROD CO	DRY	NASH DRAW	BRUSHY CANYON	80,922	601,937	260,806		12/1/1998	10/25/1999	12/3/1999
759	30-015-31006-0000	POKER LAKE UNIT 145	BASS ENTRPRS PROD CO	DRY	NASH DRAW	BRUSHY CANYON	63,729	444,372	592,597		3/1/2000	3/16/2000	4/20/2000

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
760	30-015-31007-0000	POKER LAKE UNIT 146	BASS ENTRPRS PROD CO	DRY	NASH DRAW	DELAWARE	101,319	635,107	265,233		3/1/2000	4/12/2000	6/11/2000
761	30-015-31416-0000	POKER LAKE UNIT 149	BASS ENTRPRS PROD CO	DRY	FRTY NINR RDGE SW	DELAWARE	42,572	347,898	248,175		10/1/2000	12/19/2000	1/29/2001
762	30-015-31318-0000	POKER LAKE UNIT 161	BASS ENTRPRS PROD CO	DRY	NASH DRAW	DELAWARE	38,310	179,848	369,546		8/1/2000	9/2/2001	10/16/2001
763	30-015-31334-0000	POKER LAKE UNIT 165	BASS ENTRPRS PROD CO	DRY	NASH DRAW	DELAWARE	66,321	317,209	256,804		9/1/2000	3/21/2001	4/18/2001
764	30-015-31744-0000	POKER LAKE UNIT 170	BASS ENTRPRS PROD CO	CONWIW	SWD	DELAWARE				6,384,163	4/1/2001	7/30/2001	3/12/2002
765	30-015-31973-0000	POKER LAKE UNIT 186	BEPCO LP	DRY	NASH DRAW	DELAWARE	16,571	57,506	271,576		9/1/2004	8/18/2006	10/1/2006
766	30-025-31624-0000	PRIZE FEDERAL 1	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	275,461	280,157	389,337		5/1/1995	5/22/1995	6/28/1995
767	30-025-32487-0000	PRIZE FEDERAL 10	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	72,912	195,427	502,505		4/1/1994	5/3/1994	6/7/1994
768	30-025-34082-0000	PRIZE FEDERAL 11	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	93,954	176,362	520,643		8/1/1997	8/19/1997	9/21/1997
769	30-025-32488-0000	PRIZE FEDERAL 13	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	35,720	83,238	809,382		10/1/1994	10/26/1994	12/5/1994
770	30-025-32143-0000	PRIZE FEDERAL 3	POGO PRODUCING CO	OIL	RED TANK	BRUSHY CANYON	224,436	306,182	1,048,461		10/1/1993	11/4/1993	12/6/1993
771	30-025-32436-0000	PRIZE FEDERAL 4	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	31,339	88,622	80,083		9/1/1994	10/3/1994	11/10/1994
772	30-025-32436-0001	PRIZE FEDERAL 4	POGO PRODUCING CO	INJ	RED TANK	DELAWARE				16,708,200	8/1/1996	9/10/1996	12/11/1998
773	30-025-32437-0000	PRIZE FEDERAL 5	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	134,865	167,399	1,700,998		3/1/1994	3/24/1994	5/1/1994
774	30-025-32656-0000	PRIZE FEDERAL 6	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	60,321	125,726	334,537		10/1/1996	1/21/1997	2/21/1997
775	30-025-32657-0000	PRIZE FEDERAL 7	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	78,349	113,033	662,215		5/1/1996	7/6/1996	8/7/1996
776	30-025-32685-0000	PRIZE FEDERAL 8	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	149,252	169,777	1,842,444		11/1/1995	12/7/1995	12/30/1995
777	30-025-37228-0001	PROHIBITION 12 FEDE 007	COG OPERATING LLC	DRY	RED TANK	DELAWARE	16,241	24,622	2,132		11/1/2005	11/18/2005	12/11/2005
778	30-025-37228-0000	PROHIBITION 12 FEDE 007	COG OPERATING LLC	DRY	BOOTLEG RIDGE NW	DELAWARE	24,620	44,701	107,211		5/1/2005	9/11/2005	11/10/2005
779	30-025-37227-0000	PROHIBITION 12 FEDE 008	COG OPERATING LLC	DRY	BOOTLEG RIDGE NW	DELAWARE	103,452	265,041	222,466		5/1/2005	10/5/2005	11/19/2005
780	30-025-37819-0001	PROHIBITION 12 FEDE 010	COG OPERATING LLC	DRY	BOOTLEG RIDGE NW	DELAWARE	49,060	55,129	142,825		8/1/2006	8/29/2006	9/8/2006
781	30-025-37821-0000	PROHIBITION 12 FEDE 012	COG OPERATING LLC	DRY	RED TANK	DELAWARE	56,212	155,721	178,626		4/1/2006	7/28/2006	11/4/2006
782	30-025-31137-0000	PROHIBITION FEDERAL 001	MARALO INC	DRY	BOOTLEG RIDGE NW	BRUSHY CANYON	103,668	75,341	307,682		1/1/1991	1/29/1991	12/17/1991
783	30-025-31716-0000	PROHIBITION FEDERAL 002	MARALO INC	CONWIW	SWD	DELAWARE	2,371		35,802	4,274,168	5/1/1992	9/10/1992	3/1/1993
784	30-025-32142-0003	PROHIBITION FEDERAL 003	COG OPERATING LLC	DRY	BOOTLEG RIDGE NW	DELAWARE	13,987	19,335	201,898		2/1/2006	3/9/2006	3/23/2006
785	30-025-32760-0000	PROHIBITION FEDERAL 006	MARALO INC	DRY	RED TANK WEST	BRUSHY CANYON	67,706	149,389	243,632		12/1/1994	4/21/1995	6/14/1995
786	30-025-32758-0000	PROHIBITION FEDERAL 4	MARALO INC	OIL	RED TANK WEST	BRUSHY CANYON	75,491	107,050	284,872		12/1/1994	12/20/1994	2/27/1995
787	30-025-20423-0001	PROXIMITY `31` FEDE 004	POGO PRODUCING CO	INJ	LIVINGSTON RIDGE	DELAWARE				6,931,183	8/1/1993	8/20/1993	2/24/1994
788	30-025-37184-0000	PROXIMITY 30 FEDERA 3	POGO PRODUCING CO	OIL	LIVINGSTON RDG E	BRUSHY CANYON	48,668	51,532	270,328		4/1/2005	7/27/2005	9/14/2005
789	30-015-35296-0000	PURE GOLD `A` FEDER 008	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	78,447	196,705	278,850		12/1/2006	2/10/2007	3/20/2007
790	30-015-35306-0000	PURE GOLD `A` FEDER 013	POGO PRODUCING CO	DRY	SAND DUNES WEST	DELAWARE	15,740	29,440	401,421		12/1/2006	8/12/2007	9/18/2007
791	30-015-35301-0000	PURE GOLD `A` FEDER 11	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	81,372	285,781	362,526		12/1/2006	7/29/2007	9/4/2007
792	30-015-35303-0000	PURE GOLD `A` FEDER 12	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	81,348	216,944	606,810		12/1/2006	4/2/2008	7/3/2008
793	30-015-35307-0000	PURE GOLD `A` FEDER 14	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	74,706	131,901	463,285		12/1/2006	5/19/2008	8/12/2008
794	30-015-35308-0000	PURE GOLD `A` FEDER 15	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	140,145	187,532	670,835		12/1/2006	3/3/2007	4/16/2007
795	30-015-35309-0000	PURE GOLD `A` FEDER 16	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	137,174	222,805	464,729		12/1/2006	3/11/2007	4/14/2007
796	30-015-35310-0000	PURE GOLD `A` FEDER 17	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	31,121	131,193	261,239		12/1/2006	3/13/2008	7/2/2008
797	30-015-27388-0000	PURE GOLD `A` FEDER 4	KAISER-FRANCIS OIL	DRY	SAND DUNES WEST	DELAWARE	147,717	443,393	563,488		1/1/1993	1/30/1993	6/24/1993
798	30-015-35292-0000	PURE GOLD `A` FEDER 5	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	131,954	297,210	487,409		12/1/2006	8/24/2007	10/10/2007
799	30-015-35293-0000	PURE GOLD `A` FEDER 6	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	48,615	349,999	83,425		12/1/2006	4/15/2007	5/17/2007
800	30-015-35294-0000	PURE GOLD `A` FEDER 7	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	252,703	473,680	483,881		12/1/2006	8/6/2007	10/22/2007
801	30-015-35298-0000	PURE GOLD `A` FEDER 9	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	46,353	214,375	103,214		12/1/2006	7/26/2007	9/1/2007
802	30-015-35300-0000	PURE GOLD `B` FEDER 10	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	80,705	312,662	296,821		12/1/2006	7/21/2007	8/26/2007
803	30-015-35302-0000	PURE GOLD `B` FEDER 11	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	67,874	359,539	233,462		12/1/2006	3/24/2007	4/30/2007
804	30-015-35304-0000	PURE GOLD `B` FEDER 12	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	64,343	304,682	150,568		12/1/2006	12/30/2006	3/2/2007
805	30-015-38542-0000	PURE GOLD `B` FEDER 13	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	46,147	109,531	262,137		2/1/2011	11/23/2011	2/23/2012
806	30-015-27902-0000	PURE GOLD `B` FEDER 14	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	134,926	521,160	469,482		9/1/1995	9/19/1995	10/23/1995
807	30-015-38520-0000	PURE GOLD `B` FEDER 15	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	29,276	110,520	140,627		2/1/2011	12/31/2011	2/16/2012
808	30-015-35305-0000	PURE GOLD `B` FEDER 17	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	37,969	186,811	408,467		12/1/2006	3/27/2007	4/26/2007
809	30-015-35311-0000	PURE GOLD `B` FEDER 18	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	120,770	448,567	190,756		12/1/2006	1/19/2007	3/24/2007
810	30-015-35312-0000	PURE GOLD `B` FEDER 19	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	110,815	182,046	866,860		12/1/2006	7/1/2007	8/26/2007
811	30-015-30605-0000	PURE GOLD `B` FEDER 20	POGO PRODUCING CO	INJ	SAND DUNES	DELAWARE				14,911,932	3/1/1999	4/21/1999	5/4/2001
812	30-015-27237-0000	PURE GOLD `B` FEDER 3	KAISER-FRANCIS OIL	DRY	SAND DUNES WEST	BRUSHY CANYON	118,990	444,636	173,773		2/1/1993	2/14/1993	5/4/1993
813	30-015-27238-0000	PURE GOLD `B` FEDER 4	KAISER-FRANCIS OIL	OIL	SAND DUNES WEST	DELAWARE	234,183	854,733	1,101,348		1/1/1993	1/30/1993	3/9/1993
814	30-015-27289-0000	PURE GOLD `B` FEDER 5	KAISER-FRANCIS OIL	OIL	SAND DUNES WEST	DELAWARE	185,367	607,604	172,095		5/1/1993	5/21/1993	6/23/1993
815	30-015-27290-0000	PURE GOLD `B` FEDER 6	KAISER-FRANCIS OIL	OIL	SAND DUNES WEST	DELAWARE	225,999	709,478	509,840		5/1/1993	6/3/1993	7/2/1993
816	30-015-35295-0000	PURE GOLD `B` FEDER 7	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	107,848	366,499	396,011		12/1/2006	4/11/2007	6/2/2007
817	30-015-35297-0000	PURE GOLD `B` FEDER 8	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	110,075	330,443	681,277		12/1/2006	3/30/2007	5/29/2007
818	30-015-27841-0000	PURE GOLD `B` FEDER 9	KAISER-FRANCIS OIL	OIL	SAND DUNES WEST	BRUSHY CANYON	102,531	482,195	142,900		6/1/1994	8/7/1994	10/5/1994
819	30-015-27392-0000	PURE GOLD `C-17` FE 005	SANTA FE ENR OP PRTN	DRY	SAND DUNES WEST	DELAWARE	120,468	548,770	140,558		3/1/1993	5/6/1993	5/30/1993
820	30-015-27393-0000	PURE GOLD `C-17` FE 10	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	99,347	672,467	433,988		7/1/1993	7/15/1993	8/10/1993
821	30-015-27397-0000	PURE GOLD `C-17` FE 11	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	88,027	494,131	139,254		5/1/1993	6/3/1993	7/1/1993
822	30-015-27421-0000	PURE GOLD `C-17` FE 12	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	280,907	717,868	209,139		8/1/1993	8/11/1993	9/11/1993
823	30-015-27501-0000	PURE GOLD `C-17` FE 13	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	78,451	255,096	284,236		7/1/1993	7/30/1993	8/30/1993
824	30-015-27422-0000	PURE GOLD `C-17` FE 14	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	113,525	469,585	255,431		6/1/1993	6/17/1993	7/15/1993
825	30-015-27152-0000	PURE GOLD `C-17` FE 3	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	107,330	502,075	148,371		1/1/1993	2/10/1993	4/22/1993
826	30-015-27899-0000	PURE GOLD `C-17` FE 6	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	BRUSHY CANYON	134,149	692,200	153,939		3/1/1994	4/8/1994	5/5/1994
827	30-015-27888-0000	PURE GOLD `C-17` FE 7	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	162,319	909,433	326,606		4/1/1994	4/30/1994	5/29/1994
828	30-015-27420-0000	PURE GOLD `C-17` FE 8	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	164,102	787,544	271,051		5/1/1993	5/20/1993	6/17/1993
829	30-015-27396-0000	PURE GOLD `C-17` FE 9	SANTA FE ENR OP PRTN	OIL	LOS MEDANOS	DELAWARE	144,490	964,027	332,810		6/1/1993	7/1/1993	7/28/1993
830	30-015-27139-0000	PURE GOLD `D` 3	POGO PRODUCING CO	SUSOIL	SAND DUNES WEST	BRUSHY CANYON	150,147	847,939	133,750		11/1/1992	11/22/1992	12/14/1992
831	30-015-27219-0000	PURE GOLD `D` FEDER 008	POGO PRODUCING CO	DRY	SAND DUNES WEST	BRUSHY CANYON	173,818	596,980	344,547		12/1/1992	1/18/1993	2/10/1993
832	30-015-27347-0000	PURE GOLD `D` FEDER 012	POGO PRODUCING CO	DRY	SAND DUNES WEST	BRUSHY CANYON	164,805	471,709	400,092		3/1/1993	4/15/1993	5/6/1993
833	30-015-35799-0000	PURE GOLD `D` FEDER 10	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	41,944	142,051	407,009		9/1/2007	7/29/2009	11/9/2009
834	30-015-27609-0000	PURE GOLD `D` FEDER 11	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	119,144	443,904	123,287		3/1/1994	3/16/1994	4/15/1994
835	30-015-35801-0000	PURE GOLD `D` FEDER 14	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	55,440	158,369	650,918		9/1/2007	7/1/2009	10/26/2009
836	30-015-27497-0000	PURE GOLD `D` FEDER 16	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	135,992	596,580	411,002		6/1/1993	7/3/1993	7/28/1993
837	30-015-27112-0000	PURE GOLD `D` FEDER 17	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	133,394	575,879	406,912		3/1/1993	4/2/1993	4/26/1993
838	30-015-27999-0000	PURE GOLD `D` FEDER 18	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	136,793	429,953	651,578		8/1/1994	8/24/1994	9/20/1994
839	30-015-26987-0000	PURE GOLD `D` FEDER 2	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	190,091	926,788	340,630		8/1/1992	8/27/1992	9/27/1992
840	30-015-27131-0000	PURE GOLD `D` FEDER 4	POGO PRODUCING CO	DRY	SAND DUNES WEST	DELAWARE	106,127	497,501	673,992		9/1/1992	10/5/1992	10/27/1992
841	30-015-27216-0000	PURE GOLD `D` FEDER 5	POGO PRODUCING CO	SUSOIL	SAND DUNES WEST	BRUSHY CANYON	247,844	570,572	232,260		12/1/1992	12/27/1992	1/19/1993
842	30-015-27217-0000	PURE GOLD `D` FEDER 6	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	161,790	431,901	570,936		1/1/1994	1/24/1994	3/6/1994
843	30-015-27218-0000	PURE GOLD `D` FEDER 7	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	181,886	983,207	116,567		6/1/1993	6/19/1993	7/13/1993
844	30-015-27243-0000	PURE GOLD A FEDERAL 002	KAISER-FRANCIS OIL	DRY	SAND DUNES WEST	DELAWARE	155,190	611,221	596,705		10/1/1992	1/12/1993	2/13/1993
845	30-015-27616-0000	PURE GOLD A FEDERAL 003	KAISER-FRANCIS OIL	DRY	SAND DUNES WEST	BRUSHY CANYON	125,542	377,551	410,291		7/1/1993	10/16/1993	11/24/1993
846	30-015-35299-0000	PURE GOLD A FEDERAL 10	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	42,911	172,572	402,253		12/1/2006	2/16/2008	5/8/2008
847	30-015-38555-0000	PURE GOLD B FEDERAL 16	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	42,588	111,786	491,986		2/1/2011	12/13/2011	2/16/2012
848	30-015-27153-0000	PURE GOLD C-17 FEDE 004	SANTA FE ENR OP PRTN	DRY	SAND DUNES WEST	DELAWARE	113,814	462,788	314,505		10/1/1992	10/7/1992	12/10/1992
849	30-015-35800-0000	PURE GOLD D FEDERAL 013	OXY U S A INC	OIL	SAND DUNES WEST	DELAWARE	34,583	146,956	341,023		9/1/2007	9/2/2009	12/6/2009
850	30-015-35798-0000	PURE GOLD D FEDERAL 9	OXY U S A INC	OIL	EDDY UNDESIGNATED	DELAWARE	32,827	92,734	416,308		9/1/2007	7/17/2009	9/24/2009
851	30-015-35664-0000	PURE GOLD NORTH 4 F 4H	DEVON ENERGY PRODUCT	OIL	LOS MEDANOS	BRUSHY CANYON	286,232	924,375	673,615		6/1/2007	9/2/2007	11/15/2007
852	30-025-31695-0004	RED TANK `23` FEDER 1	POGO PRODUCING CO	OIL	RED TANK WEST	BELL CANYON	133,784	146,018	1,011,297		5/1/1995	5/24/1995	6/1/1995
853	30-025-31695-0001	RED TANK `23` FEDER 1	POGO PRODUCING CO	SUSOIL	RED TANK WEST	BRUSHY CANYON	12,963	13,768	61,220		3/1/1993	4/3/1993	4/6/1993
854	30-025-32103-0000	RED TANK `23` FEDER 2	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	334,570	204,023	727,374		10/1/1993	10/26/1993	1/4/1994
855	30-025-32326-0001	RED TANK `24` FEDER 1	POGO PRODUCING CO	SUSOIL	RED TANK WEST	BRUSHY CANYON	46,579	117,445	405,376		1/1/1996	2/8/1996	2/18/1996
856	30-025-32320-0001	RED TANK `24` FEDER 2	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	34,263	74,054	293,601		12/1/1998	1/6/1999	1/13/1999
857	30-025-32463-0000	RED TANK `26` FEDER 003	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	178,913	406,040	1,093,795		3/1/1994	4/12/1994	5/12/1994
858	30-025-33010-0000	RED TANK `26` FEDER 008	POGO PRODUCING CO	DRY	RED TANK WEST	CHERRY CANYON	36,313	63,521	446,881		7/1/1995	7/23/1995	8/14/1995
859	30-025-31855-0001	RED TANK `26` FEDER 1	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	267,420	324,333	876,157		5/1/1993	6/5/1993	6/10/1993
860	30-025-32386-0000	RED TANK `26` FEDER 4	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	197,071	507,768	398,092		2/1/1994	3/3/1994	4/7/1994
861	30-025-32387-0000	RED TANK `26` FEDER 5	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	179,827	455,919	555,971		12/1/1994	1/6/1995	2/4/1995

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
862	30-025-32388-0001	RED TANK `26` FEDER 6	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	192,135	405,565	676,237		12/1/1994	12/13/1994	12/19/1994
863	30-025-32947-0000	RED TANK `26` FEDER 9	POGO PRODUCING CO	OIL	RED TANK WEST	BELL CANYON	52,986	172,757	281,053		5/1/1995	5/20/1995	6/14/1995
864	30-025-31754-0000	RED TANK `28` FEDER 003	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	1,656	1,281	5,507		10/1/1992	3/14/1993	4/13/1993
865	30-025-34221-0000	RED TANK `28` FEDER 006	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	59,852	148,868	464,487		12/1/1997	8/23/1998	9/24/1998
866	30-025-31661-0000	RED TANK `28` FEDER 1	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	230,164	258,945	1,179,930		10/1/1992	10/21/1992	1/11/1993
867	30-025-41189-0000	RED TANK `28` FEDER 5H	OXY U S A INC	OIL	RED TANK WEST	DELAWARE	106,047	69,732	2,458,679		5/1/2013	9/25/2014	12/23/2014
868	30-025-32912-0000	RED TANK `34` FEDER 015	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	96,700	146,847	1,193,090		2/1/1995	6/24/1995	7/18/1995
869	30-025-31720-0002	RED TANK `34` FEDER 1	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	255,860	248,258	580,161		3/1/1998	3/19/1998	4/7/1998
870	30-025-35834-0000	RED TANK `34` FEDER 12	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	59,653	96,139	384,103		2/1/2002	4/20/2002	5/27/2002
871	30-025-32761-0000	RED TANK `34` FEDER 13	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	233,622	216,609	1,491,619		11/1/1994	12/8/1994	12/31/1994
872	30-025-31932-0000	RED TANK `34` FEDER 2	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	160,845	157,775	2,149,578		8/1/1993	9/9/1993	11/16/1993
873	30-025-32136-0000	RED TANK `34` FEDER 4	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	99,148	128,827	1,731,115		1/1/1994	1/21/1994	3/3/1994
874	30-025-35941-0000	RED TANK `34` FEDER 7	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	48,853	81,972	675,521		6/1/2002	9/6/2003	10/30/2003
875	30-025-32336-0000	RED TANK `35` FEDER 1	POGO PRODUCING CO	OIL	RED TANK	BRUSHY CANYON	100,405	83,432	794,583		12/1/1993	12/14/1993	1/19/1994
876	30-025-33149-0000	RED TANK `35` FEDER WD-3	POGO PRODUCING CO	DRLWIW	SWD	DELAWARE				12,171,070	10/1/1995	10/22/1995	11/14/1995
877	30-025-32681-0000	RED TANK 26 FEDERAL 007	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	243,626	295,233	1,134,773		9/1/1994	1/22/1995	2/18/1995
878	30-025-31754-0001	RED TANK 28 FEDERAL 003	POGO PRODUCING CO	CONWIW	SWD	DELAWARE				8,579,014	5/1/1993	6/3/1993	6/4/1993
879	30-025-36009-0000	RED TANK 28 FEDERAL 004	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE	25,141	82,748	339,139		9/1/2002	12/15/2002	2/16/2003
880	30-025-41237-0000	RED TANK 33 FEDERAL 001H	OXY U S A INC	OIL	RED TANK WEST	DELAWARE	62,426	120,906	340,088		6/1/2013	9/23/2014	3/8/2015
881	30-025-36372-0000	RED TANK 35 FEDERAL 2	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	20,472	19,910	206,714		8/1/2003	10/19/2003	12/7/2003
882	30-025-32539-0000	RED TANK FEDERAL 005	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	86,108	288,078	583,778		6/1/1994	6/16/1994	7/16/1994
883	30-025-32469-0000	RED TANK FEDERAL 1	MERIDIAN OIL INC	OIL	RED TANK WEST	DELAWARE	94,662	220,418	659,421		3/1/1994	3/21/1994	5/14/1994
884	30-025-08113-0001	RED TANK FEDERAL 2SWD	MERIDIAN OIL PRD INC	DRLWIW	SWD	DELAWARE				7,650,639	4/1/1994	6/10/1994	7/1/1994
885	30-025-32507-0100	RED TANK FEDERAL 3	BURLINGTON RES O&G	OIL	RED TANK WEST	DELAWARE	7,544	68,777	34,728		8/1/1997	9/7/1997	10/5/1997
886	30-025-32507-0000	RED TANK FEDERAL 3	MERIDIAN OIL INC	SUSOIL	RED TANK WEST	DELAWARE	29,095	63,787	360,884		5/1/1994	5/14/1994	6/27/1994
887	30-025-32528-0000	RED TANK FEDERAL 4	MERIDIAN OIL INC	OIL	RED TANK WEST	DELAWARE	93,399	191,444	610,355		5/1/1994	5/30/1994	7/21/1994
888	30-025-32545-0000	RED TANK FEDERAL 6	MERIDIAN OIL INC	OIL	RED TANK WEST	DELAWARE	202,502	517,969	98,800		6/1/1994	7/9/1994	8/17/1994
889	30-025-32764-0001	REDCHECKER `14` FED 1	BURLINGTON RES O&G	DRY	RED TANK WEST	DELAWARE	2,190	1,667	771		1/1/1998	1/12/1998	1/20/1998
890	30-025-32764-0000	REDCHECKER `14` FED 1	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE	50,536	109,188	70,711		12/1/1994	12/15/1994	1/31/1995
891	30-025-32765-0001	REDCHECKER `14` FED 2	BURLINGTON RES O&G	OIL	RED TANK WEST	DELAWARE	159,760	350,356	147,715		8/1/1997	9/9/1997	9/11/1997
892	30-015-28398-0000	REMUDA BASIN `19` F 001	TEXACO EXPL&PROD INC	DRY	NASH DRAW	BRUSHY CANYON	111,791	991,641	450,455		2/1/1995	3/3/1996	3/27/1996
893	30-015-28901-0000	REMUDA BASIN `19` F 002	TEXACO EXPL&PROD INC	OIL	NASH DRAW	BRUSHY CANYON	11,523	32,530	74,012		3/1/1996	4/5/1996	5/6/1996
894	30-015-31402-0000	REMUDA BASIN `31` S 3	TEXACO EXPL&PROD INC	DRY	FRTY NINR RDGE SW	BRUSHY CANYON	4,398	9,073	71,667		10/1/2000	12/7/2000	3/31/2001
895	30-015-28902-0000	REMUDA BASIN 19 FED 001	TEXACO EXPL&PROD INC	OIL	NASH DRAW	BRUSHY CANYON	136,490	657,551	454,766		3/1/1996	4/20/1996	5/21/1996
896	30-015-28901-0001	REMUDA BASIN 19 FED 002	TEXACO EXPL&PROD INC	CONWIW	SWD	BELL CANYON				3,909,161	5/1/1997	5/19/1997	6/3/1997
897	30-015-29549-0000	REMUDA BASIN 20 FED 001	TEXACO EXPL&PROD INC	OIL	NASH DRAW	BRUSHY CANYON	3,173	14,090	67,605		4/1/1997	4/29/1997	5/30/1997
898	30-015-28400-0000	REMUDA BASIN STATE 002	TEXACO EXPL&PROD INC	DRY	NASH DRAW	BRUSHY CANYON	90,907	759,916	502,356		3/1/1995	2/1/1996	3/1/1996
899	30-015-28401-0001	REMUDA BASIN STATE 003	TEXACO EXPL&PROD INC	SUSOIL	FRTY NINR RDGE SW	BRUSHY CANYON	22,267	31,334	412,752		2/1/1996	2/22/1996	4/24/1996
900	30-015-28401-0000	REMUDA BASIN STATE 003	TEXACO EXPL&PROD INC	OIL	FRTY NINR RDGE SW	DELAWARE	85,383	71,871	294,068		3/1/1995	6/26/1995	1/15/1996
901	30-015-28420-0001	REMUDA BASIN STATE 004	TEXACO EXPL&PROD INC	DRY	NASH DRAW	BRUSHY CANYON	20,580	122,699	283,502		9/1/1998	9/21/1998	10/19/1998
902	30-015-28420-0000	REMUDA BASIN STATE 004	TEXACO EXPL&PROD INC	DRY	NASH DRAW	BRUSHY CANYON	51,695	501,585	299,124		3/1/1995	7/14/1995	9/16/1995
903	30-015-31335-0000	REMUDA BASIN STATE 005	TEXACO EXPL&PROD INC	DRY	NASH DRAW	BRUSHY CANYON	31,682	306,653	431,316		9/1/2000	12/27/2000	2/22/2001
904	30-015-30794-0000	REMUDA BASIN STATE 010	TEXACO EXPL&PROD INC	DRY	FRTY NINR RDGE SW	BELL CANYON	32,885	46,930	622,018		10/1/1999	11/30/1999	12/24/1999
905	30-015-31000-0000	REMUDA BASIN STATE 11	TEXACO EXPL&PROD INC	DRY	FRTY NINR RDGE SW	BELL CANYON	49,586	86,757	652,607		3/1/2000	5/7/2000	5/26/2000
906	30-015-28351-0000	REMUDA BASIN STATE 9	TEXACO EXPL&PROD INC	DRY	FRTY NINR RDGE SW	BELL CANYON	23,926	31,975	781,367		11/1/1998	12/11/1999	1/10/2000
907	30-015-29549-0001	REMUDA BASIN SWD 001	DEVON ENERGY PRODUCT	CONWIW	SWD	DELAWARE				3,670,843	11/1/2005	11/29/2005	12/10/2005
908	30-015-04734-0000	RH LEGG-FEDERAL 1	RICHARDSON & BASS	DRY	QUAHADA RIDGE	DELAWARE	24,939	14,748	63,303		4/1/1953	7/10/1953	5/11/1954
909	30-015-39361-0000	ROADRUNNER FEDERAL 001H	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	DELAWARE	405,750	599,353	2,697,913		8/1/2011	9/16/2011	3/29/2012
910	30-015-41041-0000	ROADRUNNER FEDERAL 002H	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	DELAWARE	347,045	677,452	1,958,020		1/1/2013	6/28/2014	9/1/2014
911	30-015-49594-0000	ROADRUNNER FEDERAL 005H	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	DELAWARE	47,693	56,848	212,763		6/1/2022	7/30/2022	10/1/2022
912	30-015-48980-0000	ROADRUNNER FEDERAL 007H	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	DELAWARE	42,960	64,925	237,280		7/1/2021	6/27/2022	9/1/2022
913	30-025-37646-0000	ROCK RIDGE 29 FEDER 1	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RDG SE	DELAWARE	41,174	36,321	282,079		1/1/2006	7/16/2006	9/23/2006
914	30-025-31227-0000	ROSEMARY `AIB` FEDE 1	YATES PETROLEUM CORP	OIL	LIVINGSTON RDG NE	DELAWARE	51,568	44,831	1,291,930		4/1/1991	4/26/1991	6/15/1991
915	30-025-31227-0001	ROSEMARY SWD 1	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				6,846,870	8/1/2011	8/8/2011	8/29/2011
916	30-015-26629-0000	ROSS DAVID `AIT` FE 1	YATES PETROLEUM CORP	OIL	LIVINGSTON RIDGE	DELAWARE	197		5,928		1/1/1991	2/24/1991	4/12/1991
917	30-015-26629-0001	ROSS DAVID `AIT` FE 1	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				30,076,689	6/1/1991	6/20/1991	7/4/1991
918	30-025-32108-0000	SAFFRON UNIT 1	YATES PETROLEUM CORP	DRY	DIAMONDTAIL	DELAWARE	4,064	121	184,175		8/1/1993	8/26/1993	12/30/1993
919	30-015-26626-0000	SALOMEH 1	GRACE CORINE	OIL	CABIN LAKE	BRUSHY CANYON	68,771	492	540,060		1/1/1991	2/7/1991	4/18/1991
920	30-015-27268-0000	SAND DUNES `34` FED 004	POGO PRODUCING CO	DRY	INGLE WELLS	BRUSHY CANYON	57,058	351,208	365,483		12/1/1992	10/21/1993	11/17/1993
921	30-015-27239-0000	SAND DUNES `34` FED 2	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	83,268	330,370	720,067		12/1/1992	12/11/1992	1/11/1993
922	30-015-27240-0000	SAND DUNES `34` FED 3	POGO PRODUCING CO	SUSOIL	INGLE WELLS	BRUSHY CANYON	44,668	258,207	152,888		4/1/1994	4/13/1994	5/24/1994
923	30-015-27498-0000	SAND DUNES `34` FED 5	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	76,941	353,334	158,919		11/1/1993	11/26/1993	12/22/1993
924	30-015-27499-0000	SAND DUNES `34` FED 6	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	77,227	396,072	112,638		9/1/1994	9/13/1994	10/18/1994
925	30-015-27500-0000	SAND DUNES `34` FED 7	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	71,878	459,071	118,511		11/1/1994	11/17/1994	12/26/1994
926	30-015-27548-0000	SAND DUNES `34` FED 8	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	148,600	421,488	783,915		7/1/1994	8/10/1994	9/8/1994
927	30-015-26194-0001	SAND DUNES 28 FEDER 001	POGO PRODUCING CO	DRLWIW	SWD	DELAWARE				8,089,736	9/1/1993	3/17/1994	4/9/1994
928	30-015-27255-0000	SAND DUNES 34 FEDER 001	POGO PRODUCING CO	DRY	INGLE WELLS	DELAWARE	66,171	302,262	152,700		12/1/1992	12/29/1992	1/28/1993
929	30-015-21126-0003	SANDY 001	BOLD ENERGY LP	OIL	FORTY NINER RIDGE	DELAWARE	102,961	110,116	1,978,753		11/1/2005	12/27/2005	2/13/2006
930	30-015-40055-0000	SANDY FEDERAL 003	STRATA PRODUCTION CO	OIL	FORTY NINER RIDGE	DELAWARE	323,683	548,971	3,125,980		3/1/2012	7/13/2012	9/30/2012
931	30-025-32669-0000	SDE `18` FEDERAL 2	TEXACO EXPL&PROD INC	DRY	SAND DUNES EAST	BRUSHY CANYON	311	3,564	6,787		10/1/1994	11/3/1994	1/25/1995
932	30-025-32676-0000	SDE `31` FEDERAL 001	TEXACO EXPL&PROD INC	DRY	TRISTE DRAW WEST	BRUSHY CANYON	78,119	192,563	420,394		9/1/1994	1/15/1995	3/15/1995
933	30-025-32676-0002	SDE `31` FEDERAL 001	TEXACO EXPL&PROD INC	DRY	SAND DUNES SOUTH	DELAWARE	15,638	105	131,788		4/1/1998	5/5/1998	8/5/1998
934	30-025-32868-0000	SDE `31` FEDERAL 009	TEXACO EXPL&PROD INC	OIL	TRISTE DRAW WEST	BRUSHY CANYON	4,755	27,317	24,110		2/1/1995	3/11/1995	4/22/1995
935	30-025-32916-0001	SDE `31` FEDERAL 014	TEXACO EXPL&PROD INC	DRY	TRISTE DRAW WEST	BRUSHY CANYON	32,873	388,376	98,795		11/1/1995	11/14/1995	11/24/1995
936	30-025-32917-0000	SDE `31` FEDERAL 15	TEXACO EXPL&PROD INC	SUSOIL	TRISTE DRAW WEST	BRUSHY CANYON	24,950	91,824	49,593		12/1/1996	1/10/1997	6/1/1997
937	30-025-32917-0001	SDE `31` FEDERAL 15	TEXACO EXPL&PROD INC	OIL	TRISTE DRAW WEST	BRUSHY CANYON	70,448	225,088	289,583		7/1/1998	7/22/1998	8/26/1998
938	30-025-32867-0000	SDE `31` FEDERAL 8	TEXACO EXPL&PROD INC	SUSOIL	TRISTE DRAW WEST	BRUSHY CANYON	47,697	279,556	207,069		3/1/1995	4/5/1995	5/18/1995
939	30-025-32908-0003	SDE 19 FEDERAL 003	XTO ENERGY INC	DRY	SAND DUNES SOUTH	DELAWARE	82,604	129,305	726,591		3/1/2006	4/7/2006	10/10/2006
940	30-025-38130-0000	SDE 19 FEDERAL 005	XTO ENERGY INC	OIL	TRISTE DRAW WEST	DELAWARE	16,099	42,766	334,555		9/1/2006	10/30/2006	3/10/2007
941	30-025-32909-0002	SDE 19 FEDERAL 4	XTO ENERGY INC	OIL	SAND DUNES SOUTH	DELAWARE	21,278	13,467	338,943		3/1/2006	4/1/2006	3/22/2007
942	30-025-32868-0001	SDE 31 FEDERAL 009	TEXACO EXPL&PROD INC	CONWIW	SWD	DELAWARE				6,042,696	3/1/1996	4/2/1996	4/12/1996
943	30-015-39896-0000	SHAQTUS 26 STATE 2H	DEVON ENERGY PRODUCT	OIL	LOST TANK	BRUSHY CANYON	186,219	597,050	1,678,084		2/1/2012	4/24/2012	6/18/2012
944	30-015-39819-0000	SHAQTUS 26 STATE CO 1	DEVON ENERGY PRODUCT	OIL	LOST TANK	DELAWARE	450,265	1,206,853	1,864,823		1/1/2012	2/6/2012	5/16/2012
945	30-015-39994-0000	SHAQTUS 26 STATE CO 3	DEVON ENERGY PRODUCT	OIL	LOST TANK	DELAWARE	175,608	839,691	1,672,328		3/1/2012	4/28/2012	7/27/2012
946	30-015-40012-0000	SHAQTUS 26 STATE CO 4H	DEVON ENERGY PRODUCT	OIL	AVALON	DELAWARE	146,366	368,143	2,350,554		3/1/2012	5/25/2012	8/19/2012
947	30-025-34867-0000	SHARBRO FEDERAL 2	MYCO INDUSTRIES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	90,965	156,307	640,422		1/1/2000	1/28/2000	3/9/2000
948	30-025-34868-0000	SHARBRO FEDERAL 3	MYCO INDUSTRIES INC	OIL	DIAMONDTAIL	CHERRY CANYON	83,054	186,109	537,187		1/1/2000	2/19/2000	4/15/2000
949	30-025-34961-0000	SHARBRO FEDERAL 4	MYCO INDUSTRIES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	44,681	112,543	316,422		3/1/2000	7/18/2000	9/5/2000
950	30-025-34962-0000	SHARBRO FEDERAL 5	MYCO INDUSTRIES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	83,747	153,958	1,196,790		3/1/2000	5/17/2000	6/26/2000
951	30-025-35048-0000	SHARBRO FEDERAL 6	MYCO INDUSTRIES INC	OIL	SAND DUNES EAST	DELAWARE	56,631	122,884	1,281,232		5/1/2000	8/9/2000	10/8/2000
952	30-025-35144-0000	SHARBRO FEDERAL 7	MYCO INDUSTRIES INC	OIL	SAND DUNES EAST	CHERRY CANYON	46,069	74,582	668,143		8/1/2000	8/29/2000	12/28/2000
953	30-025-35154-0000	SHARBRO FEDERAL 8	MYCO INDUSTRIES INC	OIL	LIVINGSTON RDG S	DELAWARE	25,788	64,261	653,947		9/1/2000	9/20/2000	1/31/2001
954	30-025-33246-0000	SHELL STATE 003	STRATA PRODUCTION CO	DRY	RED TANK WEST	DELAWARE	91,575	237,786	383,763		1/1/1996	6/19/1996	9/9/1996
955	30-025-34879-0000	SHELL STATE 004	POGO PRODUCING CO	DRY	RED TANK WEST	BRUSHY CANYON	26,992	58,751	611,712		3/1/2000	3/17/2000	4/19/2000
956	30-025-35235-0000	SHELL STATE 006	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE	12,389	59,499	350,071		11/1/2000	11/11/2000	12/12/2000
957	30-025-20810-0001	SHELL STATE 1	TRAINER C W	OIL	RED TANK SOUTH	DELAWARE	63,779	10,764	45,483		8/1/1991	9/10/1991	7/30/1992
958	30-025-20810-0003	SHELL STATE 1	STRATA PRODUCTION CO	OIL	RED TANK SOUTH	DELAWARE	125,916	223,867	310,626		6/1/1993	7/6/1993	7/23/1993
959	30-025-32671-0001	SHELL STATE 2	STRATA PRODUCTION CO	OIL	RED TANK WEST	DELAWARE	130,770	196,044	443,383		3/1/1997	3/18/1997	6/25/1997
960	30-025-32671-0000	SHELL STATE 2	STRATA PRODUCTION CO	SUSGAS	RED TANK SOUTH	DELAWARE		42,127	1,264		4/1/1995	4/24/1995	6/15/1995
961	30-025-32093-0001	SILVERTON 31 FEDERA 1	ECHO PRODUCTION INC	CONWIW	SWD	BELL CANYON				1,398,219	1/1/2004	2/10/2004	2/19/2004
962	30-025-40306-0000	SPEAK EASY UNIT 2H	OXY U S A INC	OIL	BOOTLEG RIDGE NW	DELAWARE	317,131	377,018	1,284,772		9/1/2011	8/23/2012	4/25/2013
963	30-015-35674-0000	STATE `2` 002	REEF EXPLORATION LP	DRY	LIVINGSTON RDG SE	DELAWARE	1,911	3,736	201,988		7/1/2007	9/6/2007	10/31/2007

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
964	30-015-35675-0000	STATE `2` 003	REEF EXPLORATION LP	DRY	LIVINGSTON RDG SE	BRUSHY CANYON	1,229	2,637	88,625		7/1/2007	9/25/2007	11/5/2007
965	30-015-35677-0000	STATE `2` 005	REEF EXPLORATION LP	DRY	LIVINGSTON RDG SE	DELAWARE	6,557	9,050	263,647		7/1/2007	10/31/2007	1/4/2008
966	30-015-35749-0000	STATE `2` 008	REEF EXPLORATION LP	CONWIW	SWD	DELAWARE	199	273	20,039	4,361,719	8/1/2007	11/17/2007	1/12/2008
967	30-015-35750-0000	STATE `2` 009	REEF EXPLORATION LP	DRY	LIVINGSTON RDG SE	DELAWARE	3,198	4,220	278,435		8/1/2007	12/4/2007	2/11/2008
968	30-015-26894-0000	STATE `2` 1	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	122,109	178,993	482,008		12/1/1991	12/15/1991	1/22/1992
969	30-015-28416-0000	STATE `2` 2	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	279,524	288,940	316,054		3/1/1995	3/31/1995	6/3/1995
970	30-015-28456-0000	STATE `2` 4	POGO PRODUCING CO	OIL	LOST TANK	BRUSHY CANYON	89,195	137,157	255,731		4/1/1995	4/18/1995	6/5/1995
971	30-015-35676-0000	STATE `2` 4	REEF EXPLORATION LP	DRY	LIVINGSTON RIDGE	DELAWARE	2,672	3,596	174,019		7/1/2007	10/12/2007	11/26/2007
972	30-015-32440-0000	STATE `2` 5	POGO PRODUCING CO	INJ	LOST TANK	DELAWARE				3,839,692	9/1/2002	9/18/2002	7/16/2003
973	30-025-27136-0100	STATE `IG` 1	HARVARD PET CORP	OIL	TRISTE DRAW WEST	BRUSHY CANYON	109,083	161,569	1,133,955		10/1/1997	10/30/1997	2/21/1998
974	30-025-27136-0004	STATE `IG` COM 1	HARVARD PET CORP	SUSOIL	TRISTE DRAW WEST	BRUSHY CANYON	8,632		117,185		2/1/1992	3/9/1992	4/17/1992
975	30-025-27136-0001	STATE `IG` COM 1	AMOCO PROD CO	SUSOIL	TRISTE DRAW WEST	DELAWARE	69				8/1/1982	8/13/1982	6/13/1983
976	30-015-26877-0000	STATE 2 003	POGO PRODUCING CO	DRY	LOST TANK	BRUSHY CANYON	129,182	189,033	328,827		11/1/1991	11/27/1991	1/3/1992
977	30-015-35678-0000	STATE 2 1	REEF EXPLORATION LP	DRY	LIVINGSTON RDG SE	BRUSHY CANYON	1,424	4,369	430,393		6/1/2007	7/25/2007	10/14/2007
978	30-015-35673-0000	STATE 36 5	REEF EXPLORATION LP	DRY	LIVINGSTON RIDGE	DELAWARE	7,321	8,769	378,835		6/1/2007	8/20/2007	10/26/2007
979	30-015-05840-0001	STATE AA-2 001	ARCO PERMIAN	DRLWIW	SWD	DELAWARE				7,272,552	4/1/1997	5/22/1997	8/24/1997
980	30-025-37176-0000	STATE IG 2	HARVARD PET CORP	OIL	TRISTE DRAW WEST	BRUSHY CANYON	42,927	108,497	679,212		4/1/2005	4/12/2005	6/1/2005
981	30-015-27550-0000	STERLING SILVER `33 10	SANTA FE ENR OP PRTN	OIL	SAND DUNES WEST	DELAWARE	71,418	308,015	128,995		11/1/1993	11/24/1993	1/7/1994
982	30-015-27611-0000	STERLING SILVER `33 11	SANTA FE ENR OP PRTN	OIL	SAND DUNES WEST	DELAWARE	70,863	360,238	92,153		8/1/1993	8/29/1993	10/3/1993
983	30-015-27552-0000	STERLING SILVER `33 14	SANTA FE ENR OP PRTN	OIL	SAND DUNES WEST	DELAWARE	83,177	339,153	189,197		9/1/1993	9/18/1993	10/21/1993
984	30-015-29275-0000	STERLING SILVER `33 15	SANTA FE ENRGY RESCS	OIL	SAND DUNES WEST	BRUSHY CANYON	77,198	265,804	193,235		9/1/1996	12/10/1996	1/11/1997
985	30-015-31091-0000	STERLING SILVER `33 16	POGO PRODUCING CO	OIL	SAND DUNES WEST	BRUSHY CANYON	50,303	301,563	93,083		4/1/2000	5/24/2000	6/24/2000
986	30-015-27425-0000	STERLING SILVER `33 3	SANTA FE ENR OP PRTN	DRY	SAND DUNES WEST	DELAWARE	74,209	433,812	160,595		5/1/1993	5/12/1993	6/8/1993
987	30-015-27519-0000	STERLING SILVER `33 4	SANTA FE ENR OP PRTN	DRY	SAND DUNES WEST	DELAWARE	66,091	417,134	75,077		7/1/1993	7/19/1993	8/16/1993
988	30-015-27424-0000	STERLING SILVER `33 5	SANTA FE ENR OP PRTN	OIL	SAND DUNES WEST	DELAWARE	76,972	400,539	124,090		5/1/1993	6/1/1993	7/2/1993
989	30-015-27812-0000	STERLING SILVER `33 6	SANTA FE ENR OP PRTN	OIL	SAND DUNES WEST	DELAWARE	70,903	265,685	144,163		8/1/1994	9/1/1994	10/10/1994
990	30-015-27588-0000	STERLING SILVER `33 7	SANTA FE ENR OP PRTN	OIL	SAND DUNES WEST	DELAWARE	81,181	457,066	126,638		7/1/1993	8/3/1993	8/31/1993
991	30-015-27601-0000	STERLING SILVER `33 8	SANTA FE ENR OP PRTN	OIL	SAND DUNES WEST	DELAWARE	68,003	196,155	402,124		8/1/1993	8/16/1993	9/23/1993
992	30-015-27936-0000	STERLING SILVER `34 2	SANTA FE ENR OP PRTN	OIL	INGLE WELLS	DELAWARE	152,912	341,103	463,762		7/1/1994	7/24/1994	8/21/1994
993	30-015-27937-0000	STERLING SILVER `34 3	SANTA FE ENR OP PRTN	OIL	INGLE WELLS	CHERRY CANYON	173,729	333,843	474,909		6/1/1994	7/8/1994	2/21/1995
994	30-015-31092-0000	STERLING SILVER `34 4	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	75,088	151,880	361,480		4/1/2000	3/8/2001	4/14/2001
995	30-015-28240-0000	STERLING SILVER `34 5	SANTA FE ENRGY RESCS	OIL	INGLE WELLS	DELAWARE	80,975	216,119	449,914		1/1/1995	1/21/1995	2/23/1995
996	30-015-28239-0000	STERLING SILVER `34 6	SANTA FE ENR OP PRTN	OIL	INGLE WELLS	DELAWARE	111,610	254,904	335,589		11/1/1994	12/5/1994	1/5/1995
997	30-015-31248-0000	STERLING SILVER `34 7	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	33,333	140,986	84,660		7/1/2000	12/17/2000	1/28/2001
998	30-015-31093-0000	STERLING SILVER `34 8	POGO PRODUCING CO	OIL	INGLE WELLS	BRUSHY CANYON	36,165	167,247	66,574		4/1/2000	5/8/2000	6/16/2000
999	30-015-25866-0000	STERLING SILVER 32 001	SANTA FE ENR OP PRTN	DHSG	SAND DUNES WEST	DELAWARE	83,724	346,174	208,077		1/1/1988	3/11/1988	11/29/1988
1000	30-015-34943-0000	STERLING SILVER 33 012	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	22,184	132,861	43,214		6/1/2006	7/9/2006	8/23/2006
1001	30-015-33892-0000	STERLING SILVER 33 17	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	25,290	148,392	76,898		12/1/2004	12/4/2005	1/28/2006
1002	30-015-32767-0000	STERLING SILVER 33 18	POGO PRODUCING CO	OIL	SAND DUNES WEST	DELAWARE	27,505	112,709	72,190		4/1/2003	10/11/2003	11/28/2003
1003	30-025-36192-0000	THYME APY FEDERAL 011	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE	7,936	25,088	18,252	3,152,490	2/1/2003	6/26/2003	7/31/2003
1004	30-025-33530-0001	THYME APY FEDERAL 3	YATES PETROLEUM CORP	DRY	RED TANK WEST	BRUSHY CANYON	1,082	3,878	103,561		8/1/2001	8/5/2001	8/24/2001
1005	30-015-22473-0000	TODD /23/ FEDERAL 002	TEXAS AMERICAN OIL	DRY	SAND DUNES	CHERRY CANYON	65,215	43,462	85,874		4/1/1978	5/10/1978	7/16/1978
1006	30-015-20599-0000	TODD /26/ FEDERAL 4	TEXAS AMERICAN OIL	OIL	SAND DUNES	CHERRY CANYON	225,162	160,810	233,706		4/1/1972	4/14/1972	5/18/1972
1007	30-015-21224-0000	TODD /26/ FEDERAL 6	TEXAS AMERICAN OIL	DRY	SAND DUNES	CHERRY CANYON	10,916	11,099	26,240		9/1/1974	9/13/1974	11/6/1974
1008	30-015-21431-0000	TODD /26/ FEDERAL 7	TEXAS AMERICAN OIL	DRY	SAND DUNES	CHERRY CANYON	54,865	70,389	265,624		1/1/1975	2/7/1975	3/13/1975
1009	30-015-28904-0000	TODD `13B` FEDERAL 002	DEVON ENERGY CORP NV	INJ	INGLE WELLS	DELAWARE	7,509	22,708	59,956	1,103,924	3/1/1996	3/12/1997	5/15/1997
1010	30-015-31879-0000	TODD `13F` FEDERAL 27	DEVON SFS OPER INC	OIL	INGLE WELLS	DELAWARE	36,107	133,852	605,333		7/1/2001	11/12/2001	12/24/2001
1011	30-015-31514-0000	TODD `13G` FEDERAL 21	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	42,716	161,061	351,366		12/1/2000	9/13/2001	12/14/2001
1012	30-015-28646-0000	TODD `13H` FEDERAL 8	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	80,567	480,855	272,665		2/1/1996	2/20/1996	4/8/1996
1013	30-015-28647-0000	TODD `13I` FEDERAL 9	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	199,002	429,921	514,304		9/1/1995	9/26/1995	11/17/1995
1014	30-015-27858-0000	TODD `13J` FEDERAL 10	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	221,746	466,561	758,716		4/1/1995	5/2/1995	6/18/1995
1015	30-015-27859-0000	TODD `13K` FEDERAL 11	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	102,074	171,711	757,171		3/1/1995	4/10/1995	6/25/1995
1016	30-015-32015-0000	TODD `13M` FEDERAL 31	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	55,696	194,280	520,337		9/1/2001	7/8/2002	8/31/2002
1017	30-015-27860-0000	TODD `13N` FEDERAL 014	DEVON ENERGY CORP NV	DRY	INGLE WELLS	CHERRY CANYON	127,167	310,213	750,136		2/1/1994	3/18/1995	5/11/1995
1018	30-015-28648-0000	TODD `13P` FEDERAL 16	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	128,300	364,599	884,630		10/1/1995	10/31/1995	1/3/1996
1019	30-015-32628-0000	TODD `14N` FED 14	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	75,498	133,547	539,777		12/1/2002	12/17/2002	2/3/2003
1020	30-015-31884-0000	TODD `14P` FEDERAL 016	DEVON SFS OPER INC	DRY	INGLE WELLS	DELAWARE	141,193	396,110	213,494		10/1/2001	10/23/2001	12/8/2001
1021	30-015-37649-0000	TODD `15H` FEDERAL 008	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	14,841	29,940	367,372		2/1/2010	3/24/2010	6/13/2010
1022	30-015-32154-0000	TODD `15K` FEDERAL 11	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	64,235	143,409	623,147		1/1/2002	10/21/2003	12/15/2003
1023	30-015-32203-0000	TODD `22B` FEDERAL 2	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	58,095	157,780	270,542		2/1/2002	5/26/2003	7/7/2003
1024	30-015-26928-0000	TODD `23` FEDERAL 004	DEVON ENERGY CORP NV	DRY	INGLE WELLS	BRUSHY CANYON	167,132	471,137	304,472		1/1/1992	2/11/1992	4/20/1992
1025	30-015-31881-0000	TODD `23A` FEDERAL 29	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	123,448	379,806	314,713		7/1/2001	8/21/2001	10/18/2001
1026	30-015-32155-0000	TODD `23B` FEDERAL 30	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	140,725	244,652	464,300		1/1/2002	5/17/2002	7/4/2002
1027	30-015-31882-0000	TODD `23F` FEDERAL 31	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	84,766	208,079	198,090		7/1/2001	10/4/2001	12/1/2001
1028	30-015-32018-0000	TODD `23G` FEDERAL 32	DEVON ENERGY PRODUCT	OIL	SAND DUNES	DELAWARE	76,073	186,089	530,485		2/1/1999	6/21/2002	7/29/2002
1029	30-015-28766-0000	TODD `23I` FEDERAL 16	DEVON ENERGY CORP	DRY	SAND DUNES	CHERRY CANYON	87,650	159,177	275,109		1/1/1996	2/5/1996	3/29/1996
1030	30-015-27384-0000	TODD `23J` FEDERAL 14	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	154,911	510,419	433,102		7/1/1993	7/16/1993	8/22/1993
1031	30-015-32020-0000	TODD `23N` FEDERAL 035	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	57,283	121,850	415,696		9/1/2001	10/3/2003	11/9/2003
1032	30-015-27387-0000	TODD `23O` FEDERAL 005	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE	79,859	369,156	354,627		3/1/1993	8/17/1993	9/27/1993
1033	30-015-27729-0000	TODD `23P` FEDERAL 008	DEVON ENERGY CORP NV	OIL	INGLE WELLS	BRUSHY CANYON	134,283	566,113	251,002		10/1/1993	11/21/1993	1/18/1994
1034	30-015-28342-0000	TODD `23P` FEDERAL 015	DEVON ENERGY CORP	DRY	SAND DUNES	CHERRY CANYON	99,463	171,778	159,054		1/1/1995	1/22/1996	4/5/1996
1035	30-015-28649-0000	TODD `24A` FEDERAL 001	DEVON ENERGY CORP NV	DRY	INGLE WELLS	BRUSHY CANYON	203,610	500,125	597,731		9/1/1995	3/11/1996	4/19/1996
1036	30-015-27691-0000	TODD `24B` FEDERAL 2	DEVON ENERGY CORP	OIL	INGLE WELLS	BRUSHY CANYON	114,078	381,899	457,541		8/1/1994	9/8/1994	10/20/1994
1037	30-015-27692-0000	TODD `24G` FEDERAL 7	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	70,024	312,686	543,540		5/1/1995	5/26/1995	8/9/1995
1038	30-015-27693-0000	TODD `24H` FEDERAL 8	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	149,620	371,726	641,557		11/1/1996	12/2/1996	2/7/1997
1039	30-015-27694-0000	TODD `24I` FEDERAL 009	DEVON ENERGY CORP NV	DRY	INGLE WELLS	CHERRY CANYON	29,435	111,301	498,059		9/1/1993	1/15/1997	3/26/1997
1040	30-015-27709-0000	TODD `24J` FEDERAL 10	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	115,406	320,935	615,647		4/1/1996	5/8/1996	6/28/1996
1041	30-015-27695-0000	TODD `24P` FEDERAL 16	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	80,299	242,612	701,907		3/1/1997	3/31/1997	6/20/1997
1042	30-015-27696-0000	TODD `25A` FEDERAL 1	DEVON ENERGY CORP	OIL	INGLE WELLS	BRUSHY CANYON	71,101	197,349	954,105		7/1/1997	7/27/1997	9/16/1997
1043	30-015-27705-0000	TODD `25B` FEDERAL 2	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	133,497	302,392	501,049		10/1/1996	10/23/1996	12/17/1996
1044	30-015-27706-0000	TODD `25C` FEDERAL 3	DEVON ENERGY CORP	OIL	INGLE WELLS	BRUSHY CANYON	84,164	304,086	474,834		11/1/1993	12/8/1993	1/25/1994
1045	30-015-27382-0000	TODD `25D` FEDERAL 4	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	158,056	427,805	573,064		6/1/1993	6/16/1993	7/28/1993
1046	30-015-27383-0000	TODD `25E` FEDERAL 005	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE	135,711	412,152	468,317		3/1/1993	7/31/1993	9/10/1993
1047	30-015-27707-0000	TODD `25F` FEDERAL 6	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	56,058	244,672	573,718		7/1/1996	7/27/1996	10/14/1996
1048	30-015-27708-0000	TODD `25G` FEDERAL 7	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	90,269	226,850	459,362		12/1/1996	12/26/1996	2/19/1997
1049	30-015-28805-0000	TODD `25H` FEDERAL 8	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	24,365	117,584	140,224		4/1/1997	4/19/1997	6/3/1997
1050	30-015-28807-0000	TODD `25I` FEDERAL 009	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	36,955	169,691	371,100		1/1/1996	12/15/1997	1/23/1998
1051	30-015-28806-0000	TODD `25J` FEDERAL 010	DEVON ENERGY CORP NV	DRY	INGLE WELLS	CHERRY CANYON	58,990	197,725	524,052		1/1/1996	11/12/1996	12/30/1996
1052	30-015-27710-0000	TODD `25K` FEDERAL 11	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	59,845	190,531	863,098		5/1/1996	5/28/1996	7/21/1996
1053	30-015-27385-0000	TODD `25L` FEDERAL 12	DEVON ENERGY CORP	OIL	INGLE WELLS	BRUSHY CANYON	177,893	424,676	655,510		8/1/1993	8/30/1993	10/11/1993
1054	30-015-27386-0000	TODD `25M` FEDERAL 013	DEVON ENERGY CORP NV	DRY	INGLE WELLS	CHERRY CANYON	88,138	312,811	722,244		3/1/1993	10/21/1993	12/18/1993
1055	30-015-28859-0000	TODD `25N` FEDERAL 014	DEVON ENERGY CORP NV	OIL	INGLE WELLS	DELAWARE	35,158	95,753	717,081		2/1/1996	4/19/1996	5/29/1996
1056	30-015-28860-0000	TODD `25O` FEDERAL 015	DEVON ENERGY CORP NV	DRY	INGLE WELLS	CHERRY CANYON	97,939	242,860	522,006		2/1/1996	2/4/1997	3/17/1997
1057	30-015-28817-0000	TODD `25P` FEDERAL 016	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	25,797	36,568	371,682		1/1/1996	5/11/1997	6/19/1997
1058	30-015-20277-0000	TODD `26` FEDERAL 002	TEXAS AMERICAN OIL	OIL	SAND DUNES	DELAWARE	100,010	49,434	190,067		12/1/1969	1/27/1970	2/25/1970
1059	30-015-20302-0000	TODD `26` FEDERAL 003	TEXAS AMERICAN OIL	DRLWIW	SWD	DELAWARE				7,412,390	6/1/1970	6/17/1970	7/2/1970
1060	30-015-20986-0000	TODD `26` FEDERAL 005	TEXAS AMERICAN OIL	DRY	SAND DUNES	CHERRY CANYON	222,515	103,587	511,048		10/1/1973	11/28/1973	3/1/1974
1061	30-015-27102-0000	TODD `26` FEDERAL 10	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	109,899	441,237	256,735		10/1/1992	10/21/1992	12/13/1992
1062	30-015-27103-0000	TODD `26` FEDERAL 11	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	217,912	559,695	362,067		9/1/1992	10/2/1992	11/21/1992
1063	30-015-27075-0000	TODD `26` FEDERAL 9	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	82,095	346,925	144,571		9/1/1992	9/15/1992	10/21/1992
1064	30-015-27374-0000	TODD `26B` FEDERAL 22	DEVON ENERGY CORP	OIL	INGLE WELLS	BRUSHY CANYON	74,207	437,762	263,029		9/1/1993	10/5/1993	11/18/1993
1065	30-015-36827-0000	TODD `26C` FED COM 12H	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	67,565	155,075	291,064		12/1/2008	12/23/2009	2/11/2010

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Reservoir Evaluation Engineers
3/15/2023

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
1066	30-015-20277-0002	TODD `26G` FED 002	DEVON ENERGY CORP	DRLWIW	SWD	DELAWARE				5,755,352	8/1/1993	8/29/1993	9/1/1993
1067	30-015-27101-0000	TODD `26G` FEDERAL 8	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	129,756	519,918	338,619		12/1/1992	12/29/1992	3/11/1993
1068	30-015-27198-0000	TODD `26H` FEDERAL 19	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	197,015	545,894	442,431		2/1/1993	3/1/1993	6/17/1993
1069	30-015-27199-0000	TODD `26I` FEDERAL 20	DEVON ENERGY CORP	OIL	INGLE WELLS	BRUSHY CANYON	163,810	476,225	435,869		3/1/1993	4/9/1993	7/21/1993
1070	30-015-27200-0000	TODD `26J` FEDERAL 021	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE	82,554	361,470	223,301		11/1/1992	3/18/1993	5/28/1993
1071	30-015-27104-0000	TODD `26N` FEDERAL 014	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE	77,013	347,333	180,716		9/1/1992	12/12/1992	2/20/1993
1072	30-015-27134-0000	TODD `26P` FEDERAL 016	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	130,932	421,640	517,835		9/1/1992	1/15/1993	4/1/1993
1073	30-015-34430-0000	TODD `27 J` FEDERAL 010	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	66,551	270,957	202,766		11/1/2005	2/2/2006	3/23/2006
1074	30-015-27106-0000	TODD `27` FEDERAL 1	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	34,484	115,215	34,727		10/1/1992	11/7/1992	1/12/1993
1075	30-015-35515-0000	TODD `27A` FEDERAL 001	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	76,706	561,859	217,175		3/1/2007	9/15/2007	11/5/2007
1076	30-015-35516-0000	TODD `27C` FEDERAL 003	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	49,131	217,780	264,574		3/1/2007	10/7/2007	11/30/2007
1077	30-015-27884-0000	TODD `27L` FEDERAL 12	DEVON ENERGY CORP	OIL	INGLE WELLS	BRUSHY CANYON	101,771	280,062	622,356		8/1/1994	8/23/1994	10/16/1994
1078	30-015-27711-0000	TODD `27M` FEDERAL 13	DEVON ENERGY CORP	OIL	INGLE WELLS	DELAWARE	66,096	271,279	317,263		10/1/1993	11/5/1993	1/5/1994
1079	30-015-27106-0001	TODD `27P` FEDERAL 16	DEVON ENERGY CORP NV	CONWIW	SWD	DELAWARE				7,289,103	8/1/1997	9/30/1997	10/30/1997
1080	30-015-27718-0000	TODD `34O` FEDERAL 15	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	162,468	360,532	518,393		6/1/1996	7/6/1996	9/2/1996
1081	30-015-29294-0000	TODD `36A` STATE 16	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	32,046	115,628	57,732		8/1/1997	8/18/1997	9/29/1997
1082	30-015-29102-0000	TODD `36B` STATE 015	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	82,542	194,934	617,466		8/1/1996	9/9/1996	11/25/1996
1083	30-015-28522-0000	TODD `36C` STATE 007	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	102,824	241,115	740,947		5/1/1995	10/14/1995	12/1/1995
1084	30-015-27365-0000	TODD `36D` STATE 002	DEVON ENERGY CORP NV	DRY	INGLE WELLS	BRUSHY CANYON	84,935	211,785	1,038,412		3/1/1993	7/2/1993	8/20/1993
1085	30-015-28005-0000	TODD `36E` STATE 003	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	85,917	209,293	749,887		7/1/1994	8/8/1994	10/3/1994
1086	30-015-28520-0000	TODD `36F` STATE 006	DEVON ENERGY CORP NV	DRY	INGLE WELLS	CHERRY CANYON	74,612	177,539	1,191,797		5/1/1995	11/18/1995	1/5/1996
1087	30-015-29292-0000	TODD `36G` STATE 8	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	90,350	185,421	964,168		2/1/1997	2/22/1997	5/23/1997
1088	30-015-29293-0000	TODD `36H` STATE 17	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	75,453	177,690	430,951		8/1/1997	9/9/1997	11/1/1997
1089	30-015-29406-0000	TODD `36I` STATE 18	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	93,743	271,623	249,438		9/1/1997	10/2/1997	11/14/1997
1090	30-015-29404-0000	TODD `36J` STATE 9	DEVON ENERGY CORP	OIL	INGLE WELLS	BRUSHY CANYON	66,007	136,419	490,187		5/1/1997	5/28/1997	7/16/1997
1091	30-015-28521-0000	TODD `36K` STATE 005	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	116,588	214,171	873,422		5/1/1995	3/30/1996	5/14/1996
1092	30-015-28198-0000	TODD `36L` STATE 004	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE	141,049	213,965	995,137		11/1/1994	2/23/1995	4/19/1995
1093	30-015-28815-0000	TODD `36M` STATE 13	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	294,110	356,445	1,281,284		6/1/1996	6/17/1996	9/8/1996
1094	30-015-28762-0000	TODD `36N` STATE 014	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	133,449	236,179	745,408		1/1/1996	8/17/1996	9/28/1996
1095	30-015-29407-0000	TODD `36P` STATE 019	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	69,822	153,185	433,017		3/1/1997	7/4/1997	8/27/1997
1096	30-015-32692-0000	TODD 10P FEDERAL 16	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	37,949	83,378	532,337		3/1/2003	6/27/2004	8/14/2004
1097	30-015-32632-0000	TODD 13E FEDERAL 26	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	CHERRY CANYON	68,106	195,718	624,574		12/1/2002	1/21/2003	2/28/2003
1098	30-015-32624-0000	TODD 13L FEDERAL 12	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	69,059	218,784	478,599		12/1/2002	1/4/2003	2/9/2003
1099	30-015-27716-0000	TODD 13O FEDERAL 15	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	304,153	581,274	605,558		1/1/1995	2/3/1995	3/31/1995
1100	30-015-32152-0000	TODD 14 ` I` FEDERA 9	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	207,823	348,378	334,665		1/1/2002	7/26/2002	9/7/2002
1101	30-015-32153-0000	TODD 14 `O` FEDERAL 15	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	87,863	233,475	155,193		1/1/2002	5/2/2002	6/19/2002
1102	30-015-32777-0000	TODD 14 B FEDERAL 003	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	39,941	116,065	400,474		4/1/2003	6/14/2003	8/2/2003
1103	30-015-33213-0000	TODD 14 G FEDERAL 007	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	BRUSHY CANYON	39,923	91,646	386,516		1/1/2004	5/21/2004	7/2/2004
1104	30-015-32866-0000	TODD 14A FEDERAL 2	DEVON SFS OPER INC	DRY	INGLE WELLS	DELAWARE	22,713	62,615	192,374		6/1/2003	7/23/2003	9/23/2003
1105	30-015-34303-0000	TODD 14H FEDERAL 8	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	CHERRY CANYON	124,750	271,046	301,069		8/1/2005	10/4/2005	11/30/2005
1106	30-015-32625-0000	TODD 14J FEDERAL 10	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	CHERRY CANYON	142,668	275,444	366,950		2/1/2002	11/11/2002	1/6/2003
1107	30-015-33105-0000	TODD 15 FEDERAL 006	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	CHERRY CANYON	33,134	95,092	361,558		11/1/2003	1/29/2005	3/11/2005
1108	30-015-32949-0000	TODD 15 I FEDERAL 9	DEVON ENERGY (NEVADA	DRY	INGLE WELLS	DELAWARE	40,238	91,769	279,707		8/1/2003	6/10/2004	8/9/2004
1109	30-015-32879-0000	TODD 15 O FEDERAL 015	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	CHERRY CANYON	37,664	78,399	290,489		7/1/2003	8/2/2004	9/4/2004
1110	30-015-33104-0000	TODD 15B FEDERAL 002	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	BRUSHY CANYON	18,732	67,753	263,263		11/1/2003	4/10/2005	5/19/2005
1111	30-015-32765-0000	TODD 15C FEDERAL 3	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	CHERRY CANYON	82,825	111,848	631,188		4/1/2003	2/29/2004	4/27/2004
1112	30-015-33252-0000	TODD 15D FEDERAL 4	DEVON ENERGY (NEVADA	DRY	INGLE WELLS	DELAWARE	16,300	60,767	361,752		2/1/2004	5/17/2005	7/13/2005
1113	30-015-33143-0000	TODD 15E FEDERAL 5	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	30,510	92,762	342,787		12/1/2003	4/8/2004	6/4/2004
1114	30-015-32659-0000	TODD 15G FEDERAL 7	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	55,114	146,584	524,803		2/1/2003	9/15/2003	10/30/2003
1115	30-015-33106-0000	TODD 15J FEDERAL 10	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	49,821	122,515	320,519		11/1/2003	11/2/2004	1/6/2005
1116	30-015-33117-0000	TODD 15L FEDERAL 12	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	CHERRY CANYON	66,593	179,700	347,835		11/1/2003	10/13/2004	12/21/2004
1117	30-015-33118-0000	TODD 15M FEDERAL 13	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	CHERRY CANYON	149,174	134,493	556,631		11/1/2003	8/19/2004	10/21/2004
1118	30-015-32733-0000	TODD 15N FEDERAL 14	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	157,146	212,843	632,299		3/1/2003	8/27/2003	10/6/2003
1119	30-015-34304-0000	TODD 15P FEDERAL 016	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	35,886	51,899	238,408		8/1/2005	12/3/2006	2/2/2007
1120	30-015-33135-0000	TODD 22 L FEDERAL 12	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	90,761	195,373	353,199		12/1/2003	4/27/2004	6/13/2004
1121	30-015-36828-0000	TODD 22A FEDERAL 001	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	24,159	91,011	142,454		12/1/2008	1/23/2010	3/4/2010
1122	30-015-33120-0000	TODD 22C FEDERAL 3	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	111,344	171,023	622,409		11/1/2003	12/13/2003	2/3/2004
1123	30-015-32880-0000	TODD 22D FEDERAL 4	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	119,592	166,777	455,449		7/1/2003	11/26/2003	1/14/2004
1124	30-015-33126-0000	TODD 22E FEDERAL 5	DEVON ENERGY PRODUCT	OIL	SAND DUNES	BRUSHY CANYON	406,264	437,111	436,478		11/1/2003	11/21/2004	2/2/2005
1125	30-015-32660-0000	TODD 22F FEDERAL 6	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	74,333	173,619	697,769		2/1/2003	8/8/2003	9/23/2003
1126	30-015-32881-0000	TODD 22G FEDERAL 7	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	54,992	139,880	340,735		7/1/2003	9/5/2004	11/2/2004
1127	30-015-32729-0000	TODD 22H FEDERAL 8	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	68,057	163,552	537,396		3/1/2003	10/7/2003	12/2/2003
1128	30-015-32730-0000	TODD 22-I FEDERAL 9	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	37,042	118,275	312,644		3/1/2003	1/11/2005	3/6/2005
1129	30-015-32731-0000	TODD 22J FEDERAL 10	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	58,461	183,656	278,372		3/1/2003	3/20/2004	5/9/2004
1130	30-015-33107-0000	TODD 22K FEDERAL 011	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	BRUSHY CANYON	53,303	106,986	243,500		11/1/2003	12/23/2004	3/12/2005
1131	30-015-33119-0000	TODD 22M FEDERAL 13	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	123,860	232,057	562,679		11/1/2003	9/24/2004	11/25/2004
1132	30-015-32734-0000	TODD 22N FEDERAL 14	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	32,059	131,689	343,059		3/1/2003	11/8/2003	1/8/2004
1133	30-015-33108-0000	TODD 22O FEDERAL 15	DEVON ENERGY (NEVADA	OIL	INGLE WELLS	DELAWARE	104,039	216,374	573,117		11/1/2003	4/28/2005	6/26/2005
1134	30-015-32735-0000	TODD 22P FEDERAL 16	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	59,379	158,879	263,093		3/1/2003	7/14/2004	8/31/2004
1135	30-015-32629-0000	TODD 23C FEDERAL 18	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	74,147	184,605	393,359		11/1/2002	11/29/2002	1/24/2003
1136	30-015-36861-0000	TODD 23D FEDERAL 019	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RIDGE	BRUSHY CANYON	17,630	47,060	71,576		12/1/2008	2/8/2010	3/18/2010
1137	30-015-33948-0000	TODD 23E FEDERAL 20	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	18,489	68,416	107,570		2/1/2005	3/24/2005	5/17/2005
1138	30-015-28182-0000	TODD 23H FEDERAL 006	DEVON ENERGY CORP NV	DRY	INGLE WELLS	CHERRY CANYON	105,189	384,050	411,918		10/1/1994	1/13/1995	3/11/1995
1139	30-015-32019-0000	TODD 23K FEDERAL 34	DEVON ENERGY CORP	OIL	INGLE WELLS	CHERRY CANYON	82,661	173,014	355,327		2/1/1999	5/4/2003	6/25/2003
1140	30-015-35034-0000	TODD 23L FEDERAL 021	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	66,723	208,278	222,508		7/1/2006	11/12/2006	1/14/2007
1141	30-015-32800-0000	TODD 23M FEDERAL 022	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	62,571	244,328	373,311		5/1/2003	3/29/2006	5/19/2006
1142	30-015-28859-0002	TODD 25N FEDERAL 014	DEVON ENERGY PRODUCT	INJ	INGLE WELLS	DELAWARE				582,692	2/1/2008	3/6/2008	3/18/2008
1143	30-015-28817-0001	TODD 25P FEDERAL 016	DEVON ENERGY PRODUCT	INJ	INGLE WELLS	DELAWARE				2,059,209	2/1/2006	11/4/2006	5/20/2007
1144	30-015-35077-0000	TODD 26D FEDERAL 023	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	57,071	256,503	100,245		8/1/2006	10/15/2006	12/13/2006
1145	30-015-33113-0000	TODD 26E FEDERAL 18	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	50,329	169,519	264,116		11/1/2003	2/12/2004	4/5/2004
1146	30-015-36897-0000	TODD 26L FEDERAL 017	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	BRUSHY CANYON	29,862	122,094	90,524		1/1/2009	12/10/2009	1/18/2010
1147	30-015-35521-0000	TODD 27 I FEDERAL 9	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	BRUSHY CANYON	43,823	204,688	162,896		3/1/2007	1/10/2008	2/23/2008
1148	30-015-34186-0000	TODD 27 N FEDERAL 14	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	90,348	270,038	745,938		6/1/2005	8/13/2005	9/18/2005
1149	30-015-34432-0000	TODD 27 O FEDERAL 15	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	CHERRY CANYON	68,005	157,739	290,280		11/1/2005	1/18/2006	3/18/2006
1150	30-015-35504-0000	TODD 27B FEDERAL 002	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	44,311	252,593	164,183		3/1/2007	4/11/2007	5/24/2007
1151	30-015-35425-0000	TODD 27D FEDERAL 004	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	87,119	254,624	383,577		2/1/2007	3/21/2007	5/22/2007
1152	30-015-35517-0000	TODD 27E FEDERAL 005	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE	36,575	109,390	403,549		3/1/2007	11/3/2007	12/16/2007
1153	30-015-35518-0000	TODD 27F FEDERAL 006	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	DELAWARE	92,232	309,753	418,919		3/1/2007	5/6/2007	7/8/2007
1154	30-015-35519-0000	TODD 27G FEDERAL 007	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	68,866	414,591	207,779		3/1/2007	11/25/2007	1/6/2008
1155	30-015-35520-0000	TODD 27H FEDERAL 008	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	67,677	442,098	197,224		3/1/2007	12/18/2007	1/26/2008
1156	30-015-34431-0000	TODD 27K FEDERAL 011	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	BRUSHY CANYON	52,256	185,139	219,621		11/1/2005	2/28/2006	6/2/2006
1157	30-015-29405-0000	TODD 36 `O` STATE 010	DEVON ENERGY CORP	DRY	INGLE WELLS	CHERRY CANYON	100,403	176,972	572,008		3/1/1997	6/16/1997	7/26/1997
1158	30-015-20341-0001	TODD 36D STATE 1	DEVON ENERGY CORP NV	CONWIW	SWD	DELAWARE				41,844,860	7/1/1994	7/28/1994	8/25/1994
1159	30-015-20796-0000	TODD-FEDERAL 23 1	TEXAS AMERICAN OIL	SUSOIL	SAND DUNES	CHERRY CANYON	168,808	55,015	153,429		1/1/1973	1/30/1973	3/19/1973
1160	30-025-33909-0000	TOMCAT `15` FEDERAL 2	CONCHO RESOURCES INC	DRY	DIAMONDTAIL	DELAWARE	27,688	31,403	115,765		2/1/1999	2/26/2000	4/2/2000
1161	30-025-34949-0000	TOMCAT `16` STATE 006	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	127,580	106,382	165,489		3/1/2000	4/3/2000	5/18/2000
1162	30-025-35045-0000	TOMCAT `16` STATE 10	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	68,274	85,970	397,546		9/1/2000	9/15/2000	12/1/2000
1163	30-025-35411-0000	TOMCAT `16` STATE 13	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	63,763	108,042	259,928		2/1/2001	4/23/2001	6/20/2001
1164	30-025-34306-0000	TOMCAT `16` STATE 2	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	115,062	163,796	195,292		2/1/1998	3/26/1999	5/9/1999
1165	30-025-34809-0000	TOMCAT `16` STATE 3	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	138,598	184,194	566,939		3/1/2000	3/15/2000	5/3/2000
1166	30-025-34810-0000	TOMCAT `16` STATE 4	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	96,665	114,248	480,620		8/1/2000	8/24/2000	11/20/2000
1167	30-025-34923-0000	TOMCAT `16` STATE 7	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	63,652	128,115	285,938		5/1/2000	5/13/2000	7/23/2000

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
1168	30-025-34924-0000	TOMCAT `16` STATE 8	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	50,366	107,758	201,142		4/1/2000	4/24/2000	7/26/2000
1169	30-025-34690-0000	TOMCAT `17` FEDERAL 1	CONCHO RESOURCES INC	OIL	DIAMONDTAIL	DELAWARE	129,106	236,750	278,966		8/1/1999	9/15/1999	11/1/1999
1170	30-025-34691-0000	TOMCAT `17` FEDERAL 2	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	85,289	183,554	324,231		8/1/1999	6/2/2000	7/22/2000
1171	30-025-34692-0000	TOMCAT `17` FEDERAL 3	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	BRUSHY CANYON	75,841	143,555	481,566		8/1/1999	10/3/1999	12/17/1999
1172	30-025-34812-0000	TOMCAT `17` FEDERAL 4	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	131,126	202,537	407,998		11/1/1999	2/10/2000	3/20/2000
1173	30-025-35069-0000	TOMCAT `17` FEDERAL 5	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	44,192	103,763	407,925		6/1/2000	12/3/2000	2/11/2001
1174	30-025-35070-0000	TOMCAT `17` FEDERAL 6	CONCHO RESOURCES INC	OIL	SAND DUNES	DELAWARE	65,535	114,154	346,998		6/1/2000	7/25/2000	9/8/2000
1175	30-025-35145-0000	TOMCAT `20` FEDERAL 3	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	152,228	250,956	415,404		8/1/2000	11/6/2000	2/11/2001
1176	30-025-35233-0000	TOMCAT `20` FEDERAL 4	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	104,457	232,218	490,920		10/1/2000	12/27/2000	3/1/2001
1177	30-025-35234-0000	TOMCAT `20` FEDERAL 5	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	63,030	206,480	577,019		10/1/2000	4/3/2001	6/1/2001
1178	30-025-35525-0000	TOMCAT `20` FEDERAL 6	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	73,217	159,451	502,209		4/1/2001	5/8/2001	6/25/2001
1179	30-025-33911-0000	TOMCAT `21` FEDERAL 003	CONCHO RESOURCES INC	DRY	DIAMONDTAIL STHWT	DELAWARE	53,155	130,976	606,650		3/1/2001	3/15/2001	5/9/2001
1180	30-025-35526-0000	TOMCAT `21` FEDERAL 8	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL STHWT	DELAWARE	32,096	112,874	818,530		6/1/2001	6/21/2001	8/21/2001
1181	30-025-34693-0000	TOMCAT 20 FEDERAL 1	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	121,158	315,232	449,762		9/1/1999	6/21/2000	8/19/2000
1182	30-025-34926-0000	TOMCAT 20 FEDERAL 2	CONCHO RESOURCES INC	OIL	DIAMONDTAIL STHWT	DELAWARE	55,242	126,117	374,142		2/1/2000	7/9/2000	9/6/2000
1183	30-025-37296-0000	TOMCAT 20 FEDERAL 7	DEVON ENERGY PRODUCT	OIL	DIAMONDTAIL STHWT	DELAWARE	23,107	94,591	260,104		4/1/2005	8/20/2005	10/22/2005
1184	30-025-33356-0002	TOMCAT 21 FEDERAL C 001	CONCHO RESOURCES INC	DRY	DIAMONDTAIL STHWT	BRUSHY CANYON	40,524	135,295	349,948		8/1/1998	10/1/1998	10/28/1998
1185	30-025-38342-0000	TOMCAT 9 FEDERAL 001	ROFF OPERATING CO	DRY	DIAMONDTAIL STHWT	DELAWARE	17,514	27,593	329,794		2/1/2007	7/7/2007	10/20/2007
1186	30-025-27478-0001	TRESNOR FEDERAL 001	DEVON ENERGY PRODUCT	OIL	TRISTE DRAW WEST	BRUSHY CANYON	970	2,850	43,825		4/1/2003	4/17/2003	6/25/2003
1187	30-025-32688-0001	TRESNOR-MITCHELL `3 001	SANTA FE ENRGY RESCS	DRY	TRISTE DRAW WEST	DELAWARE	28,089	80,556	158,378		5/1/1996	7/11/1996	7/27/1996
1188	30-025-32754-0001	TRESNOR-MITCHELL `3 002	SANTA FE ENRGY RESCS	DRY	TRISTE DRAW WEST	DELAWARE	18,029	72,575	58,714		5/1/1996	4/15/1997	4/21/1997
1189	30-025-32891-0001	TRESNOR-MITCHELL 30 003	DEVON ENERGY PRODUCT	DRY	TRISTE DRAW WEST	DELAWARE	22,511	88,187	135,989		5/1/2008	6/17/2008	8/25/2008
1190	30-015-25769-0001	TRIPLE S `33` FEDER 1	SANTA FE ENR OP PRTN	OIL	SAND DUNES WEST	DELAWARE	86,354	329,003	156,009		6/1/1993	7/9/1993	7/12/1993
1191	30-025-39668-0000	TRISTE DRAW `5` FED 001H	OGX RESOURCES LLC	DRY	MESA VERDE	DELAWARE	60,196	95,077	173,914		1/1/2010	6/25/2010	8/14/2010
1192	30-025-40581-0000	TRISTE DRAW 5 FEDER 2H	COG PROD LLC	OIL	MESA VERDE	DELAWARE	318,194	563,074	1,274,189		5/1/2012	7/2/2013	9/24/2013
1193	30-025-32668-0000	TRUMPETER `4` STATE 1	SANTA FE ENR OP PRTN	DRY	LIVINGSTON RDG E	DELAWARE	41,992	10,536	305,960		9/1/1994	9/26/1994	11/29/1994
1194	30-025-31412-0000	UNION `AJS` FEDERAL 001	YATES PETROLEUM CORP	CONWIW	SWD	DELAWARE				2,783,098	10/1/1991	10/22/1991	11/4/1993
1195	30-015-27998-0000	UNION FEDERAL 1	OWENS PETROLEUM INC	DRY	LIVINGSTON RDG S	BRUSHY CANYON	2,516		617		6/1/1994	6/20/1994	9/2/1994
1196	30-015-26786-0000	UNOCAL `AHU` FEDERA 002	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	167,209	345,289	1,284,541		7/1/1991	7/26/1991	8/31/1991
1197	30-015-26698-0000	UNOCAL `AHU` FEDERA 1	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	184,786	309,594	810,373		3/1/1991	4/2/1991	5/6/1991
1198	30-015-26849-0000	UNOCAL `HPC` FEDERA 2	HANAGAN PET CORP	OIL	LOST TANK	BRUSHY CANYON	124,671	182,172	457,180		9/1/1991	10/10/1991	12/2/1991
1199	30-015-26774-0000	UNOCAL HPC FEDERAL 001	HANAGAN PET CORP	DRY	LIVINGSTON RIDGE	BRUSHY CANYON	144,225	331,853	459,205		6/1/1991	7/1/1991	8/14/1991
1200	30-025-27655-0003	URRACA FEDERAL 1	STRATA PRODUCTION CO	DRY	DIAMONDTAIL	DELAWARE	35,491	16,536	372,137		12/1/1990	12/27/1990	3/20/1991
1201	30-025-31625-0000	URRACA FEDERAL 2	STRATA PRODUCTION CO	OIL	DIAMONDTAIL	BRUSHY CANYON	131,535	37,328	740,504		8/1/1992	8/30/1992	10/24/1992
1202	30-025-37687-0000	URRACA FEDERAL 3	STRATA PRODUCTION CO	OIL	DIAMONDTAIL	BRUSHY CANYON	46,712	15,134	506,901		2/1/2006	11/7/2006	2/20/2007
1203	30-025-37929-0001	WBR FEDERAL 1	POGO PRODUCING CO	OIL	RED TANK WEST	DELAWARE	117,495	235,479	180,273		1/1/2007	1/7/2007	2/12/2007
1204	30-025-35256-0001	WBR FEDERAL 5	POGO PRODUCING CO	OIL	RED TANK WEST	BRUSHY CANYON	57,239	72,764	347,202		8/1/2002	8/20/2002	8/28/2002
1205	30-025-32000-0000	WHITE SWAN `0` FEDE 1	SANTA FE ENR OP PRTN	OIL	LIVINGSTON RIDGE	DELAWARE	122,658	110,987	461,976		5/1/1993	6/9/1993	8/18/1993
1206	30-025-32302-0000	WHITE SWAN `9` FEDE 4	SANTA FE ENR OP PRTN	OIL	LIVINGSTON RDG E	BRUSHY CANYON	274,499	181,104	661,781		3/1/1995	3/22/1995	6/12/1995
1207	30-025-32331-0000	WILD TURKEY `10` ST 1	MARALO INC	DRY	LIVINGSTON RDG E	DELAWARE	31,012	4,854	230,139		12/1/1993	4/19/1995	8/23/1995
1208	30-025-32332-0000	WILD TURKEY `9` STA 1	MARALO INC	OIL	LIVINGSTON RDG E	CHERRY CANYON	117,910	54,628	408,824		3/1/1994	4/5/1994	6/21/1994
1209	30-015-26777-0000	WOLF `AJA` FEDERAL 004	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE	133,944	143,849	567,848		6/1/1991	7/5/1991	8/28/1991
1210	30-015-42239-0000	WOLF `AJA` FEDERAL 021H	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	150,037	406,723	2,038,849		3/1/2014	7/5/2014	12/19/2014
1211	30-015-39829-0000	WOLF `AJA` FEDERAL 17H	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	264,885	399,396	1,079,995		12/1/2011	9/9/2014	2/11/2015
1212	30-015-39830-0000	WOLF `AJA` FEDERAL 18H	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	246,817	407,122	1,051,028		12/1/2011	8/11/2014	3/10/2015
1213	30-015-26816-0000	WOLF `AJA` FEDERAL 5	YATES PETROLEUM CORP	OIL	LOST TANK	CHERRY CANYON	106,009	139,956	686,486		9/1/1991	9/23/1991	10/29/1991
1214	30-015-26817-0000	WOLF `AJA` FEDERAL 7	YATES PETROLEUM CORP	OIL	LOST TANK	DELAWARE	344,027	289,268	897,309		2/1/1992	2/19/1992	3/24/1992
		DELAWARE TOTAL					**123,156,706**	**298,203,691**	**667,067,955**	**491,778,346**			
		DELAWARE AVERAGE					**106,353**	**260,668**	**577,548**				
		DELAWARE MAX					**669,131**	**2,635,392**	**5,063,035**				
1	30-015-33616-0000	APACHE 24 FEDERAL 9	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	DEVONIAN	202,235	424,484	497,720		8/1/2004	9/17/2004	11/21/2004
2	30-025-44106-0000	DEEP PURPLE SWD 001	MESQUITE SWD INC	DRLWIW	SWD	DEVONIAN				28,905,209	10/1/2017	10/26/2017	1/2/2018
3	30-025-25017-0003	FEDERAL SAND 18 1-SWD	XTO ENERGY INC	CONWIW	SWD	DEVONIAN				0	5/1/2015	8/25/2015	1/19/2016
4	30-015-41074-0000	JAMES RANCH UNIT 21 001	BOPCO LP	DRLWIW	SWD	DEVONIAN				12,622,951	1/1/2013	1/6/2014	4/17/2014
5	30-015-45691-0000	JAMES RANCH UNIT 36 001	XTO PERMIAN OPER LLC	DRLWIW	SWD	DEVONIAN				6,597,729	2/1/2019	11/21/2019	5/1/2020
6	30-015-46432-0000	JAMES RANCH UNIT 6 001	XTO PERMIAN OPER LLC	DRLWIW	SWD	DEVONIAN				6,075,962	11/1/2019	12/16/2019	7/23/2020
7	30-015-45072-0000	MOBLEY SWD 001	SOLARIS WATER MIDSTM	DRLWIW	SWD	DEVONIAN				20,136,515	7/1/2018	10/18/2018	1/30/2019
8	30-015-46256-0000	POKER LAKE UNIT 32 001	XTO PERMIAN OPER LLC	DRLWIW	SWD	DEVONIAN				7,613,931	9/1/2019	11/16/2019	9/1/2020
9	30-015-45235-0000	RED ROAD SWD 001	NGL WATER SOLU PERMN	DRLWIW	SWD	DEVONIAN				21,002,934	9/1/2018	11/15/2018	8/24/2019
10	30-025-45029-0000	TREY SWD 001	MESQUITE SWD INC	DRLWIW	SWD	DEVONIAN				7,177,885	7/1/2018	3/3/2019	4/26/2019
11	30-025-31929-0000	TRISTE DRAW `36` ST 001	MERIDIAN OIL INC	CONWIW	SWD	DEVONIAN				5,940,770	3/1/1993	5/12/1993	10/14/1995
12	30-015-43806-0000	UBER EAST SWD 001	MESQUITE SWD INC	JNK	SWD	DEVONIAN				26,530,222	5/1/2016	10/10/2018	11/11/2018
13	30-015-43805-0000	UBER NORTH SWD 001	MESQUITE SWD INC	JNK	SWD	DEVONIAN				20,378,018			12/17/2018
14	30-025-43328-0000	WEST GRAMMA RIDGE SWD 001	MESQUITE SWD INC	JNK	SWD	DEVONIAN				13,309,082			8/10/2018
15	30-025-44273-0000	ZUES SWD 001	SOLARIS WATER MIDSTM		SWD	DEVONIAN				13,741,979			12/9/2018
		DEVONIAN TOTAL					**202,235**	**424,484**	**497,720**	**190,033,187**			
		DEVONIAN AVERAGE					**202,235**	**424,484**	**497,720**				
		DEVONIAN MAX					**202,235**	**424,484**	**497,720**				
1	30-015-27587-0000	APACHE `24` FEDERAL 1	MITCHELL ENERGY CORP	SUSGAS	LOS MEDANOS	MORROW	6	109,655	520		7/1/1993	8/1/1993	10/21/1993
2	30-015-27410-0001	APACHE 25 FEDERAL 1	DEVON ENERGY PRODUCT	GAS	LOS MEDANOS	MORROW	171	2,441,530	59		7/1/2003	7/20/2003	7/30/2003
3	30-015-34328-0000	APACHE 25 FEDERAL 16	DEVON ENERGY PRODUCT	GAS	LOS MEDANOS	MORROW	10,908	2,769,518	14,875		9/1/2005	9/22/2005	2/13/2006
4	30-025-33999-0000	AZTEC `14` FEDERAL 1	NEARBURG PROD CO	GAS	HAT MESA	MORROW	5,068	1,487,821	6,563		6/1/1997	6/15/1997	10/20/1997
5	30-015-24954-0000	BARCLAY FEDERAL 001	UNION OIL CO OF CA	DRY	SAND DUNES NORTH	MORROW	7,422	3,747,373	10,480		7/1/1984	8/20/1984	11/20/1984
6	30-015-25534-0000	BARCLAY STATE 1	UNION OIL CO OF CA	DRY	SAND DUNES NORTH	MORROW	1,712	254,527	913		1/1/1986	1/24/1986	5/12/1986
7	30-015-25534-0001	BARCLAY STATE 1	ARCO PERMIAN	DRY	SAND DUNES NORTH	MORROW	76,121	99,316	635,026		4/1/1997	4/8/1997	4/22/1997
8	30-015-21529-0000	BIG EDDY UNIT 44	BASS PERRY R	DRY	MAROON CLIFFS	MORROW	4,046	1,207,977	2,128		5/1/1975	6/10/1975	10/15/1975
9	30-025-30757-0000	BILBREY `21` FEDERA 1	SANTA FE ENR OP PRTN	DRY	BILBREY	MORROW		17,380	4,036		12/1/1989	12/30/1989	7/26/1990
10	30-025-30980-0000	BILBREY `27` FEDERA 1	SANTA FE ENR OP PRTN	GAS	BILBREY	MORROW	39,728	7,780,048	10,364		8/1/1990	8/27/1990	2/2/1991
11	30-025-30664-0000	BILBREY `28-A` FEDE 1	SANTA FE ENR OP PRTN	DRY	BILBREY	MORROW	75,755	7,494,792	21,111		9/1/1989	10/2/1989	2/2/1990
12	30-025-27779-0000	BILBREY `29` FEDERA 1	GETTY OIL CO	GAS	BILBREY	MORROW	2,021	2,788,038	3,590		3/1/1982	4/7/1982	7/19/1982
13	30-025-30886-0000	BILBREY `32` STATE 1	TEXACO PROD INC	DRY	BILBREY	MORROW	76,629	7,772,483	7,390		5/1/1990	5/23/1990	9/24/1990
14	30-025-35946-0000	BILBREY `32` STATE 2	MATADOR OPERATING CO	DRY	BILBREY	MORROW	189	272,448	283,636		7/1/2002	7/15/2002	11/27/2002
15	30-025-30781-0000	BILBREY `33` FEDERA 1	TEXACO PROD INC	DRY	BILBREY	MORROW	60,185	8,638,906	41,105		2/1/1990	3/5/1990	5/29/1990
16	30-025-32383-0000	BILBREY `33` FEDERA 2	TEXACO EXPL&PROD INC	GAS	BILBREY	MORROW	6,515	1,176,236	27,707		1/1/1994	1/20/1994	4/14/1994
17	30-025-31120-0000	BILBREY `34` FEDERA 001	MARALO INC	DRY	BILBREY	MORROW	16,341	2,737,697	60,504		12/1/1990	1/16/1991	4/5/1991
18	30-025-31470-0000	BILBREY `34` FEDERA 1	PHILLIPS PETRLM CO	GAS	BILBREY	MORROW	60	606,330	1,910		11/1/1991	12/5/1991	4/3/1992
19	30-025-31095-0000	BILBREY 27A FEDERAL 001	SANTA FE ENR OP PRTN	DRY	BILBREY	MORROW	7,884	1,185,525	8,696		12/1/1990	12/15/1990	5/21/1991
20	30-025-30495-0000	BILBREY 28 FEDERAL 001	SANTA FE ENR OP PRTN	DRY	BILBREY	MORROW	68,654	9,375,313	8,542		10/1/1988	11/16/1988	3/17/1989
21	30-025-27472-0100	BILBREY FEDERAL 1	MARBOB ENERGY CORP	GAS	BILBREY	MORROW	1,187	935,671	5,654		10/1/2005	12/13/2005	3/25/2006
22	30-025-27472-0000	BILBREY FEDERAL COM 1	GETTY OIL CO	GAS	BILBREY	MORROW	5,829	920,585	4,803		7/1/1981	8/2/1981	1/20/1982
23	30-025-33320-0000	BILBREY NORTH `22` 1	PENWELL ENERGY INC	DRY	BILBREY	MORROW	413	178,268	8,292		11/1/1996	11/26/1996	7/3/1997
24	30-025-30781-0100	BLIBREY 33 FEDERAL 1	TEXACO EXPL&PROD INC	DRY	BILBREY	MORROW	71	76,038	4,563		1/1/2001	2/20/2001	10/17/2001
25	30-025-35512-0000	BOOTLEG `24` FEDERA 1	POGO PRODUCING CO	SUSGAS	BOOTLEG RIDGE	MORROW	1,680	2,869,830	6,726		4/1/2001	5/7/2001	7/13/2001
26	30-025-36265-0000	BOOTLEG 11 FEDERAL 1	SAGA PETROLEUM LLC	GAS	BOOTLEG RIDGE	MORROW	4,309	2,467,711	22,823		4/1/2003	5/1/2003	11/19/2003
27	30-025-37083-0000	BOOTLEG 11 FEDERAL 2	LATIGO PETROLEUM INC	GAS	BOOTLEG RIDGE	MORROW	298	101,252	1,630		2/1/2005	6/8/2005	11/15/2005
28	30-015-21050-0000	CABANA 1	TROPORO OIL & GAS CO	DRY	CABIN LAKE	MORROW	4,668	1,890,262			12/1/1973	12/18/1973	7/10/1974
29	30-015-25176-0000	CAL-MON 2	POGO PRODUCING CO	DRY	SAND DUNES	MORROW	2,669	1,033,345	2,637		3/1/1985	3/19/1985	9/13/1985
30	30-025-27772-0000	CONNALLY FEDERAL 1	SUPERIOR OIL CO THE	SUSGAS	BOOTLEG RIDGE	MORROW	4,302	1,481,867	2,931		3/1/1982	3/30/1982	7/22/1982
31	30-025-25410-0000	FEDERAL /HM-12/ 1	BELCO PET NRTH AMER	DRY	HAT MESA	MORROW	377	9,543	4,291		11/1/1976	12/10/1976	4/14/1977
32	30-025-25179-0000	FEDERAL /TSS/ COM 1	TEAL PETROLEUM CO	GAS	HAT MESA	MORROW	110,315	8,122,089	8,029		12/1/1975	12/21/1975	5/5/1976

