



LAMPIRAN

Lampiran 1. Data produk di *Control Room*

Crude Oil

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T102	437	407	-30	95,188	0.98610	93,865	32	0.8401
T102	407	376	-31	98,362	0.98612	96,997	32	0.8411
T102	376	346	-30	95,188	0.98450	93,713	34	0.8425
Total CO				288,738	[100%]	284,575	[100%]	

Pertasol CA

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T116	43.4	135	91.6	25,904	0.97540	25,267	37	0.7388
T116	135	150	15	4,234	0.98282	4,161	30	0.7305
Total CA				30,138	[10,44%]	29,428	[10,34%]	

Solar

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T120	75	265	190	45,126	0.98209	44,318	37	0.8422
T120	265	410	145	34,501	0.98520	33,990	33	0.8375
T125	37.2	150	112.8	31,906	0.98520	31,434	33	0.8375
T125	150	350	200	56,371	0.98926	55,766	28	0.8380
T127	20	50	30	8,485	0.98926	8,394	28	0.8380
Total Solar				176,389	[61,09%]	173,902	[61,11%]	

Residu

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T123	37.3	80	42.7	23,856	0.96175	22,944	69	0.9175
T123	80	136.7	56.7	31,645	0.95960	30,367	72	0.9166
T123	136.7	183	46.3	25,814	0.96483	24,906	64	0.9082
Total Residu				81,315	[28,16%]	78,217	[27,49%]	

Total Produk

287,842 [99,69%] **281,547** [98,94%]

Losses

896 [0,31%] **3,028** [1,06%]

Fuel



PRAKTIK KERJA LAPANG
PUSAT PENGEMBANGAN SUMBER DAYA
MANUSIA MINYAK DAN GAS BUMI



Crude Oil

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T102	346	316	-30	95,184	0.98215	93,485	37	0.8437
T102	316	284	-32	101,484	0.98215	99,673	37	0.8437
T102	284	256	-28	88,800	0.98450	87,424	34	0.8425
Total CO				285,468	[100%]	280,582	[100%]	

Pertasol CA

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T116	150	185	35	9,876	0.97461	9,625	37	0.7289
T116	17.1	75	57.9	16,363	0.97677	15,983	35	0.7261
T116	75	100	25	7,078	0.98146	6,947	31	0.7265
Total CA				33,317	[11,67%]	32,555	[11,60%]	

Solar

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T127	50	255	205	57,892	0.98201	56,851	37	0.8402
T127	255	350	95	26,753	0.98597	26,378	32	0.8368
T125	28.4	150	121.6	34,395	0.98597	33,912	32	0.8368
T125	150	350	200	56,371	0.98856	55,726	29	0.8416
Total Solar				175,411	[61,45%]	172,867	[61,61%]	

Residu

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T123	183	231.7	48.7	27,152	0.96071	26,085	70	0.9103
T123	231.6	274	42.4	23,639	0.96518	22,816	64	0.9163
T123	274	319	45	25,087	0.96633	24,242	62	0.9108
Total Residu				75,878	[26,58%]	73,143	[26,07%]	

Total Produk

284,606 [99,70%] **278,565** [99,28%]

Losses

862 [0,30%] **2,017** [0,72%]

Fuel



PRAKTIK KERJA LAPANG
PUSAT PENGEMBANGAN SUMBER DAYA
MANUSIA MINYAK DAN GAS BUMI



Crude Oil

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T102	256	222	-34	107,827	0.98565	106,280	32	0.8273
T102	222	199	-23	72,942	0.98241	71,659	36	0.8302
T102	199	169	-30	95,142	0.98490	93,705	33	0.8300
Total CO				275,911	[100%]	271,644	[100%]	

Pertasol CA

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T116	100	228.4	128.4	36,179	0.97607	35,313	36	0.7329
T116	90	140	50	14,128	0.97961	13,840	33	0.7352
Total CA				50,307	[18,23%]	49,153	[18,09%]	

Solar

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T126	31.1	136	104.9	29,640	0.98367	29,156	35	0.8418
T124	30	120	90	25,430	0.98367	25,015	35	0.8418
T124	120	345	225	63,558	0.98674	62,715	31	0.8361
T126	29.1	270	240.9	68,029	0.98772	67,194	30	0.8404
Total Solar				186,657	[67,65%]	184,080	[67,77%]	

Residu

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T123	199.1	228.2	29.1	16,225	0.95954	15,569	72	0.9156
T123	228.2	244.6	16.4	9,144	0.97479	8,913	50	0.9097
T123	244.6	267.4	22.8	12,710	0.97194	12,353	54	0.9084
Total Residu				38,079	[13,80%]	36,835	[13,56%]	

Total Produk

275,043 [99,69%] **270,068** [99,42%]

