

Water Analysis Report

Customer:	Ad Astra Resources	Sample #:	301102
Area:	Permian Basin	Analysis ID #:	236645
Lease:	Three Pete State	BOPD:	
Location:	1	BWPD:	
Sample Point:	Heater Treater		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling date:	11/19/2024	Chloride:	27068.3	763.33	Sodium:	15245.0	663.12
Analysis date:	11/22/2024	Bicarbonate:	48.0	0.79	Magnesium:	355.0	29.20
Analysis:	Catalyst	Carbonate:		0.00	Calcium:	1214.0	60.58
TDS (mg/l or g/m3):	44613	Sulfate:	0.0	0.00	Potassium:	42.0	1.07
Density (g/cm3):	1.033	Borate:	165.3	1.04	Strontium:	345.0	7.87
Hydrogen Sulfide:	34	Phosphorus:		0.00	Barium:	4.9	0.07
Carbon Dioxide:	50				Iron:	123.8	4.47
Comments:		pH at time of sampling:		5.50	Manganese:	1.4	0.05
		pH at time of analysis:					
		pH used in Calculation:		5.50	Conductivity (micro-ohms/cm):		72864
		Temperature @ lab conditions(F):		75	Resistivity (ohm meter):		0.1372

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO3		Gypsum CaSo4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	-1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	-1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	-1.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	-1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	-1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200	-1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	-0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Water Analysis Report

Customer:	Ad Astra Resources	Sample #:	302197
Area:	Permian Basin	Analysis ID #:	236933
Lease:	Three Pete State	BOPD:	
Location:	1	BWPD:	
Sample Point:	Heater Treater dump		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling date:	11/30/2024	Chloride:	26195.6	738.72	Sodium:	14755.7	641.84
Analysis date:	12/3/2024	Bicarbonate:	48.0	0.79	Magnesium:	347.0	28.55
Analysis:	Catalyst	Carbonate:		0.00	Calcium:	1184.1	59.09
TDS (mg/l or g/m3):	43234	Sulfate:	40.0	0.83	Potassium:	34.3	0.88
Density (g/cm3):	1.032	Borate:	162.1	1.02	Strontium:	341.2	7.79
Hydrogen Sulfide:	17	Phosphorus:		0.00	Barium:	3.8	0.05
Carbon Dioxide:	50				Iron:	121.1	4.38
Comments:		pH at time of sampling:		5.50	Manganese:	1.4	0.05
		pH at time of analysis:					
		pH used in Calculation:		5.50	Conductivity (micro-ohms/cm):		70335
		Temperature @ lab conditions(F):		75	Resistivity (ohm meter):		0.1422

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO3		Gypsum CaSO4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-1.98	0.00	-2.00	0.00	-2.05	0.00	-0.73	0.00	0.42	1.34
100	-1.86	0.00	-2.03	0.00	-2.02	0.00	-0.74	0.00	0.25	1.01
120	-1.73	0.00	-2.05	0.00	-1.96	0.00	-0.73	0.00	0.10	0.34
140	-1.60	0.00	-2.06	0.00	-1.87	0.00	-0.71	0.00	-0.02	0.00
160	-1.45	0.00	-2.07	0.00	-1.77	0.00	-0.69	0.00	-0.12	0.00
180	-1.31	0.00	-2.06	0.00	-1.66	0.00	-0.66	0.00	-0.21	0.00
200	-1.15	0.00	-2.06	0.00	-1.53	0.00	-0.63	0.00	-0.27	0.00
220	-0.99	0.00	-2.05	0.00	-1.39	0.00	-0.60	0.00	-0.33	0.00

Water Analysis Report

Customer:	Ad Astra Resources	Sample #:	302195
Area:	Permian Basin	Analysis ID #:	236935
Lease:	BW State	BOPD:	
Location:	5 SWD	BWPD:	
Sample Point:	water transfer dump		

