

Lampiran 1
USA Treasury Bill Rate
Starting January 2010

Date	1 mo	3 mo	6 mo	1 yr	2 yr	3 yr	5 yr	7 yr	10 yr	20 yr	30 yr
01/04/2010	0.05	0.08	0.18	0.45	1.09	1.66	2.65	3.36	3.85	4.6	4.65
01/05/2010	0.03	0.07	0.17	0.41	1.01	1.57	2.56	3.28	3.77	4.54	4.59
01/06/2010	0.03	0.06	0.15	0.4	1.01	1.6	2.6	3.33	3.85	4.63	4.7
01/07/2010	0.02	0.05	0.16	0.4	1.03	1.62	2.62	3.33	3.85	4.62	4.69
01/08/2010	0.02	0.05	0.15	0.37	0.96	1.56	2.57	3.31	3.83	4.61	4.7
01/11/2010	0.01	0.04	0.13	0.35	0.95	1.55	2.58	3.32	3.85	4.64	4.74
01/12/2010	0.02	0.05	0.14	0.34	0.92	1.5	2.49	3.22	3.74	4.52	4.62
01/13/10	0.02	0.06	0.15	0.37	0.97	1.54	2.55	3.28	3.8	4.6	4.71
01/14/10	0.02	0.05	0.14	0.34	0.94	1.49	2.51	3.23	3.76	4.52	4.63
01/15/10	0.03	0.06	0.15	0.33	0.89	1.44	2.44	3.17	3.7	4.48	4.58
01/19/10	0.03	0.06	0.14	0.33	0.93	1.48	2.48	3.2	3.73	4.49	4.6
01/20/10	0.03	0.05	0.14	0.31	0.92	1.46	2.45	3.16	3.68	4.43	4.54
01/21/10	0.02	0.06	0.14	0.31	0.87	1.41	2.38	3.09	3.62	4.38	4.5
01/22/10	0.02	0.06	0.14	0.3	0.84	1.39	2.37	3.09	3.62	4.38	4.5
01/25/10	0.02	0.06	0.14	0.3	0.86	1.4	2.39	3.12	3.66	4.42	4.55
01/26/10	0.02	0.07	0.14	0.32	0.87	1.4	2.38	3.11	3.65	4.43	4.56
01/27/10	0.01	0.08	0.16	0.33	0.9	1.46	2.43	3.14	3.66	4.42	4.55
01/28/10	0.01	0.08	0.15	0.31	0.87	1.44	2.41	3.15	3.68	4.44	4.57
01/29/10	0.02	0.08	0.15	0.3	0.82	1.38	2.34	3.08	3.63	4.38	4.51
02/01/2010	0.05	0.1	0.17	0.33	0.86	1.41	2.38	3.12	3.68	4.43	4.56
02/02/2010	0.04	0.1	0.17	0.33	0.86	1.41	2.37	3.11	3.67	4.42	4.55
02/03/2010	0.05	0.1	0.17	0.35	0.88	1.44	2.4	3.16	3.73	4.49	4.62
02/04/2010	0.04	0.09	0.16	0.32	0.8	1.34	2.29	3.06	3.62	4.39	4.53
02/05/2010	0.03	0.1	0.17	0.31	0.77	1.28	2.23	3	3.59	4.36	4.51
02/08/2010	0.04	0.12	0.17	0.32	0.79	1.3	2.26	3.03	3.62	4.38	4.52
02/09/2010	0.05	0.12	0.18	0.34	0.84	1.37	2.32	3.08	3.67	4.44	4.58
02/10/2010	0.06	0.11	0.19	0.38	0.91	1.44	2.39	3.14	3.72	4.51	4.65
02/11/2010	0.05	0.11	0.18	0.38	0.91	1.43	2.39	3.15	3.73	4.54	4.69
02/12/2010	0.04	0.1	0.18	0.35	0.84	1.38	2.35	3.11	3.69	4.52	4.66
02/16/10	0.04	0.1	0.18	0.34	0.82	1.36	2.32	3.08	3.66	4.49	4.63
02/17/10	0.07	0.1	0.18	0.35	0.87	1.42	2.4	3.16	3.74	4.56	4.7
02/18/10	0.07	0.1	0.18	0.37	0.9	1.47	2.46	3.23	3.79	4.61	4.74
02/19/10	0.06	0.11	0.2	0.39	0.95	1.51	2.48	3.24	3.78	4.58	4.71
02/22/10	0.06	0.11	0.19	0.37	0.91	1.48	2.47	3.25	3.8	4.6	4.73
02/23/10	0.08	0.12	0.2	0.36	0.87	1.42	2.37	3.13	3.69	4.49	4.63
02/24/10	0.08	0.12	0.19	0.34	0.87	1.42	2.4	3.14	3.7	4.49	4.63
02/25/10	0.09	0.13	0.19	0.32	0.82	1.38	2.33	3.09	3.64	4.44	4.58
02/26/10	0.09	0.13	0.19	0.32	0.81	1.36	2.3	3.05	3.61	4.4	4.55
03/01/2010	0.09	0.13	0.19	0.32	0.8	1.34	2.28	3.04	3.61	4.41	4.56
03/02/2010	0.09	0.14	0.19	0.32	0.8	1.33	2.27	3.04	3.62	4.42	4.57
03/03/2010	0.09	0.14	0.19	0.33	0.82	1.34	2.27	3.04	3.63	4.43	4.58
03/04/2010	0.09	0.14	0.19	0.35	0.86	1.38	2.28	3.03	3.61	4.4	4.56
03/05/2010	0.11	0.15	0.2	0.38	0.91	1.43	2.35	3.1	3.69	4.49	4.64
03/08/2010	0.11	0.16	0.21	0.39	0.9	1.43	2.36	3.13	3.72	4.52	4.68
03/09/2010	0.12	0.16	0.21	0.37	0.89	1.43	2.34	3.11	3.71	4.53	4.68
03/10/2010	0.12	0.15	0.21	0.39	0.92	1.45	2.39	3.14	3.73	4.53	4.69
03/11/2010	0.12	0.16	0.22	0.4	0.97	1.5	2.43	3.16	3.73	4.51	4.66
03/12/2010	0.1	0.15	0.24	0.41	0.97	1.5	2.42	3.15	3.71	4.47	4.62
03/15/10	0.12	0.17	0.24	0.4	0.96	1.49	2.42	3.15	3.71	4.48	4.63
03/16/10	0.14	0.16	0.24	0.41	0.93	1.47	2.37	3.1	3.66	4.43	4.59
03/17/10	0.13	0.15	0.23	0.41	0.95	1.47	2.38	3.1	3.65	4.41	4.56
03/18/10	0.14	0.16	0.26	0.41	0.98	1.52	2.44	3.14	3.68	4.43	4.59
03/19/10	0.13	0.16	0.25	0.42	1.02	1.56	2.48	3.16	3.7	4.41	4.58
03/22/10	0.13	0.15	0.24	0.41	1.01	1.54	2.43	3.12	3.67	4.41	4.57
03/23/10	0.11	0.14	0.23	0.4	1.02	1.55	2.44	3.13	3.69	4.43	4.6
03/24/10	0.12	0.14	0.23	0.44	1.08	1.67	2.62	3.28	3.84	4.56	4.72
03/25/10	0.12	0.14	0.25	0.44	1.1	1.69	2.65	3.37	3.91	4.63	4.77
03/26/10	0.11	0.14	0.25	0.43	1.04	1.64	2.59	3.31	3.86	4.6	4.75
03/29/10	0.11	0.15	0.24	0.42	1.04	1.65	2.6	3.32	3.88	4.61	4.76
03/30/10	0.13	0.16	0.24	0.44	1.06	1.65	2.6	3.32	3.88	4.59	4.75
03/31/10	0.15	0.16	0.24	0.41	1.02	1.6	2.55	3.28	3.84	4.55	4.72
04/01/2010	0.16	0.16	0.24	0.42	1.05	1.63	2.59	3.32	3.89	4.58	4.74
04/02/2010	0.15	0.16	0.26	0.46	1.11	1.7	2.67	3.4	3.96	4.65	4.81
04/05/2010	0.16	0.18	0.27	0.48	1.18	1.77	2.75	3.46	4.01	4.69	4.85
04/06/2010	0.17	0.17	0.26	0.49	1.14	1.74	2.71	3.42	3.98	4.68	4.84
04/07/2010	0.16	0.17	0.25	0.47	1.06	1.66	2.62	3.33	3.89	4.58	4.74
04/08/2010	0.16	0.17	0.24	0.46	1.09	1.68	2.64	3.36	3.91	4.6	4.75
04/09/2010	0.16	0.16	0.25	0.46	1.08	1.68	2.65	3.34	3.9	4.58	4.74
04/12/2010	0.15	0.16	0.24	0.46	1.07	1.65	2.6	3.29	3.87	4.54	4.7