Losses

868 [0,31%] **1,576** [0,58%]

Fuel

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
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PRAKTIK KERJA LAPANG
PUSAT PENGEMBANGAN SUMBER DAYA
MANUSIA MINYAK DAN GAS BUMI



Crude Oil

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T101	572	544	-28	83,517	0.98233	82,041	36	0.8283
T101	544	515	-29	86,501	0.98314	85,043	35	0.8285
T101	515	492	-23	68,603	0.98565	67,619	32	0.8273
Total CO				238,621	[100%]	234,703	[100%]	

Pertasol CA

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T116	150	190	40	11,280	0.98233	11,081	36	0.8283
T116	190	220	30	8,421	0.97732	8,230	35	0.7340
Total CA				19,701	[8,26%]	19,311	[8,23%]	

Solar

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T106	125	240	115	33,587	0.98274	33,007	36	0.8386
T111	31	132	101	28,562	0.98274	28,069	36	0.8386
T111	132	250	118	33,256	0.98597	32,789	32	0.8368
T120	11	140	129	30,718	0.98597	30,287	32	0.8368
T120	140	375	235	55,811	0.98682	55,075	31	0.8381
Total Solar				181,934	[76,24%]	179,227	[76,36%]	

Residu

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T123	167.1	184.7	17.6	9,812	0.96784	9,496	60	0.9134
T123	184.7	209.5	24.8	13,828	0.96776	13,382	60	0.9115
T123	209.5	232.1	22.6	12,600	0.96649	12,178	62	0.9148
Total Residu				36,240	[15,19%]	35,056	[14,94%]	

Total Produk

237,875 [99,69%] **233,594** [99,53%]

Losses

746 [0,31%] **1,109** [0,47%]

Fuel



PRAKTIK KERJA LAPANG
PUSAT PENGEMBANGAN SUMBER DAYA
MANUSIA MINYAK DAN GAS BUMI



Crude Oil

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T101	770	730	-40	119,478	0.98233	117,367	36	0.8283
T101	730	701	-29	86,809	0.98314	85,345	35	0.8285
T101	701	672	-29	86,810	0.98482	85,492	33	0.8281
Total CO				293,097	[100%]	288,204	[100%]	

Pertasol CA

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T116	96.7	150	53.3	15,055	0.97174	14,630	40	0.7355
T116	150	190	40	11,280	0.97601	11,009	36	0.7319
Total CA				26,335	[8,99%]	25,639	[8,90%]	

Pertasol CB

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T113	200	250	50	14,525	0.97849	14,213	37	0.7782
T113	90	145	55	16,015	0.98319	15,746	32	0.7748
T113	145	195	50	14,529	0.98515	14,313	30	0.7741
Total CB				45,069	[15,38%]	44,272	[15,36%]	

Solar

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T120	375	400	25	5,955	0.98112	5,843	38	0.8380
T125	48.9	246	197.1	55,687	0.98112	54,636	38	0.8380
T125	246	350	104	29,275	0.98597	28,864	32	0.8368
T127	57.6	120	62.4	17,643	0.98597	17,395	32	0.8368
T127	120	330	210	59,218	0.98849	58,536	29	0.8397
Total Solar				167,778	[57,24%]	165,274	[57,35%]	

Residu

Nomor Tangki	Awal	Akhir	CM	Ltr Obs	Volume CF	Ltr 15	Temp	Density 15
T123	154.7	204.7	50	27,877	0.97235	27,106	54	0.9213
T123	204.7	226.8	22.1	12,322	0.96529	11,894	64	0.9181
T123	226.8	249.8	23	12,824	0.96507	12,376	64	0.9142
Total Residu				53,023	[18,09%]	51,376	[17,83%]	

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Input Data Produk Tangki

Total Produk				292,205	[99,70%]	286,561	[99,43%]	
Losses				892	[0,30%]	1,643	[0,57%]	



PRAKTIK KERJA LAPANG PUSAT PENGEMBANGAN SUMBER DAYA MANUSIA MINYAK DAN GAS BUMI



Lampiran 2. Data pada Laboratorium

KEMENTERIAN ENERGI DAN SUMBERDAYA MINERAL REPUBLIK INDONESIA
BADAN PENGEMBANGAN SUMBER DAYA MANUSIA ENERGI DAN SUMBER DAYA MINERAL
PUSAT PENGEMBANGAN SUMBER DAYA MANUSIA
MINYAK DAN GAS BUMI
JALAN SOROGDO NO. 1 CEPU 58315 KABUPATEN BLORA - JAWA TENGAH
TELEPON (0296) 421889 FAKSIMILE (0296) 421891 http://www.puadkmligas.esdm.go.id e-mail : info@puadkmligas.esdm.go.id
Tanggal : 2-11-23 2018
No. : /L.R/DS.02.02/18

