.

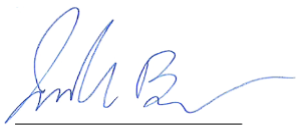
Title: **Albacora Leste Crude - Assay Report**

Client: **PetroRio**

Report No.: **120-23-02750**
Date of Issue: **March 29, 2023**

Sample ID: **Albacora Leste**
Date Received: **February 15, 2023**
Date(s) Tested: **February 15 - March 29, 2023**
Sample Date: **Fevruary, 2023**
Sample Type: **Submitted by the Client**

Reported By:



Jeremiah Benner

Crude Assay Manager

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Distillation % Mass Yield and % Volume Yield

Cut Range °F	Mass Yield Wt. %	Cumulative Wt. %	Volume Yield Vol. %	Cumulative Vol. %
IBP - 59	0.41	0.41	0.71	0.71
59-149	0.93	1.34	1.32	2.03
149-212	1.34	2.68	1.69	3.72
212-302	3.10	5.78	3.71	7.43
302-392	4.12	9.90	4.67	12.10
392-482	6.24	16.14	6.79	18.89
482-572	8.13	24.27	8.64	27.53
572-662	8.71	32.98	8.93	36.46
662-698	3.06	36.04	3.08	39.54
698-842	13.19	49.23	12.99	52.53
842-932	10.10	59.33	9.80	62.33
932-1013	7.75	67.08	7.46	69.79
1013+	32.92	100.00	30.21	100.00

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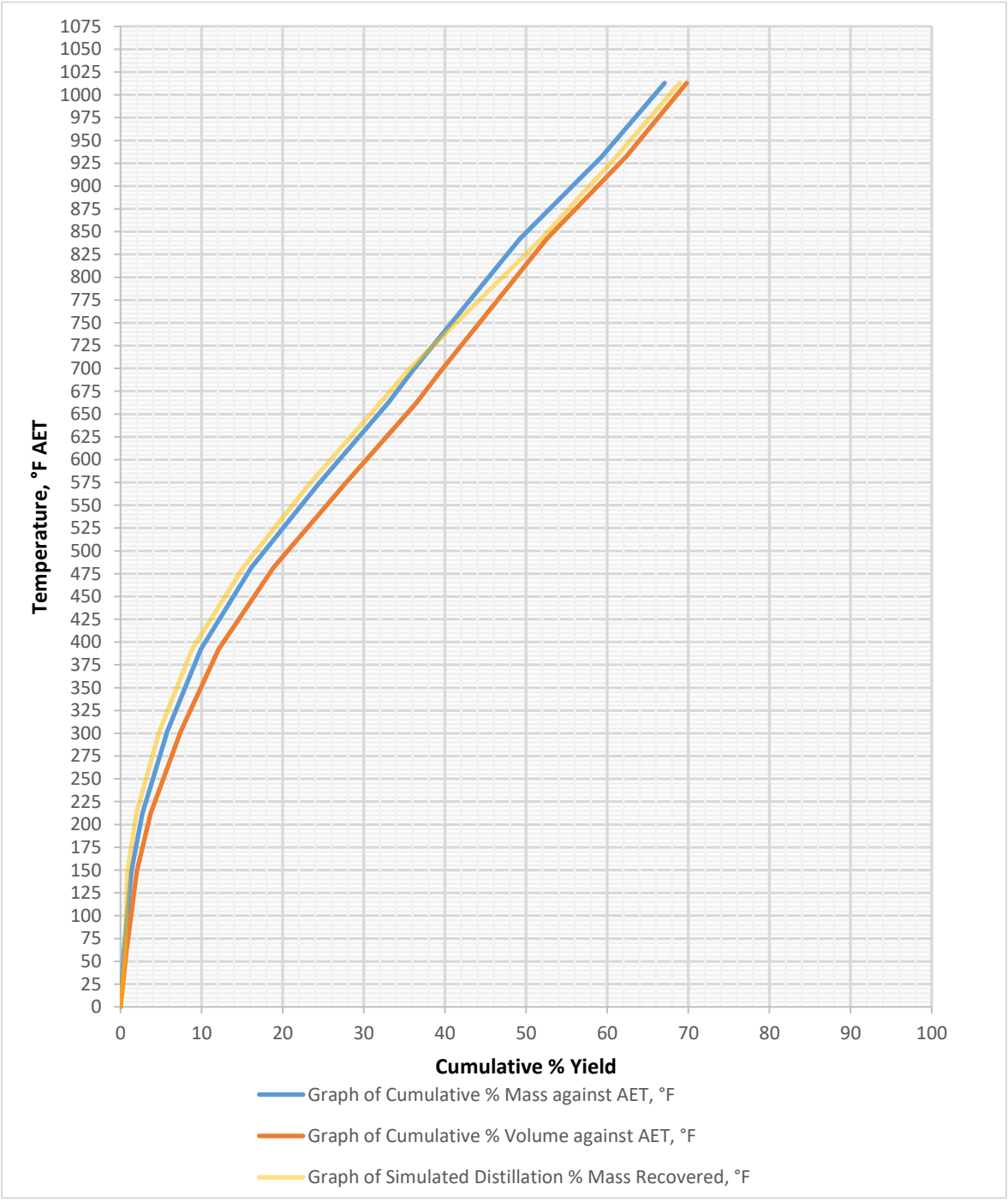
Graph of Cumulative % yield against Temperature, °F AET



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Assay Summary

Sample ID	Albacora Leste			Cut Range												
Lab ID	120-23-02750		Whole Crude	IBP - 59°F	59-149°F	149-212°F	212-302°F	302-392°F	392-482°F	482-572°F	572-662°F	662-698°F	698+°F	698-842°F	842-932°F	932-1013°F	1013+°F
Client ID	PetroRio																
Date	March 29, 2023																
Test	Method	Unit															
Mass Yield	D2892	% Wt.		0.41	0.93	1.34	3.10	4.12	6.24	8.13	8.71	3.06	63.96	13.19	10.10	7.75	32.92
Volume Yield		% Vol.		0.71	1.32	1.69	3.71	4.67	6.79	8.64	8.93	3.08	60.46	12.99	9.80	7.46	30.21
API Gravity @ 60°F	D4052/D5002	°API	21.2		84.8	61.6	51.9	42.0	34.9	31.2	25.4	22.3	13.2	19.3	17.1	15.8	8.9
Specific Gravity, 60/60 °F			0.9268	0.5550	0.6542	0.7326	0.7716	0.8154	0.8501	0.8697	0.9018	0.9199	0.9781	0.9384	0.9524	0.9604	1.0076
Density @ 15°C		kg/l	0.9263		0.6541	0.7324	0.7714	0.8150	0.8497	0.8692	0.9012	0.9194	0.9775	0.9378	0.9518	0.9598	1.0070
Light Ends in Crude Oil	D7900		Pg. 8														
Simulated Distillation	D7169	% Wt.	Pg. 7														
Vapor Pressure	D6377	psi	3.29														
UOP K Factor	UOP 375						11.6	11.4	11.3	11.4	11.3	11.3	11.6	11.6	11.6	11.6	
Total Sulfur Content	D2622 / D4294	% Wt.	0.556		0.0022	0.0028	0.0187	0.0773	0.140	0.277	0.471	0.559	0.711	0.547	0.589	0.689	0.824
Hydrogen Sulfide in Liquid	UOP 163	ppmw	<1		<1	<1	<1	<1	<1	<1							
Mercaptans Sulfur	UOP 163	ppmw	32.2		10.1	8.9	8.5	10.1	3.9	6.9							
Total Nitrogen	D4629/5762	ppmw	3612							96	542	1626	5244	2218	3093	4150	7711
Basic Nitrogen	UOP 269	% Wt.								0.0070	0.0275	0.0582	0.194	0.066	0.110	0.158	0.296
Organic Chlorides in Crude oil	D4929C	mg/kg	<1														
Total Acid Number	D8045	mgKOH/g	1.72						1.97	3.21	3.31	3.84	1.22	2.22	1.87	1.60	0.37
Viscosity @ 20°C	D445	cSt	212.3														
Viscosity @ 40°C	D445	cSt	66.71					1.059	1.768	3.311	8.268	18.37					
Viscosity @ 50°C	D445	cSt	43.2					0.9580	1.546	2.771	6.435	13.32		50.79	227.1	763.7	
Viscosity @ 100°C	D445	cSt											133.5	7.746	18.70	39.84	
Viscosity @ 130°C	D445	cSt											40.67				526.9
Research Octane Number	D2699					IR	IR										
Motor Octane Number	D2700					IR	IR										
Calculated Octane Number	D6730					68.7	81.7										
Detailed Hydrocarbon Analysis	D6730			Pg. 9	Pg. 10	Pg. 11	Pg. 12										
Paraffins	D6730	% Vol.		99.56	84.74	47.48	37.07										
Olefins	D6730	% Vol.		0.02	0.05	0.28	1.29										
Naphthenes	D6730	% Vol.		0.35	14.53	49.37	47.88										
Aromatics	D6730	% Vol.		0.04	0.66	2.77	10.77										
Unknowns	D6730	% Vol.		0.03	0.02	0.10	2.99										
Distillation	D86 / D1160	°F					Pg. 6	Pg. 6	Pg. 6	Pg. 6	Pg. 6	Pg. 6					
Pour Point	D5853/D97	°F	<-27					<-27	<-27	<-27	-22.0	-0.4	64.4	5.0	21.2	59.0	136.0
Cloud Point	D2500	°F						<-76	<-76	-34.6	-18.4	NA-STD					
Freeze Point	D2386	°F						<-112	-60.7	-20.2							
Wax Appearance Temperature	IP 389	°C	15.0														
Smoke Point	D1322	mm						20.7	15.8	13.9							
Cetane Index	D4737							25.1	35.3	42.0							
Naphthalenes	D1840	% Wt.							3.40	8.28							
Aniline Point	D611	°F								132.9	139.7	141.3		160.4	169.5	176.2	
Wax Content	UOP 46	% Wt.	1.7											1.2	2.6	16.2	
Asphaltenes	D6560	% Wt.	1.40										2.37	<0.5	<0.5		4.43
Micro Carbon Residue	D4530	% Wt.	5.51							<0.1	<0.1	<0.1	9.19	<0.1	0.27	1.49	17.2
Ramsbottom Carbon Residue	D524	% Wt.								<0.1	0.1	0.1		0.13	0.31		
Aromatics	D6591	% Wt.												45.17	49.49	52.7	
Metals - Vanadium	IP 501	ppmw	14										22				43
Nickel	IP 501	ppmw	7										11				21
Iron	IP 501	ppmw	3														

Notes: Cumulative Volume Yield results are normalized to 100% among fractions in proportion to their Yields

IR: Insufficient recovery to run analysis, Calculated Octane Number provided per D6730 Analysis.