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
33	30-025-32709-0000	FEDERAL `8` 1	POGO PRODUCING CO	SUSGAS	RED TANK	MORROW	929	644,178	37,123		10/1/1994	6/22/1995	8/28/1995
34	30-025-30137-0000	FEDERAL `WBR` 1	POGO PRODUCING CO	DRY	BOOTLEG RIDGE	MORROW	46,292	3,221,590	2,259		1/1/1988	1/12/1988	4/18/1988
35	30-025-24215-0000	FEDERAL 1	ZONNE R J	GAS	RED TANK	MORROW	1,905	729,589	4,166		6/1/1973	6/23/1973	11/8/1973
36	30-025-24823-0000	FEDERAL 17 1	CLEARY PET CORP	DRY	RED TANK	MORROW	958	204,185	27,800		7/1/1974	7/31/1974	7/11/1975
37	30-025-26898-0000	FEDERAL HM `13` 1	BELCO PET NRTH AMER	GAS	HAT MESA	MORROW	2,858	2,363,453	19,281		6/1/1980	7/6/1980	12/29/1980
38	30-025-24398-0000	FEDERAL ONE 1	KIMBLL PROD CO	DRY	LEA	MORROW	8,522	458,734	412		3/1/1973	3/27/1973	6/9/1973
39	30-025-37868-0000	FEDERAL TSS COM 2	SAMSON RESOURCES CO	GAS	HAT MESA	MORROW	14,851	2,855,821	8,024		5/1/2006	7/1/2006	10/17/2006
40	30-025-27473-0000	FEDERAL`CK`COM 1	AMOCO PROD CO	DRY	BILBREY	MORROW	1,271	319,072	22,504		7/1/1981	7/27/1981	5/1/1982
41	30-015-20899-0000	FORTY NINER RIDGE U 1	SKELLY OIL CO	GAS	FORTY NINER RIDGE	MORROW	558	869,557	1,125		7/1/1973	8/8/1973	12/21/1973
42	30-015-34331-0000	FORTY NINER RIDGE U 101	MEWBOURNE OIL CO	GAS	FORTY NINER RIDGE	MORROW	60	409,604	104,984		9/1/2005	12/27/2005	4/3/2006
43	30-015-21175-0000	FORTY NINER RIDGE U 2	SKELLY OIL CO	SUSGAS	FORTY NINER RIDGE	MORROW	935	42,696	84		7/1/1974	7/17/1974	11/23/1974
44	30-025-26986-0000	GETTY `32` STATE CO 1	GETTY OIL CO	DRY	UNNAMED	MORROW	52,516	10,865,446	15,202		9/1/1980	9/13/1980	2/19/1981
45	30-025-24601-0000	GOVERNMENT /H/ COM 1	SUPERIOR OIL CO THE	GAS	HAT MESA	MORROW	74,956	5,332,352	3,165		11/1/1973	11/30/1973	4/14/1974
46	30-025-24690-0000	HAT MESA /A/ 1	PHILLIPS PETRLM CO	GAS	HAT MESA	MORROW	65,638	5,298,656	4,066		2/1/1974	3/10/1974	8/15/1974
47	30-025-26427-0000	HAT MESA 1	BASS ENTRPRS PROD CO	SUSGAS	HAT MESA	MORROW	17,917	1,923,500	3,097		9/1/1979	10/3/1979	2/18/1980
48	30-025-24403-0000	HAT MESA 1	BRUNSON & MCKNIGHT	SUSGAS	HAT MESA	MORROW	32,050	5,898,191	2,467		3/1/1973	3/31/1973	7/25/1973
49	30-025-24925-0000	HAT MESA COM 2	PHILLIPS PETRLM CO	GAS	HAT MESA	MORROW	48,604	5,640,583	3,736		1/1/1975	1/31/1975	4/20/1975
50	30-025-22131-0000	HAT MESA UNIT 1	PHILLIPS PETRLM CO	GAS	HAT MESA	MORROW	23,642	9,689,223	5,982		5/1/1967	5/27/1967	6/19/1968
51	30-015-20879-0000	JAMES C 1	PHILLIPS PETRLM CO	DRY	CABIN LAKE	MORROW	1,240	1,402,293	10,256		7/1/1973	7/15/1973	11/15/1973
52	30-015-21247-0000	JAMES RANCH U 7	CONTINENTAL OIL CO	SUSGAS	LOS MEDANOS	MORROW	9,469	2,082,469	3,568		6/1/1975	6/29/1975	7/7/1975
53	30-015-22162-0001	JAMES RANCH UNIT 12	BOPCO LP	GAS	LIVINGSTON RIDGE	MORROW		10,254	18		4/1/2009	4/28/2009	5/25/2009
54	30-015-24420-0000	JAMES RANCH UNIT 14	BELCO PET NRTH AMER	SUSGAS	LOS MEDANOS	MORROW	456	4,250,022	10,107		3/1/1983	4/6/1983	8/24/1983
55	30-015-24780-0000	JAMES RANCH UNIT 15	BELCO DEV CORP	SUSGAS	LOS MEDANOS	MORROW	16	553,203	11,700		3/1/1984	4/10/1984	10/23/1984
56	30-015-27208-0000	JAMES RANCH UNIT 18	ENRON OIL & GAS CO	SUSGAS	LOS MEDANOS	MORROW		5,021,634	44,443		11/1/1992	12/7/1992	4/7/1993
57	30-015-20232-0000	JAMES RANCH UNIT 3	BELCO PET NRTH AMER	GAS	LOS MEDANOS	MORROW	28,336	3,694,444	393,088		9/1/1971	9/24/1971	3/27/1972
58	30-015-20803-0000	JAMES RANCH UNIT 4	BELCO PET NRTH AMER	SUSGAS	LOS MEDANOS	MORROW	15,596	9,450,657	6,393		5/1/1973	5/21/1973	9/9/1973
59	30-015-28093-0001	LLAMA `ALL` FEDERAL 1	YATES PETROLEUM CORP	GAS	CABIN LAKE	MORROW	51	27,767	6,898		3/1/1998	3/18/1998	5/17/1998
60	30-025-27151-0000	LOOMIS C A FEDERAL 1	BASS PERRY R	SUSGAS	LEA CO UNDESIGNTD	MORROW	520	182,353	270		11/1/1980	11/14/1980	3/26/1981
61	30-015-26382-0000	MEDANO `VA` STATE 2	YATES PETROLEUM CORP	GAS	SAND DUNES WEST	MORROW	103,247	645,481	260,526		6/1/1990	6/12/1990	9/28/1990
62	30-025-36836-0000	MESA VERDE 15 FEDER 001	SAMSON RESOURCES CO	DRY	HAT MESA	MORROW	9,040	53,776	14,278		9/1/2004	12/4/2004	5/9/2005
63	30-025-26610-0000	MEXICO`G`FEDERL COM 1	GRACE PETROLEUM CORP	GAS	SALT LAKE SOUTH	MORROW	5,312	1,701,085	55,612		1/1/1980	2/5/1980	6/17/1980
64	30-025-33227-0000	MINIS `1` FEDERAL 2	NEARBURG PROD CO	GAS	HAT MESA	MORROW	7,222	1,588,232	1,093		11/1/1995	12/10/1995	5/7/1996
65	30-025-36059-0000	MINIS `2` FEDERAL 002	SAMSON RESOURCES CO	DRY	HAT MESA	MORROW	4,928	1,470,178	42,436		11/1/2002	12/1/2002	2/19/2003
66	30-025-36290-0000	MINIS 2 FEDERAL COM 004	SAMSON RESOURCES CO	DRY	HAT MESA	MORROW	7,681	852,143	42,752		5/1/2003	6/30/2003	9/28/2003
67	30-025-27659-0001	MINIS FEDERAL COM 1	NEARBURG PROD CO	GAS	HAT MESA	MORROW	27,456	1,788,111	3,242		2/1/1990	2/17/1990	3/21/1990
68	30-025-33506-0000	MINIS FEDERAL COM 3	NEARBURG PROD CO	GAS	HAT MESA	MORROW	4,257	341,140	2,191		7/1/1996	8/19/1997	2/17/1998
69	30-015-20751-0000	MOBIL-FEDERAL 1	EL PASO NAT GAS CO	GAS	SAND DUNES WEST	MORROW	232,789	4,473,297	99,665		9/1/1972	9/29/1972	2/16/1973
70	30-025-25534-0000	N MEXICO FEDERAL 1	CLEARY PET CORP	GAS	LEA	MORROW	17,916	3,229,351	26,914		5/1/1977	5/21/1977	9/2/1977
71	30-015-22971-0000	NASH UT 7	MESA PETROLEUM CO	DRY	NASH DRAW	MORROW	378	246,950	19,060		7/1/1979	8/2/1979	7/31/1980
72	30-025-25430-0000	NEW MEXICO `C` 001	CLEARY PET CORP	DRY	LEA	MORROW	147,495	11,773,184	19,170		1/1/1977	1/18/1977	4/23/1977
73	30-025-36218-0000	NEW MEXICO `C` FEDE 002	SAMSON RESOURCES CO	DRY	SALT LAKE SOUTH	MORROW	23,211	2,724,520	77,984		2/1/2003	3/19/2003	6/17/2003
74	30-025-36273-0000	NEW MEXICO A FEDERA 7	SAMSON RESOURCES CO	GAS	SALT LAKE SOUTH	MORROW	1,043	909,599	305,859		4/1/2003	5/3/2003	8/2/2003
75	30-025-25485-0000	NEW MEXICO D FED 1	CLEARY PET CORP	GAS	LEA	MORROW	41,057	3,170,990	50,252		3/1/1977	3/17/1977	9/7/1977
76	30-025-25313-0000	NEW MEXICO FED B 1	CLEARY PET CORP	GAS	HAT MESA	MORROW	98,804	6,401,934	208,084		7/1/1976	7/28/1976	10/21/1976
77	30-025-25976-0000	NEW MEXICO FEDERAL 1	GRACE PETROLEUM CORP	DRY	LEA CO UNDESIGNTD	MORROW	4,802	651,433	5,831		7/1/1978	7/20/1978	1/25/1979
78	30-025-25751-0000	NEW MEXICO/A/FEDERL 2	CLEARY PET CORP	SUSGAS	SALT LAKE SOUTH	MORROW	7,597	474,975	19,093		3/1/1978	3/23/1978	8/9/1978
79	30-025-24374-0000	NEW MEXICO-FEDERAL 1	AMINI OIL OPERATIONS	DRY	SALT LAKE SOUTH	MORROW	23,854	2,040,735	15,928		1/1/1973	2/9/1973	4/27/1973
80	30-025-38293-0000	NM `B` FEDERAL 003	SAMSON RESOURCES CO	DRY	HAT MESA	MORROW	1,794	436,174	9,452		1/1/2007	7/24/2007	12/5/2007
81	30-025-27603-0000	NORTH BILBRY`7`FDRL 1	GETTY OIL CO	SUSGAS	SALT LAKE SOUTH	MORROW	2,163	240,895			3/1/1981	8/31/1981	3/16/1982
82	30-025-27373-0000	NORTH BLBRY`18`FDRL 1	GETTY OIL CO	SUSGAS	SALT LAKE SOUTH	MORROW	2,672	41,726			4/1/1981	4/22/1981	8/4/1981
83	30-015-26296-0000	NORTH PURE GOLD `8` 1	SANTA FE ENR OP PRTN	GAS	SAND DUNES WEST	MORROW	2,366	8,461,760	2,850		3/1/1990	3/24/1990	7/7/1990
84	30-015-23587-0000	POKER LK`32`STATE 1	INTERNORTH INC	DRY	SAND DUNES WEST	MORROW	188	2,390,460	3,397		1/1/1981	2/4/1981	3/27/1983
85	30-025-24404-0000	PUBCO FEDERAL 001	AMINI OIL OPERATIONS	DRY	SALT LAKE SOUTH	MORROW	34,377	1,744,733	4,179		3/1/1973	3/31/1973	6/16/1973
86	30-025-36505-0000	PUBCO FEDERAL COM 2	SAMSON RESOURCES CO	GAS	HAT MESA	MORROW	24,943	2,125,752	5,860		10/1/2003	12/28/2003	4/7/2004
87	30-015-23175-0000	PURE GOLD `A` FEDER 001	COQUINA OIL CORP	DRY	SAND DUNES WEST	MORROW	344	3,489,215	79,136		8/1/1980	8/12/1980	1/20/1981
88	30-015-27270-0000	PURE GOLD `B` FEDER 2	ENRON OIL & GAS CO	GAS	SAND DUNES WEST	MORROW	8,046	3,747,028	93,951		9/1/1992	12/29/1992	4/4/1993
89	30-015-23992-0000	PURE GOLD`C`FEDERAL 1	COQUINA OIL CORP	SUSGAS	SAND DUNES WEST	MORROW	49	670,817	5,072		1/1/1982	1/31/1982	9/28/1982
90	30-025-35260-0000	RED TANK `23N` FEDE 1	EOG RESOURCES INC	GAS	RED TANK EAST	MORROW	4,223	2,468,641	1,740		11/1/2000	1/9/2001	3/22/2001
91	30-025-35035-0000	RED TANK `24` FEDER 1	EOG RESOURCES INC	GAS	BOOTLEG RIDGE	MORROW	4,353	9,318,801	53,569		5/1/2000	6/26/2000	9/30/2000
92	30-025-31720-0001	RED TANK `34` FEDER 1	POGO PRODUCING CO	GAS	DIAMONDTAIL NORTH	MORROW	207	97,619	534		7/1/1996	8/7/1996	10/11/1996
93	30-015-31774-0000	REMUDA BASIN `31` S 001	BASS ENTRPRS PROD CO	DRY	DOG TOWN DRAW	MORROW	16	1,091,131	22,645		5/1/2001	6/10/2001	9/27/2001
94	30-025-27492-0000	SALT LKE SOUTH DEEP 1	HOLLY ENERGY INC	GAS	SALT LAKE SOUTH	MORROW	16,391	3,398,459	21,898		8/1/1981	8/13/1981	2/4/1982
95	30-015-21126-0001	SANDY UNIT 001	PHILLIPS PETRLM CO	GAS	NASH	MORROW	65	613,737			1/1/1975	2/7/1975	2/13/1975
96	30-025-27136-0000	STATE `IG` COM 1	AMOCO PROD CO	SUSGAS	TRISTE DRAW WEST	MORROW		44,318			12/1/1980	1/10/1981	6/29/1981
97	30-015-25639-0000	STERLING SILVER `33 1	SANTA FE ENERGY CO	GAS	SAND DUNES WEST	MORROW	531	8,092,286	2,993		7/1/1986	7/28/1986	1/11/1987
98	30-015-25696-0000	STERLING SILVER `33 2	SANTA FE ENERGY CO	GAS	SAND DUNES WEST	MORROW	89	2,575,479	16,410		12/1/1986	12/22/1986	4/17/1987
99	30-015-33975-0000	STERLING SILVER 33 009	POGO PRODUCING CO	GAS	SAND DUNES WEST	MORROW	16,084	203,314	16,278		2/1/2005	6/30/2005	1/5/2006
100	30-015-25773-0000	STERLING SILVER 34 001	SANTA FE ENR OP PRTN	DRY	SAND DUNES WEST	MORROW	34	935,468	18,699		7/1/1987	8/12/1987	11/20/1987
101	30-015-21229-0000	TODD /25/ FED 1-X	SKELLY OIL CO	GAS	SAND DUNES	MORROW	96	768,688	367		5/1/1974	5/17/1974	4/10/1975
102	30-015-35076-0000	TODD 23A FEDERAL 038	DEVON ENERGY PRODUCT	DRY	SAND DUNES	MORROW	11	813,043	1,141		8/1/2006	11/10/2006	4/15/2007
103	30-015-24257-0000	TODD FEDERAL `23` 3	TEXAS AMERICAN OIL	GAS	SAND DUNES	MORROW	160	615,601	35		8/1/1982	9/3/1982	2/5/1983
104	30-015-20341-0000	TODD-STATE 36 1	TEXAS AMERICAN OIL	GAS	SAND DUNES	MORROW	1,508	1,787,082	5,247		10/1/1970	11/6/1970	3/18/1971
105	30-025-33801-0000	TOMCAT `15` FEDERAL 1	PENWELL ENERGY INC	GAS	TRISTE DRAW NORTH	MORROW	1,217	3,201,710	11,361		11/1/1996	2/12/1997	8/10/1997
106	30-025-33356-0000	TOMCAT FED 21 COM 001	PENWELL ENERGY INC	DRY	TRISTE DRAW NORTH	MORROW	412	335,457			3/1/1996	3/31/1996	1/14/1997
107	30-025-36336-0000	TORY 3 FEDERAL 1	BASS ENTRPRS PROD CO	GAS	HAT MESA	MORROW	115	10,085	15		7/1/2003	7/23/2003	10/21/2003
108	30-025-27280-0000	UNION FEDERAL 1	FRANKS PETROLEUM INC	DRY	HAT MESA	MORROW	1,947	425,123	267		6/1/1981	7/2/1981	12/11/1981
		MORROW TOTAL					**1,938,169**	**270,172,616**	**3,620,818**	**0**			
		MORROW AVERAGE					**18,636**	**2,501,598**	**35,498**				
		MORROW MAX					**232,789**	**11,773,184**	**635,026**				
1	30-015-27587-0002	APACHE `24` FEDERAL 1	MITCHELL ENERGY CORP	GAS	LOS MEDANOS NORTH	STRAWN	18,697	2,238,592	15,027		5/1/1996	5/18/1996	5/22/1996
2	30-015-27434-0002	APACHE 13 FEDERAL 1	DEVON ENERGY PRODUCT	GAS	LOS MEDANOS	STRAWN	146	6,463	90		5/1/2007	5/25/2007	7/9/2007
3	30-025-35512-0001	BOOTLEG 24 FEDERAL 1	OXY U S A INC	GAS	BOOTLEG RIDGE	STRAWN	300	4,057	328		11/1/2010	11/30/2010	4/27/2011
4	30-025-27772-0002	CONNALLY FEDERAL 1	MERCURY EXPL CO	GAS	RED TANK EAST	PENNSYLVANIAN	403	497,862	2,122		2/1/1991	3/5/1991	3/15/1991
5	30-025-08123-0000	FEDERAL WL26 3	GENE A SNOW	DRY	TRISTE DRAW	RAMSEY	23,965	6,530	19,449		3/1/1962	3/26/1962	4/9/1962
6	30-025-08124-0000	FEDERAL WL26 4	GENE A SNOW	DRY	TRISTE DRAW	RAMSEY	47,528	27,644	42,248		3/1/1962	4/5/1962	4/16/1962
7	30-025-08132-0000	FEDERAL WL35 1	GENE A SNOW	DRY	TRISTE DRAW	RAMSEY	47,374	27,700	145,454		2/1/1962	3/7/1962	3/29/1962
8	30-025-08133-0000	FEDERAL WL35 2	GENE A SNOW	DRY	TRISTE DRAW	RAMSEY	24,134	9,021	33,115		3/1/1962	3/16/1962	3/29/1962
9	30-015-20996-0000	JAMES /E/ 1	PHILLIPS PETRLM CO	O&G	CABIN LAKE	STRAWN	131,766	2,900,041	2,552,819		10/1/1973	10/24/1973	6/3/1974
10	30-015-10806-0000	JAMES A 1	PHILLIPS PETRLM CO	OIL	CABIN LAKE	STRAWN	198,698	5,059,568	1,773,627		6/1/1966	6/13/1966	2/13/1967
11	30-015-24780-0002	JAMES RANCH UNIT 15	BOPCO LP	SUSGAS	LOS MEDANOS	STRAWN		216,979	5,248		5/1/2010	2/11/2010	3/6/2010
12	30-015-20232-0001	JAMES RANCH UNIT 3	BELCO PET NRTH AMER	GAS	LOS MEDANOS	STRAWN	24,523	3,029,425	251,271		12/1/1971	1/1/1972	12/8/1972
13	30-015-37616-0100	N PURE GOLD `9` FED 18H	DEVON ENERGY PRODUCT	DRY	UNNAMED	STRAWN	25,695	367,189	99,498		2/1/2010	3/23/2011	6/11/2011
14	30-015-37651-0000	NORTH PURE GOLD `8` 013H	DEVON ENERGY PRODUCT	GAS	UNNAMED	PENNSYLVANIAN	40,768	623,774	97,853		2/1/2010	7/16/2010	11/26/2010
15	30-015-20298-0000	TODD-FEDERAL `14` 1	TEXAS AMERICAN OIL	GAS	SAND DUNES	PENNSYLVANIAN	117,473	385,263	241,551		5/1/1970	6/8/1970	12/9/1970
		MIXED TOTAL					**701,470**	**15,400,108**	**5,279,700**	**0**			
		MIXED AVERAGE					**50,105**	**1,026,674**	**351,980**				
		MIXED MAX					**198,698**	**5,059,568**	**2,552,819**				
1	30-025-49482-0000	ANDERSON FED COM 701H	ADVANCE ENERGY PRTR	OIL	RED TANK	WOLFCAMP	177,704	171,779	457,737		10/1/2021	10/25/2021	5/1/2022
2	30-025-49658-0000	ANDERSON FED COM 702H	ADVANCE ENERGY PRTR	OIL	BOOTLEG RIDGE NW	WOLFCAMP	82,886	182,616	363,045		10/1/2021	11/1/2021	5/1/2022
3	30-025-49484-0000	ANDERSON FED COM 705H	ADVANCE ENERGY PRTR	OIL	SWD	WOLFCAMP	67,184	230,601	544,163		10/1/2021	3/29/2022	5/2/2022

Russell K. Hall and Associates, Inc.
Reservoir Evaluation Engineers
3/15/2023

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
4	30-025-49483-0000	ANDERSON FEDERAL CO 703H	ADVANCE ENERGY PRTR	OIL	UNNAMED	WOLFCAMP	87,071	178,407	446,422		10/1/2021	10/25/2021	5/4/2022
5	30-025-46532-0000	ANDERSON FEDERAL CO 704H	ADVANCE ENERGY PRTR	OIL	UNNAMED	WOLFCAMP	320,183	406,621	465,836		11/1/2019	11/5/2020	4/1/2021
6	30-015-27434-0001	APACHE `13` FEDERAL 1	MITCHELL ENERGY CORP	GAS	LOS MEDANOS NORTH	WOLFCAMP	11,575	832,217	760		4/1/1999	4/27/1999	5/2/1999
7	30-015-27478-0001	APACHE `25` FEDERAL 2	MITCHELL ENERGY CORP	GAS	LOS MEDANOS	WOLFCAMP	19,942	445,708	10,760		2/1/1994	3/2/1994	4/18/1994
8	30-015-32720-0000	APACHE 25 FEDERAL 5	DEVON ENERGY PRODUCT	SUSOIL	LOS MEDANOS	WOLFCAMP	8,715	17,831	1,863		3/1/2003	3/31/2003	5/29/2003
9	30-015-32797-0000	APACHE 25 FEDERAL 9	DEVON ENERGY PRODUCT	OIL	QUAHADA RIDGE SE	WOLFCAMP	218,833	400,753	321,001		5/1/2003	6/9/2003	7/22/2003
10	30-025-46352-0000	AZTEC 14 23 WCB FED 004H	EARTHSTONE OPER LLC	OIL	UNNAMED	WOLFCAMP	87,911	113,415	115,127		8/1/2019	7/31/2021	10/1/2022
11	30-025-48323-0000	BEDLINGTON FEDERAL 701H	COG OPERATING LLC	OIL	TRISTE DRAW	WOLFCAMP	209,171	467,280	460,156		12/1/2020	12/13/2021	8/1/2022
12	30-025-48324-0000	BEDLINGTON FEDERAL 702H	COG OPERATING LLC	OIL	TRISTE DRAW	WOLFCAMP	220,582	523,577	512,793		12/1/2020	3/28/2022	8/1/2022
13	30-025-48325-0000	BEDLINGTON FEDERAL 703H	COG OPERATING LLC	OIL	TRISTE DRAW	WOLFCAMP	199,946	469,761	461,263		12/1/2020	5/9/2022	8/1/2022
14	30-015-46764-0000	BELLOQ 11 2 FED STA 714H	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	WOLFCAMP	605,091	1,730,619	1,338,220		2/1/2020	3/9/2020	9/3/2020
15	30-015-46758-0000	BELLOQ 11 2 FED STA 733H	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	WOLFCAMP	200,646	1,024,473	605,271		2/1/2020	4/15/2021	7/11/2021
16	30-015-46756-0000	BELLOQ 11 2 FED STA 734H	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	WOLFCAMP	549,364	1,697,508	1,040,371		2/1/2020	3/8/2020	9/2/2020
17	30-015-47285-0000	BELLOQ 11-2 FED STA 611H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RDG S	WOLFCAMP	68,372	170,184	246,269		2/1/2020	8/22/2022	11/1/2022
18	30-015-47286-0000	BELLOQ 11-2 FED STA 701H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RDG S	WOLFCAMP	80,426	201,649	200,399		5/1/2020	5/20/2022	11/1/2022
19	30-015-46763-0000	BELLOQ 11-2 FED STA 702H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RDG S	WOLFCAMP	33,241	94,257	119,463		2/1/2020	5/23/2022	11/1/2022
20	30-015-46757-0000	BELLOQ 11-2 FED STA 713H	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	WOLFCAMP	587,840	1,622,243	1,127,504		2/1/2020	3/11/2020	9/4/2020
21	30-015-47284-0000	BELLOQ 11-2 FED STA 811H	DEVON ENERGY PRODUCT	OIL	LIVINGSTON RDG S	WOLFCAMP	50,390	194,548	207,331		5/1/2020	9/7/2022	11/1/2022
22	30-015-42895-0000	BELLOQ 2 STATE 2H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	266,505	790,690	790,471		1/1/2015	3/9/2015	10/5/2015
23	30-025-48170-0000	BILBREY 34-27 W00B 002H	MEWBOURNE OIL CO	OIL	BOOTLEG RIDGE NW	WOLFCAMP	378,149	768,341	1,305,875		12/1/2020	1/1/2021	5/5/2021
24	30-025-46262-0000	BILBREY 34-27 W0MD 001H	MEWBOURNE OIL CO	OIL	UNNAMED	WOLFCAMP	607,435	1,161,641	1,660,167		7/1/2019	8/2/2019	12/18/2019
25	30-025-46261-0000	BILBREY 34-27 W0NC 001H	MEWBOURNE OIL CO	OIL	UNNAMED	WOLFCAMP	512,381	1,034,190	1,678,899		7/1/2019	9/10/2019	12/18/2019
26	30-025-46277-0000	BILBREY 34-27 W0PA 001H	MEWBOURNE OIL CO	OIL	UNNAMED	WOLFCAMP	333,760	667,364	1,439,267		7/1/2019	12/1/2020	5/4/2021
27	30-025-45008-0000	BILBREY 34-27 W2PA 001H	MEWBOURNE OIL CO	GAS	UNNAMED	WOLFCAMP	346,701	1,100,323	3,360,048		7/1/2018	9/16/2018	12/19/2018
28	30-025-47706-0000	BOUNDARY RAIDER 6-1 712H	DEVON ENERGY OPER	OIL	SAND DUNES	WOLFCAMP	793,401	2,314,128	1,256,309		8/1/2020	12/5/2020	7/13/2021
29	30-025-47570-0000	BOUNDARY RAIDER 6-7 612H	DEVON ENERGY PRODUCT	OIL	SWD	WOLFCAMP	482,192	1,314,871	920,429		8/1/2020	12/6/2020	7/13/2021
30	30-025-47571-0000	BOUNDARY RAIDER 6-7 711H	DEVON ENERGY PRODUCT	OIL	SWD	WOLFCAMP	429,072	1,225,274	798,140		8/1/2020	12/11/2020	7/8/2021
31	30-015-44269-0100	CAL-MON `35` FEDERA 171H	OXY U S A INC	OIL	INGLE WELLS	WOLFCAMP	307,602	979,029	690,909		6/1/2017	7/22/2017	11/3/2017
32	30-015-45521-0000	CAL-MON `35` FEDERA 172H	OXY U S A INC	OIL	INGLE WELLS	WOLFCAMP	219,826	959,256	402,195		11/1/2018	1/4/2019	4/8/2019
33	30-015-45522-0000	CAL-MON `35` FEDERA 173H	OXY U S A INC	OIL	INGLE WELLS	WOLFCAMP	249,312	839,402	464,389		11/1/2018	1/2/2019	4/6/2019
34	30-015-45523-0000	CAL-MON `35` FEDERA 174H	OXY U S A INC	OIL	INGLE WELLS	WOLFCAMP	297,687	1,050,263	402,297		11/1/2018	1/6/2019	4/7/2019
35	30-015-45525-0100	CAL-MON `35` FEDERA 176H	OXY U S A INC	OIL	INGLE WELLS	WOLFCAMP	289,073	833,378	522,268		11/1/2018	2/6/2019	3/27/2019
36	30-025-48484-0000	CATTY SHACK 6-7 FED 621H	DEVON ENERGY PRODUCT	OIL	TRISTE DRAW WEST	WOLFCAMP	438,465	1,306,632	918,219		12/1/2020	5/5/2021	8/1/2021
37	30-025-48485-0000	CATTY SHACK 6-7 FED 623H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	WOLFCAMP	436,494	1,354,249	883,468		12/1/2020	4/7/2021	8/24/2021
38	30-025-48486-0000	CATTY SHACK 6-7 FED 711H	DEVON ENERGY PRODUCT	OIL	TRISTE DRAW WEST	WOLFCAMP	425,482	1,402,752	698,127		12/1/2020	5/4/2021	8/18/2021
39	30-025-48487-0100	CATTY SHACK 6-7 FED 713H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	WOLFCAMP	448,640	1,491,734	766,623		12/1/2020	4/19/2021	8/22/2021
40	30-025-44554-0000	CORTELL NINA FEDERA 201H	MATADOR PROD CO	OIL	UNNAMED	WOLFCAMP	206,334	572,131	482,633		2/1/2018	9/5/2018	12/22/2018
41	30-025-26844-0002	CUERVO FEDERAL 001	STRATA PRODUCTION CO	CONWIW	SWD	WOLFCAMP				2,783,098	7/1/1991	8/8/1991	2/20/1992
42	30-025-49147-0100	DR PI FED UNIT 17-8 031H	OXY U S A INC	OIL	LIVINGSTON RDG E	WOLFCAMP	273,586	502,348	251,194		5/1/2021	5/26/2022	8/29/2022
43	30-025-49148-0000	DR PI FED UNIT 17-8 032H	OXY U S A INC	OIL	LIVINGSTON RDG E	WOLFCAMP	321,660	701,922	287,881		5/1/2021	1/29/2022	8/29/2022
44	30-025-48024-0000	DR PI FED UNIT 18 7 032H	OXY U S A INC	OIL	LIVINGSTON RDG E	WOLFCAMP	220,567	533,513	305,620		11/1/2020	2/6/2022	9/16/2022
45	30-025-48160-0000	DR PI FEDERAL UNIT 031H	OXY U S A INC	OIL	LIVINGSTON RDG E	WOLFCAMP	245,244	552,951	295,821		11/1/2020	2/10/2022	9/16/2022
46	30-025-48951-0000	DR PI FEDERAL UNIT 034H	OXY U S A INC	OIL	LIVINGSTON RIDGE	WOLFCAMP	250,730	499,298	391,143		4/1/2021	1/22/2022	8/16/2022
47	30-025-48025-0000	DR PI FEDERAL UNIT 034H	OXY U S A INC	OIL	LIVINGSTON RDG E	WOLFCAMP	265,948	579,749	330,714		11/1/2020	2/2/2022	9/12/2022
48	30-015-44578-0000	FNR 17-20 W2IP FEDE 003H	MEWBOURNE OIL CO	GAS	PURPLE SAGE	WOLFCAMP	320,933	1,813,453	972,084		11/1/2017	12/13/2017	8/7/2018
49	30-015-49453-0000	FNR FED UNIT 018H	MEWBOURNE OIL CO	OIL	NASH DRAW	WOLFCAMP	35,070	62,491	162,880		4/1/2022	4/24/2022	11/1/2022
50	30-015-49485-0000	FNR FEDERAL UNIT 021H	MEWBOURNE OIL CO	OIL	NASH DRAW	WOLFCAMP	55,455	100,762	208,921		4/1/2022	5/15/2022	11/1/2022
51	30-015-44654-0000	FORTY NINER RIDGE U 109H	MEWBOURNE OIL CO	GAS	FORTY NINER RIDGE	WOLFCAMP	203,959	360,240	502,232		1/1/2018	6/28/2021	1/1/2022
52	30-015-47441-0000	FORTY NINER RIDGE U 113H	MEWBOURNE OIL CO	GAS	PURPLE SAGE	WOLFCAMP	220,301	566,285	612,503		8/1/2020	7/23/2021	1/19/2022
53	30-015-47452-0000	FORTY NINER RIDGE U 114H	MEWBOURNE OIL CO	GAS	PURPLE SAGE	WOLFCAMP	322,739	706,644	848,623		9/1/2020	7/20/2021	2/19/2022
54	30-015-47443-0000	FORTY NINER RIDGE U 115H	MEWBOURNE OIL CO	GAS	PURPLE SAGE	WOLFCAMP	358,881	833,953	1,092,056		8/1/2020	7/17/2021	1/1/2022
55	30-015-48177-0000	FORTY NINER RIDGE U 116H	MEWBOURNE OIL CO	GAS	PURPLE SAGE	WOLFCAMP	190,746	413,497	893,659		4/1/2021	7/23/2021	1/19/2022
56	30-025-45890-0000	FRIZZLE FRY 15 WA F 002H	MARATHON OIL PERMIAN	OIL	UNNAMED	WOLFCAMP	213,854	562,968	420,519		3/1/2019	8/16/2019	3/31/2020
57	30-025-45892-0100	FRIZZLE FRY 15 WXY 007H	MARATHON OIL PERMIAN	GAS	LIVINGSTON RDG E	WOLFCAMP	173,312	292,577	249,251		9/1/2019	10/7/2019	3/31/2020
58	30-015-45076-0100	IRIDIUM MDP1 `28-21 171H	OXY U S A INC	OIL	UNNAMED	WOLFCAMP	529,001	1,015,654	1,402,406		6/1/2018	9/19/2018	12/1/2018
59	30-015-45249-0000	IRIDIUM MDP1 `28-21 173H	OXY U S A INC	OIL	UNNAMED	WOLFCAMP	463,917	875,001	951,926		8/1/2018	7/20/2019	1/10/2020
60	30-015-45333-0000	IRIDIUM MDP1 `28-21 175H	OXY U S A INC	OIL	PURPLE SAGE	WOLFCAMP	701,089	1,430,234	1,472,362		9/1/2018	8/30/2019	1/22/2020
61	30-015-45334-0000	IRIDIUM MDP1 28-21 176H	OXY U S A INC	OIL	UNNAMED	WOLFCAMP	753,140	1,727,198	1,114,806		9/1/2018	8/29/2019	1/22/2020
62	30-015-42756-0000	JAMES RANCH UNIT 146H	BOPCO LP	OIL	LOS MEDANOS SOUTH	WOLFCAMP	504,331	1,187,216	630,983		10/1/2014	8/17/2017	11/27/2017
63	30-015-27995-0000	JAMES RANCH UNIT 65	BASS ENTRPRS PROD CO	OIL	LOS MEDANOS	WOLFCAMP	153,152	357,569	87,484		7/1/1996	7/18/1996	9/2/1996
64	30-015-28979-0000	JAMES RANCH UNIT 73	ENRON OIL & GAS CO	OIL	LOS MEDANOS	WOLFCAMP	114,025	325,460	189,744		6/1/1996	6/29/1996	10/26/1996
65	30-015-29173-0000	JAMES RANCH UNIT 76	ENRON OIL & GAS CO	OIL	EDDY UNDESIGNATED	WOLFCAMP	34,282	107,353	15,098		9/1/1996	9/29/1996	10/25/1996
66	30-015-46663-0100	JAMES RANCH UNIT DI 110H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS SOUTH	WOLFCAMP	546,343	1,548,860	537,873		3/1/2020	4/1/2020	5/20/2021
67	30-015-45466-0000	JAMES RANCH UNIT DI 111H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	WOLFCAMP	357,996	937,723	779,936		10/1/2018	12/9/2019	5/25/2021
68	30-015-46753-0000	JAMES RANCH UNIT DI 111H	XTO PERMIAN OPER LLC	JNK	LOS MEDANOS SOUTH	WOLFCAMP	444,196	1,511,304	555,026		2/1/2020	4/9/2020	12/30/2020
69	30-015-49039-0000	JAMES RANCH UNIT DI 112H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS SOUTH	WOLFCAMP	68,800	134,951	294,004		7/1/2021	11/26/2021	10/1/2022
70	30-015-45467-0000	JAMES RANCH UNIT DI 112H	XTO PERMIAN OPER LLC	GAS	LOS MEDANOS	WOLFCAMP	313,088	914,974	748,334		10/1/2018	2/15/2020	5/29/2021
71	30-015-49033-0000	JAMES RANCH UNIT DI 113H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS SOUTH	WOLFCAMP	101,140	162,277	265,439		9/1/2021	1/1/2022	10/1/2022
72	30-015-45616-0000	JAMES RANCH UNIT DI 113H	XTO PERMIAN OPER LLC	GAS	LOS MEDANOS	WOLFCAMP	364,415	1,080,108	573,859		8/1/2018	4/14/2020	5/27/2021
73	30-015-49124-0000	JAMES RANCH UNIT DI 114H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS SOUTH	WOLFCAMP	117,060	238,456	311,292		9/1/2021	1/18/2022	10/1/2022
74	30-015-45615-0000	JAMES RANCH UNIT DI 114H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	WOLFCAMP	316,851	934,713	1,048,991		8/1/2018	6/2/2020	3/13/2021
75	30-015-47514-0000	JAMES RANCH UNIT DI 115H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	WOLFCAMP	365,236	1,022,195	957,844		9/1/2020	10/9/2020	3/12/2021
76	30-015-49040-0000	JAMES RANCH UNIT DI 121H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS SOUTH	WOLFCAMP	81,671	172,854	235,175		7/1/2021	11/22/2021	10/1/2022
77	30-015-46377-0000	JAMES RANCH UNIT DI 251H	XTO PERMIAN OPER LLC	OIL	UNNAMED	WOLFCAMP	391,431	864,777	1,391,002		8/1/2019	1/12/2020	11/12/2020
78	30-015-49038-0000	JAMES RANCH UNIT DI 821H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS SOUTH	WOLFCAMP	61,631	90,151	169,035		7/1/2021	11/26/2021	11/1/2022
79	30-015-49034-0000	JAMES RANCH UNIT DI 904H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS SOUTH	WOLFCAMP	62,577	132,991	173,876		9/1/2021	4/8/2022	11/1/2022
80	30-015-45617-0000	JAMES RANCH UNIT DI 904H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS	WOLFCAMP	329,735	936,536	971,118		8/1/2018	7/5/2020	3/14/2021
81	30-015-49032-0000	JAMES RANCH UNIT DI 905H	XTO PERMIAN OPER LLC	OIL	LOS MEDANOS SOUTH	WOLFCAMP	69,574	139,605	323,842		9/1/2021	3/1/2022	10/1/2022
82	30-015-28093-0002	LLAMA `ALL` FEDERAL 1	YATES PETROLEUM CORP	GAS	LOS MEDANOS NORTH	WOLFCAMP	1,115	19,728	579		10/1/1999	11/6/1999	11/21/1999
83	30-015-35354-0000	LOST TANK `3` FED D 23	POGO PRODUCING CO	GAS	LOST TANK	WOLFCAMP	323,320	4,375,311	45,234		3/1/2006	1/31/2007	3/31/2007
84	30-025-45182-0000	LOST TANK `30-19` F 031H	OXY U S A INC	OIL	UNNAMED	WOLFCAMP	731,961	2,101,391	1,148,081		8/1/2018	9/13/2018	11/28/2018
85	30-015-40774-0100	LOST TANK `4` FEDER 022	OXY U S A INC	DRY	LOST TANK	WOLFCAMP	711	5,902	6,938		12/1/2012	1/5/2013	6/12/2015
86	30-015-40775-0000	LOST TANK `4` FEDER 23	OXY U S A INC	GAS	LOST TANK	WOLFCAMP	41,521	1,568,022	42,998		9/1/2012	12/21/2012	12/29/2014
87	30-015-34918-0000	LOST TANK 4 FEDERAL 20	POGO PRODUCING CO	GAS	LOST TANK	WOLFCAMP	581,700	7,258,372	133,828		3/1/2006	7/19/2006	11/27/2006
88	30-025-44848-0000	MINIS 1 FEDERAL COM 005H	CHISHOLM ENERGY OPER	OIL	UNNAMED	WOLFCAMP	337,479	500,524	868,871		5/1/2018	9/18/2020	11/23/2020
89	30-025-44851-0000	MINIS 1 FEDERAL COM 010H	CHISHOLM ENERGY OPER	OIL	HAT MESA	WOLFCAMP	111,246	170,302	423,913		5/1/2018	7/3/2019	10/21/2019
90	30-025-44853-0000	MINIS 1 FEDERAL COM 016H	CHISHOLM ENERGY OPER	OIL	HAT MESA	WOLFCAMP	178,031	193,106	437,740		5/1/2018	8/23/2019	10/21/2019
91	30-015-45503-0000	NASH UNIT 401H	XTO ENERGY INC	OIL	PURPLE SAGE	WOLFCAMP	414,839	968,862	1,677,404		11/1/2018	1/27/2019	1/6/2020
92	30-015-45504-0000	NASH UNIT 402H	XTO ENERGY INC	OIL	UNNAMED	WOLFCAMP	436,856	974,569	2,021,313		11/1/2018	2/21/2019	2/14/2020
93	30-015-46586-0000	NASH UNIT 403H	XTO ENERGY INC	OIL	UNNAMED	WOLFCAMP	270,662	674,620	1,039,158		10/1/2019	5/21/2020	4/27/2021
94	30-015-45505-0000	NASH UNIT 404H	XTO ENERGY INC	OIL	REMUDA	WOLFCAMP	431,780	985,706	1,218,715		11/1/2018	3/27/2020	5/15/2021
95	30-025-27373-0001	NORTH BILBREY `18` 1	GETTY OIL CO	GAS	BILBREY	WOLFCAMP	23,795	19,010	630		3/1/1982	4/3/1982	5/11/1982
96	30-015-34594-0001	NORTH PURE GOLD 8 F 010	DEVON ENERGY PRODUCT	SUSGAS	LOS MEDANOS	WOLFCAMP	37,500	392,956	23,339		12/1/2008	12/16/2008	1/16/2009
97	30-025-47169-0000	PEGASUS 3 FED COM 765H	EOG RESOURCES INC	OIL	TRISTE DRAW	WOLFCAMP	112,336	643,801	603,023		3/1/2020	2/16/2022	7/1/2022
98	30-025-47258-0000	PEGASUS 3 FEDERAL C 701H	EOG RESOURCES INC	OIL	DOUBLE X	WOLFCAMP	293,297	666,425	290,331		3/1/2020	3/3/2022	7/1/2022
99	30-025-47259-0000	PEGASUS 3 FEDERAL C 705H	EOG RESOURCES INC	OIL	TRISTE DRAW	WOLFCAMP	216,690	528,000	250,508		3/1/2020	3/10/2022	7/1/2022
100	30-025-47260-0000	PEGASUS 3 FEDERAL C 706H	EOG RESOURCES INC	OIL	TRISTE DRAW	WOLFCAMP	202,756	531,218	245,640		3/1/2020	2/16/2022	7/1/2022
101	30-025-47229-0000	PEGASUS 3 FEDERAL C 712H	EOG RESOURCES INC	OIL	UNNAMED	WOLFCAMP	326,575	858,907	345,024		3/1/2020	3/8/2022	7/1/2022
102	30-025-47235-0000	PEGASUS 3 FEDERAL C 742H	EOG RESOURCES INC	OIL	UNNAMED	WOLFCAMP	187,130	865,922	620,103		3/1/2020	2/18/2022	7/1/2022
103	30-015-45230-0000	PLATINUM MDP1 `34-3 171H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	452,064	1,550,924	1,019,637		8/1/2018	5/31/2019	10/4/2019
104	30-015-45232-0000	PLATINUM MDP1 `34-3 174H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	518,009	1,718,008	1,046,648		8/1/2018	6/4/2019	9/18/2019
105	30-015-45251-0000	PLATINUM MDP1 `34-3 175H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	418,646	1,213,125	1,304,428		8/1/2018	5/29/2019	9/16/2019

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
106	30-015-45233-0000	PLATINUM MDP1 `34-3 176H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	439,396	1,635,846	879,387		8/1/2018	5/28/2019	9/19/2019
107	30-015-46046-0000	PLATINUM MDP1 `34-3 177H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	403,755	1,147,099	1,440,181		5/1/2019	6/8/2019	9/18/2019
108	30-015-26021-0001	PURE GOLD C-17 FEDE 2	DEVON ENERGY PRODUCT	GAS	SAND DUNES WEST	WOLFCAMP	696	40,629	236		6/1/2007	8/30/2007	10/6/2007
109	30-015-45780-0200	PURE GOLD MDP `29-1 175H	OXY U S A INC	OIL	UNNAMED	WOLFCAMP	183,057	464,646	379,995		2/1/2019	1/19/2022	4/20/2022
110	30-015-45716-0000	PURE GOLD MDP1 `29 171H	OXY U S A INC	OIL	SAND DUNES WEST	WOLFCAMP	323,511	729,880	573,941		1/1/2019	3/11/2020	4/4/2022
111	30-015-45717-0000	PURE GOLD MDP1 `29 172H	OXY U S A INC	OIL	SAND DUNES WEST	WOLFCAMP	211,843	453,618	675,834		1/1/2019	3/9/2020	4/1/2022
112	30-015-45718-0000	PURE GOLD MDP1 `29 173H	OXY U S A INC	OIL	SAND DUNES WEST	WOLFCAMP	172,333	408,065	352,324		1/1/2019	12/23/2021	4/25/2022
113	30-015-45740-0000	PURE GOLD MDP1 `29- 174H	OXY U S A INC	OIL	UNNAMED	WOLFCAMP	260,343	602,583	652,399		1/1/2019	12/27/2021	4/25/2022
114	30-015-44400-0000	REMUDA NORTH 30 STA 111H	XTO ENERGY INC	OIL	PURPLE SAGE	WOLFCAMP	308,843	1,200,130	1,373,725		8/1/2017	8/25/2018	5/20/2019
115	30-015-44402-0000	REMUDA NORTH 30 STA 121H	XTO ENERGY INC	OIL	PURPLE SAGE	WOLFCAMP	348,314	1,374,283	1,227,192		8/1/2017	9/10/2018	4/2/2019
116	30-015-44401-0000	REMUDA NORTH 30 STA 122H	XTO ENERGY INC	OIL	PURPLE SAGE	WOLFCAMP	389,951	1,610,880	1,473,313		8/1/2017	8/12/2018	4/19/2019
117	30-015-44413-0000	REMUDA NORTH 31 STA 113H	XTO ENERGY INC	OIL	UNNAMED	WOLFCAMP	399,614	1,432,118	1,636,136		9/1/2017	8/12/2018	6/6/2019
118	30-015-44414-0000	REMUDA NORTH 31 STA 123H	XTO ENERGY INC	OIL	UNNAMED	WOLFCAMP	314,418	1,269,259	1,111,197		9/1/2017	6/25/2018	6/6/2019
119	30-015-44415-0000	REMUDA NORTH 31 STA 124H	XTO ENERGY INC	OIL	UNNAMED	WOLFCAMP	379,404	1,417,691	1,439,932		9/1/2017	9/24/2018	6/6/2019
120	30-015-45310-0000	REMUDA NORTH 31 STA 164H	XTO ENERGY INC	GAS	UNNAMED	WOLFCAMP	472,256	3,762,726	1,352,670		10/1/2018	11/5/2018	8/14/2019
121	30-025-48448-0000	RIGHT MEOW 30-31 FE 621H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	WOLFCAMP	282,400	802,677	480,344		1/1/2021	12/8/2021	5/1/2022
122	30-025-48449-0000	RIGHT MEOW 30-31 FE 622H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	WOLFCAMP	305,223	907,220	549,780		12/1/2020	1/13/2022	5/1/2022
123	30-025-48459-0000	RIGHT MEOW 30-31 FE 626H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	WOLFCAMP	619,581	1,858,291	857,809		12/1/2020	4/14/2021	9/20/2021
124	30-025-48450-0000	RIGHT MEOW 30-31 FE 711H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	WOLFCAMP	284,549	847,832	416,115		1/1/2021	12/6/2021	5/1/2022
125	30-025-48451-0000	RIGHT MEOW 30-31 FE 712H	DEVON ENERGY PRODUCT	OIL	SAND DUNES	WOLFCAMP	303,403	881,099	476,980		12/1/2020	1/12/2022	5/1/2022
126	30-025-48460-0000	RIGHT MEOW 31-6 FED 716H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	512,863	1,690,887	730,855		12/1/2020	4/13/2021	9/18/2021
127	30-025-48491-0000	RIGHT MEOW 31-7 FED 627H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	WOLFCAMP	572,981	1,749,856	1,071,563		12/1/2020	3/1/2021	9/1/2021
128	30-025-48492-0000	RIGHT MEOW 31-7 FED 717H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	529,275	1,690,556	920,616		12/1/2020	2/28/2021	9/1/2021
129	30-015-45387-0000	STERLING SILVER MDP 008H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	369,554	945,821	1,146,250		10/1/2018	1/28/2019	10/21/2019
130	30-015-45336-0000	STERLING SILVER MDP 171H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	476,182	1,395,205	1,609,991		10/1/2018	6/10/2019	11/1/2019
131	30-015-45337-0100	STERLING SILVER MDP 172H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	596,559	2,398,438	1,345,956		8/1/2019	8/28/2019	11/1/2019
132	30-015-45388-0000	STERLING SILVER MDP 175H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	580,875	1,845,660	1,814,101		10/1/2018	7/6/2019	10/14/2019
133	30-015-46047-0000	STERLING SILVER MDP 177H	OXY U S A INC	GAS	PURPLE SAGE	WOLFCAMP	376,274	1,098,686	682,362		5/1/2019	6/12/2019	10/21/2019
134	30-025-44935-0100	TACO CAT `27-34` FE 031H	OXY U S A INC	OIL	UNNAMED	WOLFCAMP	475,013	907,496	852,603		6/1/2018	12/8/2018	2/1/2019
135	30-025-46926-0000	TACO CAT `27-34` FE 033H	OXY U S A INC	OIL	RED TANK WEST	WOLFCAMP	299,719	640,635	599,399		2/1/2020	9/8/2021	1/13/2022
136	30-025-46937-0000	TACO CAT `27-34` FE 035H	OXY U S A INC	OIL	RED TANK WEST	WOLFCAMP	336,752	729,072	459,058		2/1/2020	9/3/2021	1/22/2022
137	30-015-45939-0000	TODD 36 STATE 625H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	282,824	796,323	664,921		4/1/2019	8/27/2019	4/1/2020
138	30-015-45940-0000	TODD 36 STATE 715H	DEVON ENERGY OPER	OIL	UNNAMED	WOLFCAMP	250,514	861,380	357,271		4/1/2019	8/26/2019	4/3/2020
139	30-015-48064-0000	TODD 36-25 STATE FE 627H	DEVON ENERGY PRODUCT	OIL	PURPLE SAGE	WOLFCAMP	299,861	828,059	651,207		1/1/2021	12/23/2021	4/1/2022
140	30-015-47323-0000	TODD 36-25 STATE FE 628H	DEVON ENERGY PRODUCT	OIL	SAND DUNES SOUTH	WOLFCAMP	404,005	1,150,482	664,500		7/1/2020	10/29/2021	4/1/2022
141	30-015-47275-0000	TODD 36-25 STATE FE 717H	DEVON ENERGY PRODUCT	OIL	PURPLE SAGE	WOLFCAMP	300,551	932,365	458,212		6/1/2020	12/24/2021	4/1/2022
142	30-015-47322-0000	TODD 36-25 STATE FE 718H	DEVON ENERGY PRODUCT	OIL	COTTON DRAW	WOLFCAMP	365,103	1,159,515	583,775		7/1/2020	10/31/2021	4/1/2022
143	30-015-45977-0000	TOMB RAIDER 1-12 FE 612H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	460,947	1,462,057	1,124,309		5/1/2019	8/20/2019	2/19/2020
144	30-015-44941-0000	TOMB RAIDER 1-12 FE 614H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	589,116	1,737,924	2,097,377		5/1/2018	6/8/2018	12/6/2018
145	30-015-45978-0000	TOMB RAIDER 1-12 FE 702H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	408,242	1,387,804	616,959		5/1/2019	8/18/2019	2/21/2020
146	30-015-44942-0000	TOMB RAIDER 1-12 FE 714H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	580,199	2,178,919	1,381,596		5/1/2018	6/10/2018	12/7/2018
147	30-015-44811-0000	TOMB RAIDER 1-12 FE 718H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	657,818	2,026,032	1,465,125		3/1/2018	4/14/2018	12/16/2018
148	30-015-45979-0000	TOMB RAIDER 1-12 FE 732H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	397,647	1,878,056	761,732		5/1/2019	8/19/2019	2/17/2020
149	30-015-46095-0000	TOMB RAIDER 12-1 FE 611H	DEVON ENERGY PRODUCT	OIL	INGLE WELLS	WOLFCAMP	623,606	2,048,050	1,470,838		5/1/2019	8/1/2019	2/15/2020
150	30-015-46096-0000	TOMB RAIDER 12-1 FE 701H	DEVON ENERGY PRODUCT	OIL	UNNAMED	WOLFCAMP	600,615	1,952,924	1,042,541		5/1/2019	7/31/2019	2/15/2020
151	30-025-26844-0000	TRISTE DRAW FEDERAL 001	SUPERIOR OIL CO THE	DRY	DIAMONDTAIL	WOLFCAMP	4,139	279	669		5/1/1980	6/12/1980	8/9/1981
152	30-015-47433-0000	VANADIUM 32 STATE 171H	OXY U S A INC	OIL	SAND DUNES WEST	WOLFCAMP	152,536	378,186	328,588		9/1/2020	12/29/2020	4/21/2021
153	30-025-47640-0000	WILD SALSA FED COM 404H	TITUS OIL & GAS PROD	OIL	TRISTE DRAW	WOLFCAMP	489,589	1,218,422	1,082,253		6/1/2020	12/2/2020	6/25/2021
154	30-025-47992-0000	WILD SALSA FED COM 406H	TITUS OIL & GAS PROD	OIL	TRISTE DRAW	WOLFCAMP	456,874	1,028,466	945,009		6/1/2020	11/30/2020	6/30/2021
155	30-015-47423-0000	YUKON GOLD 31-19 FE 623H	DEVON ENERGY PRODUCT	OIL	NASH DRAW	WOLFCAMP	241,040	477,012	778,852		8/1/2020	5/13/2021	10/10/2021
156	30-015-47315-0100	YUKON GOLD 31-19 FE 624H	DEVON ENERGY PRODUCT	OIL	NASH DRAW	WOLFCAMP	285,826	592,982	1,010,574		7/1/2020	6/23/2021	10/1/2021
		WOLFCAMP TOTAL					**48,303,258**	**150,091,338**	**112,395,678**	**2,783,098**			
		WOLFCAMP AVERAGE					**311,634**	**968,331**	**725,133**				
		WOLFCAMP MAX					**793,401**	**7,258,372**	**3,360,048**				

1	30-015-47397-0000	ALEUTIAN 10-3 FED C 612H	DEVON ENERGY PRODUCT	DRILLING	INGLE WELLS						8/1/2020	6/27/2022	
2	30-015-47394-0000	ALEUTIAN 10-3 FED C 702H	DEVON ENERGY PRODUCT	DRILLING	INGLE WELLS						8/1/2020	6/29/2022	
3	30-015-47405-0000	ALEUTIAN 10-3 FED C 812H	DEVON ENERGY PRODUCT	DRILLING	INGLE WELLS						8/1/2020	6/28/2022	
4	30-015-47332-0000	ARKENSTONE `31` FED 174H	OXY U S A INC	TREATD	PURPLE SAGE						8/1/2020	7/13/2022	
5	30-015-46370-0000	ARKENSTONE 31 FEDER 001H	OXY U S A INC	TREATD	PURPLE SAGE						10/1/2019	7/7/2022	
6	30-015-46677-0000	ARKENSTONE 31 FEDER 002H	OXY U S A INC	TREATD	WILDCAT						1/1/2020	7/7/2022	
7	30-015-47319-0000	ARKENSTONE 31 FEDER 005H	OXY U S A INC	TREATD	PURPLE SAGE						8/1/2020	7/11/2022	
8	30-015-46321-0000	ARKENSTONE 31 FEDER 007H	OXY U S A INC	TREATD	UNNAMED						9/1/2019	7/8/2022	
9	30-015-46371-0000	ARKENSTONE 31 FEDER 171H	OXY U S A INC	TREATD	PURPLE SAGE						10/1/2019	7/9/2022	
10	30-015-47318-0000	ARKENSTONE 31 FEDER 172H	OXY U S A INC	TREATD	PURPLE SAGE						8/1/2020	7/10/2022	
11	30-025-39818-0001	BLUE QUAIL FEDERAL 003	FOUNDATION ENERGY MG	TREATD	SAND DUNES						4/1/2019	11/3/2019	
12	30-025-48183-0000	BOUNDARY RAIDER 6-1 613H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES						11/1/2020	10/10/2022	
13	30-025-48184-0000	BOUNDARY RAIDER 6-1 713H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES						11/1/2020	9/29/2022	
14	30-025-47811-0000	BOUNDARY RIADER 7-6 613H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES						9/1/2020	10/3/2022	
15	30-025-50458-0000	CAPER 20 29 B2B0 FE 001H	MEWBOURNE OIL CO	DRILLING	BILBREY BASIN						7/1/2022	12/7/2022	
16	30-025-50027-0000	CAPER 20-29 B2AP FE 001H	MEWBOURNE OIL CO	DRILLING	BILBREY BASIN						3/1/2022	9/25/2022	
17	30-025-50028-0000	CAPER 20-29 B3BO FE 001H	MEWBOURNE OIL CO	DRILLING	BILBREY BASIN						3/1/2022	9/21/2022	
18	30-025-50029-0000	CAPER 20-29 W0AP FE 001H	MEWBOURNE OIL CO	DRILLING	LOST TANK						3/1/2022	9/27/2022	
19	30-025-50286-0000	CAPER 20-29 W0BO FE 001H	MEWBOURNE OIL CO	DRILLING	LOST TANK						5/1/2022	9/19/2022	
20	30-025-48377-0000	CHEDDAR FED COM 302H	PERMIAN RESCS OPER	DRILLING	BILBREY BASIN						11/1/2020	5/13/2022	
21	30-025-46319-0000	DOS EQUIS 12-13 FED 003H	CIMAREX ENERGY CO	DRILLING	TRIPLE X WEST						8/1/2019	1/2/2023	
22	30-025-48282-0000	DR PI FEDERAL UNIT 021H	OXY U S A INC	TREATD	BILBREY BASIN S						12/1/2020	10/21/2022	
23	30-025-48947-0000	DR PI FEDERAL UNIT 023H	OXY U S A INC	TREATD	BILBREY BASIN S						1/1/2021	10/10/2022	
24	30-025-48949-0000	DR PI FEDERAL UNIT 025H	OXY U S A INC	TREATD	BILBREY BASIN S						4/1/2021	10/5/2022	
25	30-025-48950-0000	DR PI FEDERAL UNIT 026H	OXY U S A INC	TREATD	BILBREY BASIN S						4/1/2021	9/26/2022	
26	30-025-50447-0000	EXOTIC CAT 5-17 FED 611H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES						6/1/2022	9/28/2022	
27	30-025-50448-0000	EXOTIC CAT 5-17 FED 612H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES						7/1/2022	10/10/2022	
28	30-025-50449-0000	EXOTIC CAT 5-17 FED 711H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES						6/1/2022	9/20/2022	
29	30-025-50450-0000	EXOTIC CAT 5-17 FED 712H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES						6/1/2022	9/29/2022	
30	30-025-50040-0000	FLOOFY CAT 21-16 FE 122H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						3/1/2022	10/31/2022	
31	30-025-50041-0000	FLOOFY CAT 21-16 FE 123H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						4/1/2022	12/20/2022	
32	30-025-50043-0000	FLOOFY CAT 21-16 FE 521H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						3/1/2022	12/20/2022	
33	30-025-50044-0000	FLOOFY CAT 21-16 FE 522H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						3/1/2022	12/13/2022	
34	30-025-50045-0000	FLOOFY CAT 21-16 FE 523H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						3/1/2022	12/2/2022	
35	30-025-50046-0000	FLOOFY CAT 21-16 FE 524H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						9/1/2022	1/3/2023	
36	30-025-50047-0000	FLOOFY CAT 21-16 FE 525H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						3/1/2022	11/28/2022	
37	30-025-50048-0000	FLOOFY CAT 21-16 FE 526H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						4/1/2022	12/13/2022	
38	30-015-50196-0000	FNRU FEDERAL COM 22 016H	STRATA PRODUCTION CO	DRILLING	FORTY NINER RIDGE						11/1/2022	12/30/2022	
39	30-015-41859-0000	FORTY NINER RIDGE 2 2H	CIMAREX ENERGY CO	TREATD	FRTY NINR RDGE W						11/1/2013	8/18/2014	
40	30-015-49423-0000	FORTY NINER RIDGE U 110H	MEWBOURNE OIL CO	DRILLING	FORTY NINER RIDGE						3/1/2022	7/29/2022	
41	30-015-49422-0000	FORTY NINER RIDGE U 111H	MEWBOURNE OIL CO	DRILLING	FORTY NINER RIDGE						3/1/2022	9/22/2022	
42	30-015-49421-0000	FORTY NINER RIDGE U 112H	MEWBOURNE OIL CO	DRILLING	FORTY NINER RIDGE						3/1/2022	7/27/2022	
43	30-015-49433-0000	FORTY NINER RIDGE U 122H	MEWBOURNE OIL CO	TREATD	FORTY NINER RIDGE						3/1/2022	7/26/2022	
44	30-015-49425-0000	FORTY NINER RIDGE U 123H	MEWBOURNE OIL CO	TREATD	PURPLE SAGE						3/1/2022	7/25/2022	
45	30-025-48428-0000	GIN AND TECTONIC FE 501H	COG OPERATING LLC	DRILLING	MESA VERDE						12/1/2020	9/21/2022	
46	30-025-48429-0000	GIN AND TECTONIC FE 502H	COG OPERATING LLC	DRILLING	MESA VERDE						12/1/2020	10/20/2022	
47	30-025-48430-0000	GIN AND TECTONIC FE 503H	COG OPERATING LLC	DRILLING	MESA VERDE						12/1/2020	11/14/2022	

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
48	30-025-48431-0000	GIN AND TECTONIC FE 504H	COG OPERATING LLC	DRILLING	MESA VERDE						12/1/2020	1/17/2023	
49	30-025-48432-0000	GIN AND TECTONIC FE 505H	COG OPERATING LLC	DRILLING	MESA VERDE						1/1/2021	2/20/2023	
50	30-025-45603-0000	JAMES 20-29 FEDERAL 038H	CIMAREX ENERGY CO	TREATD	SAND DUNES SOUTH						1/1/2019	6/24/2022	
51	30-025-45604-0000	JAMES 20-29 FEDERAL 039H	CIMAREX ENERGY CO	TREATD	SAND DUNES WEST						1/1/2019	6/23/2022	
52	30-015-45611-0000	JAMES RANCH UNIT DI 115Y	XTO PERMIAN OPER LLC	TREATD	LOS MEDANOS						8/1/2018	6/24/2020	
53	30-015-49448-0000	JAMES RANCH UNIT DI 151H	XTO PERMIAN OPER LLC	TREATD	LOS MEDANOS SOUTH						11/1/2021	5/24/2022	
54	30-015-42607-0000	JAMES RANCH UNIT DI 157H	XTO PERMIAN OPER LLC	TREATD	UNNAMED	BONE SPRING					8/1/2014	7/23/2017	
55	30-015-49449-0000	JAMES RANCH UNIT DI 162H	XTO PERMIAN OPER LLC	TREATD	LOS MEDANOS SOUTH						11/1/2021	10/28/2022	
56	30-015-49443-0000	JAMES RANCH UNIT DI 701H	XTO PERMIAN OPER LLC	TREATD	LOS MEDANOS SOUTH						11/1/2021	6/27/2022	
57	30-015-49444-0000	JAMES RANCH UNIT DI 702H	XTO PERMIAN OPER LLC	TREATD	LOS MEDANOS SOUTH						11/1/2021	9/8/2022	
58	30-015-49445-0000	JAMES RANCH UNIT DI 703H	XTO PERMIAN OPER LLC	TREATD	LOS MEDANOS SOUTH						11/1/2021	11/12/2022	
59	30-015-49446-0000	JAMES RANCH UNIT DI 704H	XTO PERMIAN OPER LLC	TREATD	LOS MEDANOS SOUTH						11/1/2021	11/16/2022	
60	30-015-49447-0000	JAMES RANCH UNIT DI 705H	XTO PERMIAN OPER LLC	TREATD	LOS MEDANOS SOUTH						11/1/2021	7/28/2022	
61	30-015-46270-0000	JRU DI 11 WHITLASH 108H	XTO PERMIAN OPER LLC	DRILLING	UNNAMED						9/1/2019	9/19/2019	
62	30-025-47693-0000	MAGIC CAT 30-19 FED 623H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						7/1/2020	1/3/2022	
63	30-025-47690-0000	MAGIC CAT 30-19 FED 624H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						7/1/2020	12/22/2021	
64	30-025-47694-0000	MAGIC CAT 30-19 FED 713H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						7/1/2020	1/5/2022	
65	30-025-47691-0000	MAGIC CAT 30-19 FED 714H	DEVON ENERGY PRODUCT	DRILLING	SAND DUNES SOUTH						7/1/2020	1/18/2022	
66	30-025-48247-0000	MARGARITA 13 FEDERA 017H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						12/1/2020	6/28/2022	
67	30-025-50128-0000	MARGARITA 13 FEDERA 020H	ADVANCE ENERGY PRTR	DRILLING	SALT LAKE						4/1/2022	9/8/2022	
68	30-025-47199-0000	MARGARITA FEDERAL C 005H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						5/1/2020	10/29/2022	
69	30-025-47202-0000	MARGARITA FEDERAL C 008H	ADVANCE ENERGY PRTR	DRILLING	UNNAMED						5/1/2020	5/17/2022	
70	30-025-48008-0000	MARGARITA FEDERAL C 009H	ADVANCE ENERGY PRTR	DRILLING	MESA						11/1/2020	10/10/2022	
71	30-025-49183-0000	MARGARITA FEDERAL C 010H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						6/1/2021	7/21/2022	
72	30-025-49184-0000	MARGARITA FEDERAL C 011H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						6/1/2021	9/20/2022	
73	30-025-49185-0000	MARGARITA FEDERAL C 012H	ADVANCE ENERGY PRTR	DRILLING	UNNAMED						6/1/2021		
74	30-025-48009-0000	MARGARITA FEDERAL C 013H	ADVANCE ENERGY PRTR	DRILLING	MESA						11/1/2020	8/8/2022	
75	30-025-49186-0000	MARGARITA FEDERAL C 014H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						6/1/2021	6/6/2022	
76	30-025-49187-0000	MARGARITA FEDERAL C 015H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						6/1/2021	9/8/2022	
77	30-025-49188-0000	MARGARITA FEDERAL C 016H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						6/1/2021	8/8/2022	
78	30-025-49250-0000	MARGARITA FEDERAL C 022H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						7/1/2021	8/4/2022	
79	30-025-49497-0000	MARGARITA FEDERAL C 023H	ADVANCE ENERGY PRTR	DRILLING	HAT MESA						10/1/2021	8/8/2022	
80	30-025-49498-0000	MARGARITA FEDERAL C 024H	ADVANCE ENERGY PRTR	DRILLING	UNNAMED						10/1/2021	10/13/2022	
81	30-025-46741-0000	MOZZARELLA FEDERAL 652H	PERMIAN RESCS OPER	DRILLING	BILBREY BASIN						1/1/2020	4/26/2021	
82	30-025-50513-0000	NINA CORTELL FED CO 133H	MATADOR PROD CO	TREATD	BILBREY BASIN						8/1/2022	9/10/2022	
83	30-025-50801-0000	NINA CORTELL FED CO 134H	MATADOR PROD CO	TREATD	BILBREY BASIN						11/1/2022	12/21/2022	
84	30-025-49628-0100	NINA CORTELL FED CO 203H	MATADOR PROD CO	TREATD	RED TANK EAST						12/1/2022	12/25/2022	
85	30-025-49629-0000	NINA CORTELL FED CO 204H	MATADOR PROD CO	TREATD	RED TANK EAST						12/1/2021	10/2/2022	
86	30-025-44912-0000	NINA CORTELL FED CO 204H	MATADOR PROD CO	DRILLING	WILDCAT						6/1/2018	9/11/2022	
87	30-015-53205-0000	PAJARITO FEDERAL CO 006H	STRATA PRODUCTION CO	DRILLING	FORTY NINER RIDGE						12/1/2022	2/12/2023	
88	30-025-50765-0000	PAW SWAP 12 36 FED 011H	OXY U S A INC	DRILLING	RED TANK						11/1/2022	11/28/2022	
89	30-025-50766-0000	PAW SWAP 12 36 FED 021H	OXY U S A INC	DRILLING	RED TANK						11/1/2022	1/3/2023	
90	30-025-50802-0000	PEGASUS 3 FED COM 604H	EOG RESOURCES INC	DRILLING	TRISTE DRAW						11/1/2022	1/16/2023	
91	30-025-49948-0000	PEGASUS 3 FED COM 753H	EOG RESOURCES INC	DRILLING	TRISTE DRAW						3/1/2022	2/2/2023	
92	30-025-50320-0000	PEGASUS 3 FED COM 754H	EOG RESOURCES INC	DRILLING	TRISTE DRAW						5/1/2022	1/27/2023	
93	30-025-47231-0000	PEGASUS 3 FEDERAL C 205H	EOG RESOURCES INC	DRILLING	TRISTE DRAW						3/1/2020	1/31/2023	
94	30-025-47238-0000	PEGASUS 3 FEDERAL C 305H	EOG RESOURCES INC	DRILLING	TRISTE DRAW						3/1/2020	2/1/2023	
95	30-015-50184-0000	POKER LAKE UNIT 21 174H	XTO PERMIAN OPER LLC	DRILLING	PURPLE SAGE						11/1/2022		
96	30-015-50185-0000	POKER LAKE UNIT 21 175H	XTO PERMIAN OPER LLC	DRILLING	PURPLE SAGE						11/1/2022	1/7/2023	
97	30-015-46611-0000	PRECIOUS 30 18 FEDE 032H	OXY U S A INC	DRILLING	INGLE WELLS						1/1/2020	12/9/2022	
98	30-015-46614-0000	PRECIOUS 30 18 FEDE 043H	OXY U S A INC	DRILLING	SAND DUNES						1/1/2020	11/8/2022	
99	30-015-46581-0000	PRECIOUS 30 18 FEDE 171H	OXY U S A INC	DRILLING	FORTY NINER RIDGE						12/1/2019	11/28/2022	
100	30-015-46582-0000	PRECIOUS 30 18 FEDE 172H	OXY U S A INC	DRILLING	FORTY NINER RIDGE						12/1/2019	12/6/2022	
101	30-015-46457-0000	PRECIOUS 30 18 FEDE 175H	OXY U S A INC	DRILLING	SAND DUNES WEST						11/1/2019	12/18/2022	
102	30-015-46350-0000	PRECIOUS 30-18 FEDE 003H	OXY U S A INC	DRILLING	INGLE WELLS						10/1/2019	11/22/2022	
103	30-015-46462-0000	PRECIOUS 30-18 FEDE 176H	OXY U S A INC	DRILLING	SAND DUNES WEST						11/1/2019	12/24/2022	
104	30-025-50148-0000	QUESO FEDERAL COM 601H	COG PROD LLC	DRILLING	TRIPLE X WEST						4/1/2022	1/17/2023	
105	30-025-50151-0000	QUESO FEDERAL COM 604H	COG PROD LLC	DRILLING	TRIPLE X WEST						4/1/2022	1/23/2023	
106	30-015-49596-0000	ROADRUNNER FED 25 O 008H	STRATA PRODUCTION CO	DRILLING	FORTY NINER RIDGE						6/1/2022	11/7/2022	
107	30-015-49595-0000	ROADRUNNER FEDERAL 006H	STRATA PRODUCTION CO	DRILLING	FORTY NINER RIDGE						6/1/2022	11/30/2022	
108	30-025-50952-0000	STACK CATS 25 36 FE 034H	OXY U S A INC	DRILLING	RED TANK						1/1/2023	2/24/2023	
109	30-025-50955-0000	STACK CATS 25 36 FE 313H	OXY U S A INC	DRILLING	RED TANK						1/1/2023	2/11/2023	
110	30-015-48595-0000	TOP SPOT 12-13 FEDE 011H	OXY U S A INC	DRILLING	BILBREY BASIN						6/1/2021	2/1/2023	
111	30-015-47771-0000	TOP SPOT 12-13 FEDE 021H	OXY U S A INC	DRILLING	BILBREY BASIN						11/1/2020	1/30/2023	
112	30-015-48597-0000	TOP SPOT 12-13 FEDE 031H	OXY U S A INC	DRILLING	LIVINGSTON RIDGE						6/1/2021	2/6/2023	
113	30-015-48596-0000	TOP SPOT 12-13 FEDE 032H	OXY U S A INC	DRILLING	LIVINGSTON RIDGE						6/1/2021	1/31/2023	
114	30-015-47949-0000	TOP SPOT 12-13 FEDE 034H	OXY U S A INC	DRILLING	LIVINGSTON RIDGE						12/1/2020	1/5/2023	
115	30-015-47887-0000	TOP SPOT 12-13 FEDE 035H	OXY U S A INC	DRILLING	LIVINGSTON RIDGE						12/1/2020	12/21/2022	
116	30-015-47627-0000	TOP SPOT 12-13 FEDE 311H	OXY U S A INC	DRILLING	BILBREY BASIN						10/1/2020	2/9/2023	
117	30-015-47626-0000	TOP SPOT 12-13 FEDE 312H	OXY U S A INC	DRILLING	LIVINGSTON RIDGE						10/1/2020	1/18/2023	
118	30-015-47625-0000	TOP SPOT 12-13 FEDE 313H	OXY U S A INC	DRILLING	BILBREY BASIN						10/1/2020	12/31/2022	
		DRILLING WELLS											
1	30-015-45742-0000	ALDABRA 27 FED VDW 001	DEVON ENERGY PRODUCT	PERMIT	INGLE WELLS						12/1/2018		
2	30-015-46963-0000	ALEUTIAN 10-3 FED C 210H	DEVON ENERGY PRODUCT	PERMIT	INGLE WELLS						4/1/2020		
3	30-015-47393-0000	ALEUTIAN 10-3 FED C 331H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						8/1/2020		
4	30-015-46967-0000	ALEUTIAN 10-3 FED C 511H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						4/1/2020		
5	30-015-46968-0000	ALEUTIAN 10-3 FED C 512H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						4/1/2020		
6	30-015-46969-0000	ALEUTIAN 10-3 FED C 513H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						4/1/2020		
7	30-015-46970-0000	ALEUTIAN 10-3 FED C 514H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						4/1/2020		
8	30-015-46971-0000	ALEUTIAN 10-3 FED C 521H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						4/1/2020		
9	30-015-46972-0000	ALEUTIAN 10-3 FED C 522H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						4/1/2020		
10	30-015-47056-0000	ALEUTIAN 10-3 FED C 523H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						4/1/2020		
11	30-015-46973-0000	ALEUTIAN 10-3 FED C 524H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						4/1/2020		
12	30-015-47396-0000	ALEUTIAN 10-3 FED C 611H	DEVON ENERGY PRODUCT	PERMIT	INGLE WELLS						8/1/2020		
13	30-015-47404-0000	ALEUTIAN 10-3 FED C 711H	DEVON ENERGY PRODUCT	PERMIT	INGLE WELLS						8/1/2020		
14	30-025-50474-0000	AMAZING 19 FED 581H	EOG RESOURCES INC	PERMIT	BILBREY BASIN S						6/1/2022		
15	30-025-50475-0000	AMAZING 19 FED 582H	EOG RESOURCES INC	PERMIT	BILBREY BASIN S						6/1/2022		
16	30-025-50476-0000	AMAZING 19 FED 601H	EOG RESOURCES INC	PERMIT	BILBREY BASIN S						6/1/2022		
17	30-025-50477-0000	AMAZING 19 FED 701H	EOG RESOURCES INC	PERMIT	LIVINGSTON RDG E						6/1/2022		
18	30-025-50478-0000	AMAZING 19 FED 702H	EOG RESOURCES INC	PERMIT	LIVINGSTON RDG E						6/1/2022		
19	30-025-50479-0000	AMAZING 19 FED 703H	EOG RESOURCES INC	PERMIT	LIVINGSTON RDG E						6/1/2022		
20	30-025-51145-0000	AND KITTENS 4 FED C 233H	DEVON ENERGY PRODUCT	PERMIT	UNNAMED						2/1/2023		
21	30-025-51146-0000	AND KITTENS 4 FED S 234H	DEVON ENERGY PRODUCT	PERMIT	UNNAMED						2/1/2023		
22	30-015-47353-0000	ARKENSTONE `31` FED 173H	OXY U S A INC	PERMIT	SAND DUNES WEST						8/1/2020		
23	30-015-46398-0000	BELLOQ 11 2 FED STA 512H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						10/1/2019		
24	30-015-46392-0000	BELLOQ 11 2 FED STA 523H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						10/1/2019		
25	30-015-46761-0000	BELLOQ 11 2 FED STA 711H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						2/1/2020		
26	30-015-46397-0000	BELLOQ 11-2 FED STA 513H	DEVON ENERGY PRODUCT	PERMIT	INGLE WELLS						10/1/2019		
27	30-015-46396-0000	BELLOQ 11-2 FED STA 516H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						10/1/2019		
28	30-015-46395-0000	BELLOQ 11-2 FED STA 521H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						10/1/2019		
29	30-015-46393-0000	BELLOQ 11-2 FED STA 522H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						10/1/2019		

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
30	30-015-46412-0000	BELLOQ 11-2 FED STA 524H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						10/1/2019		
31	30-015-46388-0000	BELLOQ 11-2 FED STA 525H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						10/1/2019		
32	30-025-47432-0000	BIG BUCKS FED COM 301H	MATADOR PROD CO	PERMIT	UNNAMED						7/1/2020		
33	30-025-47433-0000	BIG BUCKS FED COM 302H	MATADOR PROD CO	PERMIT	UNNAMED						7/1/2020		
34	30-025-47434-0000	BIG BUCKS FED COM 401H	MATADOR PROD CO	PERMIT	UNNAMED						7/1/2020		
35	30-025-47491-0000	BIG BUCKS FED COM 702H	MATADOR PROD CO	PERMIT	UNNAMED						7/1/2020		
36	30-025-47065-0000	BIG BUCKS FEDERAL C 601H	MATADOR PROD CO	PERMIT	UNNAMED						3/1/2020		
37	30-025-47110-0000	BIG BUCKS FEDERAL C 701H	MATADOR PROD CO	PERMIT	UNNAMED						3/1/2020		
38	30-025-47758-0000	BIG BULL FED COM 305H	MATADOR PROD CO	PERMIT	HAT MESA						8/1/2020		
39	30-025-47436-0000	BIG BULL FED COM 306H	MATADOR PROD CO	PERMIT	HAT MESA						7/1/2020		
40	30-025-47437-0000	BIG BULL FED COM 403H	MATADOR PROD CO	PERMIT	HAT MESA						7/1/2020		
41	30-025-47438-0000	BIG BULL FED COM 602H	MATADOR PROD CO	PERMIT	HAT MESA						7/1/2020		
42	30-025-47560-0000	BIG BULL FED COM 706H	MATADOR PROD CO	PERMIT	HAT MESA						8/1/2020		
43	30-025-47561-0000	BIG STAG FED COM 304H	MATADOR PROD CO	PERMIT	UNNAMED						8/1/2020		
44	30-025-47661-0000	BIG STAG FED COM 402H	MATADOR PROD CO	PERMIT	UNNAMED						8/1/2020		
45	30-025-47528-0000	BIG STAG FEDERAL CO 303H	MATADOR PROD CO	PERMIT	UNNAMED						7/1/2020		
46	30-025-47529-0000	BIG STAG FEDERAL CO 704H	MATADOR PROD CO	PERMIT	UNNAMED						7/1/2020		
47	30-015-49502-0000	BORA BORA 13 24 FED 712H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
48	30-015-49498-0000	BORA BORA 13-24 FED 331H	DEVON ENERGY PRODUCT	PERMIT	JAMES RANCH EAST						4/1/2022		
49	30-015-49500-0000	BORA BORA 13-24 FED 332H	DEVON ENERGY PRODUCT	PERMIT	JAMES RANCH EAST						4/1/2022		
50	30-015-49353-0000	BORA BORA 13-24 FED 333H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						2/1/2022		
51	30-015-53182-0000	BORA BORA 13-24 FED 621H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
52	30-015-49501-0000	BORA BORA 13-24 FED 622H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
53	30-015-49351-0000	BORA BORA 13-24 FED 623H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						2/1/2022		
54	30-015-49354-0000	BORA BORA 13-24 FED 624H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						2/1/2022		
55	30-015-49499-0000	BORA BORA 13-24 FED 625H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
56	30-015-49497-0000	BORA BORA 13-24 FED 711H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
57	30-015-49352-0000	BORA BORA 13-24 FED 713H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						2/1/2022		
58	30-015-49355-0000	BORA BORA 13-24 FED 714H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						2/1/2022		
59	30-025-46836-0000	BOUNDARY RAIDER 6-7 511H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						1/1/2020		
60	30-025-46837-0000	BOUNDARY RAIDER 6-7 521H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						1/1/2020		
61	30-025-48099-0000	CHEDDAR FED COM 301H	CENTENNIAL RES PROD	PERMIT	BILBREY BASIN						11/1/2020		
62	30-025-51139-0000	COLIBRI 10 FB FEDER 034H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						9/1/2022		
63	30-025-51140-0000	COLIBRI 10 FB FEDER 035H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						9/1/2022		
64	30-025-50411-0000	COLIBRI FEDERAL 23 001H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
65	30-025-50412-0000	COLIBRI FEDERAL 23 002H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
66	30-025-50413-0000	COLIBRI FEDERAL 23 006H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
67	30-025-50416-0000	COLIBRI FEDERAL 23 007H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
68	30-025-50415-0000	COLIBRI FEDERAL 23 019H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
69	30-025-50414-0000	COLIBRI FEDERAL 23 020H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
70	30-025-51147-0000	COOL CATS 4 FED 230H	DEVON ENERGY PRODUCT	PERMIT	UNNAMED						3/1/2023		
71	30-025-51148-0000	COOLS CATS 4 FED 231H	DEVON ENERGY PRODUCT	PERMIT	UNNAMED						2/1/2023		
72	30-025-51149-0000	COOLS CATS 4 FED 232H	DEVON ENERGY PRODUCT	PERMIT	UNNAMED						2/1/2023		
73	30-025-51102-0000	CORIANDER 1-12 FEDE 011H	CIMAREX ENERGY CO	PERMIT	RED TANK WEST						2/1/2023		
74	30-025-51103-0000	CORIANDER 1-12 FEDE 013H	CIMAREX ENERGY CO	PERMIT	RED TANK WEST						2/1/2023		
75	30-025-51104-0000	CORIANDER 1-12 FEDE 025H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						2/1/2023		
76	30-025-51105-0000	CORIANDER 1-12 FEDE 026H	CIMAREX ENERGY CO	PERMIT	RED TANK WEST						2/1/2023		
77	30-025-51098-0000	CORIANDER 1-12 STTE 005H	CIMAREX ENERGY CO	PERMIT	RED TANK WEST						2/1/2023		
78	30-025-51059-0000	CORINADER 1 12 STAT 004H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						2/1/2023		
79	30-025-49150-0000	DR AWKWARD 17-8 FED 071H	OXY U S A INC	PERMIT	BILBREY BASIN S						5/1/2021		
80	30-025-49151-0000	DR AWKWARD 17-8 FED 072H	OXY U S A INC	PERMIT	BILBREY BASIN S						5/1/2021		
81	30-025-48953-0000	DR AWKWARD 17-8 FED 073H	OXY U S A INC	PERMIT	BILBREY BASIN S						4/1/2021		
82	30-025-48954-0000	DR AWKWARD 17-8 FED 074H	OXY U S A INC	PERMIT	BILBREY BASIN S						4/1/2021		
83	30-025-48956-0000	DR PI FED UNIT 17-8 313H	OXY U S A INC	PERMIT	BILBREY BASIN S						4/1/2021		
84	30-025-48948-0000	DR PI FEDERAL UNIT 024H	OXY U S A INC	PERMIT	BILBREY BASIN S						4/1/2021		
85	30-025-49149-0000	DR PI FEDERAL UNIT 033H	OXY U S A INC	PERMIT	LIVINGSTON RDG E						5/1/2021		
86	30-025-50445-0000	EXOTIC CAT 5-17 FED 331H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						6/1/2022		
87	30-025-50446-0000	EXOTIC CAT 5-17 FED 332H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						6/1/2022		
88	30-025-50129-0000	EXOTIC CAT 5-17 FED 521H	DEVON ENERGY OPER	PERMIT	SAND DUNES						4/1/2022		
89	30-025-50052-0000	EXOTIC CAT 5-17 FED 522H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
90	30-025-50053-0000	EXOTIC CAT 5-17 FED 523H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
91	30-025-50054-0000	EXOTIC CAT 5-17 FED 532H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
92	30-025-50055-0000	EXOTIC CAT 5-17 FED 533H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2022		
93	30-015-47634-0000	FIJI 17-5 FED COM 333H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						10/1/2020		
94	30-015-47635-0000	FIJI 17-5 FED COM 334H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						11/1/2020		
95	30-015-47636-0000	FIJI 17-5 FED COM 623H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						10/1/2020		
96	30-015-47637-0000	FIJI 17-5 FED COM 624H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						10/1/2020		
97	30-015-47638-0000	FIJI 17-5 FED COM 713H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						10/1/2020		
98	30-015-48493-0000	FIJI 17-5 FED COM 714H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						11/1/2020		
99	30-025-50039-0000	FLOOFY CAT 21-16 FE 121H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						3/1/2022		
100	30-025-50042-0000	FLOOFY CAT 21-16 FE 124H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						3/1/2022		
101	30-025-50046-0100	FLOOFY CAT 21-16 FE 524H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						3/1/2022		
102	30-025-50049-0000	FLOOFY CAT 21-16 FE 527H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						3/1/2022		
103	30-025-50050-0000	FLOOFY CAT 21-16 FE 528H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						3/1/2022		
104	30-015-49303-0000	FNR FED COM 17 20 D 002H	MEWBOURNE OIL CO	PERMIT	NASH DRAW						2/1/2022		
105	30-015-53328-0000	FORTY NINER RIDGE U 020H	STRATA PRODUCTION CO	PERMIT	FORTY NINER RIDGE						12/1/2022		
106	30-015-53457-0000	FORTY NINER RIDGE U 119H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
107	30-015-53456-0000	FORTY NINER RIDGE U 120H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
108	30-015-53455-0000	FORTY NINER RIDGE U 121H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
109	30-015-49436-0000	FORTY NINER RIDGE U 124H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						3/1/2022		
110	30-015-49437-0000	FORTY NINER RIDGE U 125H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						3/1/2022		
111	30-015-49434-0000	FORTY NINER RIDGE U 126H	MEWBOURNE OIL CO	PERMIT	LOS MEDANOS WEST						3/1/2022		
112	30-015-49420-0000	FORTY NINER RIDGE U 127H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						3/1/2022		
113	30-015-49424-0000	FORTY NINER RIDGE U 129H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						3/1/2022		
114	30-015-49432-0000	FORTY NINER RIDGE U 130H	MEWBOURNE OIL CO	PERMIT	LOS MEDANOS WEST						3/1/2022		
115	30-015-49435-0000	FORTY NINER RIDGE U 131H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						3/1/2022		
116	30-015-49431-0000	FORTY NINER RIDGE U 132H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						3/1/2022		
117	30-015-49419-0000	FORTY NINER RIDGE U 133H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						3/1/2022		
118	30-015-50139-0000	FORTY NINER RIDGE U 134H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
119	30-015-50135-0000	FORTY NINER RIDGE U 135H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
120	30-015-50141-0000	FORTY NINER RIDGE U 136H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
121	30-015-50136-0000	FORTY NINER RIDGE U 137H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
122	30-015-50138-0000	FORTY NINER RIDGE U 138H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
123	30-015-50143-0000	FORTY NINER RIDGE U 139H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
124	30-015-50142-0000	FORTY NINER RIDGE U 140H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
125	30-015-50137-0000	FORTY NINER RIDGE U 141H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
126	30-015-50144-0000	FORTY NINER RIDGE U 142H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
127	30-015-50130-0000	FORTY NINER RIDGE U 143H	MEWBOURNE OIL CO	PERMIT	PURPLE SAGE						10/1/2022		
128	30-015-50140-0000	FORTY NINER RIDGE U 144H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
129	30-015-50151-0000	FORTY NINER RIDGE U 145H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						11/1/2022		
130	30-015-50145-0000	FORTY NINER RIDGE U 146H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
131	30-015-53308-0000	FORTY NINER RIDGE U 147H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						1/1/2023		

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
132	30-015-53309-0000	FORTY NINER RIDGE U 148H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						1/1/2023		
133	30-015-53311-0000	FORTY NINER RIDGE U 149H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						1/1/2023		
134	30-015-50152-0000	FORTY NINER RIDGE U 150H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						11/1/2022		
135	30-015-49426-0000	FORTY NINER RIDGE U 151H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						3/1/2022		
136	30-015-50146-0000	FORTY NINER RIDGE U 152H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
137	30-015-50147-0000	FORTY NINER RIDGE U 153H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						10/1/2022		
138	30-015-50166-0000	FORTY NINER RIDGE U 154H	MEWBOURNE OIL CO	PERMIT	SWD						11/1/2022		
139	30-015-50168-0000	FORTY NINER RIDGE U 155H	MEWBOURNE OIL CO	PERMIT	SWD						11/1/2022		
140	30-015-50154-0000	FORTY NINER RIDGE U 156H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						11/1/2022		
141	30-015-50167-0000	FORTY NINER RIDGE U 157H	MEWBOURNE OIL CO	PERMIT	SWD						11/1/2022		
142	30-015-50164-0000	FORTY NINER RIDGE U 158H	MEWBOURNE OIL CO	PERMIT	SWD						11/1/2022		
143	30-015-50153-0000	FORTY NINER RIDGE U 159H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						11/1/2022		
144	30-015-50165-0000	FORTY NINER RIDGE U 160H	MEWBOURNE OIL CO	PERMIT	SWD						11/1/2022		
145	30-015-50169-0000	FORTY NINER RIDGE U 161H	MEWBOURNE OIL CO	PERMIT	SWD						11/1/2022		
146	30-015-53384-0000	FORTY NINER RIDGE U 162H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
147	30-015-53388-0000	FORTY NINER RIDGE U 163H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
148	30-015-53386-0000	FORTY NINER RIDGE U 164H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
149	30-015-53385-0000	FORTY NINER RIDGE U 165H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
150	30-015-53387-0000	FORTY NINER RIDGE U 166H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
151	30-015-53400-0000	FORTY NINER RIDGE U 167H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
152	30-015-53389-0000	FORTY NINER RIDGE U 168H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
153	30-015-53391-0000	FORTY NINER RIDGE U 169H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
154	30-015-53392-0000	FORTY NINER RIDGE U 170H	MEWBOURNE OIL CO	PERMIT	PURPLE SAGE						2/1/2023		
155	30-015-53390-0000	FORTY NINER RIDGE U 171H	MEWBOURNE OIL CO	PERMIT	PURPLE SAGE						2/1/2023		
156	30-015-53399-0000	FORTY NINER RIDGE U 172H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
157	30-015-53394-0000	FORTY NINER RIDGE U 173H	MEWBOURNE OIL CO	PERMIT	PURPLE SAGE						2/1/2023		
158	30-015-53395-0000	FORTY NINER RIDGE U 174H	MEWBOURNE OIL CO	PERMIT	PURPLE SAGE						2/1/2023		
159	30-015-53397-0000	FORTY NINER RIDGE U 175H	MEWBOURNE OIL CO	PERMIT	FORTY NINER RIDGE						2/1/2023		
160	30-015-53396-0000	FORTY NINER RIDGE U 176H	MEWBOURNE OIL CO	PERMIT	PURPLE SAGE						2/1/2023		
161	30-015-53398-0000	FORTY NINER RIDGE U 177H	MEWBOURNE OIL CO	PERMIT	PURPLE SAGE						2/1/2023		
162	30-025-49553-0000	FRIZZLE FRY 22 FB F 028H	MARATHON OIL PERMIAN	PERMIT	RED TANK						9/1/2021		
163	30-025-49554-0000	FRIZZLE FRY 22 FB F 029H	MARATHON OIL PERMIAN	PERMIT	RED TANK						9/1/2021		
164	30-025-49555-0000	FRIZZLE FRY 22 SB F 004H	MARATHON OIL PERMIAN	PERMIT	RED TANK						9/1/2021		
165	30-025-49556-0000	FRIZZLE FRY 22 SB F 008H	MARATHON OIL PERMIAN	PERMIT	RED TANK						9/1/2021		
166	30-015-49402-0000	GALAPAGOS 14-26 FED 335H	DEVON ENERGY PRODUCT	PERMIT	JAMES RANCH EAST						3/1/2022		
167	30-015-49400-0000	GALAPAGOS 14-26 FED 336H	DEVON ENERGY PRODUCT	PERMIT	JAMES RANCH EAST						3/1/2022		
168	30-015-49397-0000	GALAPAGOS 14-26 FED 337H	DEVON ENERGY PRODUCT	PERMIT	JAMES RANCH EAST						3/1/2022		
169	30-015-49503-0000	GALAPAGOS 14-26 FED 338H	DEVON ENERGY PRODUCT	PERMIT	JAMES RANCH EAST						4/1/2022		
170	30-015-49396-0000	GALAPAGOS 14-26 FED 625H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						3/1/2022		
171	30-015-53341-0000	GALAPAGOS 14-26 FED 626H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						5/1/2022		
172	30-015-49403-0000	GALAPAGOS 14-26 FED 627H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						3/1/2022		
173	30-015-49399-0000	GALAPAGOS 14-26 FED 628H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						3/1/2022		
174	30-015-49394-0000	GALAPAGOS 14-26 FED 715H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						3/1/2022		
175	30-015-49395-0000	GALAPAGOS 14-26 FED 716H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						3/1/2022		
176	30-015-49401-0000	GALAPAGOS 14-26 FED 717H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						3/1/2022		
177	30-015-49398-0000	GALAPAGOS 14-26 FED 718H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						3/1/2022		
178	30-025-45568-0000	GAMAY 32 STATE COM 301H	CENTENNIAL RES PROD	PERMIT	BILBREY BASIN						2/1/2019		
179	30-025-50329-0000	GOUDA 5 FEDERAL COM 505H	PERMIAN RESCS OPER	PERMIT	BILBREY BASIN						4/1/2022		
180	30-025-50498-0000	GOUDA 5 FEDERAL COM 506H	PERMIAN RESCS OPER	PERMIT	BILBREY BASIN						4/1/2022		
181	30-025-48529-0000	GRUMPY CAT 15-22 FE 121H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
182	30-025-48537-0000	GRUMPY CAT 15-22 FE 122H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
183	30-025-49133-0000	GRUMPY CAT 15-22 FE 331H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						3/1/2021		
184	30-025-49134-0000	GRUMPY CAT 15-22 FE 332H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						3/1/2021		
185	30-025-48530-0000	GRUMPY CAT 15-22 FE 521H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
186	30-025-48538-0000	GRUMPY CAT 15-22 FE 522H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
187	30-025-48531-0000	GRUMPY CAT 15-22 FE 531H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
188	30-025-48532-0000	GRUMPY CAT 15-22 FE 532H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
189	30-025-48533-0000	GRUMPY CAT 15-22 FE 611H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
190	30-025-48534-0000	GRUMPY CAT 15-22 FE 612H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
191	30-025-48535-0000	GRUMPY CAT 15-22 FE 711H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
192	30-025-48536-0000	GRUMPY CAT 15-22 FE 712H	DEVON ENERGY PRODUCT	PERMIT	DIAMONDTAIL						2/1/2021		
193	30-025-49444-0000	IGOR 33 FED COM 201H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
194	30-025-49445-0000	IGOR 33 FED COM 202H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
195	30-025-49446-0000	IGOR 33 FED COM 203H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
196	30-025-49447-0000	IGOR 33 FED COM 204H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
197	30-025-49448-0000	IGOR 33 FED COM 205H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
198	30-025-49449-0000	IGOR 33 FED COM 301H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
199	30-025-49450-0000	IGOR 33 FED COM 302H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
200	30-025-49451-0000	IGOR 33 FED COM 303H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
201	30-025-49452-0000	IGOR 33 FED COM 304H	EOG RESOURCES INC	PERMIT	SAND DUNES SOUTH						9/1/2021		
202	30-025-45607-0000	JAMES 19 FEDERAL 047H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
203	30-025-45608-0000	JAMES 19 FEDERAL 048H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
204	30-025-45609-0000	JAMES 19 FEDERAL 049H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
205	30-025-45610-0000	JAMES 19 FEDERAL 050H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
206	30-025-45606-0000	JAMES 20 FEDERAL 040H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
207	30-025-45611-0000	JAMES 20 FEDERAL CO 050H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
208	30-025-45612-0000	JAMES 20 FEDERAL CO 051H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
209	30-025-45613-0000	JAMES 20 FEDERAL CO 052H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
210	30-025-45614-0000	JAMES 20 FEDERAL CO 053H	CIMAREX ENERGY CO	PERMIT	SAND DUNES SOUTH						1/1/2019		
211	30-015-50084-0000	JAMES RANCH UNIT DI 110H	XTO PERMIAN OPER LLC	PERMIT	LOS MEDANOS SOUTH						11/1/2020		
212	30-015-50085-0000	JAMES RANCH UNIT DI 111H	XTO PERMIAN OPER LLC	PERMIT	LOS MEDANOS SOUTH						11/1/2020		
213	30-015-50086-0000	JAMES RANCH UNIT DI 112H	XTO PERMIAN OPER LLC	PERMIT	LOS MEDANOS SOUTH						11/1/2020		
214	30-015-50087-0000	JAMES RANCH UNIT DI 113H	XTO PERMIAN OPER LLC	PERMIT	LOS MEDANOS SOUTH						11/1/2020		
215	30-015-49041-0000	JAMES RANCH UNIT DI 801H	XTO PERMIAN OPER LLC	PERMIT	WILDCAT						10/1/2021		
216	30-015-50088-0000	JAMES RANCH UNIT DI 901H	XTO PERMIAN OPER LLC	PERMIT	LOS MEDANOS						11/1/2020		
217	30-015-50089-0000	JAMES RANCH UNIT DI 902H	XTO PERMIAN OPER LLC	PERMIT	LOS MEDANOS						11/1/2020		
218	30-015-50090-0000	JAMES RANCH UNIT DI 903H	XTO PERMIAN OPER LLC	PERMIT	LOS MEDANOS						11/1/2020		
219	30-015-50091-0000	JAMES RANCH UNIT DI 904H	XTO PERMIAN OPER LLC	PERMIT	LOS MEDANOS						11/1/2020		
220	30-015-46270-0100	JRU DI 11 WHITLASH 108H	XTO PERMIAN OPER LLC	PERMIT	WILDCAT						9/1/2019		
221	30-015-47403-0000	KO LANTA 9-4 FED CO 331H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						8/1/2020		
222	30-015-47406-0000	KO LANTA 9-4 FED CO 332H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						8/1/2020		
223	30-015-47408-0000	KO LANTA 9-4 FED CO 333H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						8/1/2020		
224	30-015-47411-0000	KO LANTA 9-4 FED CO 334H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						8/1/2020		
225	30-015-47546-0000	KO LANTA 9-4 FED CO 516H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						9/1/2020		
226	30-015-47416-0000	KO LANTA 9-4 FED CO 522H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						8/1/2020		
227	30-015-47417-0000	KO LANTA 9-4 FED CO 524H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						8/1/2020		
228	30-015-47418-0000	KO LANTA 9-4 FED CO 526H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						8/1/2020		
229	30-015-48494-0000	KO LANTA 9-4 FED CO 622H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						9/1/2020		
230	30-015-47542-0000	KO LANTA 9-4 FED CO 711H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						8/1/2020		
231	30-015-47543-0000	KO LANTA 9-4 FED CO 712H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						8/1/2020		
232	30-015-47544-0000	KO LANTA 9-4 FED CO 713H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						8/1/2020		
233	30-015-47545-0000	KO LANTA 9-4 FED CO 714H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						8/1/2020		