LAPORAN HASIL UJI ANALISA FEED DAN PRODUK PERTAMINA
HASIL PENGOLAHAN KILANG PPSDM MIGAS

Shift	(08.00)				(16.00)			
	08.00	08.00	08.00	08.00	08.00	08.00	08.00	08.00
Jam	C.O.S	C.M.S	C.M.S	C.M.S	C.M.S	C.M.S	C.M.S	C.M.S
Nama Contoh	01	01	01	01	01	01	01	01
1 Density / Temp °C Obs	828/32	706/34	583/38	255/34	816/34	781/34	781/34	781/34
2 Distilasi :								
BP	25	40	84	92	150			
5 % Vol. rec °C	6	6	23	10	170			
10 % Vol. rec °C	6	23	29	100	130			
20 % Vol. rec °C	6	29	100	11	210			
30 % Vol. rec °C	23	85	11	121	230			
40 % Vol. rec °C	29	89	12	137	240			
50 % Vol. rec °C	37	91	11	147	240			
60 % Vol. rec °C	47	103	13	157	240			
70 % Vol. rec °C	57	108	13	167	240			
80 % Vol. rec °C	67	114	13	177	240			
90 % Vol. rec °C (T.90)	77	123	16	187	240			
95 % Vol. rec °C (T.95)	87	129	16	197	240			
End Point, °C	130	140	174	190	370			
Dry Point, °C	124	140	171	180				
% Vol. rec at 200 °C					200			
% Vol. rec at 300 °C					220			
% Vol. rec at 370 °C					230			
Rendemen, % vol					60		06	
Residu, % vol					6		45	
Losses, % vol					10			
3 Titik Nyala, °C	D-56.93/32							
4 Titik Tuang, °C	D-97							
5 Titik Asap, mm	D-1322							
6 Nilai Jelaga, mg/kg	IP-10							
7 Warna Saybolt / ASTM	D-156 / 1500							1,5
8 Viscositas, cSt	D-455							
9 Doctor Test	D-4952							
10 Korosi Bilah Tembaga	D-130							
11 Indeks Cetana	D-4737							
12 Kandungan Air, mg/kg	D-1744							
13 Kandungan Sulfur, %m/m	D-2622/1522							
14 Residu Karbon, % m/m	D-4530/189							
15 Kandungan Abu, % m/m	D-482							
16 Sediment Content, %m/m	D-473							
17 Bil. Asam Kuat, mg KOH/g	D-664							
18 Bil. Asam Total, mg KOH/g	D-664							
19 Partikulat, mg/L	D-2376							

Pengelola Laboratorium

KEMENTERIAN ENERGI DAN SUMBERDAYA MINERAL REPUBLIK INDONESIA
BADAN PENGEMBANGAN SUMBER DAYA MANUSIA ENERGI DAN SUMBER DAYA MINERAL
PUSAT PENGEMBANGAN SUMBER DAYA MANUSIA
MINYAK DAN GAS BUMI
JALAN SOROGDO NO. 1 CEPU 58315 KABUPATEN BLORA - JAWA TENGAH
TELEPON (0296) 421889 FAKSIMILE (0296) 421891 http://www.puadkmligas.esdm.go.id e-mail : info@puadkmligas.esdm.go.id
Tanggal : 08-11-23 2018
No. : /L.R/DS.02.02/18