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04/13/10	0.15	0.16	0.24	0.45	1.07	1.65	2.58	3.27	3.84	4.52	4.68
04/14/10	0.15	0.16	0.24	0.45	1.07	1.65	2.61	3.31	3.88	4.57	4.72
04/15/10	0.16	0.16	0.23	0.43	1.04	1.62	2.57	3.28	3.86	4.56	4.72
04/16/10	0.15	0.16	0.24	0.41	0.98	1.56	2.49	3.2	3.79	4.5	4.67
04/19/10	0.15	0.16	0.23	0.43	1.01	1.59	2.54	3.25	3.83	4.54	4.7
04/20/10	0.14	0.16	0.24	0.42	1.05	1.62	2.56	3.25	3.82	4.51	4.67
04/21/10	0.14	0.15	0.23	0.44	1.03	1.6	2.52	3.2	3.77	4.45	4.61
04/22/10	0.15	0.16	0.24	0.45	1.07	1.64	2.57	3.26	3.8	4.48	4.65
04/23/10	0.14	0.16	0.26	0.46	1.1	1.68	2.61	3.3	3.84	4.51	4.67
04/26/10	0.14	0.16	0.25	0.47	1.09	1.67	2.6	3.28	3.83	4.5	4.67
04/27/10	0.14	0.16	0.24	0.42	1.03	1.55	2.46	3.14	3.71	4.4	4.56
04/28/10	0.14	0.16	0.24	0.43	1.03	1.61	2.53	3.23	3.8	4.47	4.63
04/29/10	0.15	0.17	0.23	0.42	1.01	1.58	2.49	3.19	3.76	4.42	4.6
04/30/10	0.14	0.16	0.25	0.41	0.97	1.51	2.43	3.12	3.69	4.36	4.53
05/03/2010	0.14	0.17	0.25	0.43	1	1.56	2.47	3.16	3.72	4.37	4.53
05/04/2010	0.15	0.16	0.24	0.43	0.96	1.49	2.38	3.07	3.63	4.27	4.43
05/05/2010	0.14	0.15	0.22	0.39	0.88	1.43	2.31	3	3.58	4.23	4.39
05/06/2010	0.06	0.11	0.16	0.34	0.75	1.27	2.13	2.83	3.41	4.03	4.19
05/07/2010	0.08	0.13	0.21	0.38	0.83	1.32	2.17	2.87	3.45	4.11	4.28
05/10/2010	0.13	0.16	0.22	0.39	0.87	1.4	2.27	2.98	3.57	4.23	4.41
05/11/2010	0.15	0.16	0.23	0.38	0.85	1.37	2.26	2.97	3.56	4.24	4.42
05/12/2010	0.16	0.16	0.22	0.4	0.89	1.4	2.29	3.01	3.56	4.29	4.47
05/13/10	0.15	0.16	0.22	0.4	0.87	1.37	2.27	2.98	3.55	4.26	4.47
05/14/10	0.15	0.16	0.22	0.34	0.79	1.28	2.16	2.87	3.44	4.13	4.32
05/17/10	0.16	0.16	0.23	0.36	0.81	1.3	2.2	2.9	3.47	4.17	4.35
05/18/10	0.17	0.17	0.23	0.35	0.76	1.23	2.11	2.82	3.38	4.08	4.26
05/19/10	0.17	0.17	0.23	0.35	0.8	1.26	2.13	2.82	3.36	4.07	4.24
05/20/10	0.17	0.17	0.22	0.34	0.76	1.2	2.04	2.71	3.25	3.96	4.13
05/21/10	0.17	0.17	0.24	0.35	0.76	1.19	2.02	2.67	3.2	3.91	4.07
05/24/10	0.16	0.17	0.23	0.35	0.77	1.21	2.04	2.69	3.23	3.96	4.12
05/25/10	0.16	0.17	0.22	0.36	0.81	1.21	2.01	2.63	3.18	3.91	4.07
05/26/10	0.16	0.17	0.23	0.37	0.82	1.28	2.06	2.68	3.21	3.94	4.11
05/27/10	0.16	0.17	0.23	0.37	0.87	1.35	2.18	2.81	3.34	4.08	4.24
05/28/10	0.15	0.16	0.22	0.34	0.76	1.26	2.1	2.75	3.31	4.05	4.22
06/01/2010	0.14	0.16	0.23	0.35	0.78	1.26	2.09	2.74	3.29	4.03	4.19
06/02/2010	0.13	0.16	0.22	0.38	0.82	1.3	2.14	2.81	3.35	4.08	4.24
06/03/2010	0.13	0.14	0.22	0.38	0.82	1.31	2.17	2.84	3.39	4.12	4.29
06/04/2010	0.12	0.14	0.22	0.34	0.72	1.17	1.98	2.65	3.2	3.95	4.13
06/07/2010	0.1	0.12	0.21	0.35	0.74	1.17	1.95	2.62	3.17	3.93	4.11
06/08/2010	0.1	0.12	0.19	0.34	0.74	1.21	1.98	2.63	3.18	3.92	4.1
06/09/2010	0.08	0.1	0.17	0.33	0.74	1.19	1.99	2.64	3.2	3.94	4.12
06/10/2010	0.06	0.1	0.18	0.34	0.79	1.27	2.12	2.78	3.33	4.06	4.25
06/11/2010	0.04	0.08	0.16	0.3	0.75	1.21	2.03	2.68	3.24	3.97	4.15
06/14/10	0.02	0.07	0.15	0.31	0.77	1.23	2.07	2.73	3.28	4.02	4.2
06/15/10	0.03	0.09	0.16	0.31	0.79	1.26	2.1	2.77	3.32	4.06	4.23
06/16/10	0.06	0.1	0.17	0.3	0.75	1.22	2.06	2.73	3.27	4	4.18
06/17/10	0.05	0.09	0.16	0.28	0.72	1.18	2.01	2.67	3.21	3.95	4.13
06/18/10	0.04	0.11	0.17	0.3	0.74	1.2	2.04	2.7	3.24	3.97	4.15
06/21/10	0.05	0.12	0.17	0.29	0.74	1.21	2.05	2.72	3.26	3.99	4.17
06/22/10	0.08	0.13	0.18	0.29	0.71	1.15	1.98	2.64	3.18	3.92	4.1
06/23/10	0.07	0.13	0.19	0.3	0.66	1.11	1.93	2.58	3.13	3.87	4.05
06/24/10	0.07	0.13	0.19	0.29	0.67	1.1	1.93	2.59	3.14	3.91	4.09
06/25/10	0.05	0.13	0.2	0.29	0.65	1.07	1.9	2.57	3.12	3.89	4.07
06/28/10	0.07	0.17	0.22	0.3	0.62	1.03	1.83	2.49	3.05	3.82	4.01
06/29/10	0.09	0.15	0.22	0.31	0.61	0.99	1.78	2.43	2.97	3.76	3.94
06/30/10	0.17	0.18	0.22	0.32	0.61	1	1.79	2.42	2.97	3.74	3.91
										Total	561.87
										Average	4.49

Lampiran 2
Uncertain Price Models

Year (December 31st)		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Project time		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Production time		-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Time until mine closure		26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	
Discounting index		0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	
WTI price model																			
WTI oil Constant forecast	US\$/b	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Static stochastic price model																			
Long-term WTI median	US\$/b	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000
Associated price variance (%)		0.000	0.072	0.117	0.146	0.164	0.175	0.183	0.187	0.190	0.192	0.193	0.194	0.194	0.194	0.194	0.195	0.195	0.195
Median price	US\$/b	60.000	63.669	66.740	69.282	71.369	73.070	74.448	75.561	76.456	77.174	77.749	78.208	78.574	78.866	79.099	79.284	79.431	79.548
Expected WTI price	US\$/b	60.000	66.005	70.777	74.532	77.471	79.769	81.565	82.971	84.073	84.938	85.619	86.155	86.578	86.912	87.176	87.385	87.550	87.680
90th percentile price	US\$/b	60.000	89.825	103.564	113.087	119.962	125.009	128.755	131.560	133.678	135.287	136.519	137.468	138.202	138.772	139.217	139.565	139.839	140.030
10th percentile price	US\$/b	60.000	45.129	43.009	42.445	42.459	42.710	43.047	43.398	43.729	44.024	44.279	44.494	44.673	44.821	44.942	45.040	45.118	45.180
Risk discount factor	US\$/b	1.000	0.898	0.825	0.771	0.731	0.701	0.677	0.659	0.646	0.635	0.626	0.620	0.615	0.610	0.607	0.605	0.603	0.602
WTI Forward price	US\$/b	60.000	59.298	58.402	57.486	56.636	55.888	55.250	54.717	54.278	53.919	53.628	53.393	53.204	53.053	52.932	52.836	52.759	52.695
Monte carlo simulation																			
Weiner increment Monte Carlo draws		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1-Period associated price variance (%)		0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072
1-Period expected median price	US\$/b	63.669	66.740	69.282	71.369	73.070	74.448	75.561	76.456	77.174	77.749	78.208	78.574	78.866	79.099	79.284	79.431	79.548	79.630
Price outcome	US\$/b	60.000	63.669	66.740	69.282	71.369	73.070	74.448	75.561	76.456	77.174	77.749	78.208	78.574	78.866	79.099	79.284	79.431	79.548
Risk-adjusted price outcome	US\$/b	60.000	57.200	55.070	53.437	52.175	51.195	50.430	49.831	49.360	48.990	48.698	48.468	48.286	48.142	48.028	47.937	47.866	47.802
Price forecast or outcome																			
WTI Expected price	US\$/b	60.000	63.669	66.740	69.282	71.369	73.070	74.448	75.561	76.456	77.174	77.749	78.208	78.574	78.866	79.099	79.284	79.431	79.548
Risk-adjusted WTI Oil Price	US\$/b	60.000	57.200	55.070	53.437	52.175	51.195	50.430	49.831	49.360	48.990	48.698	48.468	48.286	48.142	48.028	47.937	47.866	47.802

