



Certificate of Analysis
Number: 1030-24091014-001A

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Scott Himes
ERM
840 W. Sam Houston Parkway North
Houston, TX 77024-4613

Station Name: PG No. 004
Received Date: 09/27/2024
Login Date: 09/30/2024
Method:
Analyzed: 10/07/2024 by ACB

Report Date: 10/15/2024
Sampled By: TB
Sample Of: Liquid Spot
Sample Date: 08/10/2024 13:30
Sample Conditions: 0 psig, @ 101 °F

ASTM D-86 Distillation

% Recovery	°F @ 766 mm Hg
Initial Boiling Point	160
5	216
10	274
20	364
30	NR
40	NR
50	NR
60	NR
70	NR
80	NR
85	NR
90	NR
95	NR
Final Boiling Point	400
Volume % Recovery	22.0
Volume % Residue	78.0
Volume % Loss	0

Comments: Residue and loss observed.
Temperatures are uncorrected for barometric pressure.
Visual color is Crude.

Andy Hartman, Laboratory Director

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated. The test results apply to the sample as received.



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Received Date: 09/27/2024
Login Date: 09/30/2024

Report Date: 10/15/2024
Sampled By: TB
Sample Of: Liquid Spot
Sample Date: 08/10/2024 13:30

Analytical Data

Test	Method	Result	Units	Detection Limit	Lab Tech.	Analysis Date
Salt in Crude Oil	ASTM D-3230	883.3	lbs/1000 bbls		ES	10/11/2024
Sulfur Content by X-ray	ASTM D-4294	1.515	wt%		CMN	10/09/2024
Organic Chloride	ASTM D-4929	<1.0	ppmw		MG	10/14/2024
API Gravity @ 60.01 °F	ASTM D-5002	31.44	°		PC	10/08/2024
Specific Gravity @ 60.01/60.01 °F	ASTM D-5002	0.8684	—		PC	10/08/2024
Density @ 60.01 °F	ASTM D-5002	0.8675	g/ml		PC	10/08/2024
Iron	ASTM D-5708A	15	ppmw		CMN	10/02/2024
Nickel	ASTM D-5708A	9	ppmw		CMN	10/02/2024
Vanadium	ASTM D-5708A	42	ppmw		CMN	10/02/2024

Comments:

AS-D-4929: Sample analyzed by ASTM D-4929 procedure B.
• Mass Fraction = 0.1962

Andy Hartman, Laboratory Director

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated. The test results apply to the sample as received.



Certificate of Analysis
Number: 1030-24091014-002A

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Scott Himes
ERM
840 W. Sam Houston Parkway North
Houston, TX 77024-4613

Station Name: 7B Oil
Received Date: 09/27/2024
Login Date: 09/30/2024
Method:
Analyzed: 10/09/2024 by RIL

Report Date: 10/15/2024
Sampled By: TB
Sample Of: Liquid Spot
Sample Date: 09/26/2024 10:00
Sample Conditions:

ASTM D-86 Distillation

% Recovery	°F @ 763 mm Hg
Initial Boiling Point	128
5	194
10	244
20	316
30	394
40	NR
50	NR
60	NR
70	NR
80	NR
85	NR
90	NR
95	NR
Final Boiling Point	400
Volume % Recovery	32.0
Volume % Residue	68.0
Volume % Loss	0

Comments: Temperatures are uncorrected for barometric pressure.
Visual color is Crude.
IBP to 400°F Naphtha Cut Mass Fraction = 0.2627

Andy Hartman, Laboratory Director

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated. The test results apply to the sample as received.



Certificate of Analysis

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Houston Laboratories
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Scott Himes
ERM
840 W. Sam Houston Parkway North
Houston, TX 77024-4613

Station Name: 7B Oil
Sample Conditions:
Received Date: 09/27/2024
Login Date: 09/30/2024

Report Date: 10/15/2024
Sampled By: TB
Sample Of: Liquid Spot
Sample Date: 09/26/2024 10:00

Analytical Data

Test	Method	Result	Units	Detection Limit	Lab Tech.	Analysis Date
Salt in Crude Oil	ASTM D-3230	16.0	lbs/1000 bbls		PC	10/11/2024
Sulfur Content by X-ray	ASTM D-4294	NA				
Organic Chloride	ASTM D-4929	<1.0	ppmw		MG	10/14/2024
API Gravity @ 60.01 °F	ASTM D-5002	33.98	°		PC	10/08/2024
Specific Gravity @ 60.01/60.01 °F	ASTM D-5002	0.8550	—		PC	10/08/2024
Density @ 60.01 °F	ASTM D-5002	0.8542	g/ml		PC	10/08/2024
Iron	ASTM D-5708A	<1	ppmw		CMN	10/02/2024
Nickel	ASTM D-5708A	5	ppmw		CMN	10/02/2024
Vanadium	ASTM D-5708A	17	ppmw		CMN	10/02/2024

Comments:

AS-D-4294: NA = No Results Available
AS-D-4929: Sample analyzed by ASTM D-4929 procedure B.
• Mass Fraction = 0.2627

Andy Hartman, Laboratory Director

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2-4

Page 5 of 5