		Anions		Cations	
		mg/l	meq/l	mg/l	meq/l
Sampling date:	11/30/2024				
Analysis date:	12/3/2024	Chloride:	69277.8	Sodium:	40353.1
Analysis:	Catalyst	Bicarbonate:	92.0	Magnesium:	650.9
		Carbonate:	0.00	Calcium:	2946.0
TDS (mg/l or g/m3):	114479	Sulfate:	500.0	Potassium:	175.2
Density (g/cm3):	1.080	Borate:	154.0	Strontium:	307.1
Hydrogen Sulfide:	17	Phosphorus:	0.00	Barium:	1.2
Carbon Dioxide:	40			Iron:	21.4
Comments:		pH at time of sampling:	6.00	Manganese:	0.4
		pH at time of analysis:			
		pH used in Calculation:	6.00	Conductivity (micro-ohms/cm):	141352
		Temperature @ lab conditions(F):	75	Resistivity (ohm meter):	0.0707

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO3		Gypsum CaSO4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.87	0.00	-0.80	0.00	-0.81	0.00	-0.01	0.00	0.69	0.63
100	-0.77	0.00	-0.85	0.00	-0.80	0.00	-0.03	0.00	0.50	0.31
120	-0.66	0.00	-0.90	0.00	-0.77	0.00	-0.04	0.00	0.33	0.31
140	-0.55	0.00	-0.93	0.00	-0.71	0.00	-0.04	0.00	0.18	0.31
160	-0.43	0.00	-0.96	0.00	-0.64	0.00	-0.03	0.00	0.06	0.00
180	-0.30	0.00	-0.98	0.00	-0.54	0.00	-0.02	0.00	-0.04	0.00
200	-0.17	0.00	-1.00	0.00	-0.44	0.00	0.00	0.00	-0.13	0.00
220	-0.04	0.00	-1.01	0.00	-0.32	0.00	0.02	4.39	-0.20	0.00

Water Analysis Report

Customer:	Ad Astra Resources	Sample #:	301103
Area:	Permian Basin	Analysis ID #:	236646
Lease:	BW State	BOPD:	
Location:	5 SWD	BWPD:	
Sample Point:	Transfer Pump		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling date:	11/19/2024	Chloride:	119240.4	3362.58	Sodium:	74282.0	3231.09
Analysis date:	11/22/2024	Bicarbonate:	48.0	0.79	Magnesium:	570.0	46.89
Analysis:	Catalyst	Carbonate:		0.00	Calcium:	2281.0	113.82
TDS (mg/l or g/m3):	198741	Sulfate:	1800.0	37.44	Potassium:	327.0	8.36
Density (g/cm3):	1.135	Borate:	76.5	0.48	Strontium:	113.0	2.58
Hydrogen Sulfide:	17	Phosphorus:		0.00	Barium:	0.4	0.01
Carbon Dioxide:	50				Iron:	2.8	0.10
Comments:		pH at time of sampling:		6.00	Manganese:	0.3	0.01
		pH at time of analysis:					
		pH used in Calculation:		6.00	Conductivity (micro-ohms/cm):		218382
		Temperature @ lab conditions(F):		75	Resistivity (ohm meter):		0.0458

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO3		Gypsum CaSO4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-1.13	0.00	-0.41	0.00	-0.38	0.00	-0.08	0.00	0.59	0.29
100	-1.04	0.00	-0.50	0.00	-0.40	0.00	-0.11	0.00	0.38	0.00
120	-0.95	0.00	-0.57	0.00	-0.40	0.00	-0.13	0.00	0.19	0.00
140	-0.86	0.00	-0.63	0.00	-0.37	0.00	-0.14	0.00	0.03	0.00
160	-0.76	0.00	-0.69	0.00	-0.32	0.00	-0.15	0.00	-0.11	0.00
180	-0.66	0.00	-0.74	0.00	-0.25	0.00	-0.14	0.00	-0.23	0.00
200	-0.55	0.00	-0.78	0.00	-0.18	0.00	-0.14	0.00	-0.33	0.00
220	-0.44	0.00	-0.82	0.00	-0.09	0.00	-0.13	0.00	-0.41	0.00

Water Analysis Report

Customer:	Ad Astra Resources	Sample #:	301105
Area:	Permian Basin	Analysis ID #:	236648
Lease:	Four Pete Sake	BOPD:	
Location:	1	BWPD:	
Sample Point:	Wellhead		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling date:	11/19/2024	Chloride:	154523.3	4357.56	Sodium:	97741.0	4251.49
Analysis date:	11/22/2024	Bicarbonate:	122.0	2.00	Magnesium:	599.0	49.28
Analysis:	Catalyst	Carbonate:		0.00	Calcium:	2046.0	102.10
TDS (mg/l or g/m3):	258002	Sulfate:	2500.0	52.00	Potassium:	349.0	8.93
Density (g/cm3):	1.174	Borate:	50.7	0.32	Strontium:	56.0	1.28
Hydrogen Sulfide:	51	Phosphorus:		0.00	Barium:	0.1	0.00
Carbon Dioxide:	100				Iron:	14.5	0.53
Comments:		pH at time of sampling:		6.50	Manganese:	0.2	0.01
		pH at time of analysis:					
		pH used in Calculation:		6.50	Conductivity (micro-ohms/cm):		235886
		Temperature @ lab conditions(F):		75	Resistivity (ohm meter):		0.0424