Lampiran 2
Uncertain Price Models

Year (December 31st)	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Project time	17	18	19	20	21	22	23	24	25	26
Production time	16	17	18	19	20	21	22	23	24	25
Time until mine closure	9	8	7	6	5	4	3	2	1	0
Discounting index	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
WTI price model										
<i>WTI oil Constant forecast</i>	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Static stochastic price model										
Long-term WTI median	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	80.000
Associated price variance (%)	0.195	0.195	0.195	0.195	0.195	0.195	0.195	0.195	0.195	0.195
Median price	79.548	79.641	79.715	79.774	79.820	79.857	79.887	79.910	79.929	79.943
Expected WTI price	87.681	87.785	87.867	87.932	87.984	88.025	88.058	88.083	88.104	88.120
90th percentile price	140.054	140.223	140.357	140.462	140.546	140.612	140.664	140.706	140.739	140.765
10th percentile price	45.182	45.233	45.274	45.306	45.332	45.353	45.370	45.383	45.393	45.402
Risk discount factor	0.601	0.600	0.599	0.598	0.597	0.597	0.596	0.596	0.596	0.596
WTI Forward price	52.697	52.648	52.609	52.579	52.554	52.535	52.519	52.507	52.497	52.489
Monte carlo simulation										
Weiner increment Monte Carlo draws	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1-Period associated price variance (%)	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072
1-Period expected median price	79.641	79.715	79.774	79.820	79.857	79.887	79.910	79.929	79.943	0.000
Price outcome	79.548	79.641	79.715	79.774	79.820	79.857	79.887	79.910	79.929	79.943
Risk-adjusted price outcome	47.809	47.764	47.729	47.700	47.678	47.660	47.646	47.635	47.626	47.619
Price forecast or outcome										
WTI Expected price	79.548	79.641	79.715	79.774	79.820	79.857	79.887	79.910	79.929	79.943
Risk-adjusted WTI Oil Price	47.809	47.764	47.729	47.700	47.678	47.660	47.646	47.635	47.626	47.619

Lampiran 3
Discounted Cash Flow

	Total	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production																	
Oil	bopd	5,554,591.8	0	0	0	150,000	294,106	418,140	509,896	566,372	539,981	464,766	400,027	344,307	296,348	255,069	219,540
Condensate			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Production																	
Oil	mm bbl	2,027.4	0.00	0.00	0.00	54.75	107.35	152.62	186.11	206.73	197.09	169.64	146.01	125.67	108.17	93.10	80.13
Condensate			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price																	
Oil	\$/bbl	60	63.67	66.74	69.28	71.37	73.07	74.45	75.56	76.46	77.17	77.75	78.21	78.57	78.87	79.10	79.28
Condensate	\$/bbl		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas	\$/mmbtu		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gross Exploration Capex	mm\$	116.1	2.54	70.26	43.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Development Capex	mm\$	360.1	0.00	0.00	71.17	92.17	57.75	41.00	41.00	29.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Opex	mm\$	5,549.8	0.00	0.00	0.00	138.88	290.39	405.57	491.30	546.83	522.75	454.11	395.04	344.20	300.43	262.77	230.35
Original Opex	mm\$	5,243.6	0.00	0.00	0.00	138.88	273.37	388.55	474.28	529.81	505.73	437.10	378.03	327.18	283.42	245.75	213.33
Opex from Renting	mm\$	306.3	0.00	0.00	0.00	0.00	17.02	17.02	17.02	17.02	17.02	17.02	17.02	17.02	17.02	17.02	17.02
Gross Revenue																	
Oil	mm\$	156,806.1	0.00	0.00	0.00	3,907.44	7,843.93	11,362.38	14,062.86	15,805.48	15,210.50	13,189.29	11,419.16	9,874.61	8,530.74	7,364.12	6,353.19
Condensate	mm\$	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gas	mm\$		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Second Party (SP) / PT. X																	
Gross Revenue		156,806.1	0.00	0.00	0.00	3,907.44	7,843.93	11,362.38	14,062.86	15,805.48	15,210.50	13,189.29	11,419.16	9,874.61	8,530.74	7,364.12	6,353.19
SP Revenue		21,482.4	0.00	0.00	0.00	535.32	1,074.62	1,556.65	1,926.61	2,165.35	2,083.84	1,806.93	1,564.43	1,352.82	1,168.71	1,008.88	870.39
NOC Revenue		135,323.6	0.00	0.00	0.00	3,372.12	6,769.31	9,805.74	12,136.24	13,640.13	13,126.67	11,382.35	9,854.74	8,521.79	7,362.03	6,355.24	5,482.80
SP Capex & Opex																	
Expl. Capex		116.1	2.54	70.26	43.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex		180.1	0.00	0.00	35.59	46.09	28.88	20.50	20.50	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex		760.3	0.00	0.00	0.00	19.03	39.78	55.56	67.31	74.92	71.62	62.21	54.12	47.15	41.16	36.00	31.56
Total Cost & Expense		1,056.4	2.54	70.26	78.84	65.11	68.66	76.06	87.81	89.42	71.62	62.21	54.12	47.15	41.16	36.00	31.56
Unrecover Cost & Expense			0.00	2.54	72.80	151.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cost & Expense Recoverable			2.54	72.80	151.64	216.75	68.66	76.06	87.81	89.42	71.62	62.21	54.12	47.15	41.16	36.00	31.56
Carry Forward			2.54	72.80	151.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cost Recovery	5%	1,056.4	0.00	0.00	0.00	216.75	68.66	76.06	87.81	89.42	71.62	62.21	54.12	47.15	41.16	36.00	31.56
SP Excess Profit	95%	20,426.0	0.00	0.00	0.00	318.57	1,005.96	1,480.58	1,838.80	2,075.94	2,012.22	1,744.72	1,510.30	1,305.67	1,127.55	972.89	838.83
SP Share of Excess Profit	7% 8%	1,584.4	0.00	0.00	0.00	114.63	189.46	82.95	97.71	107.60	105.46	94.94	85.71	77.63	70.59	64.47	59.15
NOC Share of Excess Profit	88% 92%	18,841.6	0.00	0.00	0.00	203.94	816.49	1,397.64	1,741.09	1,968.34	1,906.77	1,649.78	1,424.60	1,228.03	1,056.96	908.42	779.68
Share Calculation of SP Excess Profit :																	
Ratio			0.00	0.00	0.00	0.00	2.47	5.64	8.76	11.34	13.47	15.31	16.58	17.50	18.18	18.69	19.09
"A" Factor	0.102	0.32	0.85	0.85	0.85	0.85	0.60	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Base Factor		0.32	0.00	0.00	0.00	0.42	0.31	0.28	0.27	0.26	0.26	0.27	0.28	0.30	0.31	0.33	0.35
SP from Cost Recovery		1,056.4	0.00	0.00	0.00	216.75	68.66	76.06	87.81	89.42	71.62	62.21	54.12	47.15	41.16	36.00	31.56
SP Share of Excess Profit		1,584.4	0.00	0.00	0.00	114.63	189.46	82.95	97.71	107.60	105.46	94.94	85.71	77.63	70.59	64.47	59.15
SP Net Entitlement		2,640.9	0.00	0.00	0.00	331.38	258.12	159.01	185.52	197.01	177.07	157.15	139.83	124.79	111.75	100.47	90.71
SP Expl. Capex		(116.1)	(2.54)	(70.26)	(43.25)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SP Dev. Capex		(180.1)	0.00	0.00	(35.59)	(46.09)	(28.88)	(20.50)	(20.50)	(14.50)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SP Opex		(760.3)	0.00	(0.00)	(0.00)	(19.03)	(39.78)	(55.56)	(67.31)	(74.92)	(71.62)	(62.21)	(54.12)	(47.15)	(41.16)	(36.00)	(31.56)
Signature Bonus		(0.3)	(0.25)														
Production Bonus		(9.0)	0.00	0.00	(1.00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Training Fee		(0.5)	0.00	(0.12)	(0.12)	(0.12)	(0.12)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Lampiran 3
Discounted Cash Flow