NA-STD: Not Applicable Sample Too Dark

Distillation Report (ASTM D86)

Sample ID	Albacora Leste					
Lab ID	120-23-02750					
Client ID	PetroRio					
Date	March 29, 2023					
Cut Range	**212°F - 302°F**	**302°F - 392°F**	**392°F - 482°F**	**482°F - 572°F**	**572°F - 662°F**	**662°F - 698°F**
Description	°F	°F	°F	°F	°F	°F
IBP	229.4	310.4	408.3	487.9	549.7	612.1
Recovery @ 5%	242.0	325.8	422.9	509.0	586.9	661.2
Recovery @ 10%	243.6	327.6	424.4	509.1	591.5	662.5
Recovery @ 20%	247.3	331.7	427.0	511.2	596.5	663.6
Recovery @ 30%	251.5	335.4	429.5	513.3	599.0	664.0
Recovery @ 40%	255.6	339.7	432.4	515.6	601.4	665.1
Recovery @ 50%	260.2	343.7	435.5	518.5	604.3	666.3
Recovery @ 60%	265.5	348.3	439.0	521.8	607.4	667.5
Recovery @ 70%	271.3	353.5	443.6	525.8	611.6	669.0
Recovery @ 80%	278.5	360.4	449.0	531.4	617.0	671.2
Recovery @ 90%	288.6	370.2	456.7	539.5	625.0	674.7
Recovery @ 95%	297.7	378.8	462.7	546.5	631.9	679.3
FBP	317.3	386.7	473.1	554.0	638.5	684.5
	% vol	% vol	% vol	% vol	% vol	% vol
Recovery	97.8	98.0	98.9	98.4	98.2	98.1
Residue	1.0	1.1	1.1	1.3	1.4	1.4
Loss	1.2	0.9	0.0	0.3	0.4	0.5

Simulated Distillation Report (D7169)

Sample ID	Albacora Leste
Lab ID	120-23-02750
Client ID	PetroRio
Date	March 29, 2023
Cut Range	Whole Crude

% Off	BP(F)
0.5	*90.1
1	152.50
2	203.40
3	234.40
4	265.50
5	294.40
6	321.80
7	345.60
8	367.80
9	388.00
10	404.90
11	422.20
12	436.20
13	448.70
14	463.80
15	475.50
16	486.30
17	499.50
18	510.10
19	520.20
20	533.70
21	546.10
22	558.00
23	568.80
24	578.00
25	589.00
26	599.40
27	609.40
28	620.90
29	631.20
30	642.10

31	653.40
32	664.20
33	674.90
34	685.90
35	696.60
36	706.90
37	717.60
38	728.10
39	738.80
40	749.40
41	760.00
42	770.00
43	779.50
44	788.20
45	796.50
46	804.50
47	812.70
48	820.30
49	828.80
50	837.00
51	846.30
52	855.80
53	865.50
54	876.00
55	886.60
56	897.20
57	908.40
58	919.60
59	930.20
60	940.50
61	951.20
62	962.70
63	974.10
64	985.70
65	997.50
66	1009.40
67	1022.10
68	1035.00
69	1047.60
70	1059.80
71	1072.10
72	1084.70
73	1097.40
74	1109.80
75	1122.60
76	1135.40
77	1148.50

78	1161.40
79	1173.70
80	1186.30
81	1199.20
82	1211.40
83	1225.30
84	1240.80
85	1256.60
86	1272.00
87	1286.50
88	1301.50
89	1317.50
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
% Recovery	89.66
% Residue	10.34
FBP	>1328

AmSpec

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Light Ends in Crude Oil (D7900)

Sample ID	Albacora Leste
Lab ID	120-23-02750
Client ID	PetroRio
Date	March 29, 2023
Cut Range	Whole Crude

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
1.5113	200	P2	ethane	0.0102	0.0279	0.0324	-127.48	-88.6
1.5669	300	P3	propane	0.0553	0.1023	0.1191	-43.672	-42.04
1.6528	362.46	I4	i-butane	0.0603	0.1003	0.0987	10.904	-11.72
1.7261	400	P4	n-butane	0.162	0.2593	0.2649	31.1	-0.5
1.7617	412.8	I5	2,2-dimethylpropane	0	0.0001	0.0001	49.1	9.5
1.994	473.61	I5	i-pentane	0.1583	0.2367	0.2085	82.112	27.84
2.1382	500	P5	n-pentane	0.2561	0.3789	0.3373	96.908	36.06
2.3933	535.1	I5	Carbon Disulfide(Diluent)	0	0	0	113	45
2.42	538.23	I6	2,2-dimethylbutane	0.0035	0.005	0.0039	121.514	49.73
2.7023	567	N5	cyclopentane	0.0487	0.0605	0.066	120.65	49.25
2.7065	567.38	I6	2,3-dimethylbutane	0.0439	0.0614	0.0484	136.364	57.98
2.7539	571.57	I6	2-methylpentane	0.1512	0.2145	0.1668	140.468	60.26
2.9117	584.52	I6	3-methylpentane	0.0668	0.0931	0.0737	145.886	63.27
3.1248	600	P6	n-hexane	0.3214	0.4515	0.3544	155.714	68.73
3.1875	604.55		unknown	0.0025	0.0034	0.0028	155.714	68.73
3.27	610.29		unknown	0.0028	0.0037	0.0031	155.714	68.73
3.325	613.99		unknown	0.0062	0.0081	0.0068	155.714	68.73
3.42	620.12		unknown	0.0059	0.0078	0.0065	155.714	68.73
3.49	624.46	I7	2,2-dimethylpentane	0.0106	0.0146	0.0101	174.542	79.19
3.5378	627.34	N6	methylcyclopentane	0.2384	0.295	0.2692	161.24	71.8
3.5908	630.46	I7	2,4-dimethylpentane	0.0689	0.0949	0.0653	176.882	80.49
3.6908	636.14	I7	2,2,3-trimethylbutane	0.001	0.0013	0.001	177.584	80.88
3.9655	650.54	A6	benzene	0.0281	0.0296	0.0342	176.162	80.09
4.0693	655.58	I7	3,3-dimethylpentane	0.0092	0.0123	0.0087	186.908	86.06
4.1558	659.63	N6	cyclohexane	0.1823	0.2169	0.2058	177.296	80.72
4.3361	667.69	I7	2-methylhexane	0.0486	0.0664	0.0461	194.09	90.05
4.3784	669.51	I7	2,3-dimethylpentane	0.0755	0.1006	0.0716	193.604	89.78
4.4502	672.53	N7	1,1-dimethylcyclopentane	0.0278	0.0341	0.0269	189.464	87.48
4.5408	676.25	I7	3-methylhexane	0.0858	0.1156	0.0813	197.33	91.85
4.7058	682.75	N7	1c,3-dimethylcyclopentane	0.0797	0.0991	0.0771	195.386	90.77
4.7766	685.45	N7	1t,3-dimethylcyclopentane	0.0717	0.0887	0.0694	197.096	91.72

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
4.7955	686.15	I7	3-ethylpentane	0.0159	0.0211	0.0151	200.246	93.47
4.8472	688.07	N7	1t,2-dimethylcyclopentane	0.1576	0.1943	0.1526	197.366	91.87
5.1867	700	P7	n-heptane	0.1485	0.2012	0.1408	209.156	98.42
5.7942	721.9	N7	1c,2-dimethylcyclopentane	0.0244	0.0309	0.0236	211.154	99.53
5.8181	722.7	N7	methylcyclohexane	0.3631	0.4371	0.3514	213.674	100.93
5.9188	726.02	N8	1,1,3-trimethylcyclopentane	0.0562	0.0696	0.0476	220.802	104.89
6.2133	735.32	N7	ethylcyclopentane	0.063	0.0761	0.0609	218.246	103.47
6.2375	736.05	I8	2,5-dimethylhexane	0.0162	0.0216	0.0134	228.398	109.11
6.3181	738.48	I8	2,4-dimethylhexane	0.0314	0.0416	0.0261	228.974	109.43
6.5199	744.4	N8	1c,2t,4-trimethylcyclopentane	0.058	0.0703	0.0491	242.132	116.74
6.5556	745.43	I8	3,3-dimethylhexane	0.0127	0.0166	0.0106	233.546	111.97
6.7828	751.77	N8	1t,2c,3-trimethylcyclopentane	0.0862	0.1036	0.073	230.738	110.41
6.8816	754.45	I8	2,3,4-trimethylpentane	0.0541	0.0696	0.045	236.246	113.47
6.9517	756.31		unknown	0.0006	0.0008	0.0005	236.246	113.47
7.0205	758.13	A7	toluene	0.0886	0.0947	0.0914	231.134	110.63
7.1702	761.99		unknown	0.0008	0.001	0.0023	231.134	110.63
7.3141	765.62	I8	2,3-dimethylhexane	0.0397	0.0517	0.0331	240.098	115.61
7.3335	766.1	I8	2-methyl-3-ethylpentane	0.017	0.0221	0.0141	240.098	115.61
7.4042	767.84		unknown	0.0018	0.0023	0.0015	240.098	115.61
7.5267	770.81	I8	2-methylheptane	0.0532	0.0706	0.0442	243.77	117.65
7.5828	772.15	I8	4-methylheptane	0.0279	0.0367	0.0232	243.878	117.71
7.6166	772.95	I8	3-methyl-3-ethylpentane	0.0117	0.0152	0.0097	240.098	115.61
7.74	775.85	N8	1c,2c,4-trimethylcyclopentane	0.0091	0.0111	0.0077	242.168	116.76
7.8167	777.61		unknown	0.0259	0.0343	0.0219	242.168	116.76
7.8668	778.76	I8	3-methylheptane	0.169	0.2219	0.1406	246.074	118.93
7.8897	779.28	N8	1c,2t,3-trimethylcyclopentane	0.0273	0.0329	0.0231	243.5	117.5
7.9392	780.39	N8	1t,4-dimethylcyclohexane	0.069	0.0838	0.0584	246.848	119.36
8.1502	785.07	N8	1,1-dimethylcyclohexane	0.0277	0.0328	0.0234	247.19	119.55
8.2423	787.06	I9	2,2,5-trimethylhexane	0.0017	0.0022	0.0013	255.362	124.09
8.2942	788.17	N8	3c-ethylmethylcyclopentane	0.0287	0.0346	0.0243	249.98	121.1
8.377	789.92	N8	3t-ethylmethylcyclopentane	0.0243	0.0294	0.0206	249.98	121.1