LAPORAN HASIL UJI ANALISA FEED DAN PRODUK PERTAMINA
HASIL PENGOLAHAN KILANG PPSDM MIGAS

Shift	(08.00)				(16.00)			
	08.00	08.00	08.00	08.00	08.00	08.00	08.00	08.00
Jam	C.O.S	C.M.S	C.M.S	C.M.S	C.M.S	C.M.S	C.M.S	C.M.S
Nama Contoh	01	01	01	01	01	01	01	01
1 Density / Temp °C Obs	818/32	691/35	218/36	180/38	212/38	187/38	187/38	187/38
2 Distilasi :								
BP	33	37	76	84	143			
5 % Vol. rec °C	11	17	26	10	168			
10 % Vol. rec °C	16	26	28	10	190			
20 % Vol. rec °C	18	29	101	13	230			
30 % Vol. rec °C	23	85	106	13	244			
40 % Vol. rec °C	27	89	11	137	240			
50 % Vol. rec °C	34	94	12	147	240			
60 % Vol. rec °C	40	104	13	157	240			
70 % Vol. rec °C	47	111	13	167	240			
80 % Vol. rec °C	54	118	13	177	240			
90 % Vol. rec °C (T.90)	61	125	16	187	240			
95 % Vol. rec °C (T.95)	68	132	16	197	240			
End Point, °C	130	144	174	180	370			
Dry Point, °C	124	132	162	175				
% Vol. rec at 200 °C					200			
% Vol. rec at 300 °C					220			
% Vol. rec at 370 °C					230			
Rendemen, % vol					60		06	
Residu, % vol					6		45	
Losses, % vol					10			
3 Titik Nyala, °C	D-56.93/32							
4 Titik Tuang, °C	D-97							
5 Titik Asap, mm	D-1322							
6 Nilai Jelaga, mg/kg	IP-10							
7 Warna Saybolt / ASTM	D-156 / 1500							1,5
8 Viscositas, cSt	D-455							
9 Doctor Test	D-4952							
10 Korosi Bilah Tembaga	D-130							
11 Indeks Cetana	D-4737							
12 Kandungan Air, mg/kg	D-1744							
13 Kandungan Sulfur, %m/m	D-2622/1522							
14 Residu Karbon, % m/m	D-4530/189							
15 Kandungan Abu, % m/m	D-482							
16 Sediment Content, %m/m	D-473							
17 Bil. Asam Kuat, mg KOH/g	D-664							
18 Bil. Asam Total, mg KOH/g	D-664							
19 Partikulat, mg/L	D-2376							

Pengelola Laboratorium



PRAKTIK KERJA LAPANG PUSAT PENGEMBANGAN SUMBER DAYA MANUSIA MINYAK DAN GAS BUMI



KEPUSATRAJARAN DAN BERKUALITAS
PUSAT PENGEMBANGAN SUMBER DAYA MANUSIA
MINYAK DAN GAS BUMI
JALAN SURGOLO NO. 1 CEPU 38115 KABUPATEN BLORA - JAWA TENGAH
TELEPON (0291) 42188 FAKS (0291) 421891 http://www.pusatminyakgas.esdm.go.id email: info@pusatminyakgas.esdm.go.id
Tanggal: 13/11/2018
No.: 13/11/2018

LAPORAN HASIL UJI ANALISA FEED DAN PRODUK PERTAMINA
HASIL PENGOLOSAN KILANG PPSDM BIRGAS

No.	Parameter Uji	Metode ASTM / Lain	No. (No)				
			01	02	03	04	05
1	Density / Temp °C Obs	D-1298	715,0	715,0	715,0	715,0	715,0
2	Density 15 °C, Kg/m³	D-153	726,6	726,6	726,6	726,6	726,6
3	Distillat						
4	RP		26	46	76	97	123
5	% Vol. rec °C		51	61	89	94	123
10	% Vol. rec °C		5,2	6,3	10,9	13,1	15,2
20	% Vol. rec °C		6,2	7,4	12,6	14,9	17,2
30	% Vol. rec °C		7,1	8,6	14,1	16,7	19,4
40	% Vol. rec °C		8,0	9,7	15,1	18,1	21,2
50	% Vol. rec °C		8,9	10,8	15,9	19,3	22,8
60	% Vol. rec °C		9,8	11,8	16,7	20,4	24,3
70	% Vol. rec °C		10,7	12,8	17,5	21,5	25,8
80	% Vol. rec °C		11,6	13,8	18,3	22,6	27,3
90	% Vol. rec °C (1.50)		12,5	14,8	19,1	23,7	28,8
95	% Vol. rec °C (1.50)		13,4	15,8	19,9	24,8	30,3
End Point, °C			14,3	16,8	20,7	25,9	31,8
Dry Point, °C			15,2	17,7	21,6	27,0	33,3
% Vol. rec at 200 °C			16,1	18,7	22,5	28,1	34,8
% Vol. rec at 300 °C			17,0	19,7	23,5	29,2	36,3
% Vol. rec at 370 °C			18,0	20,7	24,5	30,3	37,8
Residuum, % vol			0,0	0,0	0,0	0,0	0,0
Residu, % vol			0,0	0,0	0,0	0,0	0,0
Losses, % vol			0,0	0,0	0,0	0,0	0,0
3	Titik Nyala, °C	D-56,93,92	123	123	123	123	123
4	Titik Tuang, °C	D-97	0	0	0	0	0
5	Titik Asap, mm	D-1322	0	0	0	0	0
6	Nitrojelaga, mg/kg	IP-10	0	0	0	0	0
7	Warna Sayahol/ASTM	D-156 / 1500	1.0	1.0	1.0	1.0	1.0
8	Viskositas, cSt	D-485	0	0	0	0	0
9	Ducter Test	D-486	0	0	0	0	0
10	Korosi Bilah Tembaga	D-130	0	0	0	0	0
11	Indeks Cetana	D-4737	0	0	0	0	0
12	Kandungan Abu, mg/Kg	D-1744	0	0	0	0	0
13	Kandungan Sulfur, Nm/m	D-2622/1522	0	0	0	0	0
14	Residu Karbon, % m/m	D-4530/189	0	0	0	0	0
15	Kandungan Abu, % m/m	D-482	0	0	0	0	0
16	Sediment Content, Nm/m	D-473	0	0	0	0	0
17	Nil. Asam Kuat, mg KOH/g	D-664	0	0	0	0	0
18	Nil. Asam Total, mg KOH/g	D-664	0	0	0	0	0
19	Pembukitan, mg/l	D-2276	0	0	0	0	0