		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Total	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Funding for NOC :																	
Expl. Capex	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reimbursement from NOC	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Payment from NOC	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NCF 100% WI	##### 1,574.7	(2.79)	(70.38)	(79.96)	266.15	189.34	82.95	97.71	107.60	105.46	94.94	85.71	77.63	70.59	64.47	59.15	
End Cash Balance		(2.79)	(73.17)	(153.13)	113.02	302.37	385.31	483.03	590.62	696.08	791.02	876.73	954.36	1,024.96	1,089.43	1,148.58	
NCF 50% WI		(1.40)	(35.19)	(39.98)	133.07	94.67	41.47	48.86	53.80	52.73	47.47	42.85	38.82	35.30	32.24	29.58	
End Cash Balance		(1.40)	(36.59)	(76.56)	56.51	151.18	192.66	241.51	295.31	348.04	395.51	438.36	477.18	512.48	544.71	574.29	
	NPV PT. X	\$193.62															
First Party / NOC																	
NOC Revenue	135,324	0.00	0.00	0.00	3,372.12	6,769.31	9,805.74	12,136.24	13,640.13	13,126.67	11,382.35	9,854.74	8,521.79	7,362.03	6,355.24	5,482.80	
NOC Share of Excess Profit	18,842	0.00	0.00	0.00	203.94	816.49	1,397.64	1,741.09	1,968.34	1,906.77	1,649.78	1,424.60	1,228.03	1,056.96	908.42	779.68	
NOC Share of Production	154,165	0.00	0.00	0.00	3,576.06	7,585.81	11,203.37	13,877.33	15,608.47	15,033.43	13,032.13	11,279.34	9,749.82	8,418.98	7,263.65	6,262.48	
Capex Opex be Funded by SP :																	
Expl. Capex	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Funding by SP	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrecover	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Unrecover & Funding	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reimbursement to SP	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carry Forward	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOC after Reimbursement to SP	154,165	0.00	0.00	0.00	3,576.06	7,585.81	11,203.37	13,877.33	15,608.47	15,033.43	13,032.13	11,279.34	9,749.82	8,418.98	7,263.65	6,262.48	
Interest Payment to SP	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOC After Reimbursement & Int. Payment to SP	154,165	0.00	0.00	0.00	3,576.06	7,585.81	11,203.37	13,877.33	15,608.47	15,033.43	13,032.13	11,279.34	9,749.82	8,418.98	7,263.65	6,262.48	
Capex Opex be Funded by NOC Self :																	
Expl. Capex	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	180	0.00	0.00	35.59	46.09	28.88	20.50	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex	4,790	0.00	0.00	119.85	250.60	350.01	423.99	471.91	451.13	391.90	340.92	297.04	259.27	226.77	198.79		
Total Funding by NOC Self	4,970	0.00	0.00	35.59	165.94	279.48	370.51	444.49	486.41	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
Unrecover	36	0.00	0.00	35.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Funding by NOC Self inc. Unrecover	5,005	0.00	0.00	35.59	201.52	279.48	370.51	444.49	486.41	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
Recovery for Funding	4,970	0.00	0.00	0.00	201.52	279.48	370.51	444.49	486.41	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
Carry Forward	36	0.00	0.00	35.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net NOC	149,196	0.00	0.00	0.00	3,374.53	7,306.33	10,832.87	13,432.85	15,122.06	14,582.30	12,640.23	10,938.42	9,452.78	8,159.71	7,036.89	6,063.69	
	NPV NOC	\$36,818															
NOC Net Entitlement :																	
Net NOC	149,196	0.00	0.00	0.00	3,374.53	7,306.33	10,832.87	13,432.85	15,122.06	14,582.30	12,640.23	10,938.42	9,452.78	8,159.71	7,036.89	6,063.69	
Recovery for Funding	4,970	0.00	0.00	0.00	201.52	279.48	370.51	444.49	486.41	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
	154,165																
Net cash flow discounting factor																	
DCF factor	15.0%	1.000	0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	0.284	0.247	0.215	0.187	0.163	0.141	0.123
DCF NPV calculation (US\$ million)																	
Contractor PV		0.00	(1.21)	(26.61)	(26.29)	76.09	47.07	17.93	18.37	17.59	14.99	11.73	9.21	7.26	5.74	4.56	3.63
Full equity stake DCF NPV	193.62																
NOC cash flow PV		0.00	0.00	0.00	0.00	1,929.40	3,632.54	4,683.35	5,049.90	4,943.43	4,145.20	3,124.47	2,351.14	1,766.79	1,326.18	994.51	745.19
NOC DCF NPV	36,818.05																

Lampiran 3
Discounted Cash Flow

	16	17	18	19	20	21	22	23	24	25	26
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Production											
Oil	188,960	162,639	139,985	120,486	103,703	89,258	76,825	66,124	56,914	48,986	42,163
Condensate	0	0	0	0	0	0	0	0	0	0	0
Gas	0	0	0	0	0	0	0	0	0	0	0
Annual Production											
Oil	68.97	59.36	51.09	43.98	37.85	32.58	28.04	24.14	20.77	17.88	15.39
Condensate	0	0	0	0	0	0	0	0	0	0	0
Gas	0	0	0	0	0	0	0	0	0	0	0
Price											
Oil	79.43	79.55	79.64	79.72	79.77	79.82	79.86	79.89	79.91	79.93	79.94
Condensate	0	0	0	0	0	0	0	0	0	0	0
Gas	0	0	0	0	0	0	0	0	0	0	0
Gross Exploration Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Development Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.00
Gross Opex	202.44	173.42	147.75	129.96	114.64	101.46	90.12	63.34	54.93	47.70	41.47
Original Opex	185.43	156.41	130.74	112.94	97.63	84.45	73.10	63.34	54.93	47.70	41.47
Opex from Renting	17.02	17.02	17.02	17.02	17.02	17.02	17.02	0.00	0.00	0.00	0.00
Gross Revenue											
Oil	5,478.39	4,722.24	4,069.22	3,505.66	3,019.57	2,600.49	2,239.30	1,928.09	1,660.01	1,429.11	1,230.28
Condensate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Second Party (SP) / PT. X											
Gross Revenue	5,478.39	4,722.24	4,069.22	3,505.66	3,019.57	2,600.49	2,239.30	1,928.09	1,660.01	1,429.11	1,230.28
SP Revenue	750.54	646.95	557.48	480.28	413.68	356.27	306.78	264.15	227.42	195.79	168.55
NOC Revenue	4,727.85	4,075.29	3,511.74	3,025.38	2,605.89	2,244.22	1,932.51	1,663.94	1,432.59	1,233.33	1,061.73
SP Capex & Opex											
Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00
Opex	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	5.68
Total Cost & Expense	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	19.68
Unrecover Cost & Expense	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cost & Expense Recoverable	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	19.68
Carry Forward	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cost Recovery	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	19.68
SP Excess Profit	722.80	623.19	537.24	462.47	397.97	342.37	294.44	255.47	219.90	189.25	148.87
SP Share of Excess Profit	54.54	50.60	47.20	44.22	41.63	39.39	36.83	34.65	32.04	28.97	24.07
NOC Share of Excess Profit	668.26	572.59	490.04	418.26	356.34	302.97	257.61	220.83	187.86	160.28	124.80
Share Calculation of SP Excess Profit :											
Ratio	19.39	19.63	19.82	19.98	20.11	20.21	20.29	20.34	20.43	20.50	20.56
"A" Factor	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Base Factor	0.38	0.41	0.44	0.48	0.52	0.58	0.63	0.68	0.73	0.77	0.81
SP from Cost Recovery	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	19.68
SP Share of Excess Profit	54.54	50.60	47.20	44.22	41.63	39.39	36.83	34.65	32.04	28.97	24.07
SP Net Entitlement	82.28	74.36	67.45	62.02	57.34	53.29	49.18	43.32	39.56	35.51	43.75
SP Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SP Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(14.00)
SP Opex	(27.73)	(23.76)	(20.24)	(17.80)	(15.71)	(13.90)	(12.35)	(8.68)	(7.53)	(6.53)	(5.68)
Signature Bonus											
Production Bonus	(5.00)	0.00	0.00	0.00	0.00	0.00	(3.00)	0.00	0.00	0.00	0.00
Training Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Lampiran 3
Discounted Cash Flow

	16	17	18	19	20	21	22	23	24	25	26
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Funding for NOC :											
Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reimbursement from NOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Payment from NOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NCF 100% WI	49.54	50.60	47.20	44.22	41.63	39.39	33.83	34.65	32.04	28.97	24.07
End Cash Balance	1,198.12	1,248.72	1,295.92	1,340.14	1,381.77	1,421.16	1,454.99	1,489.64	1,521.67	1,550.64	1,574.71
NCF 50% WI	24.77	25.30	23.60	22.11	20.82	19.70	16.91	17.32	16.02	14.49	12.03
End Cash Balance	599.06	624.36	647.96	670.07	690.89	710.58	727.50	744.82	760.84	775.32	787.36
First Party / NOC											
NOC Revenue	4,727.85	4,075.29	3,511.74	3,025.38	2,605.89	2,244.22	1,932.51	1,663.94	1,432.59	1,233.33	1,061.73
NOC Share of Excess Profit	668.26	572.59	490.04	418.26	356.34	302.97	257.61	220.83	187.86	160.28	124.80
NOC Share of Production	5,396.11	4,647.88	4,001.78	3,443.64	2,962.23	2,547.19	2,190.12	1,884.77	1,620.45	1,393.61	1,186.53
Capex Opex be Funded by SP :											
Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Funding by SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrecover	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Unrecover & Funding	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reimbursement to SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carry Forward	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOC after Reimbursement to SP	5,396.11	4,647.88	4,001.78	3,443.64	2,962.23	2,547.19	2,190.12	1,884.77	1,620.45	1,393.61	1,186.53
Interest Payment to SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOC After Reimbursement & Int. Payment to SP	5,396.11	4,647.88	4,001.78	3,443.64	2,962.23	2,547.19	2,190.12	1,884.77	1,620.45	1,393.61	1,186.53
Capex Opex be Funded by NOC Self :											
Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00
Opex	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	35.79
Total Funding by NOC Self	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	49.79
Unrecover	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Funding by NOC Self inc. Unrecover	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	49.79
Recovery for Funding	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	49.79
Carry Forward	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net NOC	5,221.41	4,498.22	3,874.27	3,331.48	2,863.30	2,459.63	2,112.35	1,830.11	1,573.04	1,352.44	1,136.74
NOC Net Entitlement :											
Net NOC	5,221.41	4,498.22	3,874.27	3,331.48	2,863.30	2,459.63	2,112.35	1,830.11	1,573.04	1,352.44	1,136.74
Recovery for Funding	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	49.79
Net cash flow discounting factor											
DCF factor	0.107	0.093	0.081	0.070	0.061	0.053	0.046	0.040	0.035	0.030	0.026
DCF NPV calculation (US\$ million)											
Contractor PV	2.65	2.35	1.91	1.55	1.27	1.05	0.78	0.70	0.56	0.44	0.32
Full equity stake DCF NPV											
NOC cash flow PV	557.98	418.00	313.06	234.09	174.95	130.68	97.59	73.52	54.95	41.08	30.03
NOC DCF NPV											