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
8.4272	790.98	N8	2t-ethylmethylcyclopentane	0.0768	0.0925	0.065	250.16	121.2
8.5075	792.65	N8	1,1-methylethylcyclopentane	0.0065	0.0077	0.0055	250.754	121.53
8.6175	794.91	N8	1t,2-dimethylcyclohexane	0.1108	0.1323	0.0938	254.174	123.43
8.8716	800	P8	n-octane	0.0663	0.0875	0.0552	258.224	125.68
8.8967	800.65		unknown	0.0575	0.0761	0.1708	258.224	125.68
9.1053	806.05	I9	I9-[1]	0.0006	0.0007	0.0004	258.224	125.68
9.1834	808.03	N8	i-propylcyclopentane	0.018	0.0215	0.0153	259.574	126.43
9.3079	811.15		unknown	0.0005	0.0006	0.0014	259.574	126.43
9.3492	812.18		unknown	0.0003	0.0004	0.001	259.574	126.43
9.4553	814.78	N8	N8-[1]	0.0064	0.0076	0.0054	259.574	126.43
9.5541	817.18	I9	2,2,3,4-tetramethylpentane	0.0032	0.004	0.0023	271.454	133.03
9.6332	819.07	I9	2,3,4-trimethylhexane	0.0094	0.0117	0.0069	282.308	139.06
9.709	820.88	N8	N8-[2]	0.0028	0.0036	0.0021	282.308	139.06
9.9014	825.37	N8	1c,2-dimethylcyclohexane	0.0365	0.0424	0.0309	265.532	129.74
9.9277	825.98		unknown	0.0108	0.0144	0.0092	265.532	129.74
10.0302	828.33	I9	2,2-dimethylheptane	0.0033	0.0043	0.0025	270.86	132.7
10.1477	830.99	N9	1,1,4-trimethylcyclohexane	0.1881	0.2257	0.1416	275	135
10.2134	832.46	I9	2,2,3-trimethylhexane	0.0325	0.0421	0.0241	271.22	132.9
10.3071	834.54	I9	2,4-dimethylheptane	0.0086	0.0111	0.0064	271.22	132.9
10.4078	836.75	I9	4,4-dimethylheptane	0.227	0.294	0.1682	271.22	132.9
10.5306	839.41	I9	2,5-dimethylheptane	0.0351	0.0454	0.026	276.8	136
10.598	840.85	I9	3,5-dimethylheptane	0.0059	0.0076	0.0044	276.8	136
10.6645	842.27	I9	3,3-&3,5-dimethlyheptane	0.0128	0.0167	0.0095	275.396	135.22
10.7285	843.62	N9	1,1,3-trimethylcyclohexane	0.0192	0.0227	0.0145	295.862	146.59
10.807	845.27	N9	1c,2t,4t-trimethylcyclohexane	0.0118	0.014	0.0089	32	0
11.0379	850.03	A8	ethylbenzene	0.0501	0.0535	0.0448	277.16	136.2
11.0971	851.24	N9	1c,3c,5c-trimethylcyclohexane	0.0517	0.0614	0.0389	32	0
11.1876	853.06		unknown	0.0742	0.0982	0.0558	32	0
11.2959	855.22		unknown	0.0136	0.0179	0.0102	32	0
11.4013	857.3	I9	I9-[2]	0.0042	0.0054	0.0031	32	0
11.5171	859.57	A8	1,3-dimethylbenzene	0.0661	0.0709	0.0592	282.416	139.12

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
11.6456	862.05	A8	1,4-dimethylbenzene	0.0711	0.0765	0.0636	281.048	138.36
11.7551	864.14	I9	2,3-dimethylheptane	0.0066	0.0084	0.0049	284.9	140.5
11.8341	865.63	I9	3,4 -dimethylheptane	0.0277	0.0351	0.0205	285.08	140.6
11.9172	867.19	N9	N9-[1]	0.0176	0.0209	0.0133	285.08	140.6
11.9851	868.45	I9	I9-[3]	0.0108	0.0137	0.008	285.08	140.6
12.1102	870.76	I9	4-methyloctane	0.0178	0.0211	0.0134	32	0
12.1676	871.81	I9	2-methyloctane	0.0171	0.0222	0.0127	289.904	143.28
12.3	874.21	N9	1c,2t,3c-trimethylcyclohexane	0.0281	0.0344	0.0212	304.16	151.2
12.4374	876.67	I9	3-methyloctane	0.0475	0.0611	0.0352	291.614	144.23
12.52	878.14	I9	3,3-diethylpentane	0.0321	0.0392	0.0238	270.842	132.69
12.5927	879.42	N9	1c,2t,4c-trimethylcyclohexane	0.0069	0.0083	0.0052	275	135
12.6628	880.65	N9	1,1,2-trimethylcyclohexane	0.0079	0.0091	0.0059	293.36	145.2
12.7252	881.73	A8	1,2-dimethylbenzene	0.0673	0.0708	0.0602	291.974	144.43
12.7986	883	I9	I9-[4]	0.0118	0.015	0.0088	291.974	144.43
12.922	885.12	I9	I9-[5]	0.0048	0.0061	0.0036	291.974	144.43
13.0488	887.27	N9	N9-[2]	0.0526	0.0624	0.0396	291.974	144.43
13.0899	887.96	N9	N9-[3]	0.0809	0.0961	0.0609	291.974	144.43
13.1917	889.66	N9	N9-[4]	0.044	0.0522	0.0331	291.974	144.43
13.2825	891.17		unknown	0.0029	0.0038	0.0022	291.974	144.43
13.3241	891.86	I9	I9-[6]	0.0084	0.0106	0.0062	291.974	144.43
13.3984	893.08	N9	i-butylcyclopentane	0.012	0.0143	0.009	298.346	147.97
13.4356	893.68	N9	N9-[5]	0.002	0.0024	0.0015	298.346	147.97
13.6283	896.8	N9	N9-[6]	0.0064	0.0076	0.0048	298.346	147.97
13.7142	898.18		unknown	0.0029	0.0038	0.0022	298.346	147.97
13.7381	898.56	N9	N9-[7]	0.013	0.0154	0.0097	298.346	147.97
13.8286	900	P9	n-nonane	0.0647	0.0835	0.0479	303.476	150.82
13.9216	903.06	N9	1,1-methylethylcyclohexane	0.0754	0.0867	0.0568	305.924	152.18
14.0184	906.22		unknown	0.0081	0.0107	0.0061	305.924	152.18
14.0421	907	N9	N9-[8]	0.0083	0.0097	0.0062	305.924	152.18
14.1024	908.95		unknown	0.0041	0.0054	0.0122	305.924	152.18
14.2185	912.69	A9	i-propylbenzene	0.0126	0.0136	0.01	306.338	152.41

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
14.2508	913.72		unknown	0.0037	0.0049	0.0029	306.338	152.41
14.3435	916.68	N9	N9-[9]	0.0683	0.0801	0.0514	306.338	152.41
14.431	919.45	N9	i-propylcyclohexane	0.0307	0.0354	0.0231	310.622	154.79
14.5283	922.51	I10	2,4-dimethyloctane	0.0197	0.0251	0.0131	312.62	155.9
14.5985	924.7	I10	2,2-dimethyloctane	0.0272	0.0348	0.0182	314.42	156.9
14.6557	926.47	N9	N9-[10]	0.0081	0.0095	0.0061	314.42	156.9
14.6975	927.77	N9	N9-[11]	0.0013	0.0015	0.001	314.42	156.9
14.7659	929.88		unknown	0.0175	0.0231	0.0131	314.42	156.9
14.8511	932.49	I10	2,6-dimethyloctane	0.0936	0.1192	0.0625	320.738	160.41
14.8753	933.23	I10	2,5-dimethyloctane	0.0333	0.0422	0.0222	317.3	158.5
15.0121	937.38	N9	n-butylcyclopentane	0.0347	0.041	0.0261	313.916	156.62
15.0732	939.22	N10	N10-[1]	0.0161	0.0186	0.0109	313.916	156.62
15.1468	941.43	I10	I10-[1]	0.0136	0.0173	0.0091	313.916	156.62
15.2037	943.13	I10	3,3-dimethyloctane	0.0873	0.1095	0.0583	322.16	161.2
15.2617	944.85	N10	N10-[2]	0.0435	0.0504	0.0295	322.16	161.2
15.2854	945.55		unknown	0.008	0.0106	0.0054	322.16	161.2
15.3334	946.97	A9	n-propylbenzene	0.0415	0.0446	0.0328	318.632	159.24
15.3944	948.76	I10	3,6-dimethyloctane	0.0254	0.032	0.017	321.44	160.8
15.444	950.22	I10	3-methyl-5-ethylheptane	0.0524	0.0668	0.035	316.76	158.2
15.4662	950.87		unknown	0.0125	0.0165	0.0083	316.76	158.2
15.527	952.64	N10	N10-[3]	0.0224	0.026	0.0152	316.76	158.2
15.5974	954.68	A9	1,3-methylethylbenzene	0.0321	0.0343	0.0253	322.394	161.33
15.6336	955.73	A9	1,4-methylethylbenzene	0.0463	0.0498	0.0366	323.618	162.01
15.6609	956.52		unknown	0.0239	0.0317	0.0189	323.618	162.01
15.7038	957.75		unknown	0.0044	0.0058	0.0034	323.618	162.01
15.7878	960.16		unknown	0.0936	0.1238	0.074	323.618	162.01
15.8585	962.17	N10	N10-[4]	0.029	0.0336	0.0196	323.618	162.01
15.8748	962.63		unknown	0.0158	0.0209	0.0107	323.618	162.01
15.9252	964.06	A9	1,3,5-trimethylbenzene	0.0257	0.0275	0.0203	328.532	164.74
15.9435	964.58		unknown	0.0142	0.0187	0.0112	328.532	164.74
16.004	966.29	I10	2,3-dimethyloctane	0.0178	0.0223	0.0119	327.812	164.34

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
16.0228	966.81		unknown	0.0095	0.0126	0.0283	327.812	164.34
16.0736	968.24	I10	I10-[2]	0.0064	0.008	0.0043	327.812	164.34
16.14	970.1	I10	4-methylnonane	0.0227	0.0284	0.0151	32	0
16.1589	970.62	A9	1,2-methylethylbenzene	0.0429	0.0452	0.0339	329.324	165.18
16.2119	972.1	I10	2-methylnonane	0.0227	0.0289	0.0151	332.654	167.03
16.2575	973.36		unknown	0.011	0.0145	0.0073	332.654	167.03
16.2743	973.82		unknown	0.021	0.0278	0.0624	332.654	167.03
16.3136	974.91	I10	3-ethyloctane	0.0165	0.0207	0.011	331.7	166.5
16.364	976.29		unknown	0.0273	0.0361	0.0182	331.7	166.5
16.4102	977.56	N10	N10-[5]	0.0321	0.0372	0.0217	331.7	166.5
16.4588	978.89	I10	3-methylnonane	0.0484	0.0611	0.0323	334.04	167.8
16.5441	981.21		unknown	0.0081	0.0107	0.024	334.04	167.8
16.633	983.62	A9	1,2,4-trimethylbenzene	0.108	0.1142	0.0854	336.884	169.38
16.6874	985.08	N10	i-butylcyclohexane	0.0721	0.0839	0.0488	340.34	171.3
16.7665	987.2	I10	I10-[3]	0.0706	0.0883	0.0471	340.34	171.3
16.7955	987.98	I10	I10-[4]	0.0113	0.0142	0.0076	340.34	171.3
16.843	989.24	I10	I10-[5]	0.0156	0.0195	0.0104	340.34	171.3
16.8838	990.33	I10	I10-[6]	0.0262	0.0328	0.0175	340.34	171.3
16.9178	991.23	I10	I10-[7]	0.0144	0.018	0.0096	340.34	171.3
16.9673	992.54	N10	N10-[6]	0.0042	0.0049	0.0029	340.34	171.3
17.0378	994.4	N10	1t-methyl-2-n-propylcyclohexane	0.0177	0.0205	0.012	339.8	171
17.085	995.63	A10	i-butylbenzene	0.0329	0.0357	0.0233	343.022	172.79
17.1625	997.66		unknown	0.011	0.0145	0.0078	343.022	172.79
17.1933	998.46	I10	I10-[8]	0.0169	0.0211	0.0113	343.022	172.79
17.2068	998.81	A10	sec-butylbenzene	0.0212	0.0228	0.015	344.012	173.34
17.2524	1000	P10	n-decane	0.0637	0.0808	0.0426	345.47	174.15

LPG Composition by GC (D6730 Mod)

Sample ID	Albacora Leste
Lab ID	120-23-02750
Client ID	PetroRio
Date	March 29, 2023
Cut Range	IBP - 59°F