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
234	30-015-47414-0000	KO LANTA 9-4 FEDERA 514H	DEVON ENERGY PRODUCT	PERMIT	LOS MEDANOS						8/1/2020		
235	30-015-47419-0000	KO LANTA 9-4 FEDERA 621H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						8/1/2020		
236	30-015-47420-0000	KO LANTA 9-4 FEDERA 623H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						8/1/2020		
237	30-015-47421-0000	KO LANTA 9-4 FEDERA 624H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						8/1/2020		
238	30-025-47123-0000	LIION OIL `28-33` F 014H	OXY U S A INC	PERMIT	RED TANK						4/1/2020		
239	30-025-46956-0000	LION OIL `28 33` FE 034H	OXY U S A INC	PERMIT	RED TANK WEST						3/1/2020		
240	30-025-47124-0000	LION OIL `28-33` FE 015H	OXY U S A INC	PERMIT	RED TANK						4/1/2020		
241	30-025-47620-0000	LION OIL `28-33` FE 016H	OXY U S A INC	PERMIT	RED TANK						7/1/2020		
242	30-025-47125-0000	LION OIL `28-33` FE 024H	OXY U S A INC	PERMIT	RED TANK						4/1/2020		
243	30-025-47126-0000	LION OIL `28-33` FE 025H	OXY U S A INC	PERMIT	RED TANK						4/1/2020		
244	30-025-50300-0000	LLAMA MALL 26 35 FE 312H	OXY U S A INC	PERMIT	RED TANK						7/1/2022		
245	30-025-50301-0000	LLAMA MALL 26 35 FE 313H	OXY U S A INC	PERMIT	RED TANK						7/1/2022		
246	30-025-50098-0000	LLAMA MALL 26-35 FE 021H	OXY U S A INC	PERMIT	RED TANK						3/1/2022		
247	30-025-50305-0000	LLAMA MALL 26-35 FE 022H	OXY U S A INC	PERMIT	RED TANK						6/1/2022		
248	30-025-50306-0000	LLAMA MALL 26-35 FE 023H	OXY U S A INC	PERMIT	RED TANK						6/1/2022		
249	30-025-50307-0000	LLAMA MALL 26-35 FE 024H	OXY U S A INC	PERMIT	RED TANK						6/1/2022		
250	30-025-50308-0000	LLAMA MALL 26-35 FE 025H	OXY U S A INC	PERMIT	RED TANK						6/1/2022		
251	30-025-50309-0000	LLAMA MALL 26-35 FE 026H	OXY U S A INC	PERMIT	RED TANK						6/1/2022		
252	30-025-50099-0000	LLAMA MALL 26-35 FE 031H	OXY U S A INC	PERMIT	RED TANK WEST						3/1/2022		
253	30-025-50310-0000	LLAMA MALL 26-35 FE 032H	OXY U S A INC	PERMIT	RED TANK WEST						6/1/2022		
254	30-025-50311-0000	LLAMA MALL 26-35 FE 033H	OXY U S A INC	PERMIT	RED TANK WEST						6/1/2022		
255	30-025-50298-0000	LLAMA MALL 26-35 FE 034H	OXY U S A INC	PERMIT	RED TANK WEST						6/1/2022		
256	30-025-50299-0000	LLAMA MALL 26-35 FE 035H	OXY U S A INC	PERMIT	RED TANK WEST						6/1/2022		
257	30-025-50375-0000	LLAMA MALL 26-35 FE 311H	OXY U S A INC	PERMIT	RED TANK						6/1/2022		
258	30-025-48464-0000	LOST TANK `30_19` F 033H	OXY U S A INC	PERMIT	LIVINGSTON RDG E						1/1/2021		
259	30-025-47540-0000	LOST TANK `30-19` F 002H	OXY U S A INC	PERMIT	BILBREY BASIN S						7/1/2020		
260	30-025-47941-0000	LOST TANK `30-19` F 011H	OXY U S A INC	PERMIT	BILBREY BASIN S						10/1/2020		
261	30-025-47541-0000	LOST TANK `30-19` F 012H	OXY U S A INC	PERMIT	BILBREY BASIN S						7/1/2020		
262	30-025-47542-0000	LOST TANK `30-19` F 013H	OXY U S A INC	PERMIT	BILBREY BASIN S						7/1/2020		
263	30-025-47942-0000	LOST TANK `30-19` F 021H	OXY U S A INC	PERMIT	BILBREY BASIN S						10/1/2020		
264	30-025-47543-0000	LOST TANK `30-19` F 022H	OXY U S A INC	PERMIT	BILBREY BASIN S						7/1/2020		
265	30-025-47943-0000	LOST TANK `30-19` F 023H	OXY U S A INC	PERMIT	BILBREY BASIN S						10/1/2020		
266	30-025-47944-0000	LOST TANK `30-19` F 032H	OXY U S A INC	PERMIT	BILBREY BASIN S						10/1/2020		
267	30-025-47945-0000	LOST TANK `30-19` F 071H	OXY U S A INC	PERMIT	BILBREY BASIN S						10/1/2020		
268	30-025-47946-0000	LOST TANK `30-19` F 072H	OXY U S A INC	PERMIT	BILBREY BASIN S						10/1/2020		
269	30-025-48691-0000	LOST TANK 30-19 FED 041H	OXY U S A INC	PERMIT	LIVINGSTON RDG E						4/1/2021		
270	30-025-48169-0000	LOST TANK 30-19 FED 042H	OXY U S A INC	PERMIT	LIVINGSTON RDG E						11/1/2020		
271	30-015-46005-0000	MALDIVES 15-22 FED 331H	DEVON ENERGY PRODUCT	PERMIT	JAMES RANCH						5/1/2019		
272	30-015-45383-0000	MALDIVES 15-22 FED 522H	DEVON ENERGY PRODUCT	PERMIT	JAMES RANCH						10/1/2018		
273	30-015-46006-0000	MALDIVES 15-22 FED 621H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						5/1/2019		
274	30-015-46007-0000	MALDIVES 15-22 FED 711H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES						4/1/2019		
275	30-025-49248-0000	MARGARITA FEDERAL C 018H	ADVANCE ENERGY PRTR	PERMIT	HAT MESA						7/1/2021		
276	30-025-49249-0000	MARGARITA FEDERAL C 019H	ADVANCE ENERGY PRTR	PERMIT	WILDCAT						7/1/2021		
277	30-025-49289-0000	MILLS 19 SWD 001	ENCHANTMENT WATER LL	PERMIT	SWD						8/1/2021		
278	30-025-50228-0000	MOZZARELLA FEDERAL 503H	PERMIAN RESCS OPER	PERMIT	BILBREY BASIN						3/1/2022		
279	30-025-50215-0000	MOZZARELLA FEDERAL 504H	PERMIAN RESCS OPER	PERMIT	BILBREY BASIN						3/1/2022		
280	30-025-50470-0000	NINA CORTELL FED CO 113H	MATADOR PROD CO	PERMIT	BILBREY BASIN						7/1/2022		
281	30-025-50258-0000	NINA CORTELL FED CO 131H	MATADOR PROD CO	PERMIT	BILBREY BASIN						5/1/2022		
282	30-025-50471-0000	NINA CORTELL FED CO 224H	MATADOR PROD CO	PERMIT	RED TANK						7/1/2022		
283	30-015-48587-0000	NUGGET 6_31 FED CO 031H	OXY U S A INC	PERMIT	COTTON DRAW						6/1/2021		
284	30-015-48616-0000	NUGGET 6-31 FED COM 032H	OXY U S A INC	PERMIT	COTTON DRAW						6/1/2021		
285	30-015-48615-0000	NUGGET 6-31 FED COM 033H	OXY U S A INC	PERMIT	COTTON DRAW						6/1/2021		
286	30-015-48614-0000	NUGGET 6-31 FED COM 034H	OXY U S A INC	PERMIT	COTTON DRAW						6/1/2021		
287	30-015-47798-0000	NUGGET 6-31 FED COM 171H	OXY U S A INC	PERMIT	PURPLE SAGE						11/1/2020		
288	30-015-47802-0000	NUGGET 6-31 FED COM 173H	OXY U S A INC	PERMIT	PURPLE SAGE						11/1/2020		
289	30-015-47803-0000	NUGGET 6-31 FED COM 174H	OXY U S A INC	PERMIT	PURPLE SAGE						11/1/2020		
290	30-015-47805-0000	NUGGET 6-31 FED COM 175H	OXY U S A INC	PERMIT	PURPLE SAGE						11/1/2020		
291	30-015-50059-0000	NUGGET 6-31 FED COM 176H	OXY U S A INC	PERMIT	PURPLE SAGE						9/1/2022		
292	30-015-47800-0000	NUGGET 6-31 FEDERAL 172H	OXY U S A INC	PERMIT	PURPLE SAGE						11/1/2020		
293	30-015-53212-0000	PAJARITO FEDERAL CO 005H	STRATA PRODUCTION CO	PERMIT	FORTY NINER RIDGE						12/1/2022		
294	30-025-51080-0000	PAW SWAP 12-36 FED 022H	OXY U S A INC	PERMIT	RED TANK						2/1/2023		
295	30-025-51081-0000	PAW SWAP 12-36 FED 023H	OXY U S A INC	PERMIT	RED TANK						2/1/2023		
296	30-025-51082-0000	PAW SWAP 12-36 FED 031H	OXY U S A INC	PERMIT	WILDCAT						2/1/2023		
297	30-025-50956-0000	PEGASUS 3 FED COM 304H	EOG RESOURCES INC	PERMIT	TRISTE DRAW						1/1/2023		
298	30-025-50957-0000	PEGASUS 3 FED COM 305H	EOG RESOURCES INC	PERMIT	TRISTE DRAW						1/1/2023		
299	30-025-50803-0000	PEGASUS 3 FED COM 605H	EOG RESOURCES INC	PERMIT	TRISTE DRAW						11/1/2022		
300	30-025-50401-0000	PEGASUS 3 FED COM 752H	EOG RESOURCES INC	PERMIT	TRISTE DRAW						6/1/2022		
301	30-025-50321-0000	PEGASUS 3 FED COM 755H	EOG RESOURCES INC	PERMIT	TRISTE DRAW						5/1/2022		
302	30-025-47237-0000	PEGASUS 3 FEDERAL C 304H	EOG RESOURCES INC	PERMIT	TRISTE DRAW						3/1/2020		
303	30-015-46191-0000	PLATINUM MDP1 `34-3 041H	OXY U S A INC	PERMIT	PURPLE SAGE						7/1/2019		
304	30-015-46188-0000	PLATINUM MDP1 `34-3 043H	OXY U S A INC	PERMIT	PURPLE SAGE						7/1/2019		
305	30-015-46190-0000	PLATINUM MDP1 `34-3 044H	OXY U S A INC	PERMIT	PURPLE SAGE						7/1/2019		
306	30-015-46189-0000	PLATINUM MDP1 `34-3 045H	OXY U S A INC	PERMIT	PURPLE SAGE						7/1/2019		
307	30-015-46776-0000	PLATINUM MDP1 34 3 011H	OXY U S A INC	PERMIT	COTTON DRAW						2/1/2020		
308	30-015-46785-0000	PLATINUM MDP1 34 3 012H	OXY U S A INC	PERMIT	COTTON DRAW						2/1/2020		
309	30-015-46778-0000	PLATINUM MDP1 34 3 021H	OXY U S A INC	PERMIT	COTTON DRAW						2/1/2020		
310	30-015-46775-0000	PLATINUM MDP1 34 3 022H	OXY U S A INC	PERMIT	COTTON DRAW						2/1/2020		
311	30-015-46187-0000	PLATINUM MDP1 34 3 042H	OXY U S A INC	PERMIT	PURPLE SAGE						7/1/2019		
312	30-015-46787-0000	PLATINUM MDP1 34 3 046H	OXY U S A INC	PERMIT	PURPLE SAGE						2/1/2020		
313	30-015-53204-0000	POKER LAKE UNIT 21 101H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
314	30-015-53214-0000	POKER LAKE UNIT 21 102H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
315	30-015-53228-0000	POKER LAKE UNIT 21 103H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
316	30-015-53215-0000	POKER LAKE UNIT 21 105H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
317	30-015-53217-0000	POKER LAKE UNIT 21 107H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
318	30-015-53216-0000	POKER LAKE UNIT 21 108H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
319	30-015-53218-0000	POKER LAKE UNIT 21 121H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
320	30-015-53219-0000	POKER LAKE UNIT 21 122H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
321	30-015-53220-0000	POKER LAKE UNIT 21 123H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
322	30-015-53221-0000	POKER LAKE UNIT 21 125H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
323	30-015-53222-0000	POKER LAKE UNIT 21 127H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
324	30-015-53223-0000	POKER LAKE UNIT 21 128H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
325	30-015-53252-0000	POKER LAKE UNIT 21 151H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						1/1/2023		
326	30-015-53253-0000	POKER LAKE UNIT 21 152H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
327	30-015-53254-0000	POKER LAKE UNIT 21 154H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
328	30-015-53255-0000	POKER LAKE UNIT 21 155H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
329	30-015-53256-0000	POKER LAKE UNIT 21 157H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
330	30-015-53257-0000	POKER LAKE UNIT 21 158H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
331	30-015-53258-0000	POKER LAKE UNIT 21 168H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
332	30-015-53381-0000	POKER LAKE UNIT 21 171H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						2/1/2023		
333	30-015-53259-0000	POKER LAKE UNIT 21 172H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
334	30-015-53260-0000	POKER LAKE UNIT 21 173H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
335	30-015-50199-0000	POKER LAKE UNIT 21 176H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
336	30-015-50200-0000	POKER LAKE UNIT 21 177H	XTO PERMIAN OPER LLC	PERMIT	DOG TOWN DRAW						11/1/2022		
337	30-015-53261-0000	POKER LAKE UNIT 21 178H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
338	30-015-53382-0000	POKER LAKE UNIT 21 181H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						2/1/2023		
339	30-015-53262-0000	POKER LAKE UNIT 21 182H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
340	30-015-53263-0000	POKER LAKE UNIT 21 183H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
341	30-015-53265-0000	POKER LAKE UNIT 21 185H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
342	30-015-53264-0000	POKER LAKE UNIT 21 187H	XTO PERMIAN OPER LLC	PERMIT	PURPLE SAGE						11/1/2022		
343	30-015-46533-0000	PRECIOUS 30 18 FEDE 012H	OXY U S A INC	PERMIT	INGLE WELLS						12/1/2019		
344	30-015-46531-0000	PRECIOUS 30 18 FEDE 013H	OXY U S A INC	PERMIT	INGLE WELLS						12/1/2019		
345	30-015-46522-0000	PRECIOUS 30 18 FEDE 021H	OXY U S A INC	PERMIT	INGLE WELLS						12/1/2019		
346	30-015-46678-0000	PRECIOUS 30 18 FEDE 022H	OXY U S A INC	PERMIT	CASS DRAW						1/1/2020		
347	30-015-46541-0000	PRECIOUS 30 18 FEDE 023H	OXY U S A INC	PERMIT	INGLE WELLS						12/1/2019		
348	30-015-46540-0000	PRECIOUS 30 18 FEDE 024H	OXY U S A INC	PERMIT	INGLE WELLS						12/1/2019		
349	30-015-46542-0000	PRECIOUS 30 18 FEDE 026H	OXY U S A INC	PERMIT	INGLE WELLS						12/1/2019		
350	30-015-46520-0000	PRECIOUS 30 18 FEDE 031H	OXY U S A INC	PERMIT	INGLE WELLS						12/1/2019		
351	30-015-46617-0000	PRECIOUS 30 18 FEDE 033H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2020		
352	30-015-46616-0000	PRECIOUS 30 18 FEDE 034H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2020		
353	30-015-46521-0000	PRECIOUS 30 18 FEDE 041H	OXY U S A INC	PERMIT	FORTY NINER RIDGE						12/1/2019		
354	30-015-46609-0000	PRECIOUS 30 18 FEDE 042H	OXY U S A INC	PERMIT	FORTY NINER RIDGE						1/1/2020		
355	30-015-46525-0000	PRECIOUS 30 18 FEDE 045H	OXY U S A INC	PERMIT	SAND DUNES WEST						12/1/2019		
356	30-015-46524-0000	PRECIOUS 30 18 FEDE 046H	OXY U S A INC	PERMIT	SAND DUNES						12/1/2019		
357	30-015-46543-0000	PRECIOUS 30 18 FEDE 173H	OXY U S A INC	PERMIT	SAND DUNES						12/1/2019		
358	30-015-46610-0000	PRECIOUS 30 18 FEDE 174H	OXY U S A INC	PERMIT	SAND DUNES WEST						1/1/2020		
359	30-015-46376-0000	PRECIOUS 30-18 FEDE 011H	OXY U S A INC	PERMIT	INGLE WELLS						10/1/2019		
360	30-015-46615-0000	PRECIOUS 30-18 FEDE 014H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2020		
361	30-015-46545-0000	PRECIOUS 30-18 FEDE 025H	OXY U S A INC	PERMIT	INGLE WELLS						12/1/2019		
362	30-015-46544-0000	PRECIOUS 30-18 FEDE 044H	OXY U S A INC	PERMIT	SAND DUNES WEST						12/1/2019	11/28/2022	
363	30-015-45867-0000	PURE GOLD MDP1 `29- 009H	OXY U S A INC	PERMIT	INGLE WELLS						2/1/2019		
364	30-015-45713-0000	PURE GOLD MDP1 `29 010H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2019		
365	30-015-45714-0000	PURE GOLD MDP1 `29 011H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2019		
366	30-015-45715-0000	PURE GOLD MDP1 `29 012H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2019		
367	30-015-45755-0000	PURE GOLD MDP1 `29 013H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2019		
368	30-015-45778-0000	PURE GOLD MDP1 `29 021H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2019		
369	30-015-45753-0000	PURE GOLD MDP1 `29 022H	OXY U S A INC	PERMIT	INGLE WELLS						2/1/2019		
370	30-015-45756-0000	PURE GOLD MDP1 `29- 024H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2019		
371	30-015-45757-0000	PURE GOLD MDP1 `29 471H	OXY U S A INC	PERMIT	SAND DUNES WEST						2/1/2019		
372	30-015-45758-0000	PURE GOLD MDP1 `29 472H	OXY U S A INC	PERMIT	SAND DUNES WEST						2/1/2019		
373	30-015-45782-0000	PURE GOLD MDP1 `29- 473H	OXY U S A INC	PERMIT	WILDCAT						2/1/2019		
374	30-015-45759-0000	PURE GOLD MDP1 `29 475H	OXY U S A INC	PERMIT	SAND DUNES WEST						1/1/2019		
375	30-015-45784-0000	PURE GOLD MDP1 `29 476H	OXY U S A INC	PERMIT	WILDCAT						2/1/2019		
376	30-015-45779-0000	PURE GOLD MDP1 `29_ 023H	OXY U S A INC	PERMIT	INGLE WELLS						2/1/2019		
377	30-015-45777-0000	PURE GOLD MDP1 29 1 014H	OXY U S A INC	PERMIT	INGLE WELLS						1/1/2019		
378	30-015-45783-0000	PURE GOLD MDP1 29-1 474H	OXY U S A INC	PERMIT	WILDCAT						2/1/2019		
379	30-025-50149-0000	QUESO FEDERAL COM 602H	COG PROD LLC	PERMIT	TRIPLE X WEST						4/1/2022		
380	30-025-50150-0000	QUESO FEDERAL COM 603H	COG PROD LLC	PERMIT	TRIPLE X WEST						4/1/2022		
381	30-025-49209-0000	RAMATHORN 14 WA FED 002H	EOG RESOURCES INC	PERMIT	BOOTLEG RIDGE NW						5/1/2021		
382	30-025-46994-0000	RED TANK 3 FEDERAL 001H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						2/1/2020		
383	30-025-47649-0000	RED TANK 3 FEDERAL 002H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						2/1/2020		
384	30-025-46995-0000	RED TANK 3 FEDERAL 003H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						12/1/2019		
385	30-025-47650-0000	RED TANK 3 FEDERAL 004H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						12/1/2019		
386	30-025-46996-0000	RED TANK 3 FEDERAL 005H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						12/1/2019		
387	30-025-46997-0000	RED TANK 3 FEDERAL 006H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						2/1/2020		
388	30-025-48457-0000	RED TANK 3 FEDERAL 007H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						9/1/2020		
389	30-025-47651-0000	RED TANK 3 FEDERAL 008H	CIMAREX ENERGY CO	PERMIT	DIAMONDTAIL						5/1/2020		
390	30-025-46999-0000	RED TANK 3 FEDERAL 013H	CIMAREX ENERGY CO	PERMIT	UNNAMED						1/1/2019		
391	30-025-46991-0000	RED TANK 4 FEDERAL 045H	CIMAREX ENERGY CO	PERMIT	UNNAMED						2/1/2020		
392	30-025-46357-0000	RED TANK 4 FEDERAL 057H	CIMAREX ENERGY CO	PERMIT	SAND DUNES						11/1/2018		
393	30-025-46358-0000	RED TANK 4 FEDERAL 058H	CIMAREX ENERGY CO	PERMIT	SAND DUNES						11/1/2018		
394	30-025-46359-0000	RED TANK 4 FEDERAL 059H	CIMAREX ENERGY CO	PERMIT	WILDCAT						11/1/2018		
395	30-025-46990-0000	RED TANK 4 FEDERAL 44H	CIMAREX ENERGY CO	PERMIT	UNNAMED						2/1/2020		
396	30-025-49647-0000	REDTAIL STATE COM 501H	COG OPERATING LLC	PERMIT	RED TANK						12/1/2021		
397	30-025-49648-0000	REDTAIL STATE COM 502H	COG OPERATING LLC	PERMIT	RED TANK						12/1/2021		
398	30-025-49649-0000	REDTAIL STATE COM 503H	COG OPERATING LLC	PERMIT	RED TANK						12/1/2021		
399	30-025-49650-0000	REDTAIL STATE COM 504H	COG OPERATING LLC	PERMIT	RED TANK						12/1/2021		
400	30-025-49651-0000	REDTAIL STATE COM 505H	COG OPERATING LLC	PERMIT	RED TANK						12/1/2021		
401	30-025-49652-0000	REDTAIL STATE COM 506H	COG OPERATING LLC	PERMIT	RED TANK						12/1/2021		
402	30-025-48444-0000	RIGHT MEOW 30-31 FE 121H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						12/1/2020		
403	30-025-48199-0000	RIGHT MEOW 30-31 FE 122H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						12/1/2020		
404	30-025-48445-0000	RIGHT MEOW 30-31 FE 331H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						1/1/2021		
405	30-025-48458-0000	RIGHT MEOW 30-31 FE 332H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						12/1/2020		
406	30-025-48200-0000	RIGHT MEOW 30-31 FE 521H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						12/1/2020		
407	30-025-48446-0000	RIGHT MEOW 30-31 FE 522H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						12/1/2020		
408	30-025-48201-0000	RIGHT MEOW 30-31 FE 531H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						12/1/2020		
409	30-025-48447-0000	RIGHT MEOW 30-31 FE 532H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						12/1/2020		
410	30-015-53206-0000	ROADRUNNER FEDERAL 004H	STRATA PRODUCTION CO	PERMIT	FORTY NINER RIDGE						12/1/2022		
411	30-015-53207-0000	ROADRUNNER FEDERAL 014H	STRATA PRODUCTION CO	PERMIT	FORTY NINER RIDGE						12/1/2022		
412	30-015-46745-0000	SANDY FEDERAL SWD 010	STRATA PRODUCTION CO	PERMIT	SWD						9/1/2019		
413	30-025-50949-0000	STACK CATS 25 36 FE 031H	OXY U S A INC	PERMIT	RED TANK WEST						1/1/2023		
414	30-025-50950-0000	STACK CATS 25 36 FE 032H	OXY U S A INC	PERMIT	RED TANK WEST						1/1/2023		
415	30-025-50951-0000	STACK CATS 25 36 FE 033H	OXY U S A INC	PERMIT	RED TANK WEST						1/1/2023		
416	30-025-50953-0000	STACK CATS 25 36 FE 311H	OXY U S A INC	PERMIT	RED TANK WEST						1/1/2023		
417	30-025-50954-0000	STACK CATS 25 36 FE 312H	OXY U S A INC	PERMIT	RED TANK						1/1/2023		
418	30-015-46049-0000	STERLING SILVER MDP 179H	OXY U S A INC	PERMIT	PURPLE SAGE						5/1/2019		
419	30-025-50466-0000	SWALLOWTAIL 14-11 T 001H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						7/1/2022		
420	30-025-50467-0000	SWALLOWTAIL 14-11 T 003H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						6/1/2022		
421	30-025-50005-0000	SWALLOWTAIL 14-11 T 005H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL EAST						3/1/2022		
422	30-025-50334-0000	SWALLOWTAIL 14-11 T 007H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						4/1/2022		
423	30-025-50335-0000	SWALLOWTAIL 14-11 T 009H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						4/1/2022		
424	30-025-50468-0000	SWALLOWTAIL 14-11 T 011H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						7/1/2022		
425	30-025-50336-0000	SWALLOWTAIL 14-11 W 002H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						4/1/2022		
426	30-025-50007-0000	SWALLOWTAIL 14-11 W 004H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
427	30-025-50008-0000	SWALLOWTAIL 14-11 W 006H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
428	30-025-50009-0000	SWALLOWTAIL 14-11 W 008H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
429	30-025-50337-0000	SWALLOWTAIL 14-11 W 010H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						4/1/2022		
430	30-025-50010-0000	SWALLOWTAIL 14-11 W 012H	MARATHON OIL PERMIAN	PERMIT	DIAMONDTAIL						3/1/2022		
431	30-025-47556-0000	TACO CAT `27-34` FE 012H	OXY U S A INC	PERMIT	RED TANK						8/1/2020		
432	30-025-47557-0000	TACO CAT `27-34` FE 013H	OXY U S A INC	PERMIT	RED TANK						8/1/2020		
433	30-025-47558-0000	TACO CAT `27-34` FE 015H	OXY U S A INC	PERMIT	RED TANK						8/1/2020		
434	30-025-47559-0000	TACO CAT `27-34` FE 016H	OXY U S A INC	PERMIT	RED TANK						8/1/2020		
435	30-025-46932-0000	TACO CAT 27-34 FEDE 014H	OXY U S A INC	PERMIT	RED TANK						2/1/2020		
436	30-015-45908-0000	TODD 36-25 STATE FE 230H	DEVON ENERGY PRODUCT	PERMIT	SAND DUNES SOUTH						4/1/2019		
437	30-015-46150-0000	TOMB RAIDER 1-12 FE 332H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						6/1/2019		

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
438	30-015-46129-0000	TOMB RAIDER 12-1 FE 331H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						6/1/2019		
439	30-015-45437-0000	TOMB RAIDER 12-1 FE 521H	DEVON ENERGY PRODUCT	PERMIT	LIVINGSTON RIDGE						10/1/2018		
440	30-015-46130-0000	TOMB RAIDER 12-1 FE 731H	DEVON ENERGY PRODUCT	PERMIT	INGLE WELLS						6/1/2019		
441	30-015-48594-0000	TOP SPOT 12-13 FEDE 001H	OXY U S A INC	PERMIT	BILBREY BASIN						6/1/2021		
442	30-015-47498-0000	TOP SPOT 12-13 FEDE 002H	OXY U S A INC	PERMIT	LIVINGSTON RIDGE						9/1/2020		
443	30-015-47499-0000	TOP SPOT 12-13 FEDE 012H	OXY U S A INC	PERMIT	RED TANK						9/1/2020		
444	30-015-47889-0000	TOP SPOT 12-13 FEDE 022H	OXY U S A INC	PERMIT	BILBREY BASIN						12/1/2020		
445	30-015-47885-0000	TOP SPOT 12-13 FEDE 023H	OXY U S A INC	PERMIT	BILBREY BASIN						12/1/2020		
446	30-015-47954-0000	TOP SPOT 12-13 FEDE 024H	OXY U S A INC	PERMIT	BILBREY BASIN						12/1/2020		
447	30-015-47639-0000	TOP SPOT 12-13 FEDE 025H	OXY U S A INC	PERMIT	RED TANK						11/1/2020		
448	30-015-47888-0000	TOP SPOT 12-13 FEDE 026H	OXY U S A INC	PERMIT	BILBREY BASIN						12/1/2020		
449	30-015-47953-0000	TOP SPOT 12-13 FEDE 033H	OXY U S A INC	PERMIT	LIVINGSTON RIDGE						12/1/2020		
450	30-025-47657-0000	TRISTE DRAW 25 FED 019H	CIMAREX ENERGY CO	PERMIT	TRISTE DRAW						6/1/2020		
451	30-015-53276-0000	VANADIUM 32 STATE 004H	OXY U S A INC	PERMIT	COTTON DRAW						1/1/2023		
452	30-015-53277-0000	VANADIUM 32 STATE 005H	OXY U S A INC	PERMIT	COTTON DRAW						1/1/2023		
453	30-015-53278-0000	VANADIUM 32 STATE 175H	OXY U S A INC	PERMIT	SAND DUNES WEST						1/1/2023		
454	30-015-53279-0000	VANADIUM 32 STATE 176H	OXY U S A INC	PERMIT	SAND DUNES WEST						1/1/2023		
		PERMITTED WELLS											
1	30-015-38624-7000	ALDABRA `26` FEDERA 8H	DEVON ENERGY PRODUCT	JNK	INGLE WELLS						3/1/2011	10/28/2013	11/28/2013
2	30-015-46965-0000	ALEUTIAN 10-3 FED C 212H	DEVON ENERGY PRODUCT	DRY	LIVINGSTON RIDGE	BONE SPRING					4/1/2020	7/7/2020	8/27/2020
3	30-015-28123-0001	AMAX `24` FEDERAL 012	POGO PRODUCING CO	DRY	INGLE WELLS	DELAWARE					3/1/1995	3/15/1995	3/22/1995
4	30-015-28123-0002	AMAX `24` FEDERAL 012	POGO PRODUCING CO	DRY	INGLE WELLS	DELAWARE					3/1/1995	4/2/1995	4/11/1995
5	30-025-29495-0000	AMOCO `29` FEDERAL 1	HIBBERT R E ETAL	DHSO	WILDCAT	DELAWARE					11/1/1985	11/16/1985	11/28/1985
6	30-025-31821-0001	ANDERSON 1	MANZANO OIL CORP	DRY	WILDCAT	DELAWARE					6/1/1993	6/30/1993	10/26/1993
7	30-025-33354-0001	APRIL APZ STATE 001	YATES PETROLEUM CORP	DRY	UNNAMED	DELAWARE					10/1/1996	10/18/1996	11/3/1996
8	30-025-31650-0000	ARACANGA FEDERAL 001	STRATA PRODUCTION CO	DRY	SWD	DELAWARE					7/1/1992	2/23/1993	3/14/1993
9	30-025-31651-0000	ARACANGA FEDERAL 2	STRATA PRODUCTION CO	DHSO	WILDCAT						8/1/1992	8/22/1992	2/4/1998
10	30-025-33862-0000	AVION FEDERAL 2	STRATA PRODUCTION CO	DRY	DIAMONDTAIL	DELAWARE					4/1/1997	4/29/1997	5/18/1997
11	30-025-34817-0000	AVION FEDERAL 3	ECHO PRODUCTION INC	DRY	TRISTE DRAW	DELAWARE					11/1/1999	2/1/2000	4/24/2000
12	30-025-33318-0000	AXE `25` FEDERAL 1	POGO PRODUCING CO	DRY	WILDCAT						2/1/1996	3/2/1996	3/21/1996
13	30-015-20872-0000	BADGER UNIT-FEDERAL 1	CLAYTON WILIAMS ENRG	DRY							6/1/1973	6/28/1973	9/17/1973
14	30-015-27622-0001	BARCLAY `11G` FEDER 007	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE					2/1/1998	4/9/1998	4/30/1998
15	30-015-25419-0002	BARCLAY 11 H FEDERA 001	DEVON ENERGY PRODUCT	DRY	LIVINGSTON RDG S						7/1/2004	11/19/2004	12/16/2004
16	30-015-24954-0001	BARCLAY FEDERAL 001	UNION OIL CO OF CA	DRY	SAND DUNES NORTH	MORROW					8/1/1991	9/8/1991	9/16/1991
17	30-015-25534-0002	BARCLAY STATE 1	ARCO PERMIAN	DRY	LIVINGSTON RDG S	DELAWARE					6/1/1997	6/26/1997	8/11/1997
18	30-015-29590-0001	BARCLAY STATE 2	ARCO PERMIAN	DRY	LIVINGSTON RDG S	DELAWARE					6/1/1998	6/21/1998	6/24/1998
19	30-025-32121-0000	BARR NONE FEDERAL 3	WTI LTD	DRY	LEA CO UNDESIGNTD						9/1/1993	10/1/1993	10/25/1994
20	30-025-20734-0000	BASS-FEDERAL 1	LOWE RALPH L	DHSO							5/1/1964	5/31/1964	6/9/1964
21	30-015-10036-0000	BAUERDORF-FEDERAL 1	WILSON MAX M	DRY							12/1/1962	1/3/1963	2/22/1963
22	30-025-43475-0000	BIG CAT 16 STATE VD 001	DEVON ENERGY PRODUCT	JNK	UNNAMED						11/1/2016	12/8/2016	12/24/2016
23	30-015-21685-0000	BIG EDDY UNIT 45	BASS PERRY R	JNK	WILDCAT						12/1/1975	1/8/1976	1/17/1976
24	30-015-21723-0000	BIG EDDY UNIT 45X	BASS PERRY R	DRY	WILDCAT						1/1/1976	1/18/1976	2/7/1976
25	30-015-25009-0000	BIG EDDY UNIT 91	BASS PERRY R	DHSG	WILDCAT						10/1/1984	11/8/1984	1/3/1985
26	30-025-30873-0000	BILBREY `22` FEDERA 1	SANTA FE ENR OP PRTN	DHSG	BILBREY						6/1/1990	6/26/1990	10/24/1990
27	30-025-30664-0001	BILBREY `28-A` FEDE 1	SANTA FE ENR OP PRTN	DRY	BILBREY	MORROW					3/1/1990	3/21/1990	5/16/1990
28	30-025-30781-0002	BILBREY `33` FEDERA 1	TEXACO EXPL&PROD INC	DRY	BILBREY	MORROW					1/1/2000	1/21/2000	7/13/2001
29	30-025-30495-0001	BILBREY 28 FEDERAL 001	SANTA FE ENR OP PRTN	DRY	BILBREY	MORROW					11/1/1991	11/27/1991	12/12/1991
30	30-025-31120-0001	BILBREY 34 FEDERAL 001	MARALO INC	DRY	BILBREY	402MWCC					8/1/1991	8/27/1991	10/2/1991
31	30-025-02610-0000	BOESCHE 1	CULBERTSON&IRWIN INC	DRY							5/1/1937	6/1/1937	8/5/1937
32	30-025-20810-0000	BOOTLEG RIDGE UNIT 1	SHELL OIL CO	DRY	WILDCAT	BONE SPRING					2/1/1964	2/22/1964	8/24/1964
33	30-025-30593-0000	BOOTLEG-PHILLIPS FE 1	TRAINER C W	DRY	WILDCAT						4/1/1989	4/28/1989	10/10/1989
34	30-025-21081-0000	BRINNINSTOOL P UNIT 1	PURE OIL CO THE	DRY							3/1/1964	3/23/1964	1/25/1965
35	30-015-21216-0000	CABIN BABY FEDERAL 1	GRACE MICHAEL P INC	DRY	WILDCAT						5/1/1974	5/31/1974	2/8/1975
36	30-015-43140-0100	CAL-MON `35` FEDERA 041H	OXY U S A INC	DRY	INGLE WELLS	BONE SPRING					5/1/2015	1/11/2017	1/22/2017
37	30-015-45525-0000	CAL-MON `35` FEDERA 176H	OXY U S A INC	DRY	INGLE WELLS	BONE SPRING					11/1/2018	12/30/2018	2/5/2019
38	30-015-25640-0000	CAL-MON 005	POGO PRODUCING CO	DRY	SAND DUNES	DELAWARE					7/1/1986	7/23/1986	11/21/1986
39	30-015-28026-0001	CALMON 018	POGO PRODUCING CO	DRY	INGLE WELLS						8/1/1996	8/27/1996	10/9/1996
40	30-015-24608-0000	CAL-MON 1	POGO PRODUCING CO	DRY							9/1/1983	9/28/1983	10/16/1983
41	30-015-21098-0000	CAMPANA 1	MCKNIGHT BYRON M	DHSO	CABIN LAKE	MORROW					2/1/1974	2/19/1974	3/28/1975
42	30-015-05837-0000	CARPER-BOSWORTH 1	BOSWORTH IW	DRY							8/1/1949	8/12/1949	10/3/1949
43	30-025-48487-0000	CATTY SHACK 6-7 FED 713H	DEVON ENERGY PRODUCT	JNK	SAND DUNES SOUTH						12/1/2020	4/8/2021	4/18/2021
44	30-025-29603-0000	CENTRAL SOUTHWEST O 1	EXXON CORP	DRY	WILDCAT						2/1/1986	2/26/1986	3/7/1986
45	30-025-34337-0000	CERCION FEDERAL 8	STRATA PRODUCTION CO	DRY	LIVINGSTON RDG E						3/1/1998	3/7/1998	3/25/1998
46	30-025-27634-0000	CHANEY FEDERAL 1	GULF OIL CORP	DRY	WILDCAT						11/1/1981	11/18/1981	12/7/1981
47	30-015-28808-0000	CHARGER `29` FEDERA 001	SANTA FE ENRGY RESCS	DRY	EDDY UNDESIGNATED	DELAWARE					1/1/1996	2/29/1996	4/11/1996
48	30-025-31907-0001	CHECKERBOARD `23` F 002	MERIDIAN OIL INC	DRY	RED TANK WEST	DELAWARE					11/1/1994	11/11/1994	11/16/1994
49	30-025-32795-0001	CHECKERBOARD `23` F 012	BURLINGTON RES O&G	DRY	RED TANK WEST	DELAWARE					9/1/1996	10/8/1996	10/16/1996
50	30-025-32795-0002	CHECKERBOARD `23` F 012	BURLINGTON RES O&G	DRY	RED TANK WEST	DELAWARE					9/1/1999	9/29/1999	10/14/1999
51	30-025-32864-0002	CHECKERBOARD `23` F 013	MERIDIAN OIL INC	DRY	RED TANK	DELAWARE					9/1/1996	9/17/1996	10/4/1996
52	30-025-31906-0002	CHECKERBOARD `23` F 1	BURLINGTON RES O&G	DRY	RED TANK	DELAWARE					9/1/1996	9/12/1996	9/19/1996
53	30-015-27617-0001	CHRISTOPHER `31` FE 002	PHILLIPS PETRLM CO	DRY	SAND DUNES WEST	CHERRY CANYON					1/1/1994	2/10/1994	3/27/1994
54	30-025-31926-0000	CLEARY `AKA` FEDERA 2	YATES PETROLEUM CORP	DHSO	LIVINGSTON RDG E	DELAWARE					3/1/1993	3/31/1993	4/17/1993
55	30-025-32972-0000	CODORNIZ FEDERAL 2	STRATA PRODUCTION CO	DRY	DIAMONDTAIL						5/1/1995	5/30/1995	6/19/1995
56	30-025-08125-0000	CONTINENTAL-FED 1	HANKAMER CURTIS CORP	DHSO							9/1/1962	9/22/1962	10/5/1962
57	30-025-20428-0000	CONTINENTAL-FEDERAL 1	WILSON MAX M	DRY	WILDCAT	BONE SPRING					12/1/1962	12/31/1962	2/3/1963
58	30-025-08117-0000	CONTINENTAL-FEDERAL 1-15	TRIGG JOHN H	DRY							5/1/1962	5/18/1962	6/1/1962
59	30-025-08115-0000	CONTINENTAL-FEDERAL 1-9	MCBEE OIL CO	DRY							3/1/1962	3/27/1962	4/10/1962
60	30-015-05844-0000	CONTINENTAL-STATE 1	LEONARD J A	DRY							1/1/1961	2/6/1961	2/23/1961
61	30-025-33574-0001	CORIANDER `AOC` STA 2	YATES PETROLEUM CORP	DRY	UNNAMED	CHERRY CANYON					2/1/1997	2/21/1997	4/4/1997
62	30-025-33531-0001	CORIANDER AOC STATE 001	YATES PETROLEUM CORP	DRY	RED TANK	DELAWARE					5/1/2001	5/30/2001	6/11/2001
63	30-025-35312-0000	CORSAIR `27` FEDERA 2	ECHO PRODUCTION INC	DRY	TRISTE DRAW	DELAWARE					12/1/2000	1/18/2001	3/20/2001
64	30-025-44548-0000	CORTELL NINA FEDERA 121H	MATADOR PROD CO	DRY	BILBREY BASIN	BONE SPRING					2/1/2018	9/13/2018	10/12/2018
65	30-025-24947-0002	COVINGTON `A` FEDER 001	POGO PRODUCING CO	DRY	RED TANK	BONE SPRING					6/1/1991	6/20/1991	6/29/1991
66	30-025-33224-0002	COVINGTON `A` FEDER 016	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE					4/1/1997	4/19/1997	4/27/1997
67	30-025-33399-0002	COVINGTON A FEDERAL 014	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE					7/1/2002	7/24/2002	8/2/2002
68	30-025-08111-0000	CULBERSON 1	CULBERTSON&IRWIN INC	DRY							12/1/1944	12/15/1944	4/16/1945
69	30-025-33261-0000	DIAMONDTAIL 34 FEDE 4	EOG RESOURCES INC	DRY	TRISTE DRAW						1/1/1996	1/29/1996	1/22/2004
70	30-015-26547-0001	DOLORES `AIL` FEDER 001	YATES PETROLEUM CORP	DRY	LIVINGSTON RIDGE	DELAWARE					7/1/1991	8/14/1991	8/19/1991
71	30-015-04733-0000	DUNCAN 1	STANOLND OIL CO	DRY							10/1/1934	10/29/1934	12/18/1934
72	30-025-31976-0000	EMERALD FEDERAL 001	PHILLIPS PETRLM CO	DRY	LIVINGSTON RDG E	DELAWARE					2/1/1993	5/24/1993	6/10/1993
73	30-025-02614-0000	ETZ 1	JEFFERS OIL CO	DRY							4/1/1935	4/13/1935	7/5/1935
74	30-025-02615-0000	ETZ 1	GETTY OIL CO	DHSO							11/1/1936	12/1/1936	2/22/1937
75	30-025-02608-0000	ETZ-FEDERAL 1	PHILLIPS PETRLM CO	JNK		UNKNOWN					10/1/1955	10/25/1955	7/3/1956
76	30-025-02617-0000	EVA BROWN 1	CULBERTSON&IRWIN INC	DRY							7/1/1935	7/25/1935	9/27/1935
77	30-015-26519-0000	EXXON FEDERAL 1	SOUTHWEST ROYALTIES	DHSO	WILDCAT						11/1/1990	11/20/1990	7/2/1991
78	30-025-33001-0001	FALCON `32` STATE 1	SANTA FE ENRGY RESCS	DRY	TRISTE DRAW WEST	DELAWARE					9/1/1996	9/10/1996	9/27/1996
79	30-015-20947-0000	FEDERAL /B/ 1	ZONNE R J	DRY	WILDCAT						9/1/1973	9/20/1973	10/5/1974
80	30-015-39436-0000	FEDERAL `23` 7H	OXY U S A INC	JNK	LIVINGSTON RIDGE	DELAWARE					9/1/2011	7/15/2012	7/5/2013
81	30-025-32842-0001	FEDERAL `27` 006	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE					4/1/2001	5/10/2001	6/10/2001
82	30-015-25595-0000	FEDERAL `44` 1	POGO PRODUCING CO	DRY	SAND DUNES						4/1/1986	4/28/1986	7/4/1986
83	30-015-20845-0000	FEDERAL `A` 001	ZONNE R J	DRY	UNNAMED						4/1/1973	4/30/1973	10/12/1974

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
84	30-015-23896-0000	FEDERAL `FI` 1	UNION OIL CO OF CA	DRY	WILDCAT						9/1/1981	9/25/1981	10/7/1981
85	30-015-25301-0000	FEDERAL `NEFF` 1	POGO PRODUCING CO	DRY	LOS MEDANOS EAST	MORROW					5/1/1985	5/30/1985	4/29/1986
86	30-015-23045-0000	FEDERAL 1	POGO PRODUCING CO	DRY	WILDCAT						10/1/1979	10/31/1979	9/26/1982
87	30-025-02609-0000	FEDERAL 1	SOUTHERN CA GAS CO	DRY							12/1/1953	12/19/1953	1/18/1954
88	30-025-02613-0000	FEDERAL 1	GACKLE DRLG CO INC	DRY							11/1/1961	11/30/1961	12/10/1961
89	30-025-08114-0000	FEDERAL 1	KIEL O B JR	DRY							10/1/1961	11/4/1961	11/25/1961
90	30-015-26376-0001	FEDERAL 26 1	POGO PRODUCING CO	DRY	LIVINGSTON RIDGE	DELAWARE					11/1/1990	11/15/1990	11/15/1990
91	30-025-32796-0001	FEDERAL 27 004	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE					6/1/2000	6/14/2000	6/26/2000
92	30-025-32755-0001	FEDERAL 27 008	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE					1/1/1997	1/22/1997	1/30/1997
93	30-025-21436-0000	FEDERAL WL 5-7	TRIGG JOHN H	DRY							6/1/1965	6/13/1965	6/26/1965
94	30-025-02611-0000	FEDERAL-AID 1	TURNER FRED JR ET AL	DRY							3/1/1951	3/27/1951	6/6/1951
95	30-025-08118-0000	FEDERAL-ESTILL AE 1	KIRKLIN DRLG CO	DRY							10/1/1959	10/27/1959	11/8/1959
96	30-025-08130-0000	FEDERAL-JAMES 3	PALMER & MCCARVER	DRY							5/1/1961	6/10/1961	6/23/1961
97	30-025-08122-0000	FEDERAL-JAMES 4	PALMER & MCCARVER	DRY	TRISTE DRAW						10/1/1961	10/20/1961	11/3/1961
98	30-025-08107-0000	FEDERAL-JENNINGS 18 1	TRIGG JOHN H	DHSO							4/1/1961	4/27/1961	5/7/1961
99	30-025-08121-0000	FED-FIELDS 1	PALMER & MCCARVER	DRY							3/1/1961	4/10/1961	4/21/1961
100	30-025-08120-0001	FIELDS 002	CONTINENTAL OIL CO	DRY	CRUZ						9/1/1968	10/8/1968	10/23/1968
101	30-025-25150-0000	FIELDS 3	CONTINENTAL OIL CO	DRY	CRUZ						11/1/1975	11/21/1975	11/30/1975
102	30-025-39364-0000	FLACON 32 STATE 5	DEVON ENERGY PRODUCT	JNK	TRISTE DRAW WEST						3/1/2009	1/17/2010	1/24/2010
103	30-015-26973-0001	FLORA `AKS` STATE 001	YATES PETROLEUM CORP	DRY	LOST LAKE	DELAWARE					1/1/1995	1/17/1995	1/21/1995
104	30-015-38562-7000	FORTY NINER RIDGE U 013H	STRATA PRODUCTION CO	JNK	FORTY NINER RIDGE						2/1/2011	5/21/2011	6/4/2011
105	30-025-45892-0000	FRIZZLE FRY 15 WXY 007H	MARATHON OIL PERMIAN	DRY	LIVINGSTON RDG E	WOLFCAMP					3/1/2019	8/13/2019	8/16/2019
106	30-015-05847-0000	GARDNER TL 1	MARLAND OIL CO	DHSO							3/1/1928	4/4/1928	8/8/1928
107	30-025-26986-0001	GETTY `32` STATE CO 1	TEXACO EXPL&PROD INC	DRY	BILBREY	MORROW					4/1/1995	4/5/1995	4/26/1995
108	30-025-08108-0000	GILMORE 1	CULBERTSON&IRWIN INC	DHSO							4/1/1950	4/28/1950	8/1/1950
109	30-025-08109-0000	GILMORE-FEDERAL 001	UNION OIL CO OF CA	DHSO	SWD	DELAWARE					4/1/1954	4/18/1954	7/16/1954
110	30-015-35313-0001	GLOW WORM `ALX` FED 011	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE					2/1/2013	4/18/2013	5/8/2013
111	30-015-35316-0001	GLOW WORM `ALX` FED 014	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE					11/1/2007	11/15/2007	11/19/2007
112	30-015-28032-0001	GOLD RUSH `30` FEDE 001	MARALO INC	DRY	NASH DRAW	DELAWARE					2/1/1997	2/17/1997	2/26/1997
113	30-015-29747-0001	GOLD RUSH `30` FEDE 002	COG OPERATING LLC	DRY	NASH DRAW	DELAWARE					7/1/2006	7/13/2006	7/21/2006
114	30-015-28922-0001	GOLD RUSH `30` FEDE 5	COG OPERATING LLC	DRY	NASH DRAW	DELAWARE					7/1/2005	7/14/2005	7/29/2005
115	30-015-34081-0001	GOLD RUSH 29 FEDERA 2	COG OPERATING LLC	DRY	NASH DRAW	BONE SPRING					5/1/2014	6/5/2014	10/7/2014
116	30-025-48617-0000	GOUDA FEDERAL COM 605H	CENTENNIAL RES PROD	JNK	BILBREY BASIN	BONE SPRING					4/1/2021	5/13/2021	5/26/2021
117	30-015-28356-0001	GR `30` STATE 001	COG OPERATING LLC	DRY	NASH DRAW	DELAWARE					8/1/2005	8/16/2005	8/31/2005
118	30-015-28931-0001	GR `30` STATE 002	MARALO INC	DRY	NASH DRAW	DELAWARE					12/1/1996	1/6/1997	1/21/1997
119	30-015-28931-0002	GR `30` STATE 002	MARALO LLC	DRY	NASH DRAW	DELAWARE					10/1/2001	11/5/2001	11/26/2001
120	30-015-31912-0001	GRAHAM `AKB` STATE 6	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE					8/1/2014	8/7/2014	9/7/2014
121	30-015-20948-0000	GRCE COTTN BABY-FED 1	GRACE MICHAEL P INC	DRY	WILDCAT						9/1/1973	9/27/1973	1/22/1974
122	30-025-20432-0000	GULF-FEDERAL AA 1	HANKAMER CURTIS CORP	DRY							3/1/1963	3/15/1963	3/23/1963
123	30-025-08134-0000	GULF-STATE 1	FASKEN DAVID	DRY	TRISTE DRAW						2/1/1962	3/2/1962	3/15/1962
124	30-025-25931-0000	HALFWAY FEDERAL 1	UNION OIL	DHSG	HAT MESA						11/1/1978	11/13/1978	8/3/1979
125	30-025-08126-0000	HOLDER-FEDERAL 1	HANKAMER CURTIS CORP	DRY							7/1/1962	8/4/1962	8/14/1962
126	30-025-36486-0001	HORNET 6 FEDERAL 1	DEVON ENERGY PRODUCT	DRY	LIVINGSTON RIDGE	DELAWARE					3/1/2008	3/11/2008	3/27/2008
127	30-015-21052-0003	HUDSON FEDERAL 001	BASS ENTRPRS PROD CO	DRY	QUAHADA RIDGE						8/1/2000	1/17/2001	2/1/2001
128	30-015-45332-0000	IRIDIUM MDP1 `28-21 174H	OXY U S A INC	DRY	INGLE WELLS						9/1/2018	7/21/2019	9/3/2021
129	30-015-31928-0001	JACQUE `AQJ` STATE 005	YATES PETROLEUM CORP	DRY	LOST TANK WEST	DELAWARE					1/1/2002	1/16/2002	1/22/2002
130	30-015-30080-0001	JACQUE AQJ STATE 001	YATES PETROLEUM CORP	DRY	LOST TANK WEST	DELAWARE					4/1/1999	4/27/1999	5/8/1999
131	30-015-20934-0000	JAMES /D/ 1	PHILLIPS PETRLM CO	DHSO	EDDY UNDESIGNATED						8/1/1973	8/28/1973	3/12/1975
132	30-015-26314-0001	JAMES `A` 10	PHILLIPS PETRLM CO	DRY	CABIN LAKE	DELAWARE					12/1/1990	12/25/1990	1/17/1991
133	30-015-25757-0000	JAMES `E` 2	PHILLIPS PETRLM CO	DHSO	EDDY UNDESIGNATED						5/1/1987	6/2/1987	10/22/1987
134	30-015-27966-0000	JAMES `E` FEDERAL 16	PHILLIPS PETRLM CO	DRY	CABIN LAKE						6/1/1994	6/17/1994	7/2/1994
135	30-025-41852-0000	JAMES 29 FEDERAL 38H	CIMAREX ENERGY CO	JNK	SAND DUNES SOUTH	BONE SPRING					5/1/2014	10/8/2014	10/19/2014
136	30-015-26304-0001	JAMES A 008	PHILLIPS PETRLM CO	DRY	CABIN LAKE	DELAWARE					1/1/1991	2/14/1991	3/7/1991
137	30-025-08128-0001	JAMES FEDERAL 001	P M DRLG CO	DRY	TRISTE DRAW						4/1/1969	5/1/1969	5/15/1969
138	30-015-28012-0001	JAMES RANCH UNIT 070	BOPCO LP	DRY	LIVINGSTON RDG NE	ATOKA					3/1/2010	3/11/2010	4/11/2010
139	30-015-21057-0000	JAMES RANCH UNIT 5	BELCO PET NRTH AMER	DRY	UNNAMED						6/1/1974	6/27/1974	7/12/1974
140	30-015-46663-0000	JAMES RANCH UNIT DI 110H	XTO PERMIAN OPER LLC	DRY	LOS MEDANOS SOUTH	WOLFCAMP					1/1/2020	3/1/2020	3/30/2020
141	30-015-43369-0000	JAMES RANCH UNIT DI 194H	BOPCO LP	DRY	LOS MEDANOS						9/1/2015	12/23/2017	2/15/2018
142	30-015-26799-0000	JASMINE `AJI` FEDER 1	YATES PETROLEUM CORP	DHSO	CABIN LAKE	DELAWARE					1/1/1993	1/26/1993	2/12/1993
143	30-025-31362-0000	JOY `AJO` STATE 1	YATES PETROLEUM CORP	DRY	WILDCAT						8/1/1991	8/31/1991	12/3/1991
144	30-025-31600-0001	KIWI `AKX` STATE 004	YATES PETROLEUM CORP	DRY	LIVINGSTON RDG E	DELAWARE					7/1/1992	7/28/1992	8/1/1992
145	30-015-37897-0000	LAST TANK 10 FEDERA 003	OXY U S A INC	JNK	LOST TANK WEST	DELAWARE					5/1/2010	1/22/2011	1/28/2011
146	30-015-40786-0000	LAVA TUBE 27 STATE 1H	DEVON ENERGY PRODUCT	JNK	LOST TANK						10/1/2012	3/3/2013	6/7/2013
147	30-015-27624-0001	LEAH `31` FEDERAL 001	MERIT ENERGY CO	DRY	SAND DUNES WEST						2/1/1998	3/2/1998	3/17/1998
148	30-015-04734-0002	LEGG FEDERAL 1	BOPCO LP	DRY	SWD						5/1/2009	6/6/2009	6/21/2009
149	30-025-02616-0000	LEMON 1	TODD W L JR	DRY							1/1/1936	1/25/1936	5/8/1936
150	30-025-31193-0000	LINCOLN FEDERAL UNI 1	COLLINS & WARE INC	DHSG	LEA CO UNDESIGNTD						3/1/1991	4/1/1991	10/17/1991
151	30-015-26436-0001	LINVINGSTON RIDGE F 2	PHILLIPS PETRLM CO	DRY	CABIN LAKE	DELAWARE					3/1/1993	4/5/1993	5/26/1993
152	30-025-32481-0000	LITTLE JACK `30` FE 002	MERIDIAN OIL INC	DRY	TRISTE DRAW WEST	DELAWARE					4/1/1994	4/29/1994	5/24/1994
153	30-015-34644-0001	LIVINGSTON RIDGE 36 001	SAMSON RESOURCES CO	DRY	RED TANK SOUTH						6/1/2007	6/18/2007	6/28/2007
154	30-015-21050-0001	LIVINGSTON RIDGE FE WD-1	PHILLIPS PETRLM CO	DRY	CABIN LAKE	DELAWARE					9/1/1992	10/6/1992	10/17/1992
155	30-015-21289-0000	LIVINGSTON RIDGE U 1	GRACE CORINE	DRY	CABIN LAKE						8/1/1974	8/31/1974	4/8/1975
156	30-015-45311-7000	LOS MEDANOS 36-23-3 401H	XTO PERMIAN OPER LLC	DRY	UNNAMED						10/1/2018	3/7/2019	3/17/2019
157	30-015-46334-0000	LOS MEDANOS 36-23-3 708H	XTO PERMIAN OPER LLC	DRY	UNNAMED	BONE SPRING					10/1/2019	12/18/2019	1/7/2020
158	30-015-40769-0000	LOST TANK `3` FEDER 26	OXY U S A INC	DRY	LOST TANK						9/1/2012	11/23/2012	1/9/2013
159	30-015-30167-0001	LOST TANK `33` FEDE 005	POGO PRODUCING CO	DRY	LOST TANK	DELAWARE					4/1/1999	4/15/1999	5/8/1999
160	30-015-40774-0000	LOST TANK `4` FEDER 022	OXY U S A INC	JNK	LOST TANK	WOLFCAMP					9/1/2012	12/4/2012	12/29/2012
161	30-015-26586-0001	LOST TANK `AIS` STA 003	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE					8/1/1991	10/2/1991	10/12/1991
162	30-015-29677-0001	LOST TANK 33 FEDERA 011	POGO PRODUCING CO	DRY	LOST TANK WEST	DELAWARE					5/1/1998	5/21/1998	5/26/1998
163	30-025-31442-0001	LUKE FEDERAL 2	POGO PRODUCING CO	DRY	LOST TANK						7/1/1997	8/7/1997	4/26/1998
164	30-015-26625-0001	MARY `AIV` STATE 001	YATES PETROLEUM CORP	DRY	LOST TANK	DELAWARE					8/1/1991	9/10/1991	9/17/1991
165	30-025-08116-0000	MATTHEWS II 1	HILL-MEEKER-AMBASSAD	DRY							3/1/1961	4/6/1961	4/17/1961
166	30-015-26591-0002	MEDANO `VA` STATE 003	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE					6/1/2006	6/20/2006	7/17/2006
167	30-015-20423-0001	MEDANO `VA` STATE 1	YATES PETROLEUM CORP	DRY	UNNAMED	WOLFCAMP					8/1/1982	8/26/1982	4/21/1983
168	30-015-29525-0001	MEDANO STATE 002	ARCO PERMIAN	DRY	LIVINGSTON RDG S	453DLSD					8/1/1997	8/27/1997	9/10/1997
169	30-015-26633-0001	MEDANO VA STATE 004	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE					7/1/2006	7/31/2006	8/16/2006
170	30-015-27022-0001	MEDANO VA STATE 006	YATES PETROLEUM CORP	DRY	LOS MEDANOS	DELAWARE					8/1/2005	9/1/2005	9/15/2005
171	30-025-36836-0001	MESA VERDE 15 FEDER 001	SAMSON RESOURCES CO	DRY	HAT MESA	WOLFCAMP					3/1/2006	3/23/2006	8/2/2006
172	30-025-34449-0000	MINIS `2` FEDERAL 1	NEARBURG PROD CO	DRY	HAT MESA	DELAWARE					10/1/1998	10/28/1998	1/4/1999
173	30-025-36290-0001	MINIS 2 FEDERAL COM 004	SAMSON RESOURCES CO	DRY	HAT MESA	ATOKA					3/1/2005	4/4/2005	4/19/2005
174	30-025-27659-0000	MINIS FEDERAL 1	GULF OIL CORP	DHSG	HAT MESA	MORROW					11/1/1981	11/28/1981	3/30/1982
175	30-015-37339-0001	MOBIL FEDERAL 009	OXY U S A INC	DRY	SAND DUNES WEST	DELAWARE					11/1/2011	5/8/2012	6/27/2012
176	30-015-06143-0000	MONTGOMERY 1	NEIL WILLS	DRY							11/1/1934	11/27/1934	1/29/1935
177	30-025-32837-0002	MULE DEER `36` STAT 001	MERIDIAN OIL INC	DRY	RED TANK	DELAWARE					10/1/1996	10/18/1996	10/26/1996
178	30-025-08105-0000	MURRAY 1	CULBERTSON&IRWIN INC	DRY	WILDCAT						12/1/1947	12/15/1947	2/24/1948
179	30-015-05842-0000	MUSE-FEDERAL 1	PATOIL CORP	DHSO							4/1/1962	4/23/1962	6/2/1962
180	30-015-43077-0000	NASH UNIT 047H	XTO ENERGY INC	JNK	NASH DRAW	BONE SPRING					4/1/2015	2/7/2017	2/9/2017
181	30-015-21803-0000	NASH UNIT 6	MESA PETROLEUM CO	DRY	NASH DRAW	BONE SPRING					7/1/1976	7/30/1976	8/11/1976
182	30-025-24374-0001	NEW MEXICO `A` FED 1	STRATA PRODUCTION CO	DRY	HAT MESA	DELAWARE					7/1/1989	7/13/1989	9/18/1989
183	30-025-25430-0001	NEW MEXICO C FEDERA 001	SAMSON RESOURCES CO	DRY	LEA	402MRRW					11/1/1993	11/22/1993	12/7/1993
184	30-025-49628-0000	NINA CORTELL FED CO 203H	MATADOR PROD CO	DRY	RED TANK EAST						12/1/2021	9/13/2022	12/21/2022
185	30-015-27600-0001	NORTH PURE GOLD `8` 009	DEVON ENERGY PRODUCT	DRY	LOS MEDANOS	DELAWARE					4/1/2007	5/5/2007	5/16/2007

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
186	30-015-27479-0001	NORTH PURE GOLD 9 F 002	DEVON ENERGY PRODUCT	DRY	LOS MEDANOS	DELAWARE					10/1/2007	11/30/2007	12/26/2007
187	30-025-31986-0000	OTTAWA STATE 1	SIETE OIL & GAS CORP	DRY	WILDCAT						6/1/1993	7/3/1993	8/11/1993
188	30-015-05848-0000	PAULEY-HARRISON-STA 1	MILLER CHARLES P	DRY							8/1/1958	9/10/1958	10/20/1958
189	30-015-25866-0002	PAULINE ALB STATE 006	YATES PETROLEUM CORP	DRY	INGLE WELLS						6/1/2015	6/18/2015	6/26/2015
190	30-025-29338-0000	PAYNE FEDERAL 5	TEMPO ENERGY INC	DRY	TRISTE DRAW						7/1/1985	8/5/1985	8/20/1985
191	30-025-21297-0000	PAYNE-FEDERAL 4	P-M DRILLING	DRY	TRISTE DRAW						8/1/1965	8/30/1965	9/14/1965
192	30-025-20423-0000	PERRY-FEDERAL 3891 001	BASS PERRY R	DHSO	WILDCAT	DELAWARE					2/1/1963	2/24/1963	3/8/1963
193	30-015-26084-0000	POKER LAKE UNIT 071	BETTIS BOYLE&STOVALL	DHSG	UNNAMED						2/1/1989	3/27/1989	5/20/1990
194	30-015-31006-0001	POKER LAKE UNIT 145	BASS ENTRPRS PROD CO	DRY	NASH DRAW	DELAWARE					11/1/2004	12/1/2004	12/15/2004
195	30-015-31007-0001	POKER LAKE UNIT 146	BOPCO LP	DRY	NASH DRAW	DELAWARE					5/1/2009	5/12/2009	5/30/2009
196	30-015-31318-0001	POKER LAKE UNIT 161	BASS ENTRPRS PROD CO	DRY	NASH DRAW	BONE SPRING					11/1/2004	11/28/2004	12/13/2004
197	30-025-37228-0002	PROHIBITION 12 FEDE 007	COG OPERATING LLC	DRY	BOOTLEG RIDGE NW	DELAWARE					8/1/2006	8/16/2006	8/28/2006
198	30-025-37819-0002	PROHIBITION 12 FEDE 010	COG OPERATING LLC	DRY	RED TANK	DELAWARE					9/1/2006	10/17/2006	10/23/2006
199	30-025-31137-0001	PROHIBITION FEDERAL 001	COG OPERATING LLC	DRY	BOOTLEG RIDGE NW	DELAWARE					1/1/2006	1/27/2006	2/9/2006
200	30-025-31716-0001	PROHIBITION FEDERAL 002	MARALO INC	DRY	BOOTLEG RIDGE NW	DELAWARE					10/1/1993	10/25/1993	11/4/1993
201	30-025-32142-0001	PROHIBITION FEDERAL 003	MARALO INC	DRY	BOOTLEG RIDGE	UNKNOWN					2/1/1998	2/26/1998	4/16/1998
202	30-025-32759-0000	PROHIBITION FEDERAL 5	MARALO INC	DRY	RED TANK						5/1/1995	6/7/1995	5/23/1996
203	30-025-33538-0001	PRONGHORN `12` FEDE 1	BURLINGTON RES O&G	DRY	DIAMONDTAIL	DELAWARE					10/1/1996	11/2/1996	11/6/1996
204	30-025-24404-0001	PUBCO FEDERAL 001	SAMSON RESOURCES CO	DRY	LEA	STRAWN					10/1/1976	10/5/1976	12/13/1976
205	30-015-26509-0002	PURE GLOD 4 FEDERAL 1	DEVON ENERGY PRODUCT	DRY	LOS MEDANOS						6/1/2011	6/8/2011	5/21/2012
206	30-015-23175-0001	PURE GOLD `A` FEDER 001	KAISER-FRANCIS OIL	DRY	SAND DUNES WEST	MORROW					9/1/1985	10/7/1985	10/22/1985
207	30-015-23175-0003	PURE GOLD `A` FEDER 001	KAISER-FRANCIS OIL	DRY	SAND DUNES WEST	ATOKA					9/1/2001	10/1/2001	11/4/2001
208	30-015-27841-7000	PURE GOLD `B` FEDER 9	KAISER-FRANCIS OIL	JNK	SAND DUNES WEST						6/1/1994	7/5/1994	8/7/1994
209	30-015-27131-0001	PURE GOLD `D` 4	POGO PRODUCING CO	DRY	SAND DUNES WEST	DELAWARE					5/1/1993	5/20/1993	5/28/1993
210	30-015-24069-0001	PURE GOLD `D` FEDER 1	POGO PRODUCING CO	DRY	SAND DUNES WEST	BRUSHY CANYON					12/1/1990	12/22/1990	1/6/1991
211	30-015-27243-0001	PURE GOLD A FEDERAL 002	POGO PRODUCING CO	DRY	SAND DUNES WEST						5/1/2007	5/30/2007	6/15/2007
212	30-015-27616-0001	PURE GOLD A FEDERAL 003	POGO PRODUCING CO	DRY	SAND DUNES WEST						9/1/2005	9/24/2005	10/8/2005
213	30-015-27153-0001	PURE GOLD C-17 FEDE 004	DEVON ENERGY PRODUCT	DRY	LOS MEDANOS	DELAWARE					5/1/2010	8/25/2010	9/2/2010
214	30-015-45754-0000	PURE GOLD MDP1 `29- 008H	OXY U S A INC	JNK	INGLE WELLS	BONE SPRING					1/1/2019	3/13/2020	1/10/2022
215	30-015-45780-0000	PURE GOLD MDP1 `29- 175H	OXY U S A INC	JNK	UNNAMED	WOLFCAMP					2/1/2019	12/31/2021	1/10/2022
216	30-025-40689-7000	QUESO STATE 2H	COG PROD LLC	JNK	TRISTE DRAW						7/1/2012	1/6/2013	1/14/2013
217	30-025-33955-0000	RED DEER `24` FEDER 1	BURLINGTON RES O&G	DRY	DIAMONDTAIL						4/1/1997	5/9/1997	5/28/1997
218	30-025-34003-0000	RED RUBY `35` FEDER 001	PATTERSON PETR INC	DRY	TRISTE DRAW						6/1/1997	7/27/1997	8/18/1997
219	30-025-33010-0001	RED TANK `26` FEDER 008	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE					1/1/1996	1/30/1996	2/12/1996
220	30-025-32539-0001	RED TANK FEDERAL 005	BURLINGTON RES O&G	DRY	RED TANK WEST	DELAWARE					9/1/1996	10/3/1996	10/8/1996
221	30-025-32539-0002	RED TANK FEDERAL 005	BURLINGTON RES O&G	DRY	RED TANK WEST	DELAWARE					1/1/1997	1/30/1997	2/2/1997
222	30-025-08110-0000	RED TANK UNIT-FED 2 1	TRIGG JOHN H	DHSO							4/1/1962	4/14/1962	5/10/1962
223	30-025-08113-0000	RED TANK UNIT-FEDER 002	CARPER DRLG CO	DHSO	SWD	DELAWARE					10/1/1962	11/9/1962	12/11/1962
224	30-015-28398-0001	REMUDA BASIN 19 FEE 001	TEXACO EXPL&PROD INC	DRY	NASH DRAW	453CRCN					2/1/2001	2/28/2001	3/21/2001
225	30-015-28420-0002	REMUDA BASIN STATE 004	TEXACO EXPL&PROD INC	DRY	FRTY NINR RDGE W	BRUSHY CANYON					9/1/2000	9/11/2000	9/19/2000
226	30-025-02612-0000	RICHARDS 1	CULBERTSON&IRWIN INC	DRY							7/1/1935	7/29/1935	9/20/1935
227	30-025-08112-0000	RICHARDSON-BASS STA 1	TIDEWATER OIL CO	DHSO	WILDCAT						7/1/1962	7/20/1962	8/6/1962
228	30-025-24663-0000	SALT LAKE SOUTH UNT 1	SKELLY OIL CO	DHSG	WILDCAT						1/1/1974	2/2/1974	2/16/1975
229	30-025-02618-0000	SAN SIMON UNIT 1	GULF OIL CORP	DRY	WILDCAT						1/1/1962	1/27/1962	3/2/1962
230	30-025-33049-0000	SAND `18` FEDERAL 2	TEXACO EXPL&PROD INC	DRY	SAND DUNES						4/1/1996	5/7/1996	5/24/1996
231	30-015-27268-0001	SAND DUNES `34` FED 004	POGO PRODUCING CO	DRY	SAND DUNES	DELAWARE					11/1/2002	11/13/2002	11/28/2002
232	30-015-26194-0000	SAND DUNES 28 FEDER 001	CNG PRODUCING CO	DHSG	SAND DUNES WEST	DELAWARE					9/1/1989	10/18/1989	5/16/1990
233	30-015-27255-0001	SAND DUNES 34 FEDER 001	POGO PRODUCING CO	DRY	INGLE WELLS	RAMSY					2/1/2000	3/4/2000	3/15/2000
234	30-015-21126-0000	SANDY UNIT 001	PHILLIPS PETRLM CO	DRY	NASH	MORROW					9/1/1973	3/29/1974	7/19/1974
235	30-015-23655-0000	SCL FEDERAL 1	POGO PRODUCING CO	DRY	WILDCAT						1/1/1981	1/31/1981	4/7/1981
236	30-025-25622-0001	SDE `18` FEDERAL 1	TEXACO EXPL&PROD INC	DRY	SAND DUNES EAST	BRUSHY CANYON					11/1/1992	11/20/1992	11/24/1992
237	30-025-32676-0001	SDE `31` FEDERAL 001	TEXACO EXPL&PROD INC	DRY	TRISTE DRAW WEST	DELAWARE					7/1/1995	7/31/1995	10/20/1995
238	30-025-32676-0003	SDE `31` FEDERAL 001	XTO ENERGY INC	DRY	TRISTE DRAW WEST	DELAWARE					10/1/2004	11/4/2004	11/24/2004
239	30-025-32676-0004	SDE `31` FEDERAL 001	XTO ENERGY INC	DRY	SAND DUNES	DELAWARE					11/1/2005	11/26/2005	12/11/2005
240	30-025-32908-0001	SDE 19 FEDERAL 003	TEXACO EXPL&PROD INC	DRY	SAND DUNES SOUTH	BONE SPRING					9/1/1995	10/5/1995	12/18/1995
241	30-025-32909-0001	SDE 19 FEDERAL 4	TEXACO EXPL&PROD INC	DRY	SAND DUNES	BONE SPRING					7/1/2001	9/5/2001	9/13/2001
242	30-025-34879-0001	SHELL STATE 004	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE					7/1/2004	8/3/2004	8/16/2004
243	30-025-35235-0001	SHELL STATE 006	POGO PRODUCING CO	DRY	RED TANK WEST	DELAWARE					9/1/2003	9/15/2003	9/30/2003
244	30-025-02606-0000	SHEPHERD 1	CULBERTSON&IRWIN INC	DHSO							6/1/1947	7/5/1947	8/20/1947
245	30-025-02607-0000	SHEPHERD 1	CULBERTSON&IRWIN INC	DRY							4/1/1942	5/3/1942	6/9/1942
246	30-025-32093-0000	SILVERTON `31` FEDE 1	ENRON OIL & GAS CO	DRY	WILDCAT	BELL CANYON					7/1/1993	7/18/1993	8/21/1993
247	30-015-26877-0001	STATE `2` 003	POGO PRODUCING CO	DRY	LOST TANK	DELAWARE					3/1/1992	3/23/1992	4/7/1992
248	30-015-35749-0001	STATE `2` 008	REEF EXPLORATION LP	DRY	LIVINGSTON RDG SE	DELAWARE					3/1/2010	3/30/2010	8/17/2010
249	30-025-27136-0002	STATE `IG` COM 1	AMOCO PROD CO	DRY	WILDCAT						7/1/1983	7/26/1983	1/14/1984
250	30-015-05840-0000	STATE AA-2 001	CONTINENTAL OIL CO	DRY	WILDCAT	DELAWARE					2/1/1961	2/7/1961	2/18/1961
251	30-025-20407-0000	STECHER 1	WILSON MAX M	DRY							2/1/1963	2/28/1963	3/8/1963
252	30-015-25773-0001	STERLING SILVER 34 001	SANTA FE ENR OP PRTN	DRY	SAND DUNES WEST	ATOKA					1/1/1991	1/9/1991	1/17/1991
253	30-015-45392-0000	STERLING SILVER MDP 004H	OXY U S A INC	DRY	INGLE WELLS						9/1/2018	11/15/2018	9/18/2019
254	30-015-45337-0000	STERLING SILVER MDP 172H	OXY U S A INC	JNK	PURPLE SAGE	WOLFCAMP					10/1/2018	6/11/2019	8/26/2019
255	30-025-44599-0000	STRAY CAT 8-5 FEDER 212H	DEVON ENERGY PRODUCT	DRY	SAND DUNES						3/1/2018	8/13/2018	8/28/2018
256	30-025-30030-0000	SUN FEDERAL 1	WILSON OPERATING CO	DRY	WILDCAT						8/1/1987	8/31/1987	10/30/1987
257	30-025-08106-0000	TEXACO-WEAVER 1	SMITH RAY DRLG CO	DHSO	WILDCAT						11/1/1961	11/19/1961	12/3/1961
258	30-025-36192-0001	THYME APY FEDERAL 011	CIMAREX ENERGY CO	DRY	SWD						3/1/2012	4/25/2012	5/18/2012
259	30-015-21127-0000	TODD /25/ FEDERAL 1	TEXAS AMERICAN OIL	JNK	WILDCAT						4/1/1974	4/16/1974	5/6/1974
260	30-015-21211-0000	TODD /25/ FEDERAL 1-Y	TEXAS AMERICAN OIL	JNK	WILDCAT						4/1/1974	5/9/1974	5/20/1974
261	30-015-26928-0001	TODD `23` FEDERAL 004	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE					8/1/1992	8/28/1992	9/22/1992
262	30-015-32020-0001	TODD `23N` FEDERAL 035	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE					5/1/2007	6/8/2007	6/25/2007
263	30-015-27387-0001	TODD `23O` FEDERAL 005	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE					6/1/1994	7/5/1994	8/1/1994
264	30-015-27383-0001	TODD `25E` FEDERAL 005	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE					5/1/1995	5/25/1995	6/5/1995
265	30-015-28806-0001	TODD `25J` FEDERAL 010	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE					5/1/2010	8/16/2010	8/20/2010
266	30-015-20277-0001	TODD `26` FEDERAL 002	DEVON ENERGY CORP	DRY	SAND DUNES						10/1/1984	10/17/1984	11/1/1984
267	30-015-27105-0001	TODD `26O` FEDERAL 015	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE					10/1/1995	10/15/1995	10/24/1995
268	30-015-27365-0001	TODD `36D` STATE 002	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE					11/1/1993	11/14/1993	1/6/1994
269	30-015-28198-0001	TODD `36L` STATE 004	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE					4/1/2011	5/16/2011	5/26/2011
270	30-015-28904-0001	TODD 13B FEDERAL 002	DEVON ENERGY PRODUCT	DRY	SWD						4/1/2005	10/10/2005	10/19/2005
271	30-015-27859-0001	TODD 13K FEDERAL 11	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE					2/1/1996	3/8/1996	3/8/1996
272	30-015-35076-0001	TODD 23A FEDERAL 038	DEVON ENERGY PRODUCT	DRY	SAND DUNES	MORROW					2/1/2014	10/31/2014	1/20/2016
273	30-015-20302-0001	TODD 26 FEDERAL 003	TEXAS AMERICAN OIL	DRY	SAND DUNES						5/1/1971	5/27/1971	6/4/1971
274	30-015-27200-0001	TODD 26J FED 021	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE					8/1/2008	1/13/2009	2/15/2009
275	30-015-27104-0001	TODD 26N FEDERAL 014	DEVON ENERGY CORP NV	DRY	INGLE WELLS	DELAWARE					8/1/1994	9/1/1994	9/28/1994
276	30-015-27134-0001	TODD 26P FEDERAL 016	DEVON ENERGY CORP	DRY	INGLE WELLS	DELAWARE					7/1/1993	7/27/1993	8/26/1993
277	30-015-35517-0001	TODD 27E FEDERAL 005	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE					7/1/2011	6/6/2012	8/22/2012
278	30-015-28522-0001	TODD 36 C STATE 007	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE					6/1/2012	6/8/2012	10/12/2012
279	30-015-28005-0001	TODD 36 E STATE 003	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE					8/1/2003	8/12/2003	8/28/2003
280	30-015-45910-0000	TODD 36-25 STATE FE 235H	DEVON ENERGY PRODUCT	DRY	SAND DUNES SOUTH	BONE SPRING					4/1/2019	7/7/2019	8/13/2019
281	30-015-28520-0001	TODD 36F STATE 006	DEVON ENERGY PRODUCT	DRY	INGLE WELLS	DELAWARE					3/1/2012	3/19/2012	7/19/2012
282	30-015-20801-0000	TODD-FEDERAL 2	TEXAS AMERICAN OIL	DRY	UNNAMED						5/1/1973	6/7/1973	6/22/1973
283	30-015-45486-0000	TOMB RAIDER 12-1 FE 516H	DEVON ENERGY PRODUCT	DRY	LIVINGSTON RIDGE	BONE SPRING					12/1/2018	1/6/2019	1/30/2019
284	30-025-33356-0003	TOMCAT `21` FEDERAL 001	CONCHO RESOURCES INC	DRY	DIAMONDTAIL STHWT	BRUSHY CANYON					9/1/1999	9/15/1999	12/28/1999
285	30-015-20986-0001	TOOD `26` FEDERAL 005	TEXAS AMERICAN OIL	DRY	SAND DUNES	DELAWARE					4/1/1974	5/7/1974	5/22/1974
286	30-025-32688-0002	TRESNOR-MITCHELL `3 001	SANTA FE ENRGY RESCS	DRY	SAND DUNES SOUTH	DELAWARE					9/1/1996	10/5/1996	10/8/1996
287	30-025-32754-0002	TRESNOR-MITCHELL `3 002	DEVON ENERGY PRODUCT	DRY	SAND DUNES SOUTH	DELAWARE					12/1/2002	1/10/2003	1/11/2003

9 TOWNSHIP WELL INVENTORY

	API NO	WELL	OPERATOR	SYM	FIELD	FORMATION	CUM OIL	CUM GAS	CUM H20	CUM INJ	PERMIT DATE	SPUD DATE	COMP DATE
288	30-025-32688-0003	TRESNOR-MITCHELL 30 001	DEVON ENERGY PRODUCT	DRY	SAND DUNES NORTH	DELAWARE					6/1/2005	6/30/2005	7/20/2005
289	30-025-26844-0001	TRISTE DRAW FEDERAL 001	MOBIL PRDUCNG TX&NM	DRY	DIAMONDTAIL						6/1/1987	7/15/1987	8/11/1987
290	30-025-27655-0001	TRISTE DRAW FEDERAL 1	UPLAND PRODUCTION CO	DHSO	DIAMONDTAIL						4/1/1986	4/26/1986	8/14/1986
291	30-025-08135-0000	TRISTE-STATE 1	PENROC-BAXTER DB	DHSO	TRISTE DRAW						9/1/1962	10/4/1962	10/13/1962
292	30-025-27280-0001	UNION FEDERAL 1	HAWKINS O & G INC	DRY	HAT MESA	MORROW					3/1/1992	4/9/1992	4/15/1992
293	30-015-46240-0000	VANADIUM `32` STATE 177H	OXY U S A INC	DRY	INGLE WELLS						8/1/2019	9/3/2019	6/3/2022
294	30-015-04732-0000	VH MCNUTT 1	SNOWDEN-MCSWEENEY	DRY							6/1/1925	7/4/1925	2/15/1926
295	30-025-35256-7000	WBR FEDERAL 5	POGO PRODUCING CO	DRY	RED TANK						11/1/2000	11/23/2000	12/19/2000
296	30-025-20437-0000	WEHRLI-FEDERAL 1	JOHNSTON HUGH L SR	DRY							3/1/1963	3/28/1963	4/11/1963
297	30-025-32301-0000	WHITE SWAN `9` FEDE 3	SANTA FE ENR OP PRTN	DRY	LIVINGSTON RDG E						12/1/1994	12/30/1994	10/24/1995
298	30-025-47638-0000	WILD SALSA FED COM 324H	TITUS OIL & GAS PROD	JNK	DIAMONDTAIL	BONE SPRING					6/1/2020	12/22/2020	1/16/2021
299	30-015-05838-0000	WILLIAMSON 1	BRYANT M D	DHSO							1/1/1945	1/28/1945	5/14/1945
300	30-015-05843-0000	WRIGHT-FEDERAL 1	PATOIL CORP	DHSO							5/1/1961	6/9/1961	6/22/1961
301	30-015-05839-0000	WRIGHT-FEDERAL 23 1	TEXAS CRUDE OIL CO	DRY		UNKNOWN					4/1/1962	4/14/1962	4/25/1962
302	30-015-05846-0000	WRIGHT-FEDERAL 3	PATOIL CORP	DRY							12/1/1961	12/28/1961	1/5/1962
303	30-015-05845-0000	WRIGHT-FEDERAL E 2	PATOIL CORP	DRY	WILDCAT						8/1/1961	8/24/1961	9/1/1961
304	30-025-33986-0000	ZEBRA STATE 1	POGO PRODUCING CO	DRY	WILDCAT						5/1/1997	5/31/1997	7/30/1997
		DRY HOLES											
1	30-015-28006-0000	PURE GOLD `A` FEDER 8	KAISER-FRANCIS OIL	TA	SAND DUNES WEST						1/1/1994	1/19/1994	10/7/1994
2	30-025-32544-0000	RED TANK FEDERAL 7	MERIDIAN OIL INC	TA	RED TANK WEST						6/1/1994	6/14/1994	6/30/1995
3	30-025-31978-0000	CODORNIZ FEDERAL 1	STRATA PRODUCTION CO	TA	DIAMONDTAIL						5/1/1995	5/30/1995	12/22/1995
4	30-015-43028-0000	ARK 36 STATE 003H	DEVON ENERGY PRODUCT	TA	LIVINGSTON RIDGE						4/1/2015	9/6/2015	5/12/2016
5	30-015-42627-0000	JAMES RANCH UNIT DI 164H	XTO PERMIAN OPER LLC	TA	UNNAMED						9/1/2014	12/10/2014	5/1/2017
6	30-025-43814-0000	FLUFFY KITTEN 16 ST 002	DEVON ENERGY PRODUCT	TA	UNNAMED						6/1/2017	8/12/2017	1/28/2019
		TEMPORARILY ABANDONED WELLS											

Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, NM

August 2023

APPENDIX IV

Normalized Rate versus Time Tables and Plots for the Morrow through Delaware Formations

NORMALIZED MORROW PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL
1	31,934	3,762,281	108	296	34,836
2	45,787	6,064,237	108	424	56,150
3	35,391	5,575,800	108	328	51,628
4	35,925	4,844,354	107	336	45,274
5	35,408	4,344,054	107	331	40,599
6	38,005	4,176,144	107	355	39,029
7	38,904	4,029,107	107	364	37,655
8	31,269	3,686,514	107	292	34,453
9	30,012	3,518,335	106	283	33,192
10	32,381	3,446,764	106	305	32,517
11	30,128	3,221,856	106	284	30,395
12	28,083	3,134,763	106	265	29,573
13	28,021	2,966,366	104	269	28,523
14	29,035	3,006,232	104	279	28,906
15	29,257	3,021,792	104	281	29,056
16	30,373	3,041,982	103	295	29,534
17	29,419	3,085,133	103	286	29,953
18	26,925	3,059,257	102	264	29,993
19	26,947	3,010,078	101	267	29,803
20	27,991	2,767,870	101	277	27,405
21	27,614	2,630,607	99	279	26,572
22	26,621	2,660,658	98	272	27,150
23	24,159	2,486,507	98	247	25,373
24	22,689	2,350,823	97	234	24,235
25	25,654	2,192,068	97	264	22,599
26	27,227	2,218,797	96	284	23,112
27	26,947	2,205,955	96	281	22,979
28	25,314	2,183,922	96	264	22,749
29	25,617	2,152,862	95	270	22,662
30	21,322	2,140,502	94	227	22,771
31	24,537	2,266,150	94	261	24,108
32	24,429	2,151,242	94	260	22,886
33	23,728	2,261,310	93	255	24,315
34	21,279	2,166,147	93	229	23,292
35	22,106	2,178,938	93	238	23,429
36	20,020	2,099,211	93	215	22,572
37	18,189	1,917,300	93	196	20,616
38	18,415	1,923,877	92	200	20,912
39	18,622	1,918,081	92	202	20,849
40	18,224	1,882,413	92	198	20,461
41	16,584	1,781,252	92	180	19,361
42	14,761	1,630,868	92	160	17,727
43	15,688	1,659,385	91	172	18,235
44	15,813	1,640,550	90	176	18,228
45	16,081	1,585,721	88	183	18,020
46	14,231	1,586,081	88	162	18,024
47	13,443	1,575,730	88	153	17,906

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3/13/2023

NORMALIZED MORROW PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL
48	11,529	1,522,733	88	131	17,304
49	12,528	1,520,623	88	142	17,280
50	11,155	1,453,143	88	127	16,513
51	11,002	1,401,016	87	126	16,104
52	10,795	1,411,292	86	126	16,410
53	11,866	1,308,431	85	140	15,393
54	8,570	1,291,648	85	101	15,196
55	8,680	1,289,331	85	102	15,169
56	8,370	1,205,813	85	98	14,186
57	8,524	1,225,508	84	101	14,589
58	8,316	1,229,619	84	99	14,638
59	7,527	1,181,600	84	90	14,067
60	7,816	1,180,460	83	94	14,222
61	7,510	1,125,183	83	90	13,556
62	6,278	1,097,231	83	76	13,220
63	5,862	982,906	83	71	11,842
64	6,337	1,063,843	82	77	12,974
65	5,793	1,059,979	82	71	12,927
66	6,328	1,123,226	82	77	13,698
67	6,151	1,045,684	82	75	12,752
68	6,464	1,062,277	81	80	13,115
69	5,724	1,068,918	83	69	12,879
70	5,979	998,971	84	71	11,893
71	5,529	944,135	84	66	11,240
72	6,243	901,857	84	74	10,736
73	6,037	953,972	84	72	11,357
74	5,091	861,611	84	61	10,257
75	4,583	760,581	84	55	9,055
76	4,971	830,013	84	59	9,881
77	4,826	814,826	84	57	9,700
78	7,757	788,406	85	91	9,275
79	6,082	760,478	85	72	8,947
80	7,019	763,458	86	82	8,877
81	6,402	714,955	85	75	8,411
82	4,539	709,800	84	54	8,450
83	5,326	739,754	84	63	8,807
84	4,573	646,632	84	54	7,698
85	4,967	677,660	84	59	8,067
86	4,671	677,138	84	56	8,061
87	3,964	687,389	83	48	8,282
88	3,756	702,565	83	45	8,465
89	3,587	664,815	83	43	8,010
90	3,897	618,451	83	47	7,451
91	4,661	669,976	82	57	8,170
92	4,398	710,560	82	54	8,665
93	4,804	670,307	82	59	8,174
94	3,667	692,521	81	45	8,550

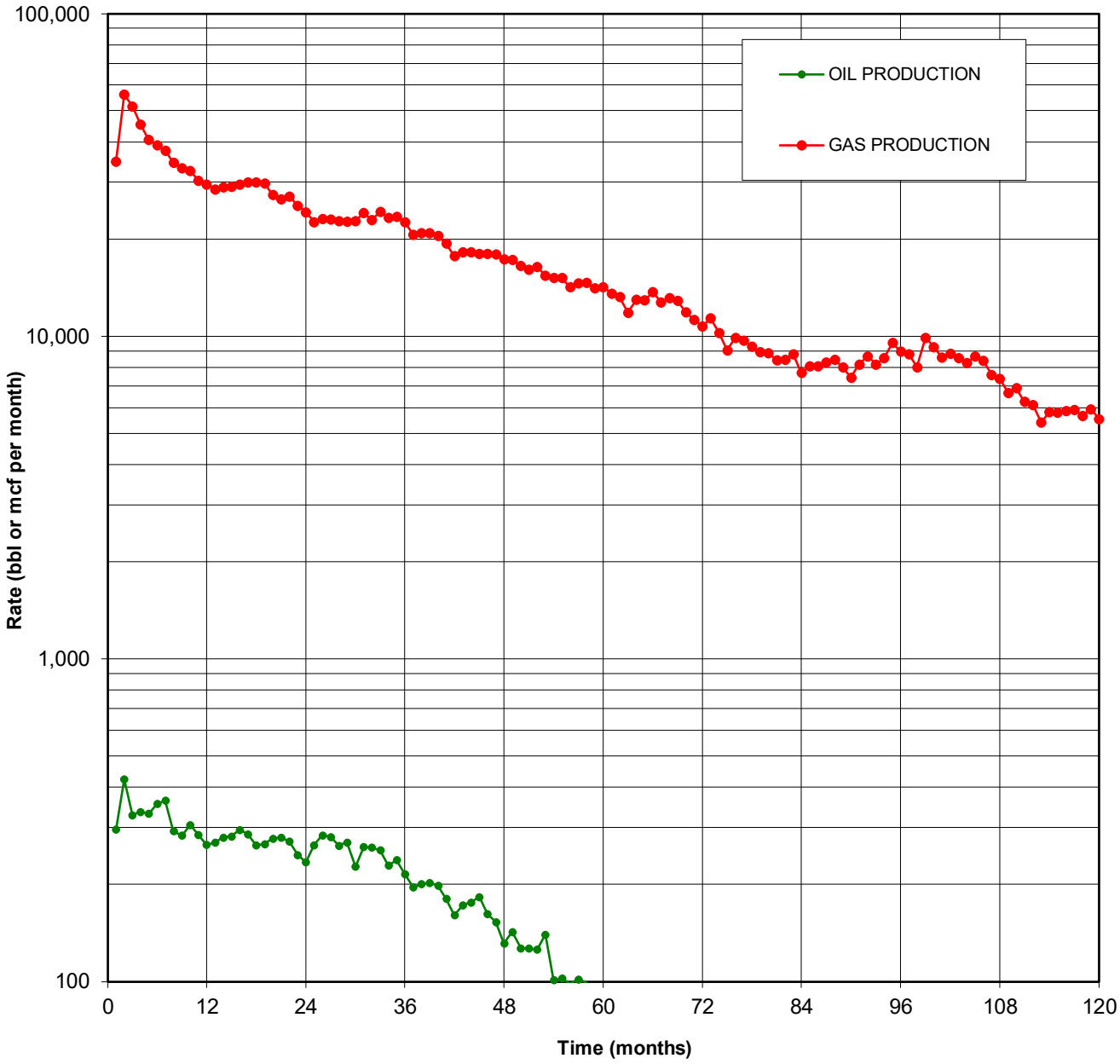
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NORMALIZED MORROW PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL
95	3,328	762,568	80	42	9,532
96	3,424	716,377	80	43	8,955
97	4,221	695,396	79	53	8,802
98	3,657	632,973	79	46	8,012
99	4,401	772,547	78	56	9,904
100	3,744	722,454	78	48	9,262
101	3,456	669,794	78	44	8,587
102	3,237	678,628	77	42	8,813
103	3,173	658,170	77	41	8,548
104	3,892	636,345	77	51	8,264
105	3,378	657,620	76	44	8,653
106	3,372	637,751	76	44	8,391
107	2,520	569,280	75	34	7,590
108	3,027	553,958	75	40	7,386
109	2,476	487,354	73	34	6,676
110	2,775	504,317	73	38	6,908
111	3,299	457,051	73	45	6,261
112	3,349	446,376	73	46	6,115
113	3,695	394,523	73	51	5,404
114	2,686	431,525	74	36	5,831
115	3,240	434,873	75	43	5,798
116	3,202	440,555	75	43	5,874
117	3,830	443,719	75	51	5,916
118	3,240	419,912	74	44	5,674
119	3,335	439,534	74	45	5,940
120	2,430	410,027	74	33	5,541

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NORMALIZED RATE vs TIME CURVE
MORROW FORMATION



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NORMALIZED ATOKA PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL
1	17,966	1,601,998	45	399	35,600
2	18,367	2,202,079	45	408	48,935
3	15,310	2,588,961	45	340	57,532
4	13,684	2,355,300	45	304	52,340
5	12,012	2,026,639	45	267	45,036
6	10,787	2,012,684	44	245	45,743
7	11,984	1,984,681	44	272	45,106
8	11,382	1,827,385	44	259	41,531
9	11,086	1,732,247	44	252	39,369
10	9,722	1,639,146	43	226	38,120
11	9,626	1,596,705	42	229	38,017
12	9,289	1,490,659	42	221	35,492
13	8,503	1,436,984	42	202	34,214
14	8,156	1,293,052	42	194	30,787
15	8,250	1,344,019	42	196	32,000
16	7,959	1,288,412	41	194	31,425
17	7,395	1,197,206	41	180	29,200
18	8,664	1,112,745	42	206	26,494
19	7,938	1,092,909	42	189	26,022
20	7,688	929,650	42	183	22,135
21	6,846	886,961	42	163	21,118
22	7,161	1,001,605	42	171	23,848
23	8,441	1,116,912	41	206	27,242
24	7,383	1,068,167	41	180	26,053
25	6,744	1,039,432	41	164	25,352
26	6,213	987,875	41	152	24,095
27	6,454	1,040,835	40	161	26,021
28	6,320	984,576	39	162	25,246
29	5,499	899,722	39	141	23,070
30	4,847	829,500	39	124	21,269
31	4,149	583,704	39	106	14,967
32	4,937	873,525	39	127	22,398
33	4,245	818,405	38	112	21,537
34	3,686	754,503	37	100	20,392
35	4,108	758,226	37	111	20,493
36	3,600	709,660	37	97	19,180
37	3,798	1,712,833	37	103	46,293
38	3,566	701,594	36	99	19,489
39	3,712	697,361	36	103	19,371
40	3,060	729,949	36	85	20,276
41	3,995	811,757	36	111	22,549
42	2,974	709,827	36	83	19,717
43	3,159	691,767	36	88	19,216
44	3,236	796,261	36	90	22,118
45	3,202	707,961	36	89	19,666
46	3,029	693,115	36	84	19,253
47	3,004	635,570	35	86	18,159

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NORMALIZED ATOKA PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL
48	2,973	580,891	35	85	16,597
49	2,700	490,929	34	79	14,439
50	2,768	568,167	34	81	16,711
51	2,604	559,126	34	77	16,445
52	2,361	549,724	33	72	16,658
53	2,466	563,407	33	75	17,073
54	2,412	528,982	33	73	16,030
55	1,999	572,187	33	61	17,339
56	2,385	530,237	33	72	16,068
57	2,568	515,805	33	78	15,630
58	2,538	579,114	33	77	17,549
59	3,433	552,866	33	104	16,754
60	2,406	491,555	33	73	14,896
61	2,007	472,814	33	61	14,328
62	2,312	487,414	33	70	14,770
63	2,142	438,648	33	65	13,292
64	1,811	407,676	33	55	12,354
65	1,990	381,309	33	60	11,555
66	1,822	383,510	33	55	11,622
67	2,261	395,422	33	69	11,982
68	1,902	383,700	33	58	11,627
69	2,291	378,005	33	69	11,455
70	1,934	365,478	33	59	11,075
71	1,951	378,295	33	59	11,463
72	2,030	383,426	31	65	12,369
73	1,854	384,675	30	62	12,823
74	2,255	376,543	30	75	12,551
75	2,311	308,859	30	77	10,295
76	2,273	273,884	30	76	9,129
77	1,690	271,528	30	56	9,051
78	1,890	256,234	30	63	8,541
79	1,911	249,011	30	64	8,300
80	1,897	246,697	30	63	8,223
81	1,464	237,151	30	49	7,905
82	1,472	227,265	30	49	7,576
83	1,525	215,768	29	53	7,440
84	1,644	250,530	30	55	8,351
85	1,873	219,114	30	62	7,304
86	1,564	202,642	29	54	6,988
87	1,411	219,998	29	49	7,586
88	1,551	224,729	29	53	7,749
89	1,664	220,344	27	62	8,161
90	1,360	223,741	27	50	8,287
91	1,380	227,136	27	51	8,412
92	3,368	248,434	26	130	9,555
93	2,298	232,776	26	88	8,953
94	5,531	247,187	26	213	9,507

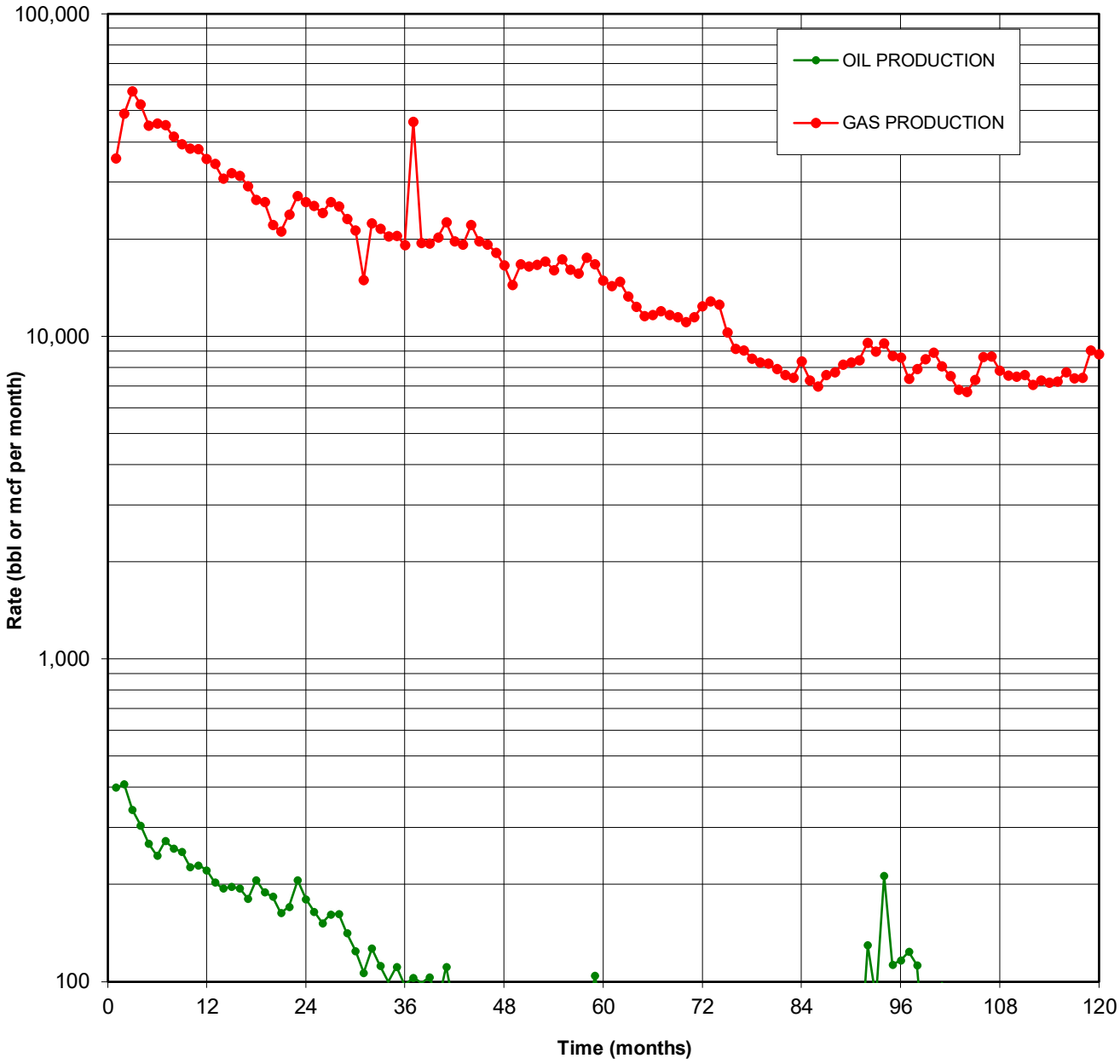
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NORMALIZED ATOKA PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL
95	3,047	234,334	27	113	8,679
96	3,133	232,162	27	116	8,599
97	3,338	198,989	27	124	7,370
98	3,142	221,888	28	112	7,925
99	1,532	238,013	28	55	8,500
100	1,586	249,218	28	57	8,901
101	2,772	226,476	28	99	8,088
102	2,559	210,396	28	91	7,514
103	2,415	190,868	28	86	6,817
104	2,460	195,198	29	85	6,731
105	2,097	212,100	29	72	7,314
106	2,297	250,254	29	79	8,629
107	2,368	250,657	29	82	8,643
108	2,437	234,844	30	81	7,828
109	1,974	226,593	30	66	7,553
110	1,852	217,480	29	64	7,499
111	1,886	220,341	29	65	7,598
112	1,695	204,949	29	58	7,067
113	1,695	211,369	29	58	7,289
114	1,707	208,351	29	59	7,185
115	1,524	209,984	29	53	7,241
116	1,752	224,185	29	60	7,731
117	1,764	215,017	29	61	7,414
118	1,711	208,303	28	61	7,439
119	1,803	252,625	28	64	9,022
120	1,611	246,281	28	58	8,796