KEMENTERIAN ENERGI DAN SUMBER DAYA MINERAL REPUBLIK INDONESIA
PUSAT PENGEMBANGAN SUMBER DAYA MANUSIA
MINYAK DAN GAS BUMI
JALAN SURGOLO NO. 1 CEPU 38115 KABUPATEN BLORA - JAWA TENGAH
TELEPON (0291) 42188 FAKS (0291) 421891 http://www.pusatminyakgas.esdm.go.id email: info@pusatminyakgas.esdm.go.id
Tanggal: 13/11/2018
No.: 13/11/2018

LAPORAN HASIL UJI ANALISA FEED DAN PRODUK PERTAMINA
HASIL PENGOLOSAN KILANG PPSDM BIRGAS

No.	Parameter Uji	Metode ASTM / Lain	No. (No)				
			01	02	03	04	05
1	Density / Temp °C Obs	D-1298	715,0	715,0	715,0	715,0	715,0
2	Density 15 °C, Kg/m³	D-153	726,6	726,6	726,6	726,6	726,6
3	Distillat						
4	RP		26	46	76	97	123
5	% Vol. rec °C		51	61	89	94	123
10	% Vol. rec °C		5,2	6,3	10,9	13,1	15,2
20	% Vol. rec °C		6,2	7,4	12,6	14,9	17,2
30	% Vol. rec °C		7,1	8,6	14,1	16,7	19,4
40	% Vol. rec °C		8,0	9,7	15,1	18,1	21,2
50	% Vol. rec °C		8,9	10,8	15,9	19,3	22,8
60	% Vol. rec °C		9,8	11,8	16,7	20,4	24,3
70	% Vol. rec °C		10,7	12,8	17,5	21,5	25,8
80	% Vol. rec °C		11,6	13,8	18,3	22,6	27,3
90	% Vol. rec °C (1.50)		12,5	14,8	19,1	23,7	28,8
95	% Vol. rec °C (1.50)		13,4	15,8	19,9	24,8	30,3
End Point, °C			14,3	16,8	20,7	25,9	31,8
Dry Point, °C			15,2	17,7	21,6	27,0	33,3
% Vol. rec at 200 °C			16,1	18,7	22,5	28,1	34,8
% Vol. rec at 300 °C			17,0	19,7	23,5	29,2	36,3
% Vol. rec at 370 °C			18,0	20,7	24,5	30,3	37,8
Residuum, % vol			0,0	0,0	0,0	0,0	0,0
Residu, % vol			0,0	0,0	0,0	0,0	0,0
Losses, % vol			0,0	0,0	0,0	0,0	0,0
3	Titik Nyala, °C	D-56,93,92	123	123	123	123	123
4	Titik Tuang, °C	D-97	0	0	0	0	0
5	Titik Asap, mm	D-1322	0	0	0	0	0
6	Nitrojelaga, mg/kg	IP-10	0	0	0	0	0
7	Warna Sayahol/ASTM	D-156 / 1500	1.0	1.0	1.0	1.0	1.0
8	Viskositas, cSt	D-485	0	0	0	0	0
9	Ducter Test	D-486	0	0	0	0	0
10	Korosi Bilah Tembaga	D-130	0	0	0	0	0
11	Indeks Cetana	D-4737	0	0	0	0	0
12	Kandungan Abu, mg/Kg	D-1744	0	0	0	0	0
13	Kandungan Sulfur, Nm/m	D-2622/1522	0	0	0	0	0
14	Residu Karbon, % m/m	D-4530/189	0	0	0	0	0
15	Kandungan Abu, % m/m	D-482	0	0	0	0	0
16	Sediment Content, Nm/m	D-473	0	0	0	0	0
17	Nil. Asam Kuat, mg KOH/g	D-664	0	0	0	0	0
18	Nil. Asam Total, mg KOH/g	D-664	0	0	0	0	0
19	Pembukitan, mg/l	D-2276	0	0	0	0	0

KEMENTERIAN ENERGI DAN SUMBER DAYA MINERAL REPUBLIK INDONESIA
PUSAT PENGEMBANGAN SUMBER DAYA MANUSIA
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Tanggal: 13/11/2018
No.: 13/11/2018