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
6.5466	100	P1	methane	0.0096	0.0178	0.0324	-258.7	-161.5
6.7207	200	P2	ethane	2.401	3.7396	4.3084	-127.48	-88.6
7.1952	295.36	O3	propylene	0.0008	0.0009	0.0011	-53.896	-47.72
7.2361	300	P3	propane	24.9176	27.2637	30.4905	-43.672	-42.04
7.5158	325.29	O3	methyl acetylene	0.0046	0.0051	0.0062	-41.8	-41
8.2107	365.91	I4	i-butane	23.1952	22.8719	21.5333	10.904	-11.72
8.4307	375.3		unknown	0.0176	0.0173	0.0163	10.904	-11.72
8.8174	389.45	O4	isobutylene	0.0008	0.0007	0.0008	20.75	-6.25
8.8458	390.4	O4	butene-1	0.0033	0.0031	0.0032	20.75	-6.25
8.9864	394.9	O4	1,3-butadiene	0.0009	0.0008	0.0009	24.062	-4.41
9.1556	400	P4	n-butane	37.3018	35.4344	34.6291	31.1	-0.5
9.3657	407.08	O4	vinyl acetylene	0.0004	0.0004	0.0004	32	0
9.5092	411.62	O4	t-butene-2	0.0058	0.0053	0.0056	33.584	0.88
9.5878	414.02	I5	2,2-dimethylpropane	0.222	0.2085	0.166	49.1	9.5
9.955	424.46		unknown	0.0013	0.0012	0.0009	49.1	9.5
10.0758	427.65	O4	c-butene-2	0.0031	0.0027	0.003	38.696	3.72
11.7394	463.1	O5	3-methylbutene-1	0.0015	0.0013	0.0011	68.09	20.05
11.9876	467.39		unknown	0.0034	0.003	0.0026	68.09	20.05
12.6004	477.2	I5	i-pentane	6.1956	5.5003	4.6335	82.112	27.84
12.8526	480.96		unknown	0.0089	0.0079	0.0066	82.112	27.84
13.7638	493.38		unknown	0.0015	0.0014	0.0011	82.112	27.84
14.042	496.86	O5	2-methylbutene-1	0.0007	0.0006	0.0006	88.07	31.15
14.3018	500	P5	n-pentane	4.5581	4.0107	3.4088	96.908	36.06
14.8938	510.66	O5	2-methylbutadiene-1,3	0.0017	0.0014	0.0014	93.308	34.06
16.7622	539.95	I6	2,2-dimethylbutane	0.0284	0.0243	0.0178	121.514	49.73
18.87	567.16	N5	cyclopentane	0.2721	0.2026	0.2094	120.65	49.25
19.0107	568.81	I6	2,3-dimethylbutane	0.055	0.0461	0.0344	136.364	57.98

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
19.3811	573.06	I6	2-methylpentane	0.2315	0.1967	0.145	140.468	60.26
20.5155	585.35	I6	3-methylpentane	0.0833	0.0696	0.0521	145.886	63.27
21.9985	600	P6	n-hexane	0.1451	0.1221	0.0909	155.714	68.73
24.3922	626.82	N6	methylcyclopentane	0.121	0.0897	0.0776	161.24	71.8
24.7418	630.43	I7	2,4-dimethylpentane	0.0086	0.0071	0.0046	176.882	80.49
27.0228	652.43	A6	benzene	0.0078	0.0049	0.0054	176.162	80.09
27.7907	659.29	N6	cyclohexane	0.0431	0.0307	0.0276	177.296	80.72
28.7438	667.46	I7	2-methylhexane	0.0107	0.0088	0.0058	194.09	90.05
28.9672	669.33	I7	2,3-dimethylpentane	0.0089	0.0071	0.0048	193.604	89.78
29.3503	672.48	N7	1,1-dimethylcyclopentane	0.0044	0.0033	0.0024	189.464	87.48
29.8066	676.18	I7	3-methylhexane	0.0089	0.0072	0.0048	197.33	91.85
30.5939	682.38	N7	1c,3-dimethylcyclopentane	0.0093	0.0069	0.0051	195.386	90.77
30.9593	685.19	I7	3-ethylpentane	0.0085	0.0067	0.0046	200.246	93.47
31.33	687.99	I8	2,2,4-trimethylpentane	0.0133	0.0107	0.0063	210.632	99.24
32.9786	700	P7	n-heptane	0.0063	0.0051	0.0034	209.156	98.42
36.1056	719.17	N7	methylcyclohexane	0.0184	0.0133	0.0101	213.674	100.93
42.7758	754.07	A7	toluene	0.0583	0.0373	0.0342	231.134	110.63

Naphtha Composition by GC (D6730)

Sample ID	Albacora Leste
Lab ID	120-23-02750
Client ID	PetroRio
Date	March 29, 2023
Cut Range	59-149°F

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
6.7311	200	P2	ethane	0.0079	0.0144	0.0197	-127.48	-88.6
7.2609	300	P3	propane	0.0512	0.0658	0.0872	-43.672	-42.04
8.2231	366	I4	i-butane	1.2396	1.4351	1.6014	10.904	-11.72
8.858	391	O4	isobutylene	0.0003	0.0004	0.0005	20.75	-6.25
9.1407	400	P4	n-butane	7.7538	8.6479	10.0169	31.1	-0.5
9.5194	412.32	O4	t-butene-2	0.0011	0.0012	0.0015	33.584	0.88
9.5962	414.63	I5	2,2-dimethylpropane	0.1106	0.122	0.1151	49.1	9.5
10.0808	427.98	O4	c-butene-2	0.0008	0.0008	0.001	38.696	3.72
11.635	460.99	O5	3-methylbutene-1	0.0006	0.0006	0.0006	68.09	20.05
11.75	463.02		unknown	0.0019	0.0019	0.002	68.09	20.05
12.6246	477.11	I5	i-pentane	16.3903	17.0841	17.0575	82.112	27.84
12.79	479.54		unknown	0.0018	0.0019	0.0019	82.112	27.84
13.0775	483.63		unknown	0.0016	0.0016	0.0016	82.112	27.84
13.5833	490.39	O5	pentene-1	0.0005	0.0005	0.0005	85.928	29.96
14.071	496.47	O5	2-methylbutene-1	0.0017	0.0017	0.0018	88.07	31.15
14.3689	500	P5	n-pentane	27.0356	27.9299	28.1361	96.908	36.06
14.8969	509.51	O5	t-pentene-2	0.0052	0.0052	0.0056	97.412	36.34
15.4264	518.47	O5	c-pentene-2	0.0014	0.0014	0.0015	98.474	36.93
15.6469	522.04		unknown	0.0046	0.0046	0.0049	98.474	36.93
15.7646	523.91	O5	2-methylbutene-2	0.0111	0.0109	0.0118	101.408	38.56
16.7594	538.85	I6	2,2-dimethylbutane	0.5617	0.5639	0.4895	121.514	49.73
17.7575	552.44		unknown	0.0012	0.0012	0.001	121.514	49.73
18.8053	565.46		unknown	0.0025	0.0025	0.0022	121.514	49.73
18.9181	566.79	N5	cyclopentane	7.3806	6.4514	7.9018	120.65	49.25
19.0397	568.22	I6	2,3-dimethylbutane	2.283	2.2484	1.9892	136.364	57.98
19.4646	573.1	I6	2-methylpentane	11.577	11.5497	10.0872	140.468	60.26
19.5825	574.42	O6	4-methyl-t-pentene-2	0.0047	0.0046	0.0042	137.48	58.6
20.5531	584.89	I6	3-methylpentane	4.8578	4.7647	4.2327	145.886	63.27
20.7567	586.99		unknown	0.0018	0.0018	0.0016	145.886	63.27
21.0489	589.96	O6	2-methylpentene-1	0.0005	0.0005	0.0005	143.78	62.1
21.1122	590.59	O6	hexene-1	0.0003	0.0002	0.0002	146.246	63.47

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
22.0823	600	P6	n-hexane	9.9267	9.8087	8.6492	155.714	68.73
22.2884	602.47	O6	t-hexene-3	0.0007	0.0007	0.0007	152.744	67.08
22.5167	605.17	O6	t-hexene-2	0.0033	0.0031	0.0029	154.184	67.88
22.7267	607.62	O6	2-methylpentene-2	0.0022	0.0021	0.002	153.14	67.3
22.8467	609.01	O6	4-methylcyclopentene	0.0009	0.0007	0.0008	148.82	64.9
22.9625	610.34	O6	3-methyl-c-pentene-2	0.0018	0.0017	0.0016	153.842	67.69
23.1236	612.17	O6	3-methylcyclopentene	0.0005	0.0004	0.0004	149	65
23.3392	614.6	O6	c-hexene-2	0.0011	0.0011	0.001	155.984	68.88
23.4704	616.06	O6	O6-[1]	0.0006	0.0006	0.0006	155.984	68.88
23.9175	620.95	O6	3-methyl-t-pentene-2	0.002	0.0018	0.0018	158.774	70.43
23.9975	621.82		unknown	0.0011	0.001	0.001	158.774	70.43
24.1575	623.53	I7	2,2-dimethylpentane	0.0644	0.0622	0.0482	174.542	79.19
24.4606	626.73	N6	methylcyclopentane	7.8255	6.8111	6.9817	161.24	71.8
24.7746	630	I7	2,4-dimethylpentane	0.1683	0.163	0.1261	176.882	80.49
24.8919	631.2	O7	2,2,3-trimethylbutene-1	0.001	0.0009	0.0008	172.202	77.89
25.0208	632.52		unknown	0.0005	0.0005	0.0004	172.202	77.89
25.245	634.78	I7	2,2,3-trimethylbutane	0.0117	0.011	0.0088	177.584	80.88
26.4981	646.96	O7	2,4-dimethylpentene-1	0.0029	0.0027	0.0022	178.88	81.6
26.7752	649.55	O6	1-methylcyclopentene	0.0033	0.0028	0.003	167.864	75.48
27.0465	652.05	A6	benzene	0.8777	0.6507	0.8437	176.162	80.09
27.3083	654.43	I7	3,3-dimethylpentane	0.0131	0.0123	0.0098	186.908	86.06
27.5839	656.91	O7	5-methylhexene-1	0.0012	0.0011	0.0009	185.558	85.31
27.8055	658.87	N6	cyclohexane	1.34	1.1215	1.1955	177.296	80.72
28.7678	667.19	I7	2-methylhexane	0.0529	0.0508	0.0396	194.09	90.05
28.958	668.79	I7	2,3-dimethylpentane	0.0789	0.074	0.0591	193.604	89.78
29.3263	671.85	N7	1,1-dimethylcyclopentane	0.0325	0.0281	0.0249	189.464	87.48
29.5471	673.66	O6	cyclohexene	0.0015	0.0012	0.0013	181.346	82.97
29.8056	675.76	I7	3-methylhexane	0.051	0.0484	0.0382	197.33	91.85
30.625	682.26	N7	1c,3-dimethylcyclopentane	0.0605	0.0529	0.0462	195.386	90.77
30.9869	685.06	N7	1t,3-dimethylcyclopentane	0.0442	0.0384	0.0338	197.096	91.72
31.0969	685.9	I7	3-ethylpentane	0.0047	0.0044	0.0036	200.246	93.47