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO3		Gypsum CaSO4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.13	0.00	-0.31	0.00	-0.25	0.00	-0.34	0.00	0.04	0.00
100	-0.07	0.00	-0.41	0.00	-0.28	0.00	-0.38	0.00	-0.18	0.00
120	-0.03	0.00	-0.50	0.00	-0.29	0.00	-0.40	0.00	-0.38	0.00
140	0.01	0.27	-0.58	0.00	-0.28	0.00	-0.42	0.00	-0.55	0.00
160	0.05	0.82	-0.65	0.00	-0.25	0.00	-0.42	0.00	-0.70	0.00
180	0.09	1.91	-0.71	0.00	-0.20	0.00	-0.42	0.00	-0.82	0.00
200	0.13	2.73	-0.77	0.00	-0.14	0.00	-0.42	0.00	-0.93	0.00
220	0.17	4.18	-0.83	0.00	-0.07	0.00	-0.42	0.00	-1.01	0.00

Water Analysis Report

Customer:	Ad Astra Resources	Sample #:	302194
Area:	Permian Basin	Analysis ID #:	236934
Lease:	Four Pete Sake	BOPD:	
Location:	1	BWPD:	
Sample Point:	heater treater dump		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling date:	11/30/2024	Chloride:	141693.5	3995.76	Sodium:	89684.7	3901.06
Analysis date:	12/3/2024	Bicarbonate:	122.0	2.00	Magnesium:	585.3	48.15
Analysis:	Catalyst	Carbonate:		0.00	Calcium:	1984.0	99.00
TDS (mg/l or g/m3):	237312	Sulfate:	2800.0	58.24	Potassium:	333.7	8.53
Density (g/cm3):	1.160	Borate:	54.9	0.35	Strontium:	53.1	1.21
Hydrogen Sulfide:	85	Phosphorus:		0.00	Barium:	0.1	0.00
Carbon Dioxide:	120				Iron:	0.6	0.02
Comments:		pH at time of sampling:		5.50	Manganese:	0.0	0.00
		pH at time of analysis:					
		pH used in Calculation:		5.50	Conductivity (micro-ohms/cm):		228650
		Temperature @ lab conditions(F):		75	Resistivity (ohm meter):		0.0437

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO3		Gypsum CaSO4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-1.19	0.00	-0.28	0.00	-0.23	0.00	-0.28	0.00	0.12	0.00
100	-1.11	0.00	-0.37	0.00	-0.26	0.00	-0.32	0.00	-0.10	0.00
120	-1.03	0.00	-0.46	0.00	-0.27	0.00	-0.34	0.00	-0.29	0.00
140	-0.95	0.00	-0.53	0.00	-0.25	0.00	-0.35	0.00	-0.46	0.00
160	-0.85	0.00	-0.60	0.00	-0.21	0.00	-0.36	0.00	-0.61	0.00
180	-0.74	0.00	-0.66	0.00	-0.16	0.00	-0.36	0.00	-0.73	0.00
200	-0.63	0.00	-0.71	0.00	-0.09	0.00	-0.36	0.00	-0.83	0.00
220	-0.51	0.00	-0.79	0.00	-0.01	0.00	-0.35	0.00	-0.92	0.00

Water Analysis Report

Customer:	Ad Astra Resources	Sample #:	302196
Area:	Permian Basin	Analysis ID #:	236936
Lease:	Four Pete Sake	BOPD:	
Location:	2	BWPD:	
Sample Point:	Wellhead		