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NORMALIZED RATE vs TIME CURVE
ATOKA FORMATION



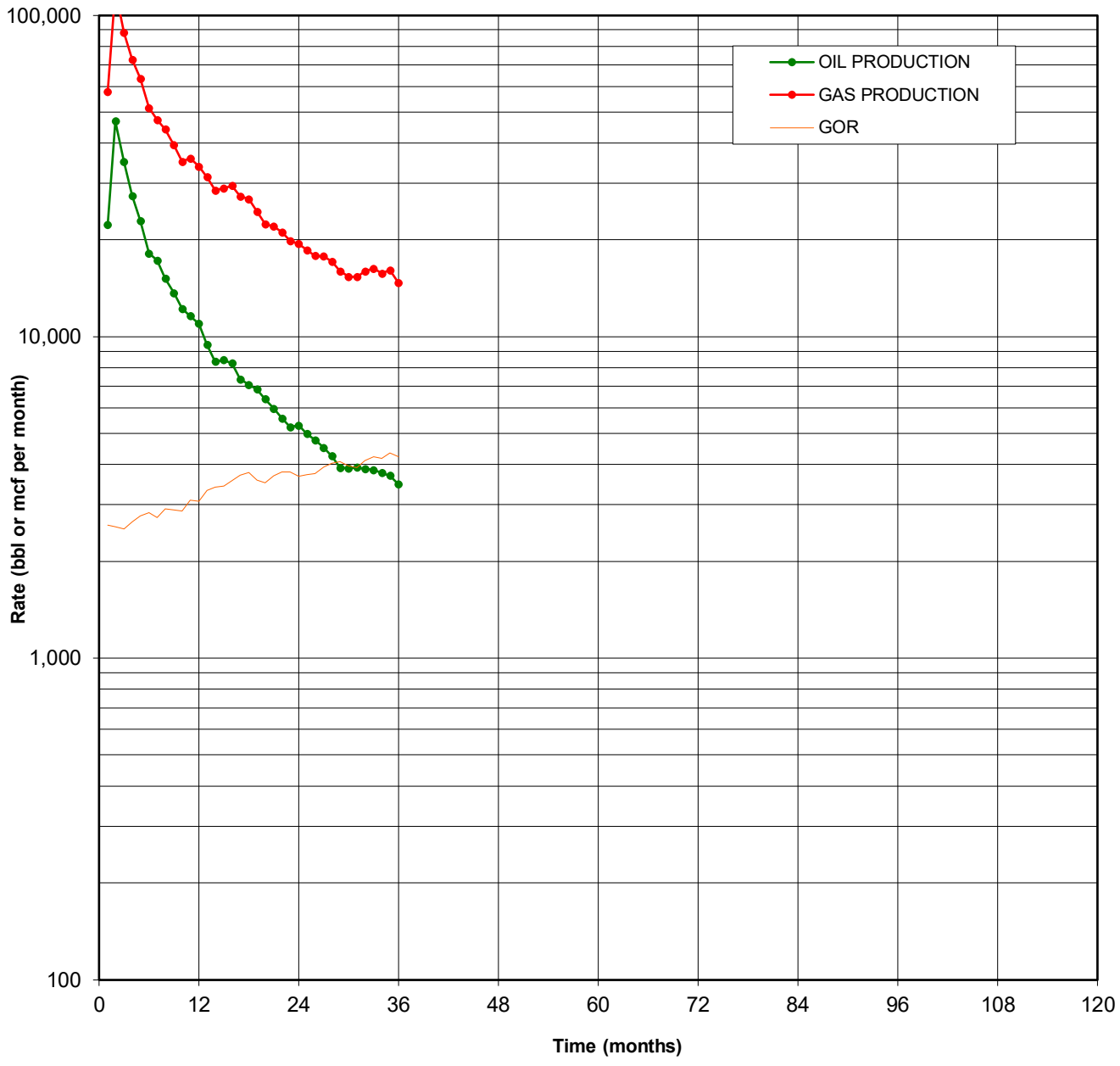
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NORMALIZED WOLFCAMP HZ FORMATION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL	GOR
1	3,459,027	8,956,690	155	22,316	57,785	2,589
2	7,255,415	18,576,643	155	46,809	119,849	2,560
3	5,139,698	12,962,510	147	34,964	88,180	2,522
4	3,894,771	10,319,470	142	27,428	72,672	2,650
5	3,161,157	8,758,658	138	22,907	63,469	2,771
6	2,414,882	6,837,381	133	18,157	51,409	2,831
7	2,191,814	5,997,769	127	17,258	47,227	2,736
8	1,909,007	5,559,583	126	15,151	44,124	2,912
9	1,627,511	4,693,674	119	13,677	39,443	2,884
10	1,341,742	3,849,619	110	12,198	34,997	2,869
11	1,274,174	3,944,437	110	11,583	35,859	3,096
12	1,195,893	3,683,275	109	10,971	33,792	3,080
13	970,181	3,226,765	103	9,419	31,328	3,326
14	861,602	2,933,029	103	8,365	28,476	3,404
15	870,266	2,983,507	103	8,449	28,966	3,428
16	834,861	2,974,661	101	8,266	29,452	3,563
17	699,351	2,595,261	95	7,362	27,319	3,711
18	644,745	2,435,912	91	7,085	26,768	3,778
19	602,683	2,153,140	88	6,849	24,468	3,573
20	542,762	1,904,501	85	6,385	22,406	3,509
21	489,623	1,805,847	82	5,971	22,023	3,688
22	423,321	1,605,136	76	5,570	21,120	3,792
23	381,695	1,448,162	73	5,229	19,838	3,794
24	386,100	1,419,222	73	5,289	19,441	3,676
25	364,080	1,356,064	73	4,987	18,576	3,725
26	347,706	1,301,849	73	4,763	17,834	3,744
27	324,824	1,277,995	72	4,511	17,750	3,934
28	305,725	1,231,882	72	4,246	17,109	4,029
29	269,831	1,101,131	69	3,911	15,958	4,081
30	268,397	1,060,607	69	3,890	15,371	3,952
31	266,369	1,043,002	68	3,917	15,338	3,916
32	256,176	1,054,490	66	3,881	15,977	4,116
33	250,343	1,057,108	65	3,851	16,263	4,223
34	237,477	991,068	63	3,769	15,731	4,173
35	229,030	998,367	62	3,694	16,103	4,359
36	191,248	809,816	55	3,477	14,724	4,234

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NORMALIZED RATE vs TIME CURVE
WOLFCAMP HORIZONTAL FORMATION



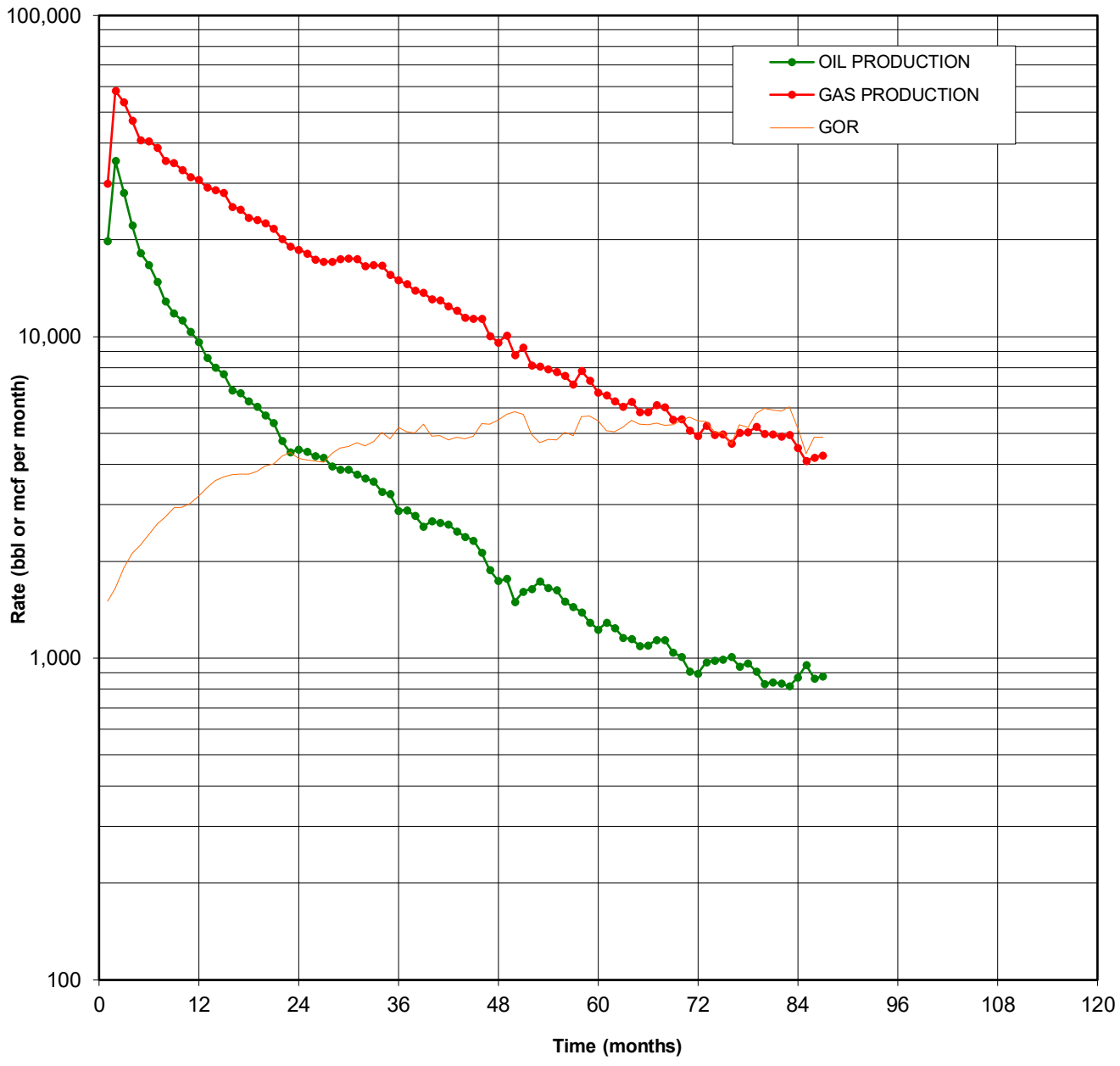
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Reservoir Evaluation Engineers
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NORMALIZED BONE SPRING HZ PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL	GOR
1	9,352,149	14,102,654	471	19,856	29,942	1,508
2	16,600,325	27,422,328	471	35,245	58,222	1,652
3	13,022,139	24,938,231	465	28,005	53,631	1,915
4	10,190,924	21,587,397	460	22,154	46,929	2,118
5	8,240,581	18,455,657	452	18,231	40,831	2,240
6	7,476,876	18,146,147	447	16,727	40,595	2,427
7	6,474,800	16,922,522	437	14,816	38,724	2,614
8	5,528,570	15,173,963	430	12,857	35,288	2,745
9	4,858,070	14,246,021	411	11,820	34,662	2,932
10	4,457,123	13,123,756	397	11,227	33,057	2,944
11	4,108,198	12,423,826	396	10,374	31,373	3,024
12	3,803,164	12,134,284	395	9,628	30,720	3,191
13	3,236,711	10,979,670	377	8,585	29,124	3,392
14	3,021,298	10,785,259	377	8,014	28,608	3,570
15	2,840,662	10,412,030	372	7,636	27,989	3,665
16	2,473,997	9,207,064	363	6,815	25,364	3,722
17	2,394,739	8,933,857	359	6,671	24,885	3,731
18	2,258,572	8,420,759	359	6,291	23,456	3,728
19	2,124,197	8,088,134	351	6,052	23,043	3,808
20	1,955,142	7,733,173	343	5,700	22,546	3,955
21	1,813,465	7,301,708	337	5,381	21,667	4,026
22	1,530,794	6,495,197	323	4,739	20,109	4,243
23	1,401,073	6,113,176	321	4,365	19,044	4,363
24	1,433,154	5,985,712	321	4,465	18,647	4,177
25	1,332,319	5,513,803	304	4,383	18,138	4,139
26	1,273,663	5,220,638	300	4,246	17,402	4,099
27	1,223,360	4,982,397	291	4,204	17,122	4,073
28	1,148,461	4,972,706	291	3,947	17,088	4,330
29	1,082,347	4,875,905	280	3,866	17,414	4,505
30	1,074,734	4,891,997	279	3,852	17,534	4,552
31	1,031,438	4,826,325	277	3,724	17,424	4,679
32	979,754	4,470,198	270	3,629	16,556	4,563
33	953,045	4,492,430	269	3,543	16,700	4,714
34	866,867	4,370,798	263	3,296	16,619	5,042
35	839,108	4,041,114	259	3,240	15,603	4,816
36	719,066	3,743,634	250	2,876	14,975	5,206

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NORMALIZED RATE vs TIME CURVE
BONE SPRING HORIZONTAL FORMATION



Russell K. Hall and Associates, Inc.
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NORMALIZED BONE SPRING VERTICAL PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL	GOR
1	191,149	388,055	132	1,448	2,940	2,030
2	219,514	513,227	132	1,663	3,888	2,338
3	170,461	614,971	131	1,301	4,694	3,608
4	144,556	468,695	130	1,112	3,605	3,242
5	124,692	439,491	129	967	3,407	3,525
6	118,564	411,388	127	934	3,239	3,470
7	114,058	406,828	127	898	3,203	3,567
8	110,807	409,742	126	879	3,252	3,698
9	94,421	392,210	125	755	3,138	4,154
10	87,363	350,147	124	705	2,824	4,008
11	79,684	344,887	124	643	2,781	4,328
12	73,400	339,509	123	597	2,760	4,625
13	71,441	304,453	121	590	2,516	4,262
14	67,058	294,872	118	568	2,499	4,397
15	63,592	278,766	118	539	2,362	4,384
16	69,325	284,971	118	588	2,415	4,111
17	60,247	283,267	116	519	2,442	4,702
18	64,680	270,514	115	562	2,352	4,182
19	64,942	254,701	113	575	2,254	3,922
20	63,911	253,387	113	566	2,242	3,965
21	56,989	237,374	112	509	2,119	4,165
22	60,211	236,801	112	538	2,114	3,933
23	58,966	231,755	112	526	2,069	3,930
24	55,244	228,351	110	502	2,076	4,133
25	52,707	221,363	110	479	2,012	4,200
26	53,255	220,082	111	480	1,983	4,133
27	59,098	225,292	110	537	2,048	3,812
28	50,669	227,052	110	461	2,064	4,481
29	50,919	221,167	110	463	2,011	4,344
30	48,604	211,154	110	442	1,920	4,344
31	49,036	223,609	110	446	2,033	4,560
32	48,053	208,391	108	445	1,930	4,337
33	46,847	205,239	107	438	1,918	4,381
34	47,576	209,417	107	445	1,957	4,402
35	47,507	213,228	107	444	1,993	4,488
36	46,395	210,208	106	438	1,983	4,531
37	46,689	203,690	105	445	1,940	4,363
38	43,526	194,557	105	415	1,853	4,470
39	48,214	195,750	105	459	1,864	4,060
40	45,414	195,072	103	441	1,894	4,295
41	43,538	187,349	103	423	1,819	4,303
42	41,906	180,428	103	407	1,752	4,306
43	40,925	175,103	103	397	1,700	4,279
44	38,614	172,428	103	375	1,674	4,465
45	37,515	171,420	103	364	1,664	4,569
46	37,582	165,567	103	365	1,607	4,405
47	35,675	157,743	102	350	1,547	4,422

Russell K. Hall and Associates, Inc.
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3/13/2023

NORMALIZED BONE SPRING VERTICAL PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL	GOR
48	31,917	155,607	102	313	1,526	4,875
49	34,930	152,771	101	346	1,513	4,374
50	35,102	152,748	101	348	1,512	4,352
51	34,215	152,766	100	342	1,528	4,465
52	33,170	149,052	100	332	1,491	4,494
53	33,611	146,481	100	336	1,465	4,358
54	32,553	139,157	100	326	1,392	4,275
55	33,478	134,833	99	338	1,362	4,028
56	33,434	130,687	98	341	1,334	3,909
57	32,887	128,254	97	339	1,322	3,900
58	33,000	124,172	95	347	1,307	3,763
59	33,338	123,589	95	351	1,301	3,707
60	31,682	125,580	94	337	1,336	3,964
61	31,905	117,774	94	339	1,253	3,691
62	32,969	111,904	94	351	1,190	3,394
63	29,878	114,543	95	315	1,206	3,834
64	29,495	111,799	94	314	1,189	3,790
65	30,321	116,563	95	319	1,227	3,844
66	31,018	107,794	95	327	1,135	3,475
67	30,273	109,506	96	315	1,141	3,617
68	27,743	105,388	95	292	1,109	3,799
69	28,139	110,873	95	296	1,167	3,940
70	30,137	115,235	96	314	1,200	3,824
71	28,330	107,769	96	295	1,123	3,804
72	28,716	106,703	97	296	1,100	3,716
73	29,619	107,184	97	305	1,105	3,619
74	27,672	97,062	97	285	1,001	3,508
75	27,624	98,053	97	285	1,011	3,550
76	26,371	97,956	97	272	1,010	3,715
77	26,712	101,772	96	278	1,060	3,810
78	26,344	100,122	95	277	1,054	3,801
79	25,355	99,741	93	273	1,072	3,934
80	26,092	101,979	93	281	1,097	3,908
81	26,735	99,009	92	291	1,076	3,703
82	25,151	94,155	92	273	1,023	3,744
83	22,645	85,642	92	246	931	3,782
84	25,761	83,735	91	283	920	3,250
85	22,729	84,315	91	250	927	3,710
86	22,606	84,220	91	248	925	3,726
87	22,032	80,822	90	245	898	3,668
88	22,715	83,969	90	252	933	3,697
89	24,522	82,137	90	272	913	3,350
90	24,733	78,871	88	281	896	3,189
91	24,281	79,732	88	276	906	3,284
92	22,623	75,369	88	257	856	3,332
93	21,871	76,176	87	251	876	3,483
94	21,426	73,608	87	246	846	3,435

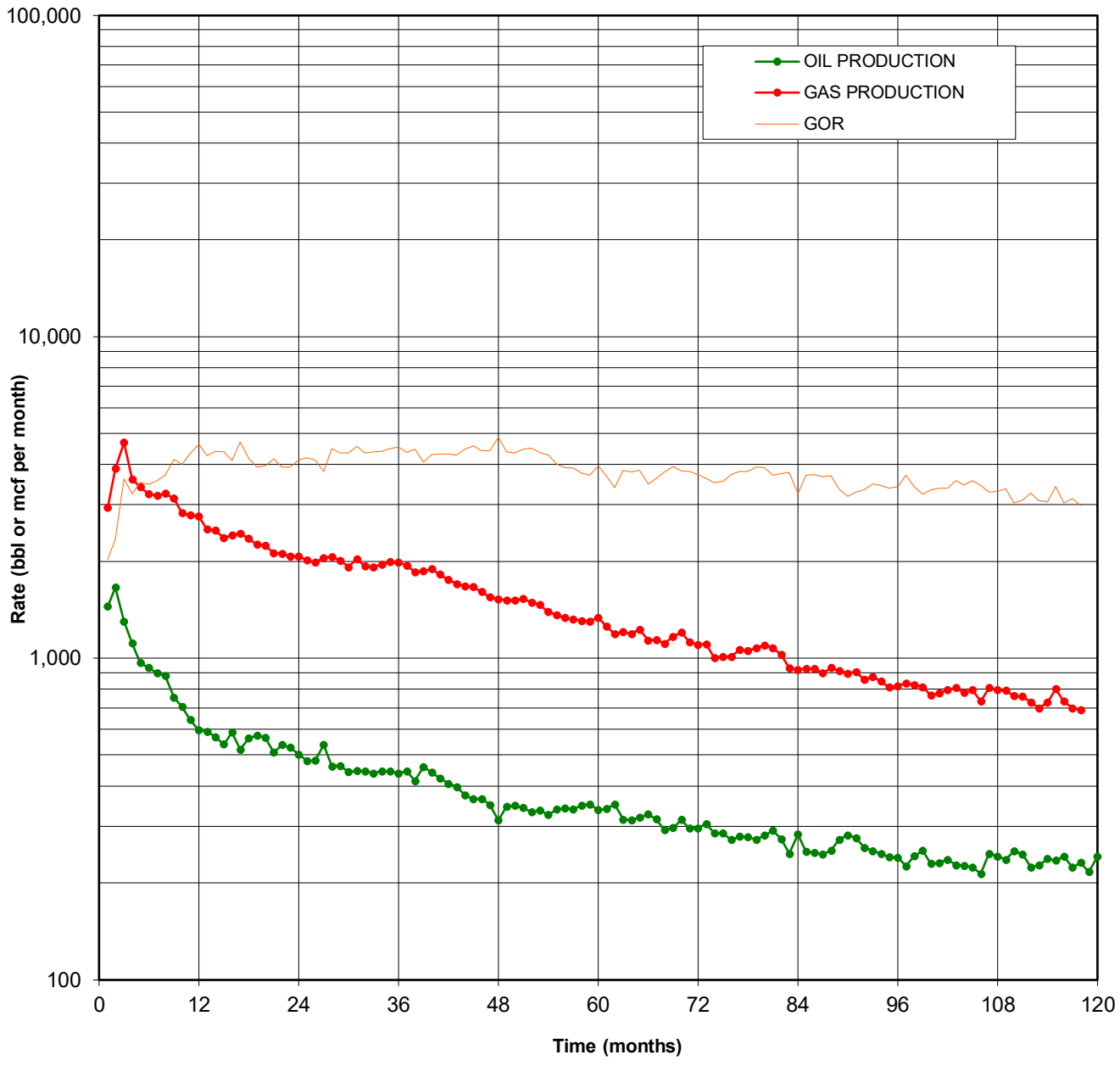
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NORMALIZED BONE SPRING VERTICAL PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL	GOR
95	20,885	70,573	87	240	811	3,379
96	20,860	71,211	87	240	819	3,414
97	19,359	71,799	86	225	835	3,709
98	20,804	70,915	86	242	825	3,409
99	21,650	69,904	86	252	813	3,229
100	19,705	65,833	86	229	766	3,341
101	19,618	66,176	85	231	779	3,373
102	20,049	67,652	85	236	796	3,374
103	19,286	68,735	85	227	809	3,564
104	19,243	66,361	85	226	781	3,449
105	18,748	66,765	84	223	795	3,561
106	17,910	61,548	84	213	733	3,437
107	20,682	67,838	84	246	808	3,280
108	20,527	67,588	85	241	795	3,293
109	20,050	67,305	85	236	792	3,357
110	21,043	63,974	84	251	762	3,040
111	20,634	63,826	84	246	760	3,093
112	19,008	61,931	85	224	729	3,258
113	19,278	59,389	85	227	699	3,081
114	19,938	61,062	84	237	727	3,063
115	19,701	67,365	84	235	802	3,419
116	20,297	61,608	84	242	733	3,035
117	18,528	58,015	83	223	699	3,131
118	19,160	57,137	83	231	688	2,982
119	17,941	61,707	83	216	743	3,439
120	19,785	62,878	82	241	767	3,178

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NORMALIZED RATE vs TIME CURVE
BONE SPRING VERTICAL FORMATION



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NORMALIZED DELAWARE PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL	GOR
1	2,608,871	2,751,273	1,158	2,253	2,376	1,055
2	3,641,592	4,339,165	1,157	3,147	3,750	1,192
3	3,210,463	4,449,323	1,155	2,780	3,852	1,386
4	2,812,514	4,339,933	1,150	2,446	3,774	1,543
5	2,623,119	4,308,295	1,149	2,283	3,750	1,642
6	2,354,951	4,280,990	1,147	2,053	3,732	1,818
7	2,156,998	4,026,691	1,147	1,881	3,511	1,867
8	2,049,373	4,070,071	1,146	1,788	3,552	1,986
9	1,872,080	3,869,708	1,142	1,639	3,389	2,067
10	1,772,011	3,679,277	1,141	1,553	3,225	2,076
11	1,676,377	3,587,357	1,137	1,474	3,155	2,140
12	1,583,152	3,507,955	1,135	1,395	3,091	2,216
13	1,541,209	3,478,534	1,133	1,360	3,070	2,257
14	1,449,365	3,420,419	1,132	1,280	3,022	2,360
15	1,422,757	3,359,193	1,133	1,256	2,965	2,361
16	1,371,325	3,284,915	1,132	1,211	2,902	2,395
17	1,316,037	3,219,161	1,131	1,164	2,846	2,446
18	1,291,268	3,154,399	1,129	1,144	2,794	2,443
19	1,242,562	3,098,100	1,128	1,102	2,747	2,493
20	1,213,962	3,004,763	1,126	1,078	2,669	2,475
21	1,175,109	2,979,408	1,124	1,045	2,651	2,535
22	1,156,540	2,953,691	1,120	1,033	2,637	2,554
23	1,115,830	2,869,888	1,118	998	2,567	2,572
24	1,072,485	2,851,024	1,115	962	2,557	2,658
25	1,042,952	2,783,253	1,111	939	2,505	2,669
26	1,004,696	2,716,278	1,110	905	2,447	2,704
27	979,943	2,697,632	1,108	884	2,435	2,753
28	965,419	2,638,900	1,110	870	2,377	2,733
29	946,701	2,600,391	1,109	854	2,345	2,747
30	922,609	2,553,965	1,109	832	2,303	2,768
31	907,195	2,523,584	1,107	820	2,280	2,782
32	886,820	2,404,430	1,106	802	2,174	2,711
33	877,417	2,401,604	1,104	795	2,175	2,737
34	860,706	2,379,101	1,103	780	2,157	2,764
35	837,118	2,300,699	1,101	760	2,090	2,748
36	819,844	2,273,823	1,101	745	2,065	2,773
37	803,786	2,267,680	1,098	732	2,065	2,821
38	777,286	2,235,938	1,097	709	2,038	2,877
39	775,083	2,245,678	1,096	707	2,049	2,897
40	764,111	2,206,488	1,095	698	2,015	2,888
41	753,019	2,167,635	1,095	688	1,980	2,879
42	731,925	2,156,474	1,094	669	1,971	2,946
43	725,130	2,072,935	1,094	663	1,895	2,859
44	707,757	2,032,431	1,093	648	1,859	2,872
45	698,275	2,034,756	1,094	638	1,860	2,914
46	695,851	2,032,729	1,095	635	1,856	2,921
47	704,359	2,017,441	1,092	645	1,847	2,864

Russell K. Hall and Associates, Inc.
Reservoir Evaluation Engineers
3/13/2023

NORMALIZED DELAWARE PRODUCTION
NINE TOWNSHIP STUDY AREA

TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL	GOR
48	684,071	1,993,695	1,091	627	1,827	2,914
49	680,705	2,022,850	1,090	625	1,856	2,972
50	647,496	1,949,952	1,090	594	1,789	3,012
51	639,609	1,916,120	1,087	588	1,763	2,996
52	625,035	1,890,904	1,087	575	1,740	3,025
53	617,535	1,821,560	1,086	569	1,677	2,950
54	610,142	1,818,616	1,084	563	1,678	2,981
55	595,689	1,818,633	1,082	551	1,681	3,053
56	588,080	1,789,640	1,081	544	1,656	3,043
57	590,297	1,768,882	1,081	546	1,636	2,997
58	576,845	1,710,791	1,081	534	1,583	2,966
59	565,051	1,721,501	1,080	523	1,594	3,047
60	552,669	1,690,305	1,080	512	1,565	3,058
61	550,259	1,682,509	1,078	510	1,561	3,058
62	543,086	1,659,015	1,078	504	1,539	3,055
63	531,694	1,649,180	1,078	493	1,530	3,102
64	525,057	1,622,102	1,077	488	1,506	3,089
65	523,303	1,590,454	1,074	487	1,481	3,039
66	522,614	1,583,363	1,072	488	1,477	3,030
67	514,545	1,529,578	1,072	480	1,427	2,973
68	499,080	1,490,750	1,072	466	1,391	2,987
69	497,684	1,485,731	1,070	465	1,389	2,985
70	495,520	1,500,009	1,067	464	1,406	3,027
71	482,637	1,482,358	1,066	453	1,391	3,071
72	477,457	1,470,596	1,065	448	1,381	3,080
73	492,938	1,447,195	1,063	464	1,361	2,936
74	479,489	1,386,372	1,062	451	1,305	2,891
75	477,379	1,413,425	1,059	451	1,335	2,961
76	475,582	1,385,246	1,057	450	1,311	2,913
77	462,890	1,405,392	1,055	439	1,332	3,036
78	446,449	1,340,476	1,055	423	1,271	3,003
79	450,024	1,288,997	1,054	427	1,223	2,864
80	446,525	1,314,983	1,052	424	1,250	2,945
81	445,830	1,301,719	1,052	424	1,237	2,920
82	438,353	1,306,435	1,052	417	1,242	2,980
83	431,174	1,291,963	1,053	409	1,227	2,996
84	420,035	1,240,881	1,051	400	1,181	2,954
85	420,792	1,250,447	1,049	401	1,192	2,972
86	409,801	1,224,856	1,047	391	1,170	2,989
87	408,693	1,189,833	1,042	392	1,142	2,911
88	405,887	1,229,377	1,041	390	1,181	3,029
89	400,684	1,168,121	1,039	386	1,124	2,915
90	395,929	1,145,069	1,038	381	1,103	2,892
91	390,566	1,116,884	1,037	377	1,077	2,860
92	382,567	1,094,110	1,037	369	1,055	2,860
93	377,382	1,074,985	1,035	365	1,039	2,849
94	378,743	1,083,784	1,031	367	1,051	2,862

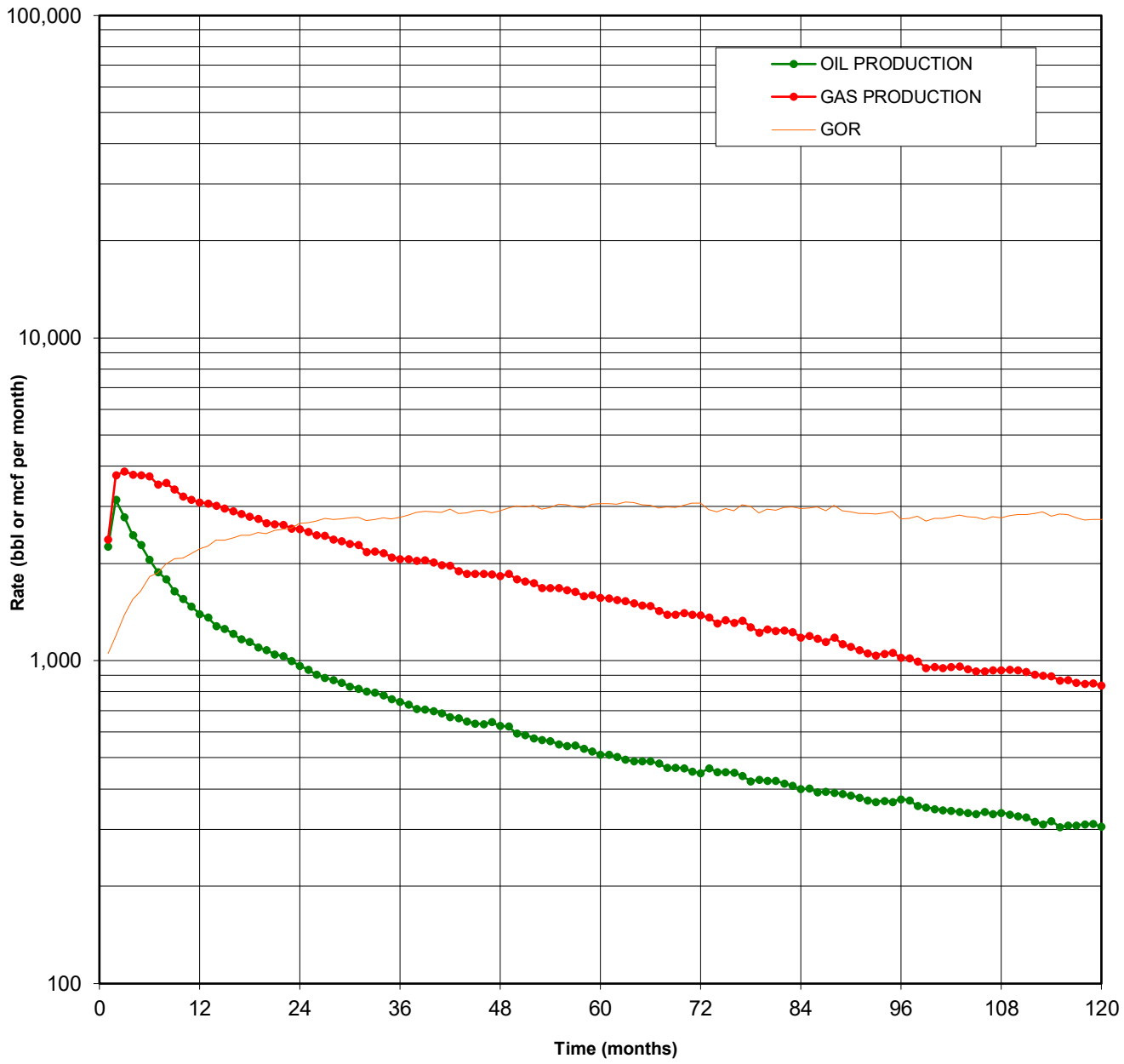
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3/13/2023

NORMALIZED DELAWARE PRODUCTION
NINE TOWNSHIP STUDY AREA

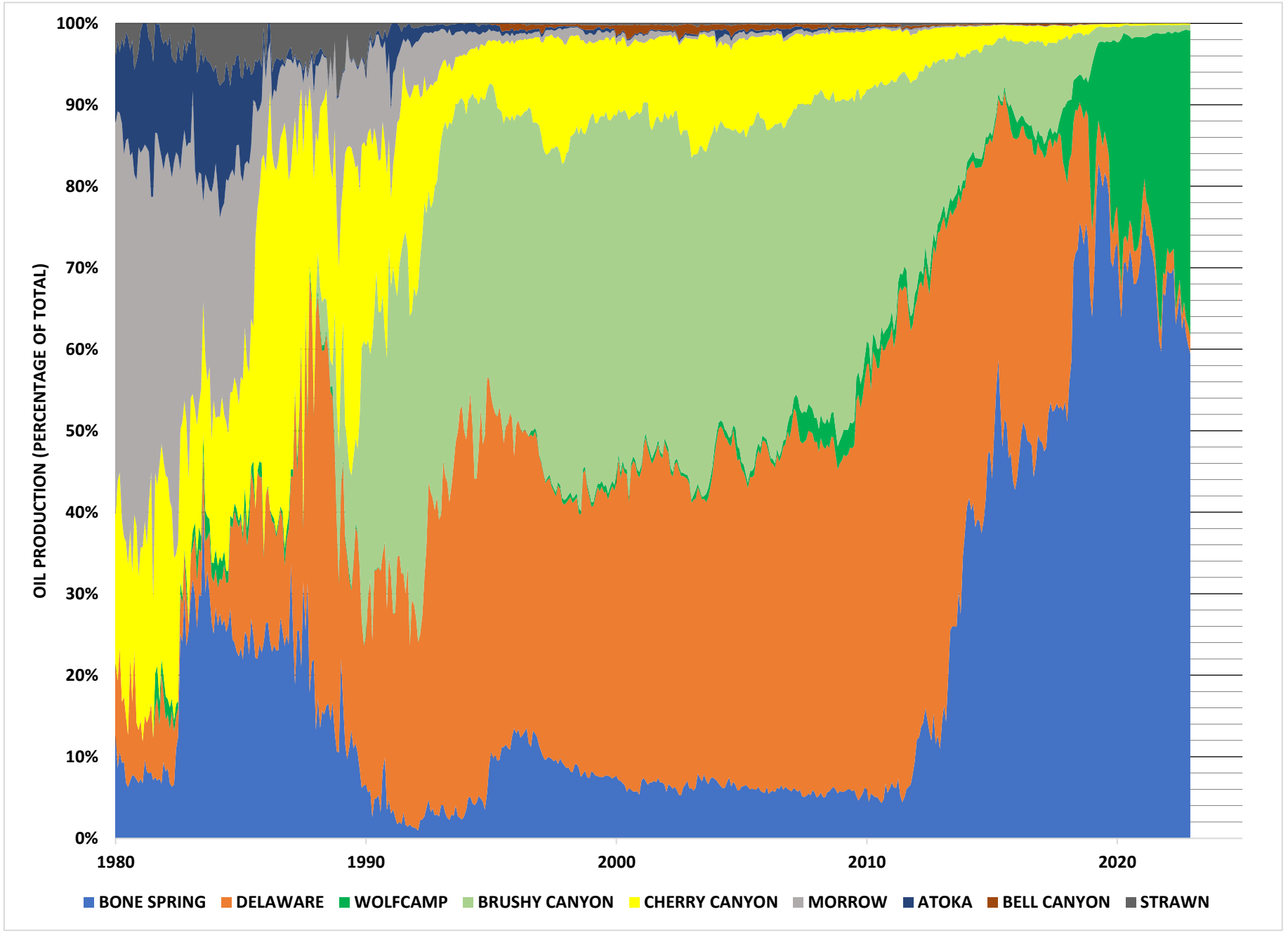
TIME	OIL	GAS	WELLS	OIL/WELL	GAS/WELL	GOR
95	374,439	1,085,271	1,026	365	1,058	2,898
96	381,577	1,047,572	1,026	372	1,021	2,745
97	377,180	1,040,197	1,022	369	1,018	2,758
98	361,492	1,014,236	1,020	354	994	2,806
99	358,133	967,485	1,020	351	949	2,701
100	352,139	971,672	1,016	347	956	2,759
101	349,718	964,222	1,016	344	949	2,757
102	346,713	965,860	1,011	343	955	2,786
103	343,508	969,178	1,011	340	959	2,821
104	340,224	949,516	1,010	337	940	2,791
105	336,825	934,185	1,007	334	928	2,774
106	340,431	929,641	1,003	339	927	2,731
107	334,880	933,072	1,000	335	933	2,786
108	334,869	925,813	993	337	932	2,765
109	330,330	927,757	990	334	937	2,809
110	325,314	922,862	989	329	933	2,837
111	322,518	912,745	987	327	925	2,830
112	313,135	894,185	988	317	905	2,856
113	306,497	885,672	985	311	899	2,890
114	313,098	877,823	983	319	893	2,804
115	298,583	849,331	979	305	868	2,845
116	300,704	852,238	977	308	872	2,834
117	300,530	832,281	975	308	854	2,769
118	302,838	825,681	974	311	848	2,726
119	304,224	831,834	976	312	852	2,734
120	297,826	815,575	975	305	836	2,738

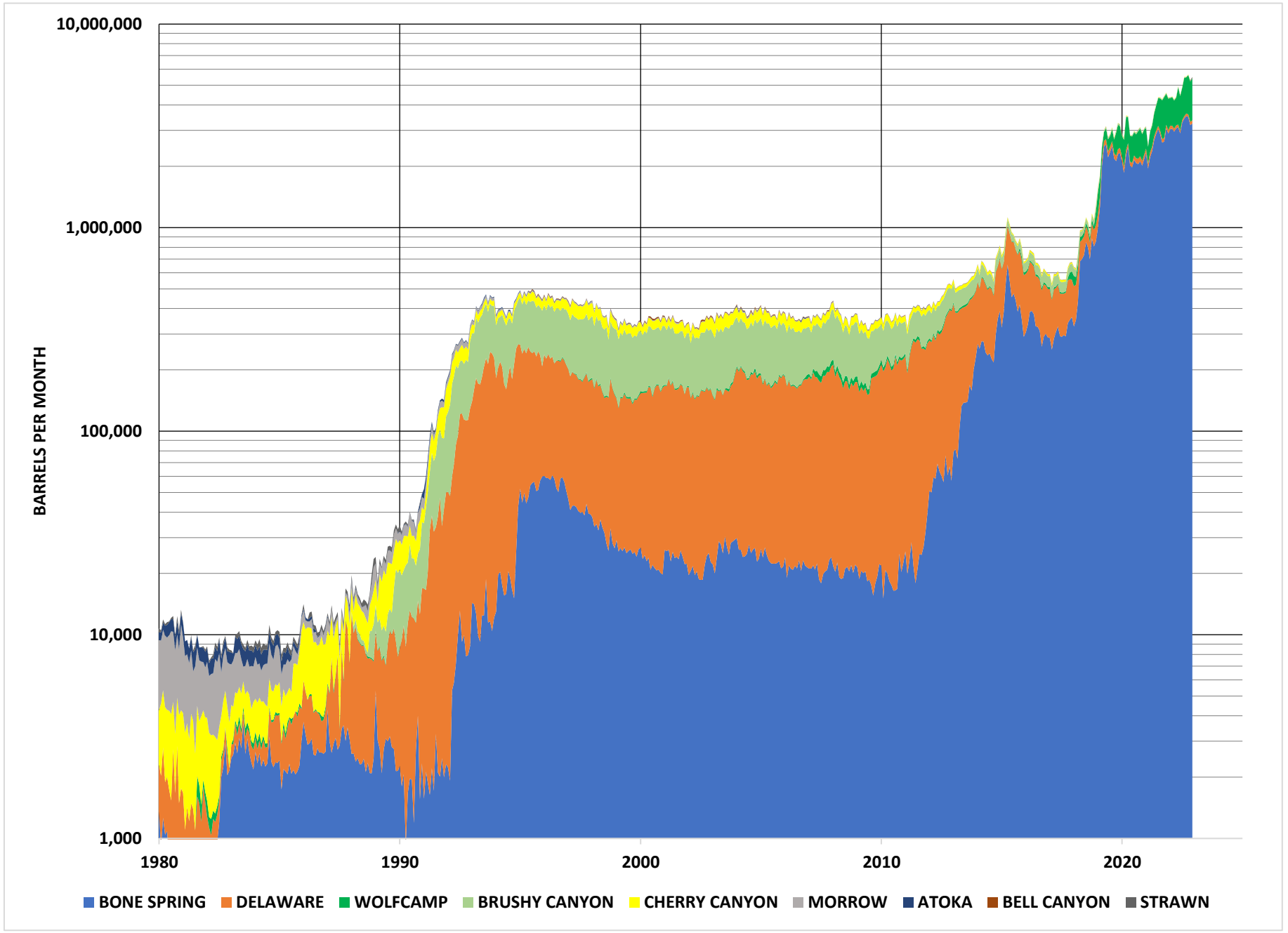
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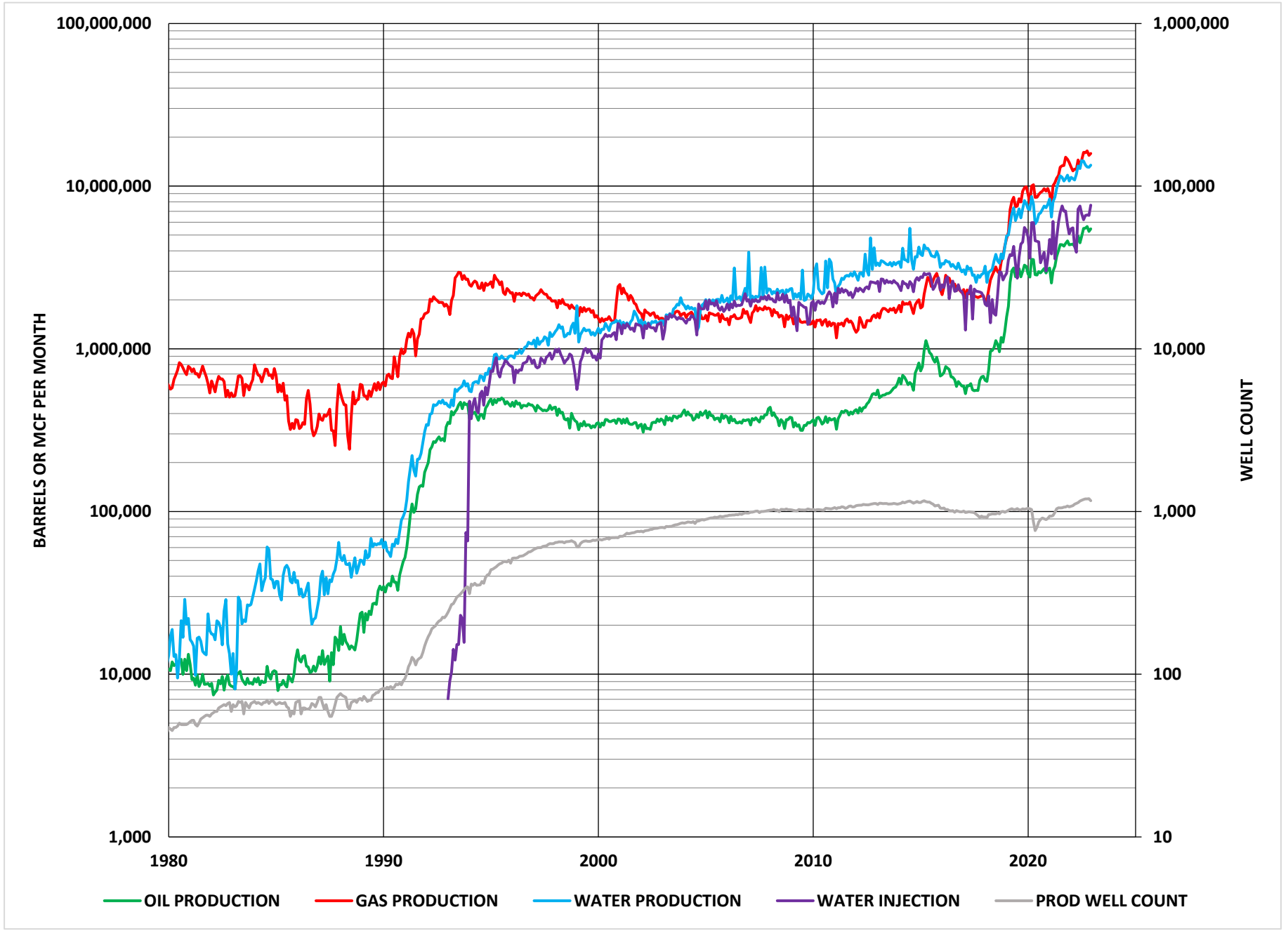
NORMALIZED RATE vs TIME CURVE
DELAWARE FORMATION



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3/13/2023


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
OIL PRODUCTION (PERCENTAGE OF TOTAL)
1980
1990
2000
2010
2020
BONE SPRING
DELAWARE
WOLFCAMP
BRUSHY CANYON
CHERRY CANYON
MORROW
ATOKA
BELL CANYON
STRAWN


10,000,000
1,000,000
100,000
10,000
1,000
BARRELS PER MONTH
1980
1990
2000
2010
2020
BONE SPRING
DELAWARE
WOLFCAMP
BRUSHY CANYON
CHERRY CANYON
MORROW
ATOKA
BELL CANYON
STRAWN


100,000,000
10,000,000
1,000,000
100,000
10,000
1,000
1,000,000
100,000
10,000
1,000
100
10
1980
1990
2000
2010
2020
BARRELS OR MCF PER MONTH
WELL COUNT
OIL PRODUCTION
GAS PRODUCTION
WATER PRODUCTION
WATER INJECTION
PROD WELL COUNT

Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, NM

August 2023

APPENDIX V

State of New Mexico Published Rules for Injection Wells and Well Testing

TITLE 19 NATURAL RESOURCES AND WILDLIFE
CHAPTER 15 OIL AND GAS
PART 9 SECONDARY OR OTHER ENHANCED RECOVERY, PRESSURE MAINTENANCE, SALT WATER DISPOSAL, AND UNDERGROUND STORAGE

19.15.9.1 ISSUING AGENCY: Energy, Minerals and Natural Resources Department.
[2-1-96; 19.15.9.1 NMAC - Rn, 19 NMAC 15.I.1, 11-30-00; A, 11-30-00]

19.15.9.2 SCOPE: All persons/entities engaged in oil and gas development and production within New Mexico.
[2-1-96; 19.15.9.2 NMAC - Rn, 19 NMAC 15.I.2, 11-30-00]

19.15.9.3 STATUTORY AUTHORITY: Sections 70-2-1 through 70-2-38 NMSA 1978 sets forth the Oil and Gas Act, which grants the Oil Conservation Division jurisdiction and authority over all matters relating to the conservation of oil and gas, the prevention of waste of oil and gas and of potash as a result of oil and gas operations, the protection of correlative rights and the disposition of wastes resulting from oil and gas operations.
[2-1-96; 19.15.9.3 NMAC - Rn, 19 NMAC 15.I.3, 11-30-00]

19.15.9.4 DURATION: Permanent.
[2-1-96; 19.15.9.4 NMAC - Rn, 19 NMAC 15.I.4, 11-30-00]

19.15.9.5 EFFECTIVE DATE: February 1, 1996, unless a later date is cited at the end of a section.
[2-1-96; 19.15.9.5 NMAC - Rn, 19 NMAC 15.I.5, 11-30-00; A, 11-30-00]

19.15.9.6 OBJECTIVE: To regulate secondary or other enhanced recovery, pressure maintenance, salt water disposal and underground storage to prevent waste, protect correlative rights and protect public health and the environment pursuant to the Oil and Gas Act.
[2-1-96; 19.15.9.6 NMAC - Rn, 19 NMAC 15.I.6, 11-30-00]

19.15.9.7 DEFINITONS: Reserved.
[2-1-96; 19.15.9.7 NMAC - Rn, 19 NMAC 15.I.7, 11-30-00]

19.15.9.8-700 [RESERVED]
[2-1-96; 19.15.9.8-700 NMAC - Rn, 19 NMAC 15.I.7-700, 11-30-00]

19.15.9.701 INJECTION OF FLUIDS INTO RESERVOIRS:

A. Permit for injection required. The injection of gas, liquefied petroleum gas, air, water or any other medium into any reservoir for the purpose of maintaining reservoir pressure or for the purpose of secondary or other enhanced recovery or for storage or the injection of water into any formation for the purpose of water disposal shall be permitted only by order of the division after notice and hearing, unless otherwise provided herein. The division shall grant a permit for injection under 19.15.9.701 NMAC only to an operator who is in compliance with Subsection A of 19.15.1.40 NMAC. The division may revoke a permit for injection issued under 19.15.9.701 NMAC after notice and hearing if the operator is not in compliance with Subsection A of 19.15.1.40 NMAC.

B. Method of making application.

(1) The operator shall apply for authority to inject gas, liquefied petroleum gas, air, water or any other medium into any formation for any reason, including but not necessarily limited to the establishment of or the expansion of water flood projects, enhanced recovery projects, pressure maintenance projects and salt water disposal, by submitting form C-108 complete with all attachments.

(2) The applicant shall furnish, by certified or registered mail, a copy of the application to each owner of the surface of the land on which each injection or disposal well is to be located and to each leasehold operator or other "affected person" within any tract wholly or partially contained within one-half mile of the well. Affected person shall mean the (a) division designated operator; (b) in the absence of an operator, any lessee whose interest is evidence by a written conveyance document either of record or known to the applicant as of the date he files the application; and (c) in the absence of an operator or lessee, any mineral interest owner whose interest is evidenced by a written conveyance document either of record or known to the applicant as of the date he filed the application.

C. Administrative approval.

(1) If the application is for administrative approval rather than for a hearing, it shall also be accompanied by a copy of a legal publication the applicant published in a newspaper of general circulation in the county in which the proposed injection well is located. The legal publication's contents shall include the (a) name, address, phone number and contact party for the applicant; (b) the injection well's intended purpose, with the exact location of single wells or the section, township and range location of multiple wells; (c) the formation name and depth with

expected maximum injection rates and pressures; and (d) a notation that interested parties must file objections or requests for hearing with the division within 15 days.
(2) The division shall not approve an application for administrative approval until 15 days following the division's receipt of form C-108 complete with all attachments including evidence of mailing as required under Paragraph (2) of Subsection B of 19.15.9.701 NMAC and proof of publication as required by Paragraph (1) of Subsection C of 19.15.9.701 NMAC.
(3) If the division does not receive an objection within said 15-day period, and a hearing is not otherwise required, the division may approve the application administratively.
D. Hearings. If a written objection to any application for administrative approval of an injection well is filed within 15 days after receipt of a complete application, or if a hearing is required pursuant to 19.15.9.701 NMAC or deemed advisable by the division director, the division shall set the application for hearing and give notice of the hearing.
E. Salt water disposal wells.
(1) The division director shall have authority to grant an exception to the hearing requirements of Subsection A of 19.15.9.701 NMAC for water disposal wells only when the waters to be disposed of are mineralized to such a degree as to be unfit for domestic, stock, irrigation or other general use, and when said waters are to be disposed of into a formation older than Triassic (Lea county only) and provided the division receives no objections pursuant to Subsection C of 19.15.9.701 NMAC.
(2) The division shall not permit disposal into zones containing waters having total dissolved solids concentrations of 10,000 mg/1 or less except after notice and hearing, provided however, that the division may establish exempted aquifers for such zones wherein the division may administratively approve such injection.
(3) Notwithstanding the provisions of Paragraph (2) of Subsection E of 19.15.9.701 NMAC, the division director may authorize disposal into such zones if the waters to be disposed of are of higher quality than the native water in the disposal zone.
F. Pressure maintenance projects.
(1) Pressure maintenance projects are defined as those projects in which fluids are injected into the producing horizon in an effort to build up or maintain the reservoir pressure in an area that has not reached the advanced or "stripper" state of depletion.
(2) The division shall set all applications for establishment of pressure maintenance projects for hearing. The division shall fix the project area and the allowable formula for any pressure maintenance project on an individual basis after notice and hearing.
(3) The division may authorize an operator to expand a pressure maintenance projects and place additional wells on injection only after notice and hearing or by administrative approval.
(4) The division director shall have authority to grant an exception to the hearing requirements of Subsection A of 19.15.9.701 NMAC for the conversion to injection of additional wells within a project area provided that any such well is necessary to develop or maintain efficient pressure maintenance within such project and provided that the division receives no objections pursuant to Subsection C of 19.15.9.701 NMAC.
(5) An established pressure maintenance project shall have only one designated operator. Any application for exception must be set for hearing.
G. Water flood projects.
(1) Water flood projects are defined as those projects in which water is injected into a producing horizon in sufficient quantities and under sufficient pressure to stimulate the production of oil from other wells in the area, and shall be limited to those areas in which the wells have reached an advanced state of depletion and are regarded as what is commonly referred to as "stripper" wells.
(2) The division shall set all applications for establishment of water flood projects for hearing.
(3) The project area of a water flood project shall comprise the proration units a given operator owns or operates upon which injection wells are located plus all proration units the same operator owns or operates that directly or diagonally offset the injection tracts and have producing wells completed on them in the same formation; provided however, that the division may include in the project area additional proration units not directly or diagonally offsetting an injection tract if, after notice and hearing, the operator has established that such additional units have wells completed thereon that have experienced a substantial response to water injection.

(4) The allowable the division assigns to wells in a water flood project area shall be equal to the wells' ability to produce and shall not be subject to the depth bracket allowable for the pool nor to the market demand percentage factor.
(5) Nothing herein contained shall be construed as prohibiting the assignment of special allowables to wells in buffer zones after notice and hearing. The division may assign special allowables in the limited instances where it is established at a hearing that it is imperative for the protection of correlative rights to do so.
(6) The division shall authorize the expansion of water flood projects and the placement of additional wells on injection only after notice and hearing or by administrative approval.
(7) The division director shall have authority to grant an exception to the hearing requirements of Subsection A of 19.15.9.701 NMAC for conversion to injection of additional wells provided that any such well is necessary to develop or maintain thorough and efficient water flood injection for any authorized project and provided that the division receives no objections pursuant to Subsection C of 19.15.9.701 NMAC.
(8) An established water flood project shall have only one designated operator. The division shall set for hearing any application for exception.
H. Storage wells.
(1) The division director shall have authority to grant an exception to the hearing requirements of Subsection A of 19.15.9.701 NMAC for the underground storage of liquefied petroleum gas or liquid hydrocarbons in secure caverns within massive salt beds, and provided the division receives no objections pursuant to Subsection C of 19.15.9.701 NMAC.
(2) In addition to the filing requirements of Subsection B of 19.15.9.701 NMAC, the applicant for approval of a storage well under 19.15.9.701 NMAC shall file the following:
(a) with the division director, a financial assurance in accordance with the provisions of 19.5.3.101 NMAC;
(b) with the appropriate district office of the division:
(i) form C-101, application for permit to drill, deepen or plug back;
(ii) form C-102, well location and acreage dedication plat; and
(iii) form C-105, well completion or recompletion report and log.
[1-1-50…2-1-96; 19.15.9.701 NMAC - Rn, 19 NMAC 15.I.701, 11-30-00; A, 5-31-05; A, 12/15/05]

19.15.9.702 CASING AND CEMENTING OF INJECTION WELLS:

Wells used for injection of gas, air, water or any other medium into any formation shall be cased with safe and adequate casing or tubing so as to prevent leakage, and such casing or tubing shall be so set and cemented as to prevent the movement of formation or injected fluid from the injection zone into any other zone or to the surface around the outside of any casing string.
[1-1-50…2-1-96; 19.15.9.702 NMAC - Rn, 19 NMAC 15.I.702, 11-30-00]

19.15.9.703 OPERATION AND MAINTENANCE:

A. Injection wells shall be equipped, operated, monitored and maintained to facilitate periodic testing and to assure continued mechanical integrity which will result in no significant leak in the tubular goods and packing materials used and no significant fluid movement through vertical channels adjacent to the well bore.
B. Injection project, including injection wells and producing wells and all related surface facilities shall be operated and maintained at all times in such a manner as will confine the injected fluids to the interval or intervals approved and prevent surface damage or pollution resulting from leaks, breaks or spills.
C. Failure of any injection well, producing well or surface facility, which failure may endanger underground sources of drinking water, shall be reported under the "immediate notification" procedure of Rule 116.
D. Injection well or producing well failures requiring casing repair or cementing are to be reported to the division prior to commencement of workover operations.
E. Injection wells or projects which have exhibited failure to confine injected fluids to the authorized injection zone or zones may be subject to restriction of injection volume and pressure, or shut-in, until the failure has been identified and corrected.
[7-1-81…2-1-96; 19.15.9.703 NMAC - Rn, 19 NMAC 15.I.703, 11-30-00]

19.15.9.704 TESTING, MONITORING, STEP-RATE TESTS, NOTICE TO THE DIVISION, REQUESTS FOR PRESSURE INCREASES:

A. Testing.

(1) Prior to commencement of injection and any time tubing is pulled or the packer is reseated, wells shall be tested to assure the integrity of the casing and the tubing and packer, if used, including pressure testing of the casing-tubing annulus to a minimum of 300 psi for 30 minutes or such other pressure and/or time as may be approved by the appropriate district supervisor. A pressure recorder shall be used and copies of the chart shall be submitted to the appropriate division district office within 30 days following the test date.
(2) At least once every five years thereafter, injection wells shall be tested to assure their continued mechanical integrity. Tests demonstrating continued mechanical integrity shall include the following:
(a) measurement of annular pressures in wells injecting at positive pressure under a packer or a balanced fluid seal; or,
(b) pressure testing of the casing-tubing annulus for wells injecting under vacuum conditions; or,
(c) such other tests which are demonstrably effective and which may be approved for use by the division.
(3) Notwithstanding the test procedures outlined above, the division may require more comprehensive testing of the injection wells when deemed advisable, including the use of tracer surveys, noise logs, temperature logs or other test procedures or devices.
(4) In addition, the division may order special tests to be conducted prior to the expiration of five years if conditions are believed to so warrant. Any such special test which demonstrates continued mechanical integrity of a well shall be considered the equivalent of an initial test for test scheduling purposes, and the regular five-year testing schedule shall be applicable thereafter.
(5) The injection well operator shall advise the division of the date and time any initial, five-year or special tests are to be commenced in order that such tests may be witnessed.
B. Monitoring. Injection wells shall be so equipped that the injection pressure and annular pressure may be determined at the wellhead and the injected volume may be determined at least monthly.
C. Step-rate tests, notice to the division, requests for injection pressure limit increases.
(1) Whenever an operator shall conduct a step-rate test for the purpose of increasing an authorized injection or disposal well pressure limit, notice of the date and time of such test shall be given in advance to the appropriate division district office.
(2) Copies of all injection or disposal well pressure-limit increase applications and supporting documentation shall be submitted to the division director and to the appropriate district office.
[7-1-81…2-1-96; 19.15.9.704 NMAC - Rn, 19 NMAC 15.I.704, 11-30-00]

19.15.9.705 COMMENCEMENT, DISCONTINUANCE, AND ABANDONMENT OF INJECTION OPERATIONS:

A. The following provisions apply to all injection projects, storage projects, salt water disposal wells and special purpose injection wells:
B. Notice of commencement and discontinuance.
(1) Immediately upon the commencement of injection operations in any well, the operator shall notify the division of the date such operations began.
(2) Within 30 days after permanent cessation of gas or liquefied petroleum gas storage operations or within 30 days after discontinuance of injection operations into any other well, the operator shall notify the division of the date of such discontinuance and the reasons therefore.
(3) Before any injection well is temporarily abandoned or plugged, the operator shall obtain approval from the appropriate district office of the division in the same manner as when temporarily abandoning or plugging oil and gas wells or dry holes.
C. Abandonment of injection operations.
(1) Whenever there is a continuous one year period of non-injection into any injection project, storage project, salt water disposal well, or special purpose injection well, such project or well shall be considered abandoned, and the authority for injection shall automatically terminate ipso facto.
(2) For good cause shown, the division director may grant an administrative extension or extensions of injection authority as an exception to Subsection C, Paragraph (1) above of 19.15.9.705 NMAC.
[1-1-50…2-1-96; 19.15.9.705 NMAC - Rn, 19 NMAC 15.I.705, 11-30-00; A, 11-30-00; A, 07-15-00]

19.15.9.706 RECORDS AND REPORTS:

A. The operator of an injection well or project for secondary or other enhanced recovery, pressure maintenance, natural gas storage, salt water disposal or injection of any other fluids shall keep accurate records and shall report monthly to the division gas or fluid volumes injected, stored and/or produced as required on the appropriate form listed below:
(1) Secondary or other enhanced recovery on form C-115;
(2) Pressure maintenance on form C-115 and as otherwise prescribed by the division;
(3) Salt water disposal on form C-120-A;
(4) Natural gas storage on form C-131-A; and
(5) Injection of other fluids on a form prescribed by the division.
B. The operator of a liquefied petroleum gas storage project shall report annually on form C-131-B, annual LPG storage report.
[1-1-50…2-1-96; 19.15.9.706 NMAC - Rn, 19 NMAC 15.I.706, 11-30-00]

19.15.9.707 RECLASSIFICATION OF WELLS:
The division director shall have authority to reclassify an injection well from any category defined in Subsection B of 19.15.9.701 NMAC to any other category without notice and hearing upon request and proper showing by the operator thereof.
[7-1-81…2-1-96; 19.15.9.707 NMAC - Rn, 19 NMAC 15.I.707, 11-30-00]

19.15.9.708 TRANSFER OF AUTHORITY TO INJECT:
A. Authority to inject granted under any order of the division is not transferable except upon approval of the division. Approval of transfer of authority to inject may be obtained by filing form C-104 in accordance with Rule 1104 E.
B. The division may require a demonstration of mechanical integrity prior to approving transfer of authority to inject.
[1-1-50…2-1-96; 19.15.9.708 NMAC - Rn, 19 NMAC 15.I.708, 11-30-00]

Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, NM

August 2023

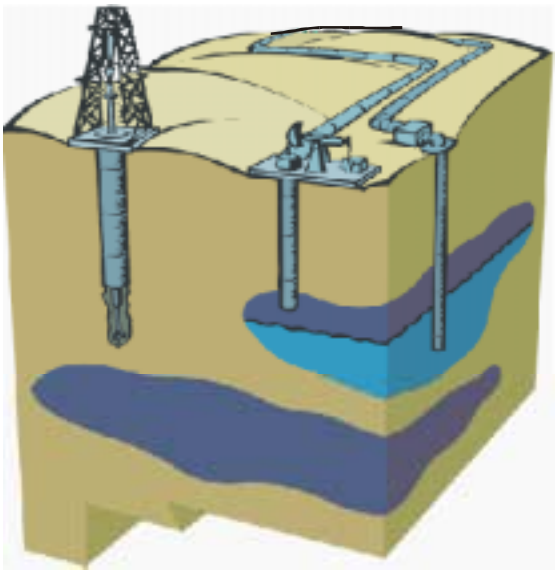
APPENDIX VI

State of New Mexico Underground Injection Control Rules for Class II Injection Wells

NEW MEXICO'S

Underground Injection Control (UIC) Program

CLASS II WELL FACTS



Injection Wells Related To Oil and Gas Activity

Oil Conservation Division
Energy, Minerals and Natural Resources Department
Santa Fe, New Mexico

INTRODUCTION

Regulated by the Oil Conservation Division for several decades, underground injection has been an essential production practice utilized by the petroleum industry in New Mexico to dispose of produced liquid and to enhance the recovery of oil in producing fields (Please see Figure 1). In the past, the realization that subsurface injection could contaminate ground water prompted New Mexico and other states to develop State programs or methods to protect subsurface sources of usable water. Additionally, to increase ground water protection, a Federal Underground Injection Control (UIC) program was established under the provisions of the Safe Water Drinking Act of 1974 for the purpose of establishing minimum requirements for effective state UIC programs. Since ground water is a major source of drinking water in New Mexico, the UIC program requirements were designed to prevent contamination of underground sources of drinking water (USDW) by the operation on injection wells.

Since the passage of the Safe Drinking Water Act, New Mexico has modified existing and developed new strategies to protect ground water by establishing more effective regulation and rules to control the permitting, construction, operation, monitoring, and abandonment of injection wells.

The United States Environmental Protection Agency (USEPA) has delegated primary regulatory authority (primacy) to those states, including New Mexico, that have implemented UIC programs that meet USEPA requirements. Many states like New Mexico have had oil and gas programs in place for decades. We have been able to demonstrate that our existing programs for Class II wells represent an effective measure to prevent endangerment of drinking water sources by underground injection well practices.

A well, as defined in Title 40 of the Code of Federal Regulations, is either a dug hole or a bored, drilled or driven shaft the depth of which is greater than its largest surface dimension. Injection is defined as the subsurface emplacement of fluids in a well, where a fluid is any material that flows or moves whether it is semi-solid, liquid, sludge or gas.



Figure 1

Major Waterflood Injection Areas of the State

Waterflooding and disposal are most often associated with oil production. The southeast portion of New Mexico accounts for approximately 95% of the injection activity as well as oil production. The northwest portion produces the majority of New Mexico's natural gas; consequently there is substantially less underground injection going on.

INJECTION WELL CLASSIFICATION

Injection wells covered by the UIC program are divided into the following five groups:

Class I: Subclassifications: Hazardous and Non-Hazardous. Wells used to inject liquid [non] hazardous wastes or dispose of industrial and municipal waste waters beneath the lower-most USDW.
Class II: Wells used to dispose of fluids associated with the production of oil and natural gas (hydrocarbons); to inject fluids for enhanced oil recovery; or for the storage of liquid hydrocarbons.
Class III: Wells used to inject fluids for the extraction of minerals (i.e. solution mining).
Class IV: Wells used to dispose of hazardous or radioactive wastes into or above a USDW. The USEPA has banned the use of these wells.
Class V: Wells not included in the other classes used generally to inject non-hazardous fluid into or above a USDW.

CLASS II INJECTION WELL TYPES

Class II injection wells have been used in oil field related activities since the 1930's. Today, there are approximately 6,000 active Class II wells located in New Mexico.
Class II injection wells are categorized into three main groups. They are (1) Salt Water Disposal Wells, (2) Enhanced Oil Recovery (EOR) Wells, and (3) Hydrocarbon Storage Wells.

SALT WATER DISPOSAL WELLS

The production of oil and gas is often accompanied by salt water. On average, approximately 10 barrels of salt water are produced with every barrel of crude oil. This water is reinjected into authorized geologic formations through disposal wells and EOR wells. One of the common forms of liquid waste disposal by the oil and gas industry is injection into non-hydrocarbon bearing geologic formations. These disposal wells have been used extensively to return the salt water associated with oil and gas production to the subsurface. Industry sources state that 30% of salt water produced with oil and gas onshore in the United States is disposed of via salt water disposal wells.

ENHANCED OIL RECOVERY WELLS

Enhanced Oil Recovery (EOR) injection wells are used to increase and prolong oil production from depleting oil producing fields. SECONDARY RECOVERY is an EOR process, commonly referred to as waterflooding. In this process salt water co-produced with oil and gas is reinjected into the oil producing horizon to drive oil into pumping wells, resulting in greater recovery of oil. TERTIARY RECOVERY is an EOR process which is employed after secondary recovery methods become inefficient or uneconomical. Tertiary recovery methods include the injection of gases, enhanced waters and steam in order to maintain and extend oil production. Approximately 60% of salt water produced with oil and gas onshore in the United States is injected into EOR wells. New Mexico is a leader in legislating tax incentives that encourage oil companies to institute these types of projects to boost the nation's supply of oil.

HYDROCARBON STORAGE WELLS

These wells are used for the underground storage of crude oil, liquified petroleum gas (LPG), and other liquid hydrocarbon products in naturally occurring rock formations. Often the same wells are designed for both injection and removal of the stored hydrocarbon storage wells are vital to our nation's strategic reserves.

CONSTRUCTION OF CLASS II WELLS

Construction of new Class II injection wells is subject to State and Federal regulations. Construction design must adequately confine injected fluids to the authorized zone as well as prevent the migration of fluids into USDWs. Through the permitting process for Class II injection wells, site-specific construction regulations can be imposed to meet any unusual circumstances.

Injection wells are drilled in to geologic rock formations that will accept the injected fluids. The fluid pressure, fracture pressure, and geological characteristics of the injection zone must be considered when evaluating a zone that may be suitable for injection. Confining zones generally overlie the injection zones. Confining zones are non-permeable zones that add to the environmental security of the well by restricting the upward movement of the injected fluids.

New injection wells are drilled and cased with steel pipe. The pipe is cemented in place to prevent the migration of fluids into USDWs. Figure 2 depicts an injection well construction diagram. It should be noted that the surface casing is commonly set below the base of the lowermost USDW and cemented back to the surface, preventing the movement of fluids into USDWs. Secondly, cement is placed behind the long string casing for several hundred feet above the injection zone to prevent injected fluids from migrating upward into the USDW. The long string casing and cement sheath are perforated in the injection zone to allow for fluid emplacement.

As shown in Figure 2, a typical injection well also has an interior string of pipe called tubing through which injection takes place. A packer is used to isolate the injection zone from the casing above the packer, and also helps to facilitate the detection of any leakage.

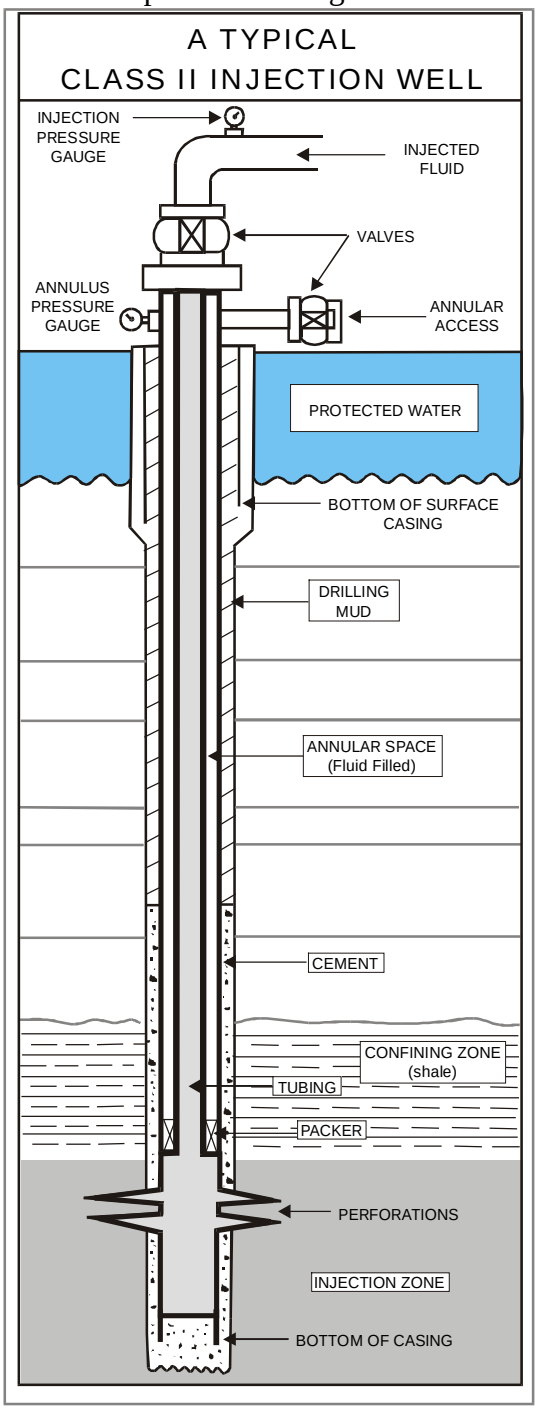


Figure 2

OPERATIONS

Injection well operations must be directed in such a manner as to prevent the contamination of USDWs and to ensure fluid emplacement and confinement within the authorized injection zone.

Typically, the oil, gas and salt water are separated at the oil and gas production facility. The salt water is then either piped or trucked to the injection site for disposal or EOR operations. There, the salt water is transferred to holding tanks and pumped down the injection well. For EOR, the salt water may be treated or augmented by other fluids prior to injection to maximize oil recovery in some EOR operations.

New Mexico, as well as other primacy states, has adopted its own regulations, which meet or exceed federal standards, concerning injection well operations in terms of maximum allowable injection pressures, mechanical integrity testing, pressure monitoring and reporting.

TESTING AND MONITORING

Continuous ground water protection is accomplished by testing and monitoring the injection wells after placing them in service. Injection pressures and volumes are monitored as a valuable indicator of well performance.

Downhole problems normally can be recognized through the monitoring of injection well pressures. Effective monitoring is important so that corrective action can be taken quickly to prevent endangerment of USDWs. Monitoring reports must be submitted to the appropriate State or Federal Agency for review.

Mechanical Integrity Tests (MITs) are required prior to initial injection and at a minimum of once every five years thereafter. Variations of acceptable tests and frequencies of the tests are determined on a state- by-state basis. For example, New Mexico utilizes a bradenhead test on an annual basis in addition to the pressure test every five years. These tests are utilized to evaluate the operational integrity of the well so that USDWs will not be endangered.

New Mexico's newest tool for monitoring operations and conditions of injection wells, in addition to scheduling all MITs, is known as the Risk Based Data Management System (RBDMS). The core system was developed by the Ground Water Protection Council, a national organization made up of State and Federal regulatory agencies, industry representatives and municipal officials. RBDMS New Mexico has been highly customized to meet the needs of New Mexico's program. It is used on notebook computers by inspectors in the field to record and track all relevant data in the constant business of protecting New Mexico's underground sources of drinking water.

For More Information:

Oil Conservation Division
P. O. Box 6429
Santa Fe, New Mexico 87505
(505) 476-3466

Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, NM

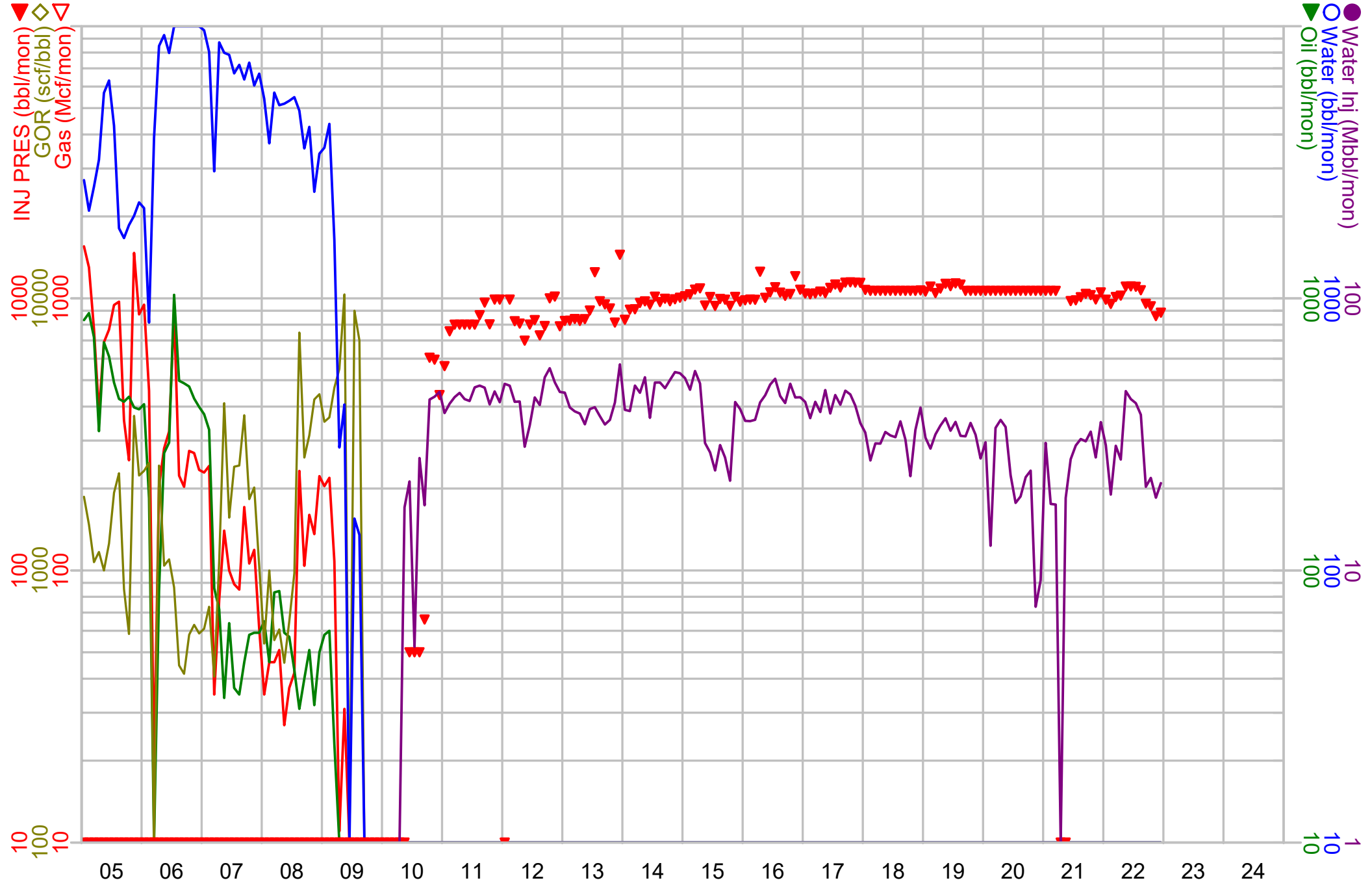
August 2023

APPENDIX VII

Production Charts for Vertical Wells in the WSA

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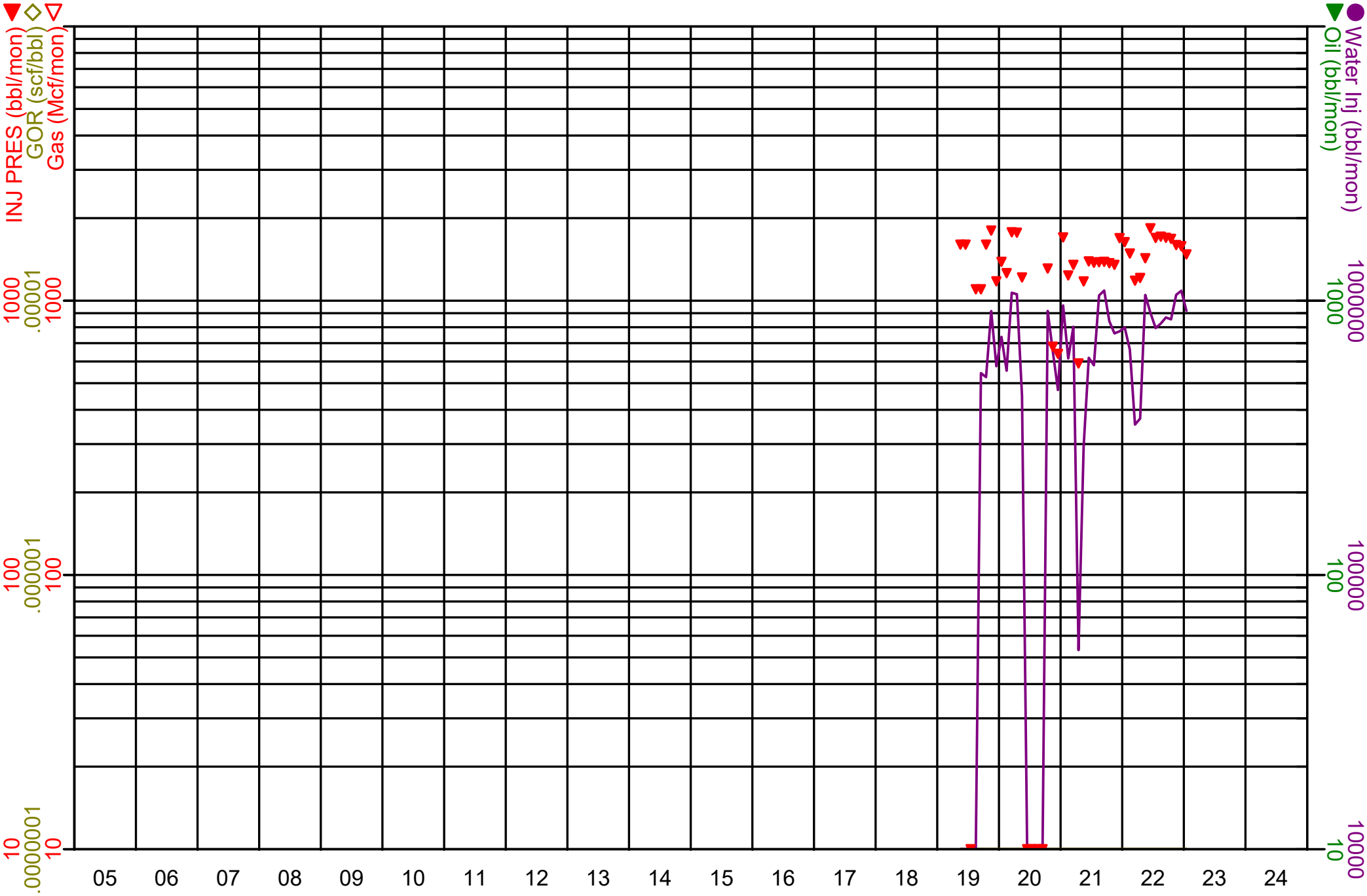
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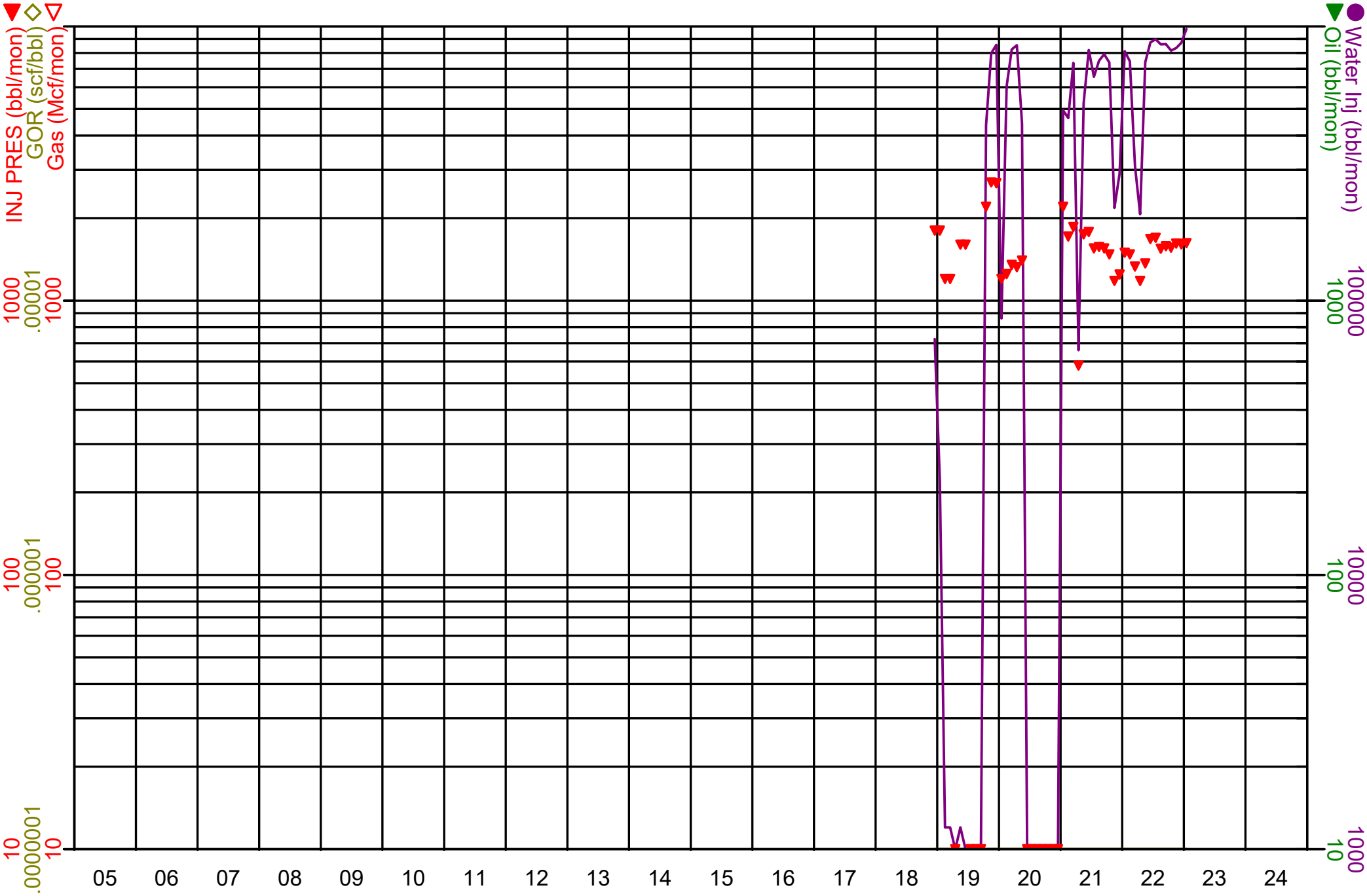
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WATER INJECTION SCALE SHIFTED