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
31.3444	687.79	I8	2,2,4-trimethylpentane	0.0742	0.0699	0.0488	210.632	99.24
33.0103	700	P7	n-heptane	0.0141	0.0135	0.0106	209.156	98.42
36.0133	718.46	O7	O7-[1]	0.0019	0.0017	0.0014	209.156	98.42
36.1192	719.07	N7	methylcyclohexane	0.0194	0.0164	0.0148	213.674	100.93
36.5314	721.45	N8	1,1,3-trimethylcyclopentane	0.0011	0.001	0.0008	220.802	104.89
38.0913	730.16	N7	ethylcyclopentane	0.0026	0.0022	0.002	218.246	103.47
39.5392	737.87	N8	1c,2t,4-trimethylcyclopentane	0.0013	0.0011	0.0009	242.132	116.74
40.9317	744.97	N8	1t,2c,3-trimethylcyclopentane	0.0018	0.0015	0.0012	230.738	110.41
42.8017	754.07	A7	toluene	0.0064	0.0048	0.0052	231.134	110.63
44.9729	764.06	I8	2-methylheptane	0.0015	0.0014	0.001	243.77	117.65
47.2717	774.04	N8	1c,2t,3-trimethylcyclopentane	0.0016	0.0014	0.0011	243.5	117.5
52.2892	794	N8	1t,2-dimethylcyclohexane	0.0016	0.0013	0.0011	254.174	123.43
53.915	800	P8	n-octane	0.0031	0.0029	0.002	258.224	125.68

Naphtha Composition by GC (D6730)

Sample ID	Albacora Leste
Lab ID	120-23-02750
Client ID	PetroRio
Date	March 29, 2023
Cut Range	149-212°F

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
6.7319	200	P2	ethane	0.0029	0.0059	0.009	-127.48	-88.6
7.263	300	P3	propane	0.0111	0.0158	0.0236	-43.672	-42.04
8.2253	366.02	I4	i-butane	0.0662	0.0852	0.107	10.904	-11.72
9.141	400	P4	n-butane	0.2609	0.3234	0.4217	31.1	-0.5
9.6046	415.03	I5	2,2-dimethylpropane	0.0041	0.005	0.0053	49.1	9.5
12.5791	477.27	I5	i-pentane	0.3231	0.3743	0.4208	82.112	27.84
14.2752	500	P5	n-pentane	0.6967	0.8	0.9074	96.908	36.06
15.7511	525.06	O5	2-methylbutene-2	0.0013	0.0015	0.0018	101.408	38.56
16.7574	539.95	I6	2,2-dimethylbutane	0.0458	0.0511	0.0499	121.514	49.73
18.8709	566.95	N5	cyclopentane	0.7122	0.692	0.9542	120.65	49.25
19.0052	568.51	I6	2,3-dimethylbutane	0.4565	0.4997	0.4977	136.364	57.98
19.3937	572.91	I6	2-methylpentane	2.8999	3.2157	3.1622	140.468	60.26
19.5608	574.77	O6	4-methyl-t-pentene-2	0.001	0.0011	0.0011	137.48	58.6
20.5154	584.93	I6	3-methylpentane	1.8643	2.0324	2.0328	145.886	63.27
20.7733	587.55	O6	2-methylpentene-1	0.0015	0.0016	0.0017	143.78	62.1
22.0613	600	P6	n-hexane	8.4201	9.2477	9.1815	155.714	68.73
22.49	605.07	O6	t-hexene-2	0.0022	0.0023	0.0024	154.184	67.88
22.69	607.39	O6	2-methylpentene-2	0.0013	0.0014	0.0015	153.14	67.3
23.4915	616.42	O6	c-hexene-2	0.0017	0.0017	0.0018	155.984	68.88
24.1392	623.4	I7	2,2-dimethylpentane	0.3303	0.355	0.3097	174.542	79.19
24.479	626.97	N6	methylcyclopentane	12.0911	11.6972	13.5002	161.24	71.8
24.7766	630.03	I7	2,4-dimethylpentane	1.1415	1.2289	1.0704	176.882	80.49
25.2215	634.52	I7	2,2,3-trimethylbutane	0.0806	0.0846	0.0756	177.584	80.88
25.7957	640.16	O7	3,4-dimethylpentene-1	0.0011	0.0011	0.0011	177.422	80.79
26.4878	646.74	O7	2,4-dimethylpentene-1	0.0011	0.0012	0.0011	178.88	81.6
26.7608	649.28	O6	1-methylcyclopentene	0.0086	0.008	0.0098	167.864	75.48
27.0561	651.98	A6	benzene	1.018	0.8388	1.2246	176.162	80.09
27.2879	654.07	I7	3,3-dimethylpentane	0.2412	0.252	0.2262	186.908	86.06
27.6042	656.89	O7	5-methylhexene-1	0.0015	0.0016	0.0015	185.558	85.31
27.8795	659.31	N6	cyclohexane	9.9749	9.2793	11.1374	177.296	80.72
28.0351	660.66	O7	2-methyl-t-hexene-3	0.0021	0.0021	0.002	186.62	85.9

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
28.822	667.36	I7	2-methylhexane	3.1025	3.311	2.9095	194.09	90.05
29.0167	668.98	I7	2,3-dimethylpentane	4.0441	4.2135	3.7925	193.604	89.78
29.3341	671.6	N7	1,1-dimethylcyclopentane	1.175	1.1278	1.1245	189.464	87.48
29.8529	675.79	I7	3-methylhexane	4.3866	4.6235	4.1136	197.33	91.85
30.353	679.74	O7	3,4-dimethyl-c-pentene-2	0.002	0.002	0.0019	192.65	89.25
30.6734	682.23	N7	1c,3-dimethylcyclopentane	4.2781	4.1599	4.0943	195.386	90.77
31.0382	685.03	N7	1t,3-dimethylcyclopentane	3.9801	3.8494	3.8091	197.096	91.72
31.1637	685.98	I7	3-ethylpentane	0.5755	0.597	0.5397	200.246	93.47
31.4436	688.09	I8	2,2,4-trimethylpentane	7.0517	7.381	5.8009	210.632	99.24
31.5913	689.19	O7	heptene-1	0.0009	0.0009	0.0009	200.552	93.64
33.0867	700	P7	n-heptane	5.6627	5.9983	5.3104	209.156	98.42
33.2088	700.79	O7	2-methyl-2-hexene	0.0066	0.0067	0.0063	203.738	95.41
33.394	701.99	O7	3-methyl-c-hexene-2	0.0037	0.0037	0.0035	203.738	95.41
33.5458	702.96	O7	t-heptene-2	0.0016	0.0016	0.0015	208.31	97.95
33.7983	704.58	O7	3-ethylpentene-2	0.0025	0.0025	0.0024	204.818	96.01
34.505	709.01	O7	c-heptene-2	0.0013	0.0013	0.0012	209.138	98.41
34.5958	709.57		unknown	0.0022	0.0022	0.0021	209.138	98.41
35.1128	712.73	O7	3-ethylcyclopentene	0.0041	0.0038	0.004	207.986	97.77
36.0067	718.07	O7	O7-[1]	0.2394	0.2368	0.2291	207.986	97.77
36.283	719.69	N7	methylcyclohexane	12.6624	11.9187	12.1184	213.674	100.93
36.362	720.15	I8	2,2-dimethylhexane	0.0278	0.0289	0.0228	224.312	106.84
36.5554	721.27	N8	1,1,3-trimethylcyclopentane	0.7858	0.7606	0.658	220.802	104.89
36.9961	723.79		unknown	0.0048	0.0046	0.004	220.802	104.89
38.0815	729.86	N7	ethylcyclopentane	2.1317	2.0143	2.0401	218.246	103.47
38.4034	731.61	I8	2,4-dimethylhexane	0.4414	0.4565	0.3631	228.974	109.43
38.7399	733.43		unknown	0.002	0.002	0.0016	228.974	109.43
39.0817	735.26		unknown	0.0029	0.003	0.0024	228.974	109.43
39.2727	736.28		unknown	0.0028	0.0029	0.0023	228.974	109.43
39.5097	737.53	N8	1c,2t,4-trimethylcyclopentane	1.0565	1.0022	0.8847	242.132	116.74
39.6647	738.34	I8	3,3-dimethylhexane	0.0639	0.0652	0.0526	233.546	111.97
40.9108	744.74	N8	1t,2c,3-trimethylcyclopentane	1.3381	1.2579	1.1205	230.738	110.41

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
41.3722	747.05	I8	2,3,4-trimethylpentane	0.5188	0.5226	0.4268	236.246	113.47
41.7692	749.01	I8	I8-[1]	0.0131	0.0132	0.0108	236.246	113.47
42.2292	751.26	I8	2,3,3-trimethylpentane	0.0465	0.0464	0.0383	238.586	114.77
42.8221	754.11	A7	toluene	2.269	1.8953	2.314	231.134	110.63
43.3578	756.65		unknown	0.003	0.0025	0.0031	231.134	110.63
43.6294	757.92	I8	2,3-dimethylhexane	0.1553	0.1579	0.1277	240.098	115.61
43.919	759.27	I8	2-methyl-3-ethylpentane	0.3516	0.3576	0.2893	240.098	115.61
44.9422	763.95	I8	2-methylheptane	0.3793	0.3936	0.312	243.77	117.65
45.2784	765.46	I8	4-methylheptane	0.1651	0.1697	0.1358	243.878	117.71
45.5835	766.82	I8	3-methyl-3-ethylpentane	0.0262	0.0267	0.0216	240.098	115.61
45.7258	767.45	I8	3,4-dimethylhexane	0.0455	0.0458	0.0374	243.914	117.73
46.3808	770.32	N8	1c,2c,4-trimethylcyclopentane	0.0586	0.0557	0.049	242.168	116.76
46.7177	771.78	I8	3-methylheptane	0.1595	0.1637	0.1312	246.074	118.93
46.9841	772.92		unknown	0.0795	0.0815	0.0654	246.074	118.93
47.193	773.81	N8	1c,2t,3-trimethylcyclopentane	0.5851	0.55	0.4899	243.5	117.5
47.3875	774.64	I8	3-ethylhexane	0.1069	0.1085	0.088	245.372	118.54
47.6525	775.76	N8	1t,4-dimethylcyclohexane	0.2233	0.2121	0.187	246.848	119.36
49.0661	781.62	N8	1,1-dimethylcyclohexane	0.1004	0.0931	0.0841	247.19	119.55
49.3061	782.59	I9	2,2,5-trimethylhexane	0.0028	0.0029	0.0021	255.362	124.09
49.935	785.12	N8	3c-ethylmethylcyclopentane	0.0963	0.091	0.0807	249.98	121.1
50.5058	787.38	N8	3t-ethylmethylcyclopentane	0.0789	0.0745	0.0661	249.98	121.1
50.8528	788.74	N8	2t-ethylmethylcyclopentane	0.1977	0.1862	0.1656	250.16	121.2
51.0458	789.5	I9	2,2,4-trimethylhexane	0.0537	0.0526	0.0393	32	0
51.4532	791.08	N8	1,1-methylethylcyclopentane	0.013	0.0121	0.0109	250.754	121.53
52.2103	793.97	N8	1t,2-dimethylcyclohexane	0.2009	0.1875	0.1682	254.174	123.43
53.8262	800	P8	n-octane	0.1031	0.1063	0.0848	258.224	125.68
54.2983	801.74	N8	1c,4-dimethylcyclohexane	0.0651	0.0602	0.0545	255.794	124.33
55.8607	807.41	I9	I9-[1]	0.0023	0.0023	0.0017	32	0
56.3078	809	N8	i-propylcyclopentane	0.0171	0.0159	0.0143	259.574	126.43
57.4473	812.98	N8	N8-[1]	0.0019	0.0018	0.0016	259.574	126.43
58.1903	815.53	I9	2,2,3,4-tetramethylpentane	0.004	0.004	0.003	271.454	133.03