Lampiran 4
Real Options

		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
		Total	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production																		
Oil	bopd			0	0	150,000	294,106	418,140	509,896	566,372	539,981	464,766	400,027	344,307	296,348	255,069	219,540	
Condensate	bopd																	
Gas	mm scfd																	
Annual Production																		
Oil	mm bbl	2,027.4		0.00	0.00	54.75	107.35	152.62	186.11	206.73	197.09	169.64	146.01	125.67	108.17	93.10	80.13	
Condensate	mm bbl	0.0																
Gas																		
Oil	\$/bbl	60.00	57.20	55.07	53.44	52.17	51.19	50.43	49.83	49.36	48.99	48.70	48.47	48.29	48.14	48.03	47.94	
Condensate	\$/bbl																	
Gas	\$/mmbtu																	
Gross Exploration Capex	mm\$	116.1	2.54	70.26	43.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Development Capex	mm\$	360.1	0.00	0.00	71.17	92.17	57.75	41.00	41.00	29.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Opex	mm\$	5,549.8	0.00	0.00	0.00	138.88	290.39	405.57	491.30	546.83	522.75	454.11	395.04	344.20	300.43	262.77	230.35	
Original Opex		5,243.6	0.00	0.00	0.00	138.88	273.37	388.55	474.28	529.81	505.73	437.10	378.03	327.18	283.42	245.75	213.33	
Opex from Renting		306.3	0.00	0.00	0.00	0.00	17.02	17.02	17.02	17.02	17.02	17.02	17.02	17.02	17.02	17.02	17.02	
Gross Revenue																		
Oil	mm\$	99,206.7	0.00	0.00	0.00	2,856.58	5,495.67	7,696.61	9,274.07	10,204.02	9,655.59	8,261.14	7,076.79	6,068.17	5,207.34	4,471.39	3,841.32	
Condensate	mm\$	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Gas	mm\$																	
Second Party (SP) / PT. X																		
Gross Revenue		99,206.7	0.00	0.00	0.00	2,856.58	5,495.67	7,696.61	9,274.07	10,204.02	9,655.59	8,261.14	7,076.79	6,068.17	5,207.34	4,471.39	3,841.32	
SP Revenue		13,591.3	0.00	0.00	0.00	391.35	752.91	1,054.44	1,270.55	1,397.95	1,322.82	1,131.78	969.52	831.34	713.41	612.58	526.26	
NOC Revenue		85,615.4	0.00	0.00	0.00	2,465.23	4,742.77	6,642.18	8,003.53	8,806.07	8,332.78	7,129.36	6,107.27	5,236.83	4,493.94	3,858.81	3,315.06	
SP Capex & Opex																		
Expl. Capex		116.1	2.54	70.26	43.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Dev. Capex		180.1	0.00	0.00	35.59	46.09	28.88	20.50	20.50	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Opex		760.3	0.00	0.00	0.00	19.03	39.78	55.56	67.31	74.92	71.62	62.21	54.12	47.15	41.16	36.00	31.56	
Total Cost & Expense		1,056.4	2.54	70.26	78.84	65.11	68.66	76.06	87.81	89.42	71.62	62.21	54.12	47.15	41.16	36.00	31.56	
Unrecover Cost & Expense		0.00	2.54	72.80	151.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Cost & Expense Recoverable		2.54	72.80	151.64	216.75	68.66	76.06	87.81	89.42	71.62	62.21	54.12	47.15	41.16	36.00	31.56		
Carry Forward		2.54	72.80	151.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Cost Recovery	8%	1,056.4	0.00	0.00	0.00	216.75	68.66	76.06	87.81	89.42	71.62	62.21	54.12	47.15	41.16	36.00	31.56	
SP Excess Profit	92%	12,534.9	0.00	0.00	0.00	174.60	684.25	978.37	1,182.74	1,308.54	1,251.20	1,069.56	915.40	784.18	672.25	576.58	494.70	
SP Share of Excess Profit	7%	967.0	0.00	0.00	0.00	62.83	128.87	54.81	62.85	67.82	65.57	58.20	51.95	46.63	42.09	38.21	34.89	
NOC Share of Excess Profit	85%	11,567.9	0.00	0.00	0.00	111.77	555.37	923.56	1,119.89	1,240.71	1,185.63	1,011.36	863.45	737.56	630.16	538.37	459.82	
Share Calculation of SP Excess Profit :																		
Ratio			0.00	0.00	0.00	0.00	1.81	4.01	6.08	7.72	9.04	10.14	10.89	11.41	11.79	12.07	12.28	
"A" Factor	0.101763645	0.32	0.85	0.85	0.85	0.85	0.60	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
Base Factor		0.32	0.00	0.00	0.00	0.42	0.31	0.28	0.27	0.26	0.26	0.27	0.28	0.30	0.31	0.33	0.35	
SP from Cost Recovery		1,056.4	0.00	0.00	0.00	216.75	68.66	76.06	87.81	89.42	71.62	62.21	54.12	47.15	41.16	36.00	31.56	
SP Share of Excess Profit		967.0	0.00	0.00	0.00	62.83	128.87	54.81	62.85	67.82	65.57	58.20	51.95	46.63	42.09	38.21	34.89	
SP Net Entitlement		2,023.4	0.00	0.00	0.00	279.58	197.53	130.87	150.66	157.24	137.19	120.41	106.07	93.78	83.25	74.21	66.44	
SP Expl. Capex		(116.1)	(2.54)	(70.26)	(43.25)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SP Dev. Capex		(180.1)	0.00	0.00	(35.59)	(46.09)	(28.88)	(20.50)	(20.50)	(14.50)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SP Opex		(760.3)	0.00	(0.00)	(0.00)	(19.03)	(39.78)	(55.56)	(67.31)	(74.92)	(71.62)	(62.21)	(54.12)	(47.15)	(41.16)	(36.00)	(31.56)	
Signature Bonus		(0.3)	(0.25)															
Production Bonus		(9.0)	0.00	0.00	(1.00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Training Fee		(0.5)	0.00	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Funding for NOC :																		

Lampiran 4
Real Options

		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
		Total	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Expl. Capex		0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex		0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex		0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reimbursement from NOC		0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Payment from NOC		0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NCF 100% WI	67.27%	957.3	(2.79)	(70.38)	(79.96)	214.35	128.75	54.81	62.85	67.82	65.57	58.20	51.95	46.63	42.09	38.21	34.89	
End Cash Balance			(2.79)	(73.17)	(153.13)	61.22	189.97	244.78	307.63	375.45	441.03	499.23	551.18	597.80	639.89	678.10	712.99	
NCF 50% WI			(1.40)	(35.19)	(39.98)	107.17	64.38	27.41	31.43	33.91	32.79	29.10	25.97	23.31	21.04	19.10	17.44	
End Cash Balance			(1.40)	(36.59)	(76.56)	30.61	94.98	122.39	153.82	187.73	220.51	249.61	275.59	298.90	319.95	339.05	356.49	
NPV PT. X		\$278.74																
First Party / NOC																		
NOC Revenue		85,615	0.00	0.00	0.00	2,465.23	4,742.77	6,642.18	8,003.53	8,806.07	8,332.78	7,129.36	6,107.27	5,236.83	4,493.94	3,858.81	3,315.06	
NOC Share of Excess Profit		11,568	0.00	0.00	0.00	111.77	555.37	923.56	1,119.89	1,240.71	1,185.63	1,011.36	863.45	737.56	630.16	538.37	459.82	
NOC Share of Production		97,183	0.00	0.00	0.00	2,577.00	5,298.14	7,565.74	9,123.42	10,046.79	9,518.40	8,140.73	6,970.72	5,974.39	5,124.09	4,397.18	3,774.88	
Capex Opex be Funded by SP :																		
Expl. Capex		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Funding by SP		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrecover		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Unrecover & Funding		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reimbursement to SP		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carry Forward		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOC after Reimbursement to SP		97,183	0.00	0.00	0.00	2,577.00	5,298.14	7,565.74	9,123.42	10,046.79	9,518.40	8,140.73	6,970.72	5,974.39	5,124.09	4,397.18	3,774.88	
Interest Payment to SP		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOC After Reimbursement & Int. Payment to SP		97,183	0.00	0.00	0.00	2,577.00	5,298.14	7,565.74	9,123.42	10,046.79	9,518.40	8,140.73	6,970.72	5,974.39	5,124.09	4,397.18	3,774.88	
Capex Opex be Funded by NOC Self :																		
Expl. Capex		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex		180	0.00	0.00	35.59	46.09	28.88	20.50	20.50	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex		4,790	0.00	0.00	0.00	119.85	250.60	350.01	423.99	471.91	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
Total Funding by NOC Self		4,970	0.00	0.00	35.59	165.94	279.48	370.51	444.49	486.41	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
Unrecover		36	0.00	0.00	0.00	35.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Funding by NOC Self inc. Unrecover		5,005	0.00	0.00	35.59	201.52	279.48	370.51	444.49	486.41	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
Recovery for Funding		4,970	0.00	0.00	0.00	201.52	279.48	370.51	444.49	486.41	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
Carry Forward		36	0.00	0.00	35.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net NOC		92,214	0.00	0.00	0.00	2,375.48	5,018.66	7,195.23	8,678.93	9,560.37	9,067.27	7,748.83	6,629.80	5,677.35	4,864.82	4,170.41	3,576.09	
NPV NOC		\$54,812																
NOC Net Entitlement :																		
Net NOC		92,214	0.00	0.00	0.00	2,375.48	5,018.66	7,195.23	8,678.93	9,560.37	9,067.27	7,748.83	6,629.80	5,677.35	4,864.82	4,170.41	3,576.09	
Recovery for Funding		4,970	0.00	0.00	0.00	201.52	279.48	370.51	444.49	486.41	451.13	391.90	340.92	297.04	259.27	226.77	198.79	
		97,183																
Net cash flow discounting factor																		
RO factor		5.0%	1.000	0.952	0.907	0.864	0.823	0.784	0.746	0.711	0.677	0.645	0.614	0.585	0.557	0.530	0.505	0.481
RO NPV calculation (US\$ million)																		
Contractor PV		0.00	(1.33)	(31.92)	(34.53)	88.17	50.44	20.45	22.33	22.95	21.13	17.87	15.19	12.98	11.16	9.65	8.39	
Full equity stake DCF NPV		278.74																
NOC cash flow PV		0.00	0.00	0.00	0.00	1,954.31	3,932.25	5,369.19	6,167.95	6,470.84	5,844.84	4,757.11	3,876.31	3,161.36	2,579.92	2,106.34	1,720.16	
NOC DCF NPV		54,811.72																