		Anions		meq/l	Cations		meq/l
Sampling date:	11/30/2024	Chloride:	148940.1	4200.11	Sodium:	93779.5	4079.18
Analysis date:	12/3/2024	Bicarbonate:	97.0	1.59	Magnesium:	625.6	51.47
Analysis:	Catalyst	Carbonate:		0.00	Calcium:	2307.7	115.15
TDS (mg/l or g/m3):	248713	Sulfate:	2500.0	52.00	Potassium:	318.4	8.14
Density (g/cm3):	1.168	Borate:	61.7	0.39	Strontium:	82.2	1.88
Hydrogen Sulfide:	68	Phosphorus:		0.00	Barium:	0.1	0.00
Carbon Dioxide:	120				Iron:	0.4	0.01
Comments:		pH at time of sampling:		5.50	Manganese:	0.1	0.00
		pH at time of analysis:					
		pH used in Calculation:		5.50	Conductivity (micro-ohms/cm):		224013
		Temperature @ lab conditions(F):		75	Resistivity (ohm meter):		0.0446

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO3		Gypsum CaSO4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-1.20	0.00	-0.26	0.00	-0.21	0.00	-0.16	0.00	0.05	0.00
100	-1.12	0.00	-0.36	0.00	-0.24	0.00	-0.20	0.00	-0.17	0.00
120	-1.05	0.00	-0.45	0.00	-0.25	0.00	-0.22	0.00	-0.36	0.00
140	-0.96	0.00	-0.52	0.00	-0.23	0.00	-0.24	0.00	-0.53	0.00
160	-0.87	0.00	-0.59	0.00	-0.20	0.00	-0.24	0.00	-0.68	0.00
180	-0.77	0.00	-0.65	0.00	-0.15	0.00	-0.24	0.00	-0.80	0.00
200	-0.66	0.00	-0.71	0.00	-0.08	0.00	-0.24	0.00	-0.91	0.00
220	-0.51	0.00	-0.76	0.00	-0.01	0.00	-0.23	0.00	-0.99	0.00

Submit 1 Copy To Appropriate District:

Office

District I – (575) 393-6161

1625 N. French Dr., Hobbs, NM 88240

District II – (575) 748-1283

811 S. First St., Artesia, NM 88210

District III – (505) 334-6178

1000 Rio Brazos Rd., Aztec, NM 87410

District IV – (505) 476-3460

1220 S. St. Francis Dr., Santa Fe, NM

87505

State of New Mexico
Energy, Minerals and Natural ResourcesForm C-103
Revised July 18, 2013OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.

30-025-31071

5. Indicate Type of Lease

STATE ☒ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

STATE BN

8. Well Number 005

9. OGRID Number 332741

10. Pool name or Wildcat

MESCALERO; SAN ANDRES

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other INJECTION

2. Name of Operator

AD ASTRA RESOURCES LLC.

3. Address of Operator

4102 W 17TH N WICHITA, KS 67212

4. Well Location

Unit Letter K : 1410 feet from the S line and 1405 feet from the W lineSection 14 Township 10S Range 32E NMPM County LEA

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

4331

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐TEMPORARILY ABANDON ☐ CHANGE PLANS ☐PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐DOWNHOLE COMMINGLE ☐CLOSED-LOOP SYSTEM ☐OTHER: ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐COMMENCE DRILLING OPNS. ☐ P AND A ☐CASING/CEMENT JOB ☐OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Notice of intent to add an additional water source from the Upper Penn, North Formation:

1. Reason for the new source: Addition of the below wells to be acquired by operator:

30-025-36311	FOUR PETE SAKE	#001
30-025-37568	FOUR PETE SAKE	#002

2. Proposed volumes: 450 bwpd (no change from existing approved bwpd)

3. Description of the new source: Upper Penn, North Formation

4. Analytical demonstration of compatibility with the fluids in the PM: See attached

5. Proposed operation with the new source: date to initiate new source & changes proposed for the PM: Initiation of new source will take place upon NMOCD approval. We do not see any changes to current injection operations other than the new water source. Current max injection pressure in the order will be maintained.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Carie Stoker TITLE REG. AFFAIRS COORD. DATE 12/05/2024Type or print name CARIE STOKER E-mail address: carie@stokeroilfield.com PHONE: (432) 664-7659**For State Use Only**

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 408795

CONDITIONS

Operator: Ad Astra Resources LLC 4102 W 17TH N WICHITA, KS 67212	OGRID: 332741
	Action Number: 408795
	Action Type: [C-103] NOI General Sundry (C-103X)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	2/26/2025