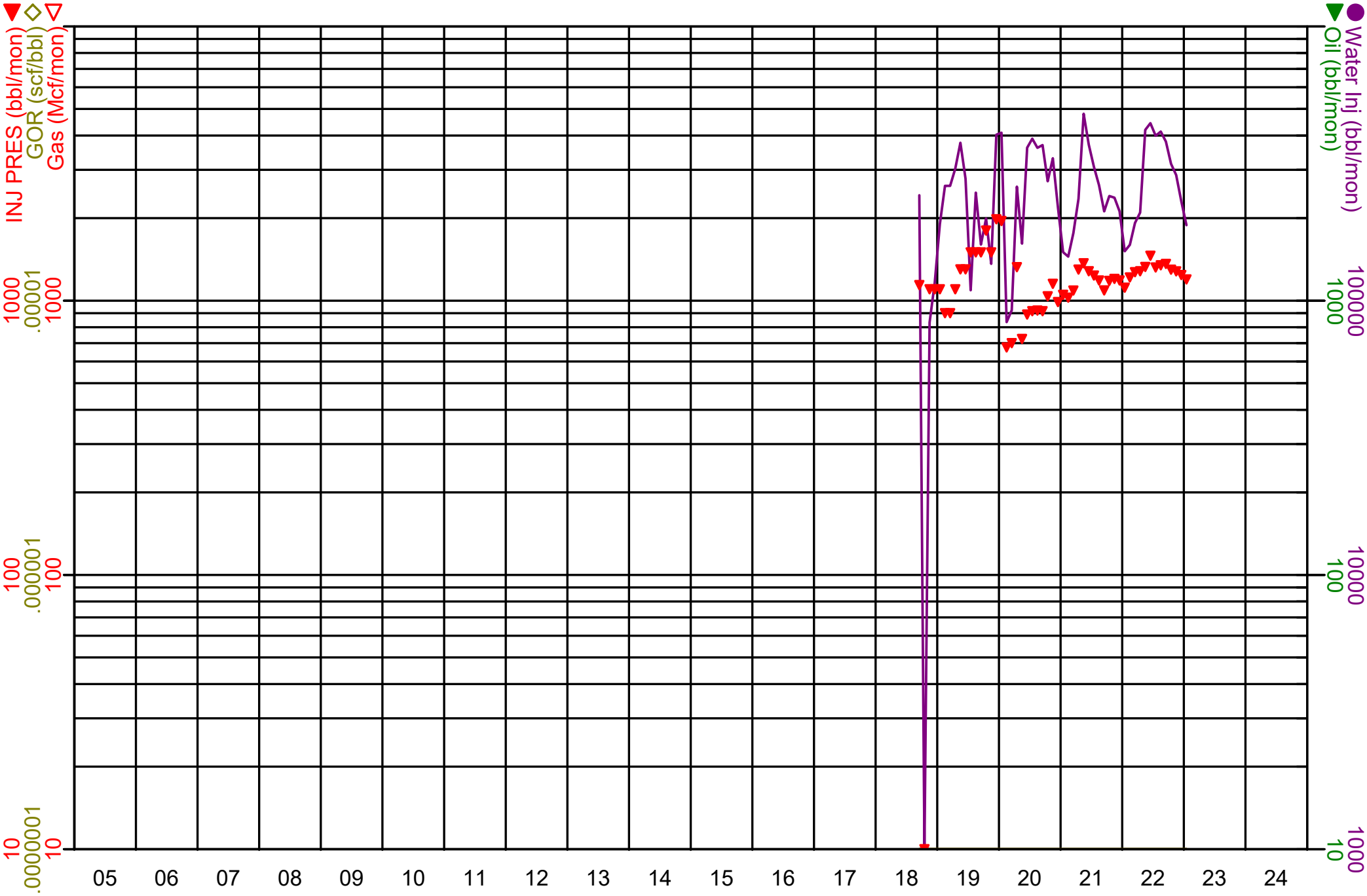
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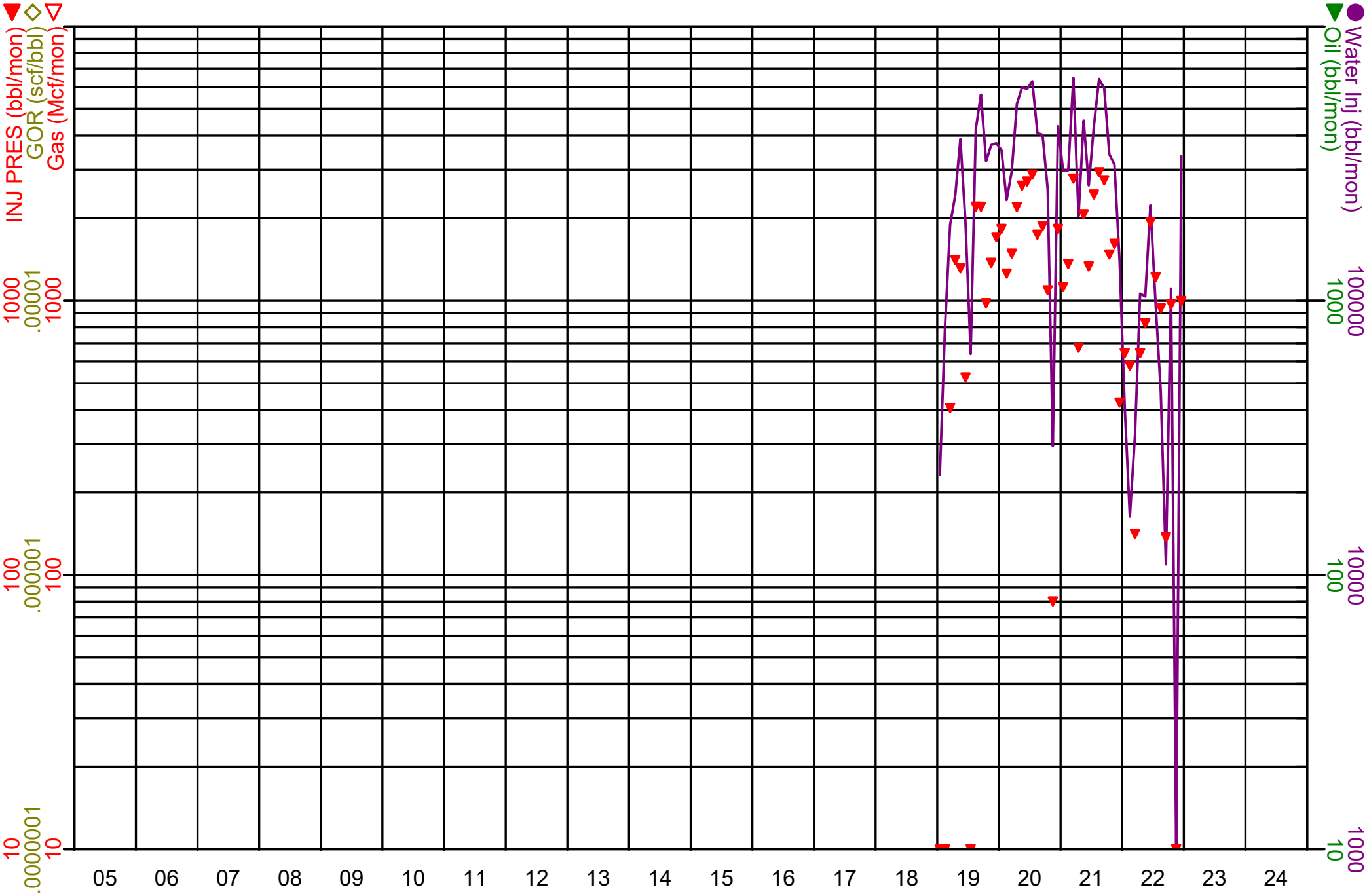
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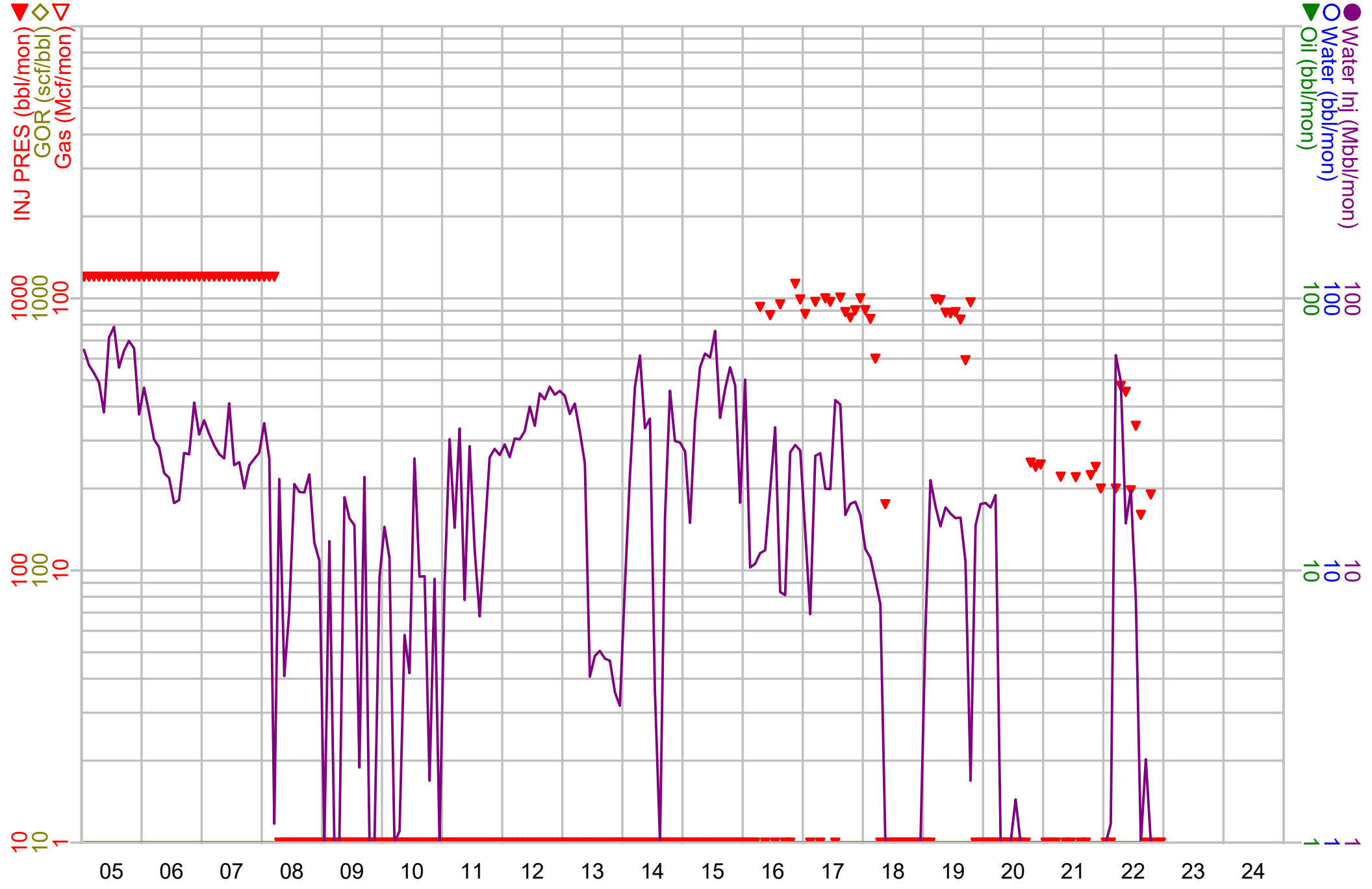
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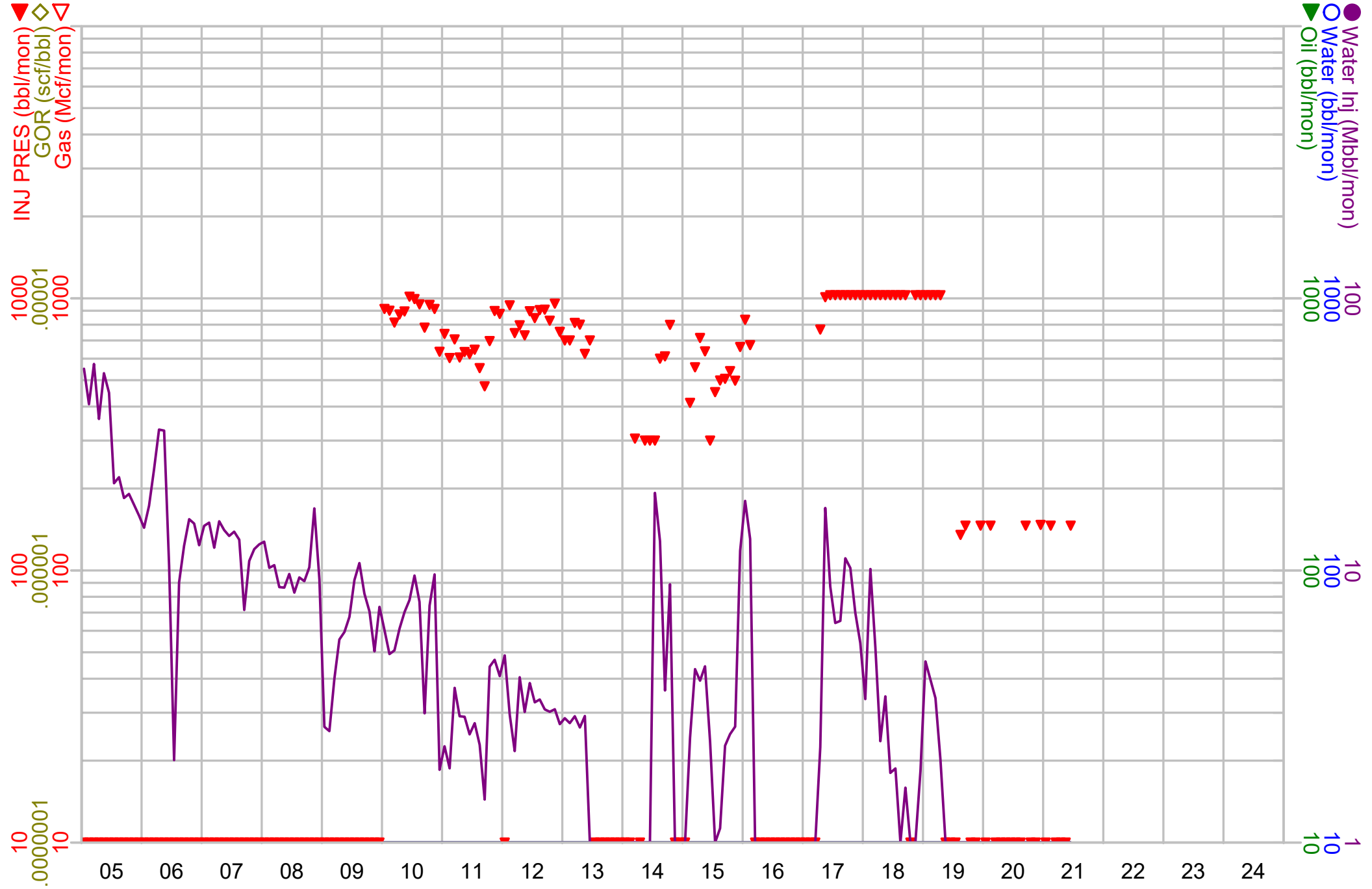
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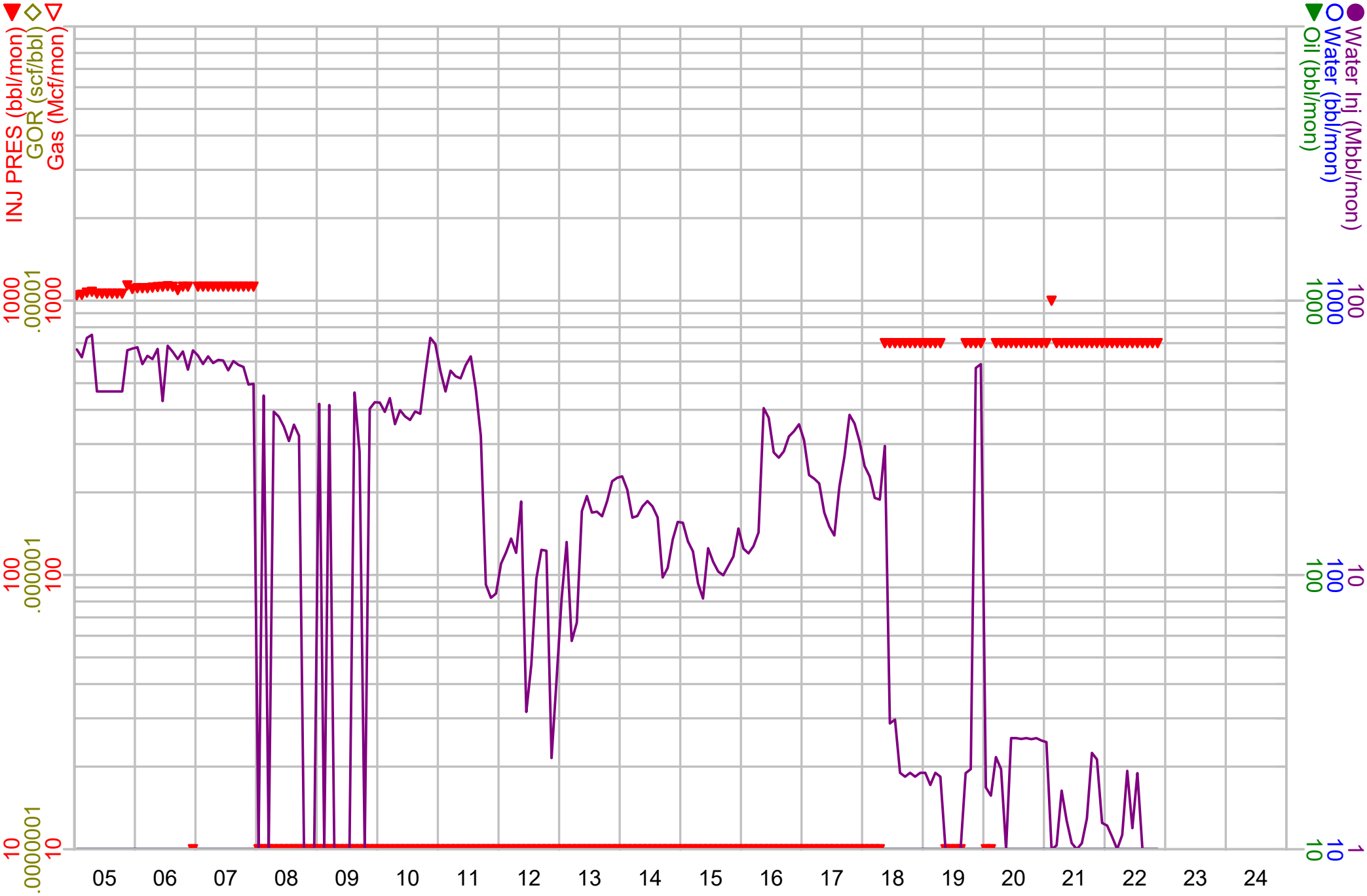
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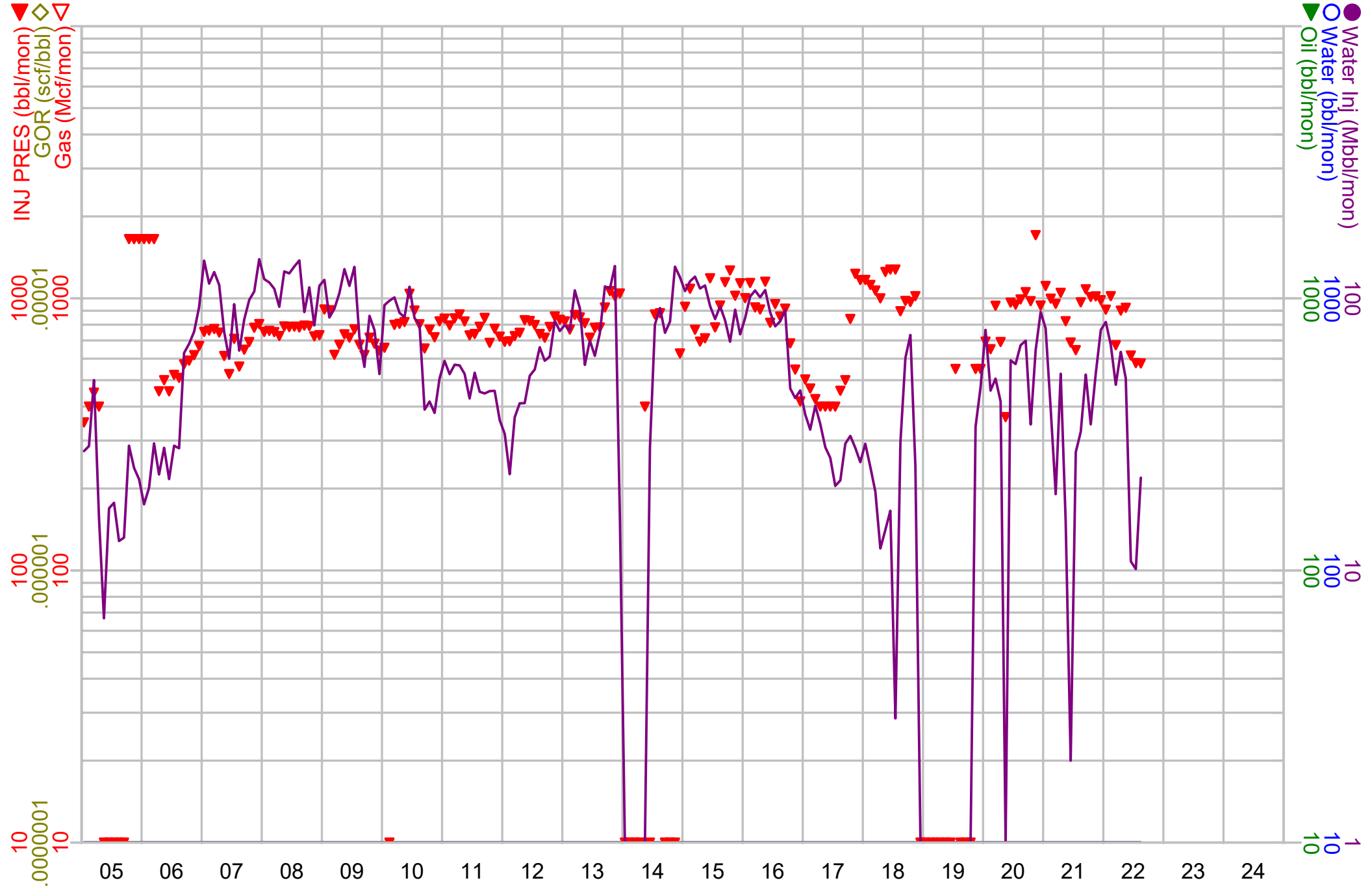
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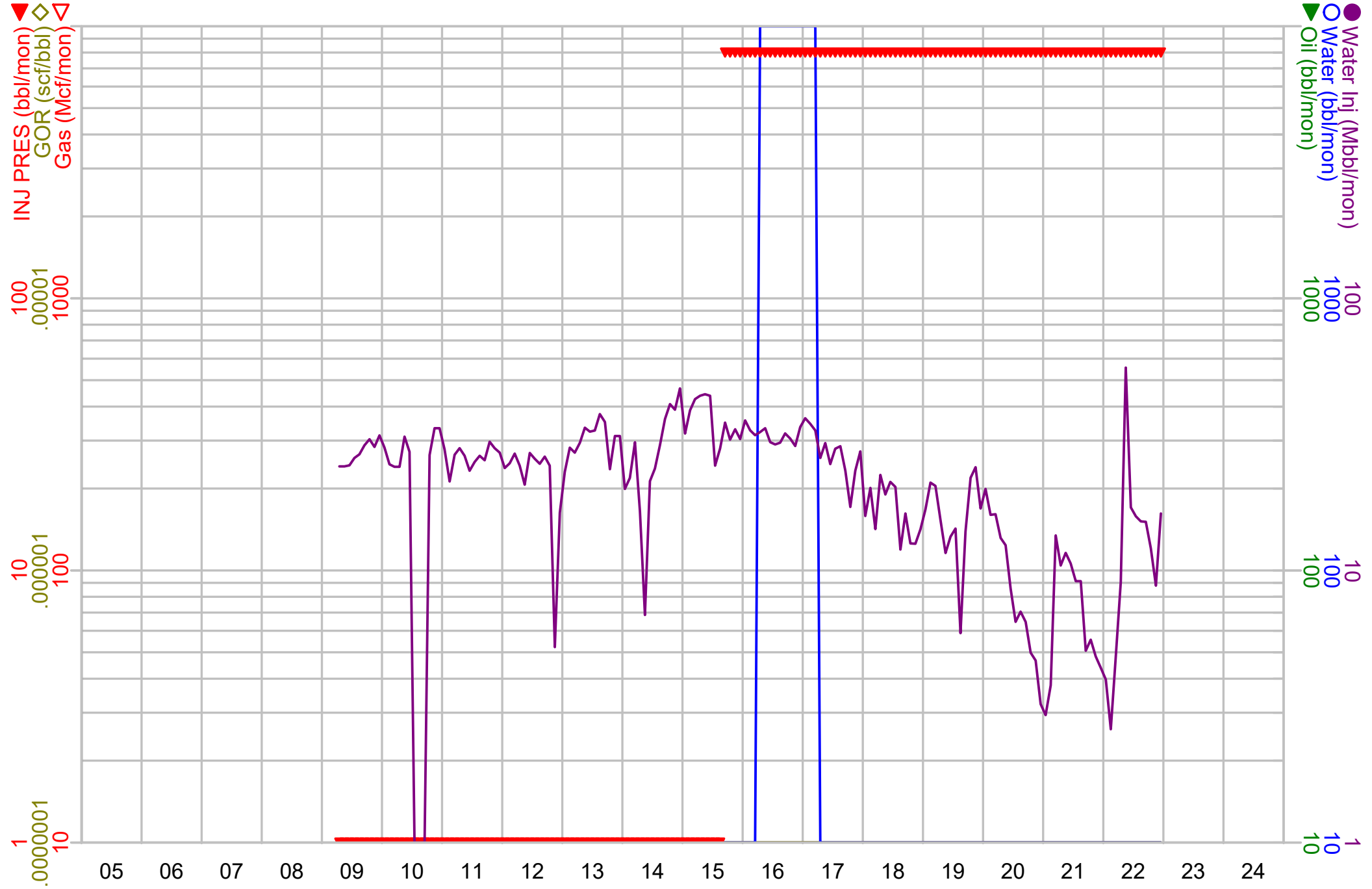
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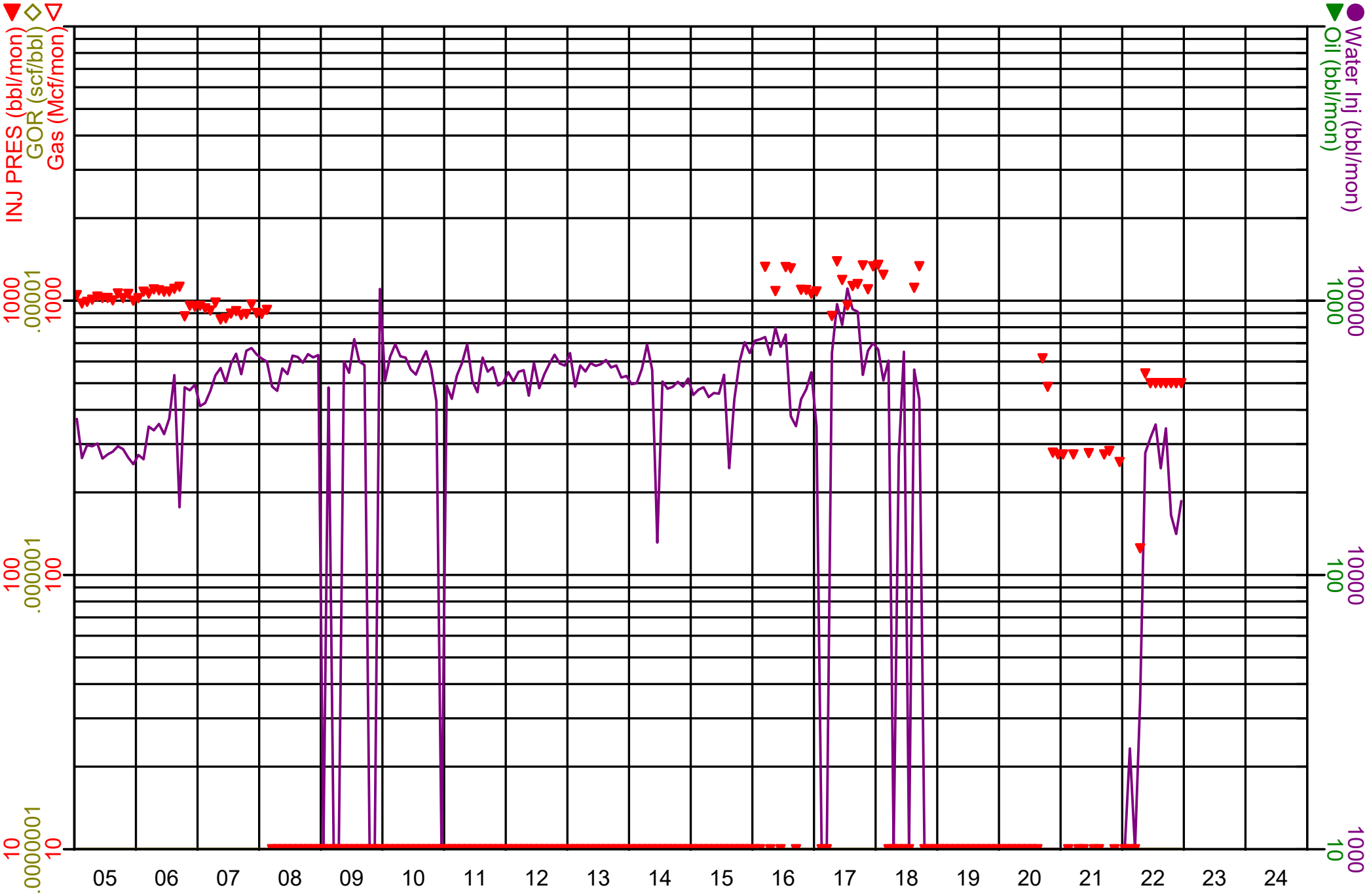
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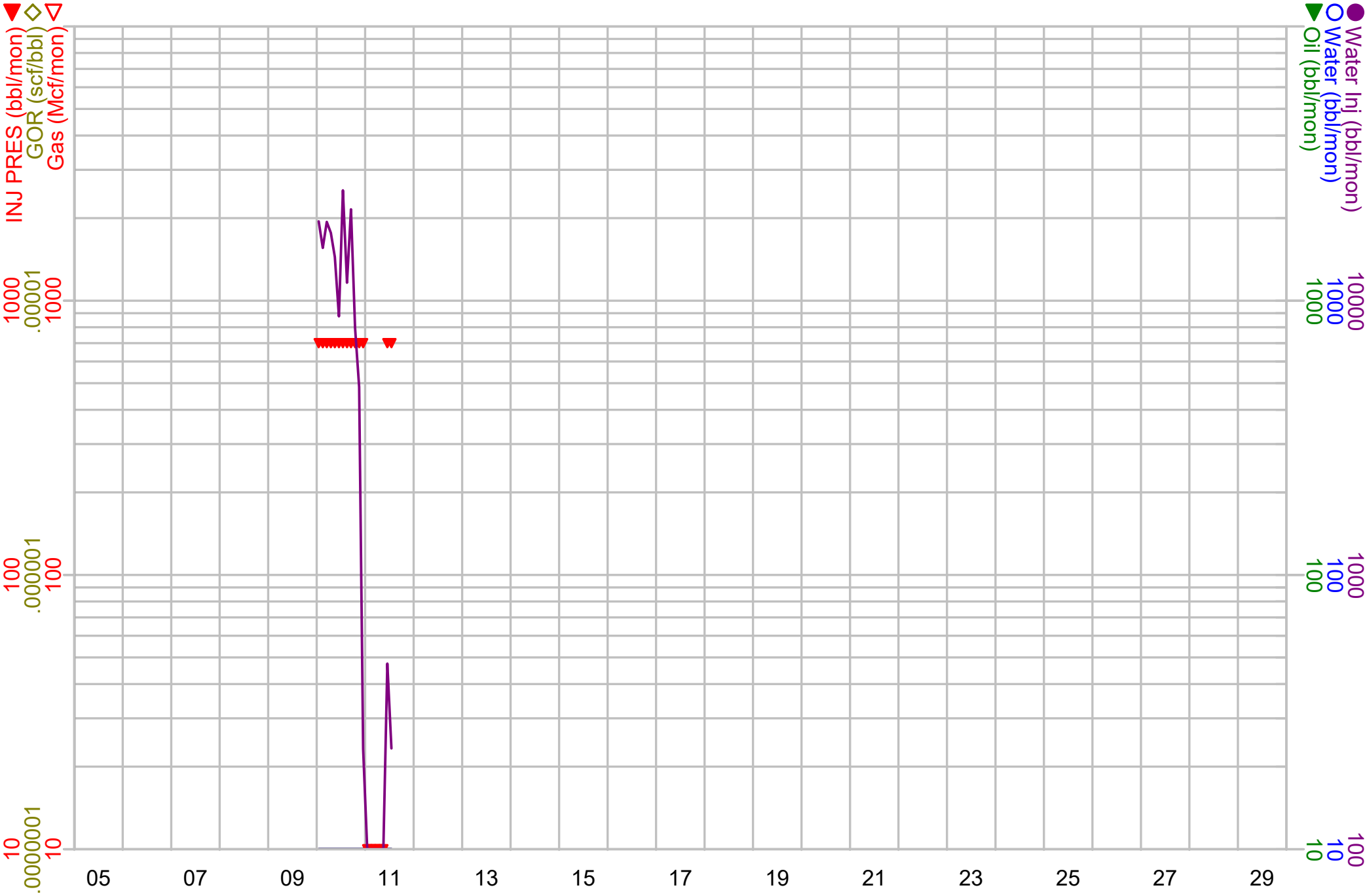
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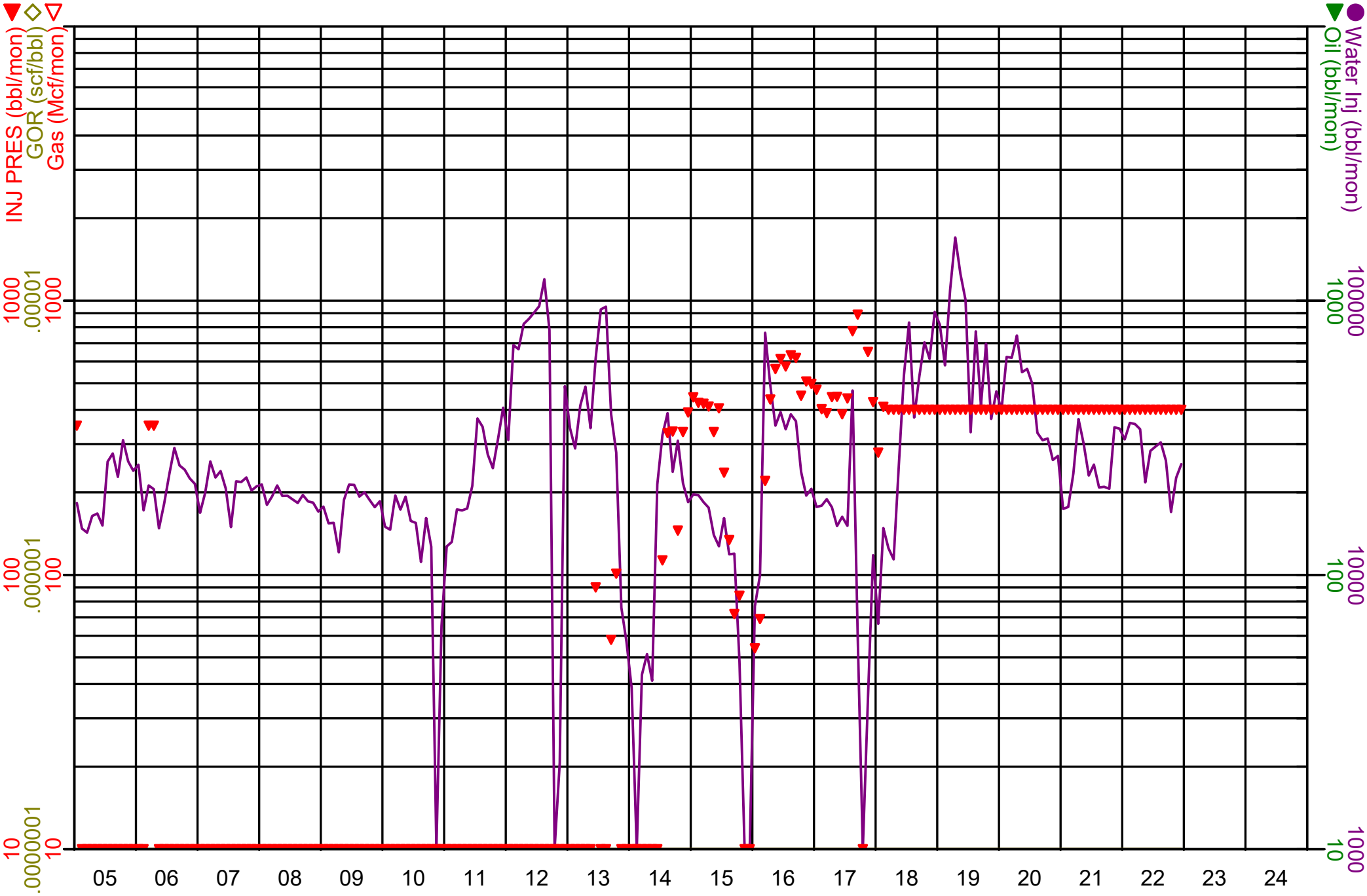
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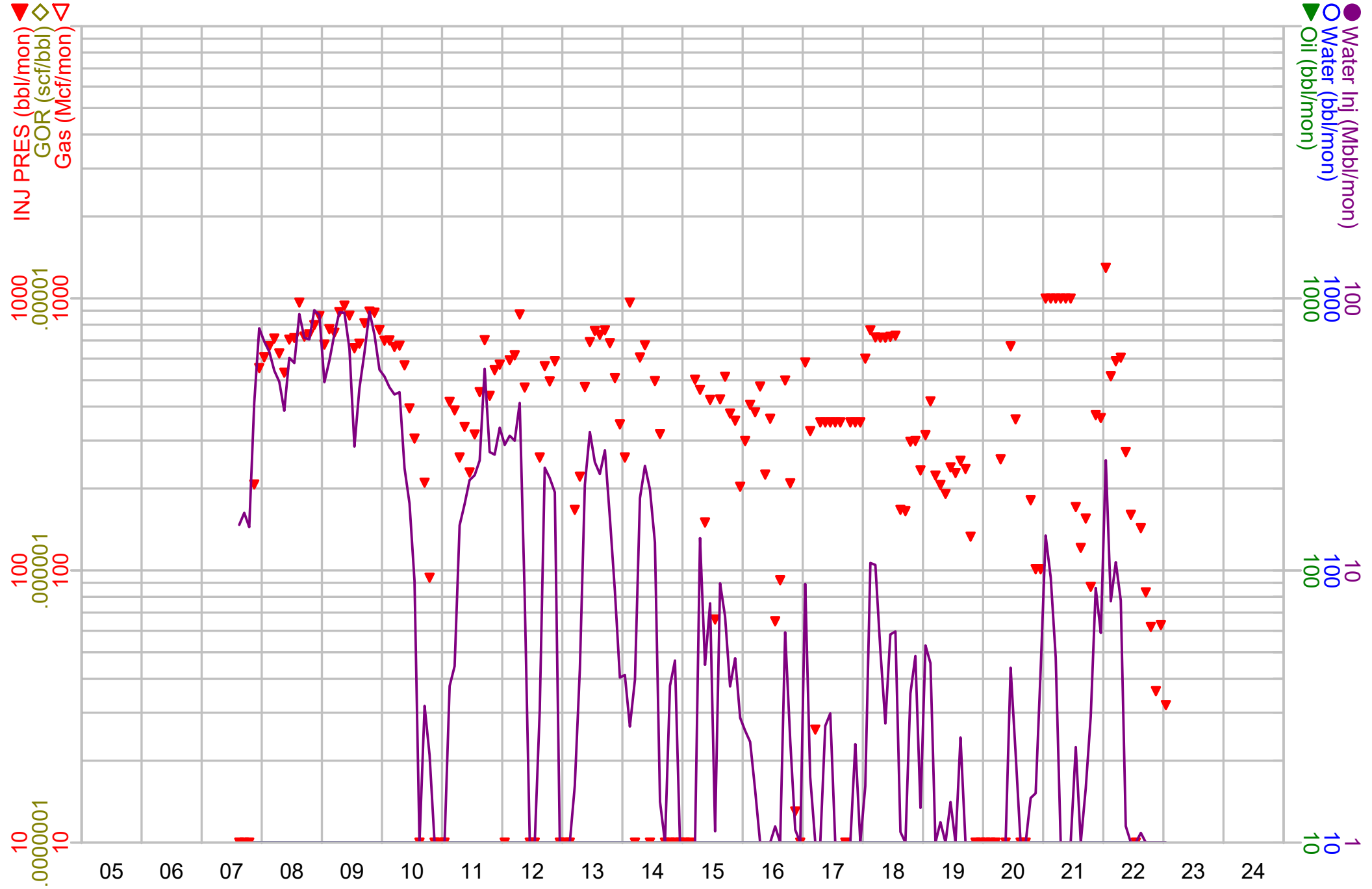
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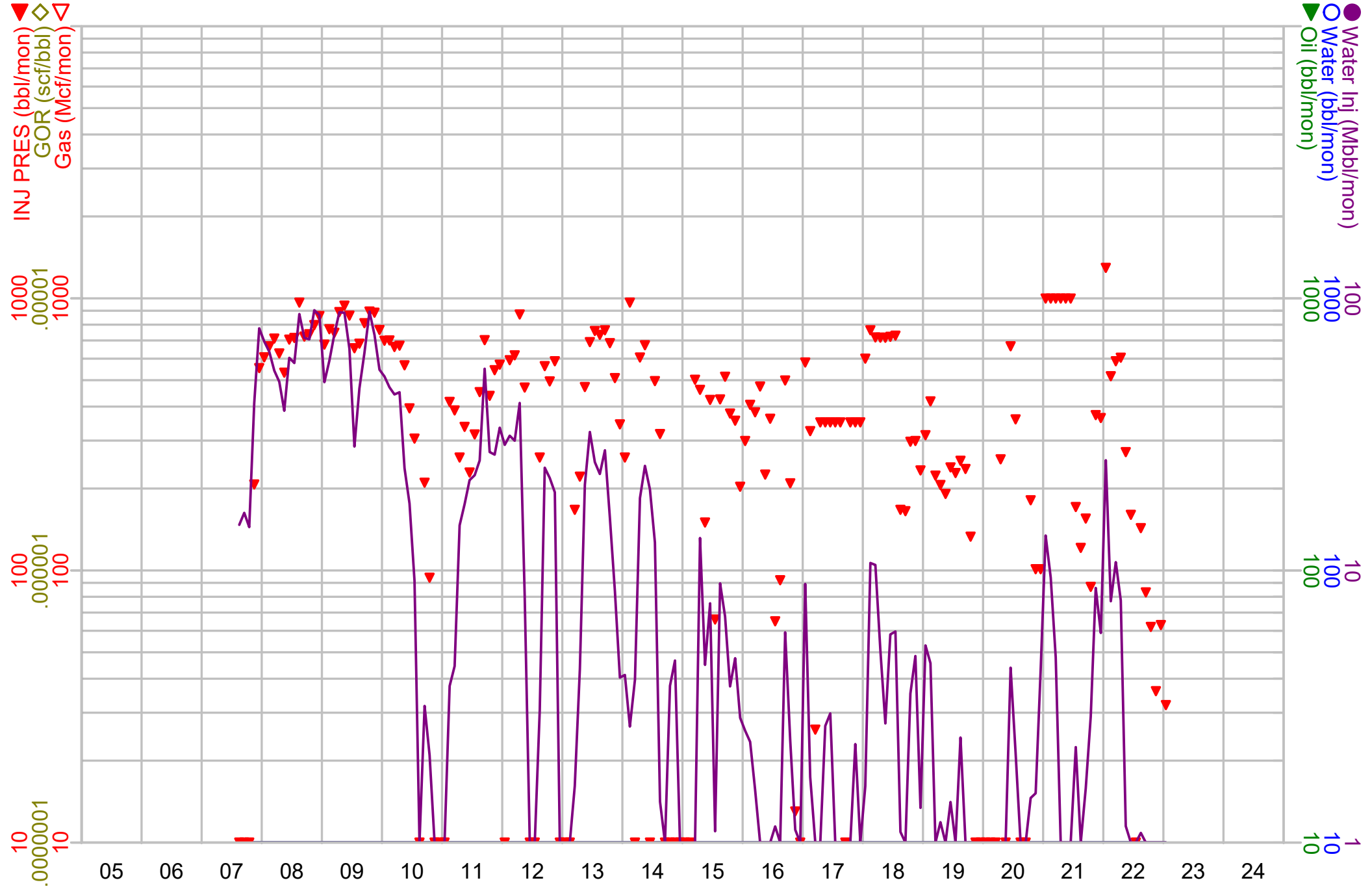
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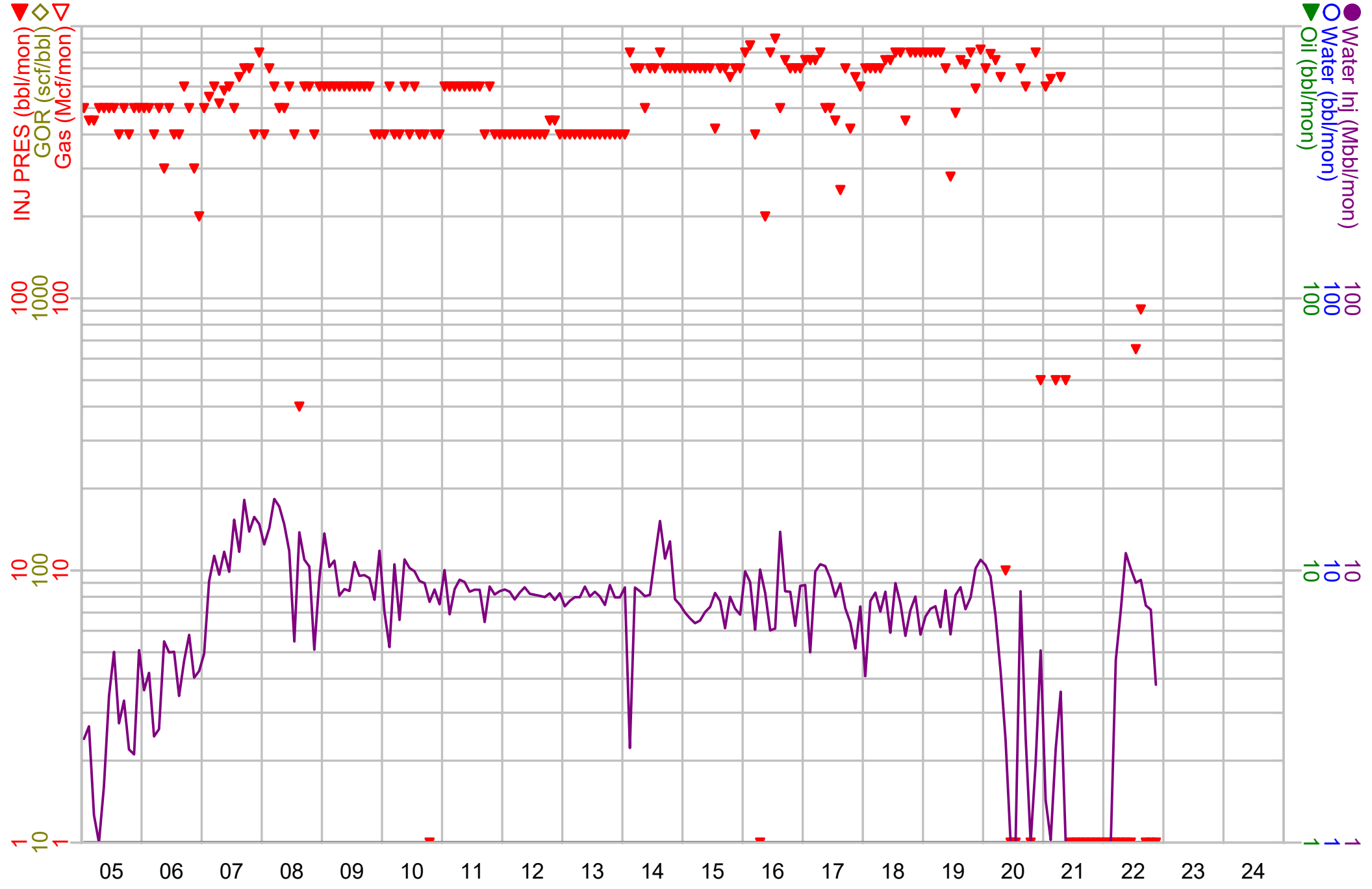
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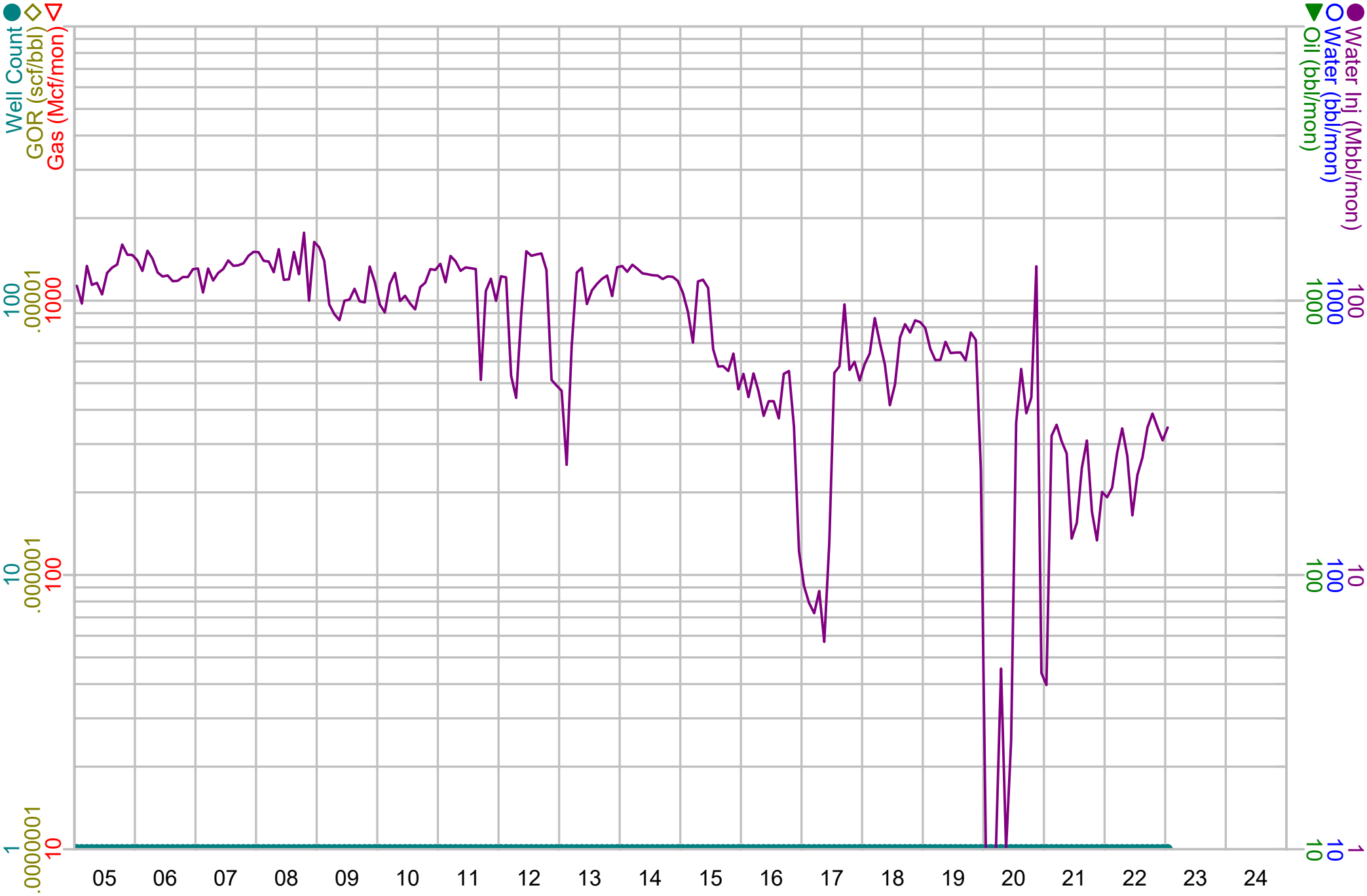
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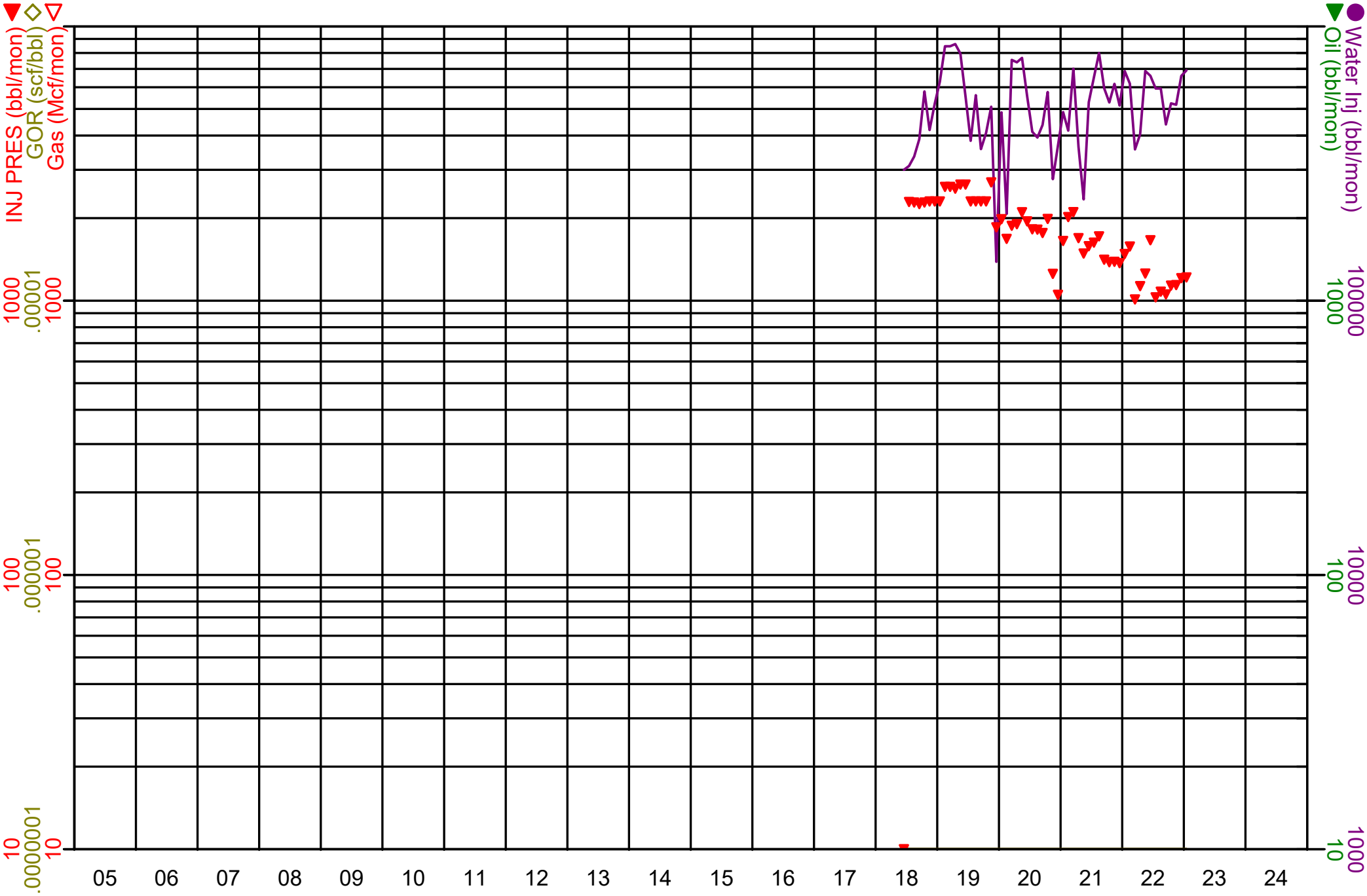
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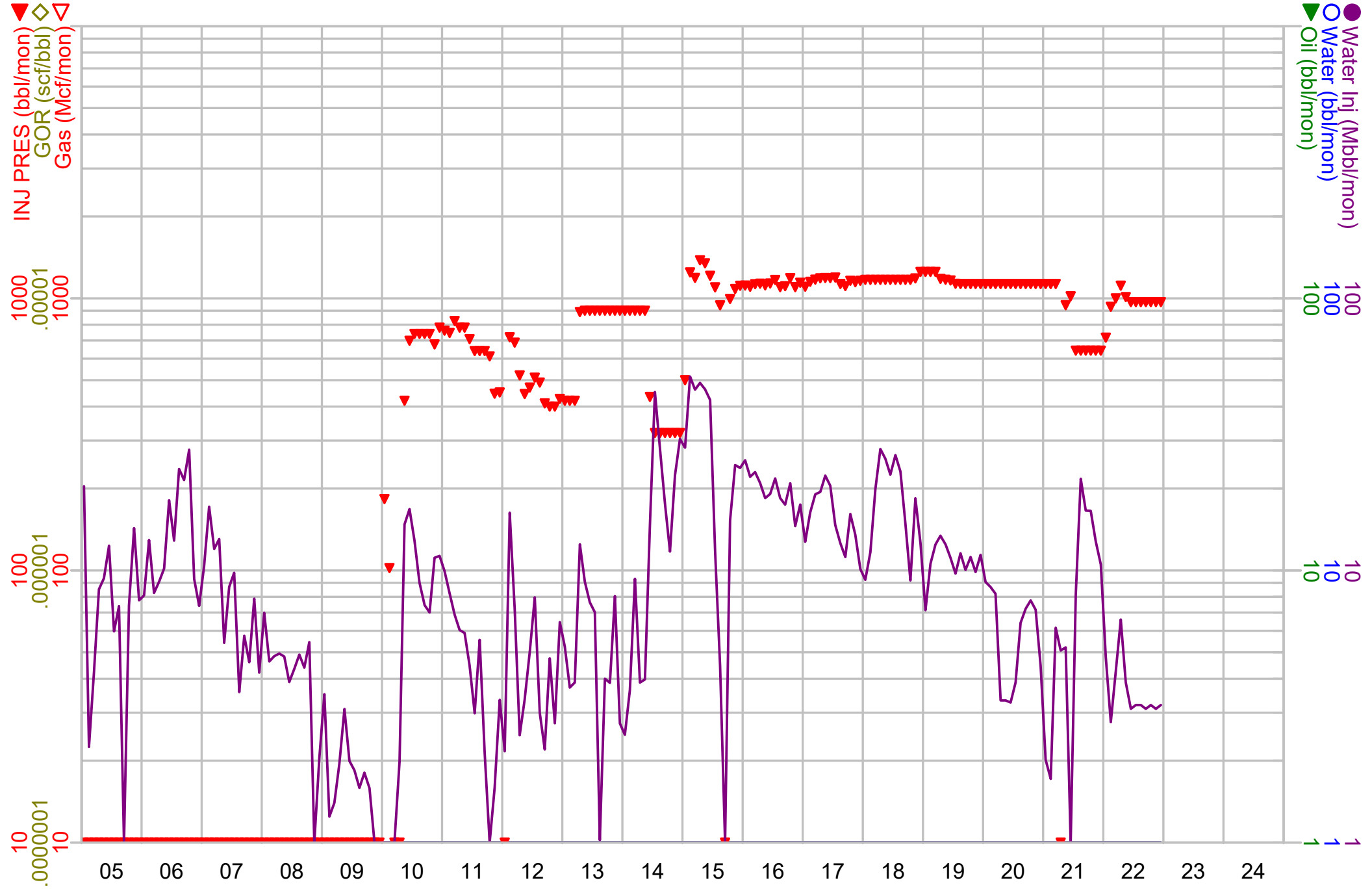
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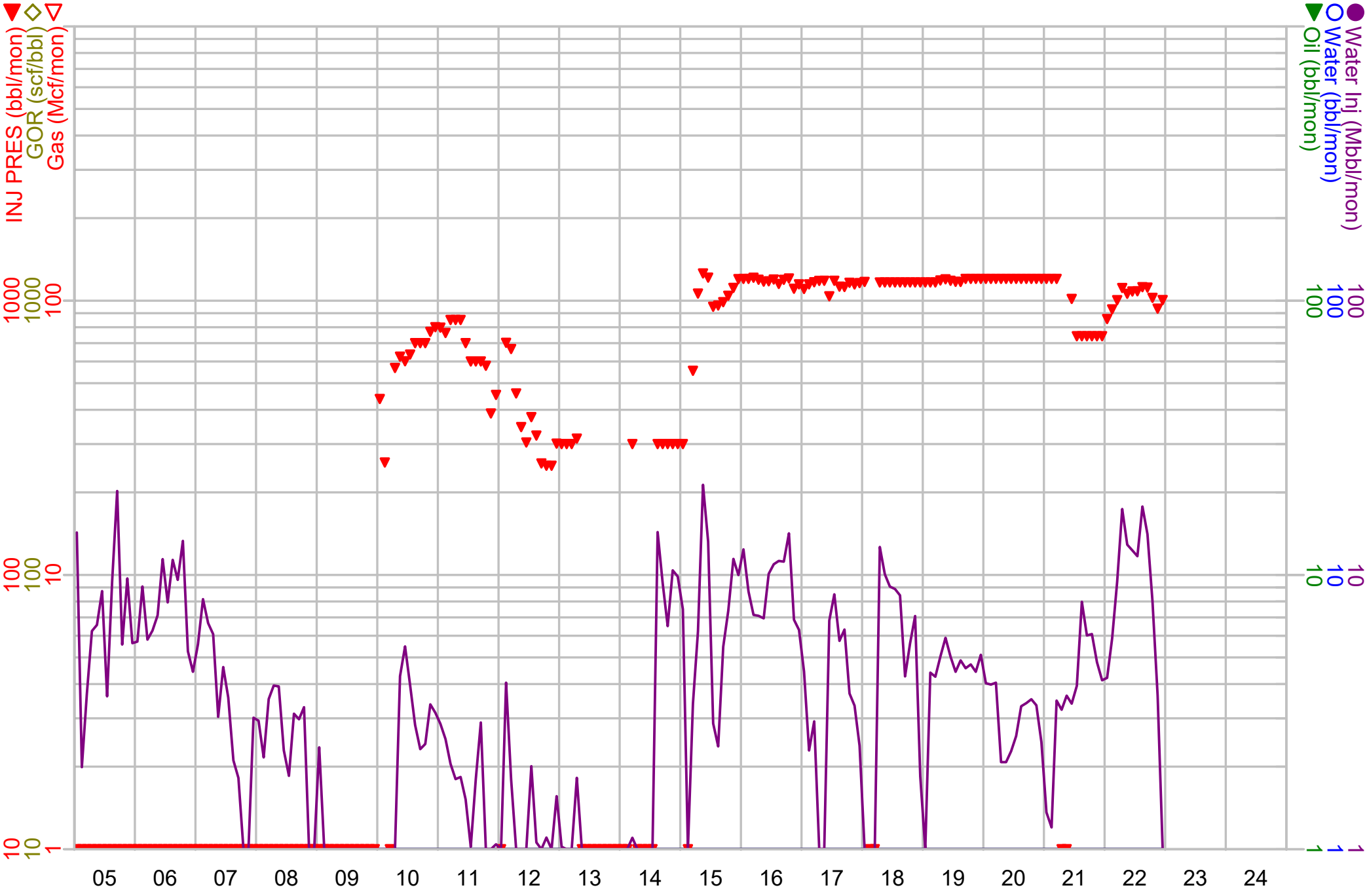
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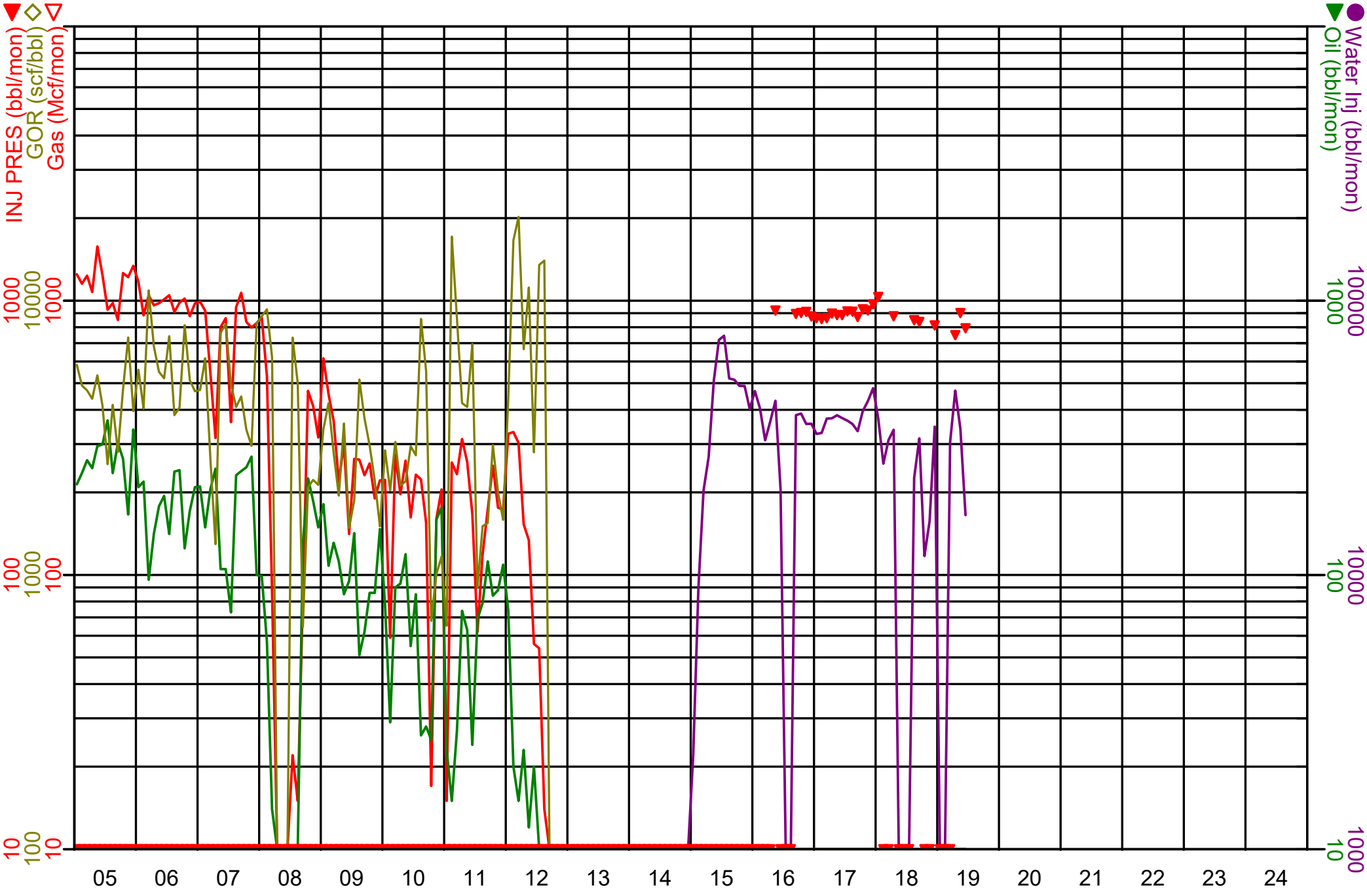
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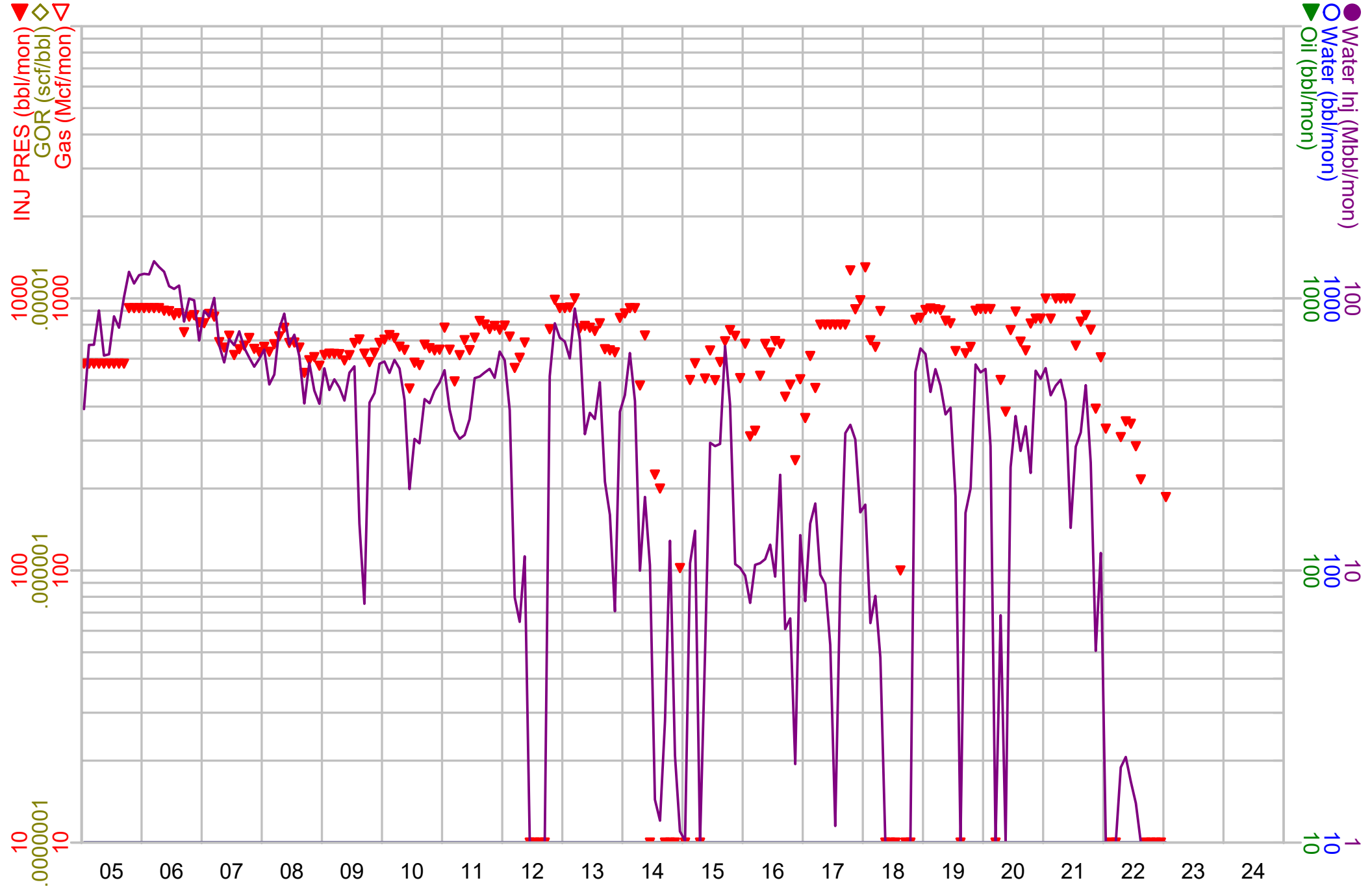
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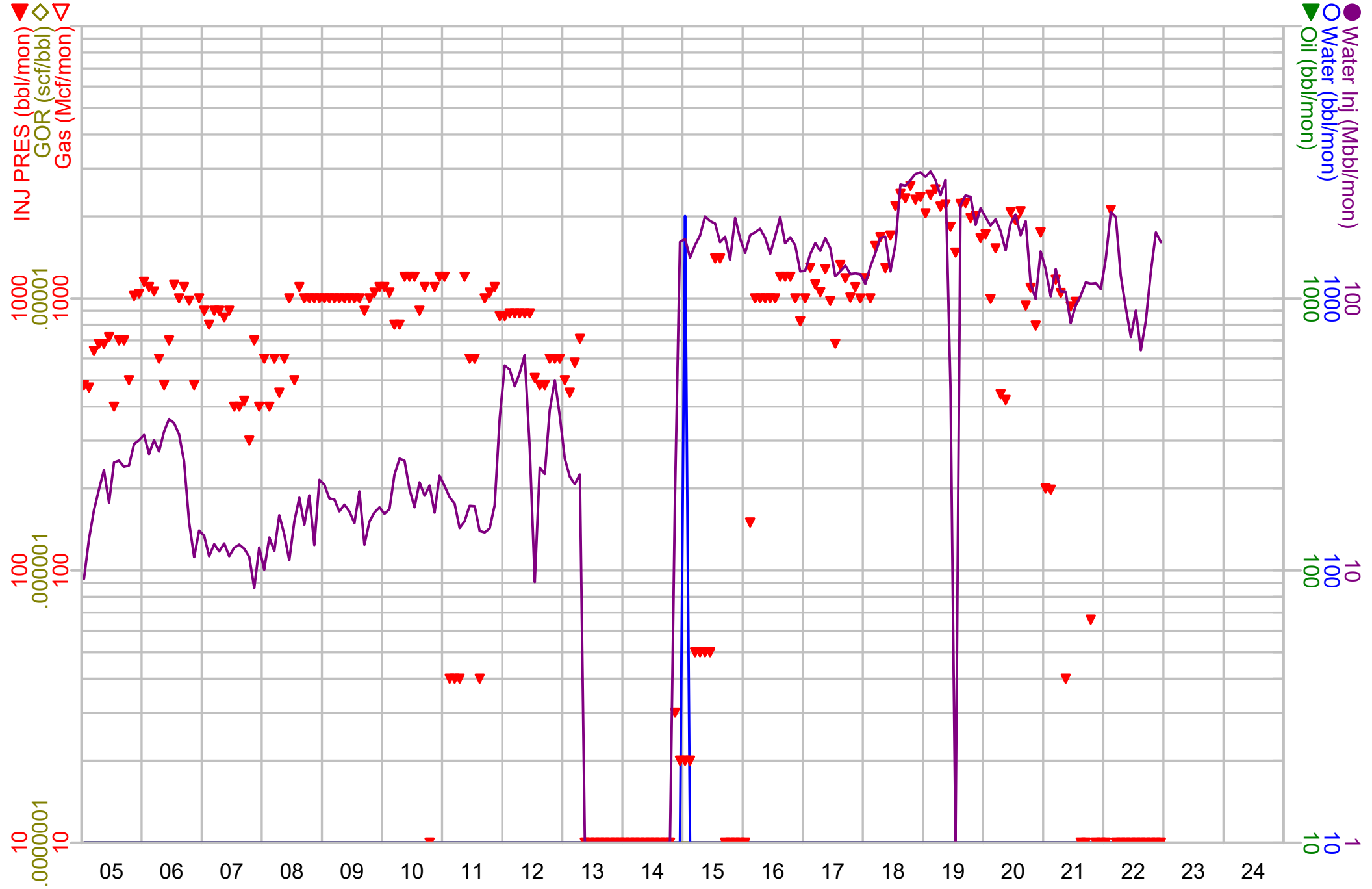
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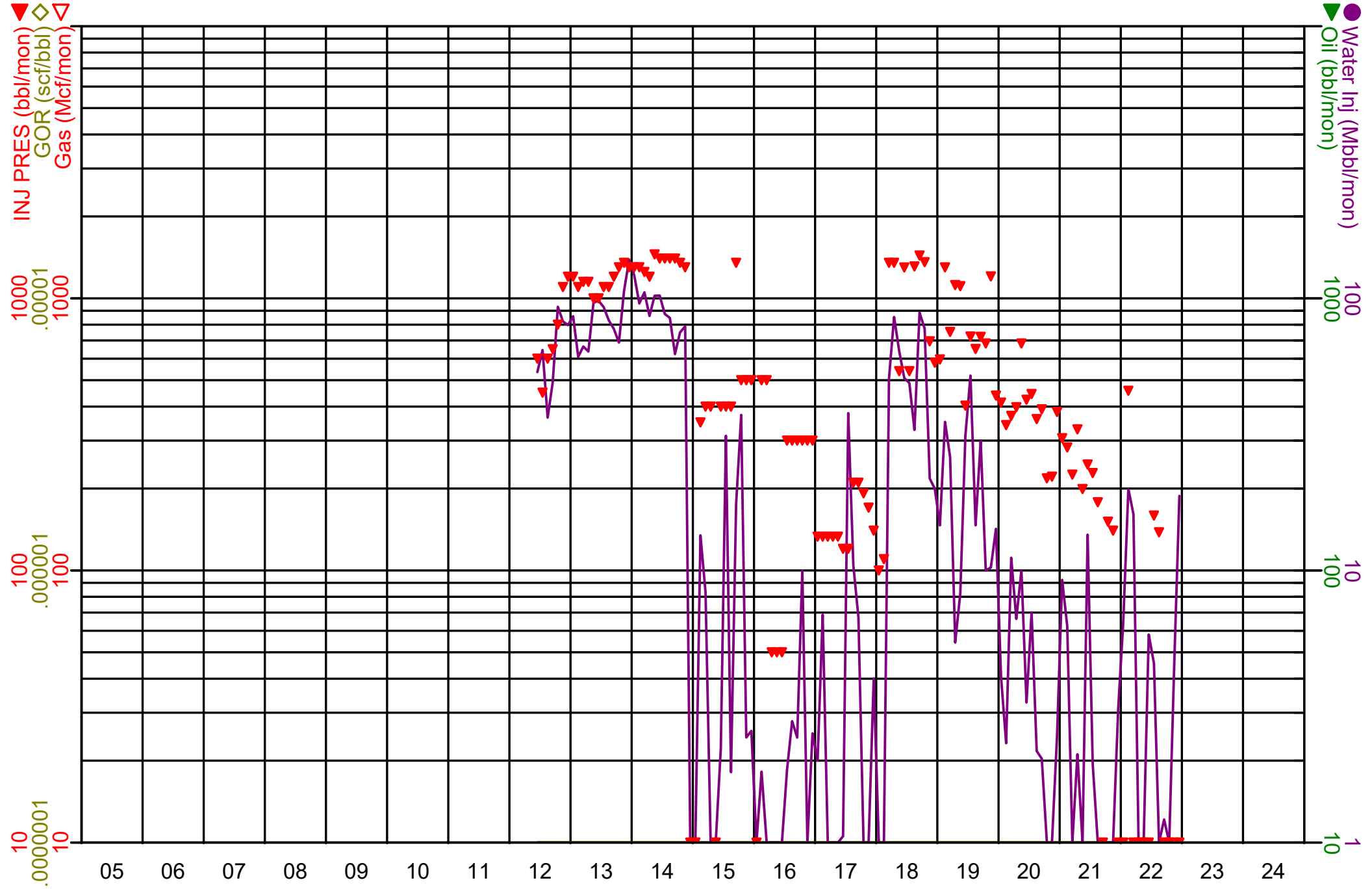
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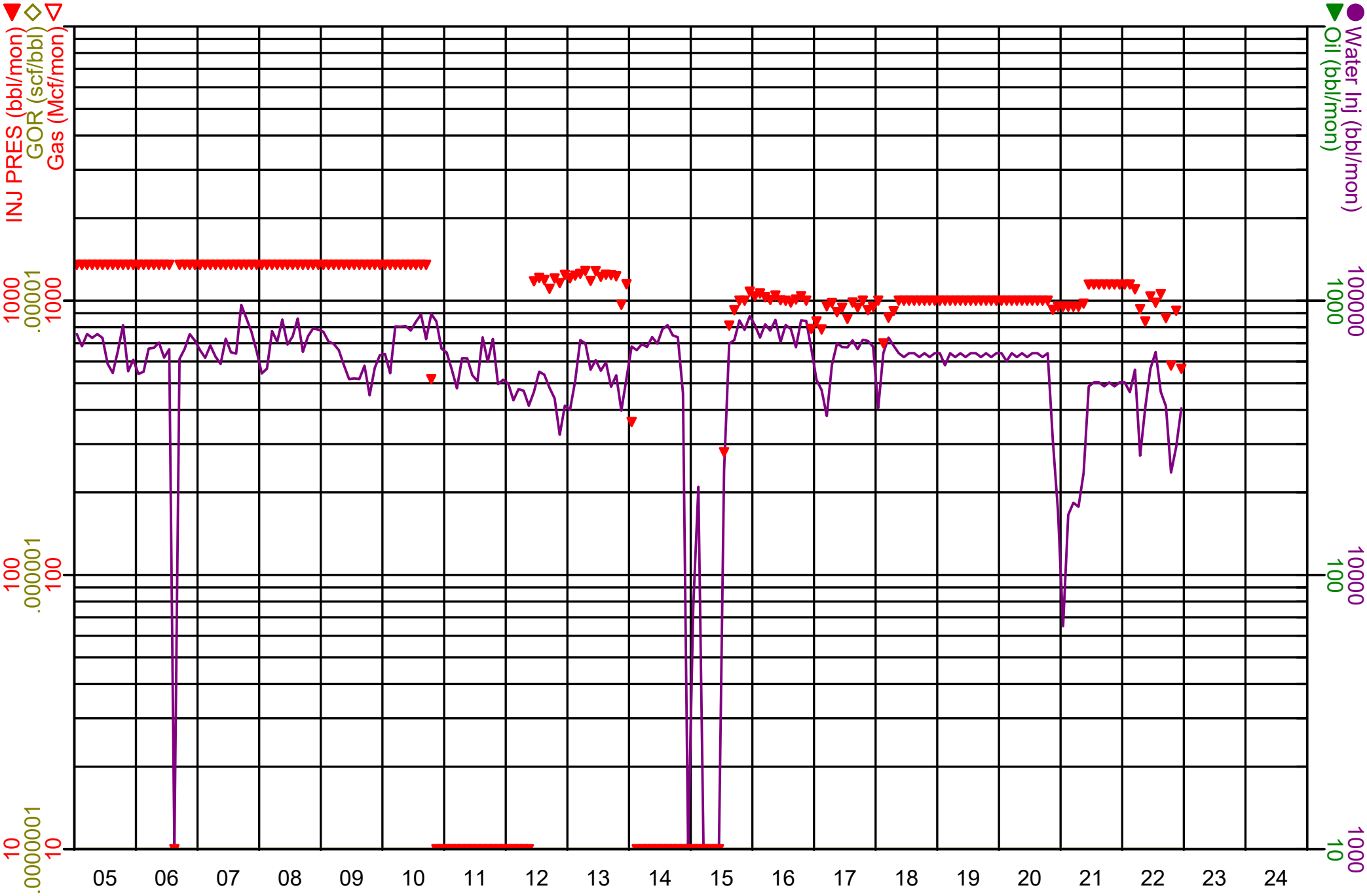
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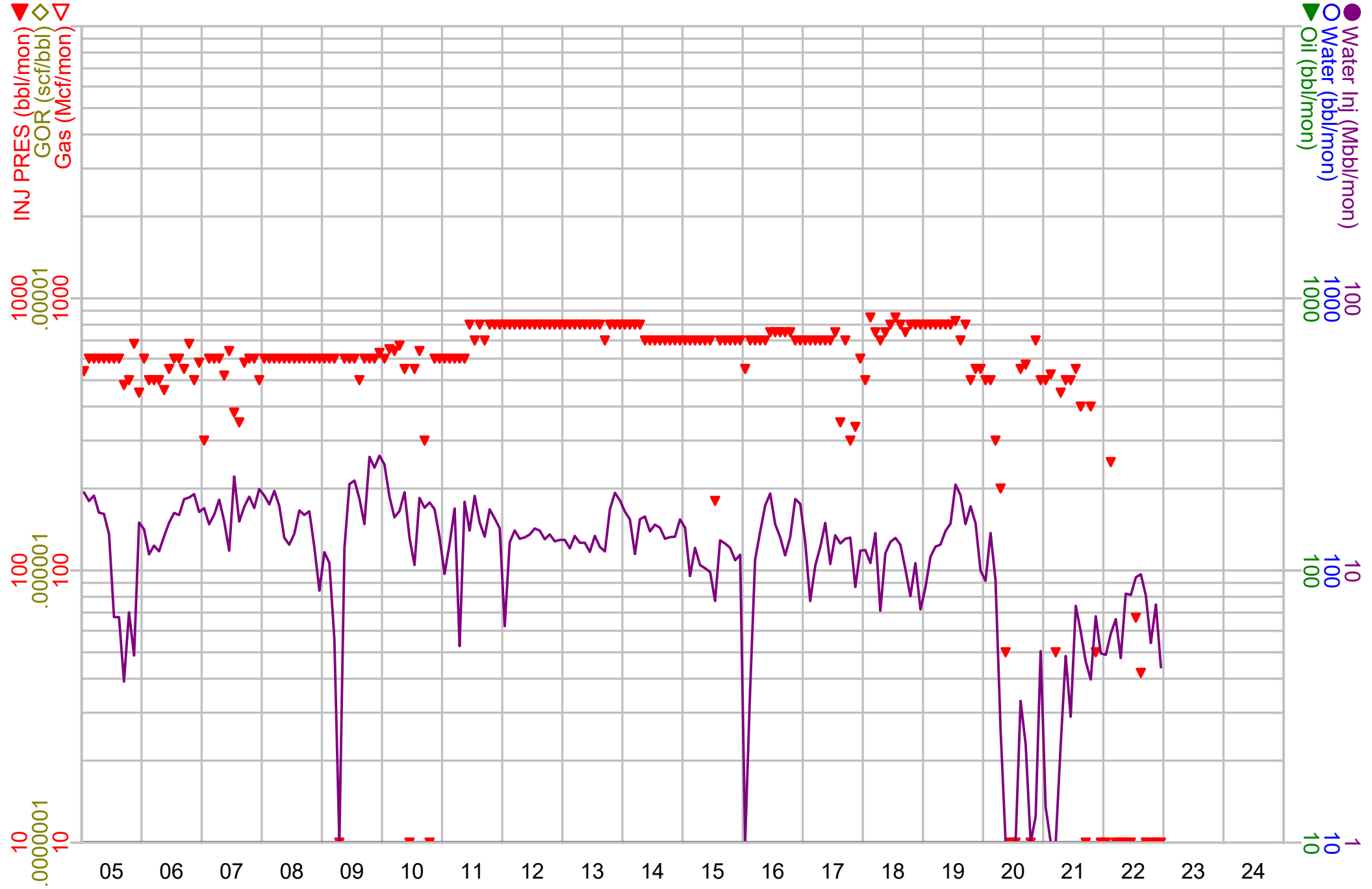
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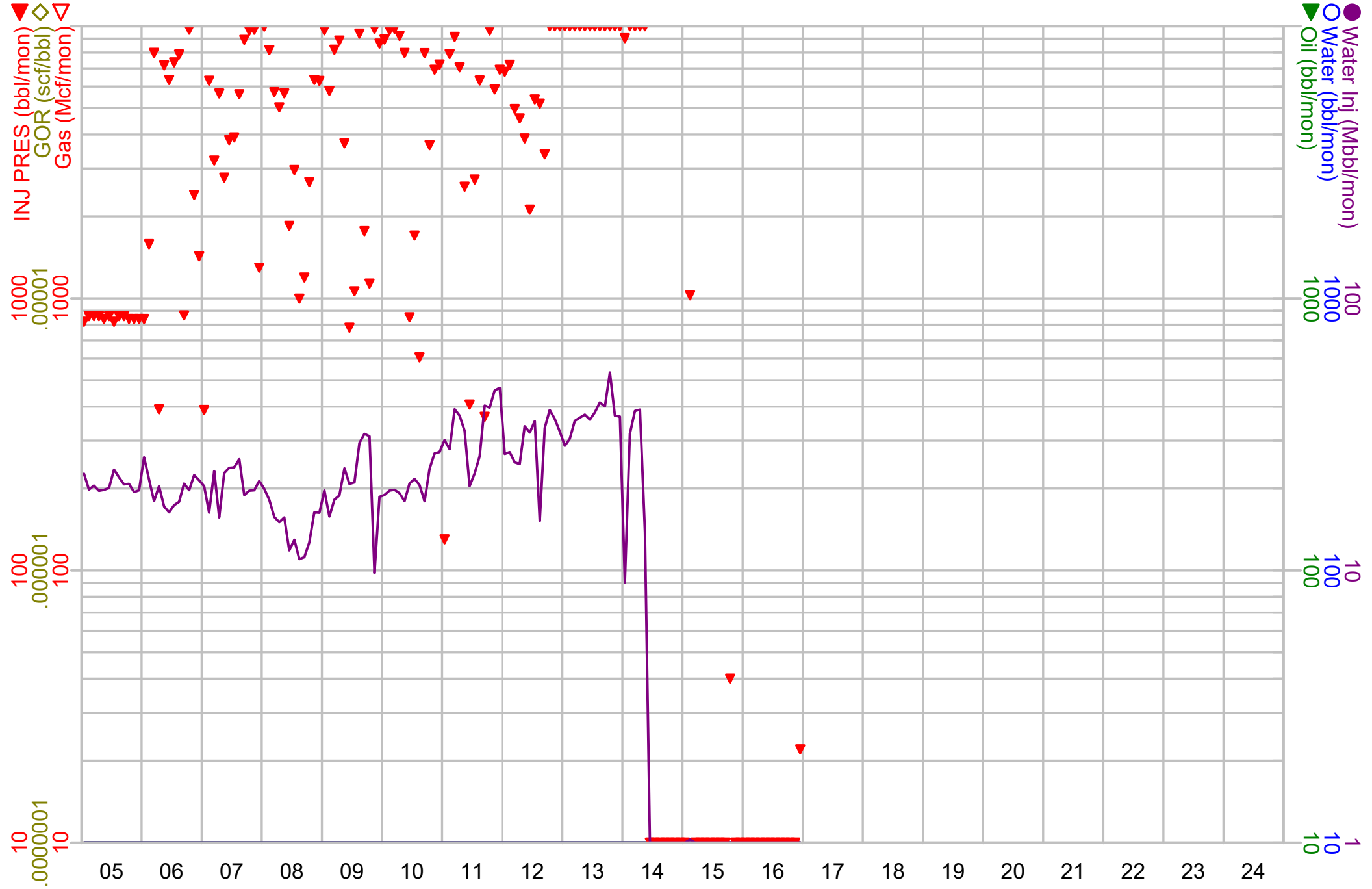
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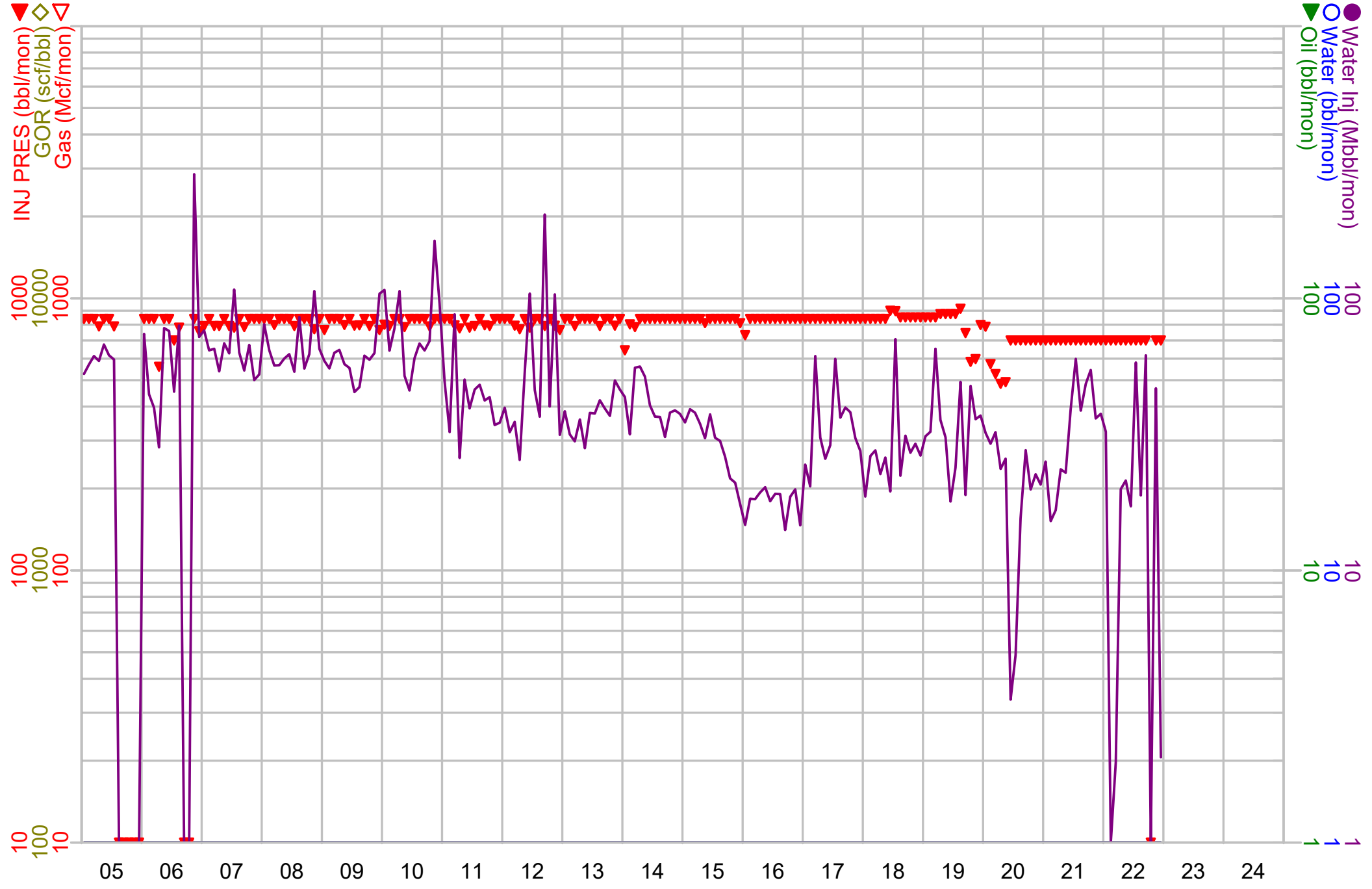
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County,State: EDDY,NM



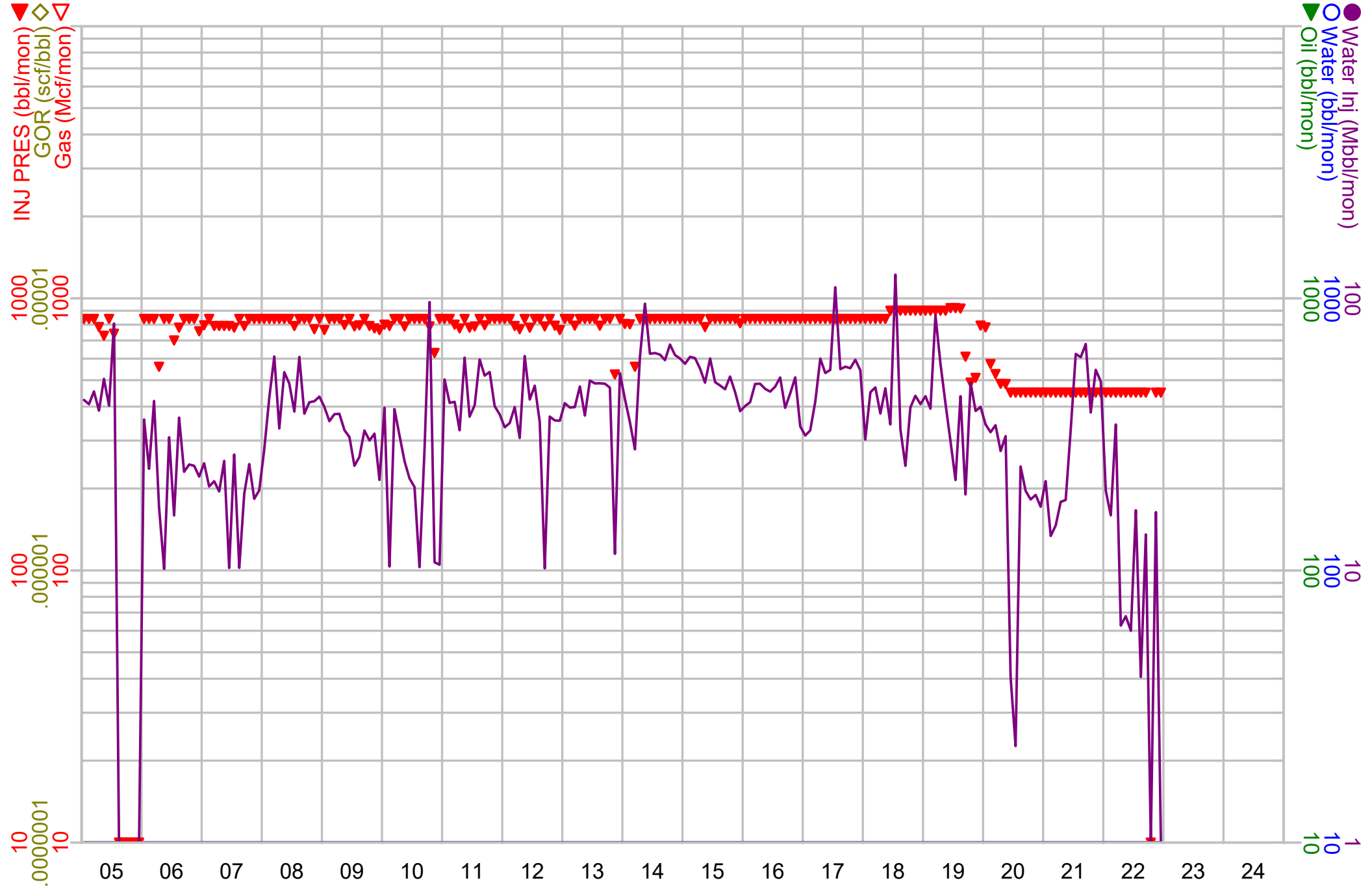
JAMES A 003
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Reservoir: DELAWARE
County,State: EDDY,NM



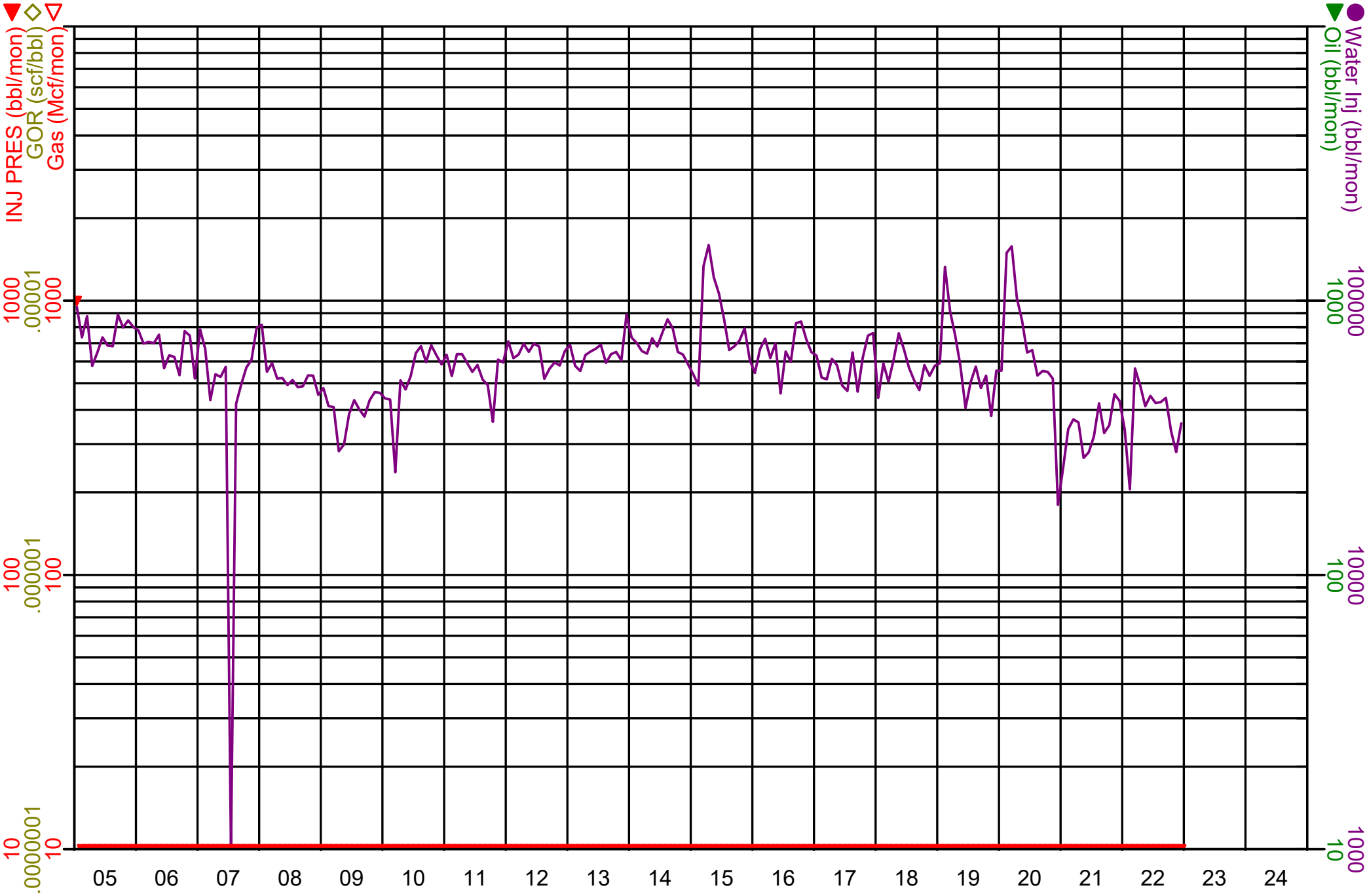
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Field: CABIN LAKE
Reservoir: DELAWARE
County,State: EDDY,NM



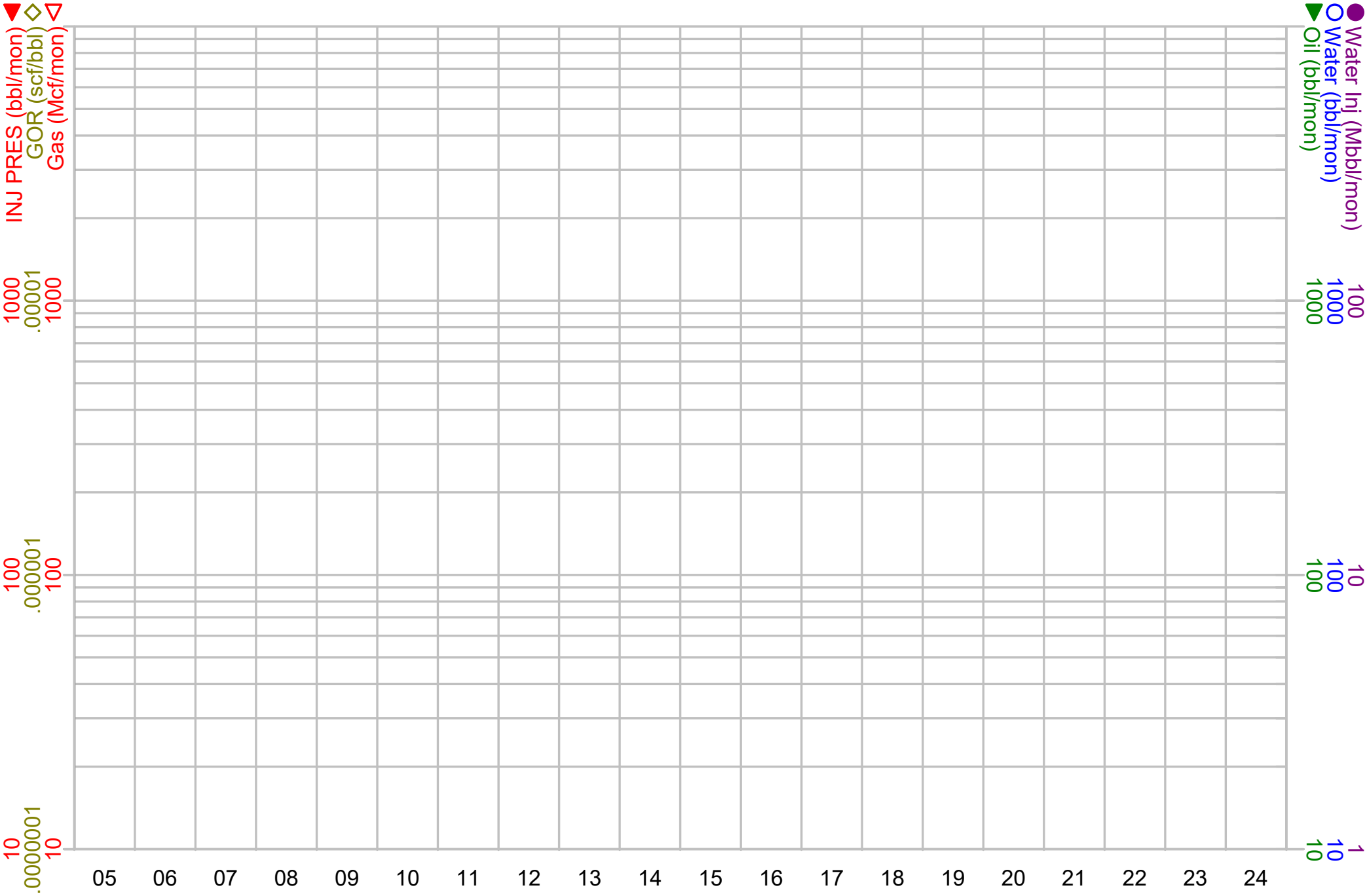
JAMES FEDERAL 001
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Reservoir: DELAWARE
County,State: LEA,NM



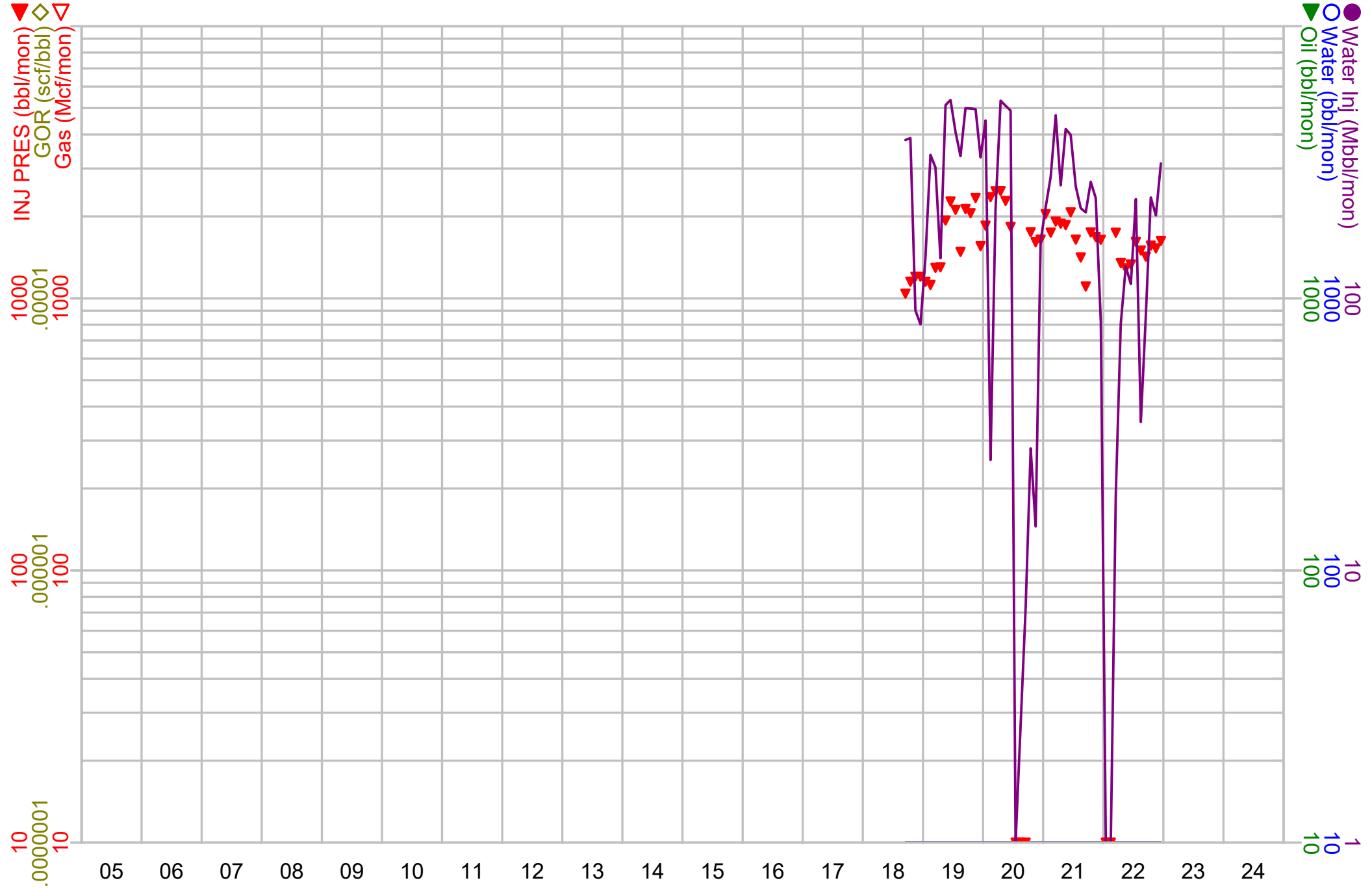
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Reservoir: DELAWARE
County,State: LEA,NM



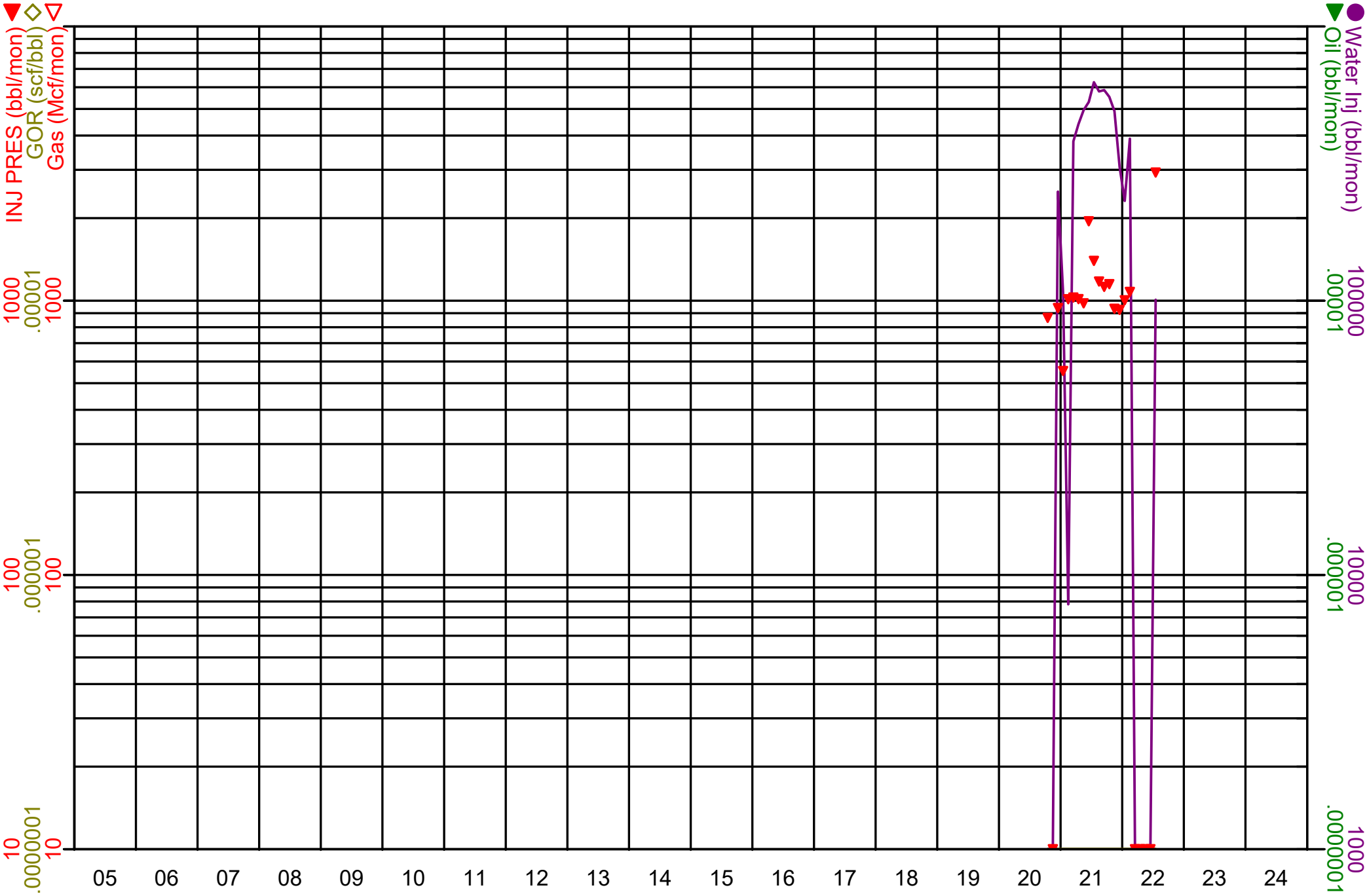
JAMES RANCH UNIT 21 FEDERAL SWD 001
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Reservoir: DEVONIAN
County,State: EDDY,NM