Lampiran 4
Real Options

	16	17	18	19	20	21	22	23	24	25	26
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Production											
Oil	188,960	162,639	139,985	120,486	103,703	89,258	76,825	66,124	56,914	48,986	42,163
Condensate											
Gas											
Annual Production											
Oil	68.97	59.36	51.09	43.98	37.85	32.58	28.04	24.14	20.77	17.88	15.39
Condensate											
Gas											
Oil	47.87	47.81	47.76	47.73	47.70	47.68	47.66	47.65	47.63	47.63	47.62
Condensate											
Gas											
Gross Exploration Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Development Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.00
Gross Opex	202.44	173.42	147.75	129.96	114.64	101.46	90.12	83.34	54.93	47.70	41.47
Original Opex	185.43	156.41	130.74	112.94	97.63	84.45	73.10	63.34	54.93	47.70	41.47
Opex from Renting	17.02	17.02	17.02	17.02	17.02	17.02	17.02	0.00	0.00	0.00	0.00
Gross Revenue											
Oil	3,301.32	2,838.11	2,440.48	2,098.98	1,805.53	1,553.31	1,336.44	1,149.95	989.54	851.54	732.82
Condensate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gas											
Second Party (SP) / PT. X											
Gross Revenue	3,301.32	2,838.11	2,440.48	2,098.98	1,805.53	1,553.31	1,336.44	1,149.95	989.54	851.54	732.82
SP Revenue	452.28	388.82	334.35	287.56	247.36	212.80	183.09	157.54	135.57	116.66	100.40
NOC Revenue	2,849.04	2,449.29	2,106.14	1,811.42	1,558.18	1,340.50	1,153.35	992.41	853.97	734.88	632.42
SP Capex & Opex											
Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00
Opex	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	5.68
Total Cost & Expense	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	19.68
Unrecover Cost & Expense	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cost & Expense Recoverable	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	19.68
Carry Forward	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cost Recovery	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	19.68
SP Excess Profit	424.55	365.06	314.10	269.76	231.65	198.90	170.75	148.87	128.04	110.13	80.71
SP Share of Excess Profit	32.04	29.64	27.60	25.79	24.23	22.89	21.36	20.19	18.65	16.86	13.05
NOC Share of Excess Profit	392.51	335.42	286.51	243.96	207.42	176.02	149.39	128.68	109.39	93.27	67.67
Share Calculation of SP Excess Profit :											
Ratio	12.44	12.55	12.65	12.73	12.80	12.84	12.88	12.90	12.94	12.98	13.01
"A" Factor	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Base Factor	0.38	0.41	0.44	0.48	0.52	0.58	0.63	0.68	0.73	0.77	0.81
SP from Cost Recovery	27.73	23.76	20.24	17.80	15.71	13.90	12.35	8.68	7.53	6.53	19.68
SP Share of Excess Profit	32.04	29.64	27.60	25.79	24.23	22.89	21.36	20.19	18.65	16.86	13.05
SP Net Entitlement	59.77	53.40	47.84	43.60	39.94	36.79	33.70	28.87	26.18	23.39	32.73
SP Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SP Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(14.00)
SP Opex	(27.73)	(23.76)	(20.24)	(17.80)	(15.71)	(13.90)	(12.35)	(8.68)	(7.53)	(6.53)	(5.68)
Signature Bonus											
Production Bonus	(5.00)	0.00	0.00	0.00	0.00	0.00	(3.00)	0.00	0.00	0.00	0.00
Training Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funding for NOC :											

Lampiran 4
Real Options

	16	17	18	19	20	21	22	23	24	25	26
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reimbursement from NOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Payment from NOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NCF 100% WI	27.04	29.64	27.60	25.79	24.23	22.89	18.36	20.19	18.65	16.86	13.05
End Cash Balance	740.02	769.66	797.26	823.05	847.28	870.17	888.53	908.72	927.37	944.23	957.28
NCF 50% WI	13.52	14.82	13.80	12.90	12.12	11.44	9.18	10.09	9.33	8.43	6.52
End Cash Balance	370.01	384.83	398.63	411.53	423.64	435.08	444.26	454.36	463.68	472.11	478.64
First Party / NOC											
NOC Revenue	2,849.04	2,449.29	2,106.14	1,811.42	1,558.18	1,340.50	1,153.35	992.41	853.97	734.88	632.42
NOC Share of Excess Profit	392.51	335.42	286.51	243.96	207.42	176.02	149.39	128.68	109.39	93.27	67.67
NOC Share of Production	3,241.55	2,784.71	2,392.64	2,055.38	1,765.60	1,516.52	1,302.74	1,121.08	963.36	828.15	700.09
Capex Opex be Funded by SP :											
Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Funding by SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrecover	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Unrecover & Funding	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reimbursement to SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carry Forward	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOC after Reimbursement to SP	3,241.55	2,784.71	2,392.64	2,055.38	1,765.60	1,516.52	1,302.74	1,121.08	963.36	828.15	700.09
Interest Payment to SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOC After Reimbursement & Int. Payment to SP	3,241.55	2,784.71	2,392.64	2,055.38	1,765.60	1,516.52	1,302.74	1,121.08	963.36	828.15	700.09
Capex Opex be Funded by NOC Self :											
Expl. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dev. Capex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00
Opex	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	35.79
Total Funding by NOC Self	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	49.79
Unrecover	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Funding by NOC Self inc. Unrecover	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	49.79
Recovery for Funding	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	49.79
Carry Forward	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net NOC	3,066.85	2,635.04	2,265.13	1,943.23	1,666.66	1,428.96	1,224.97	1,066.42	915.95	786.99	650.30
NOC Net Entitlement :											
Net NOC	3,066.85	2,635.04	2,265.13	1,943.23	1,666.66	1,428.96	1,224.97	1,066.42	915.95	786.99	650.30
Recovery for Funding	174.71	149.66	127.51	112.15	98.94	87.56	77.77	54.66	47.41	41.16	49.79

Net cash flow discounting factor											
RO factor	0.458	0.436	0.416	0.396	0.377	0.359	0.342	0.326	0.310	0.295	0.281
RO NPV calculation (US\$ million)											
Contractor PV	6.19	6.47	5.73	5.10	4.57	4.11	3.14	3.29	2.89	2.49	1.83
Full equity stake DCF NPV											
NOC cash flow PV	1,404.96	1,149.66	941.21	769.00	628.15	512.91	418.76	347.20	284.01	232.40	182.89
NOC DCF NPV											