LAPORAN HASIL UJI ANALISA FEED DAN PRODUK PERTAMINA
HASIL PENGOLOSAN KILANG PPSDM BIRGAS

No.	Parameter Uji	Metode ASTM / Lain	No. (No)				
			01	02	03	04	05
1	Density / Temp °C Obs	D-1298	715,0	715,0	715,0	715,0	715,0
2	Density 15 °C, Kg/m³	D-153	726,6	726,6	726,6	726,6	726,6
3	Distillat						
4	RP		26	46	76	97	123
5	% Vol. rec °C		51	61	89	94	123
10	% Vol. rec °C		5,2	6,3	10,9	13,1	15,2
20	% Vol. rec °C		6,2	7,4	12,6	14,9	17,2
30	% Vol. rec °C		7,1	8,6	14,1	16,7	19,4
40	% Vol. rec °C		8,0	9,7	15,1	18,1	21,2
50	% Vol. rec °C		8,9	10,8	15,9	19,3	22,8
60	% Vol. rec °C		9,8	11,8	16,7	20,4	24,3
70	% Vol. rec °C		10,7	12,8	17,5	21,5	25,8
80	% Vol. rec °C		11,6	13,8	18,3	22,6	27,3
90	% Vol. rec °C (1.50)		12,5	14,8	19,1	23,7	28,8
95	% Vol. rec °C (1.50)		13,4	15,8	19,9	24,8	30,3
End Point, °C			14,3	16,8	20,7	25,9	31,8
Dry Point, °C			15,2	17,7	21,6	27,0	33,3
% Vol. rec at 200 °C			16,1	18,7	22,5	28,1	34,8
% Vol. rec at 300 °C			17,0	19,7	23,5	29,2	36,3
% Vol. rec at 370 °C			18,0	20,7	24,5	30,3	37,8
Residuum, % vol			0,0	0,0	0,0	0,0	0,0
Residu, % vol			0,0	0,0	0,0	0,0	0,0
Losses, % vol			0,0	0,0	0,0	0,0	0,0
3	Titik Nyala, °C	D-56,93,92	123	123	123	123	123
4	Titik Tuang, °C	D-97	0	0	0	0	0
5	Titik Asap, mm	D-1322	0	0	0	0	0
6	Nitrojelaga, mg/kg	IP-10	0	0	0	0	0
7	Warna Sayahol/ASTM	D-156 / 1500	1.0	1.0	1.0	1.0	1.0
8	Viskositas, cSt	D-485	0	0	0	0	0
9	Ducter Test	D-486	0	0	0	0	0
10	Korosi Bilah Tembaga	D-130	0	0	0	0	0
11	Indeks Cetana	D-4737	0	0	0	0	0
12	Kandungan Abu, mg/Kg	D-1744	0	0	0	0	0
13	Kandungan Sulfur, Nm/m	D-2622/1522	0	0	0	0	0
14	Residu Karbon, % m/m	D-4530/189	0	0	0	0	0
15	Kandungan Abu, % m/m	D-482	0	0	0	0	0
16	Sediment Content, Nm/m	D-473	0	0	0	0	0
17	Nil. Asam Kuat, mg KOH/g	D-664	0	0	0	0	0
18	Nil. Asam Total, mg KOH/g	D-664	0	0	0	0	0
19	Pembukitan, mg/l	D-2276	0	0	0	0	0