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
58.8483	817.76	I9	2,3,4-trimethylhexane	0.0026	0.0026	0.0019	282.308	139.06
59.7075	820.63	N8	N8-[2]	0.0067	0.0062	0.0056	282.308	139.06
60.044	821.74	N8	N8-[3]	0.0009	0.0008	0.0007	282.308	139.06
61.445	826.29	N8	1c,2-dimethylcyclohexane	0.0047	0.0043	0.0039	265.532	129.74
61.7679	827.32	I9	2,2-dimethylheptane	0.013	0.0133	0.0096	270.86	132.7
62.4817	829.58		unknown	0.0019	0.0019	0.0014	270.86	132.7
63.598	833.06	N9	1,1,4-trimethylcyclohexane	0.0628	0.0589	0.0468	275	135
65.4442	838.66	I9	4,4-dimethylheptane	0.0232	0.0235	0.017	271.22	132.9
66.3567	841.36	I9	2,5-dimethylheptane	0.0044	0.0045	0.0032	276.8	136
70.8652	854.15	N8	N8-[4]	0.0045	0.0042	0.0038	276.8	136
71.4283	855.69	A8	ethylbenzene	0.0201	0.0168	0.0178	277.16	136.2
75.1383	865.47	A8	1,3-dimethylbenzene	0.0141	0.0118	0.0124	282.416	139.12
75.5417	866.51	A8	1,4-dimethylbenzene	0.0062	0.0052	0.0055	281.048	138.36
76.6517	869.31	I9	3,4-dimethylheptane	0.0037	0.0037	0.0027	285.08	140.6
83.4118	885.51	A8	1,2-dimethylbenzene	0.0025	0.0021	0.0022	291.974	144.43

Naphtha Composition by GC (D6730)

Sample ID	Albacora Leste
Lab ID	120-23-02750
Client ID	PetroRio
Date	March 29, 2023
Cut Range	212-302°F

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
6.7315	200	P2	ethane	0.0007	0.0015	0.0027	-127.48	-88.6
7.261	300	P3	propane	0.0014	0.0021	0.0037	-43.672	-42.04
8.2286	366.12	I4	i-butane	0.0073	0.0099	0.0145	10.904	-11.72
8.87	391.22	O4	isobutylene	0.0004	0.0005	0.0008	20.75	-6.25
9.1475	400	P4	n-butane	0.0287	0.0372	0.0566	31.1	-0.5
9.6124	415.04	I5	2,2-dimethylpropane	0.0009	0.0011	0.0014	49.1	9.5
10.0768	427.95	O4	c-butene-2	0.0005	0.0006	0.001	38.696	3.72
12.5979	477.33	I5	i-pentane	0.0203	0.0246	0.0323	82.112	27.84
13.5758	491.07	O5	pentene-1	0.0006	0.0008	0.0011	85.928	29.96
14.294	500	P5	n-pentane	0.0248	0.0298	0.0394	96.908	36.06
14.8947	510.8	O5	t-pentene-2	0.0006	0.0007	0.001	97.412	36.34
15.4258	519.73	O5	c-pentene-2	0.0007	0.0008	0.0011	98.474	36.93
15.7547	524.99	O5	2-methylbutene-2	0.0004	0.0005	0.0007	101.408	38.56
16.7939	540.47	I6	2,2-dimethylbutane	0.0014	0.0016	0.0018	121.514	49.73
18.1104	557.96	O5	cyclopentene	0.0018	0.0018	0.003	111.614	44.23
18.8878	567.38	N5	cyclopentane	0.0232	0.0236	0.0379	120.65	49.25
19.0258	569	I6	2,3-dimethylbutane	0.0084	0.0096	0.0112	136.364	57.98
19.396	573.23	I6	2-methylpentane	0.0407	0.0473	0.0542	140.468	60.26
20.5281	585.45	I6	3-methylpentane	0.0326	0.0372	0.0434	145.886	63.27
21.1263	591.52	O6	hexene-1	0.0007	0.0008	0.0009	146.246	63.47
22.0049	600	P6	n-hexane	0.1568	0.1803	0.2087	155.714	68.73
22.2946	603.45	O6	t-hexene-3	0.0002	0.0002	0.0003	152.744	67.08
22.4894	605.74	O6	t-hexene-2	0.0006	0.0007	0.0008	154.184	67.88
22.8182	609.53	O6	4-methylcyclopentene	0.0009	0.0009	0.0013	148.82	64.9
23.1371	613.14	O6	3-methylcyclopentene	0.0007	0.0007	0.001	149	65
23.31	615.07	O6	c-hexene-2	0.0005	0.0006	0.0007	155.984	68.88
24.1458	624.13	I7	2,2-dimethylpentane	0.0141	0.0158	0.0161	174.542	79.19
24.3945	626.74	N6	methylcyclopentane	0.5021	0.5087	0.6844	161.24	71.8
24.7513	630.42	I7	2,4-dimethylpentane	0.0522	0.0589	0.0598	176.882	80.49
25.2317	635.26	I7	2,2,3-trimethylbutane	0.006	0.0066	0.0069	177.584	80.88
26.7665	649.95	O6	1-methylcyclopentene	0.0012	0.0012	0.0017	167.864	75.48

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
27.0383	652.44	A6	benzene	0.0639	0.0551	0.0938	176.162	80.09
27.294	654.74	I7	3,3-dimethylpentane	0.0222	0.0243	0.0254	186.908	86.06
27.5496	657.02	O7	5-methylhexene-1	0.0005	0.0005	0.0006	185.558	85.31
27.7878	659.12	N6	cyclohexane	0.8577	0.8357	1.1691	177.296	80.72
28.4106	664.5	O7	4-methylhexene-1	0.0006	0.0006	0.0006	188.114	86.73
28.7533	667.39	I7	2-methylhexane	0.3453	0.386	0.3953	194.09	90.05
28.9418	668.97	I7	2,3-dimethylpentane	0.503	0.5489	0.5758	193.604	89.78
29.3072	671.98	N7	1,1-dimethylcyclopentane	0.1543	0.1551	0.1803	189.464	87.48
29.7887	675.87	I7	3-methylhexane	0.6243	0.6892	0.7147	197.33	91.85
30.3529	680.34	O7	3,4-dimethyl-c-pentene-2	0.0011	0.0011	0.0012	192.65	89.25
30.6125	682.35	N7	1c,3-dimethylcyclopentane	0.706	0.7191	0.8249	195.386	90.77
30.9734	685.12	N7	1t,3-dimethylcyclopentane	0.7156	0.7249	0.8361	197.096	91.72
31.0887	686	I7	3-ethylpentane	0.1118	0.1214	0.128	200.246	93.47
31.3372	687.87	I8	2,2,4-trimethylpentane	1.3366	1.4653	1.3423	210.632	99.24
31.6142	689.94	O7	heptene-1	0.0007	0.0007	0.0008	200.552	93.64
33.0056	700	P7	n-heptane	1.6354	1.8144	1.8723	209.156	98.42
33.1433	700.89	O7	2-methyl-2-hexene	0.0028	0.003	0.0032	203.738	95.41
33.415	702.63	O7	3-methyl-c-hexene-2	0.002	0.0021	0.0023	203.738	95.41
33.7758	704.92	O7	3-ethylpentene-2	0.0015	0.0016	0.0018	204.818	96.01
34.4974	709.42	O7	c-heptene-2	0.0009	0.001	0.0011	209.138	98.41
34.6039	710.07		unknown	0.001	0.0011	0.0012	209.138	98.41
35.0621	712.85	O7	3-ethylcyclopentene	0.0015	0.0014	0.0017	207.986	97.77
35.8433	717.49	O7	O7-[1]	0.0007	0.0007	0.0008	207.986	97.77
36.2017	719.58	N7	methylcyclohexane	6.8381	6.7416	7.9895	213.674	100.93
36.3283	720.31	I8	2,2-dimethylhexane	0.0385	0.042	0.0387	224.312	106.84
36.5165	721.39	N8	1,1,3-trimethylcyclopentane	0.6011	0.6094	0.6145	220.802	104.89
37.1292	724.87		unknown	0.0014	0.0015	0.0015	220.802	104.89
38.0584	730.01	N7	ethylcyclopentane	1.5299	1.5142	1.7875	218.246	103.47
38.2917	731.28	I8	2,2,3-trimethylpentane	0.0418	0.0443	0.042	229.73	109.85
38.39	731.81	I8	2,4-dimethylhexane	0.491	0.5318	0.4931	228.974	109.43
38.7108	733.53		unknown	0.0013	0.0014	0.0013	228.974	109.43

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
39.5052	737.72	N8	1c,2t,4-trimethylcyclopentane	1.4219	1.4128	1.4536	242.132	116.74
39.6607	738.53	I8	3,3-dimethylhexane	0.1114	0.1191	0.1119	233.546	111.97
40.9266	744.97	N8	1t,2c,3-trimethylcyclopentane	2.126	2.0933	2.1735	230.738	110.41
41.3859	747.25	I8	2,3,4-trimethylpentane	1.1718	1.2363	1.1768	236.246	113.47
41.759	749.08	I8	I8-[1]	0.0112	0.0118	0.0112	236.246	113.47
42.2175	751.31	I8	2,3,3-trimethylpentane	0.1164	0.1216	0.1169	238.586	114.77
42.8076	754.12	A7	toluene	1.7912	1.5672	2.2302	231.134	110.63
43.3939	756.88		unknown	0.0009	0.0008	0.0011	231.134	110.63
43.6478	758.06	I8	2,3-dimethylhexane	0.494	0.5262	0.4961	240.098	115.61
43.914	759.29	I8	2-methyl-3-ethylpentane	1.0434	1.1115	1.0479	240.098	115.61
44.435	761.67		unknown	0.0041	0.0044	0.0042	240.098	115.61
44.9971	764.2	I8	2-methylheptane	1.6927	1.8398	1.7	243.77	117.65
45.3352	765.7	I8	4-methylheptane	0.7685	0.8273	0.7717	243.878	117.71
45.615	766.93	I8	3-methyl-3-ethylpentane	0.1253	0.1334	0.1258	240.098	115.61
45.7428	767.5	I8	3,4-dimethylhexane	0.1725	0.182	0.1733	243.914	117.73
46.3881	770.3	N8	1c,2c,4-trimethylcyclopentane	0.2507	0.2496	0.2563	242.168	116.76
46.8213	772.16	I8	3-methylheptane	1.0209	1.0972	1.0253	246.074	118.93
47.3595	774.44	N8	1c,2t,3-trimethylcyclopentane	5.1134	5.0347	5.2276	243.5	117.5
47.4639	774.88	I8	3-ethylhexane	0.4428	0.4707	0.4447	245.372	118.54
47.7502	776.08	N8	1t,4-dimethylcyclohexane	1.6861	1.6774	1.7238	246.848	119.36
49.0772	781.52	N8	1,1-dimethylcyclohexane	0.7716	0.7495	0.7888	247.19	119.55
49.3224	782.51	I9	2,2,5-trimethylhexane	0.0332	0.0356	0.0297	255.362	124.09
49.9466	785	N8	3c-ethylmethylcyclopentane	0.8659	0.8563	0.8852	249.98	121.1
50.5296	787.29	N8	3t-ethylmethylcyclopentane	0.7962	0.7874	0.814	249.98	121.1
50.9202	788.81	N8	2t-ethylmethylcyclopentane	1.9586	1.9319	2.0023	250.16	121.2
51.0854	789.45	I9	2,2,4-trimethylhexane	0.2852	0.2927	0.2551	32	0
51.4761	790.95	N8	1,1-methylethylcyclopentane	0.1237	0.1202	0.1265	250.754	121.53
52.3204	794.14	N8	1t,2-dimethylcyclohexane	3.1946	3.1227	3.2659	254.174	123.43
53.9063	800	P8	n-octane	2.5542	2.7579	2.5651	258.224	125.68
54.3505	801.65	N8	1c,4-dimethylcyclohexane	1.209	1.1715	1.236	255.794	124.33
55.075	804.3		unknown	0.0016	0.0015	0.0016	255.794	124.33