Lampiran 5
Oil PSC Project Monte Carlo Simulations

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Project time	-	1	2	3	4	5	6	7	8	9	10	11	12
Production time	(2.00)	-1	1	2	3	4	5	6	7	8	9	10	11
Time until mine closure	26.00	25	24	23	22	21	20	19	18	17	16	15	14
Discounting index	-	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
Oil price													
Oil price (US\$/b)													
Oil price	60.00	63.67	66.74	69.28	71.37	73.07	74.45	75.56	76.46	77.17	77.75	78.21	78.57
Expected oil price		65.766	70.529	74.428	78.172	80.459	82.640	82.954	83.735	85.219	85.727	87.972	88.843
	10%	44.921	42.370	41.589	41.612	41.155	42.224	40.686	41.314	42.063	44.440	44.570	45.892
	90%	90.004	103.040	113.119	120.409	126.101	129.875	131.585	138.413	136.640	135.664	140.287	143.545
Risk-adjusted oil price	60.00	57.20	55.07	53.44	52.17	51.19	50.43	49.83	49.36	48.99	48.70	48.47	48.29
Risk-adjusted expected oil price		59.084	58.197	57.406	57.149	56.372	55.979	54.706	54.059	54.097	53.696	54.519	54.596
	10%	40.357	34.961	32.077	30.421	28.835	28.601	26.832	26.672	26.701	27.835	27.622	28.202
	90%	80.859	85.024	87.248	88.026	88.350	87.974	86.777	89.360	86.738	84.973	86.940	88.211
Expected Net cash flow (USD\$ million)													
Net cash flow		(1.40)	(35.19)	(39.98)	133.07	94.67	41.47	48.86	53.80	52.73	47.47	42.85	38.82
Uncertain Oil Price													
Expected Net cash flow	37.540	-1.397	-35.189	-39.978	142.085	85.081	52.350	54.500	59.211	58.420	52.515	48.396	44.073
	10%	-1.397	-35.189	-39.978	92.917	50.654	30.078	27.158	28.256	27.885	26.408	23.762	22.088
	90%	-1.397	-35.189	-39.978	199.254	127.499	78.988	88.244	99.271	94.803	84.091	78.089	72.073
Standard deviation		0.000	0.000	0.000	45.823	31.220	20.487	25.907	29.372	28.832	24.322	22.895	22.889
Coefficient of variation	44.6%	0.000	0.000	0.000	0.323	0.367	0.391	0.475	0.496	0.494	0.463	0.473	0.519
Expected NOC cash flow (CAD\$ million)													
NOC cash flow		-	-	-	3,374.53	7,306.33	10,832.87	13,432.85	15,122.06	14,582.30	12,640.23	10,938.42	9,452.78
Expected NOC cash flow	6906.840	0.000	0.000	0.000	3729.012	8118.801	12061.357	14797.490	16615.913	16156.549	13983.592	12353.018	10732.775
	10%	0.000	0.000	0.000	1825.649	3934.693	5923.028	6989.453	7908.731	7711.801	7031.776	6065.174	5378.942
	90%	0.000	0.000	0.000	5927.102	12964.457	19227.218	23783.727	27839.208	26218.332	22391.632	19932.086	17551.198
Standard deviation		0.000	0.000	0.000	1754.811	3810.958	5565.140	7129.423	8230.001	7973.694	6476.300	5843.792	5573.842
Coefficient of variation	45.5%	0.000	0.000	0.000	0.471	0.469	0.461	0.482	0.495	0.494	0.463	0.473	0.519
DCF PV of expected net cash flow (NCFDF calculation; \$ million)													
DCF discount factor	1.00	0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	0.284	0.247	0.215	0.187
Operating cash flow PV		-1.214	-26.608	-26.286	76.086	47.069	17.930	18.367	17.587	14.989	11.734	9.211	7.255
Expected operating cash flow PV		-1.214	-26.608	-26.286	81.237	42.300	22.632	20.488	19.356	16.607	12.981	10.402	8.238
DCF NCFDF		0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	0.284	0.247	0.215	0.187
DCF NCF-RDF		0.913	0.834	0.761	0.695	0.635	0.579	0.529	0.483	0.441	0.403	0.368	0.336
DCF PV of expected NOC cash flow (NCFDF calculation; \$ million)													
DCF discount factor		0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	0.284	0.247	0.215	0.187
NOC cash flow PV		0.000	0.000	0.000	1929.400	3632.535	4683.348	5049.904	4943.427	4145.200	3124.472	2351.138	1766.791
Expected NOC cash flow PV		0.000	0.000	0.000	2132.075	4036.479	5214.457	5562.925	5431.771	4592.699	3456.530	2655.197	2006.032
DCF NCFDF		0.000	0.000	0.000	0.572	0.497	0.432	0.376	0.327	0.284	0.247	0.215	0.187
DCF NCF-RDF		0.000	0.000	0.000	0.695	0.635	0.579	0.529	0.483	0.441	0.403	0.368	0.336
RO PV of expected net cash flow (NCFDF calculation; \$ million)													
Risk-adjusted net cash flow		(1.40)	(35.19)	(39.98)	107.17	64.38	27.41	31.43	33.91	32.79	29.10	25.97	23.31
Time discount factor		1.00	0.952	0.907	0.864	0.823	0.784	0.746	0.711	0.677	0.645	0.614	0.585
Net cash flow PV		(1.33)	(31.92)	(34.53)	88.17	50.44	20.45	22.33	22.95	21.13	17.87	15.19	12.98
Uncertain Oil Price													
Expected operating cash flow PV		-1.330	-31.918	-34.535	92.925	57.062	33.438	27.052	25.869	23.660	19.845	17.204	14.785
RO NCFDF		0.952	0.907	0.864	0.823	0.784	0.746	0.711	0.677	0.645	0.614	0.585	0.557
RO NCF-RDF		1.000	1.000	1.000	0.795	0.856	0.856	0.698	0.645	0.628	0.616	0.608	0.602
RO PV of expected NOC cash flow (NCFDF calculation; \$ million)													
Risk-adjusted NOC cash flow		-	-	-	2,375.48	5,018.66	7,195.23	8,678.93	9,560.37	9,067.27	7,748.83	6,629.80	5,677.35
Time discount factor		1.00	0.952	0.907	0.864	0.823	0.784	0.746	0.711	0.677	0.645	0.614	0.585

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Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Project time	-	1	2	3	4	5	6	7	8	9	10	11	12
Production time	(2.00)	-1	1	2	3	4	5	6	7	8	9	10	11
Time until mine closure	26.00	25	24	23	22	21	20	19	18	17	16	15	14
Discounting index	-	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
NOC cash flow PV		0.0	0.0	0.0	1,954.3	3,932.3	5,369.2	6,168.0	6,470.8	5,844.8	4,757.1	3,876.3	3,161.4
Expected NOC cash flow PV		0.000	0.000	0.000	2168.840	4354.496	5975.180	6803.380	7122.503	6488.627	5273.583	4388.860	3599.352
RO NCFDF		0.000	0.000	0.000	0.582	0.536	0.495	0.460	0.429	0.402	0.377	0.355	0.335
RO NCF-RDF		0.000	0.000	0.000	0.707	0.685	0.664	0.647	0.633	0.623	0.614	0.608	0.602
Cumulative expected equity net cash flow (\$ million)													
Equity net cash flow		(1.40)	(35.19)	(39.98)	133.07	94.67	41.47	48.86	53.80	52.73	47.47	42.85	38.82
Cumulative equity net cash flow	787.36												
Expected cumulative equity net cash flow	864.38												
Time discount factor	1.00	0.9524	0.9070	0.8638	0.8227	0.7835	0.7462	0.7107	0.6768	0.6446	0.6139	0.5847	0.5568
Time discounted equity net cash flow	-	-1.330	-31.918	-34.535	109.481	74.178	30.948	34.722	36.412	33.989	29.143	25.056	21.615
Cumulative equity time-discounted net cash flow	346.48												
Expected cumulative equity time-discounted net cash flow	377.66												
Cumulative expected NOC cash flow (\$ million)													
NOC cash flow		0.0	0.0	0.0	3,374.5	7,306.3	10,832.9	13,432.8	15,122.1	14,582.3	12,640.2	10,938.4	9,452.8
Cumulative NOC cash flow	149,195.61												
Expected cumulative NOC cash flow	165,764.16												
Time discount factor	1.00	0.9524	0.9070	0.8638	0.8227	0.7835	0.7462	0.7107	0.6768	0.6446	0.6139	0.5847	0.5568
Time discounted NOC cash flow	-	0.000	0.000	0.000	2776.237	5724.697	8083.652	9546.473	10235.202	9399.881	7760.006	6395.465	5263.660
Cumulative time-discounted NOC cash flow	87,752.92												
Expected cumulative time-discounted rNOC cash flow	97,493.85												
DCF net present value (\$ million)													
Discount factor	1.00	0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	0.284	0.247	0.215	0.187
Equity DCF PV	193.62	-1.2	-26.6	-26.3	76.1	47.1	17.9	18.4	17.6	15.0	11.7	9.2	7.3
Expected Equity DCF NPV	210.78												
NOC DCF PV		0.0	0.0	0.0	1,929.4	3,632.5	4,683.3	5,049.9	4,943.4	4,145.2	3,124.5	2,351.1	1,766.8
NOC DCF NPV	36,818.05												
Expected NOC DCF NPV	40,879.39												
RO net present value (\$ million)													
Time discount factor	1.00	0.952	0.907	0.864	0.823	0.784	0.746	0.711	0.677	0.645	0.614	0.585	0.557
Equity cash flow RO PV	278.74	-1.3	-31.9	-34.5	88.2	50.4	20.5	22.3	23.0	21.1	17.9	15.2	13.0
Expected Equity RO NPV	327.74												
NOC RO PV		0.0	0.0	0.0	1,954.3	3,932.3	5,369.2	6,168.0	6,470.8	5,844.8	4,757.1	3,876.3	3,161.4
NOC RO NPV	54,811.72												
Expected NOC RO NPV	60,983.79												