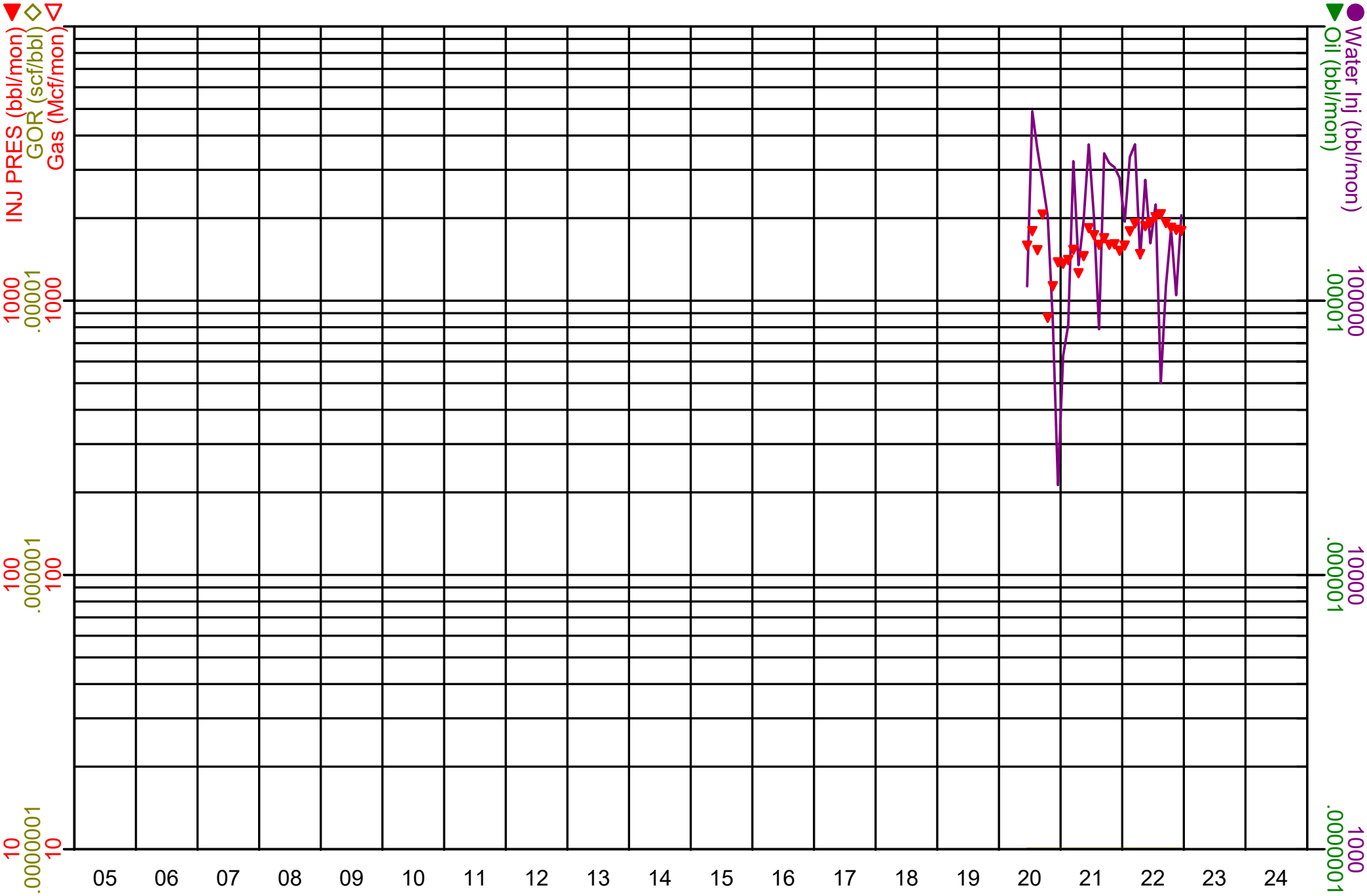
JAMES RANCH UNIT 6 TORINO FEE SWD 001
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Reservoir: DEVONIAN
County,State: EDDY,NM



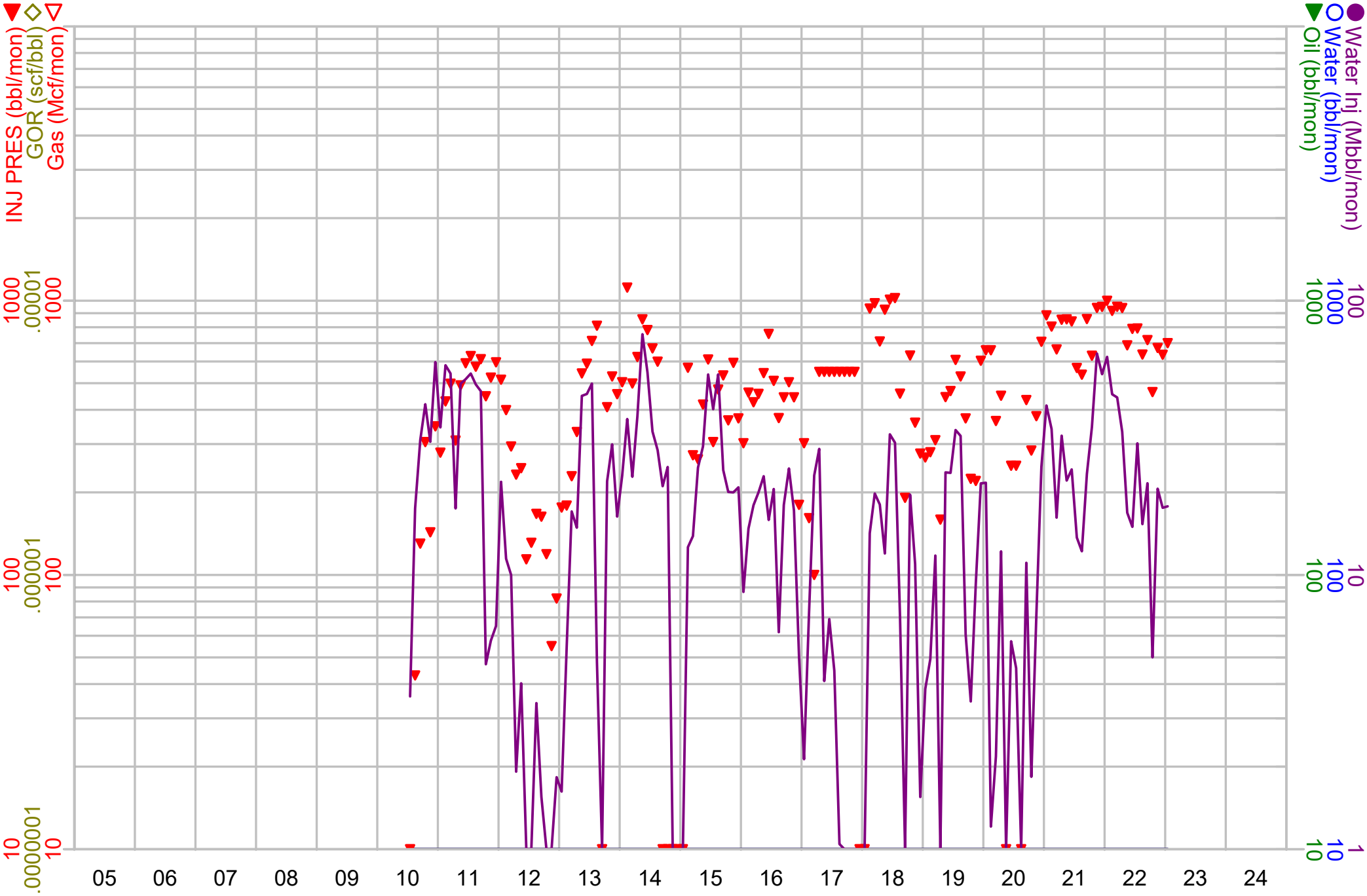
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County,State: EDDY,NM



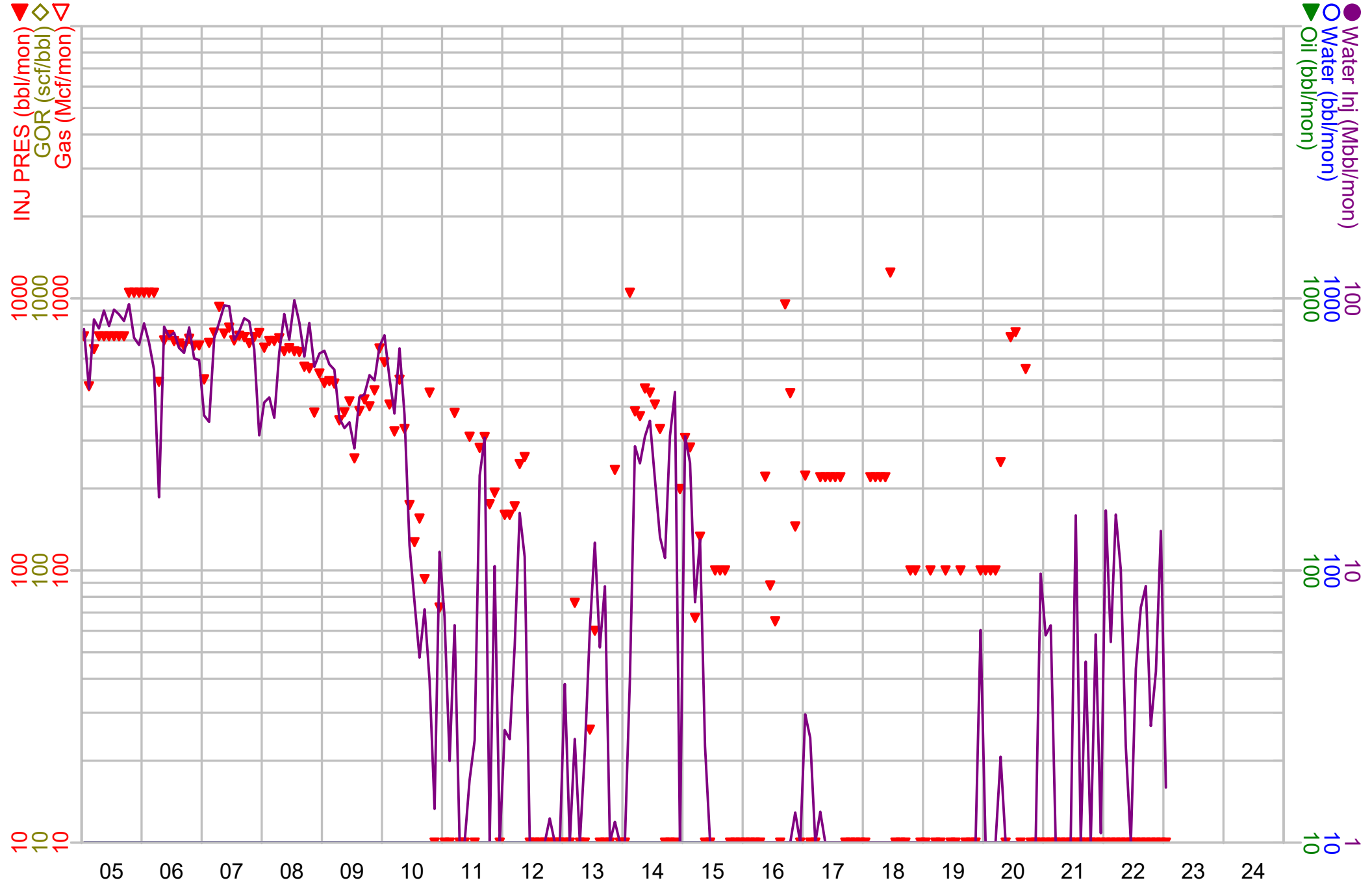
KIWI SWD 005
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Field: SWD
Reservoir: DELAWARE
County,State: LEA,NM



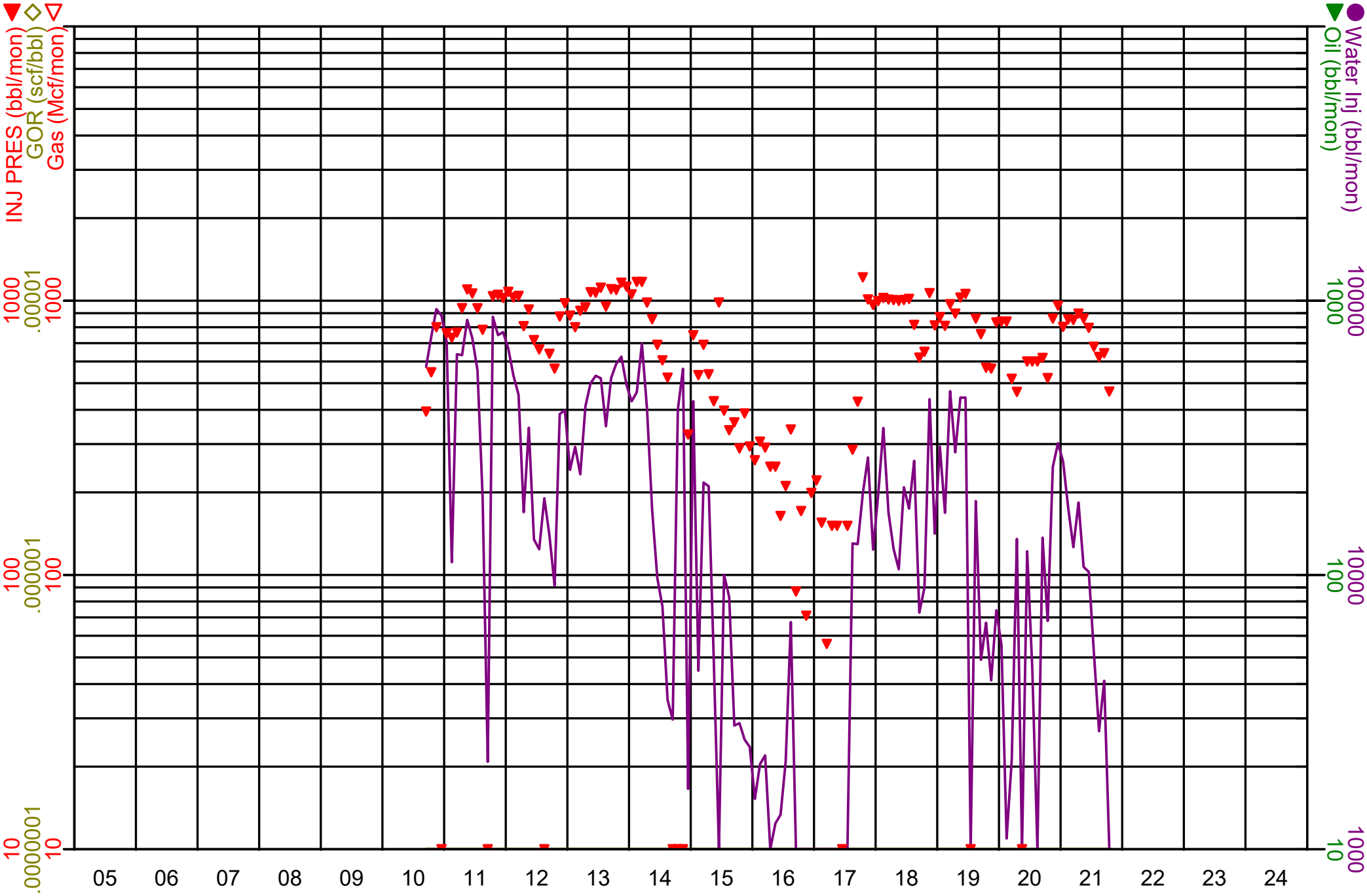
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Reservoir: DELAWARE
County,State: LEA,NM



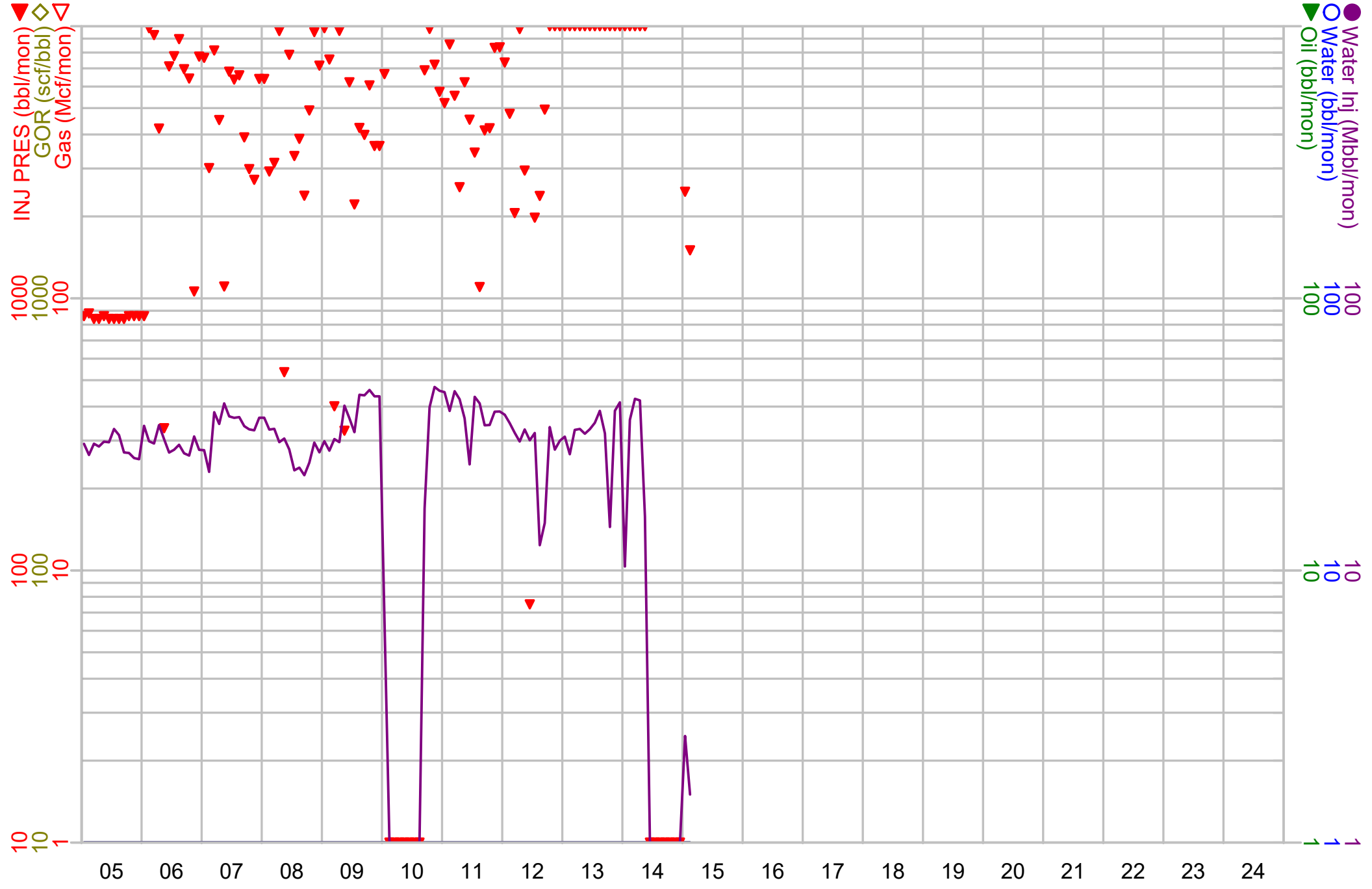
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Reservoir: DELAWARE
County,State: LEA,NM



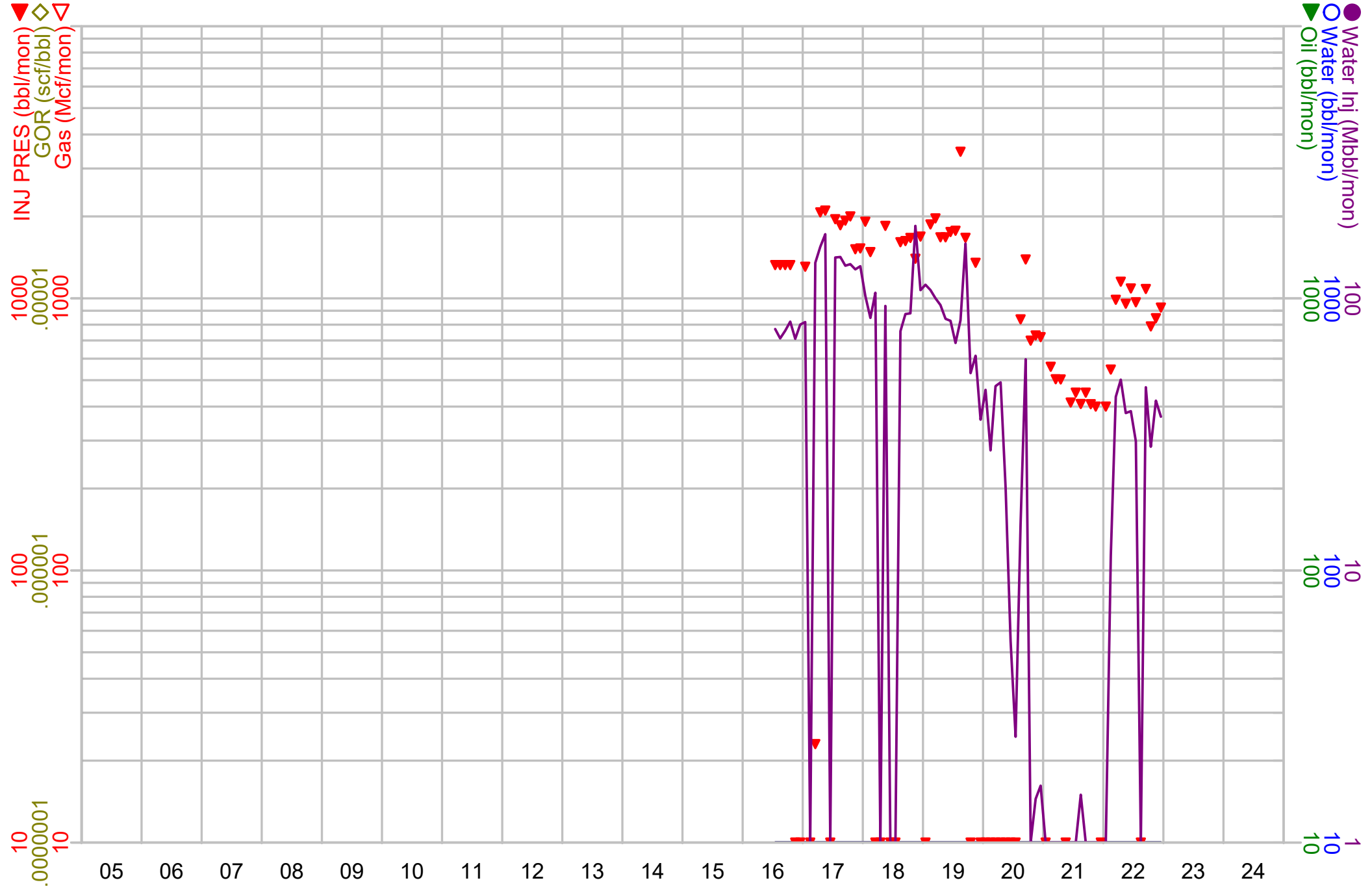
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Reservoir: DELAWARE
County,State: EDDY,NM



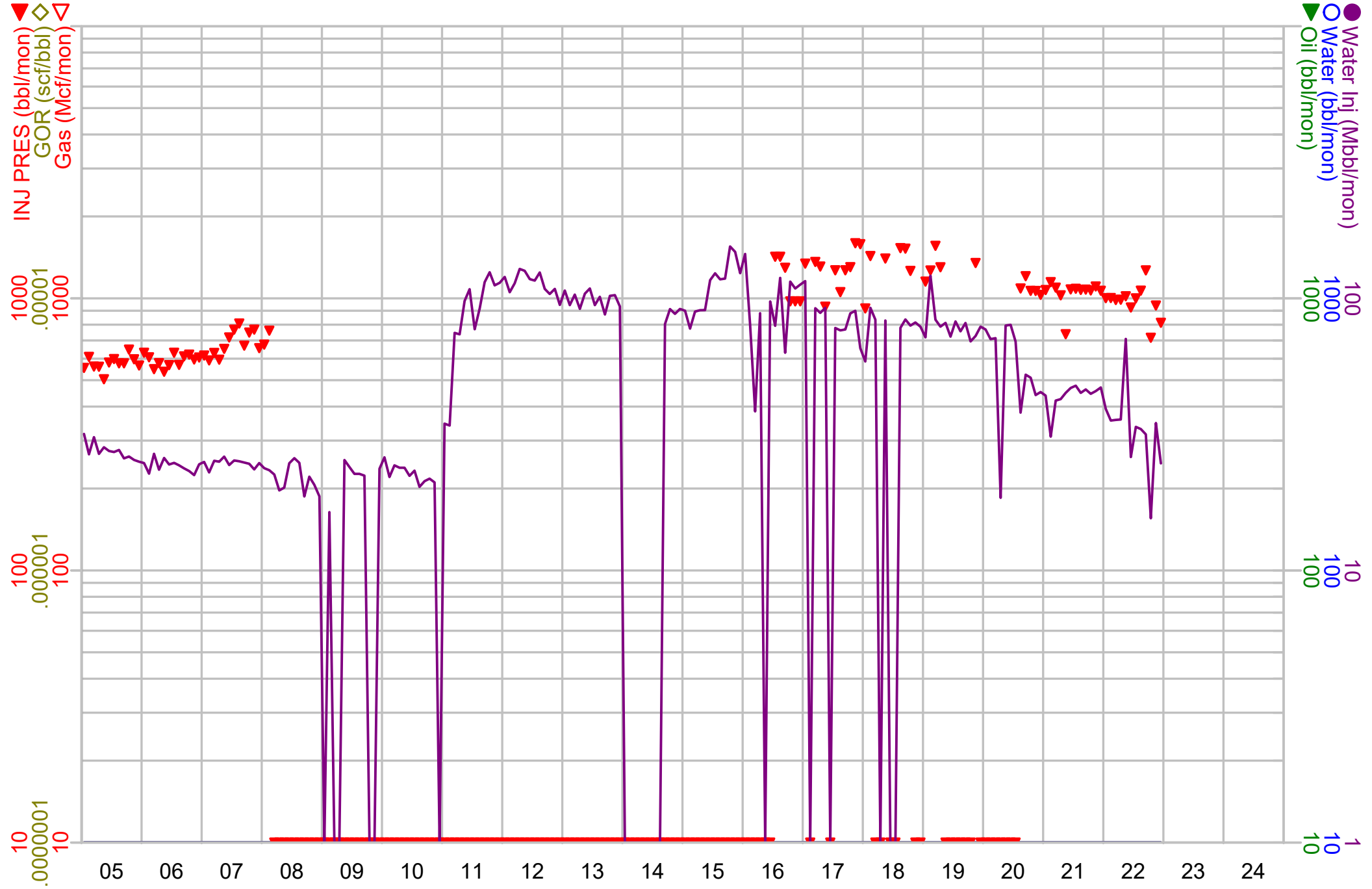
LOST TANK 3 FEDERAL 025
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Reservoir: DELAWARE
County,State: EDDY,NM



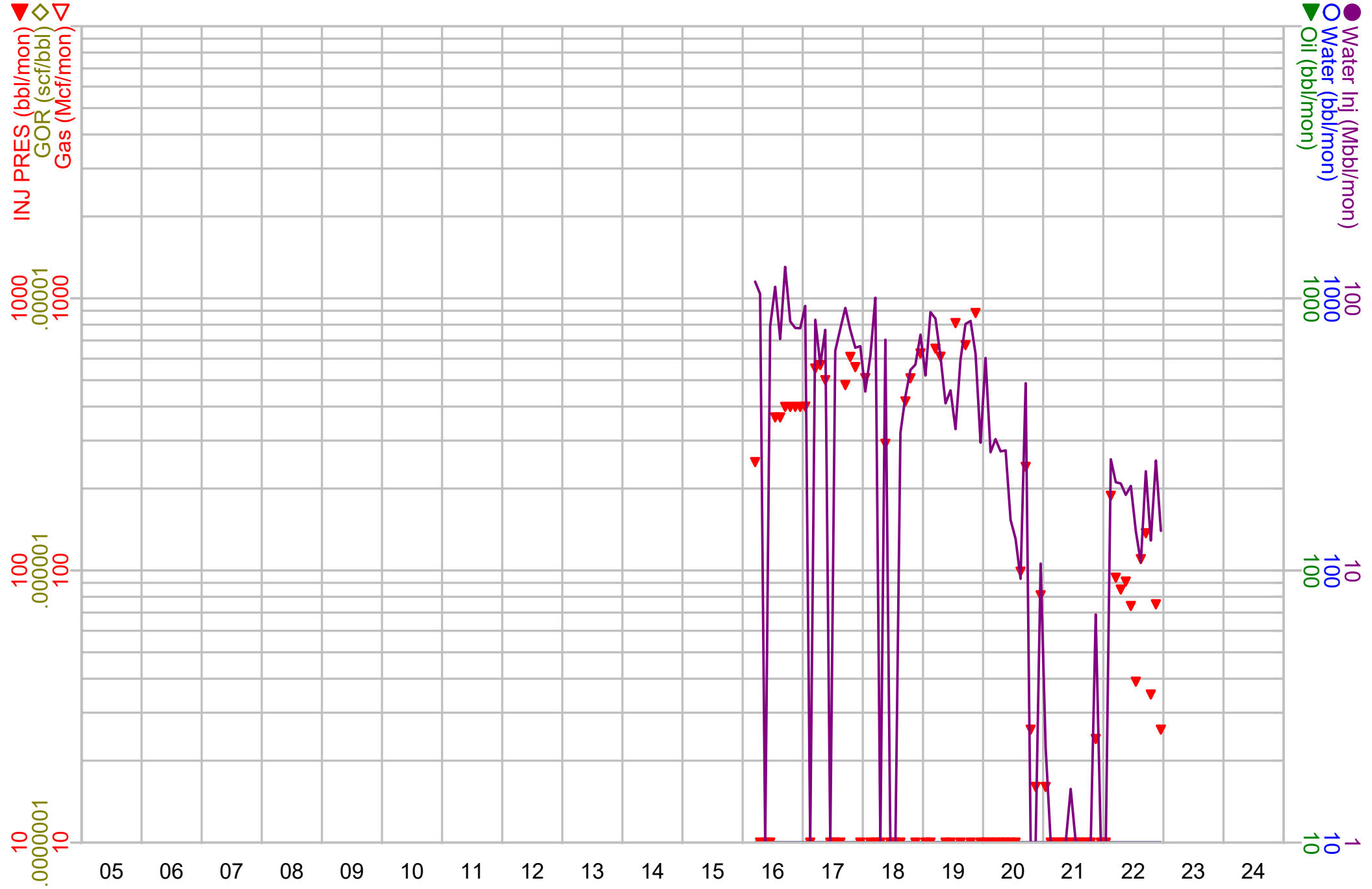
LOST TANK 33 FEDERAL 002
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Reservoir: BELL CANYON
County,State: EDDY,NM



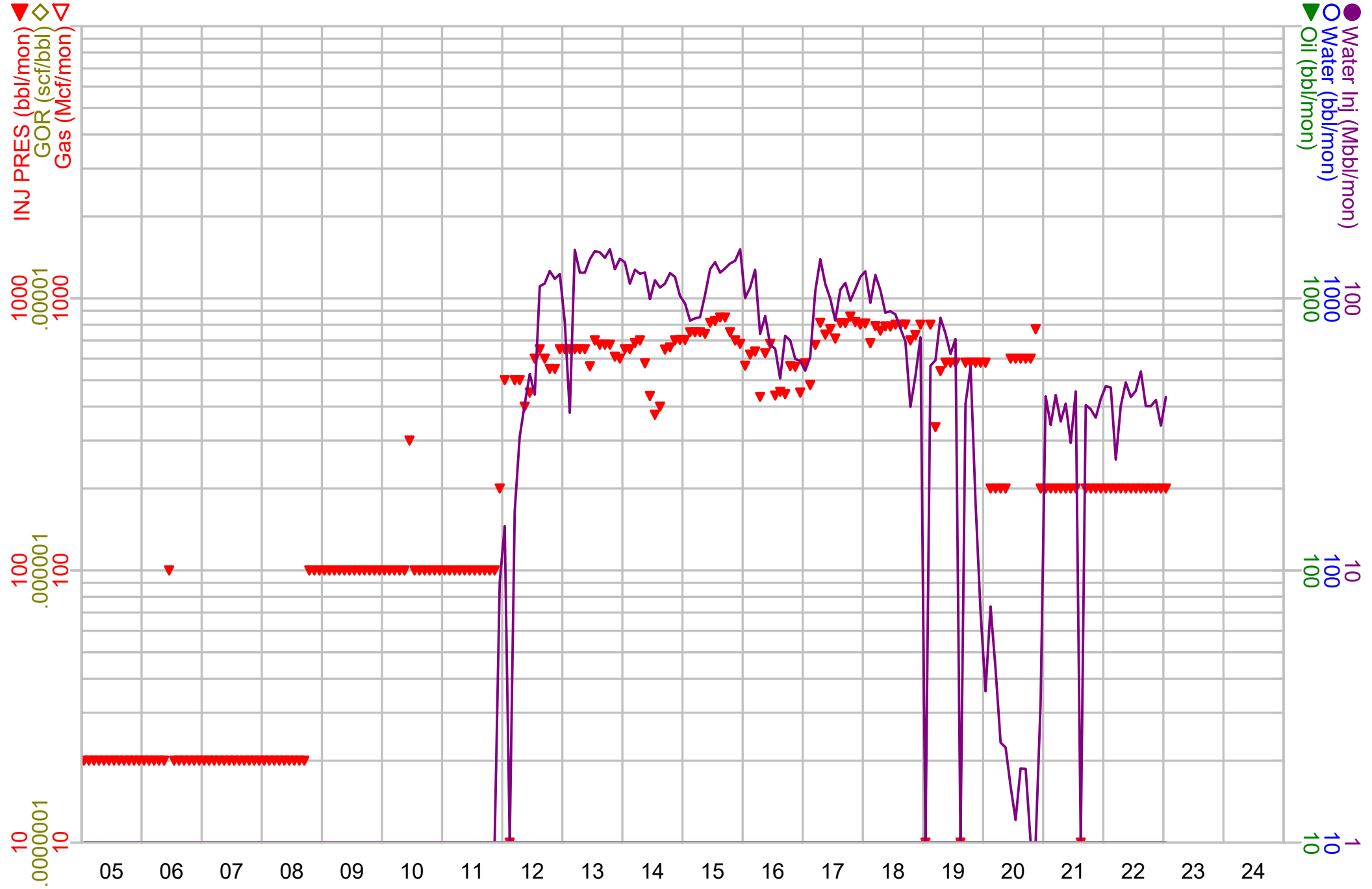
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Reservoir: DELAWARE
County,State: EDDY,NM



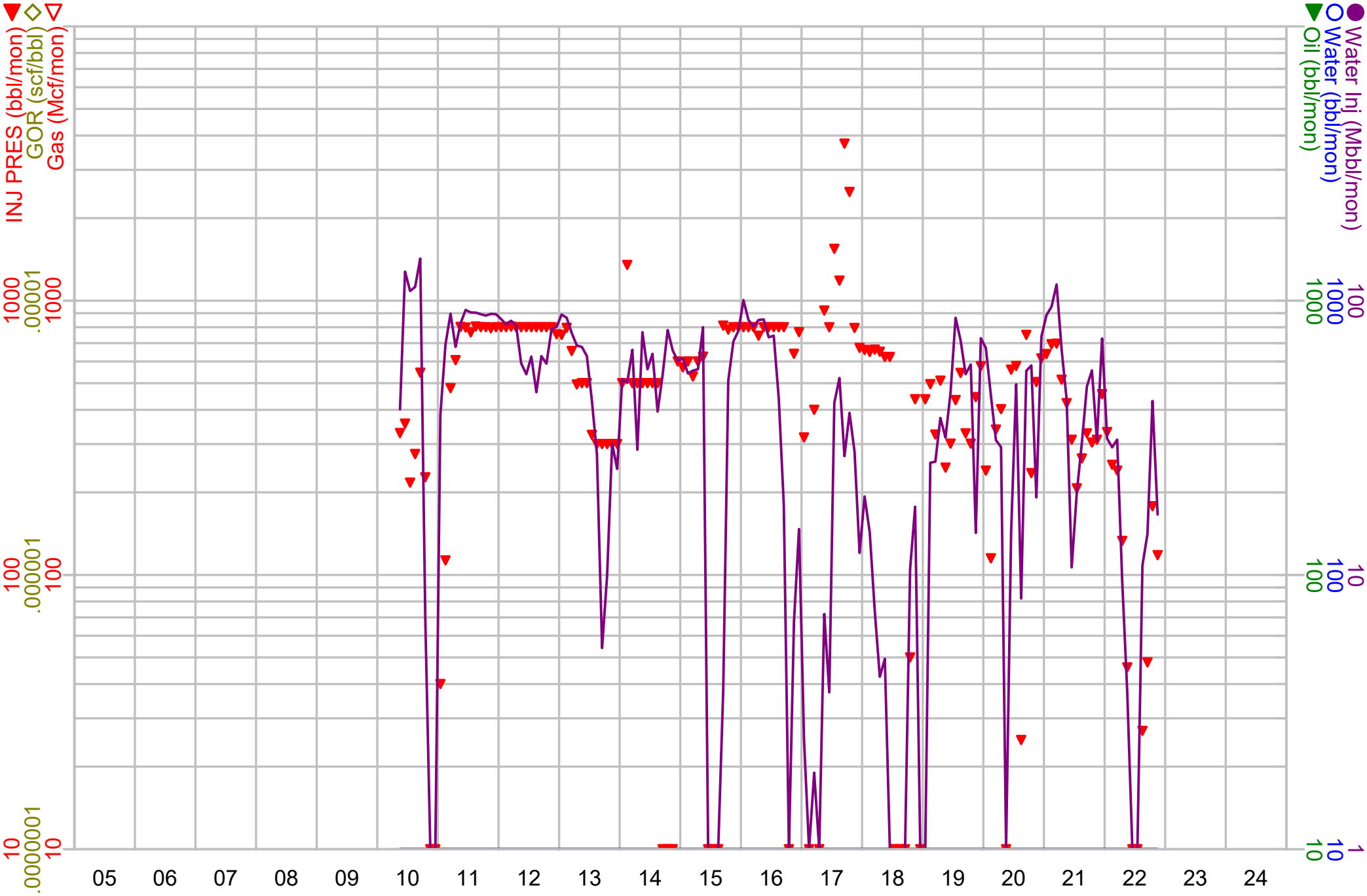
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County,State: LEA,NM



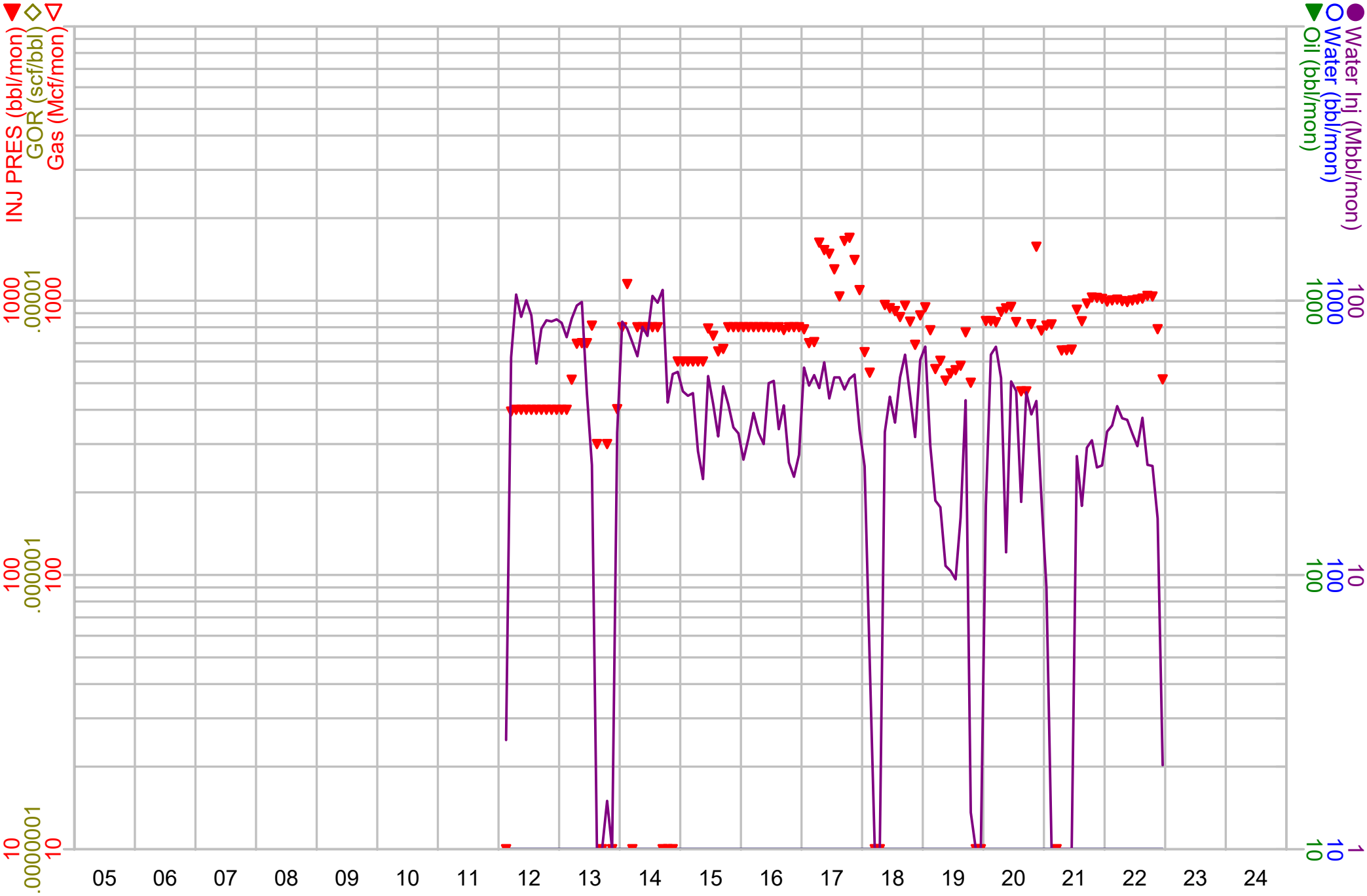
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Reservoir: DELAWARE
County,State: LEA,NM



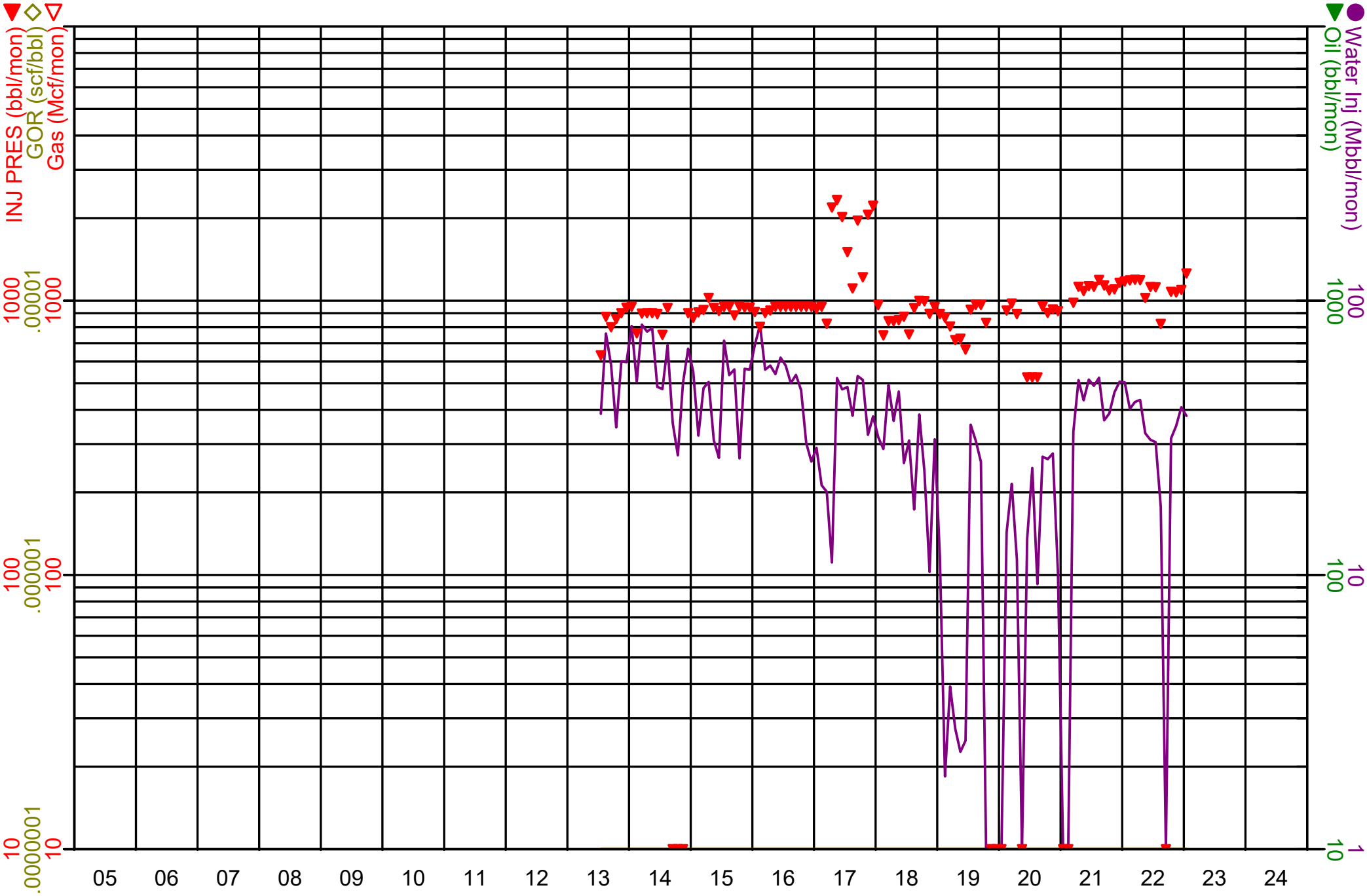
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Field: SWD
Reservoir: DELAWARE
County,State: LEA,NM



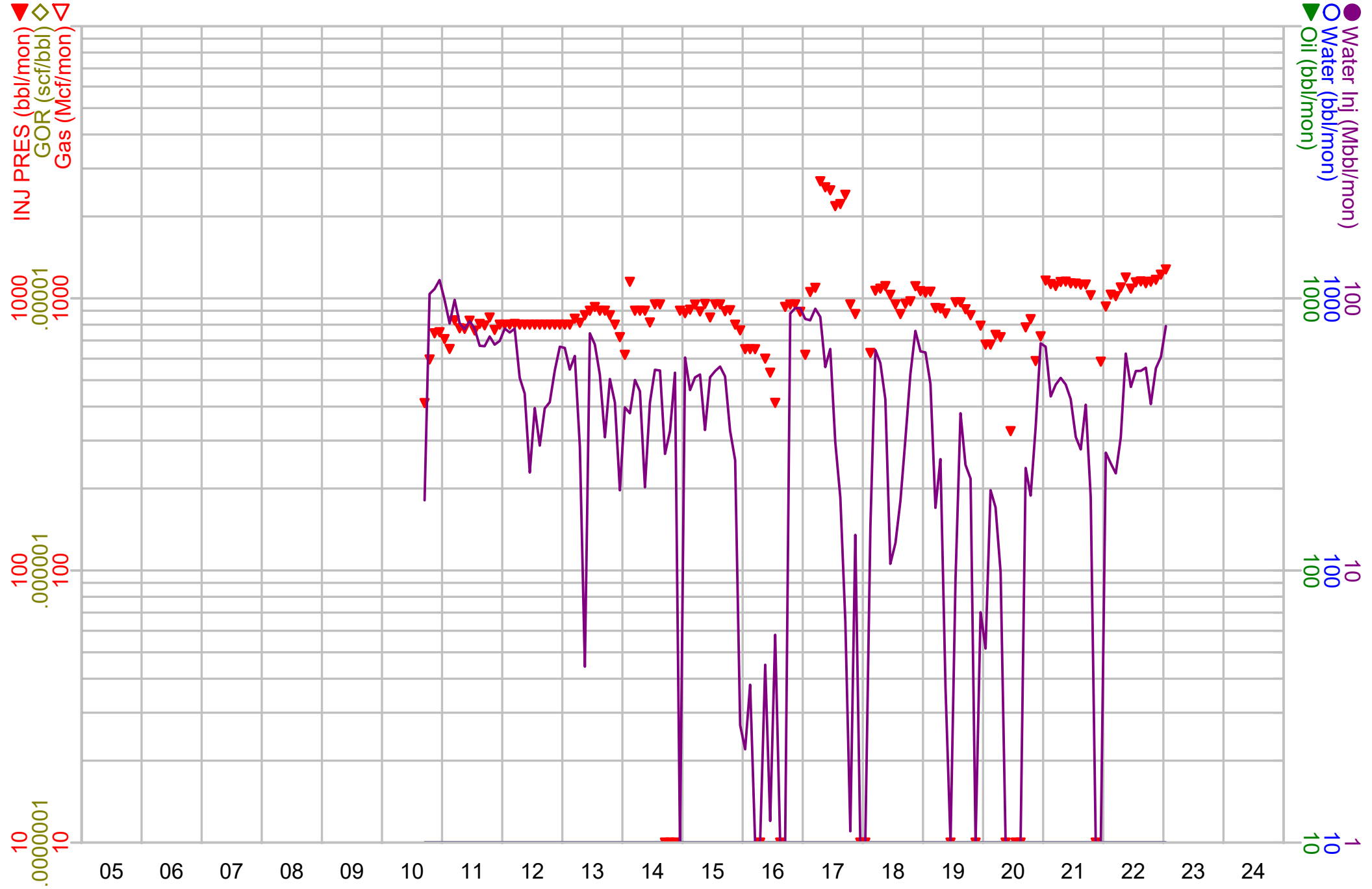
LOTUS SWD 004
Oper: EOG Y RESOURCES, INC.
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Field: SWD
Reservoir: CHERRY CANYON
County,State: LEA,NM



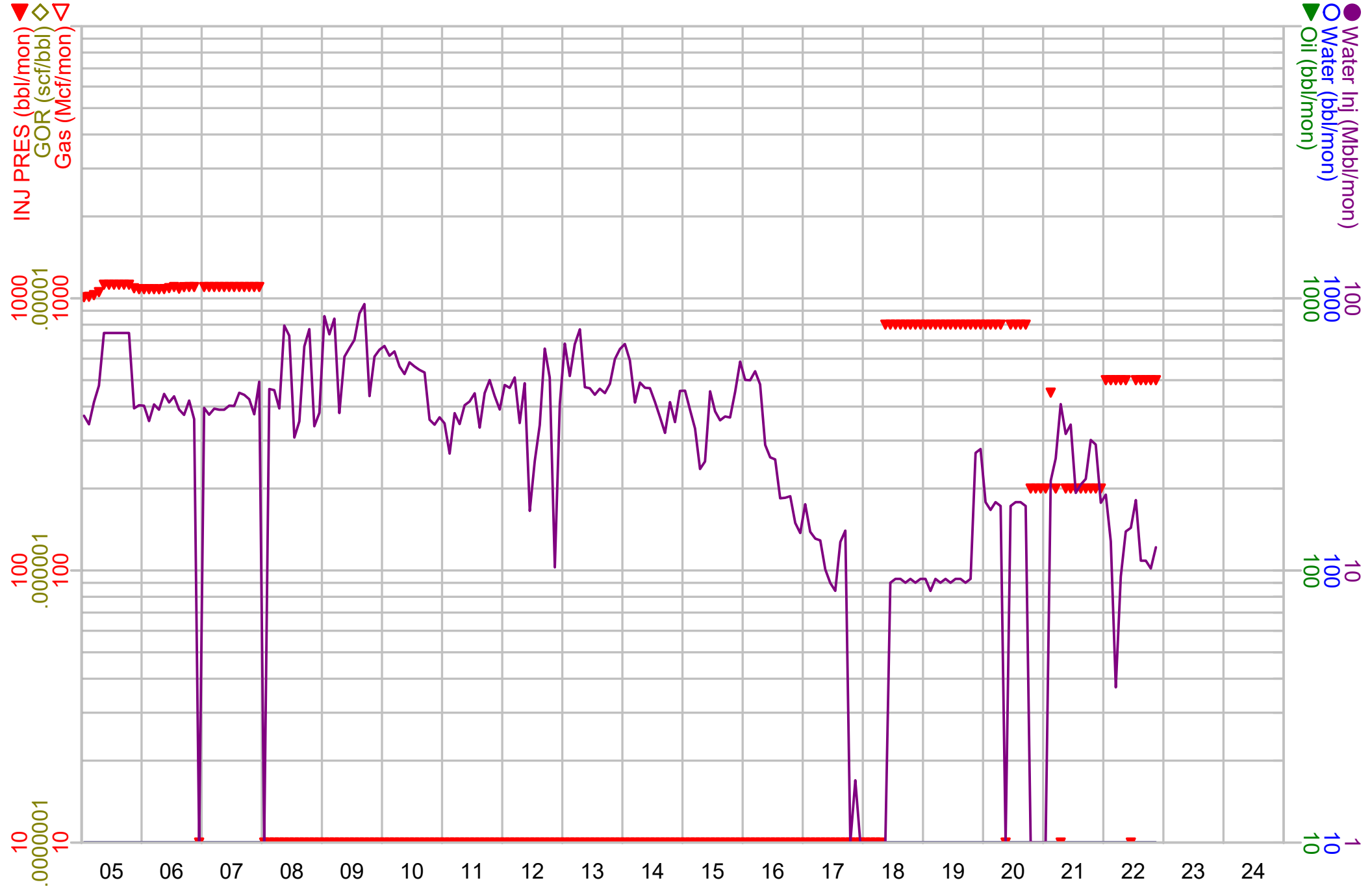
LOTUS SWD 012
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Reservoir: DELAWARE
County,State: LEA,NM



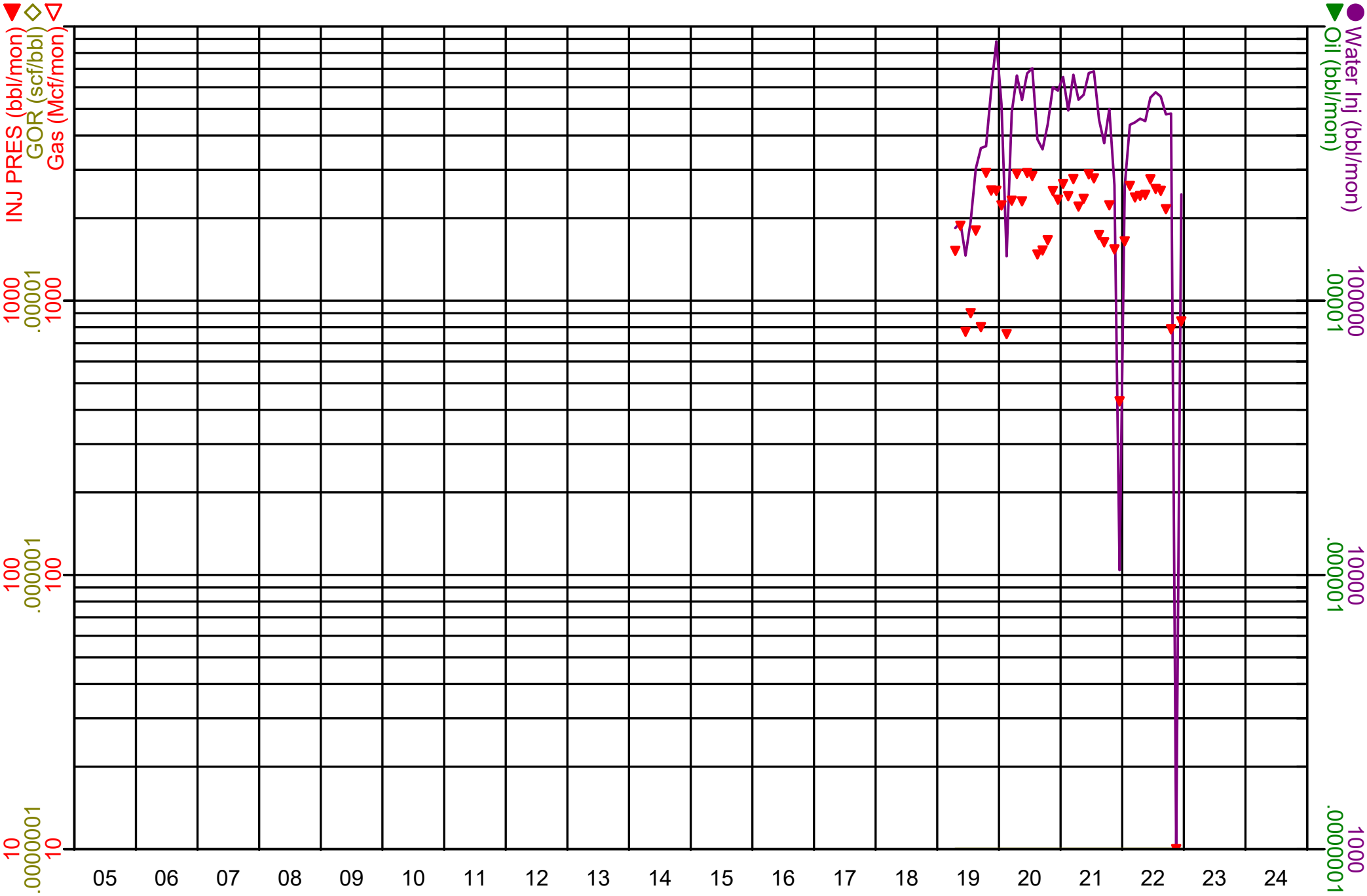
MEDANO STATE 001
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Field: SWD
Reservoir: BONE SPRING
County,State: EDDY,NM



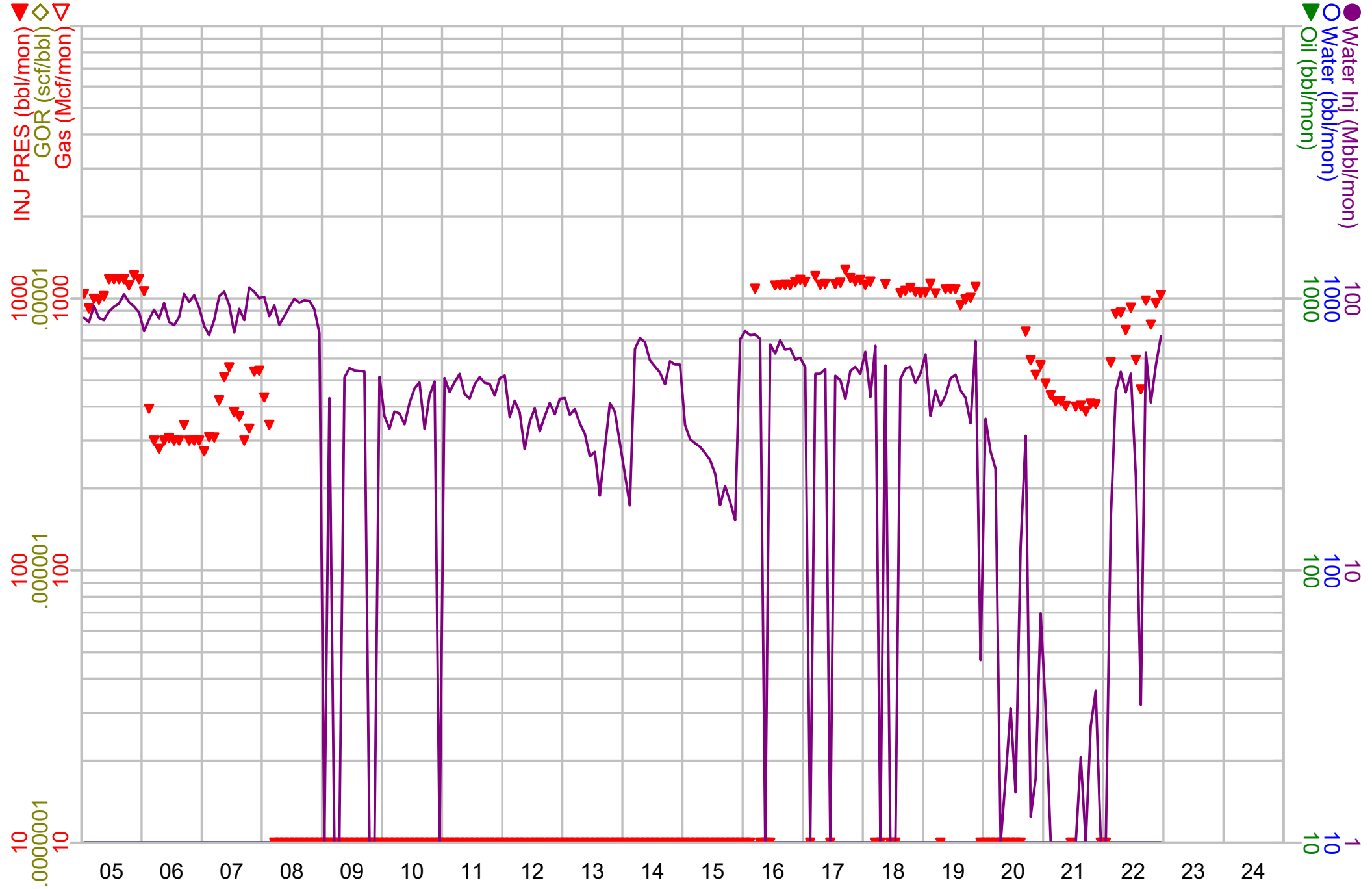
MOBLEY SWD 001
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Field: SWD
Reservoir: DEVONIAN
County,State: EDDY,NM



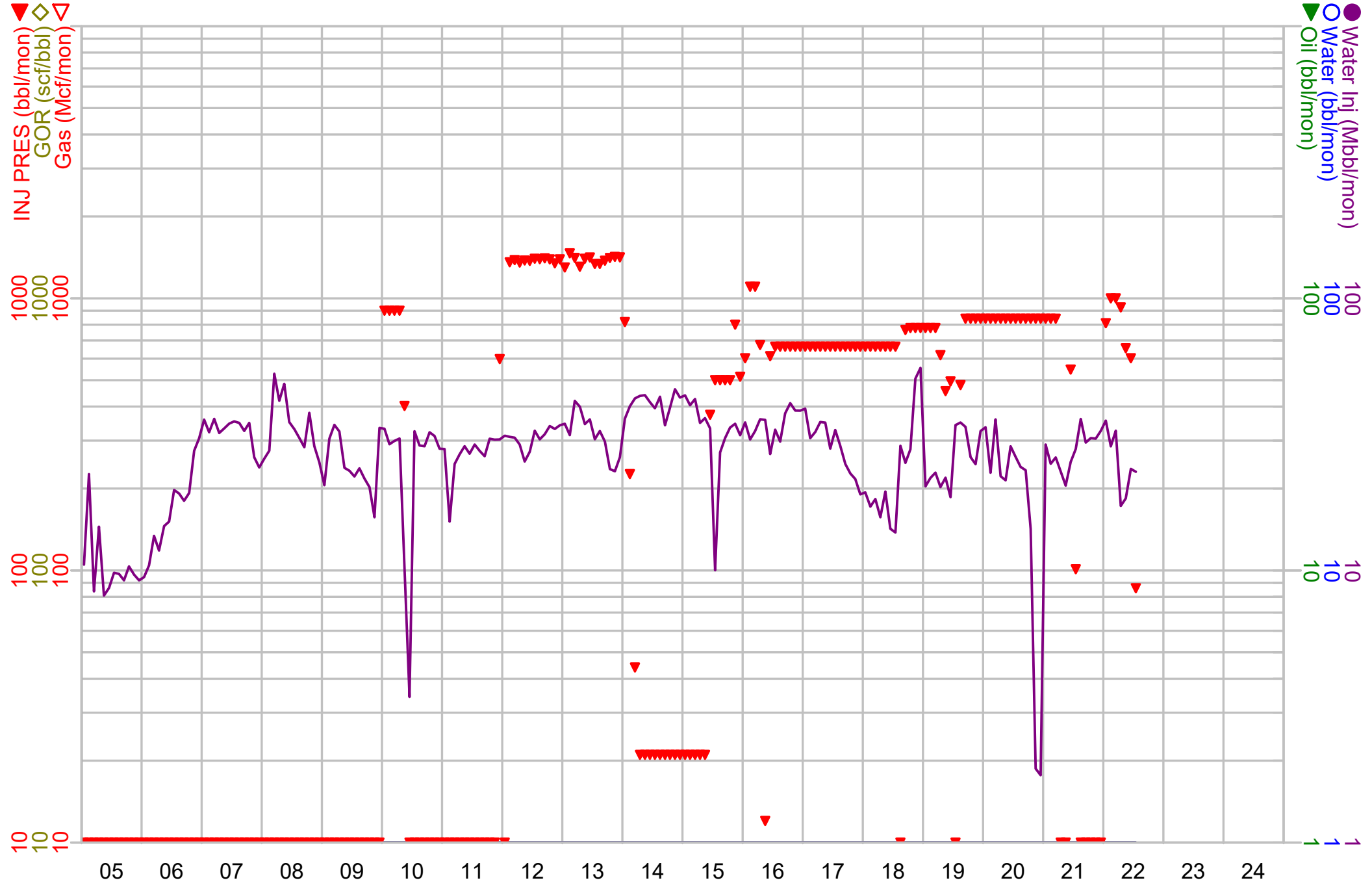
NEFF FEDERAL 003
Oper: OCCIDENTAL
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Field: LIVINGSTON RIDGE
Reservoir: DELAWARE
County,State: EDDY,NM



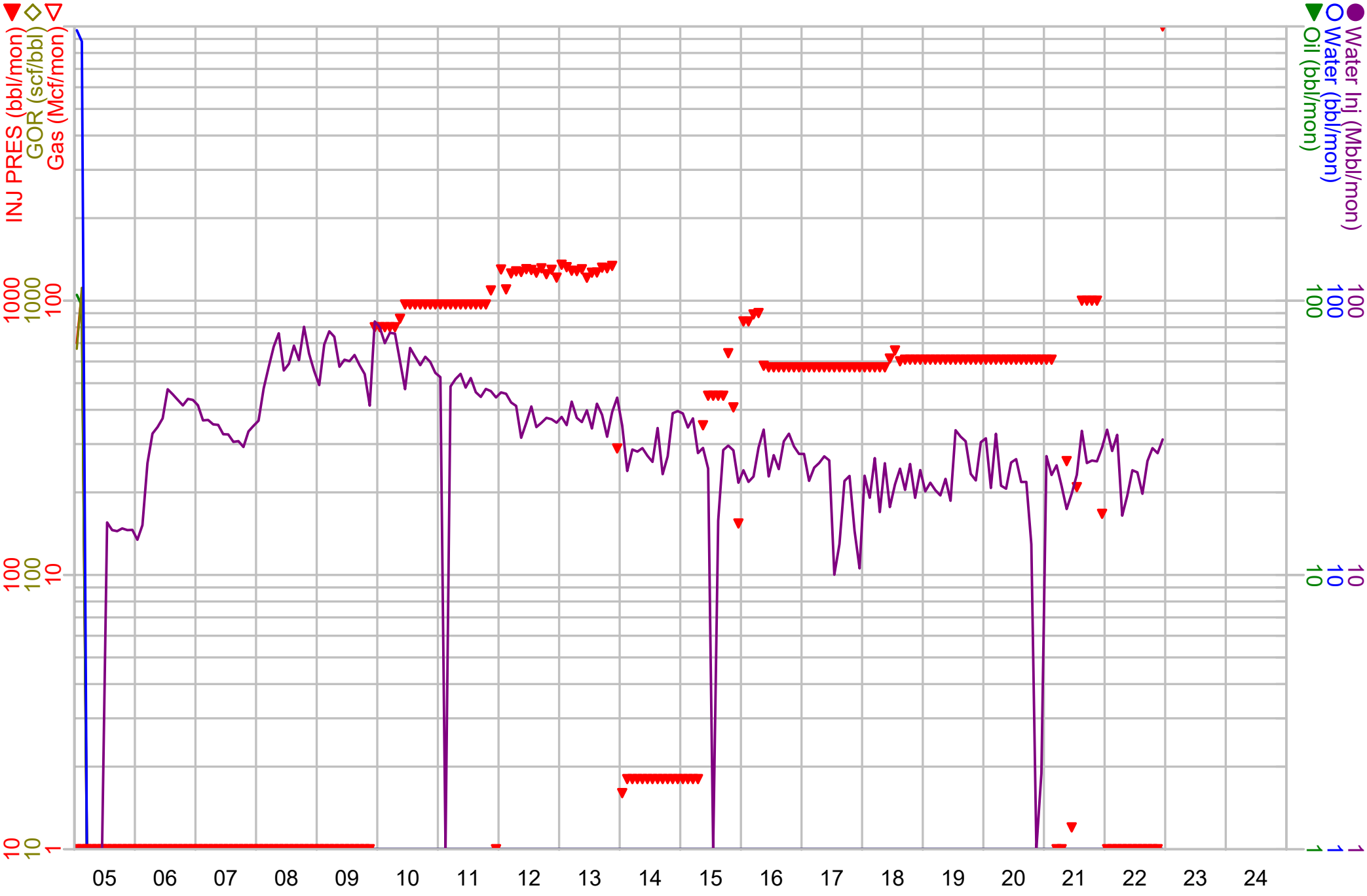
NORTH PURE GOLD 8 FEDERAL 011
Oper: HARVARD PETROLEUM
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Field: LOS MEDANOS
Reservoir: BONE SPRING
County,State: EDDY,NM



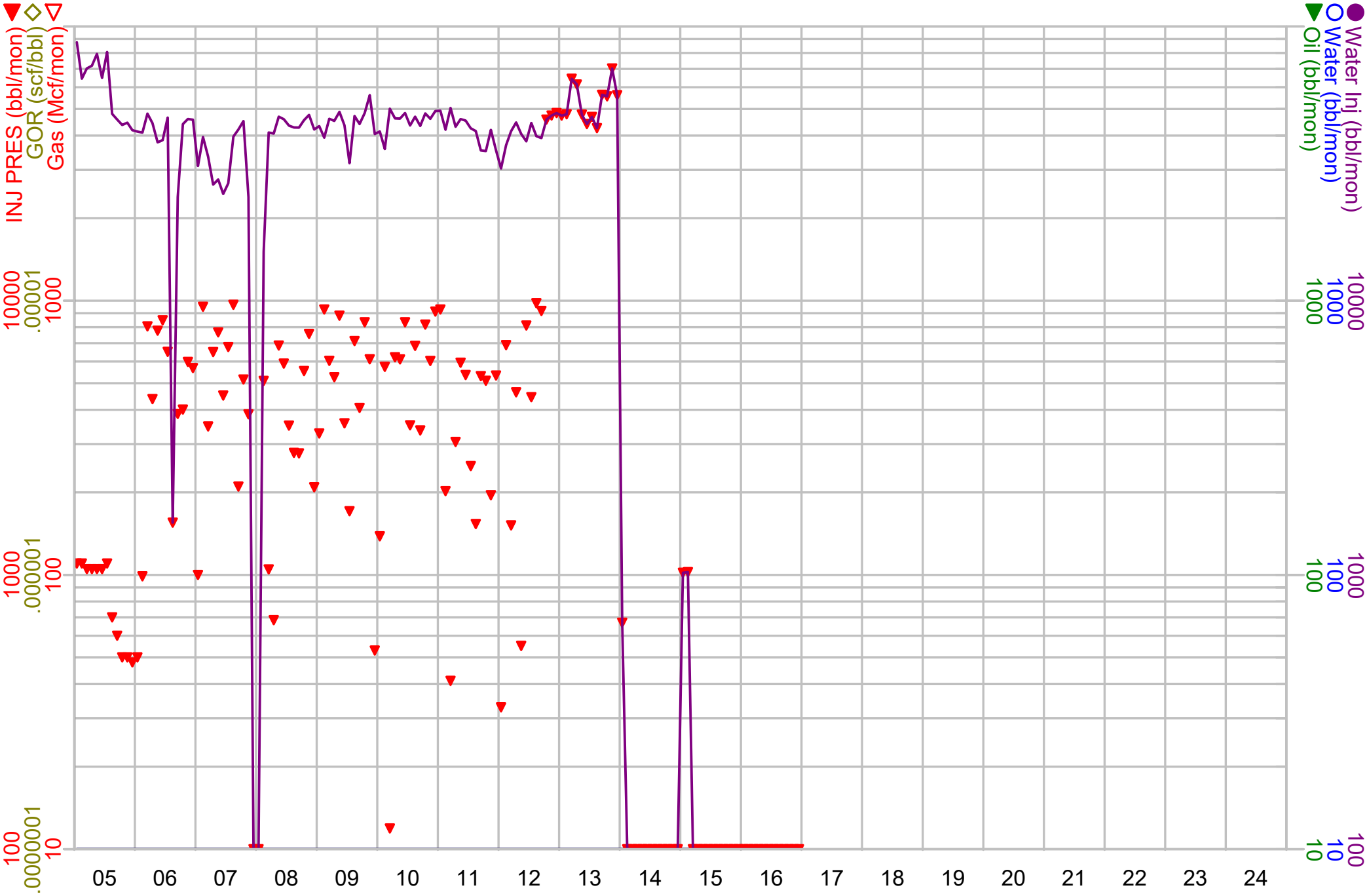
NORTH PURE GOLD 9 FEDERAL 017
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Reservoir: DELAWARE
County,State: EDDY,NM



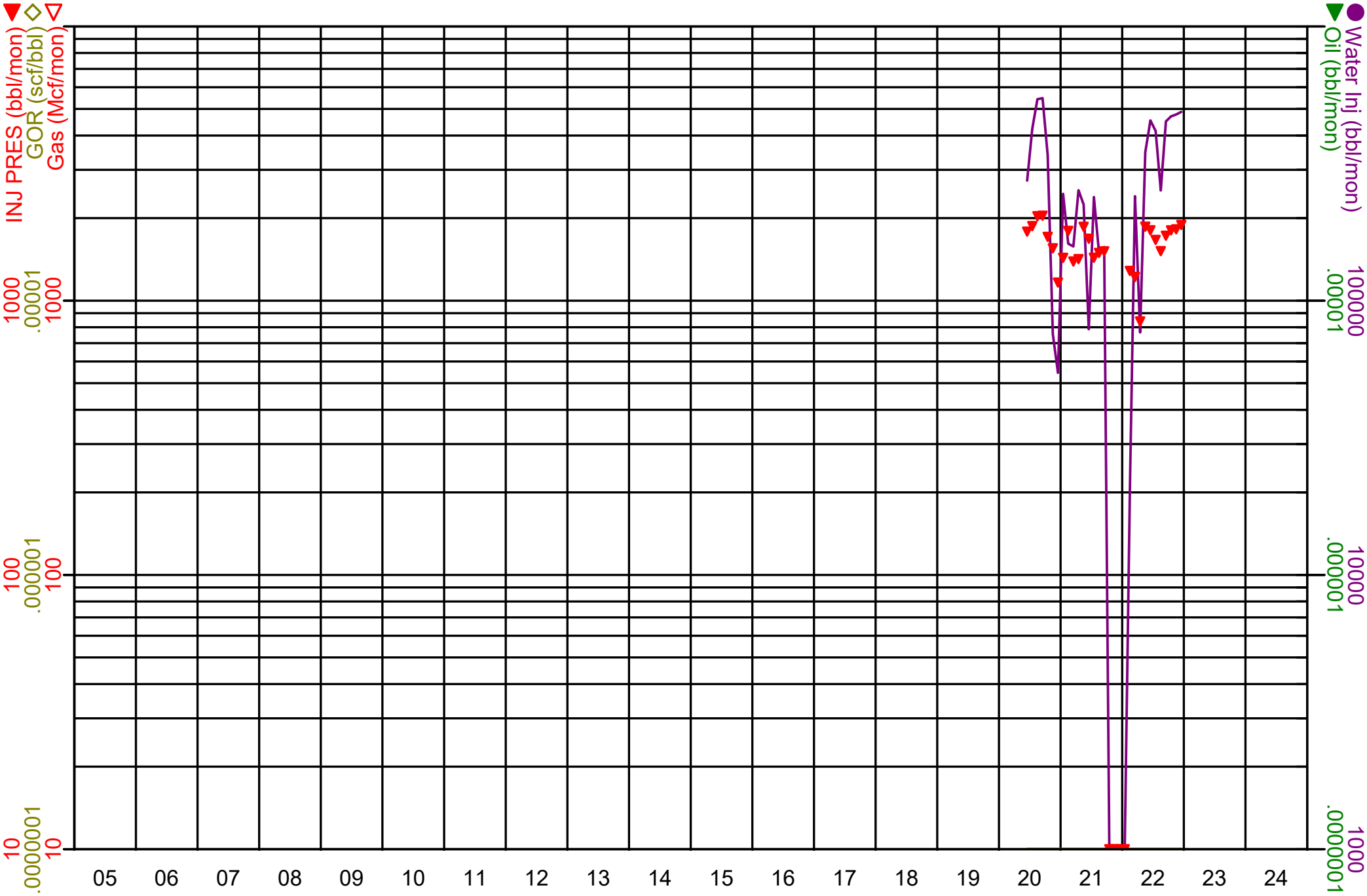
POKER LAKE UNIT 170
Oper: EXXON
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Field: NASH DRAW
Reservoir: DELAWARE
County,State: EDDY,NM



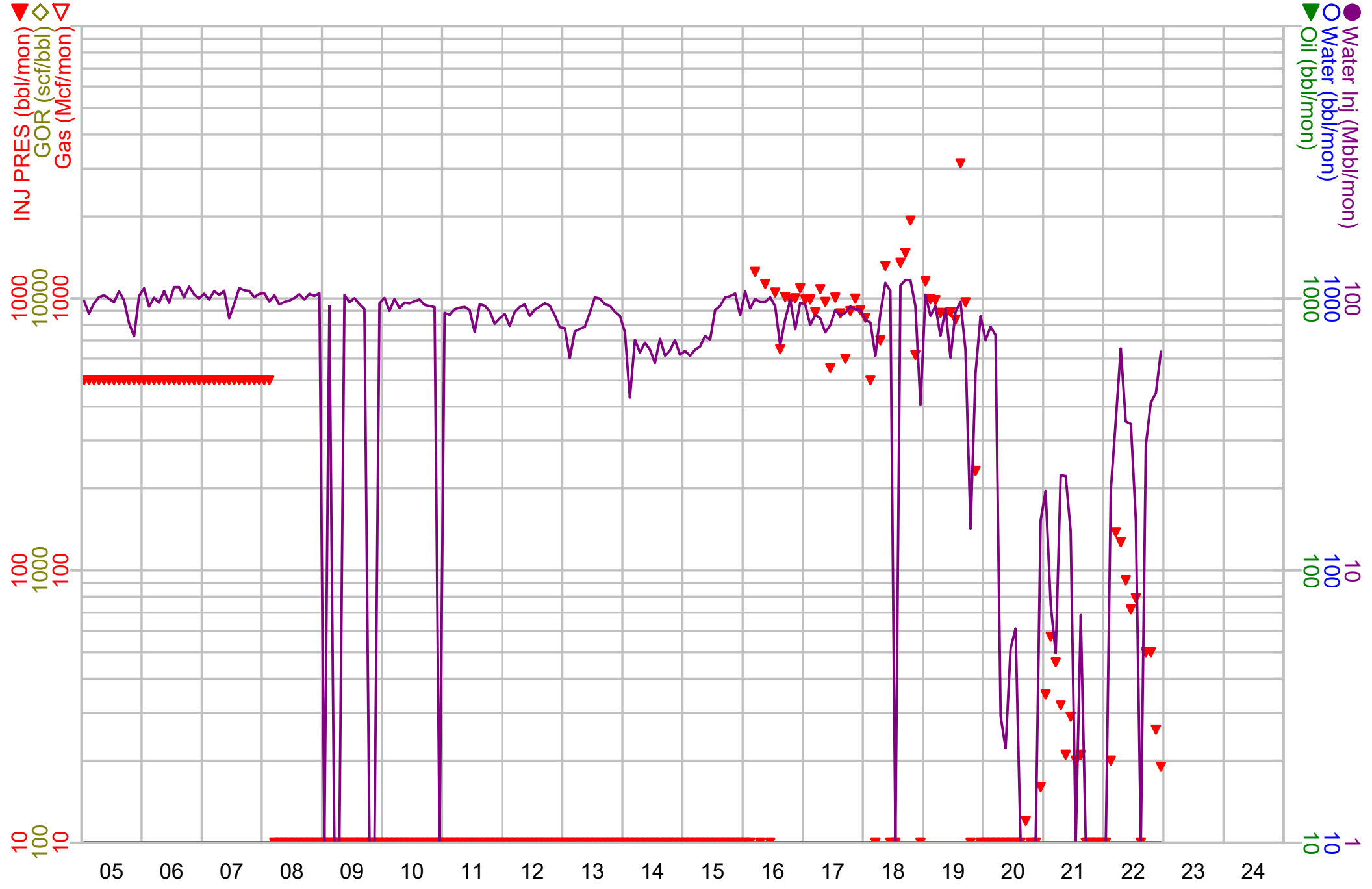
POKER LAKE UNIT 32 PLATY STATE SWD 001
Oper: EXXON
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Field: SWD
Reservoir: DEVONIAN
County,State: EDDY,NM



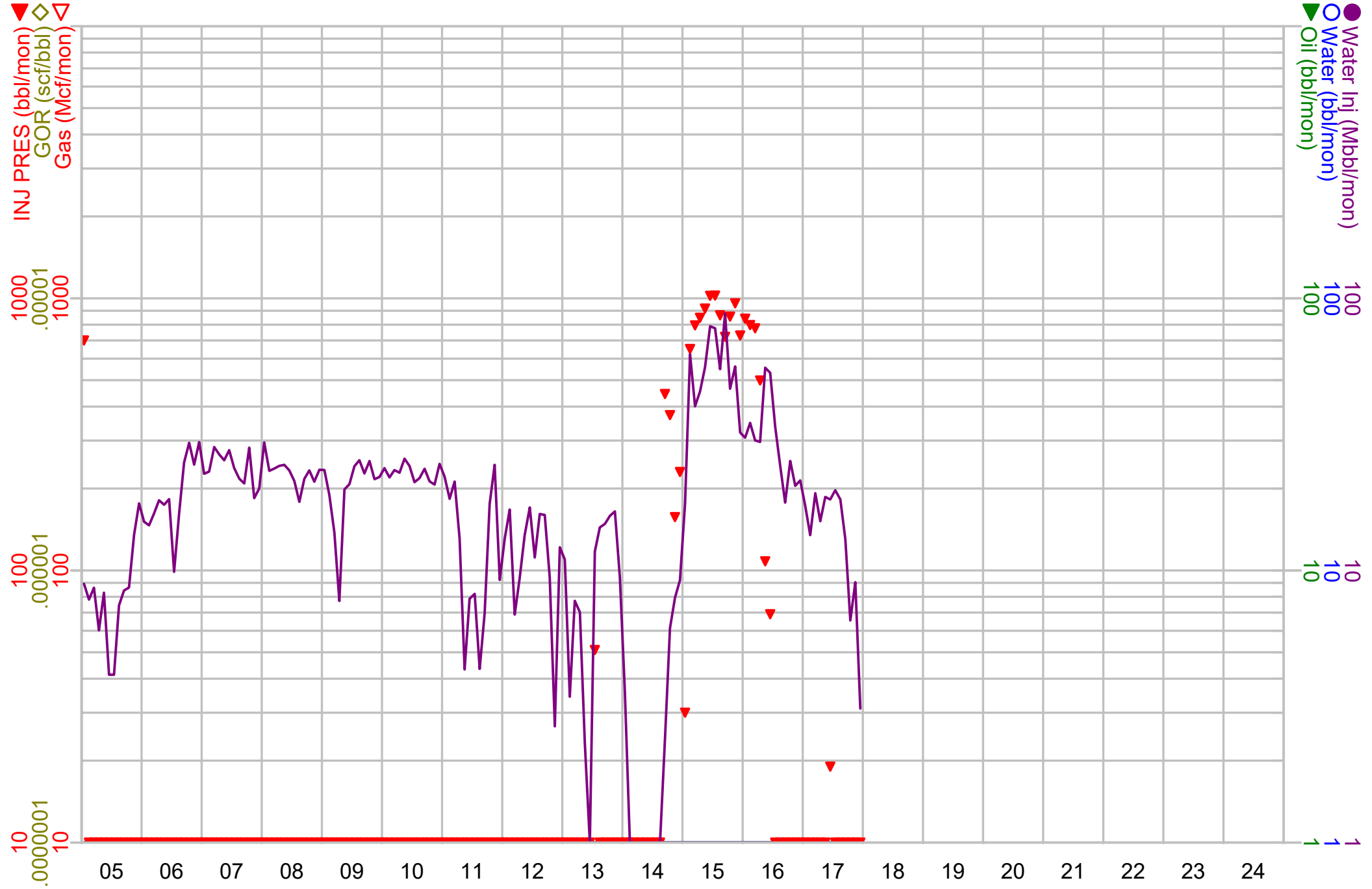
PRIZE FEDERAL 004
Oper: OCCIDENTAL
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Field: RED TANK
Reservoir: DELAWARE
County,State: LEA,NM



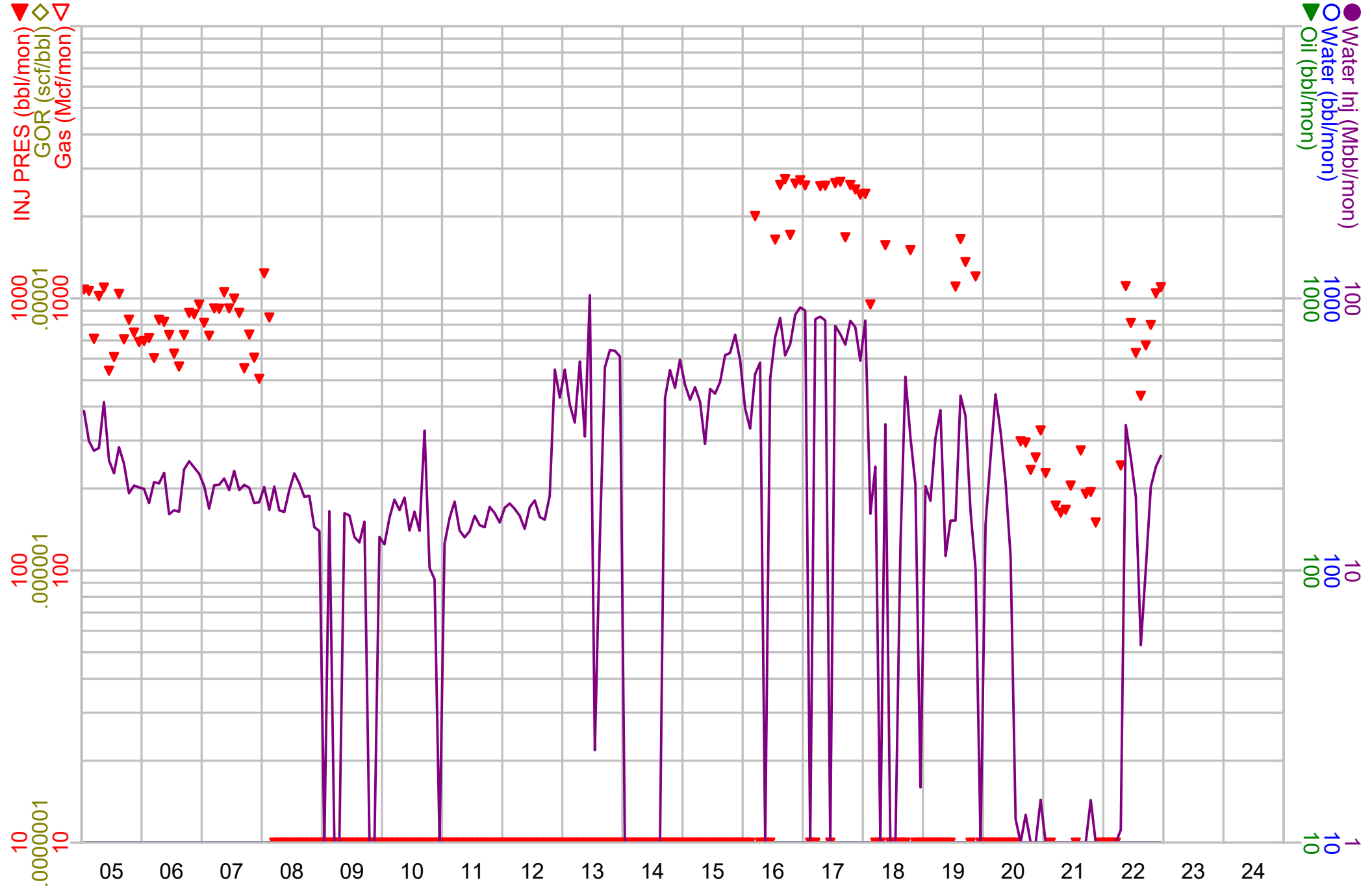
PROHIBITION FEDERAL UNIT 002
Oper: CONOCOPHILLIPS
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Field: SWD
Reservoir: DELAWARE
County,State: LEA,NM



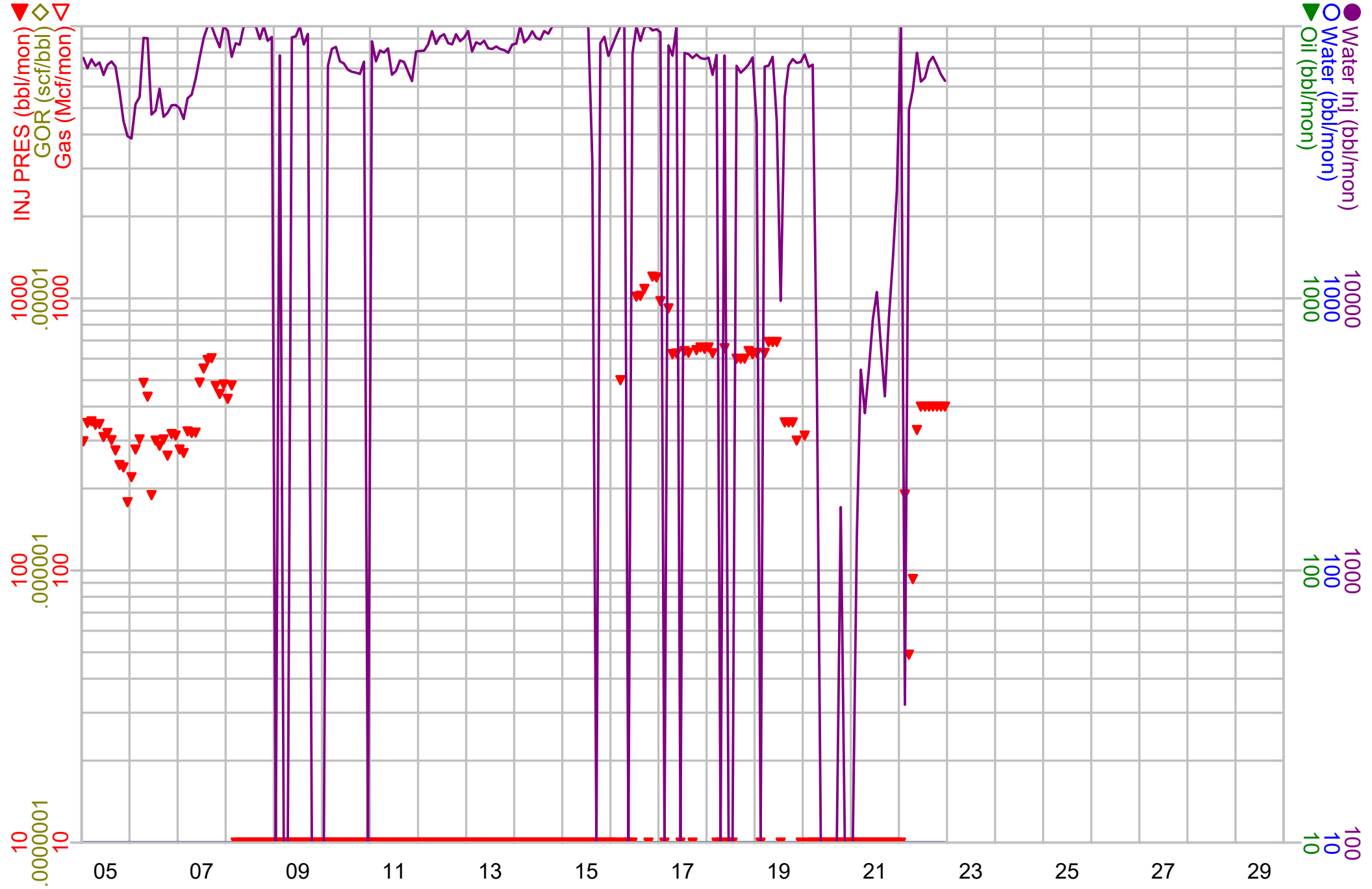
PROXIMITY 31 FEDERAL 004
Oper: OCCIDENTAL
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Field: LIVINGSTON RIDGE
Reservoir: DELAWARE
County,State: LEA,NM



PURE GOLD B FEDERAL 020
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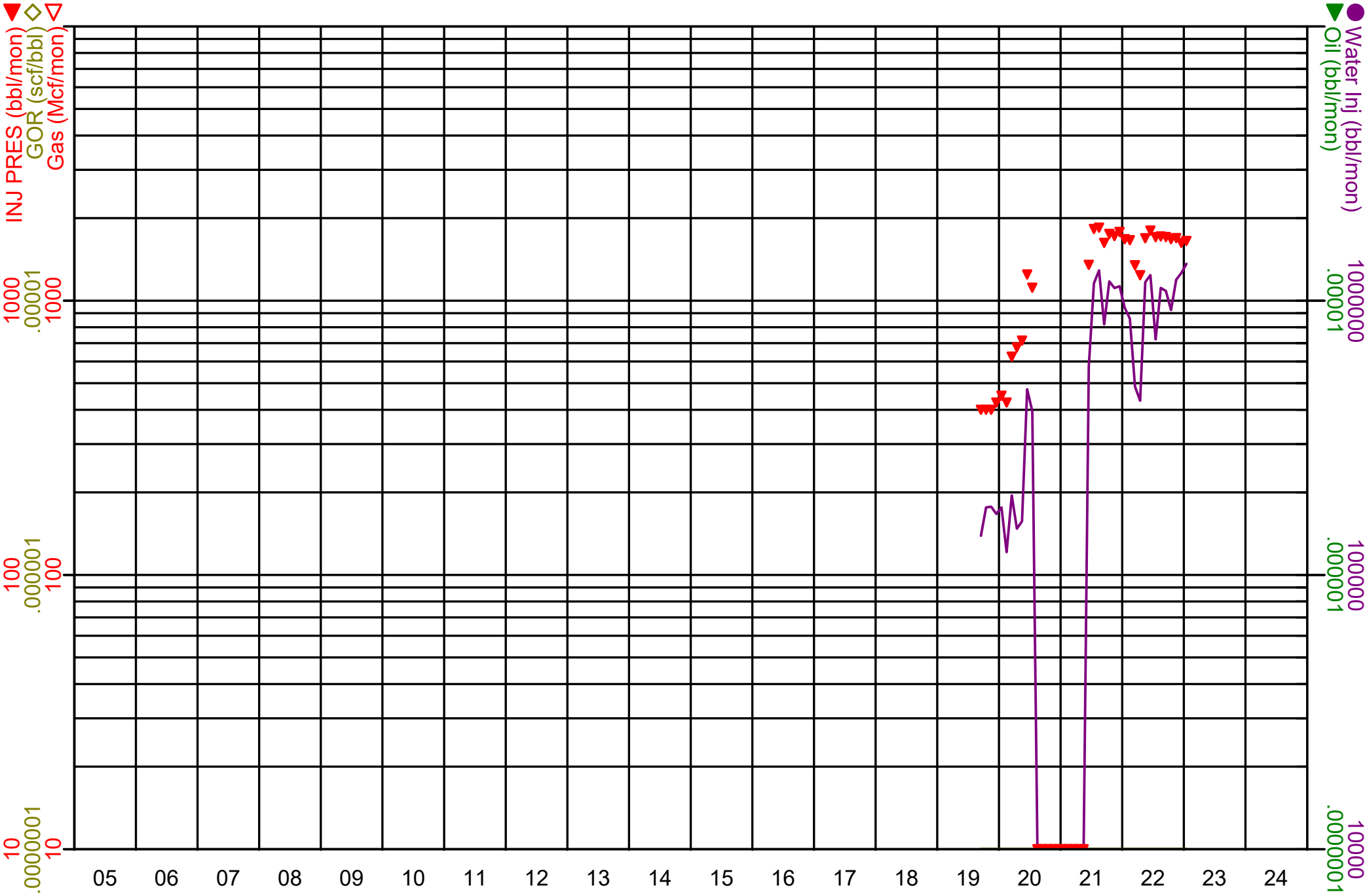
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Reservoir: DELAWARE
County,State: EDDY,NM



RED ROAD SWD 001
Oper: NGL ENERGY PARTNERS
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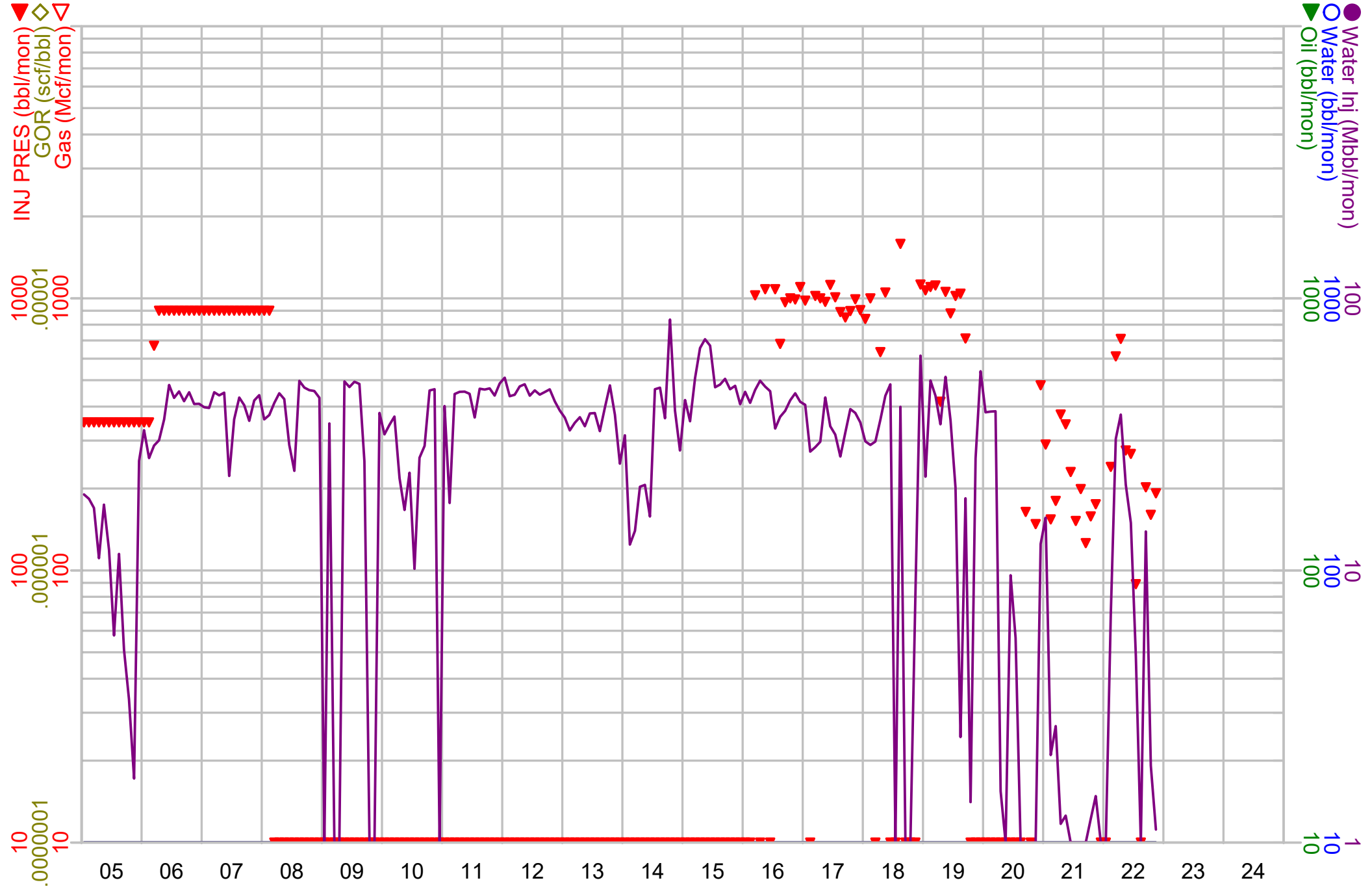
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Reservoir: DEVONIAN
EDDY,NM