Lampiran 3. Acuan Perhitungan

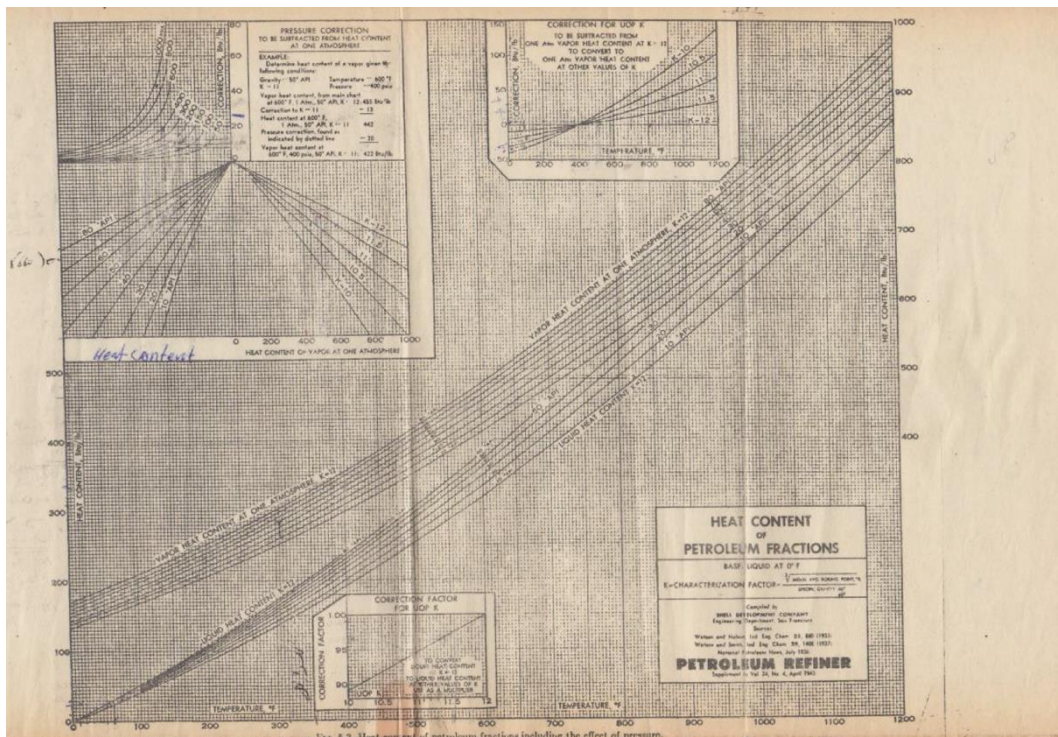
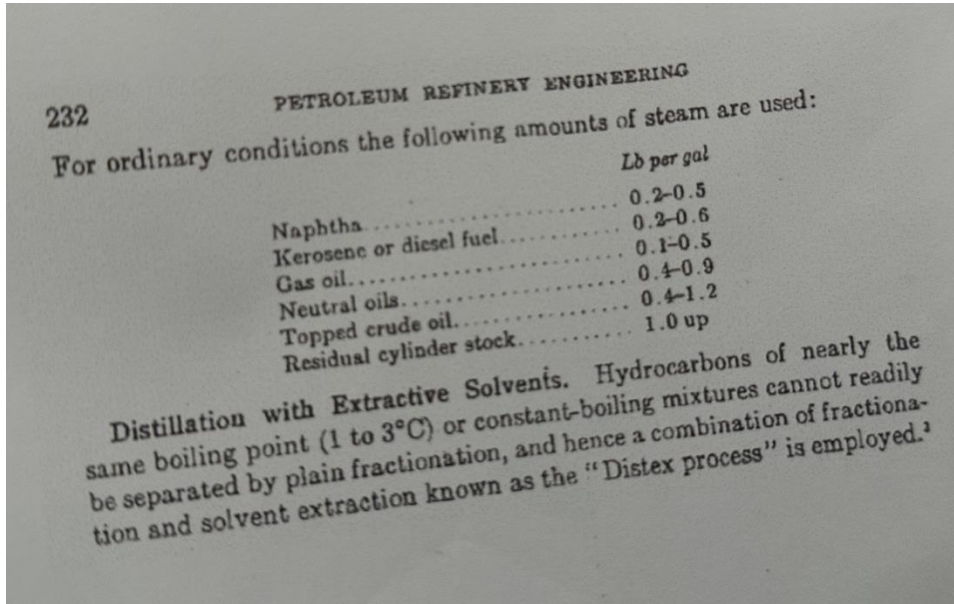


FIG. 5-3. Heat content of petroleum fractions including the effect of pressure.



PRAKTIK KERJA LAPANG
PUSAT PENGEMBANGAN SUMBER DAYA
MANUSIA MINYAK DAN GAS BUMI



TABLE E.1 Properties of Saturated Steam

V = SPECIFIC VOLUME cm^3g^{-1} H = SPECIFIC ENTHALPY $\text{kJ}\cdot\text{kg}^{-1}$
 U = SPECIFIC INTERNAL ENERGY $\text{kJ}\cdot\text{kg}^{-1}$ S = SPECIFIC ENTROPY $\text{kJ}\cdot\text{kg}^{-1}\cdot\text{K}^{-1}$