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Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Project time	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Production time	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Time until mine closure	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Discounting index	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
Oil price														
Oil price (US\$/b)														
Oil price	78.87	79.10	79.28	79.43	79.55	79.64	79.72	79.77	79.82	79.86	79.89	79.91	79.93	79.94
Expected oil price	89.278	88.006	87.859	88.189	87.977	86.081	86.227	87.802	87.045	87.897	88.185	88.158	87.737	88.546
10%	45.335	44.306	45.153	43.450	46.455	45.020	46.436	47.225	46.287	46.739	45.640	45.460	45.061	46.051
90%	143.443	144.200	138.756	141.321	142.036	134.175	134.837	136.606	137.653	141.000	137.024	141.587	143.162	142.737
Risk-adjusted oil price	48.14	48.03	47.94	47.87	47.81	47.76	47.73	47.70	47.68	47.66	47.65	47.63	47.63	47.62
Risk-adjusted expected oil price	54.497	53.436	53.122	53.144	52.875	51.826	51.627	52.501	51.993	52.458	52.595	52.552	52.278	52.743
10%	27.673	26.902	27.301	26.183	27.920	27.000	27.803	28.238	27.648	27.895	27.220	27.099	26.850	27.431
90%	87.561	87.556	83.896	85.161	85.365	80.471	80.732	81.683	82.222	84.151	81.724	84.400	85.303	85.022
Expected Net cash flow (USD\$ million)														
Net cash flow	35.30	32.24	29.58	24.77	25.30	23.60	22.11	20.82	19.70	16.91	17.32	16.02	14.49	12.03
Uncertain Oil Price														
Expected Net cash flow	40.127	36.000	32.896	27.893	28.083	25.582	23.984	22.993	21.552	18.846	19.183	17.727	15.949	13.499
10%	19.742	17.532	16.365	11.943	14.373	12.955	12.523	11.987	11.086	8.957	9.644	8.876	7.948	6.257
90%	65.254	59.748	52.597	46.834	45.932	40.372	37.984	36.230	34.547	31.605	30.134	28.803	26.340	22.735
Standard deviation	19.797	17.119	15.793	14.236	13.205	11.674	10.918	10.591	9.645	9.558	9.008	8.429	7.700	6.990
Coefficient of variation	0.493	0.476	0.480	0.510	0.470	0.456	0.455	0.461	0.448	0.507	0.470	0.475	0.483	0.518
Expected NOC cash flow (CAD\$ million)														
NOC cash flow	8,159.71	7,036.89	6,063.69	5,221.41	4,498.22	3,874.27	3,331.48	2,863.30	2,459.63	2,112.35	1,830.11	1,573.04	1,352.44	1,136.74
Expected NOC cash flow	9276.196	7858.632	6744.167	5819.204	4993.030	4199.349	3614.107	3162.819	2691.291	2333.925	2026.657	1740.965	1489.121	1266.189
10%	4563.835	3827.104	3355.116	2765.438	2555.527	2126.616	1887.130	1648.933	1384.344	1199.586	1018.902	871.680	742.097	626.708
90%	15084.862	13042.806	10783.230	9445.860	8166.449	6627.107	5723.870	4983.653	4314.059	3797.475	3183.509	2828.704	2459.330	2081.690
Standard deviation	4576.490	3736.951	3237.821	2725.784	2347.844	1916.327	1645.259	1456.899	1204.402	1096.391	951.628	827.813	718.900	617.256
Coefficient of variation	0.493	0.476	0.480	0.468	0.470	0.456	0.455	0.461	0.448	0.470	0.470	0.475	0.483	0.487
DCF PV of expected net cash flow (NCFDF calculation; \$ million)														
DCF discount factor	0.163	0.141	0.123	0.107	0.093	0.081	0.070	0.061	0.053	0.046	0.040	0.035	0.030	0.026
Operating cash flow PV	5.737	4.556	3.635	2.647	2.351	1.907	1.553	1.272	1.047	0.781	0.696	0.560	0.440	0.318
Expected operating cash flow PV	6.522	5.088	4.043	2.981	2.610	2.067	1.685	1.405	1.145	0.871	0.771	0.619	0.484	0.357
DCF NCFDF	0.163	0.141	0.123	0.107	0.093	0.081	0.070	0.061	0.053	0.046	0.040	0.035	0.030	0.026
DCF NCF-RDF	0.306	0.280	0.255	0.233	0.213	0.194	0.178	0.162	0.148	0.135	0.123	0.113	0.103	0.094
DCF PV of expected NOC cash flow (NCFDF calculation; \$ million)														
DCF discount factor	0.163	0.141	0.123	0.107	0.093	0.081	0.070	0.061	0.053	0.046	0.040	0.035	0.030	0.026
NOC cash flow PV	1326.181	994.514	745.194	557.984	418.001	313.060	234.088	174.948	130.682	97.592	73.524	54.953	41.084	30.027
Expected NOC cash flow PV	1507.641	1110.650	828.821	621.868	463.982	339.329	253.946	193.249	142.990	107.829	81.420	60.819	45.236	33.447
DCF NCFDF	0.163	0.141	0.123	0.107	0.093	0.081	0.070	0.061	0.053	0.046	0.040	0.035	0.030	0.026
DCF NCF-RDF	0.306	0.280	0.255	0.233	0.213	0.194	0.178	0.162	0.148	0.135	0.123	0.113	0.103	0.094
RO PV of expected net cash flow (NCFDF calculation; \$ million)														
Risk-adjusted net cash flow	21.04	19.10	17.44	13.52	14.82	13.80	12.90	12.12	11.44	9.18	10.09	9.33	8.43	6.52
Time discount factor	0.530	0.505	0.481	0.458	0.436	0.416	0.396	0.377	0.359	0.342	0.326	0.310	0.295	0.281
Net cash flow PV	11.16	9.65	8.39	6.19	6.47	5.73	5.10	4.57	4.11	3.14	3.29	2.89	2.49	1.83
Uncertain Oil Price														
Expected operating cash flow PV	12.724	10.803	9.356	7.054	7.196	6.227	5.548	5.057	4.505	3.532	3.648	3.208	2.747	2.081
RO NCFDF	0.317	0.300	0.284	0.253	0.256	0.243	0.231	0.220	0.209	0.187	0.190	0.181	0.172	0.154
RO NCF-RDF	0.598	0.594	0.591	0.552	0.587	0.586	0.584	0.584	0.582	0.548	0.584	0.584	0.583	0.548
RO PV of expected NOC cash flow (NCFDF calculation; \$ million)														
Risk-adjusted NOC cash flow	4,864.82	4,170.41	3,576.09	3,066.85	2,635.04	2,265.13	1,943.23	1,666.66	1,428.96	1,224.97	1,066.42	915.95	786.99	650.30
Time discount factor	0.530	0.505	0.481	0.458	0.436	0.416	0.396	0.377	0.359	0.342	0.326	0.310	0.295	0.281

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Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Project time	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Production time	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Time until mine closure	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Discounting index	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
NOC cash flow PV	2,579.9	2,106.3	1,720.2	1,405.0	1,149.7	941.2	769.0	628.1	512.9	418.8	347.2	284.0	232.4	182.9
Expected NOC cash flow PV	2941.347	2358.346	1918.069	1569.986	1279.409	1022.223	835.965	695.646	562.582	463.961	385.361	315.045	256.448	204.577
RO NCFDF	0.317	0.300	0.284	0.270	0.256	0.243	0.231	0.220	0.209	0.199	0.190	0.181	0.172	0.162
RO NCF-RDF	0.598	0.594	0.591	0.589	0.587	0.586	0.584	0.584	0.582	0.582	0.584	0.584	0.583	0.574
Cumulative expected equity net cash flow (\$ million)														
Equity net cash flow	35.30	32.24	29.58	24.77	25.30	23.60	22.11	20.82	19.70	16.91	17.32	16.02	14.49	12.03
Cumulative equity net cash flow														
Expected cumulative equity net cash flow														
Time discount factor	0.5303	0.5051	0.4810	0.4581	0.4363	0.4155	0.3957	0.3769	0.3589	0.3418	0.3256	0.3101	0.2953	0.2812
Time discounted equity net cash flow	18.719													
Cumulative equity time-discounted net cash flow														
Expected cumulative equity time-discounted net cash flow														
Cumulative expected NOC cash flow (\$ million)														
NOC cash flow	8,159.7	7,036.9	6,063.7	5,221.4	4,498.2	3,874.3	3,331.5	2,863.3	2,459.6	2,112.4	1,830.1	1,573.0	1,352.4	1,136.7
Cumulative NOC cash flow														
Expected cumulative NOC cash flow														
Time discount factor	0.5303	0.5051	0.4810	0.4581	0.4363	0.4155	0.3957	0.3769	0.3589	0.3418	0.3256	0.3101	0.2953	0.2812
Time discounted NOC cash flow	4327.268	3554.105	2916.738	2391.987	1962.557	1609.837	1318.382	1079.146	882.865	722.107	595.830	487.749	399.380	319.697
Cumulative time-discounted NOC cash flow														
Expected cumulative time-discounted rNOC cash flow														
DCF net present value (\$ million)														
Discount factor	0.163	0.141	0.123	0.107	0.093	0.081	0.070	0.061	0.053	0.046	0.040	0.035	0.030	0.026
Equity DCF PV	5.7	4.6	3.6	2.6	2.4	1.9	1.6	1.3	1.0	0.8	0.7	0.6	0.4	0.3
Equity DCF NPV														
Expected Equity DCF NPV														
NOC DCF PV	1,326.2	994.5	745.2	558.0	418.0	313.1	234.1	174.9	130.7	97.6	73.5	55.0	41.1	30.0
NOC DCF NPV														
Expected NOC DCF NPV														
RO net present value (\$ million)														
Time discount factor	0.530	0.505	0.481	0.458	0.436	0.416	0.396	0.377	0.359	0.342	0.326	0.310	0.295	0.281
Equity cash flow RO PV	11.2	9.6	8.4	6.2	6.5	5.7	5.1	4.6	4.1	3.1	3.3	2.9	2.5	1.8
Equity RO NPV														
Expected Equity RO NPV														
NOC RO PV	2,579.9	2,106.3	1,720.2	1,405.0	1,149.7	941.2	769.0	628.1	512.9	418.8	347.2	284.0	232.4	182.9
NOC RO NPV														
Expected NOC RO NPV														