WATER INJECTION
SCALE SHIFTED



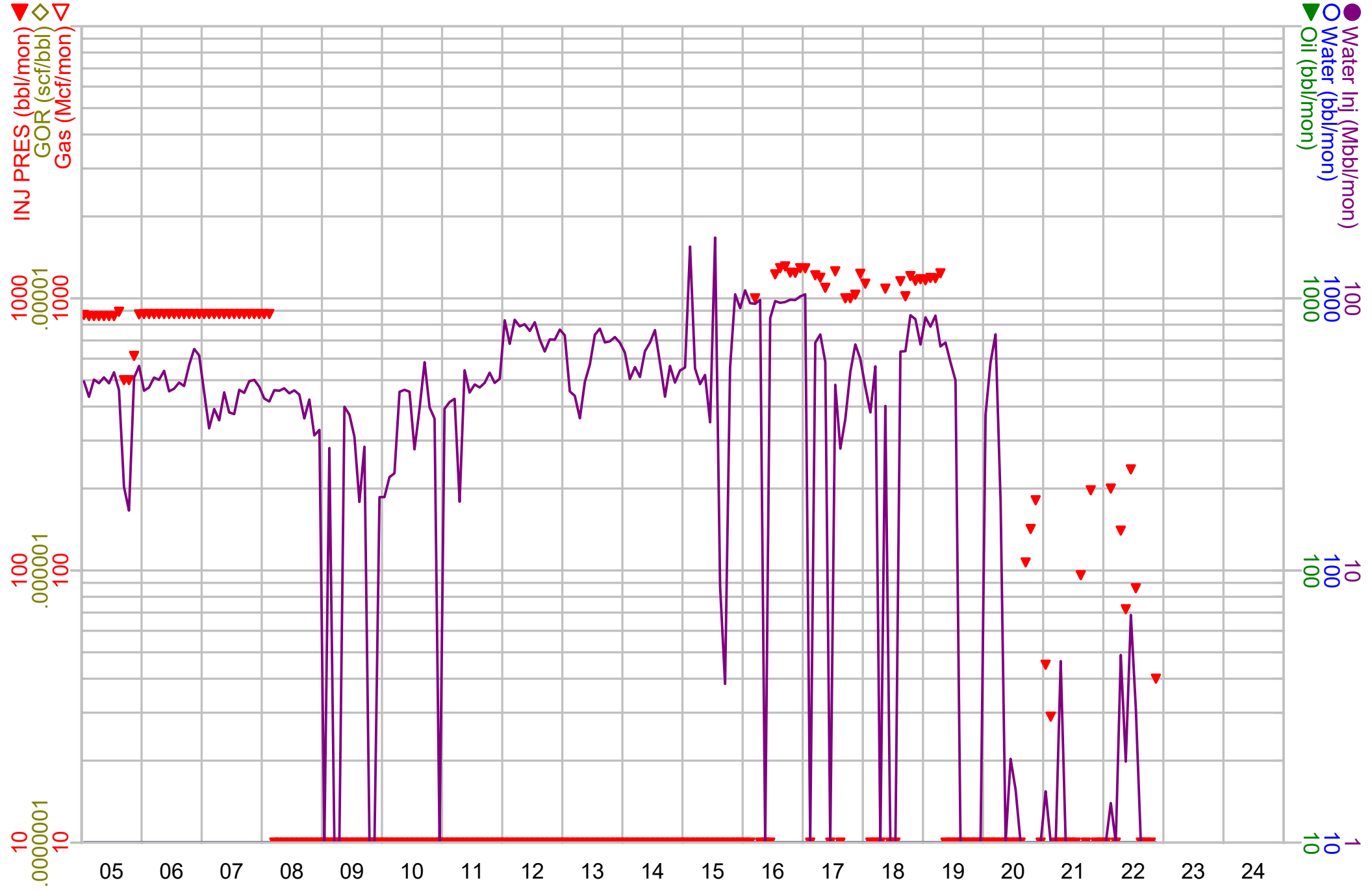
RED TANK 28 FEDERAL 003
Oper: OCCIDENTAL
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Field: SWD
Reservoir: DELAWARE
County,State: LEA,NM



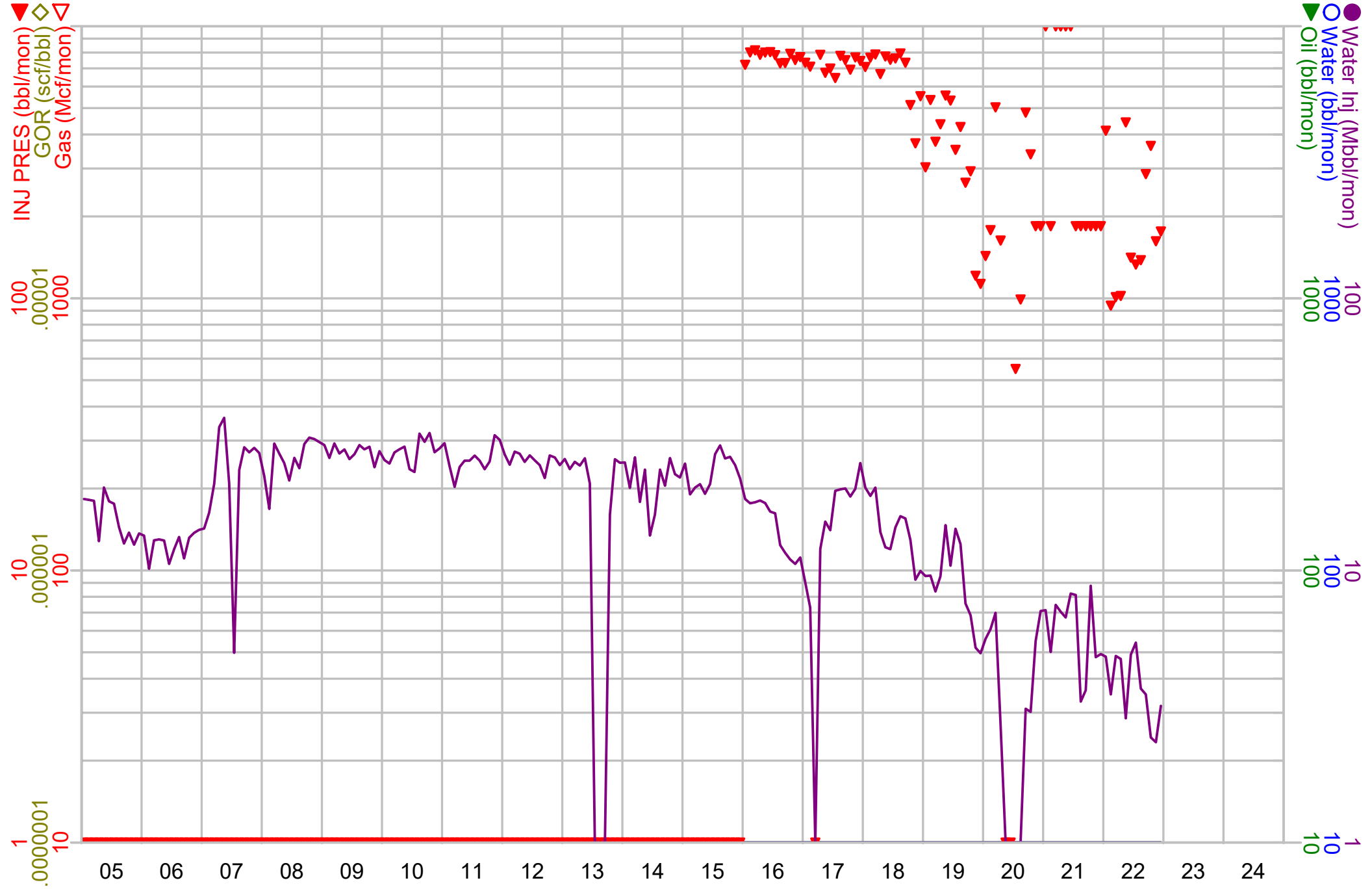
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Field: SWD
Reservoir: DELAWARE
County,State: LEA,NM



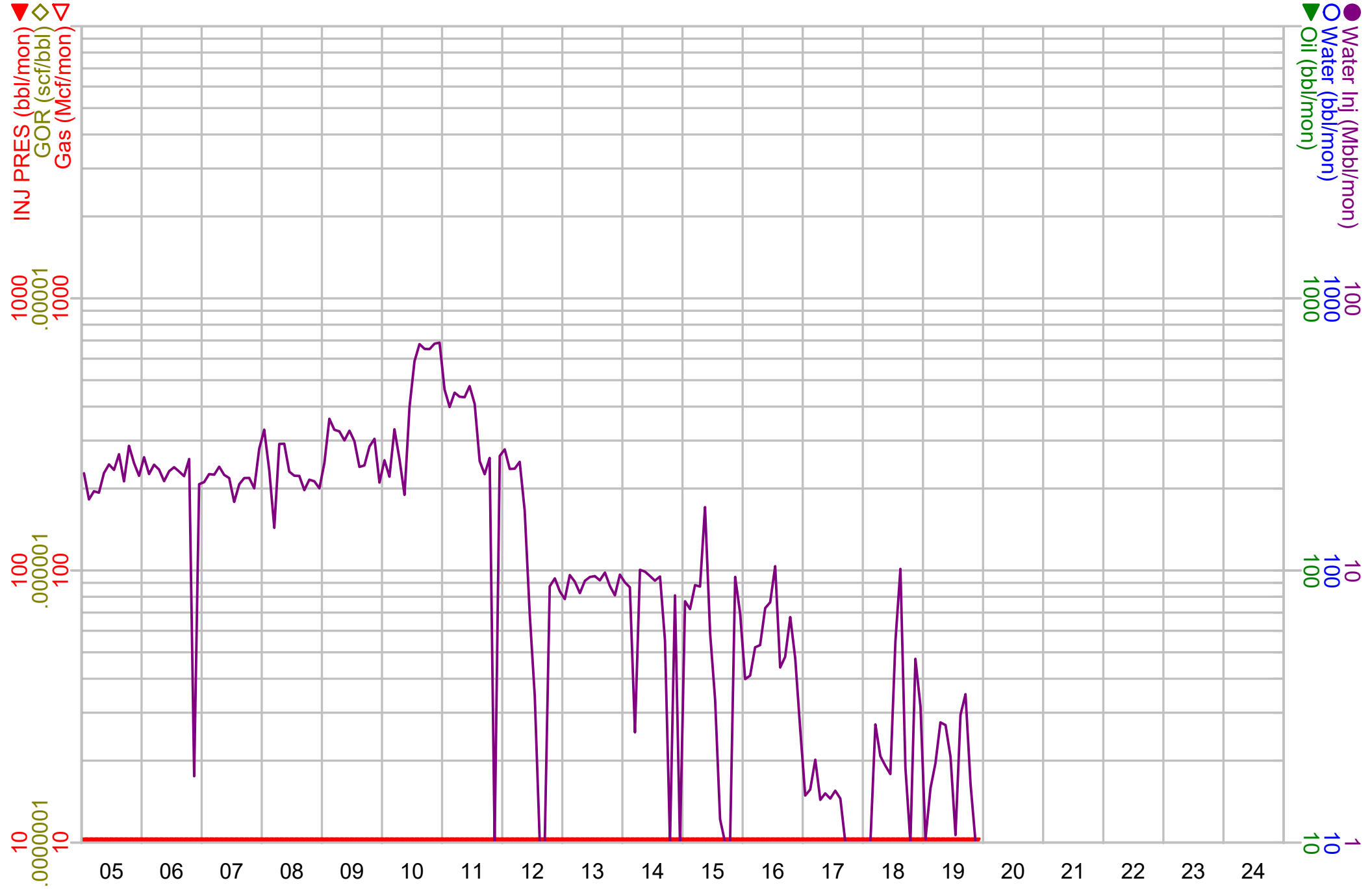
RED TANK FEDERAL 002
Oper: EOG
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Field: SWD
Reservoir: DELAWARE
County,State: LEA,NM



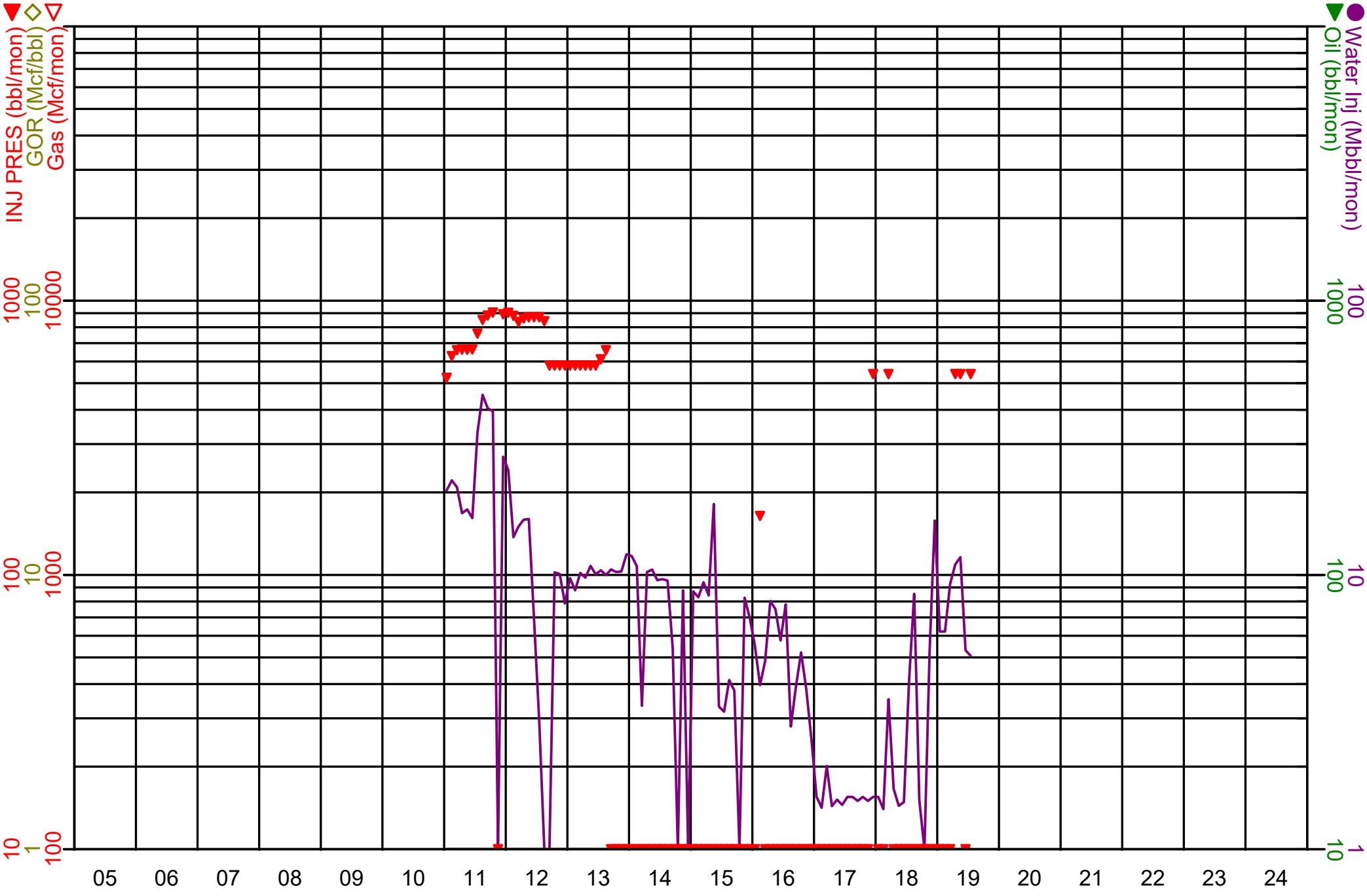
REMUDA BASIN 19 FEDERAL 002
Oper: XTO ENERGY, INC
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Field: SWD
Reservoir: BELL CANYON
County,State: EDDY,NM



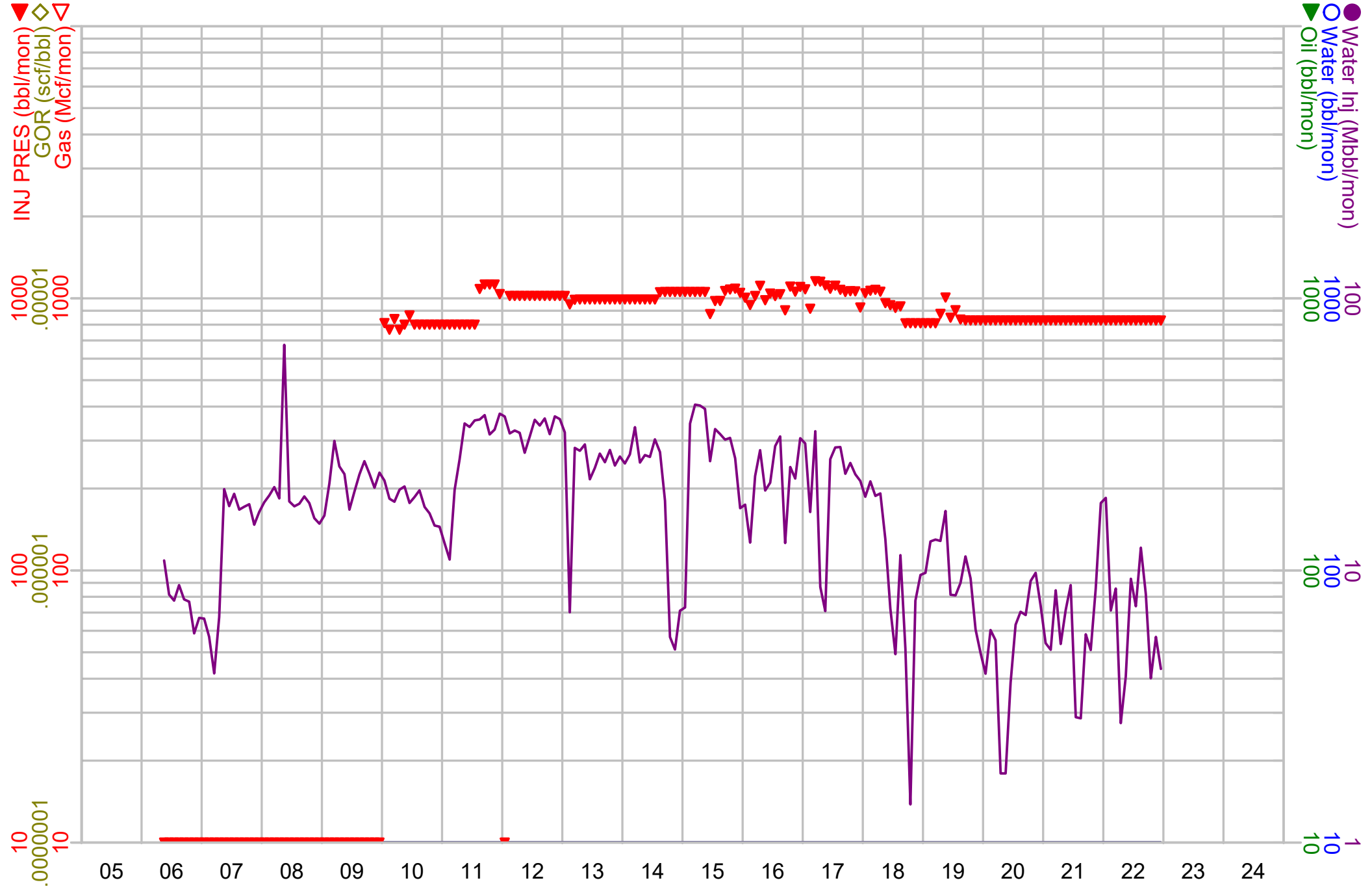
REMUDA BASIN STATE 001
Oper: EXXON
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Field: NASH DRAW
Reservoir: BONE SPRING
County,State: EDDY,NM



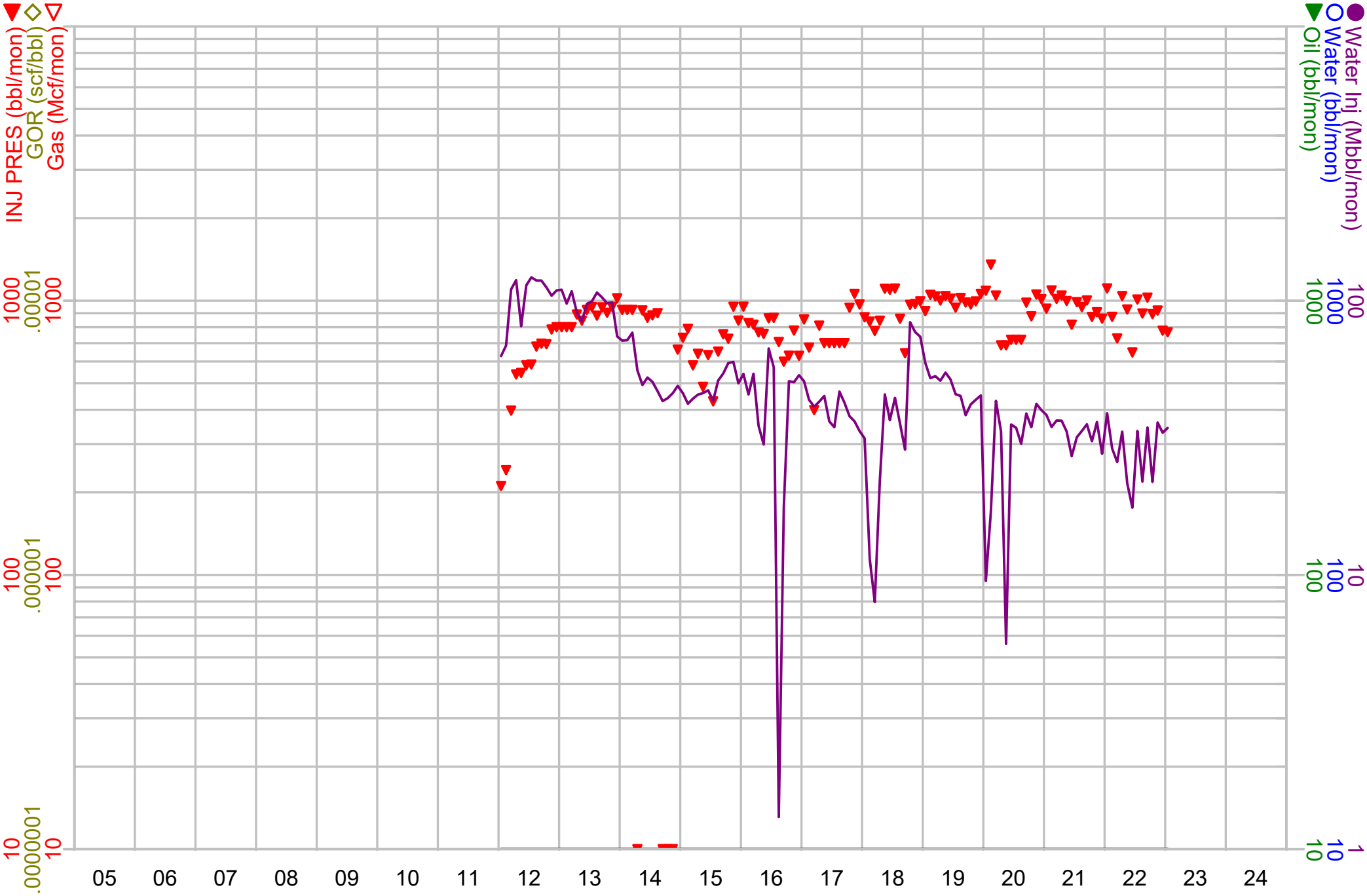
REMUDA BASIN SWD 001
Oper: DEVON ENERGY PRODUCTION COMPAN
API Formatted: 30-015-29549

Field: SWD
Reservoir: DELAWARE
County,State: EDDY,NM



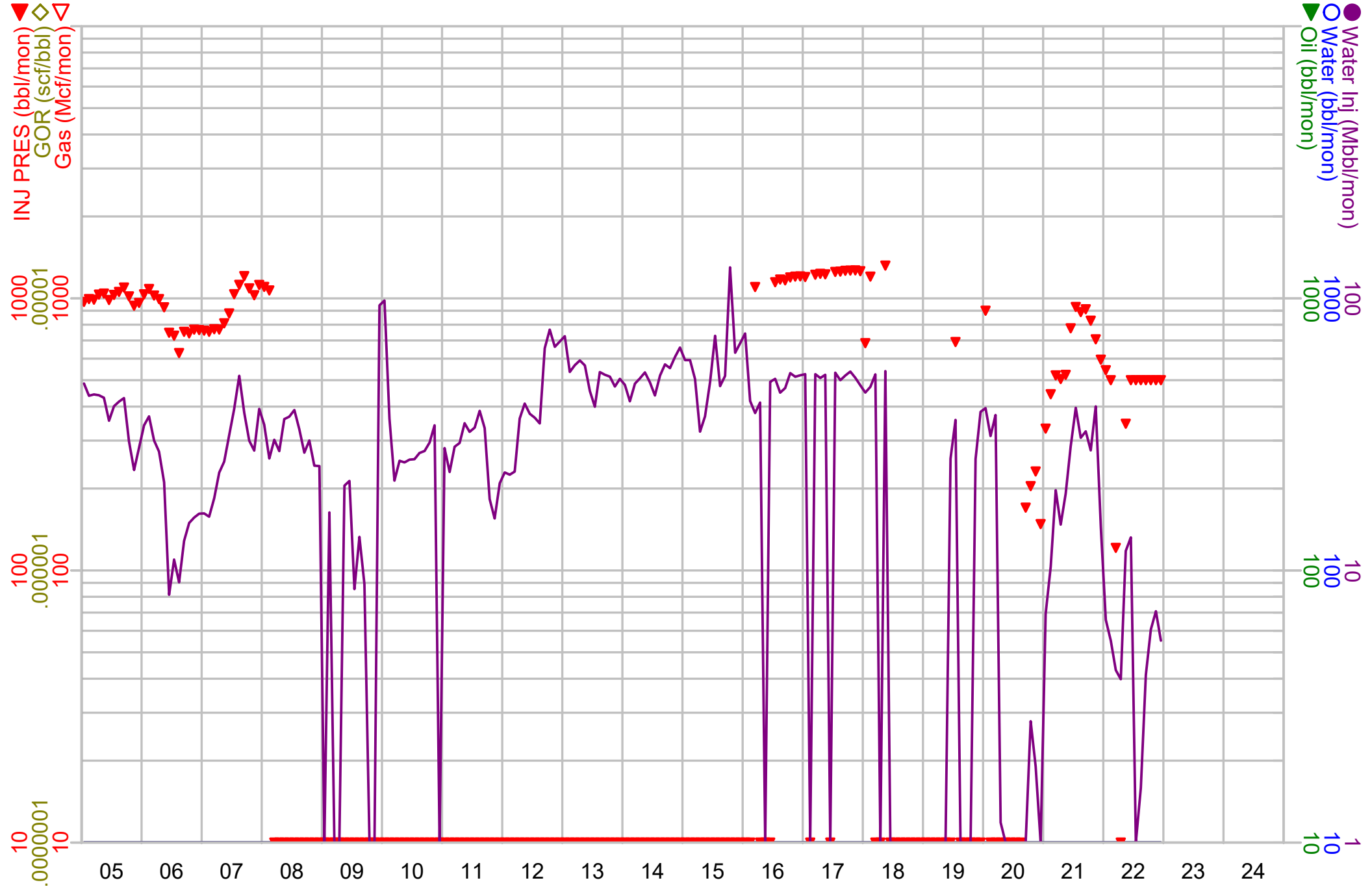
ROSEMARY SWD 001
Oper: EOG Y RESOURCES, INC.
API Formatted: 30-025-31227

Field: SWD
Reservoir: DELAWARE
County,State: LEA,NM



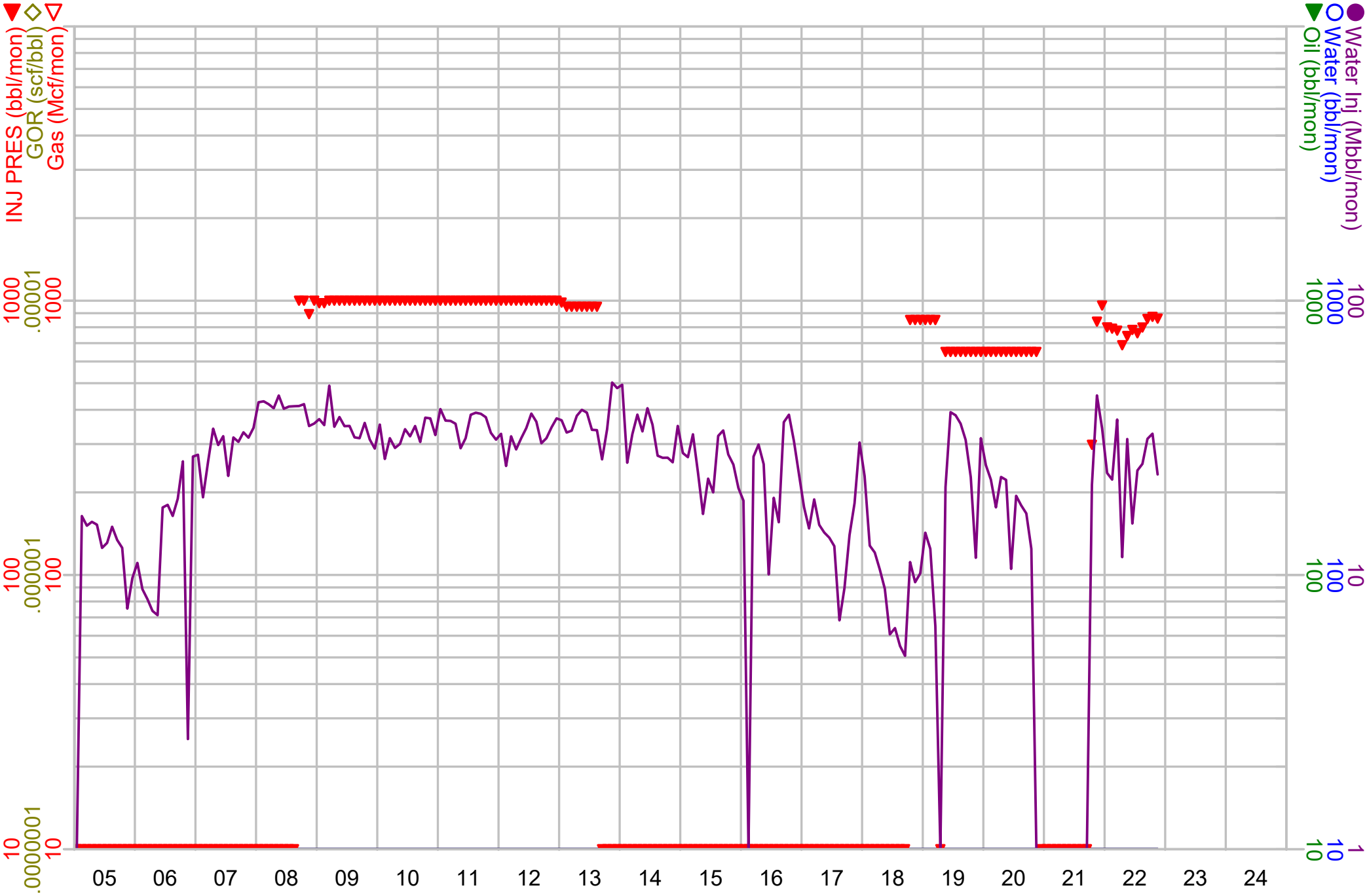
SAND DUNES 28 FEDERAL 001
Oper: OCCIDENTAL
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Field: SWD
Reservoir: DELAWARE
County,State: EDDY,NM



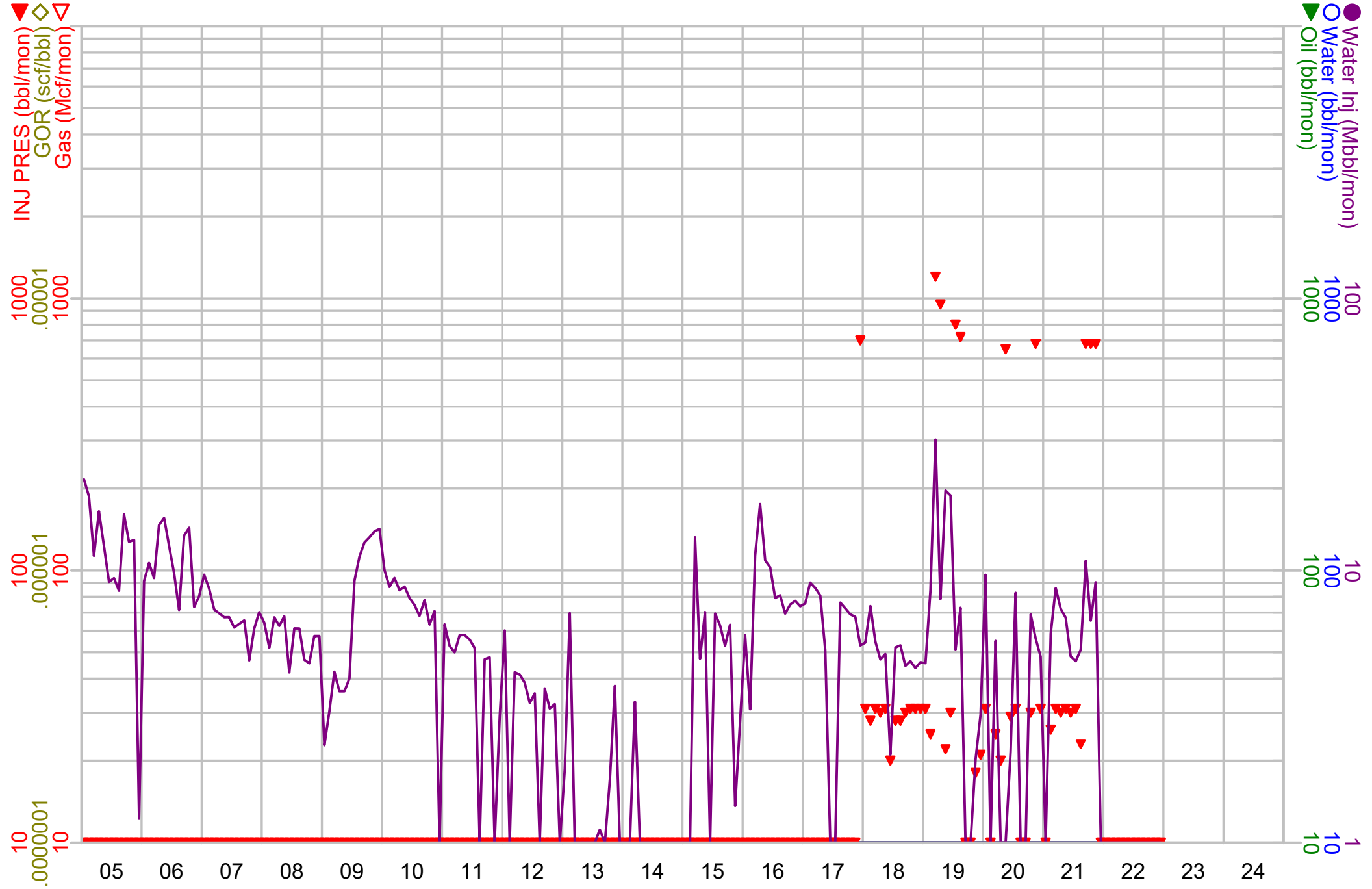
SDE 31 FEDERAL 009
Oper: HARVARD PETROLEUM
API Formatted: 30-025-32868-0000

Field: SWD
Reservoir: DELAWARE
County,State: LEA,NM



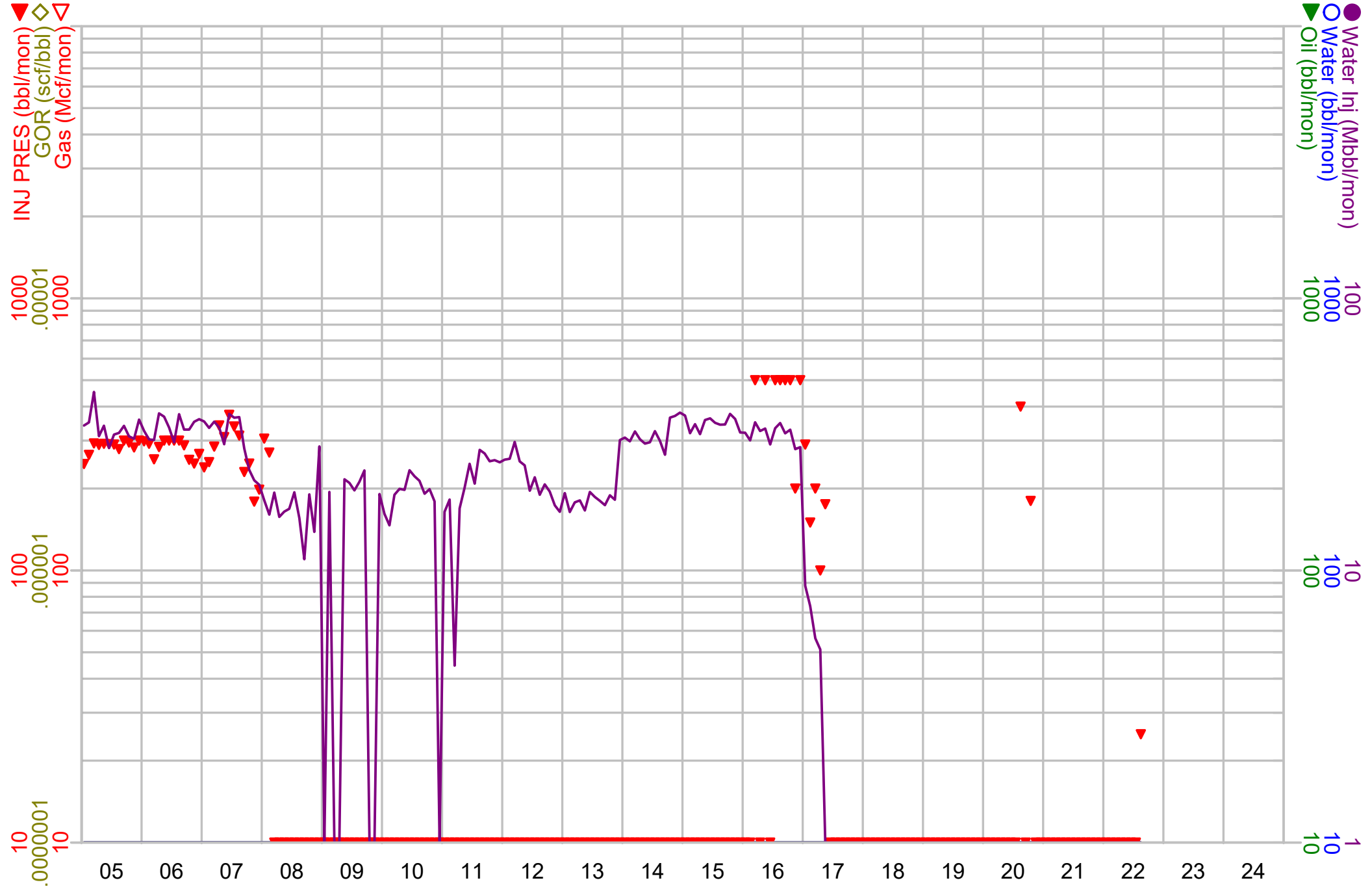
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Oper: EOG RESOURCES INC
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Field: SWD
Reservoir: BELL CANYON
County,State: LEA,NM



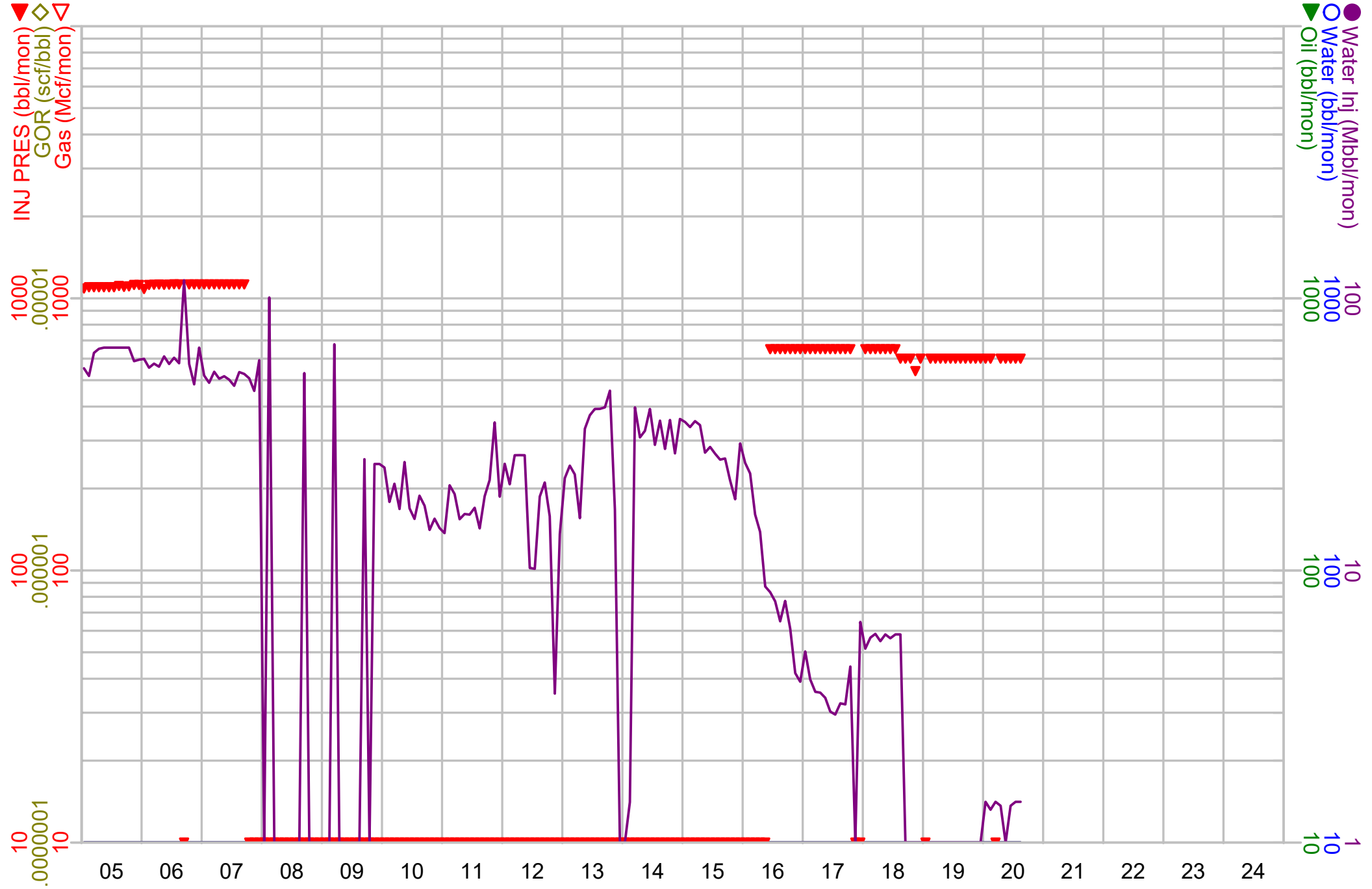
STATE 2 005
Oper: OXY USA INC
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Field: LOST TANK
Reservoir: DELAWARE
County,State: EDDY,NM



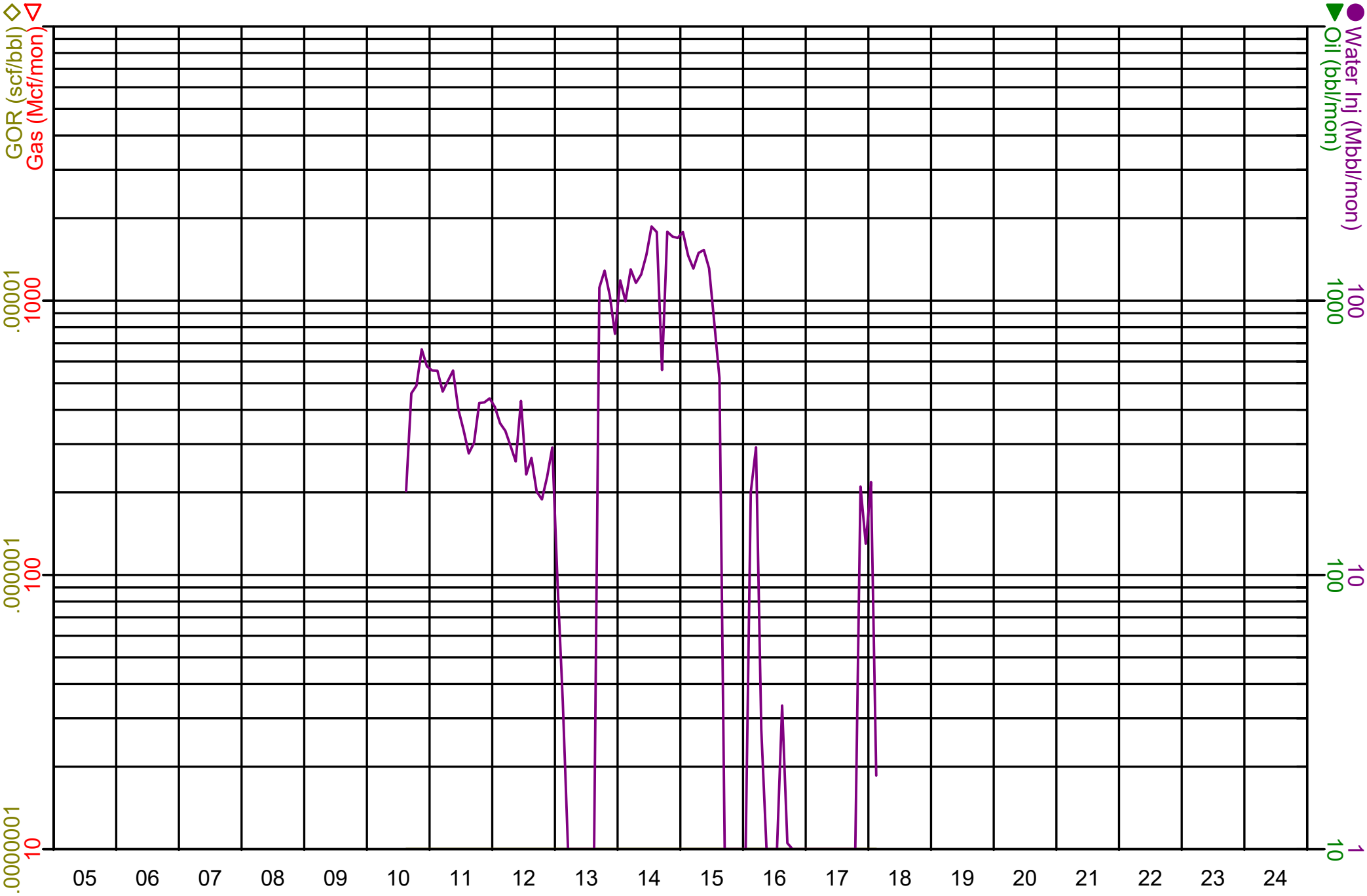
STATE AA-2 001
Oper: PENROC OIL
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Field: SWD
Reservoir: DELAWARE
County,State: EDDY,NM



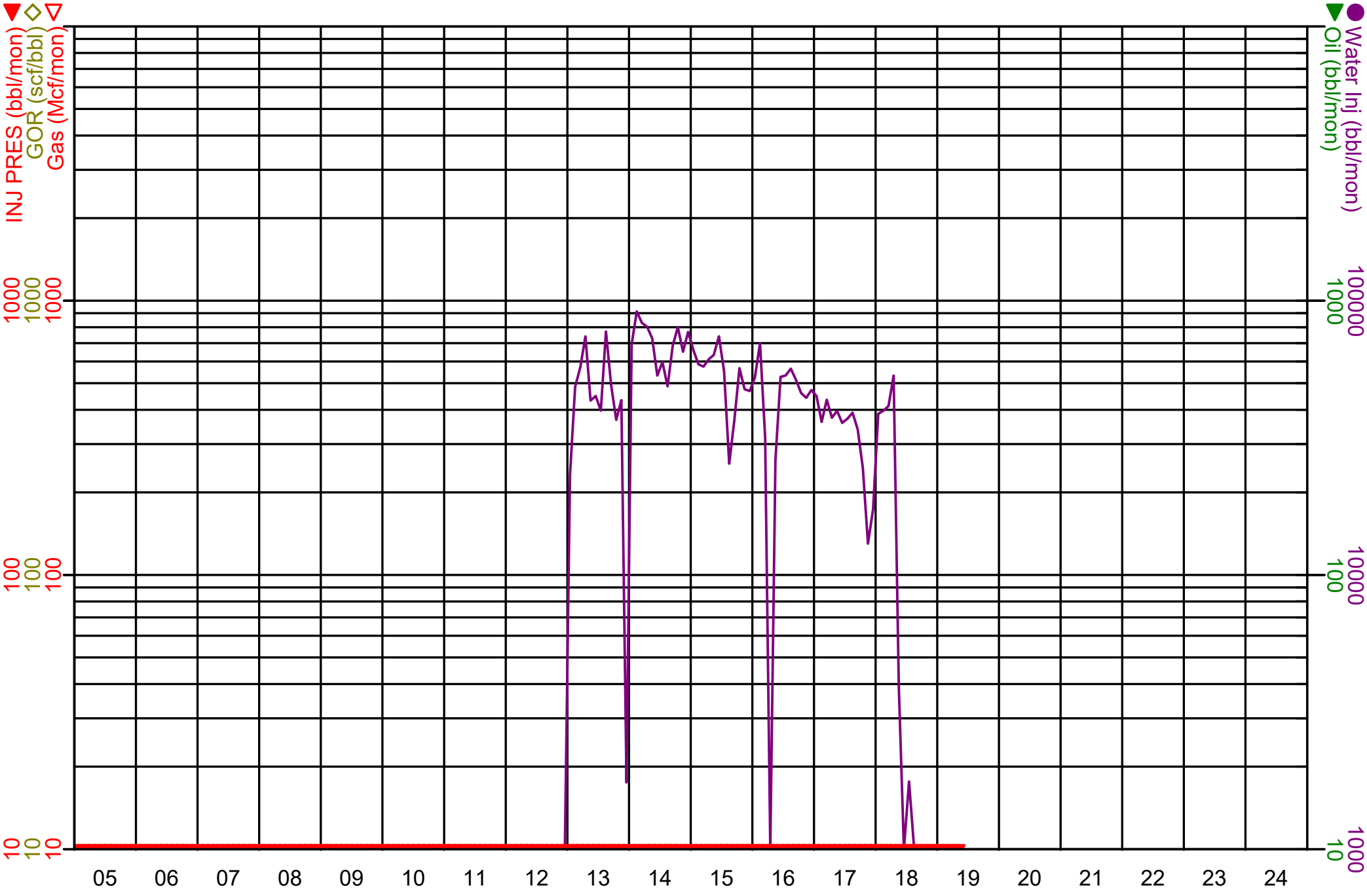
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Reservoir: DELAWARE
County,State: EDDY,NM



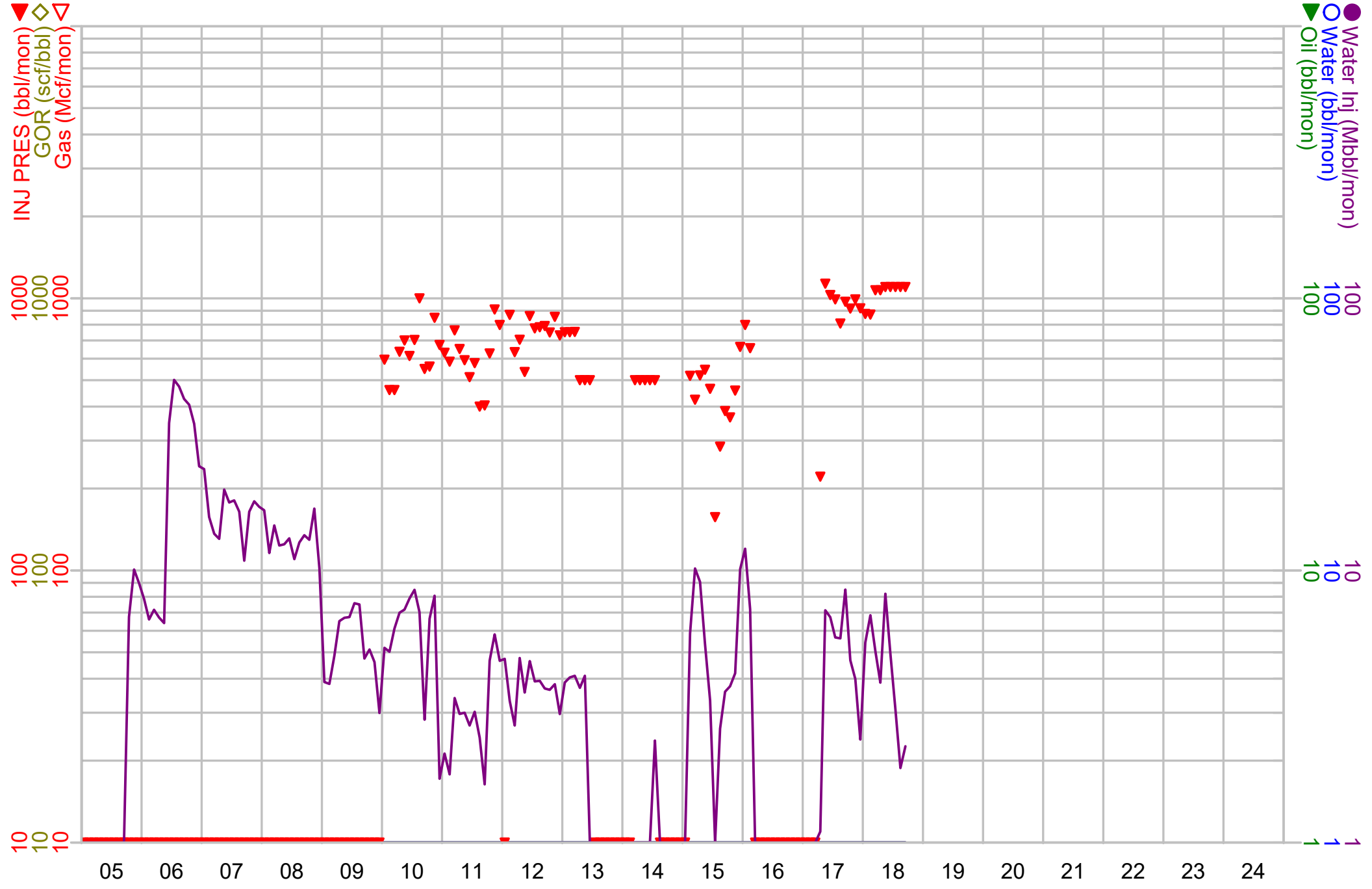
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County,State: LEA,NM



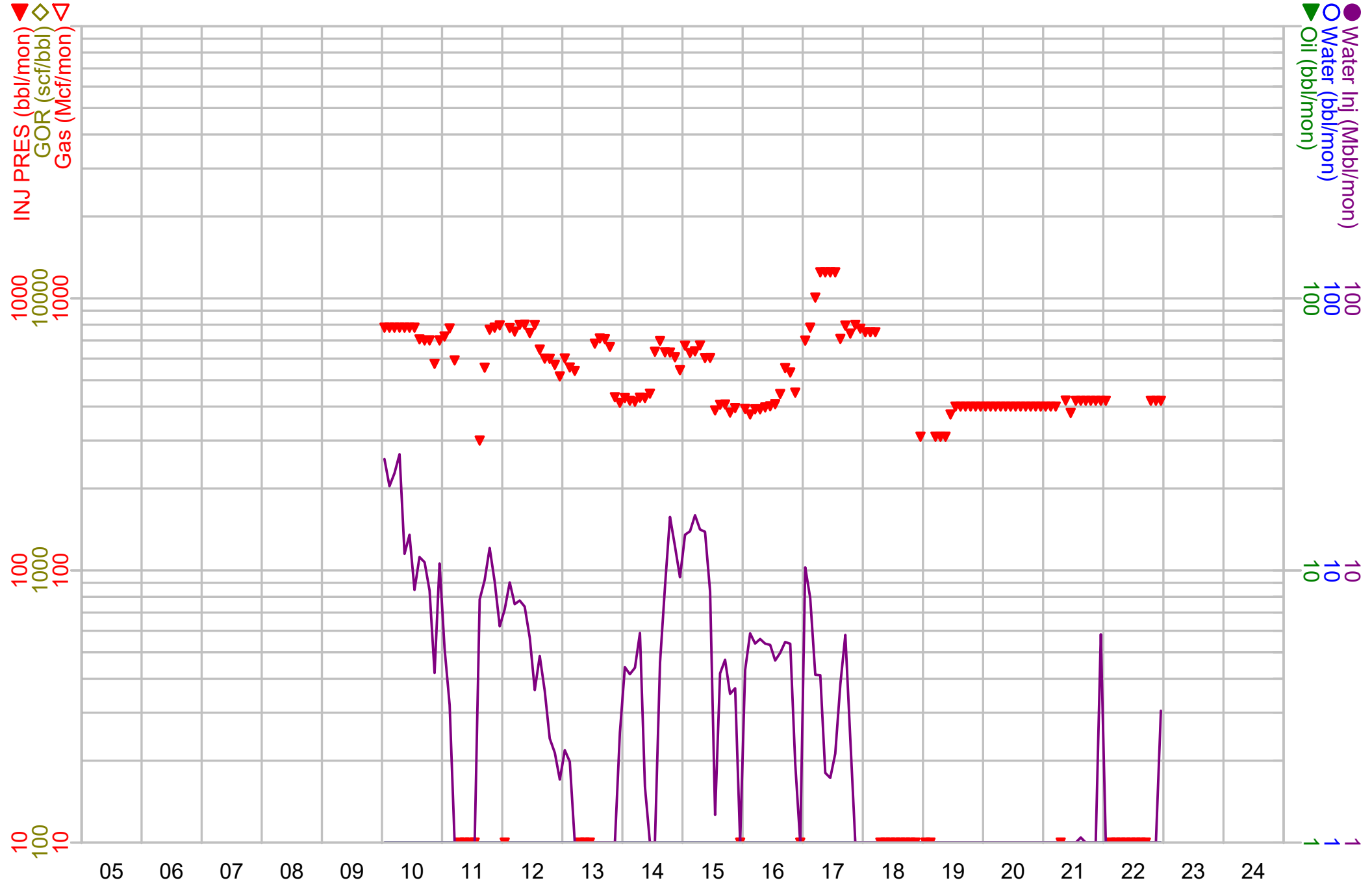
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County,State: EDDY,NM



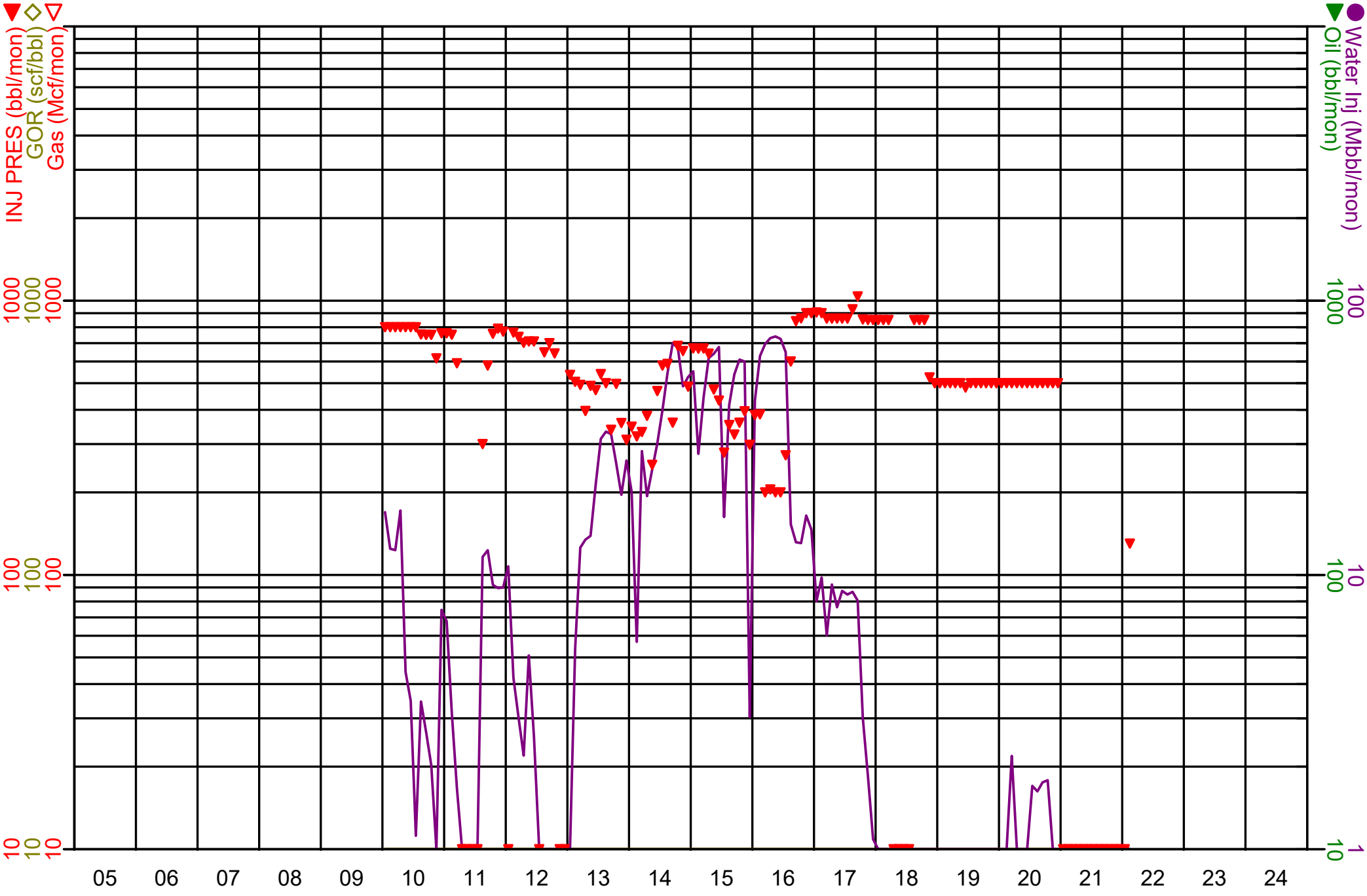
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County,State: EDDY,NM



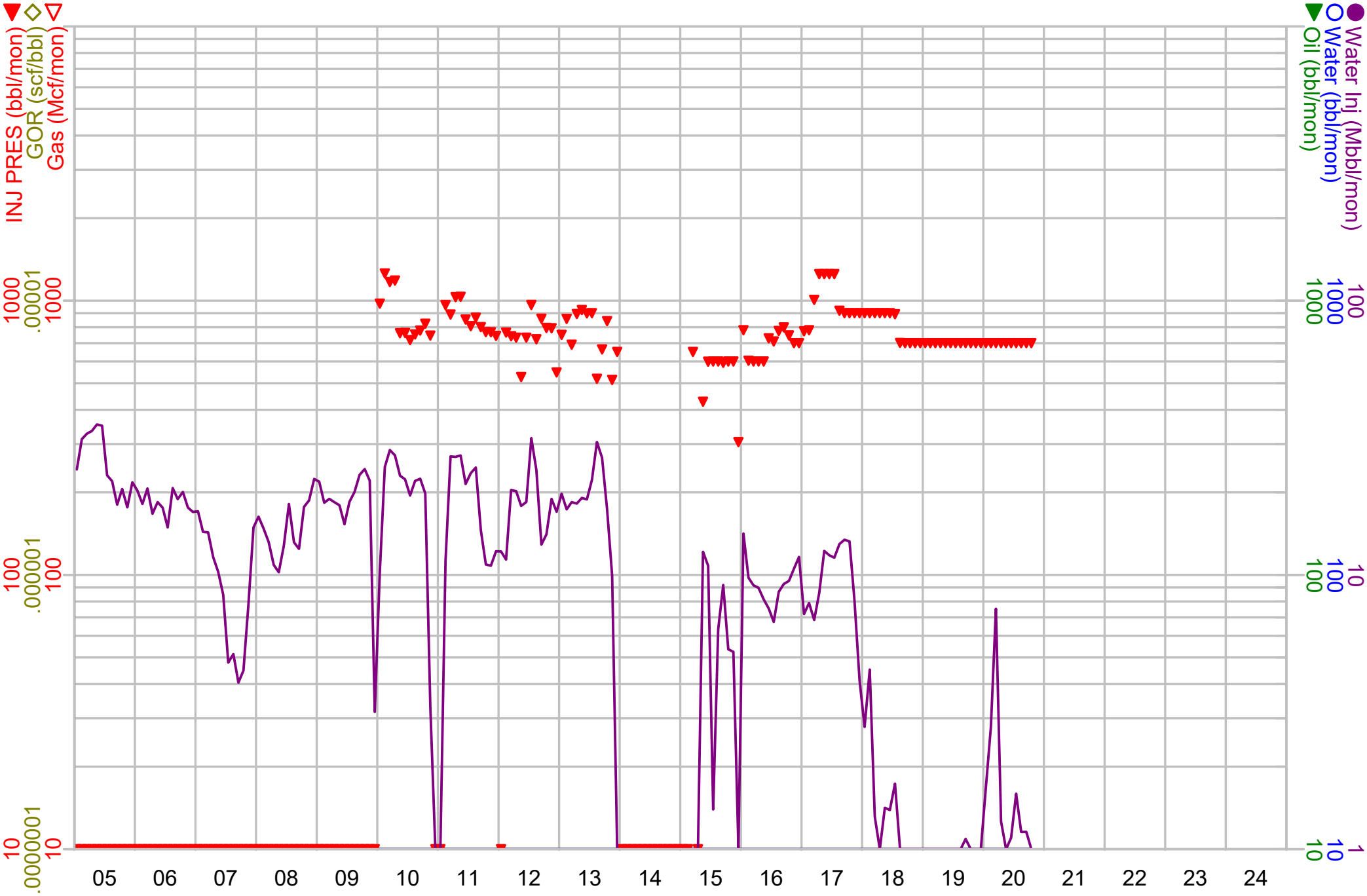
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County,State: EDDY,NM



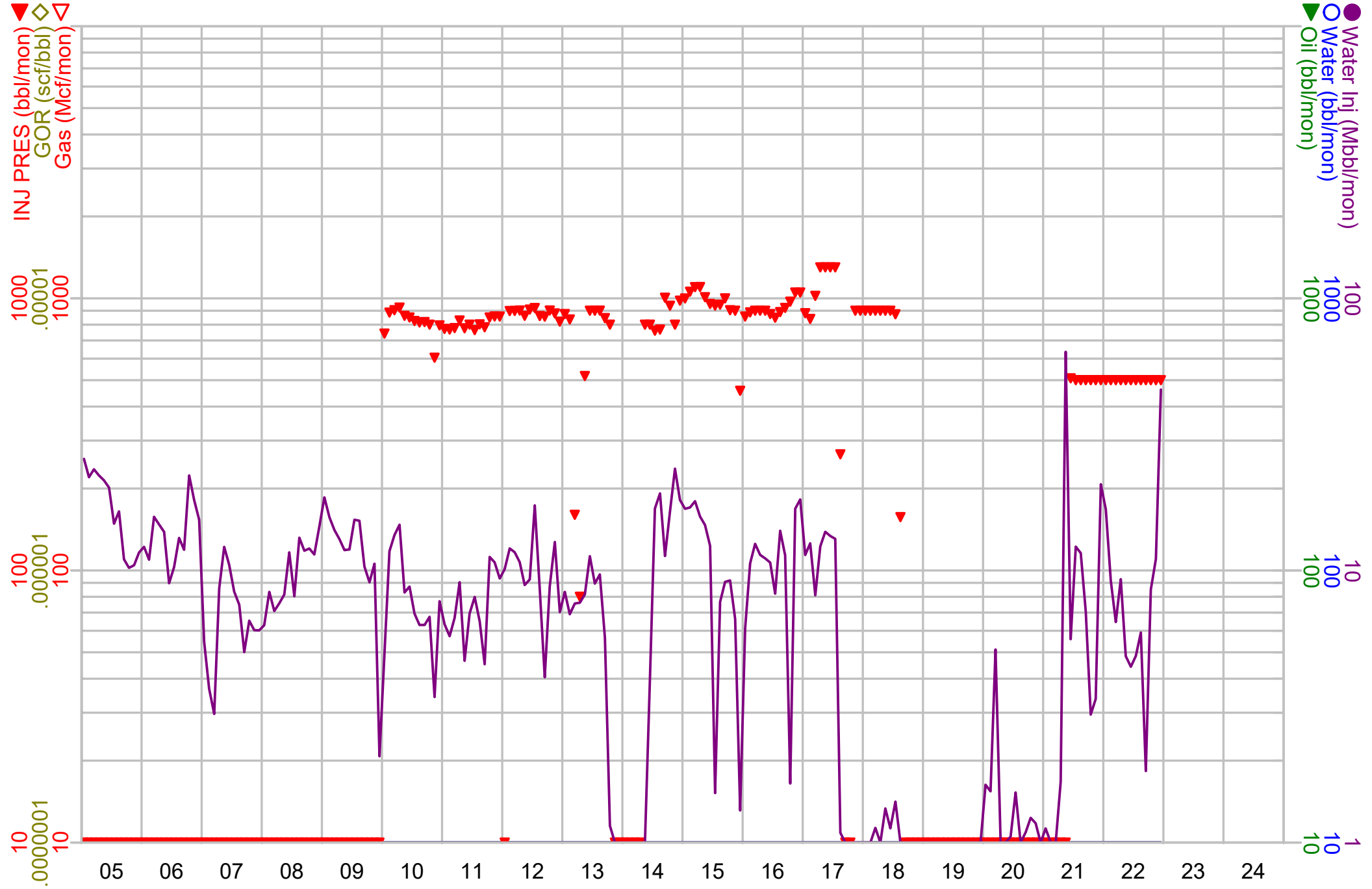
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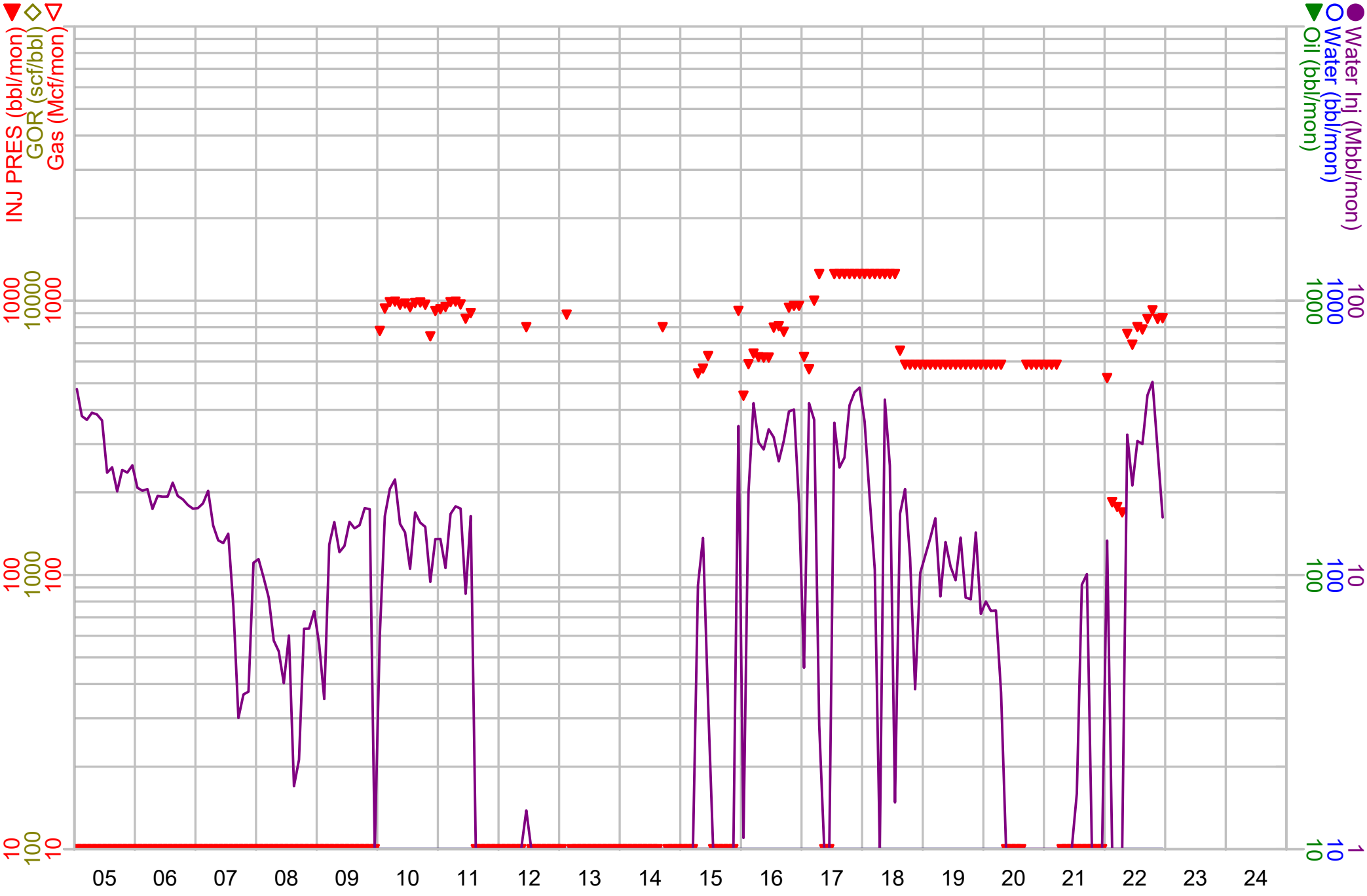
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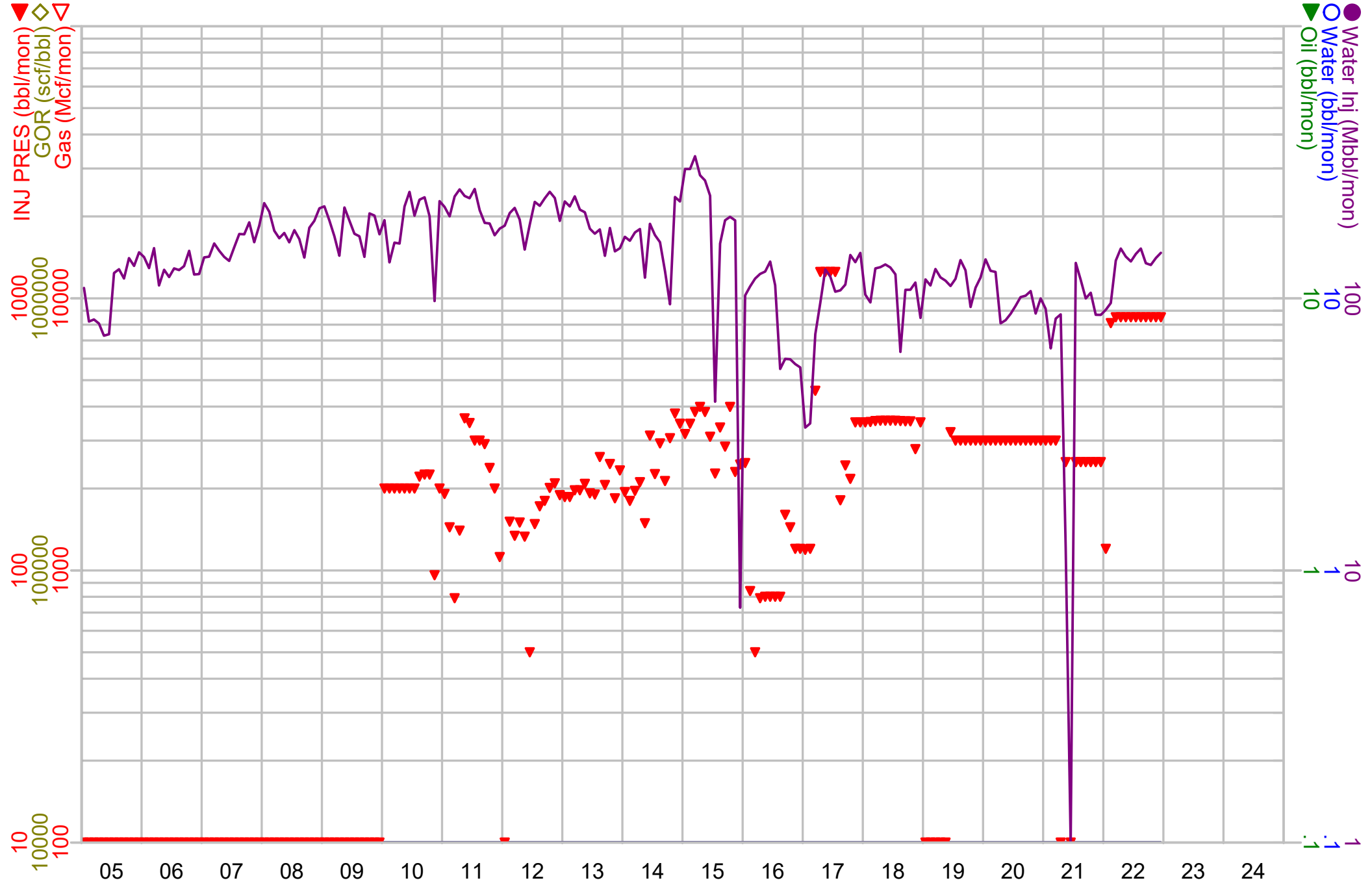
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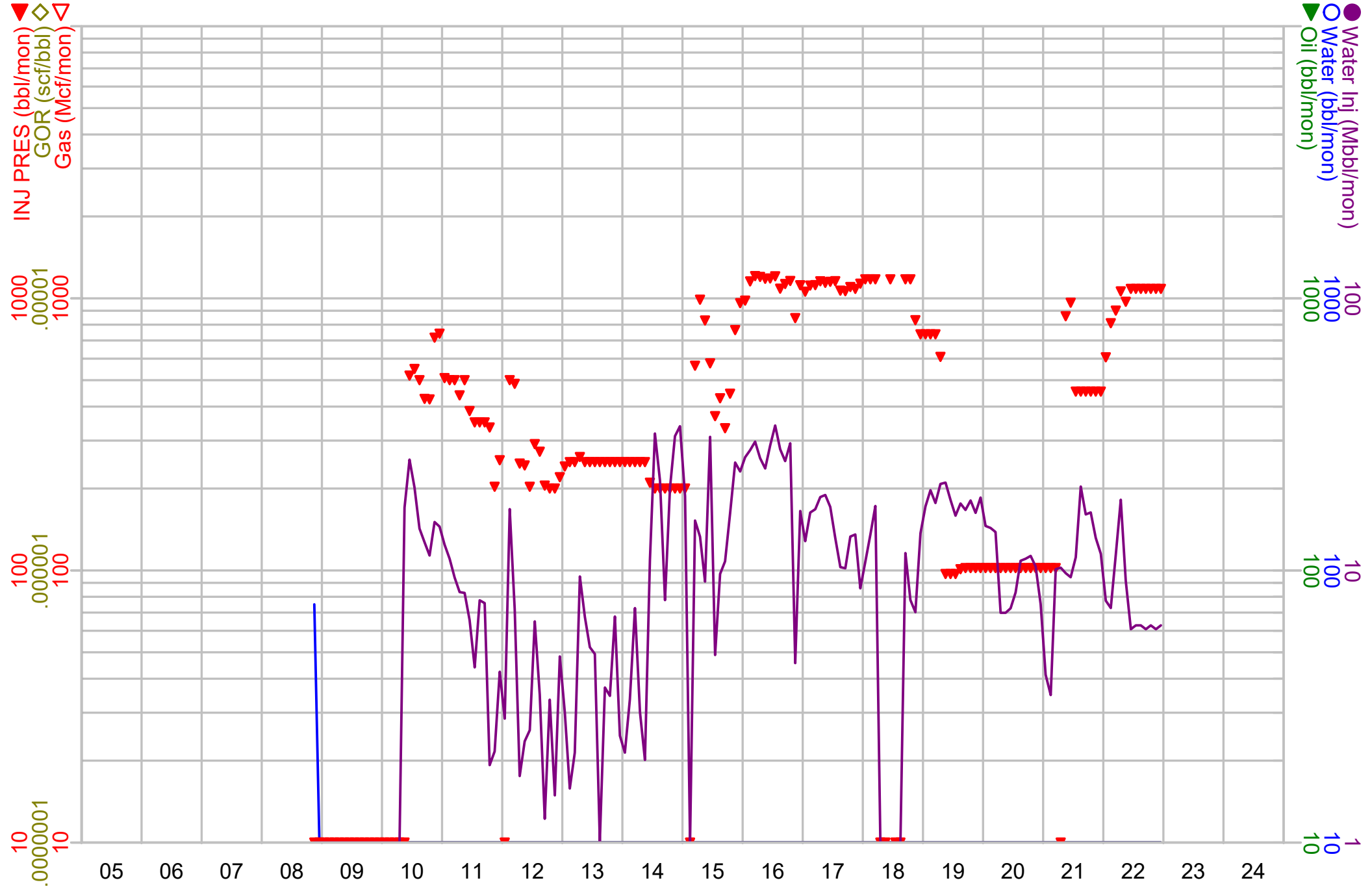
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County,State: EDDY,NM



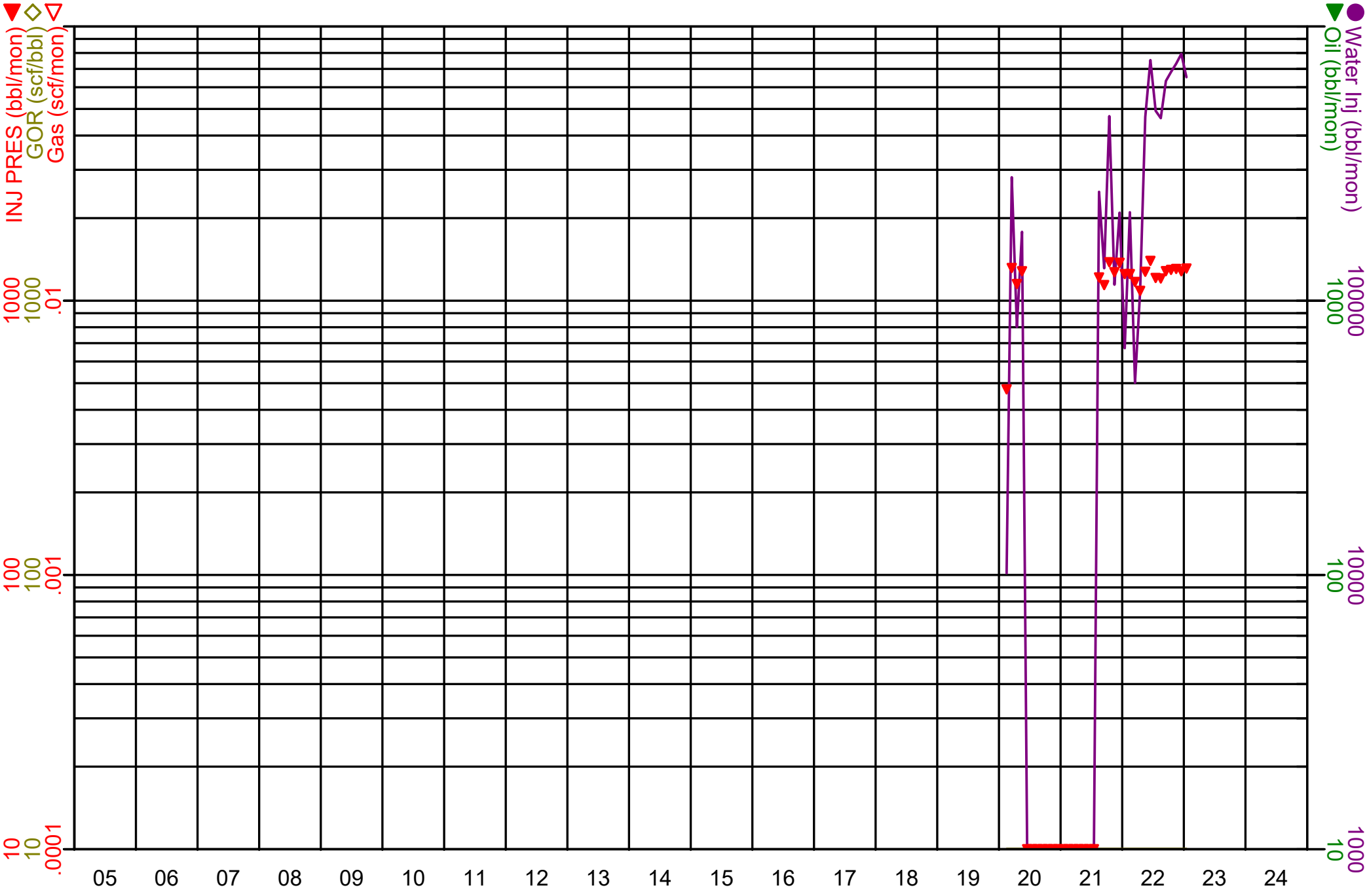
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County,State: LEA,NM



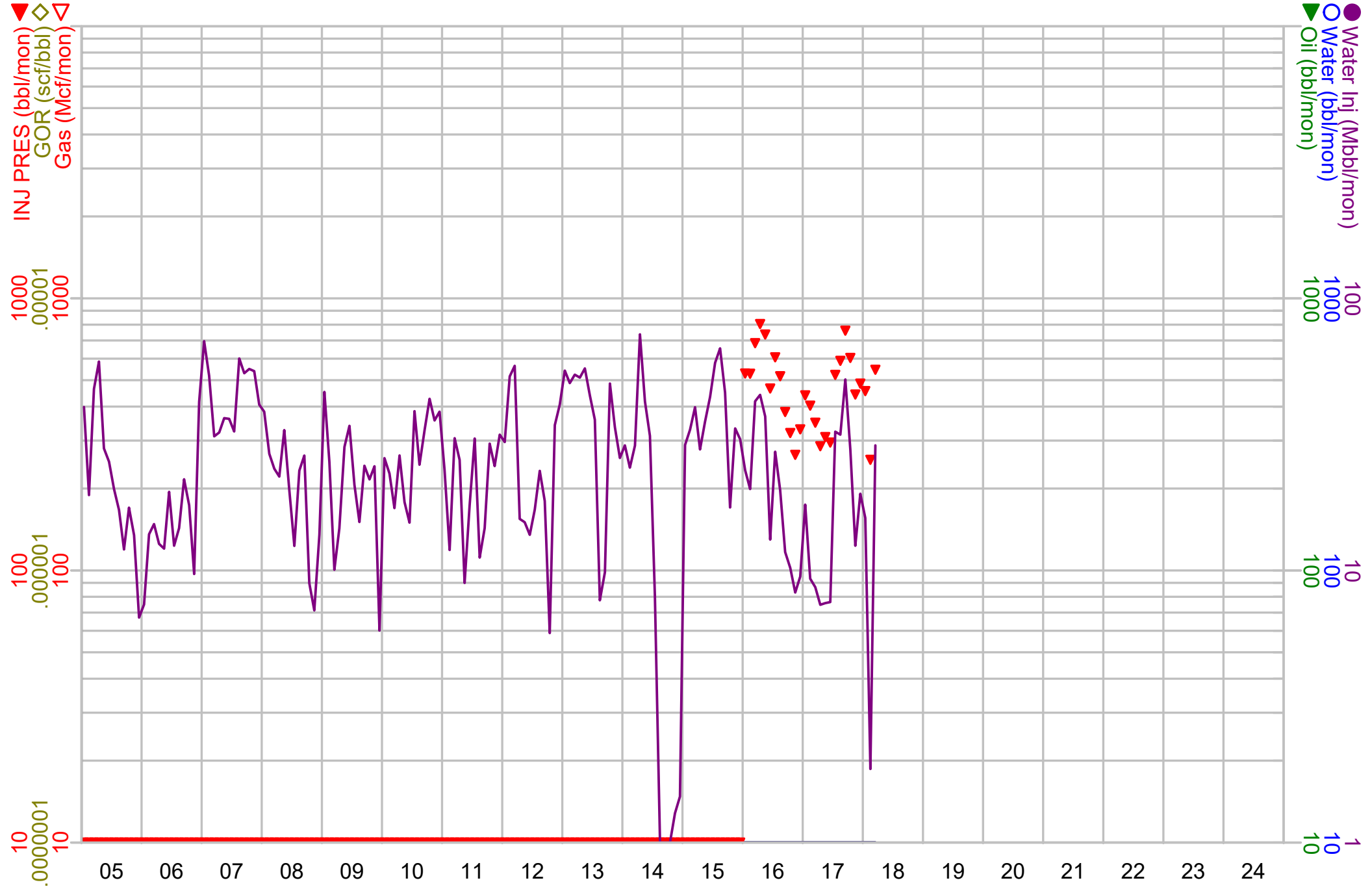
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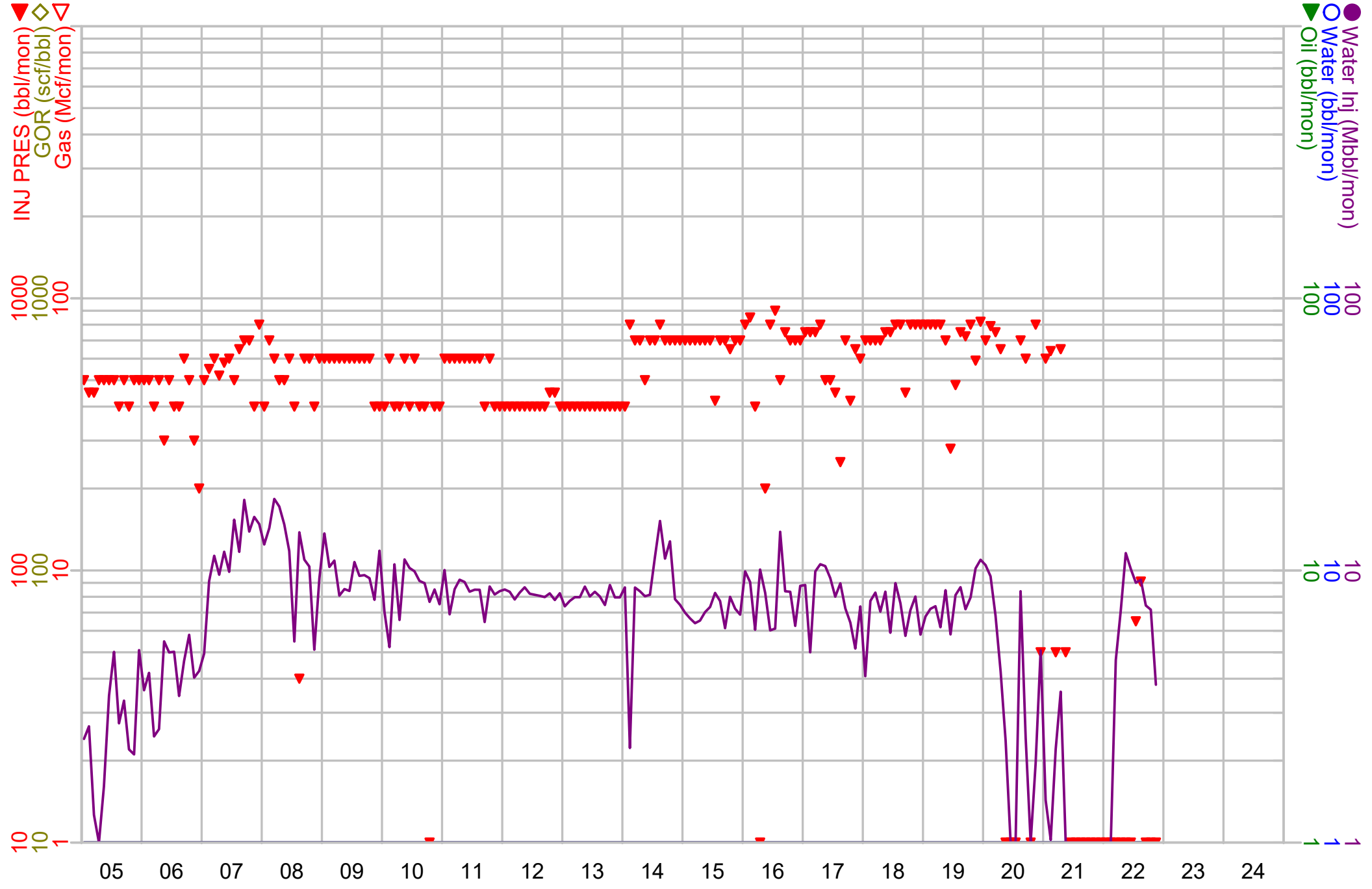
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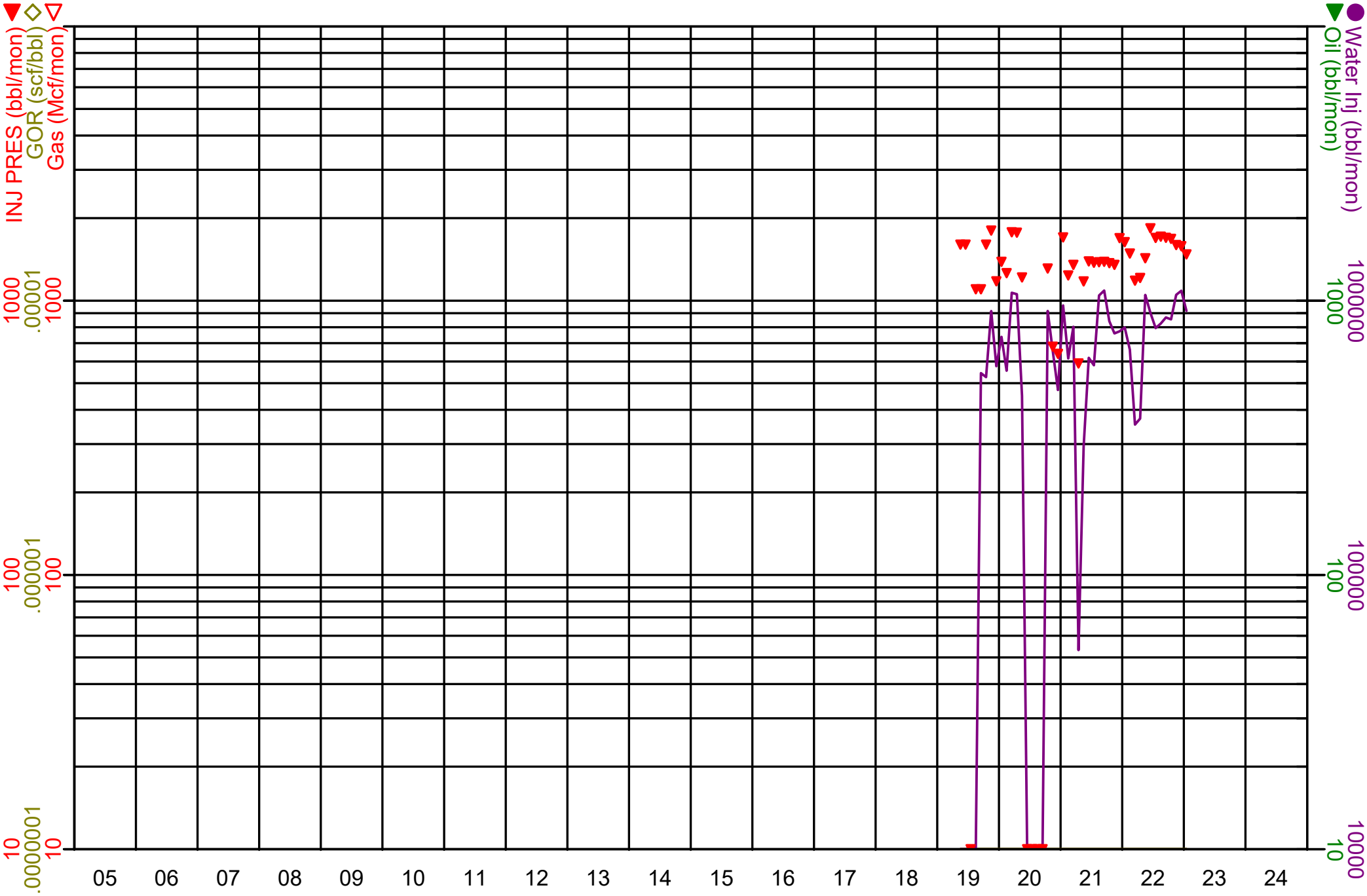
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County,State: LEA,NM



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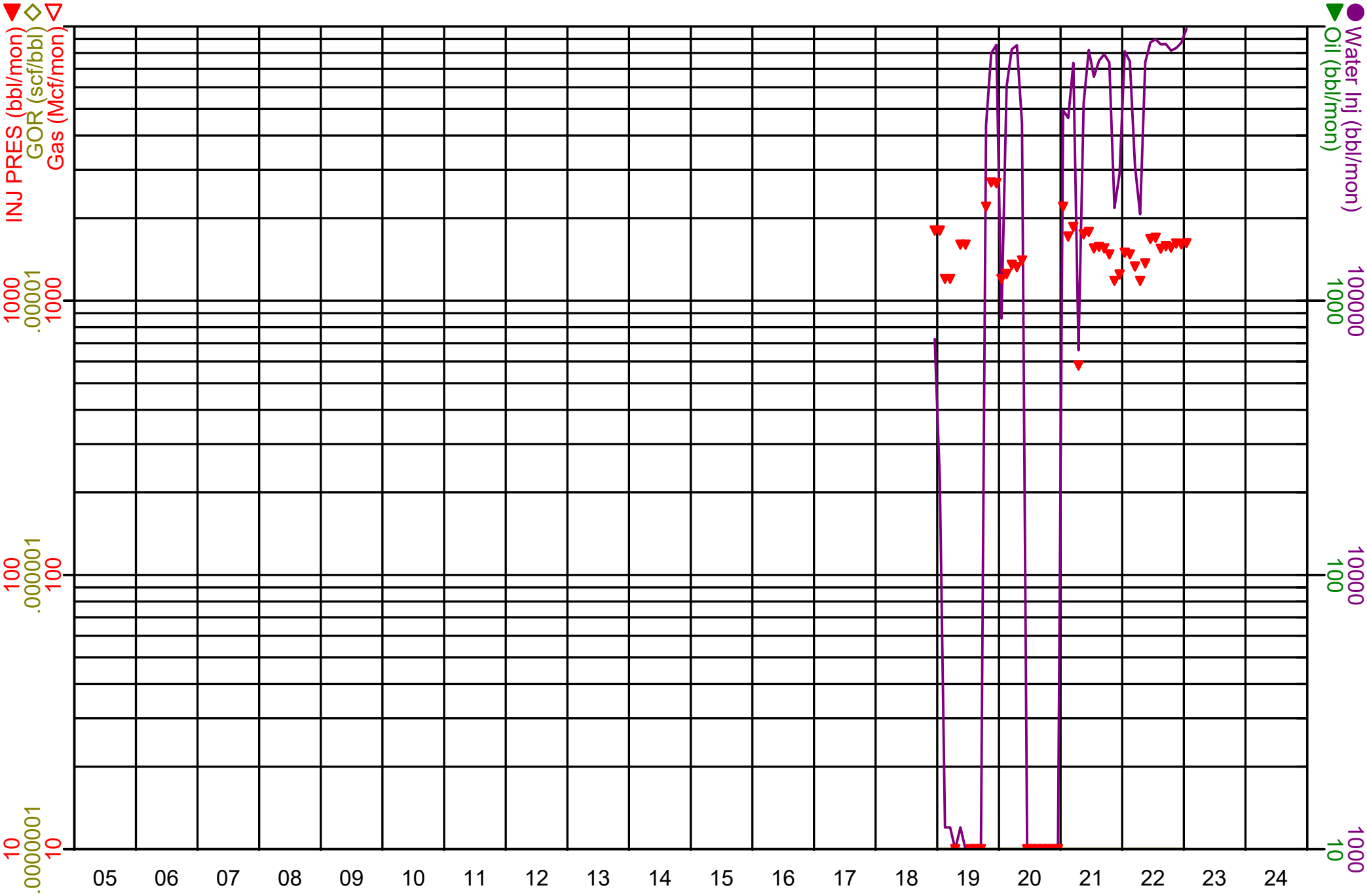
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County,State: EDDY,NM