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
55.4406	805.63		unknown	0.0012	0.0011	0.0012	255.794	124.33
55.8008	806.93	I9	I9-[1]	0.0233	0.0242	0.0209	32	0
56.2842	808.65	N8	i-propylcyclopentane	0.5483	0.5356	0.5605	259.574	126.43
57.0342	811.3		unknown	0.0014	0.0013	0.0014	259.574	126.43
57.3957	812.56	N8	N8-[1]	0.0366	0.0356	0.0375	259.574	126.43
58.1245	815.07	I9	2,2,3,4-tetramethylpentane	0.1903	0.1953	0.1702	271.454	133.03
58.7857	817.33	I9	2,3,4-trimethylhexane	0.1045	0.1072	0.0934	282.308	139.06
59.2454	818.87		unknown	0.0025	0.0025	0.0022	282.308	139.06
59.663	820.27	N8	N8-[2]	0.2865	0.2786	0.2929	282.308	139.06
59.9798	821.32	N8	N8-[3]	0.0898	0.0873	0.0918	282.308	139.06
60.2896	822.34		unknown	0.0123	0.0119	0.0125	282.308	139.06
60.4446	822.85		unknown	0.0039	0.0038	0.004	282.308	139.06
61.5211	826.35	I9	2,3,5-trimethylhexane	0.4706	0.4945	0.421	268.43	131.35
61.7222	826.99	I9	2,2-dimethylheptane	0.9059	0.9672	0.8103	270.86	132.7
62.0371	828		unknown	0.0356	0.038	0.0318	270.86	132.7
62.4936	829.44		unknown	0.0882	0.0942	0.0789	270.86	132.7
63.7895	833.49	N9	1,1,4-trimethylcyclohexane	5.4275	5.3315	4.9322	275	135
63.9918	834.12	I9	2,2,3-trimethylhexane	0.8049	0.8535	0.7199	271.22	132.9
64.6798	836.22	I9	2,4-dimethylheptane	0.181	0.192	0.1619	271.22	132.9
65.7126	839.33	I9	4,4-dimethylheptane	5.9393	6.2983	5.3124	271.22	132.9
66.3832	841.32	I9	2,5-dimethylheptane	0.9029	0.9556	0.8076	276.8	136
66.8333	842.65	N9	*1c,3c,5-trimethylcyclohexane	0.1542	0.152	0.1401	281.174	138.43
67.3833	844.25	I9	2,6-dimethylheptane	0.3415	0.3654	0.3055	275.396	135.22
67.8733	845.67	N9	1,1,3-trimethylcyclohexane	0.507	0.4887	0.4607	295.862	146.59
68.4964	847.46	N9	1c,2t,4t-trimethylcyclohexane	0.2904	0.2824	0.2639	32	0
69.8258	851.21		unknown	0.0075	0.0073	0.0068	32	0
70.1795	852.2		unknown	0.3805	0.37	0.3457	32	0
70.8726	854.11	N8	N8-[4]	1.2986	1.2629	1.3276	32	0
71.4481	855.68	A8	ethylbenzene	2.9358	2.5685	3.1723	277.16	136.2
72.3025	858	O9	2-methyloctene-1	0.0246	0.0273	0.0224	32	0
72.5492	858.66	N9	N9-[1]	0.2769	0.2693	0.2517	32	0

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
73.2162	860.44	O9	2-methyloctene-2	0.0852	0.0947	0.0775	32	0
74.805	864.6		unknown	0.0564	0.0627	0.0513	32	0
75.2043	865.63	A8	1,3-dimethylbenzene	3.212	2.8193	3.4708	282.416	139.12
75.5815	866.6	A8	1,4-dimethylbenzene	0.6735	0.5934	0.7278	281.048	138.36
75.901	867.41		unknown	0.11	0.0969	0.1188	281.048	138.36
76.2392	868.27	I9	2,3-dimethylheptane	0.1569	0.1639	0.1403	284.9	140.5
76.6563	869.33	I9	3,4-dimethylheptane	0.5931	0.6151	0.5305	285.08	140.6
76.9075	869.96	I9	3,5-dimethylheptane	0.2378	0.2497	0.2127	276.8	136
77.1729	870.63	I9	I9-[2]	0.1645	0.1709	0.1471	276.8	136
77.4288	871.26	I9	4-ethylheptane	0.2388	0.2515	0.2136	288.392	142.44
77.8814	872.39		unknown	0.0034	0.0035	0.003	288.392	142.44
78.4265	873.73	I9	4-methyloctane	0.5149	0.5423	0.4606	288.392	142.44
78.8164	874.69	I9	2-methyloctane	0.4439	0.472	0.3971	289.904	143.28
79.0933	875.37		unknown	0.0661	0.0703	0.0591	289.904	143.28
79.6462	876.71	N9	1c,2t,3c-trimethylcyclohexane	0.5737	0.5741	0.5213	304.16	151.2
80.5542	878.89	I9	3-ethylheptane	1.0532	1.0997	0.9421	289.4	143
81.1854	880.39	I9	3-methyloctane	0.7927	0.8345	0.709	291.614	144.23
81.65	881.49	I9	3,3-diethylpentane	0.1632	0.1633	0.146	270.842	132.69
82.1	882.54	I9	I9-[3]	0.1652	0.1717	0.1478	270.842	132.69
82.3829	883.21		unknown	0.1445	0.1501	0.1292	270.842	132.69
82.6337	883.79	N9	1c,2t,4c-trimethylcyclohexane	0.4021	0.3949	0.3654	275	135
83.0146	884.67	N9	1,1,2-trimethylcyclohexane	0.1262	0.1196	0.1146	293.36	145.2
83.3285	885.4	A8	1,2-dimethylbenzene	1.2246	1.0554	1.3233	291.974	144.43
83.7017	886.25		unknown	0.0407	0.0351	0.044	291.974	144.43
83.9033	886.71	I9	I9-[4]	0.0374	0.0388	0.0334	291.974	144.43
84.4436	887.94		unknown	0.3086	0.3207	0.2761	291.974	144.43
84.7912	888.73	N9	N9-[2]	0.9491	0.923	0.8625	291.974	144.43
85.0313	889.27	N9	N9-[3]	1.4343	1.3948	1.3034	291.974	144.43
85.6532	890.67	N9	N9-[4]	0.8002	0.7781	0.7271	291.974	144.43
86.2323	891.96	I9	I9-1	0.0512	0.0532	0.0458	32	0
86.5217	892.6	I9	I9-2	0.178	0.185	0.1592	32	0

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
87.0192	893.69	N9	i-butylcyclopentane	0.2169	0.2107	0.1971	298.346	147.97
87.1297	893.94	N9	N9-[5]	0.0818	0.0796	0.0744	298.346	147.97
88.0967	896.04	N9	N9-[6]	0.0039	0.0038	0.0036	298.346	147.97
88.5058	896.93	O9	c-nonene-2	0.1074	0.1194	0.0976	32	0
88.8475	897.66	O9	t-7-methyloctene-3	0.0391	0.0434	0.0355	32	0
89.1885	898.39	N9	N9-[7]	0.2063	0.2006	0.1875	32	0
89.6677	899.42	O9	c-nonene-3	0.4428	0.4921	0.4024	32	0
89.94	900	P9	n-nonane	0.7978	0.8433	0.7136	303.476	150.82
90.4157	902.48	N9	1,1-methylethylcyclohexane	1.0639	1.001	0.9668	305.924	152.18
91.02	905.61	O9	t-nonene-3	0.096	0.0999	0.0873	32	0
91.2272	906.68	N9	N9-[8]	0.1201	0.1154	0.1092	32	0
91.6133	908.67	N9	N9-[9]	0.0408	0.0392	0.0371	32	0
91.9462	910.37		unknown	0.0026	0.0025	0.0024	32	0
92.2413	911.88	N9	N9-[10]	0.0273	0.0262	0.0248	32	0
92.6108	913.76	I10	I10-[1]	0.0263	0.0273	0.0212	32	0
92.9064	915.25	A9	i-propylbenzene	0.255	0.2244	0.2434	306.338	152.41
93.1901	916.68	N9	N9-[11]	0.9732	0.9344	0.8844	306.338	152.41
93.5908	918.7		unknown	0.0351	0.0337	0.0319	306.338	152.41
93.736	919.43	O9	c-nonene-2H16(124)	0.3353	0.3727	0.3047	32	0
94.2087	921.79	N9	i-propylcyclohexane	0.1508	0.1426	0.137	310.622	154.79
94.3905	922.69	I10	2,4-dimethyloctane	0.1211	0.1265	0.0976	312.62	155.9
94.6123	923.79		unknown	0.0822	0.0859	0.0663	312.62	155.9
94.8175	924.81	I10	2,2-dimethyloctane	0.2547	0.2667	0.2054	314.42	156.9
94.9561	925.49		unknown	0.0332	0.0347	0.0267	314.42	156.9
95.3111	927.24		unknown	0.0515	0.054	0.0415	314.42	156.9
95.6925	929.11		unknown	0.0296	0.031	0.0239	314.42	156.9
95.8906	930.08		unknown	0.1478	0.1548	0.1192	314.42	156.9
96.1599	931.39		unknown	0.0477	0.0499	0.0384	314.42	156.9
96.4373	932.74	I10	2,6-dimethyloctane	1.1612	1.2106	0.9362	320.738	160.41
96.6216	933.64		unknown	0.0934	0.0974	0.0753	320.738	160.41
96.9358	935.16	I10	2,5-dimethyloctane	0.0067	0.007	0.0054	317.3	158.5

