



NATIONAL IRANIAN OIL COMPANY (NIOC)
RESEARCH INSTITUTE OF PETROLEUM INDUSTRY (RIPI)
CRUDE OIL AND PETROLEUM PRODUCTS EVALUATION DEPARTMENT

IRANIAN HEAVY CRUDE OIL

TABLE 1: CRUDE OIL GENERAL PROPERTIES ANALYSIS

CHARACTERISTICS	UNITS	RESULT	TEST METHOD
Specific Gravity @ 15.56 /15.56 °C	---	0.8785	ASTM D5002
API Gravity	°API	29.6	ASTM D5002
Sulfur Content (Total)	wt.%	2.24	ASTM D4294
H ₂ S Content	ppm	153	IP 570
Mercaptan Content	ppm	90	UOP 163
Nitrogen Content (Total)	wt.%	0.20	ASTM D 5762
Water & Sediment	vol.%	< 0.05	ASTM D4007
Water Content	vol.%	< 0.025	ASTM D4006
Salt Content	PTB	13	ASTM D3230
Kinematic Viscosity @ 10 °C	mm ² /s	30.53	ASTM D445
Kinematic Viscosity @ 20 °C	mm ² /s	19.42	
Kinematic Viscosity @ 40 °C	mm ² /s	10.070	
Pour Point (Upper)	°C	-18	ASTM D5853
Reid Vapor Pressure	psi	7.70	ASTM D323
Asphaltene Content	wt.%	3.6	IP 143
Wax Content	wt.%	5.4	BP 237
Drop Melting Point of Wax	°C	55	IP 133
Conradson Carbon Residue	wt.%	6.93	ASTM D189
Total Acid Number	mg KOH/g	0.15	UOP 565
Nickel Content	mg/kg	18	ASTM D5863
Vanadium Content	mg/kg	61	
Iron Content	mg/kg	1	
Lead Content	mg/kg	<1	
Sodium Content	mg/kg	20	
Zinc Content	mg/kg	<1	
Copper Content	mg/kg	<1	

Sampling Date: from 05 Day 1395 (25 Dec. 2016) to 10 Day 1395 (29 Dec. 2016)

Report Date: 07 Esfand 1395 (25 Feb. 2017)



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TABLE 2: TBP DISTILLATION ANALYSIS (ASTM D2892 & ASTM D5236)

Frac. No.	Boiling Range, °C	Yield, wt.%	Cumulative Yield, wt.%	Sp.Gr. @ 15.56/15.56 °C	Yield, vol.%	Cumulative Yield, vol.%
1	IBP-15	1.30	1.30	0.5493	2.08	2.08
2	15-65	3.41	4.71	0.6504	4.61	6.69
3	65-100	4.03	8.74	0.7121	4.97	11.66
4	100-125	3.17	11.91	0.7412	3.76	15.42
5	125-150	3.73	15.64	0.7617	4.30	19.72
6	150-175	3.75	19.39	0.7801	4.22	23.94
7	175-200	3.26	22.65	0.7920	3.62	27.56
8	200-225	4.19	26.84	0.8081	4.56	32.12
9	225-250	3.54	30.38	0.8307	3.74	35.86
10	250-275	4.15	34.53	0.8443	4.32	40.18
11	275-300	3.56	38.09	0.8543	3.66	43.84
12	300-325	4.01	42.10	0.8749	4.03	47.87
13	325-350	3.95	46.05	0.8848	3.92	51.79
14	350-385	5.34	51.39	0.8939	5.25	57.04
15	385-425	5.71	57.10	0.9225	5.44	62.48
16	425-450	3.90	61.00	0.9305	3.68	66.16
17	450-475	3.61	64.61	0.9469	3.35	69.51
18	475-500	3.61	68.22	0.9624	3.30	72.81
19	500-530	3.38	71.60	0.9741	3.05	75.86
20	530-565	3.90	75.50	0.9819	3.49	79.35
21	565+	24.50	100.00	1.0423	20.65	100.00