t (°C)	T (K)	P (kPa)	SPECIFIC VOLUME V			INTERNAL ENERGY U			ENTHALPY H			ENTROPY S		
			sat. liq.	sat. evap.	sat. vap.	sat. liq.	sat. evap.	sat. vap.	sat. liq.	sat. evap.	sat. vap.	sat. liq.	sat. evap.	sat. vap.
0	273.15	0.611	1.000	206300.	206300.	-0.04	2375.7	2375.6	-0.04	2501.7	2501.6	0.0000	9.1578	9.1578
0.01	273.16	0.611	1.000	206200.	206200.	0.00	2375.6	2375.6	0.00	2501.6	2501.6	0.0000	9.1575	9.1575
1	274.15	0.657	1.000	192600.	192600.	4.17	2372.7	2376.9	4.17	2499.2	2503.4	0.0153	9.1158	9.1311
2	275.15	0.705	1.000	179900.	179900.	8.39	2369.9	2378.3	8.39	2496.8	2505.2	0.0306	9.0741	9.1047
3	276.15	0.757	1.000	168200.	168200.	12.60	2367.1	2379.7	12.60	2494.5	2507.1	0.0459	9.0326	9.0785
4	277.15	0.813	1.000	157300.	157300.	16.80	2364.3	2381.1	16.80	2492.1	2508.9	0.0611	8.9915	9.0526
5	278.15	0.872	1.000	147200.	147200.	21.01	2361.4	2382.4	21.01	2489.7	2510.7	0.0762	8.9507	9.0269
6	279.15	0.935	1.000	137800.	137800.	25.21	2358.6	2383.8	25.21	2487.4	2512.6	0.0913	8.9102	9.0014
7	280.15	1.001	1.000	129100.	129100.	29.41	2355.8	2385.2	29.41	2485.0	2514.4	0.1063	8.8699	8.9762
8	281.15	1.072	1.000	121000.	121000.	33.60	2353.0	2386.6	33.60	2482.6	2516.2	0.1213	8.8300	8.9513
9	282.15	1.147	1.000	113400.	113400.	37.80	2350.1	2387.9	37.80	2480.3	2518.1	0.1362	8.7903	8.9265
10	283.15	1.227	1.000	106400.	106400.	41.99	2347.3	2389.3	41.99	2477.9	2519.9	0.1510	8.7510	8.9020
11	284.15	1.312	1.000	99910.	99910.	46.18	2344.5	2390.7	46.19	2475.5	2521.7	0.1658	8.7119	8.8776
12	285.15	1.401	1.000	93830.	93830.	50.38	2341.7	2392.1	50.38	2473.2	2523.6	0.1805	8.6731	8.8536
13	286.15	1.497	1.001	88180.	88180.	54.56	2338.9	2393.4	54.57	2470.8	2525.4	0.1952	8.6345	8.8297
14	287.15	1.597	1.001	82900.	82900.	58.75	2336.1	2394.8	58.75	2468.5	2527.2	0.2098	8.5963	8.8060
15	288.15	1.704	1.001	77980.	77980.	62.94	2333.2	2396.2	62.94	2466.1	2529.1	0.2243	8.5582	8.7826
16	289.15	1.817	1.001	73380.	73380.	67.12	2330.4	2397.6	67.13	2463.8	2530.9	0.2388	8.5205	8.7593
17	290.15	1.936	1.001	69090.	69090.	71.31	2327.6	2398.9	71.31	2461.4	2532.7	0.2533	8.4830	8.7363
18	291.15	2.062	1.001	65090.	65090.	75.49	2324.8	2400.3	75.50	2459.0	2534.5	0.2677	8.4458	8.7135
19	292.15	2.196	1.002	61340.	61340.	79.68	2322.0	2401.7	79.68	2456.7	2536.4	0.2820	8.4088	8.6908
20	293.15	2.337	1.002	57840.	57840.	83.86	2319.2	2403.0	83.86	2454.3	2538.2	0.2963	8.3721	8.6684
21	294.15	2.485	1.002	54560.	54560.	88.04	2316.4	2404.4	88.04	2452.0	2540.0	0.3105	8.3356	8.6462
22	295.15	2.642	1.002	51490.	51490.	92.22	2313.6	2405.8	92.23	2449.6	2541.8	0.3247	8.2994	8.6241
23	296.15	2.808	1.002	48620.	48620.	96.40	2310.7	2407.1	96.41	2447.2	2543.6	0.3389	8.2634	8.6023
24	297.15	2.982	1.003	45920.	45920.	100.6	2307.9	2408.5	100.6	2444.9	2545.5	0.3530	8.2277	8.5806
25	298.15	3.166	1.003	43400.	43400.	104.8	2305.1	2409.9	104.8	2442.5	2547.3	0.3670	8.1922	8.5592
26	299.15	3.360	1.003	41030.	41030.	108.9	2302.3	2411.2	108.9	2440.2	2549.1	0.3810	8.1569	8.5379
27	300.15	3.564	1.003	38810.	38810.	113.1	2299.5	2412.6	113.1	2437.8	2550.9	0.3949	8.1218	8.5168
28	301.15	3.778	1.004	36730.	36730.	117.3	2296.7	2414.0	117.3	2435.4	2552.7	0.4088	8.0870	8.4959
29	302.15	4.004	1.004	34770.	34770.	121.5	2293.8	2415.3	121.5	2433.1	2554.5	0.4227	8.0524	8.4751

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APPENDIX E. Steam Tables