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
97.3108	936.97		unknown	0.0132	0.0137	0.0107	317.3	158.5
97.4802	937.78	N9	n-butylcyclopentane	0.3895	0.3766	0.354	313.916	156.62
97.7256	938.96	N10	N10-[1]	0.133	0.1261	0.1087	313.916	156.62
98.1981	941.21	I10	I10-[2]	0.1131	0.1175	0.0912	313.916	156.62
98.4112	942.23		unknown	0.0301	0.0313	0.0243	313.916	156.62
98.579	943.02	I10	3,3-dimethyloctane	0.7734	0.7938	0.6236	322.16	161.2
98.94	944.73		unknown	0.3273	0.336	0.2639	322.16	161.2
99.1658	945.8		unknown	0.0891	0.0914	0.0718	322.16	161.2
99.392	946.86	I10	I10-[3]	0.0635	0.066	0.0512	322.16	161.2
99.515	947.44		unknown	0.105	0.1091	0.0846	322.16	161.2
99.8923	949.21	A9	n-propylbenzene	0.4292	0.3776	0.4096	318.632	159.24
100.1242	950.29	I10	3,6-dimethyloctane	0.4396	0.4528	0.3544	321.44	160.8
100.2669	950.96	I10	3-methyl-5-ethylheptane	0.0482	0.0503	0.0389	316.76	158.2
100.6049	952.53	N10	N10-[2]	0.1092	0.1035	0.0893	316.76	158.2
100.7503	953.2		unknown	0.0115	0.0109	0.0094	316.76	158.2
101.1633	955.11	N10	N10-[3]	0.0243	0.0231	0.0199	316.76	158.2
101.4135	956.26		unknown	0.2406	0.2281	0.1968	316.76	158.2
101.6113	957.17	A9	1,3-methylethylbenzene	0.3627	0.3183	0.3462	322.394	161.33
101.995	958.93	A9	1,4-methylethylbenzene	0.1874	0.1651	0.1789	323.618	162.01
102.2162	959.94	N10	N10-[4]	0.2837	0.269	0.2321	323.618	162.01
102.3775	960.68		unknown	0.0065	0.0061	0.0053	323.618	162.01
102.7087	962.18		unknown	0.0297	0.0282	0.0243	323.618	162.01
102.9025	963.06	I10	I10-[4]	0.0847	0.0868	0.0683	323.618	162.01
103.1983	964.4	A9	1,3,5-trimethylbenzene	0.2838	0.2488	0.2709	328.532	164.74
103.5817	966.13	I10	2,3-dimethyloctane	0.052	0.0534	0.0419	327.812	164.34
103.8275	967.23		unknown	0.015	0.0154	0.0121	327.812	164.34
103.8958	967.54		unknown	0.0222	0.0228	0.0179	327.812	164.34
104.1068	968.48	N10	N10-[5]	0.0318	0.0301	0.026	327.812	164.34
104.4293	969.92	I10	5-methylnonane	0.1177	0.1218	0.0949	329.18	165.1
104.5325	970.38		unknown	0.0391	0.0405	0.0315	329.18	165.1
104.9393	972.19	I10	4-methylnonane	0.0779	0.0798	0.0628	32	0

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
105.1614	973.18	A9	I17 &1,2-methylethylbenzene	0.2455	0.2115	0.2343	329.324	165.18
105.2967	973.78		unknown	0.0294	0.0254	0.0281	329.324	165.18
105.5783	975.02	I10	2-methylnonane	0.0519	0.0542	0.0418	332.654	167.03
105.8852	976.37	I10	3-ethyloctane	0.0733	0.0751	0.0591	331.7	166.5
106.0612	977.14		unknown	0.0317	0.0325	0.0256	331.7	166.5
106.1942	977.72	I10	3-methylnonane	0.0681	0.0704	0.0549	334.04	167.8
106.4398	978.8	N10	N10-[6]	0.0858	0.0813	0.0701	334.04	167.8
107.055	981.48	I10	I10-[5]	0.0158	0.0162	0.0128	334.04	167.8
107.3894	982.93		unknown	0.0287	0.0294	0.0231	334.04	167.8
107.5573	983.66	O10	3-ethyl-2-methylheptene-2	0.0086	0.0093	0.007	32	0
107.7871	984.65		unknown	0.0065	0.0071	0.0053	32	0
108.025	985.67	A9	1,2,4-trimethylbenzene	0.4295	0.372	0.41	336.884	169.38
108.2675	986.71		unknown	0.0145	0.0126	0.0138	336.884	169.38
108.3887	987.23	N10	i-butylcyclohexane	0.1066	0.1016	0.0872	340.34	171.3
108.645	988.33	I10	I10-[6]	0.0284	0.0291	0.0229	340.34	171.3
108.8992	989.42	I10	I10-[7]	0.0194	0.0199	0.0156	340.34	171.3
109.0207	989.93		unknown	0.0053	0.0054	0.0043	340.34	171.3
109.1643	990.55		unknown	0.0175	0.0179	0.0141	340.34	171.3
109.35	991.33	N10	N10-[7]	0.0165	0.0156	0.0135	340.34	171.3
109.5208	992.06	O10	decene-1	0.006	0.0062	0.0049	339.08	170.6
109.6747	992.71		unknown	0.0014	0.0014	0.0011	339.08	170.6
109.9097	993.7		unknown	0.0026	0.0026	0.0021	339.08	170.6
110.0583	994.33	N10	1t-methyl-2-n-propylcyclohexane	0.0176	0.0167	0.0144	339.8	171
110.3548	995.58	A10	i-butylbenzene	0.029	0.0258	0.0248	343.022	172.79
110.6047	996.63	I10	I10-[8]	0.0049	0.005	0.0039	343.022	172.79
110.8436	997.63	A10	sec-butylbenzene	0.0145	0.0128	0.0124	344.012	173.34
110.9947	998.26		unknown	0.0138	0.0121	0.0118	344.012	173.34
111.2933	999.51		unknown	0.0239	0.021	0.0204	344.012	173.34
111.41	1000	P10	n-decane	0.0712	0.074	0.0574	345.47	174.15
111.7425	1002.34	I11	I11-[1]	0.005	0.0052	0.0037	345.47	174.15
111.825	1002.93		unknown	0.01	0.0102	0.0073	345.47	174.15

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
111.9299	1003.67		unknown	0.0019	0.0019	0.0014	345.47	174.15
112.1608	1005.29	N10	N10-[8]	0.0196	0.0185	0.016	345.47	174.15
112.4414	1007.26		unknown	0.0031	0.003	0.0026	345.47	174.15
112.6807	1008.94		unknown	0.006	0.0057	0.0049	345.47	174.15
112.945	1010.78	A9	1,2,3-trimethylbenzene	0.0867	0.0736	0.0828	349.016	176.12
113.2462	1012.88	A10	1,3-methyl-i-propylbenzene	0.0152	0.0134	0.013	347.144	175.08
113.3346	1013.49		unknown	0.0079	0.0069	0.0067	347.144	175.08
113.4933	1014.6		unknown	0.0012	0.0011	0.0011	347.144	175.08
113.7298	1016.24	A10	1,4-methyl-i-propylbenzene	0.0145	0.0128	0.0124	350.834	177.13
113.9339	1017.65	I11	I11-[2]	0.0037	0.0038	0.0027	350.834	177.13
114.0743	1018.62	I11	I11-[3]	0.0027	0.0028	0.002	350.834	177.13
114.2858	1020.08		unknown	0.0033	0.0033	0.0024	350.834	177.13
114.5017	1021.56		unknown	0.0052	0.0053	0.0038	350.834	177.13
114.7142	1023.02		unknown	0.0035	0.0036	0.0025	350.834	177.13
114.8756	1024.13	A10	2-3-dihydroindene	0.0228	0.0179	0.0221	352.13	177.85
115.078	1025.51	N10	sec-butylcyclohexane	0.0072	0.0067	0.0059	354.812	179.34
115.4183	1027.84	I11	I30-[1]	0.0174	0.0178	0.0128	32	0
115.8369	1030.69		unknown	0.0033	0.0034	0.0024	32	0
115.9264	1031.29	I11	I11-[4]	0.0038	0.0039	0.0028	32	0
116.3183	1033.95	I11	3-ethylnonane	0.0172	0.0176	0.0126	32	0
116.4517	1034.85		unknown	0.0022	0.0023	0.0016	32	0
116.6173	1035.97		unknown	0.0012	0.0012	0.0008	32	0
116.8887	1037.8		unknown	0.0014	0.0014	0.001	32	0
116.9832	1038.43	I11	I11-[5]	0.0087	0.0082	0.0064	32	0
117.2642	1040.32		unknown	0.0053	0.0051	0.004	32	0
117.4917	1041.84		unknown	0.0024	0.0023	0.0018	32	0
117.6817	1043.11	A10	1,3-diethylbenzene	0.0051	0.0045	0.0044	358.052	181.14
117.8004	1043.9		unknown	0.0013	0.0011	0.0011	358.052	181.14
117.9558	1044.94		unknown	0.0022	0.0019	0.0019	358.052	181.14
118.0567	1045.61	A10	1,3-methyl-n-propylbenzene	0.0097	0.0086	0.0083	359.618	182.01
118.3833	1047.78	I11	I11-[6]	0.0037	0.0038	0.0027	359.618	182.01

Minutes	Index	Group	Component	Mass %	Volume %	Mole %	BP(F)	BP(C)
118.6317	1049.43	A10	1,4-methyl-n-propylbenzene	0.0037	0.0033	0.0032	362.156	183.42
118.8028	1050.56	A10	n-butylbenzene	0.0044	0.0039	0.0038	361.94	183.3
118.9676	1051.65		unknown	0.0012	0.001	0.001	361.94	183.3
119.1264	1052.7	A10	1,3-dimethyl-5-ethylbenzene	0.0029	0.0025	0.0025	362.516	183.62
119.2302	1053.38		unknown	0.0007	0.0006	0.0006	362.516	183.62
119.5042	1055.18	A10	1,2-diethylbenzene	0.0029	0.0025	0.0025	362.228	183.46
119.6633	1056.23	N10	t-decahydronaphthalene	0.0038	0.0036	0.0028	368.96	187.2
119.8467	1057.43	I11	I11-[7]	0.0014	0.0015	0.0011	368.96	187.2
120.1069	1059.14	N11	N11-[1]	0.002	0.0019	0.0015	368.96	187.2
120.4365	1061.29	A10	1,2-methyl-n-propylbenzene	0.0039	0.0034	0.0034	364.946	184.97
120.689	1062.93	I11	I11-[8]	0.0017	0.0018	0.0013	364.946	184.97
120.8193	1063.78		unknown	0.0003	0.0003	0.0002	364.946	184.97
121.1518	1065.93	I11	I11-[9]	0.0011	0.0011	0.0008	364.946	184.97
121.3528	1067.23		unknown	0.0009	0.001	0.0007	364.946	184.97
121.6286	1069.02	I11	I11-[10]	0.002	0.002	0.0014	364.946	184.97
121.9683	1071.2	A10	1,4,dimethyl-2-ethylbenzene	0.0037	0.0032	0.0032	368.366	186.87
122.3482	1073.64	A10	1,3-dimethyl-4-ethylbenzene	0.0016	0.0014	0.0014	370.832	188.24
122.5447	1074.9	I11	I11-[11]	0.0009	0.0009	0.0006	370.832	188.24
123.0897	1078.38	A10	1,2-dimethyl-4-ethylbenzene	0.0029	0.0025	0.0025	373.136	189.52
123.2792	1079.59		unknown	0.0007	0.0006	0.0006	373.136	189.52
124.0142	1084.24	A10	1,3-dimethyl-2-ethylbenzene	0.0005	0.0004	0.0004	374.09	190.05
124.5667	1087.73		unknown	0.0003	0.0003	0.0003	374.09	190.05
125.9958	1096.66	A10	1,2-dimethyl-3-ethylbenzene	0.0009	0.0008	0.0008	381.11	193.95
126.5333	1100	P11	n-undecane	0.0004	0.0004	0.0003	384.62	195.9