WATER INJECTION SCALE SHIFTED



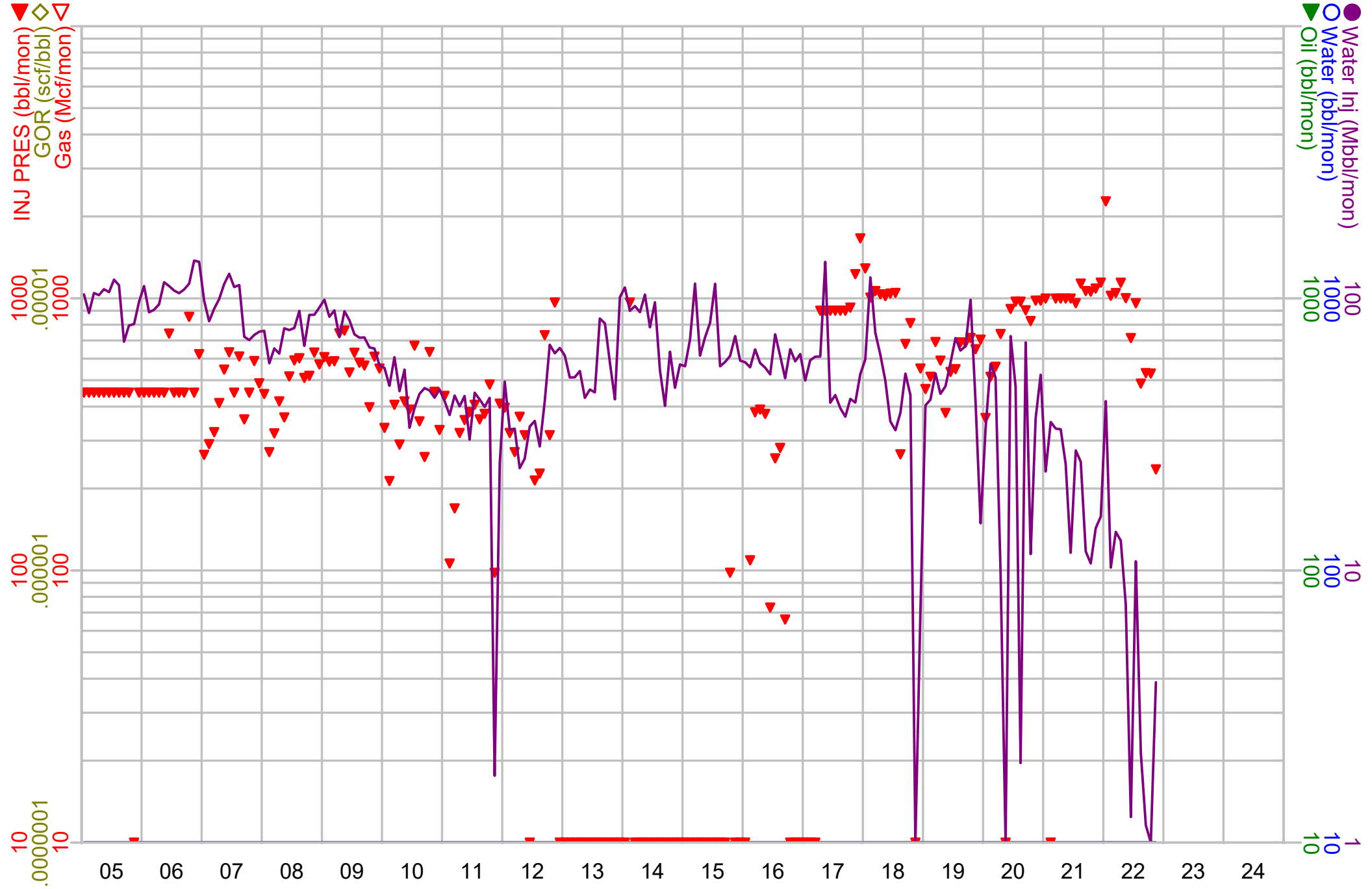
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County,State: EDDY,NM



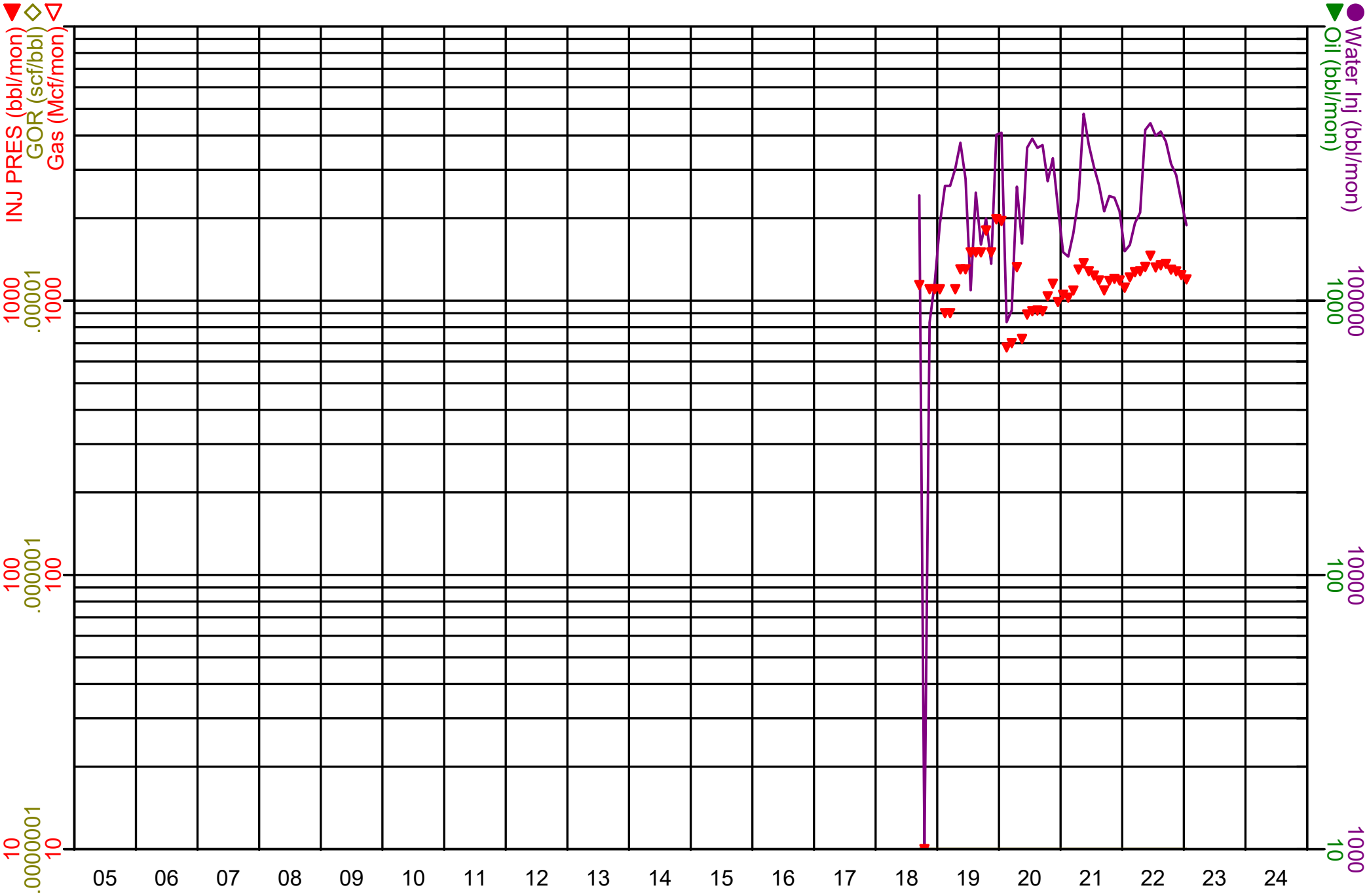
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County,State: LEA,NM



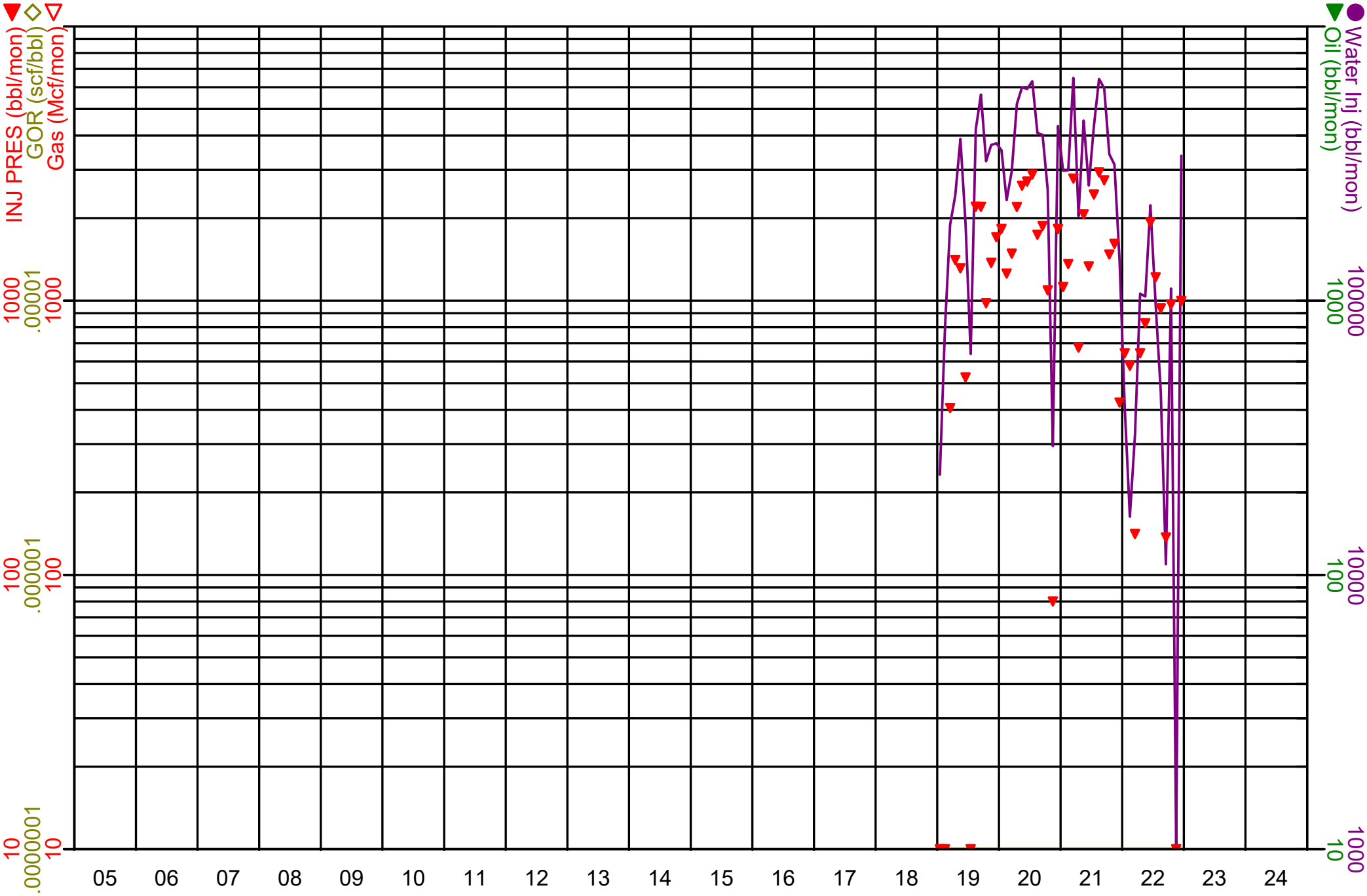
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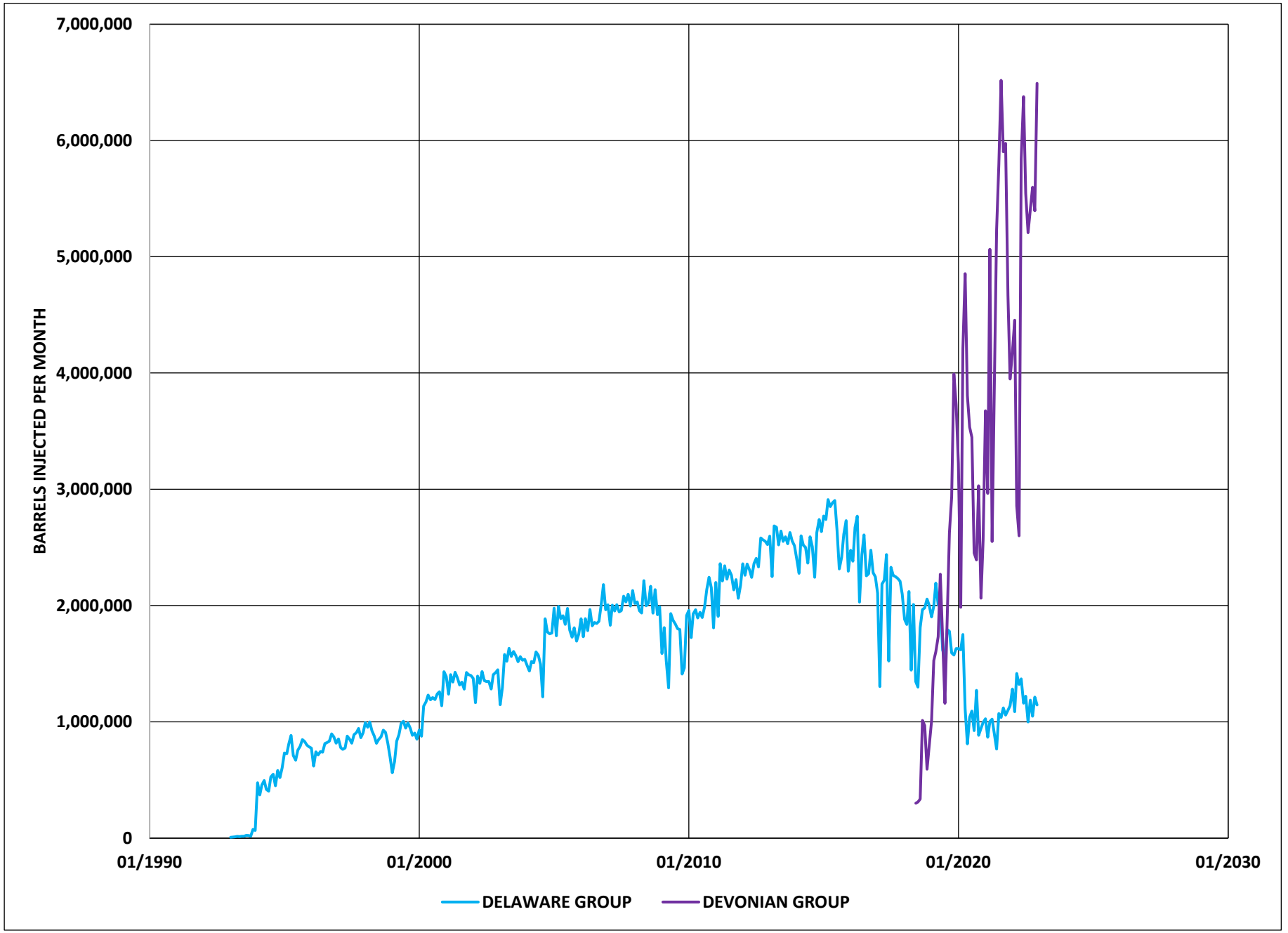
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Reservoir: DEVONIAN
County,State: LEA,NM



ZEUS SWD 001
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Field: SWD
Reservoir: DEVONIAN
County,State: LEA,NM




7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
BARRELS INJECTED PER MONTH
01/1990
01/2000
01/2010
01/2020
01/2030
DELAWARE GROUP
DEVONIAN GROUP

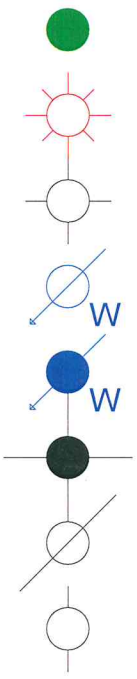
Report on Drilling, Production, Well Stimulation, Water Injection, and Seismic Activity in the Vicinity of the WIPP Site, Eddy County, NM

August 2023

APPENDIX VIII

Well Symbols Key (for Public Maps and as Used in Appendix II)

WELL SYMBOLS



Oil Well

Gas Well

Dry Hole

Drilled Water-Input Well

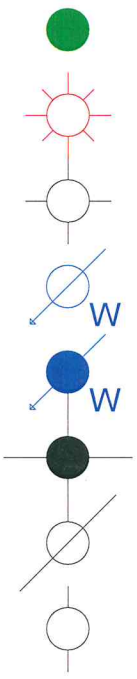
Converted Water-Input Well

Abandoned Oil Well

Permit Canceled Normal Line

Temporarily Abandoned

WELL SYMBOLS



Oil Well

Gas Well

Dry Hole

Drilled Water-Input Well

Converted Water-Input Well

Abandoned Oil Well

Permit Canceled Normal Line

Temporarily Abandoned

APPENDICES IX THRU X – WIPP Site Area Seismicity and Related Water Handling Subjects

Analysis by Patrick Patton, Product Manager B3 Insight
ppatton@b3insight.com
970-219-5236

DATA.
INSIGHT.
OUTCOMES.

EMPOWERING SMART WATER MANAGEMENT

APPENDIX IX

WIPP SITE AREA BACKGROUND

Analysis by Patrick Patton, Product Manager B3 Insight
ppatton@b3insight.com
970-219-5236

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EMPOWERING SMART WATER MANAGEMENT

WIPP Overview

Waste Isolation Pilot Plant (WIPP):

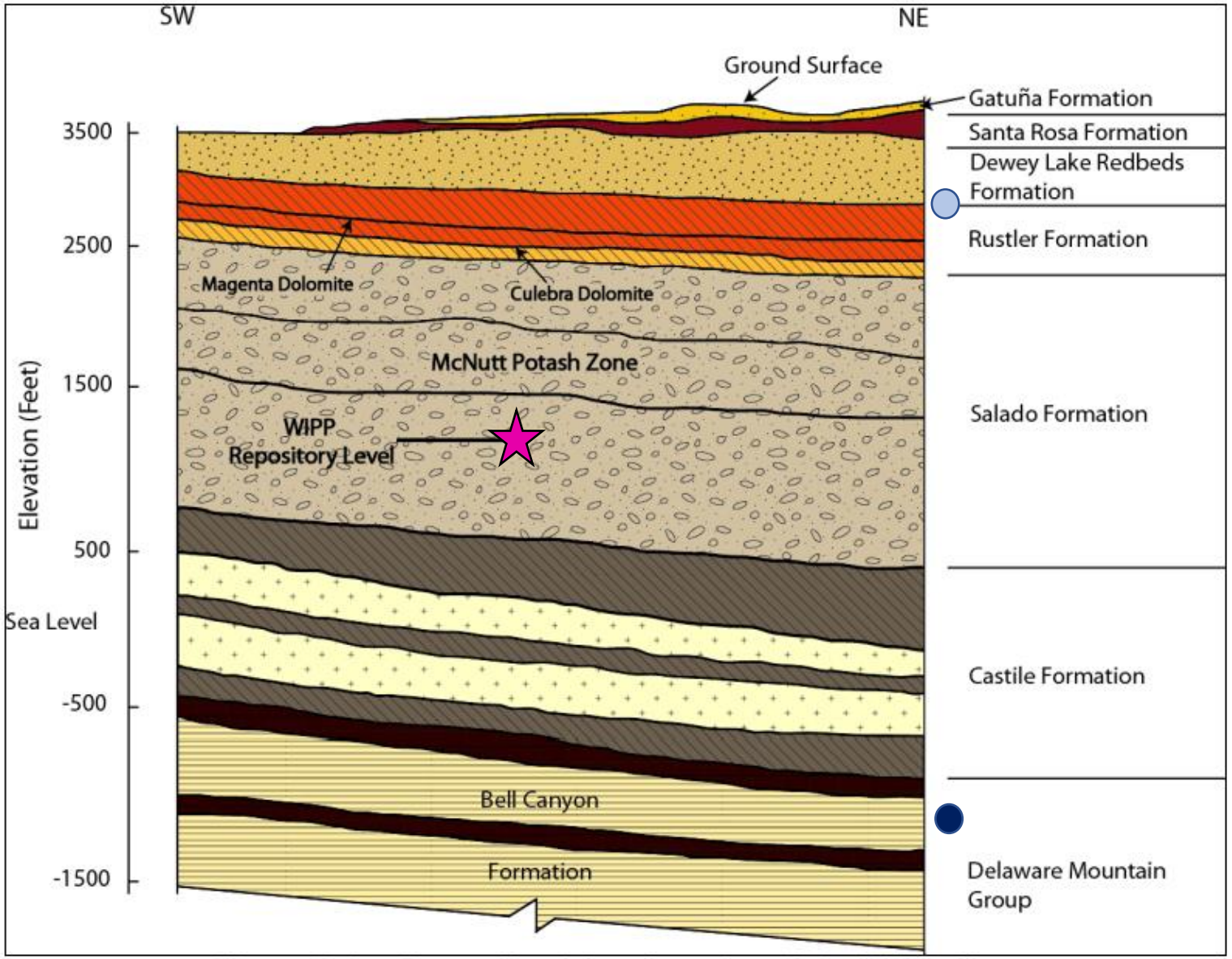
- The WIPP repository is **located at approximately 2,150 feet deep** within the Salado Formation
- The Salado Formation is composed of halite, anhydrite, red bets and polyhalite
- Most notably, the formation contains potassium slats, which are extensively mined for.
- The Salado formation is Upper Permian in age and overlies the Castile formation
- **Primary groundwater aquifers are the Rustler, Dewey Lake and Santa Rosa**
- Groundwater wells are drilled from surface to depths up to 640 feet
- **Produced water injection and secondary recovery wells are drilled into the Delaware Mountain Group and deeper Devonian aged rock**
- **Injection of completion fluid into Bone Spring, Wolfcamp, and other formation**

Groundwater Zones

WIPP Facility Level

Shallow Produced Water Injection Zones

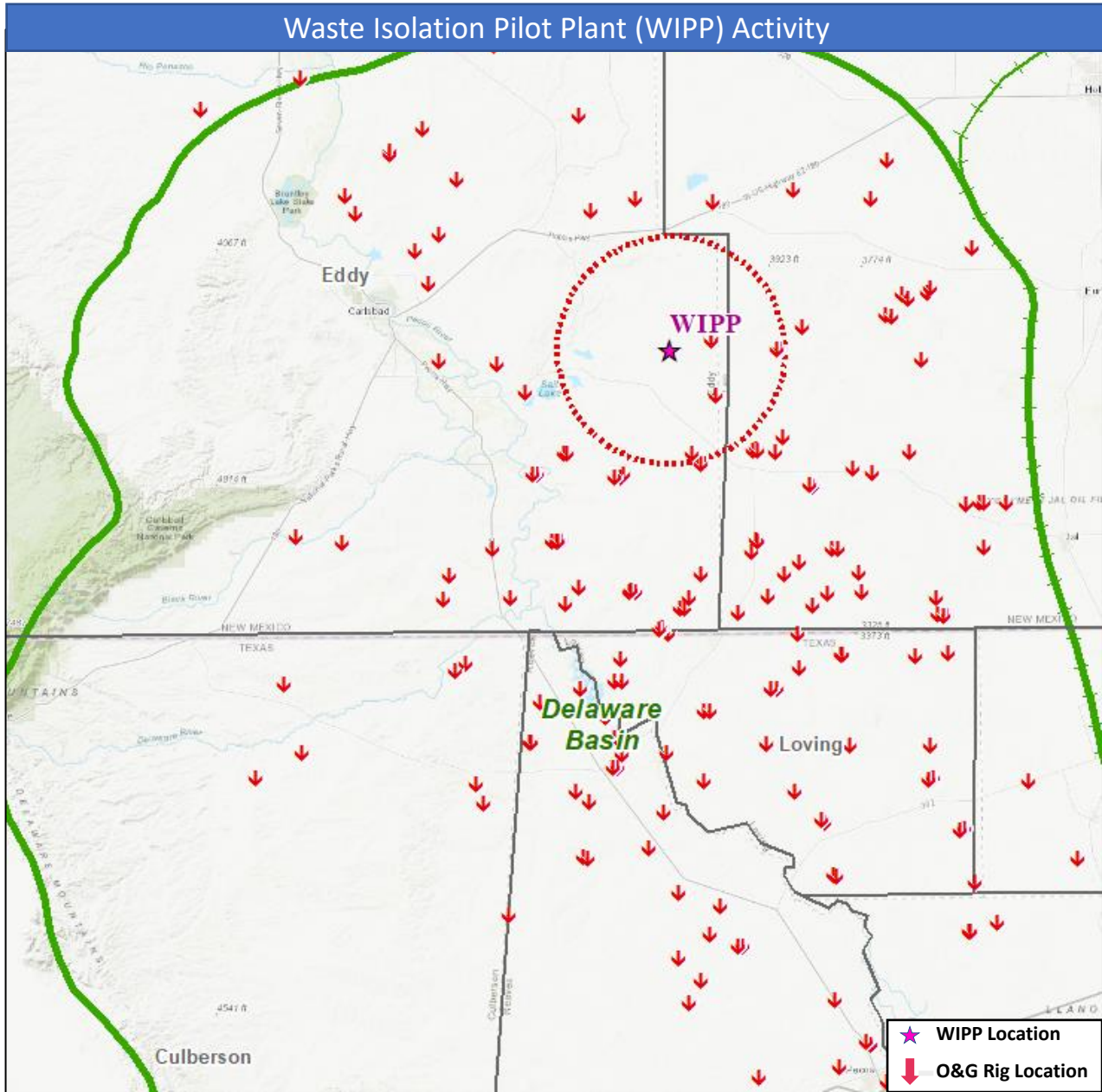
Waste Isolation Pilot Plant (WIPP) Stratigraphy



WIPP Area Activity

Waste Isolation Pilot Plant (WIPP) Area Activity:

- As of March 2023, four (4) rigs are currently running within 10 miles of the WIPP facility
  - OXY (2)
  - Chevron (1)
  - Devon (1)
- Oil and Gas wells:
  - 1606 Active O&G wells
  - 628 Plugged O&G wells
  - 505 Permitted O&G wells
  - 161 Inactive O&G wells
  - 143 Drilled Uncompleted O&G wells
  - 141 Drilled O&G wells
- Injection Wells
  - 65 total injection wells
  - 11 permitted or in permit process injection wells
- Water Wells
  - 201 ground water rights
    - Some wells are P&A
    - Majority of groundwater wells are monitoring wells
    - Other groundwater wells are for livestock

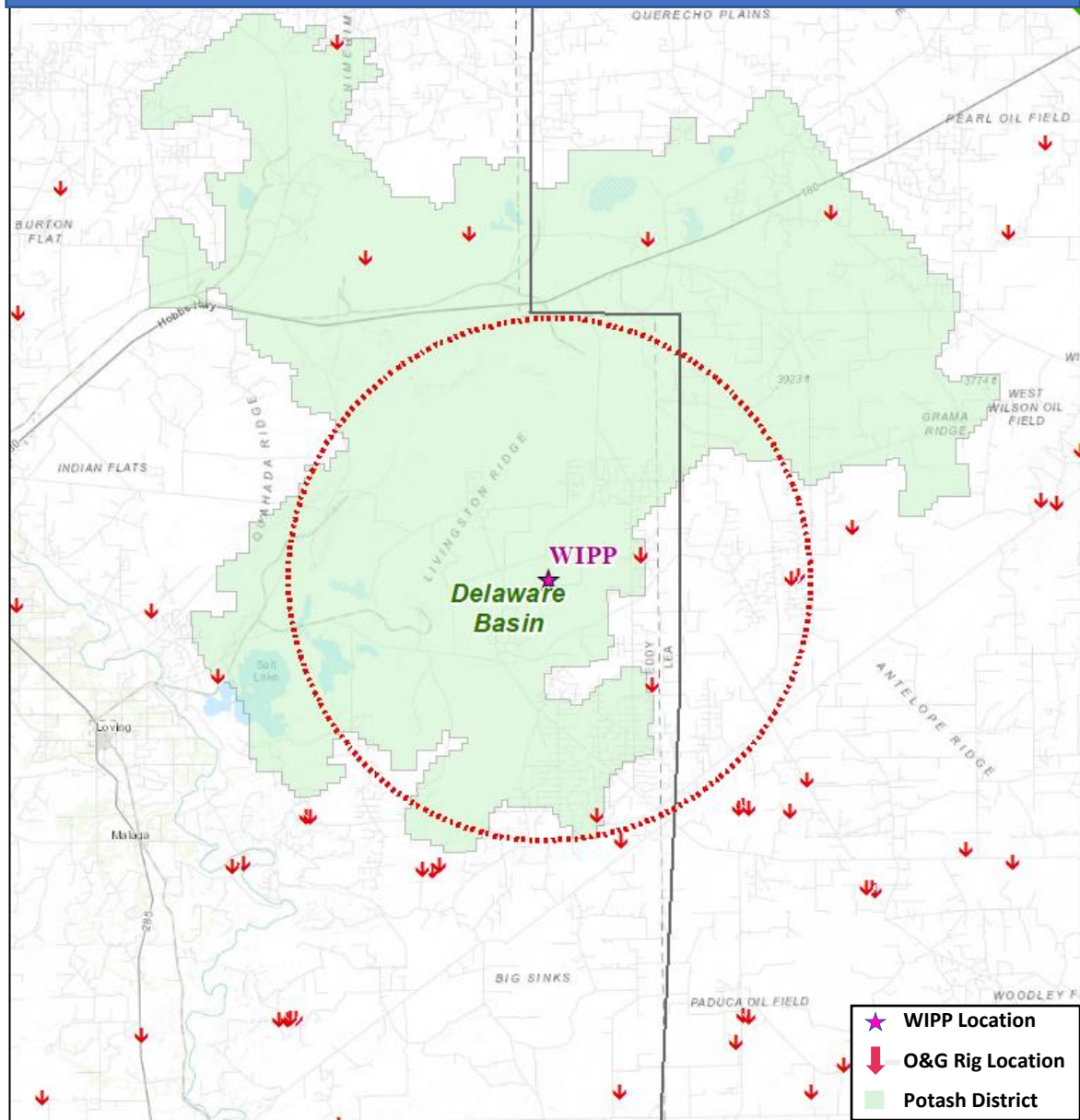


WIPP and Potash District

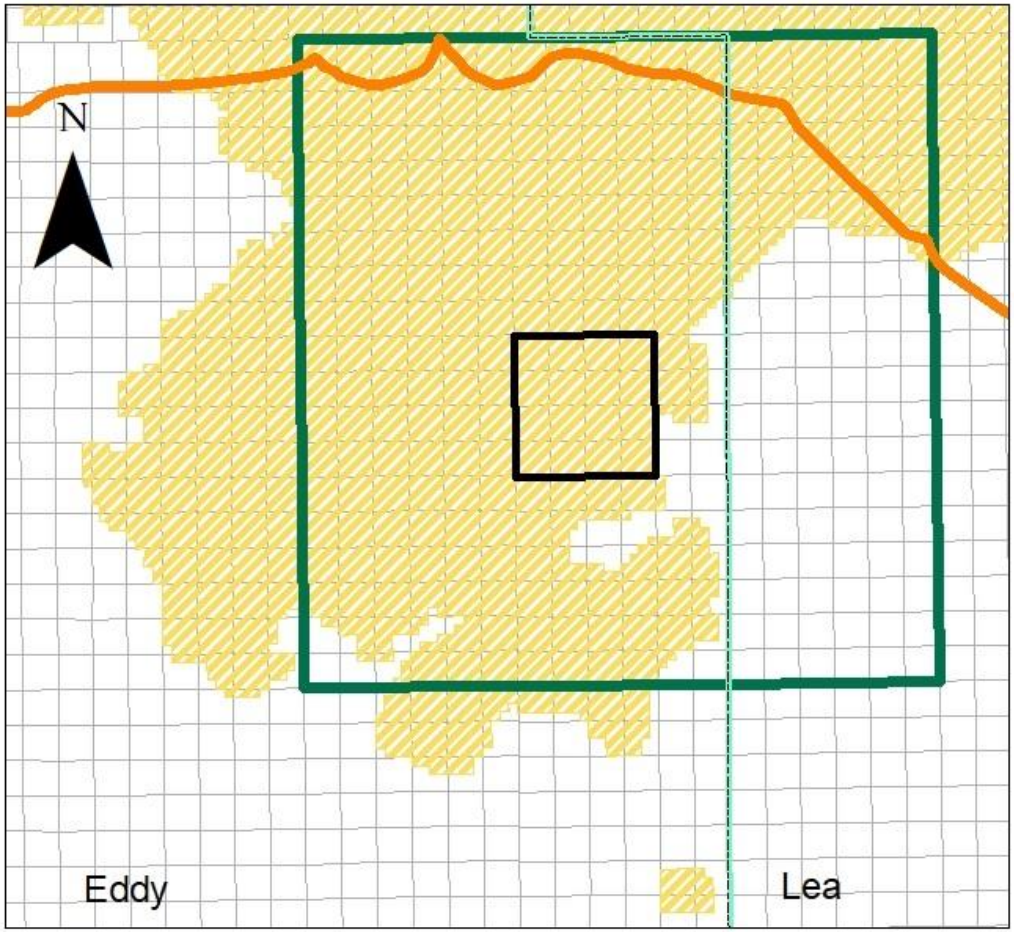
Waste Isolation Pilot Plant (WIPP) and Potash District:

- **The WIPP facility is located within the Potash District boundary.**
- The property includes two operating mines, the East Underground and HB Solution Mines, one idle mine, the West Mile and North Mile were shut down in the early 1980's.
- The East Plant processes the underground langbeinite ore.
- The HB Plant produces Muriate of Potash from the solution mine brine.
- The mine includes development of high-extraction, room-and-pillar mining in several ore zones. Solution mining takes place in the ore zones previously mined out.
- The US BLM managed areas consist of parts of the district where co-development guidelines for oil and gas and potash are in effect for federal lands.
- Oil and gas activity is permitting in some areas and horizontal wells can penetrate vertically into the mined areas from designated "drill islands"
- The objective of the BLM management is to allow for co-development of potash resources and oil and gas resources to prevent waste of petroleum and mineral resources and maximize the economic recovery of both resources.
- Potash mineral rights consist of 143,000 acres, 32,000 acres are leased from the State of New Mexico, 106,000 acres are leased from the BLM and the mine owns 4,700 surface acres.
- **Mine tunnel workings were not able to be obtained for this report, but if provided could illustrate mine workings in proximity to the WIPP facility**

Waste Isolation Pilot Plant (WIPP) and Potash District



WIPP Nine-Township Area



Definitions

Definitions Pertaining to this Report:

- **BWPD –** barrels of water per day
- **SWD** – saltwater disposal well used for the disposal of oil field produced water waste
- **Injection Well** – a well used for pressure management or secondary recovery of oil & gas
- **Completions Fluid** – fluid used to hydraulically frac oil and gas production wells
- **Injection Well** – UIC Class II injection well (EOR, SWD)
- **Seismic Event** – a registered, measured, seismic event with recorded magnitude, depth and time
- **Shallow Injection** – injection occurring above the top of the Wolfcamp Formation
- **Deep Injection** – injection occurring below the top of the Wolfcamp Formation
- **Water Well** – well used to extract fresh or brackish groundwater
- **WIPP** – waste isolation pilot plant.
- **Pending Injection Application** – an application still in progress, not yet approved
- **Approved Injection Application** – UIC application is approved
- **Drilling Permit** – a permit issued to drill a well
- **Modeled Injection Rate** – current months calculated injection rate based off historical injection records
- **Injection Pressure** – measured injection pressure at the surface of an injection well
- **SRA** – seismic response area

APPENDIX X

WIPP SITE AREA

SEISMIC ACTIVITY REVIEW

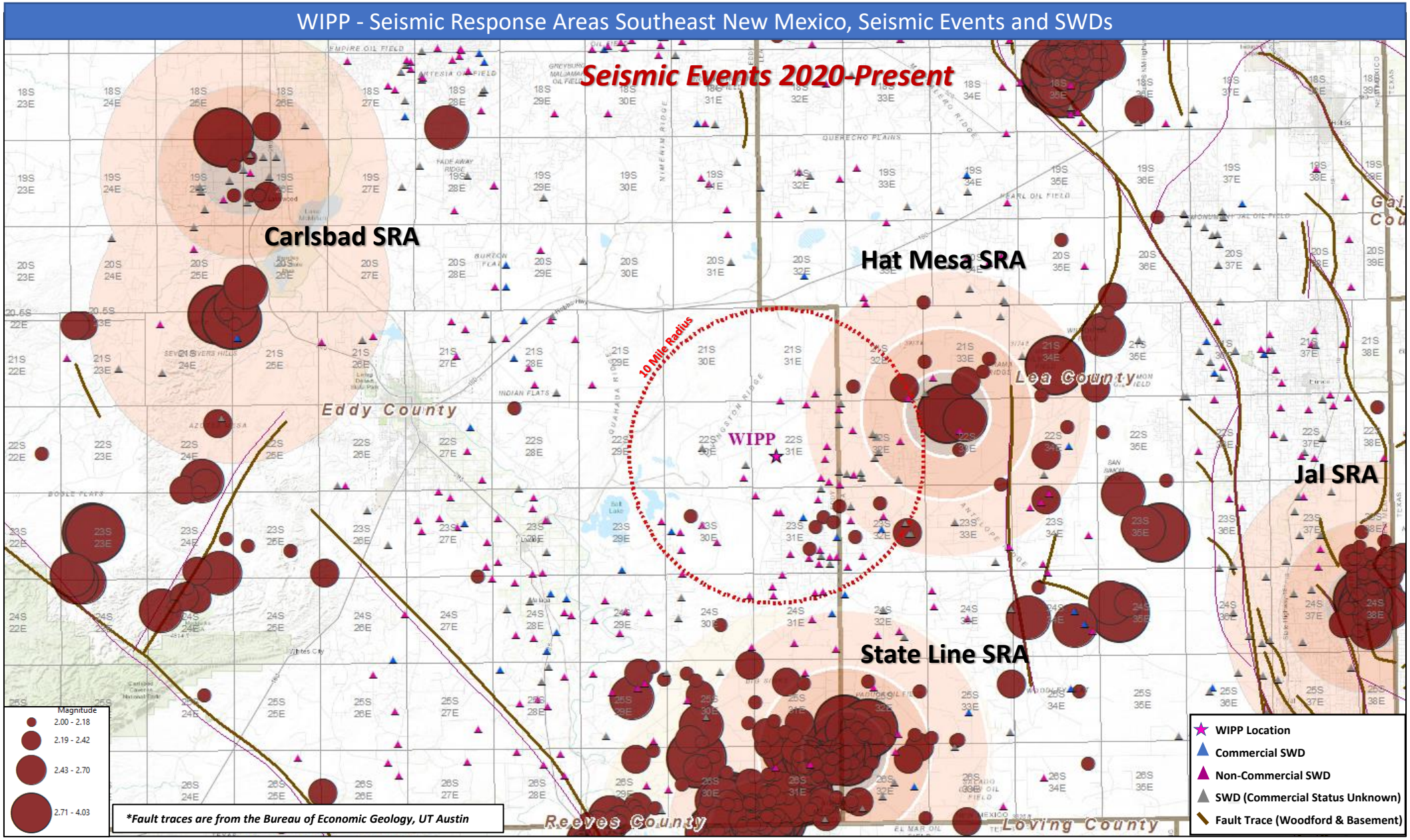
Analysis by Patrick Patton, Product Manager B3 Insight
ppatton@b3insight.com
970-219-5236

DATA.
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Seismic Activity Review

Seismic Review

WIPP - Seismic Response Areas Southeast New Mexico, Seismic Events and SWDs



Southeast New Mexico Area Seismic Response

- **In response to large magnitude seismic events and increased event frequency the NM OCD instituted Seismic Response Areas (SRAs) to try and mitigate earthquakes my curtailing injection**

November 23, 2021 Notice to Operators Regarding SRA →

Justification for SRAs →

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division

NOTICE TO OPERATORS

IMMEDIATE RESPONSE PLAN FOR SEISMIC EVENTS RELATED TO CLASS II UNDERGROUND INJECTION CONTROL WELLS

November 23, 2021

The New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division ("OCD") has the authority under the Oil and Gas Act (Section 70-1-1 *et seq.*, NMSA 1978) and pursuant to delegated authority from the U.S. Environmental Protection Agency under the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*) to regulate all aspects of Underground Injection Control ("UIC") Class II well development and operation, and decommissioning, including their contribution to induced seismic activity. See 19.15.26 NMAC. This Notice sets forth OCD's framework for responding to seismicity related to UIC Class II injection well operations wherever it may occur across New Mexico.

The USGS and New Mexico Bureau of Geology has detected increasing seismic activity over the last two years in the vicinity of several UIC wells located across New Mexico, including:

- Seven earthquakes of magnitude from M2.5 to M4.0 between March 2021 and September 2021, in an area known as the County Line Seismic Response Area ("County Line SRA") located approximately 35 miles east southeast of Malaga, NM;
- Thirteen earthquake events ranging from M1.8 to M2.7 in a location approximately six miles northeast of Jal, NM, that started in August 2020 and have occurred periodically to the present;
- A swarm of 21 earthquakes ranging between M2.3 and M3.3 over a three-day period in June 2020 located in an area approximately 12 miles southwest of Lovington, NM; and,
- A collection of earthquakes in the last month, including:
  - A M3.2 event in an area approximately 24 miles southwest of Monument, NM;
  - A M4.0 event in an area approximately 15 miles North of Cimarron, NM; and,
  - A M2.5 event in an area approximately 15 miles north northeast of Ute Park, NM.

OCD has actively engaged with UIC well operators in these areas to gather data on the seismic events and to understand their causes. Based on the available data, the location of the seismic activity, and its proximity to existing UIC injection activities, as well as the experience of other states managing oil and gas related induced seismicity, OCD believes that these seismic events are directly related to UIC injection activities. These seismic events demonstrate the need for OCD to marshal available tools and data to mitigate induced seismicity and ensure that appropriate measures are established to manage it going forward.

To that end, the OCD announces the following statewide induced seismicity mitigation and response framework (see Attachment A). The framework incorporates requirements that will be implemented either through voluntary actions by operators and/or orders issued by the OCD. The OCD has the authority to institute the framework under the Oil and Gas Act, including 19.15.26.11 NMAC, which provides for:

1) "more comprehensive testing of [an] …injection well when deemed advisable, including the use of tracer surveys, noise logs, temperature logs or other test procedures or devices;" and,
2) "special tests [of an injection well] …if the division believes conditions so warrant."

Testing under this authority may include but is not limited to: (1) operational curtailment of injection volumes and shut-ins,[1] (2) pressure monitoring, (3) well communication testing, and (4) phased-in reinstatement of operational activities. Consistent with this authority, the OCD expects the following actions in response to seismic events depending on the timing and magnitude of the observed event:

1. Following the occurrence of two seismic events equal to or greater than M2.5 within a 30-day period and within a 10-mile radius, OCD expects all UIC well operators within 10 miles of the epicenter of the seismic events (the "Seismic AOI") to:
   a. comply with the Category 1 Seismicity Response Protocols identified in Attachment A to this notice until such time as OCD determines appropriate mitigation actions in response to the observed seismic events have occurred.
2. Following the occurrence of one seismic event equal to or greater than M3.0, OCD expects all UIC well operators within the Seismic AOI to:
   a. Implement all the monitoring and reporting requirements in the Category 1 Seismicity Response Protocols set forth in Attachment A, plus
   b. The additional operational controls in the Category 2 Seismicity Response Protocols set forth in Attachment A.
3. OCD expects the duration the of any measures identified above will be until such time as OCD determines, in its sole discretion, that appropriate mitigation actions in response to the observed seismic events have occurred. Factors the OCD will consider, without limitation, including the lack of additional seismic activity for 6 months after the triggering event and/or approval of an operator/industry response plan to the seismic activity.
4. Attachment B contains OCD's Seismicity Response Protocol Information Form, which OCD in its discretion may convert into an online form.

OCD may add additional requirements in any order issued in response to a seismic event as it deems necessary and appropriate to address the specific circumstances.

Finally, OCD will consider an operator's voluntary implementation of the measures outlined in this Notice when deciding whether and when to issue an order. For additional information, contact OCD.Engineer@state.nm.us.

Attachments:
Attachment A: OCD, Seismicity Response Protocol
Attachment B: OCD, Seismicity Response Protocol Information Form (*form shall be submitted using OCD's e-permitting system*)

[1] Operational controls are intended to test the geologic response to reductions in disposal volumes.

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.nm.gov/ocd

Southeast New Mexico Area Seismic Response

Hat Mesa:

- **Rate Reduction**: 50%, 25%

State Line:

- **Rate Reduction:** Shut In, 50%, 25%

Jal:

- **Rate Reduction:** 50%, 25%

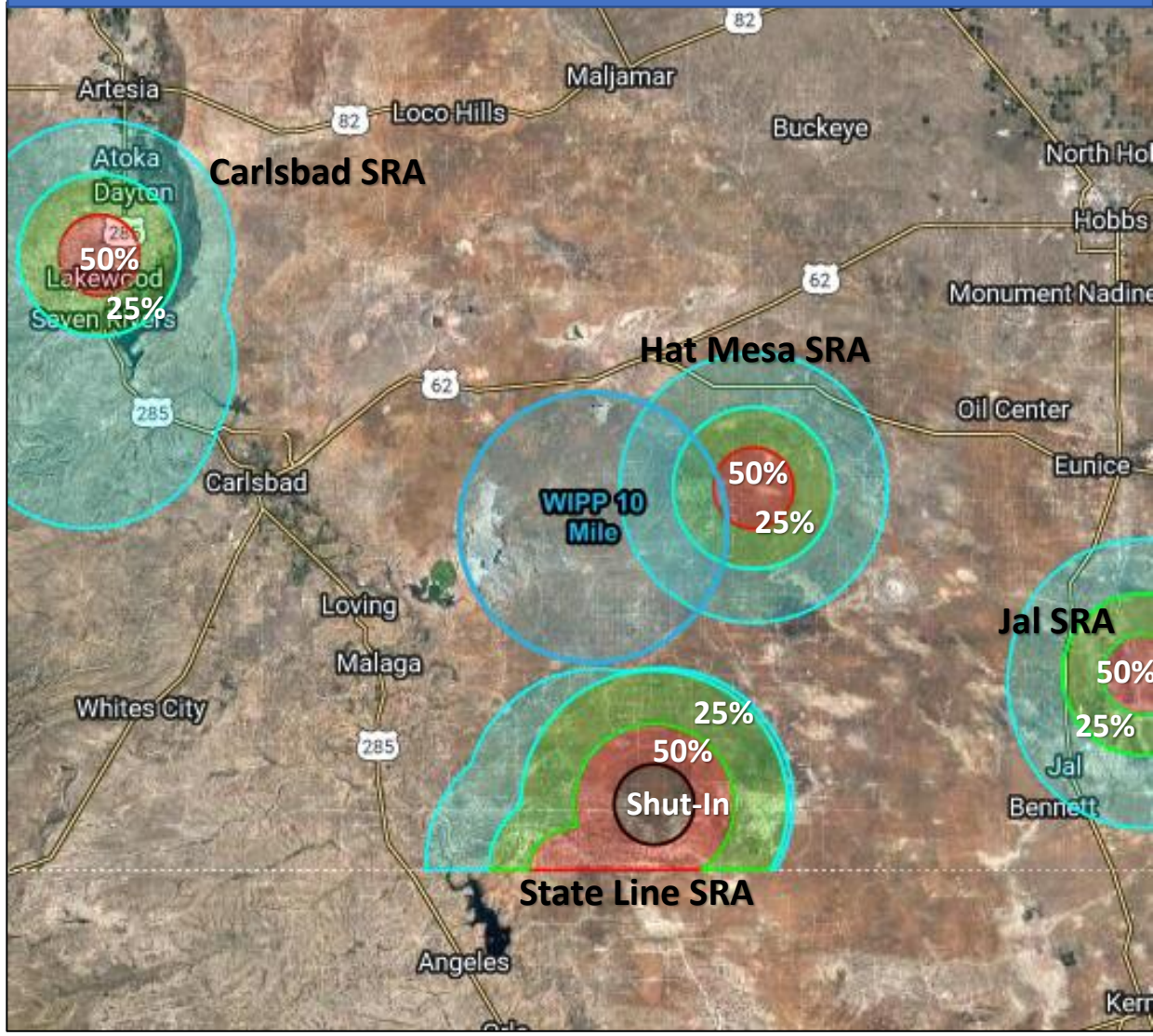
Carlsbad:

- **Rate Reduction:** 50%, 25%

Notice All SRAs:

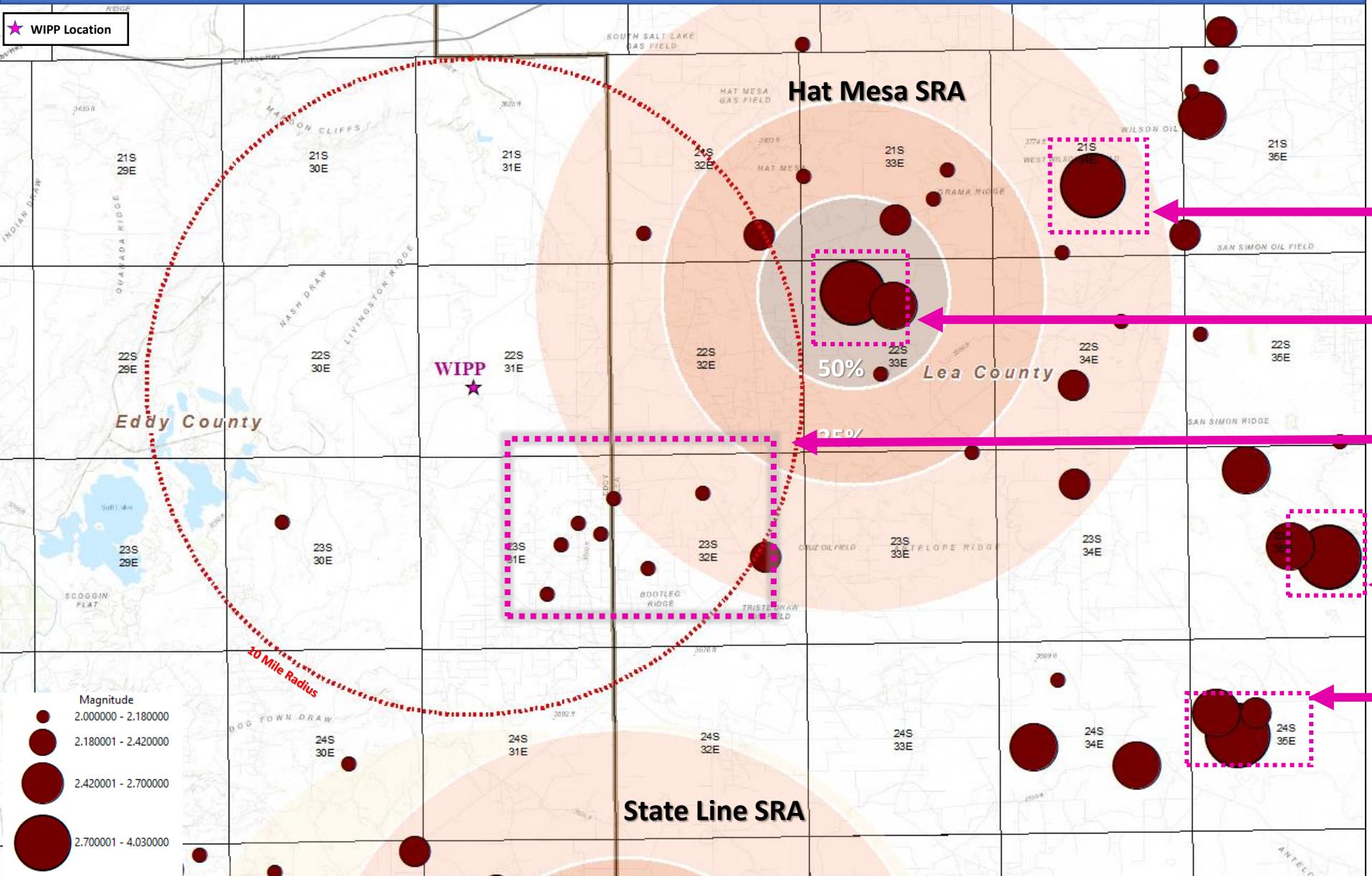
- **Rate Reduction Note**: All rates should be reduced from the previous 6-month daily average of active injection days. Reductions to rate should start immediately and be completed within a week. Notify OCD of pertinent information within 24 hours or next business day, whichever is latest, of an event using the OCD Seismicity Response Protocol Information Form.
- **Monitoring & Reporting Protocols**: Digitally measure injection volume and pressure (data must be recorded on an hourly basis at a minimum and archived for delivery upon request). Weekly reporting of daily injection volumes and average daily surface pressure. Provide the Seismicity Response Protocol Information Form to OCD within 24 hours or next business day, whichever is latest, of an event using the OCD form. Provide the Daily Injection Report to OCD by the Wednesday following the weekly reporting period. Monitor for seismicity >M2.5 for 10 miles around well using USGS/NMTSO data.

WIPP Area Seismic Response Areas



Seismic Review

WIPP Area Seismic Events (USGS and NM Tech) 2020 – Present (>Magnitude 2.0)



Dec. 2021 Magnitude 2.9

Nov. 2021 Magnitude 3.2

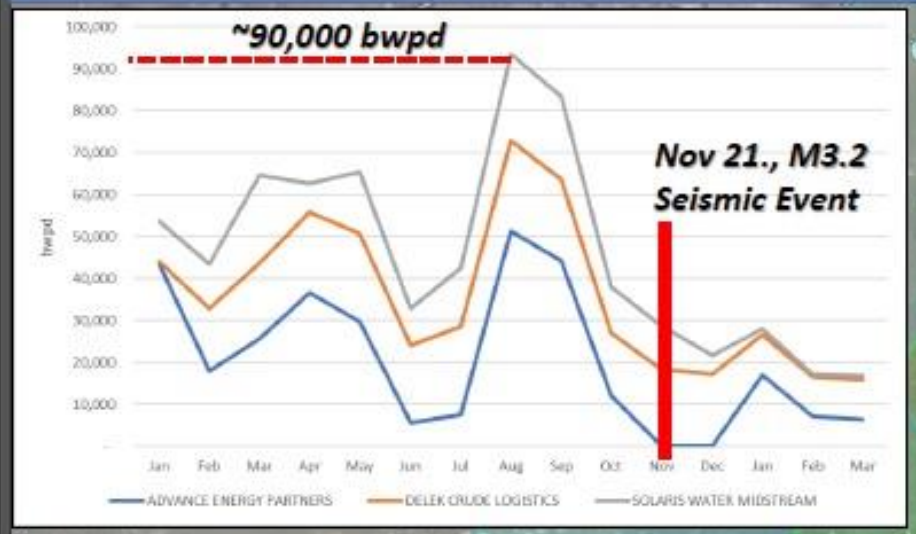
Series of 2.0 seismic events, most recent event in Dec. 2022, M2.0

May 2022 Magnitude 2.7

Oct. 2019 Magnitude 2.7

Injection and Seismicity Review – Events & Injection

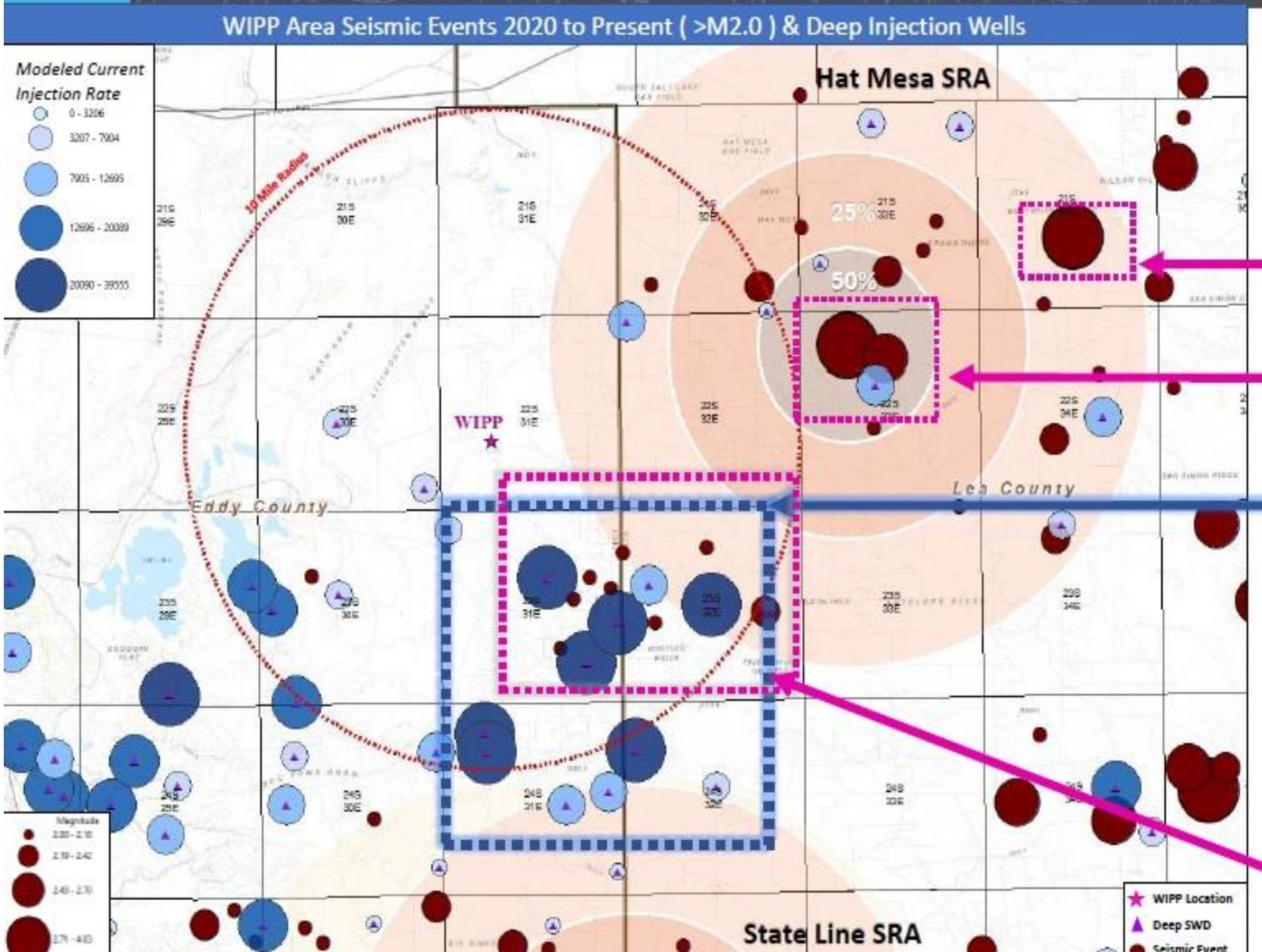
Examination of the M3.2 Seismic Event Triggering the Hat Mesa SRA



Prior to the magnitude 3.2 event in November 2021 (triggering Hat Mesa SRA), deep injection within 3 miles of the epicenter was approximately 90,000 bwpd. This high rate could have contributed to the event. Solaris, AEP and Delek operate one deep disposal each in the area

Nov. 2021 Magnitude 3.2

Injection and Seismicity Review – Events & Injection



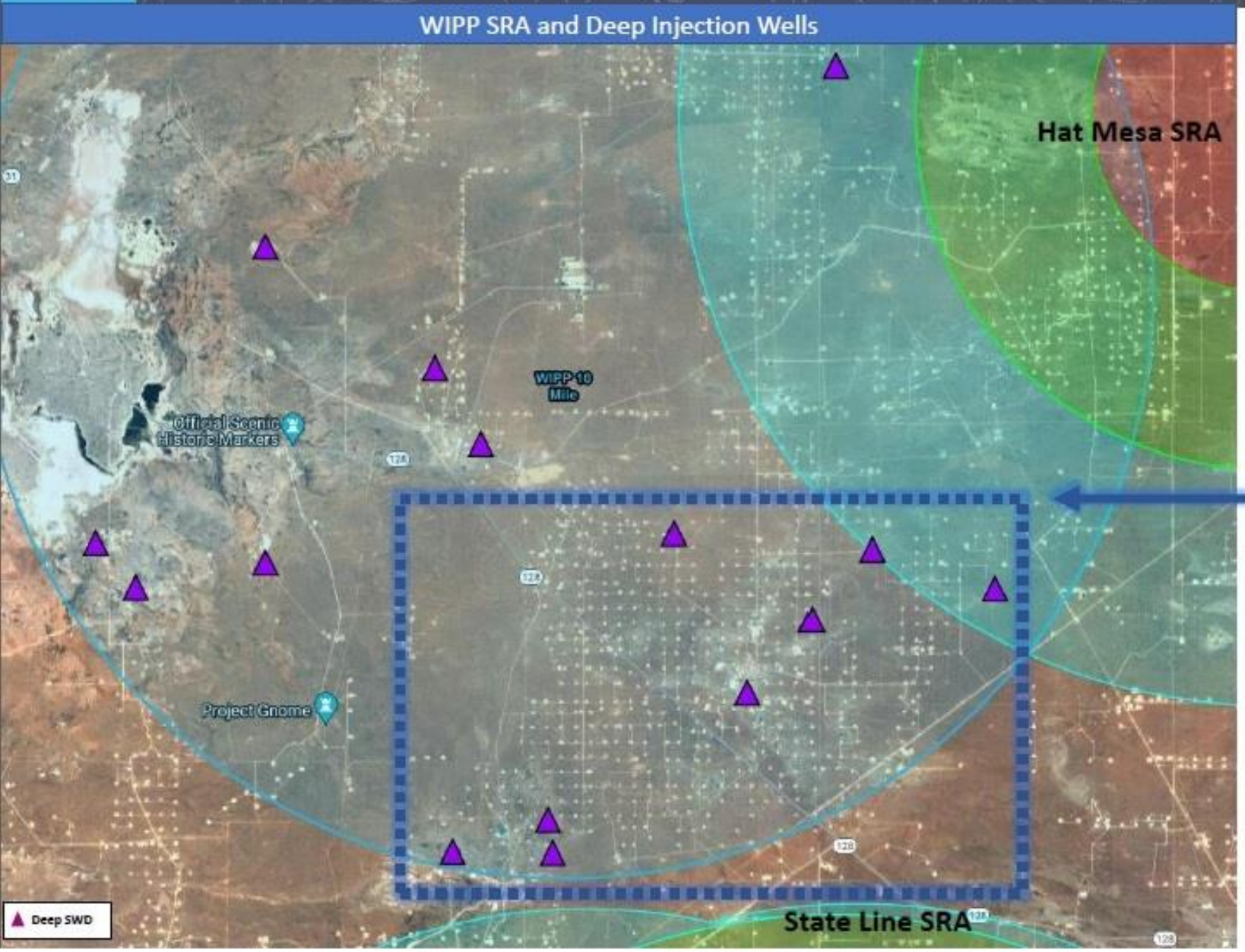
Dec. 2021 Magnitude 2.9

Nov. 2021 Magnitude 3.2

Deep Injection wells, current modeled injection rates above 24,000 bwpd. Potential risk given the proximity to the Hat Mesa SRA and seismic activity and the State Line SRA and seismic activity.

Series of 2.0 seismic events, most recent event in Dec. 2022, M2.0

Injection and Seismicity Review – Events & Injection

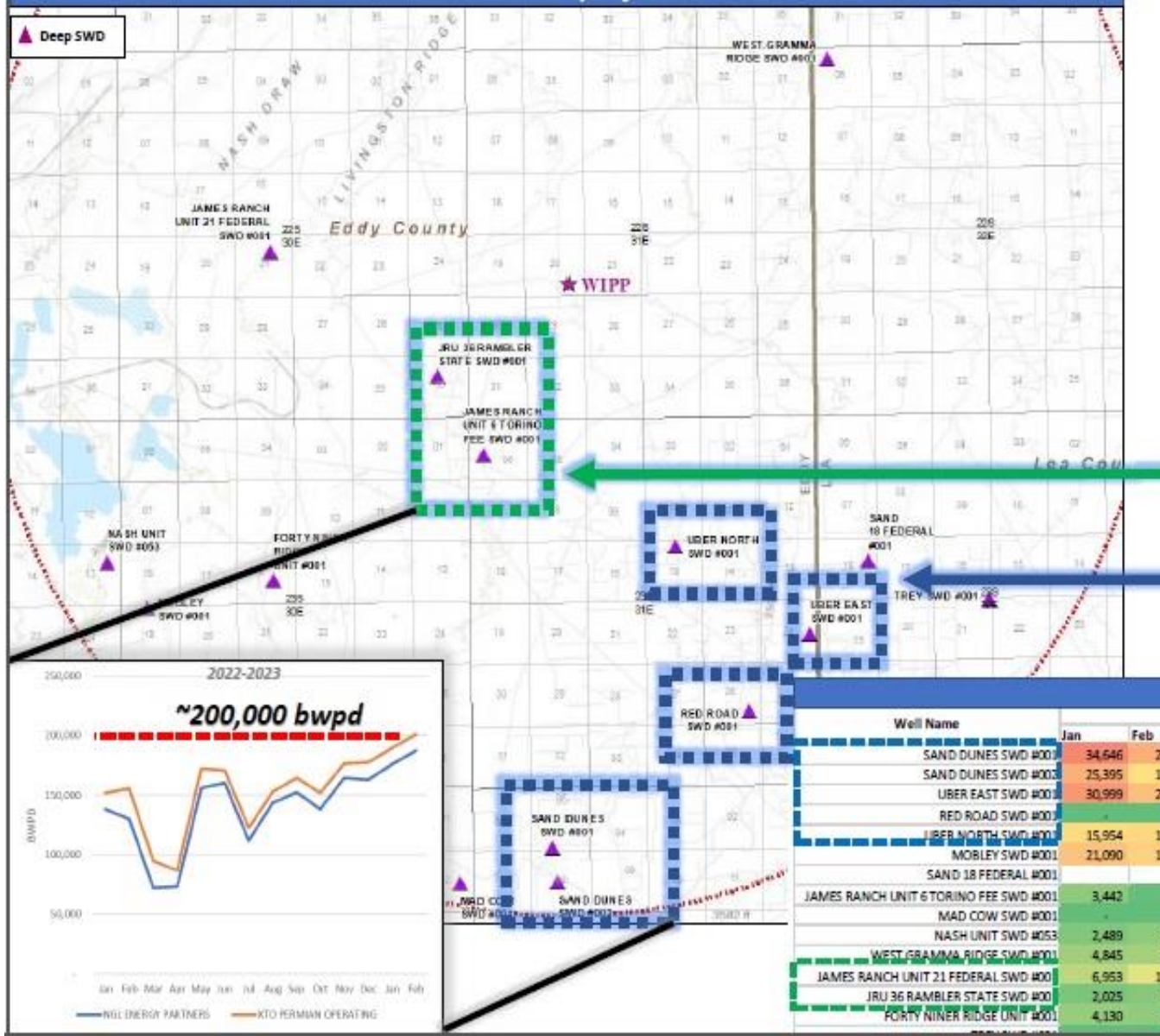


Deep injection wells between the State Line and Hat Mesa SRA are injecting at high rates, similar to rates at deep disposals wells prior to large magnitude seismic events that subsequently triggered SRAs

Deep Injection wells, current modeled injection rates above 24,000 bwpd. Potential risk given the proximity to the Hat Mesa SRA and seismic activity and the State Line SRA and seismic activity.

Injection and Seismicity Review – Events & Injection

WIPP SRA and Deep Injection Wells



- **Deep injection from 5 deep SWDs south of the WIPP project location are each injecting >24,000 bwpd on average** over the last 6 months.
- **Potential area of concern** given the SWD injection depth, proximity to seismic events and location relative to the SRAs
- **NGL and XTO have the highest rate wells, approximately 200,000 bwpd in Q1 2023**

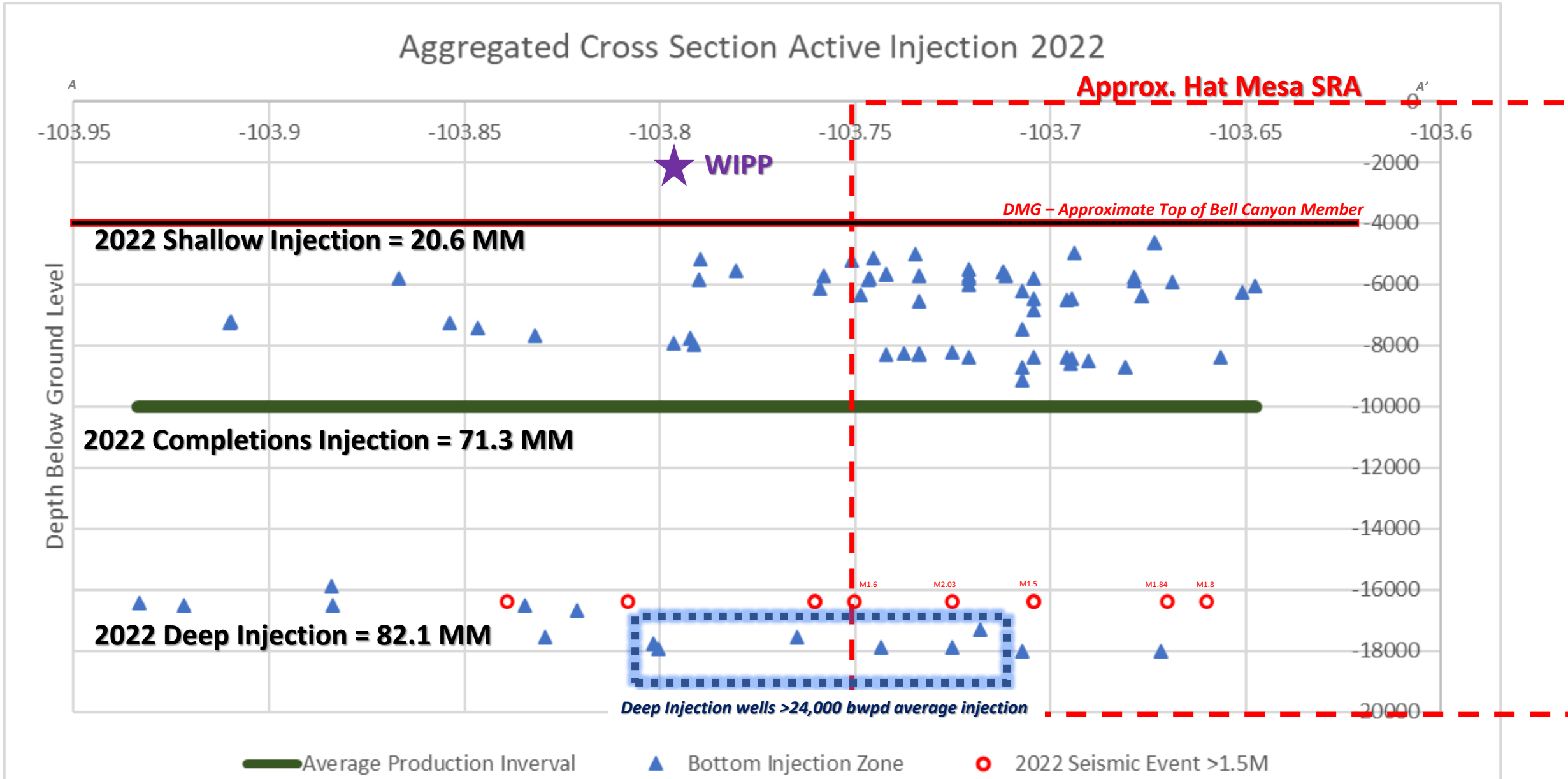
Deep Injection wells averaging >6,500 bwpd injection closes to the WIPP site

Deep Injection wells each averaging >24,000 bwpd injection

WIPP Area Deep Injection Wells Rates

Well Name	2022 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2023 Jan	Feb
SAND DUNES SWD #001	34,646	25,915	9,971	15,409	21,265	24,590	32,923	33,018	27,825	32,900	34,746	35,405	28,365	24,918
SAND DUNES SWD #002	25,395	14,626	17,480	21,516	17,493	22,915	20,006	21,684	24,876	29,572	30,385	29,430	27,480	23,710
UBER EAST SWD #001	30,999	21,974	25,906	1,772	9,474	20,628	18,755	33,700	36,274	27,170	25,322	24,940	25,731	23,652
RED ROAD SWD #001	-	-	-	-	-	19,181	37,279	41,583	27,323	37,902	37,048	36,404	30,391	30,710
UBER NORTH SWD #001	15,954	16,541	23,729	2,199	16,936	27,325	21,130	24,180	26,400	23,826	7,264	9,377	26,192	26,621
MOBLEY SWD #001	21,090	17,634	21,487	18,020	18,167	22,518	22,123	14,744	12,503	16,107	8,783	336	8,413	15,627
SAND 18 FEDERAL #001													13,653	14,115
JAMES RANCH UNIT 6 TORINO FEE SWD #001	3,442	279	12,294	14,685	15,972	17,672	20,185	18,684	19,539	17,847	16,367	9,933	7,450	13,906
MAD COW SWD #001	-	-	7,849	12,118	14,800	9,154	13,569	16,451	16,025	10,884	10,874	11,309	11,284	12,844
NASH UNIT SWD #053	2,489	3,491	4,820	4,459	5,795	7,773	14,405	13,834	13,624	15,122	12,129	5,453	10,133	11,892
WEST GRAMMA RIDGE SWD #001	4,845	5,169	5,685	7,832	15,488	12,351	9,923	8,495	7,055	7,762	7,909	6,824	4,884	5,708
JAMES RANCH UNIT 21 FEDERAL SWD #00	6,953	10,014	15,182	8,670	13,518	13,300	8,311	6,914	6,895	8,544	7,790	2,644	-	-
JRU 36 RAMBLER STATE SWD #00	2,025	2,913	10,401	4,488	6,343	12,372	6,536	2,538	11,478	10,229	10,222	9,038	6,266	11,929
FORTY NINER RIDGE UNIT #001	4,130	3,629	4,127	3,528	3,399	2,704	3,046	3,303	3,816	3,650	3,788	3,483	4,519	7,415

Injection and Seismicity Review – Cross Section



*Cross section for 10-mile radius around WIPP facility, bottom injection interval show. Production interval line shown is average over the area; seismic events from NM Tech

Appendix XI

Figures 44 and 45 Providing Better Resolution Images of Texas Railroad Commission and New Mexico Oil and Gas Division Regulatory Directives

Figure 44 Providing Better Resolution Image of Texas Railroad Commission Regulatory Directives for Water Disposal Control (Overview)

Seismicity Response

Authority

The RRC has authority to regulate saltwater disposal ("SWD") well activity and may exercise that authority to address seismic activity [see 16 Texas Administrative Code §3.9 (6)(A)(vi) and §3.46 (d)(1)(f)]. These rules state that RRC may modify, suspend, or terminate an injection permit to dispose of waste for just cause after notice and opportunity for hearing, if injection is likely to be or determined to be contributing to seismic activity. RRC staff will investigate seismicity in Texas and take action in response to seismicity according to its Response Plan to Seismic Events in Texas.

Injection Reporting

Rules 9 and 46 allow RRC to require more frequent reports of injection volume and pressure data in areas of seismicity. RRC and TexNet collaborated to create the Tex Net - Injection Volume Reporting Tool to facilitate injection report filing and data accessibility. A Notice to Oil and Gas Operators was sent out in December 2021 announcing the new tool. Daily data should be submitted using this tool when it has been requested voluntarily or as a permit condition. Operators must still file the Form H-10, Annual Disposal/Injection Well Monitoring Report, annually with the RRC pursuant to 16 Texas Administrative Code §3.9 and §3.46.

Seismicity Response List

Below is a list of areas in which the Commission has taken actions in response to seismicity:

- North Culberson-Reeves
- Gardendale (Midland-Odessa)
- Stanton

Figure 44 (Cont'd) Providing Better Resolution Image of Texas Railroad Commission Regulatory Directives for Water Disposal Control

Northern Culberson-Reeves

December 9, 2022, Revised Response Plan

On November 16, 2022, a 5.4 magnitude earthquake occurred within the Northern-Culberson Reeves Seismic Response Area (NCR SRA). In response, RRC staff and disposal well operators within the SRA have taken additional actions to reduce seismicity within the NCR SRA more quickly, including expanding the SRA from 2,366 to 2,601 square miles to include more disposal wells and amending the response plan to further reduce injection volumes. Operators have committed to meeting the original deep disposal volume target of 298,000 bbls/day three months early and meeting a new target of 162,000 bbls/day by June 30, 2023. This represents a 68% drop in disposal volume compared to January 2022 before the plan went into effect.

The following documents have been updated to reflect these actions:

- Map of the NCR SRA
- List of the SWD wells within the NCR SRA
- Shapefiles of the NCR SRA (zip file)
- Northern Culberson-Reeves SRA Revised Response Plan

March 1, 2022, Operator-Led Response Plan (OLRP)

Saltwater disposal well operators within the Northern Culberson-Reeves SRA have created a response plan which begins on March 1, 2022. The plan employs a two-tiered approach based on the depth of the disposal zone (shallow vs deep disposal wells) and includes expanded data collection efforts, contingency responses for future seismicity, and scheduled checkpoint updates with RRC staff. Although, the lag time between reductions in injection volume and reductions in seismicity is uncertain, a 12 to 18 month lag time has been estimated between injection volume increases and seismicity increases within the Northern Culberson-Reeves SRA. Therefore, the goal of the OLRP is to reduce high-magnitude seismicity such that the occurrence of 3.5 magnitude earthquakes is decreasing no later than December 31st, 2023. Changes to injection operations and coordination to enhance the seismic monitoring network within the SRA have already begun. The OLRP can viewed below:

Northern Culberson-Reeves SRA Operator-Led Response Plan

January 2022 Update

Staff acknowledges the progress made by industry towards developing a plan to address seismicity within the Northern Culberson-Reeves SRA. Therefore, staff extends the 90-day action period to 120 days, February 22, 2022.

October 2021 Action

Since January 1, 2020, 15 magnitude (M) 4.0 or greater earthquakes have occurred in northern Culberson and Reeves Counties. Six (6) of these M 4.0 or greater earthquakes were experienced in a one-month period between September 3, 2021, and October 3, 2021, an unprecedented frequency of significant earthquakes in a localized area of Texas. The RRC staff's analysis of available information has determined that SWD well injection is likely contributing to seismic activity in this area. Staff has established the Northern Culberson-Reeves (NCR) Seismic Response Area (SRA) to coordinate action with industry to reduce the seismic hazard in the SRA. RRC has established the following goal to reduce earthquake activity in the NCR SRA. The successful implementation of a response plan will result in no more M 3.5 or greater earthquakes after 18 months from the date of implementation. Staff will use available public data and trends (for example, earthquake count, earthquake magnitude, and disposal volume) to evaluate the efficacy of a response plan. Absent a coordinated industry response, RRC staff is prepared to implement its own seismic response action plan for the NCR SRA after 90 days. You can view the NCR SRA and SWD wells within the SRA using the following documents:

- Map of the NCR SRA
- List of the SWD wells within the NCR SRA
- Shapefiles of the NCR SRA (zip file)

Figure 44 (Cont'd) Providing Better Resolution Image of Texas Railroad Commission Regulatory Directives for Water Disposal Control

Gardendale (Midland-Odessa)

May 1, 2023, Operator-Led Response Plan (OLRP)

Saltwater disposal well operators within the Gardendale SRA have created a response plan which begins May 1, 2023, focusing on the M5.2 Range Hill event. The goal of the OLRP is to reduce high-magnitude seismicity such that there are no more 3.5M+ earthquakes within the SRA. The plan employs a two-tiered approach based on the depth of the disposal zone (shallow vs deep disposal wells) and includes expanded data collection efforts, contingency responses for future seismicity, and scheduled checkpoint updates with RRC staff. All deep disposal within the SRA will remain shut in. Changes to injection operations and coordination to study subsurface pressure within the SRA have already begun. The OLRP can viewed below:

- Gardendale Operator-Led Response Plan

December 19, 2022, Action

On December 16, 2022, a magnitude (M) 5.4 earthquake occurred at the northern edge of the Gardendale Seismic Response Area (SRA) in southwestern Martin County, approximately 13 miles north of Midland. RRC is therefore enlarging the Gardendale SRA to include a radial area of approximately 9 kilometers (100 square miles) around the current reported location of this earthquake. As a result, 16 saltwater disposal well permits (15 shallow and one deep) have been added to the SRA. RRC has requested that operators of shallow SWDs that are currently not in use to not begin or return those wells to injection and for active shallow disposal wells not to exceed 10,000 bbls/day. There are three deep disposal wells within 9 km of the 5.4 M earthquake which have been shut-in and are no longer injecting. RRC staff have prepared the following files to revise the SRA boundary and wells:

- Map of the Gardendale SRA
- List of the SWD wells within the Gardendale SRA
- Shapefile of the Gardendale SRA (zip file)

December 17, 2021, Action

On December 15 and 16, 2021, the TexNet Seismic Monitoring Program reported that four earthquakes occurred in northwest Midland County with magnitudes (M) of 3.1, 3.6, 3.7, and 3.3 (in order of occurrence). These are the most recent events in an increasing sequence of earthquakes that has occurred in this area over the last two years. RRC staff has determined that injection into deep geologic strata—below the top of the Strawn Formation and especially the Ellenburger Formation—across the area is likely contributing to recent seismic activity in the Gardendale Seismic Response Area (SRA). Therefore, the RRC is suspending all disposal well permits to inject oil and gas waste into deep strata within the boundaries of the Gardendale SRA. This action applies to 33 deep disposal wells. The permit suspension is effective on December 31, 2021. Additional information and previous actions taken in the Gardendale SRA can be found below.

List of the deep SWD wells in the Gardendale SRA

December 1, 2021 Action

On October 26, 2021, a 3.6 M earthquake occurred northeast of Odessa and subsequently a 3.5 M earthquake occurred north of Midland on November 16, 2021. In response to continued seismicity within the Gardendale SRA, RRC has taken a focused response and required seven deep disposal wells with the Gardendale SRA that are within 3 miles of a 3.0 M earthquake to suspend injection effective December 15, 2021, until further notice:

- Map Index 17 - COG Operating LLC (ConocoPhillips), Ratliff A #3004SW
- Map Index 19 - COG Operating LLC, Johnson Ranch #16SW
- Map Index 28 - Environmental Dspl Systems, LLC, Northwest Midland SWD #1WD
- Map Index 30 - Eureka Prospecting Company, Ratliff Ranch 'A' #5A
- Map Index 36 - FDL Operating, LLC, Gardendale 8 SWD #1
- Map Index 63 - Rattler Midstream Operating LLC, Dirt Devil #1D
- Map Index 68 - Solaris Water Midstream, DJK 48 SWD #1

Map of the Gardendale SRA - Focus Response

September 2021 Action

Between February 2020 and September 2021, six felt earthquakes of magnitude (M) 3.5 or greater have occurred in an area of the Midland Basin from northeast Ector County to southwest Martin County known as the Gardendale Seismic Response Area (SRA). These included a M 3.7 earthquake in southwestern Martin County, about eight miles northwest of Midland, on September 7, 2021, and two M 3.6 earthquakes northeast of Odessa in February 2020 and May 2021. The RRC staff's analysis of available information has determined that SWD well injection likely contributes to seismic activity in the Gardendale SRA. Therefore, in September 2021, the RRC requested that operators in the Gardendale SRA reduce SWD activity as a means of altering the conditions contributing to seismic activity. Further, the RRC requested SWD wells that have been permitted but are not in service (not drilled, or not completed for or currently capable of injection), do not begin or return to fluid injection, and RRC will not administratively approve a permit for SWD within the Gardendale SRA. RRC anticipates these procedures to be in place for at least a year from initiation. To communicate these changes, operators of SWD wells within the Gardendale SRA were sent letters and a Notice to Oil and Gas Operators was issued. You can view the Gardendale SRA, SWD wells and land surveys within the SRA using the following documents:

- Map of the Gardendale SRA
- List of the SWD wells within the Gardendale SRA
- Shapefile of the Gardendale SRA (zip file)

Figure 44 (Cont'd) Providing Better Resolution Image of Texas Railroad Commission Regulatory Directives for Water Disposal Control

Stanton

May 15, 2022, Operator-Led Response Plan (OLRP)

Saltwater disposal well operators within the Stanton SRA have created a response plan which begins on May 15, 2022. The plan employs a two-tiered approach based on the depth of the disposal zone (shallow vs deep disposal wells) and includes expanded data collection efforts, contingency responses for future seismicity, and scheduled checkpoint updates with RRC staff. Lag time between reductions in injection volume and reductions in seismicity is uncertain. Therefore, the goal of the OLRP is to reduce high-magnitude seismicity such that there are no more 3.5M+ earthquakes after 18 months from the date of response action implementation, approximately May 15, 2024. Changes to injection operations, coordination to enhance the seismic monitoring network and to study travel of subsurface pressure within the SRA have already begun. The OLRP can viewed below:

Stanton SRA Operator-Led Response Plan

January 2022 Action

On December 31, 2020, a magnitude (M) 4.2 earthquake occurred about 11 miles north of Stanton, Texas, about five miles east of the unincorporated community of Lenorah and 25 miles northeast of Midland. A total of 9 earthquakes of M ≥ 3.0 have occurred in this area, including a M 4.6 earthquake on December 28, 2021. The RRC staff's analysis of available information has determined that SWD well injection is likely contributing to seismic activity in this area. RRC staff has established the Stanton Seismic Response Area (SRA) to coordinate action with industry to reduce the seismic hazard in the SRA. RRC has established the following goal to reduce earthquake activity in the Stanton SRA: The successful implementation of a response plan will result in no more M 3.5 or greater earthquakes after 18 months from the date of a response action implementation. RRC staff will use available public data and trends (for example, earthquake count, earthquake magnitude, and disposal volume) to evaluate the efficacy of a response plan. Absent a coordinated industry response, RRC staff is prepared to implement its own seismic response action plan for the Stanton SRA after 90 days. You can view the Stanton SRA and SWD wells within the SRA using the following documents:

- Map of the Stanton SRA
- List of the SWD wells within the Stanton SRA
- Shapefiles of the Stanton SRA (zip file)

Shape (Map) Files

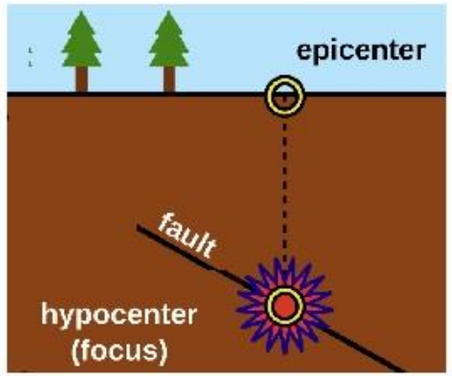
File Contains 6 shape categories:

- Seismic Response Areas (black)
- 2 km* polygon (thin red)
- 4.5 km polygon (pinkish-purple)
- 9 km (red, thicker line)
- 15 km (dark purple)
- 25 km (light blue)

Areas include Locations:

- Culberson/Reeves/W. Loving
- Central Ector to SW Borden

* km values are distance from quake epicenters



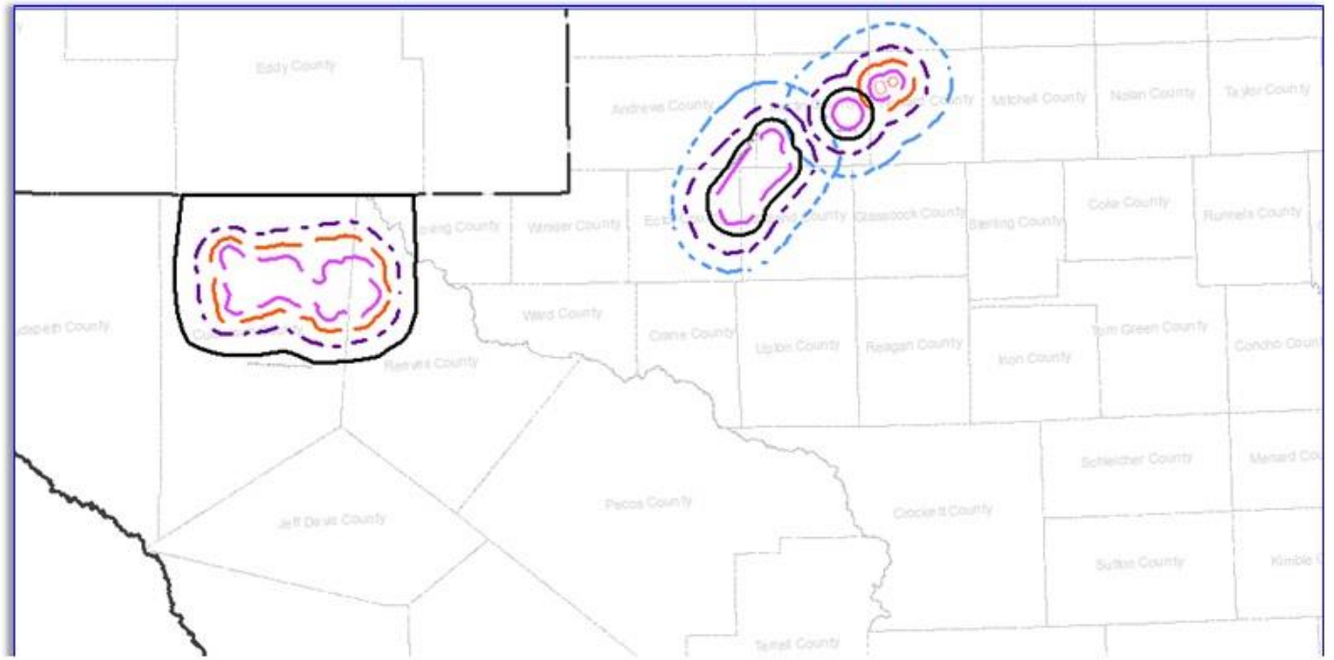


Figure 45: Mid-year 2023 NMOCD rules for operators and justification (red box)

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division

NOTICE TO OPERATORS

IMMEDIATE RESPONSE PLAN FOR SEISMIC EVENTS RELATED TO CLASS II UNDERGROUND INJECTION CONTROL WELLS

November 23, 2021

The New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division ("OCD") has the authority under the Oil and Gas Act (Section 70-1-1 *et seq.*, NMSA 1978) and pursuant to delegated authority from the U.S. Environmental Protection Agency under the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*) to regulate all aspects of Underground Injection Control ("UIC") Class II well development and operation, and decommissioning, including their contribution to induced seismic activity. See 19.15.26 NMAC. This Notice sets forth OCD's framework for responding to seismicity related to UIC Class II injection well operations wherever it may occur across New Mexico.

The USGS and New Mexico Bureau of Geology has detected increasing seismic activity over the last two years in the vicinity of several UIC wells located across New Mexico, including:

- Seven earthquakes of magnitude from M2.5 to M4.0 between March 2021 and September 2021, in an area known as the County Line Seismic Response Area ("County Line SRA") located approximately 35 miles east southeast of Malaga, NM;
- Thirteen earthquake events ranging from M1.8 to M2.7 in a location approximately six miles northeast of Jal, NM, that started in August 2020 and have occurred periodically to the present;
- A swarm of 21 earthquakes ranging between M2.3 and M3.3 over a three-day period in June 2020 located in an area approximately 12 miles southwest of Lovington, NM; and,
- A collection of earthquakes in the last month, including:
  - A M3.2 event in an area approximately 24 miles southwest of Monument, NM;
  - A M4.0 event in an area approximately 15 miles North of Cimarron, NM; and,
  - A M2.5 event in an area approximately 15 miles north northeast of Ute Park, NM.

OCD has actively engaged with UIC well operators in these areas to gather data on the seismic events and to understand their causes. Based on the available data, the location of the seismic activity, and its proximity to existing UIC injection activities, as well as the experience of other states managing oil and gas related induced seismicity, OCD believes that these seismic events are directly related to UIC injection activities. These seismic events demonstrate the need for OCD to marshal available tools and data to mitigate induced seismicity and ensure that appropriate measures are established to manage it going forward.

To that end, the OCD announces the following statewide induced seismicity mitigation and response framework (see Attachment A). The framework incorporates requirements that will be implemented either through voluntary actions by operators and/or orders issued by the OCD. The OCD has the authority to institute the framework under the Oil and Gas Act, including 19.15.26.11 NMAC, which provides for:

1) "more comprehensive testing of [an] …injection well when deemed advisable, including the use of tracer surveys, noise logs, temperature logs or other test procedures or devices;" and,
2) "special tests [of an injection well] …if the division believes conditions so warrant."

Testing under this authority may include but is not limited to: (1) operational curtailment of injection volumes and shut-ins,[1] (2) pressure monitoring, (3) well communication testing, and (4) phased-in reinstatement of operational activities. Consistent with this authority, the OCD expects the following actions in response to seismic events depending on the timing and magnitude of the observed event:

1. Following the occurrence of two seismic events equal to or greater than M2.5 within a 30-day period and within a 10-mile radius, OCD expects all UIC well operators within 10 miles of the epicenter of the seismic events (the "Seismic AOI") to:
   a. comply with the Category 1 Seismicity Response Protocols identified in Attachment A to this notice until such time as OCD determines appropriate mitigation actions in response to the observed seismic events have occurred.
2. Following the occurrence of one seismic event equal to or greater than M3.0, OCD expects all UIC well operators within the Seismic AOI to:
   a. Implement all the monitoring and reporting requirements in the Category 1 Seismicity Response Protocols set forth in Attachment A, plus
   b. The additional operational controls in the Category 2 Seismicity Response Protocols set forth in Attachment A.
3. OCD expects the duration the of any measures identified above will be until such time as OCD determines, in its sole discretion, that appropriate mitigation actions in response to the observed seismic events have occurred. Factors the OCD will consider, without limitation, including the lack of additional seismic activity for 6 months after the triggering event and/or approval of an operator/industry response plan to the seismic activity.
4. Attachment B contains OCD's Seismicity Response Protocol Information Form, which OCD in its discretion may convert into an online form.

OCD may add additional requirements in any order issued in response to a seismic event as it deems necessary and appropriate to address the specific circumstances.

Finally, OCD will consider an operator's voluntary implementation of the measures outlined in this Notice when deciding whether and when to issue an order. For additional information, contact OCD.Engineer@state.nm.us.

Attachments:
Attachment A: OCD, Seismicity Response Protocol
Attachment B: OCD, Seismicity Response Protocol Information Form (*form shall be submitted using OCD's e-permitting system*)

[1] Operational controls are intended to test the geologic response to reductions in disposal volumes.

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.nm.gov/ocd

Earlier Directive from New Mexico Oil and Gas Division Regulatory Directives for Water Disposal Control

Oil Conservation Division
Energy, Minerals and Natural Resources Department
State of New Mexico

Seismicity Response Protocol (rev. date November 23, 2021)

Category 1: Seismicity Response Protocol:

Effective when Two M2.5 Events Occur Within 30 Days and Within a 10 mile Radius

Within 10 Miles

Monitoring & Reporting Protocols

- Weekly reporting of daily injection volumes and average daily surface pressure
  - Reporting in addition to C-115 reporting, on form provided by OCD
  - Digitally measure injection volume and pressure. The Data must be recorded on an hourly basis at a minimum. Operator shall archive digital injection data and deliver upon request
- Operators must provide an analysis identifying the perforated injection interval and formation tops.
- Operator must monitor seismicity (magnitude >~M2.5 for 10 miles around well using USGS/NMTSO data)
  - Operators shall share monitor data with OCD when requested
- Additional requirements may be added if determined appropriate by the OCD.

Category 2: Seismicity Response Protocol:

Effective with one M3.0+ Event

M3.0+ event

All Category 1 Monitoring & Reporting protocols, and

- 50% rate reduction within 0-3 miles
- 25% reduction between 3-6 miles
- Reductions to rate should start immediately and be completed within a week
- Notify OCD of pertinent information within 24 hours or next business day, whichever is latest, of an event using the OCD form.

M3.5+ event

All Category 1 Monitoring & Reporting protocols, and

- Shut in at 0-3 miles
- 50% rate reduction at 3-6 miles
- 25% rate reduction at 6-10 miles
- Reductions to rate should start immediately and be completed within a week
- Notify OCD of pertinent information within 24 hours or next business day, whichever is latest, of an event using the OCD form.

- **All rates should be reduced from the previous 6-month daily average of active injection days**
- **Notifications should be made to the OCD by submitting to the OCD Permitting within 24 hours of receiving monitoring data of a seismic event within 10 miles of its facility.**
- **Such notification can be based on private or public seismic network data; however, final actions will be determined by USGS data concerning magnitude and location. All distances in this document are based on determined Epicenter.**
- **Pertinent information will be submitted to the OCD by an OCD form which is in development and will be submitted to the OCD via OCD.Engineer@state.nm.us**
- **OCD my reduce or eliminate disposal volumes within the curtailment radii above, at its sole discretion, if after 6 months no M3.0 events have occurred within 10 mi. of the original triggering event and/or OCD approves an operator/industry response plan within the response radii.**

Figure 45: Mid-year 2023 NMOCD rules for operators and justification (red box)

Ref: https://www.emnrd.nm.gov/wp-content/uploads/11-23-21-NOTICE-Induced-Seismicity-Immediate-Response-Plan.pdf

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
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November 23, 2021

The New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division ("OCD") has the authority under the Oil and Gas Act (Section 70-1-1 *et seq.*, NMSA 1978) and pursuant to delegated authority from the U.S. Environmental Protection Agency under the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*) to regulate all aspects of Underground Injection Control ("UIC") Class II well development and operation, and decommissioning, including their contribution to induced seismic activity. See 19.15.26 NMAC. This Notice sets forth OCD's framework for responding to seismicity related to UIC Class II injection well operations wherever it may occur across New Mexico.

The USGS and New Mexico Bureau of Geology has detected increasing seismic activity over the last two years in the vicinity of several UIC wells located across New Mexico, including:

- Seven earthquakes of magnitude from M2.5 to M4.0 between March 2021 and September 2021, in an area known as the County Line Seismic Response Area ("County Line SRA") located approximately 35 miles east southeast of Malaga, NM;
- Thirteen earthquake events ranging from M1.8 to M2.7 in a location approximately six miles northeast of Jal, NM, that started in August 2020 and have occurred periodically to the present;
- A swarm of 21 earthquakes ranging between M2.3 and M3.3 over a three-day period in June 2020 located in an area approximately 12 miles southwest of Lovington, NM; and,
- A collection of earthquakes in the last month, including:
  - A M3.2 event in an area approximately 24 miles southwest of Monument, NM;
  - A M4.0 event in an area approximately 15 miles North of Cimarron, NM; and,
  - A M2.5 event in an area approximately 15 miles north northeast of Ute Park, NM.

OCD has actively engaged with UIC well operators in these areas to gather data on the seismic events and to understand their causes. Based on the available data, the location of the seismic activity, and its proximity to existing UIC injection activities, as well as the experience of other states managing oil and gas related induced seismicity, OCD believes that these seismic events are directly related to UIC injection activities. These seismic events demonstrate the need for OCD to marshal available tools and data to mitigate induced seismicity and ensure that appropriate measures are established to manage it going forward.

To that end, the OCD announces the following statewide induced seismicity mitigation and response framework (see Attachment A). The framework incorporates requirements that will be implemented either through voluntary actions by operators and/or orders issued by the OCD. The OCD has the authority to institute the framework under the Oil and Gas Act, including 19.15.26.11 NMAC, which provides for:

1) "more comprehensive testing of [an] …injection well when deemed advisable, including the use of tracer surveys, noise logs, temperature logs or other test procedures or devices;" and,
2) "special tests [of an injection well] …if the division believes conditions so warrant."

Testing under this authority may include but is not limited to: (1) operational curtailment of injection volumes and shut-ins,[1] (2) pressure monitoring, (3) well communication testing, and (4) phased-in reinstatement of operational activities. Consistent with this authority, the OCD expects the following actions in response to seismic events depending on the timing and magnitude of the observed event:

1. Following the occurrence of two seismic events equal to or greater than M2.5 within a 30-day period and within a 10-mile radius, OCD expects all UIC well operators within 10 miles of the epicenter of the seismic events (the "Seismic AOI") to:
   a. comply with the Category 1 Seismicity Response Protocols identified in Attachment A to this notice until such time as OCD determines appropriate mitigation actions in response to the observed seismic events have occurred.
2. Following the occurrence of one seismic event equal to or greater than M3.0, OCD expects all UIC well operators within the Seismic AOI to:
   a. Implement all the monitoring and reporting requirements in the Category 1 Seismicity Response Protocols set forth in Attachment A, plus
   b. The additional operational controls in the Category 2 Seismicity Response Protocols set forth in Attachment A.
3. OCD expects the duration the of any measures identified above will be until such time as OCD determines, in its sole discretion, that appropriate mitigation actions in response to the observed seismic events have occurred. Factors the OCD will consider, without limitation, including the lack of additional seismic activity for 6 months after the triggering event and/or approval of an operator/industry response plan to the seismic activity.
4. Attachment B contains OCD's Seismicity Response Protocol Information Form, which OCD in its discretion may convert into an online form.

OCD may add additional requirements in any order issued in response to a seismic event as it deems necessary and appropriate to address the specific circumstances.

Finally, OCD will consider an operator's voluntary implementation of the measures outlined in this Notice when deciding whether and when to issue an order. For additional information, contact OCD.Engineer@state.nm.us.

Attachments:
Attachment A: OCD, Seismicity Response Protocol
Attachment B: OCD, Seismicity Response Protocol Information Form (*form shall be submitted using OCD's e-permitting system*)

[1] Operational controls are intended to test the geologic response to reductions in disposal volumes.

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