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February 15, 2022

JSC National Company KazMunayGas
Block B, Emerald Towers (Izumrudniy Kvartal)
8, D. Kunayev Street
Nur-Sultan, Z05H9E8
Republic of Kazakhstan

Subject: Reserves, contingent resources, and prospective resources estimates as of
December 31, 2021, for various assets within various licenses within the
Republic of Kazakhstan and the Russian Federation

Ladies and Gentlemen:

Pursuant to your request, we have prepared estimates, as of December 31, 2021, of the extent of the proved, probable, and possible oil, condensate, natural gas liquids (NGL), and gas reserves, estimates of the value of the proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves, and estimates of the extent only of the oil, condensate, and gas contingent resources of certain fields in which JSC NC KazMunayGas (NC KMG) has represented it holds or controls an interest either directly, or through various subsidiary enterprises or joint ventures of NC KMG. The Kazakh subsidiary enterprises consist of Amangeldy Gas LLP (AGG), Embamunaigas JSC (EMG), Karazhanbasmunai JSC (KBM), Kashagan B.V. (KBV), Karachaganak Petroleum Operating B.V. (KCGP), JV Kazgermunai LLP (KGM), Kazakhoil Aktobe LLP (KOA), Kazakhturkmunai LLP (KTM), Kolzhan LLP (KZ), Mangistaumunaigas JSC (MTMG), Ozenmunaigas JSC (OMG), PetroKazakhstan Kumkol Resources JSC (PKKR), PetroKazakhstan Ventures Inc (PKV), Tengizchevroil LLP (TCO), Turgai Petroleum JSC (TGP), Ural Oil and Gas LLP (UOG), and Urikhtau Operating LLP (UTO). The Russian subsidiary enterprises consist of Tsentralnaya Oil and Gas LLC (NGKC) and Caspian Oil and Gas LLC (KNGK). NC KMG has represented that all of the fields evaluated are located in the Republic of Kazakhstan and the Russian Federation and are held at varying working interests by each respective subsidiary.

We have also estimated the extent and potential present worth of the oil and gas prospective resources of various assets within various license blocks located in the Republic of Kazakhstan.

The results presented herein are subject to the definitions, assumptions, explanations, qualifications, and conclusions contained in our reports entitled "Report as of December 31, 2021 on Reserves and Revenue and Contingent Resources of Certain Fields with interests attributable to or controlled by JSC NC KazMunayGas PRMS Case" (the Reserves and Contingent Resources Report) and "Report as of December 31, 2021 on Prospective Resources and Potential Present Worth associated with Various Prospects and Leads with interest attributable to JSC NC KazMunayGas in Various Licenses Republic of Kazakhstan" (the Prospective Resources Report). It should be noted that, without reference to the Reserves and Contingent Resources Report and the Prospective Resources Report, the information presented herein is susceptible to being misunderstood and should be used with caution.

Reserves estimated herein are expressed as net reserves. The estimated net proved, probable, and possible reserves, as of December 31, 2021, as presented in the Reserves and Contingent Resources Report, are summarized as follows, expressed in English units in thousands of barrels (10^3 bbl) and millions of cubic feet (10^6 ft³) and in metric units in thousands of metric tons (10^3 mt) and millions of cubic meters (10^6 m³):

Reserves Category	English Units				
	Oil and Condensate (10^3 bbl)	NGL (10^3 bbl)	Fuel Gas (10^6 ft ³)	Sales Gas (10^6 ft ³)	Marketable Gas (10^6 ft ³)
Proved Developed Producing	1,774,735	44,369	932,865	2,533,702	3,466,567
Proved Developed Non-Producing	143,309	0	40,894	489,065	529,959
Proved Developed	1,918,044	44,369	973,759	3,022,767	3,996,526
Proved Undeveloped	818,784	130,770	1,400,378	1,669,529	3,068,724
Total Proved	2,736,828	175,139	2,374,137	4,692,296	7,065,249
Probable	1,181,942	30,914	630,551	454,507	1,086,241
Proved plus Probable	3,918,771	206,053	3,004,687	5,146,803	8,151,490
Possible	693,529	26,256	379,224	998,699	1,377,923
Proved plus Probable plus Possible	4,612,300	232,309	3,383,912	6,145,502	9,529,413

Note: Probable and possible reserves have not been risk adjusted to make them comparable to proved reserves.

Reserves Category	Metric Units				
	Oil and Condensate (10 ⁶ mt)	NGL (10 ⁶ mt)	Fuel Gas (10 ⁶ m ³)	Sales Gas (10 ⁶ m ³)	Marketable Gas (10 ⁶ m ³)
Proved Developed Producing	234,214	3,749	26,420	71,746	98,165
Proved Developed Non-Producing	18,793	0	1,158	13,849	15,007
Proved Developed	253,007	3,749	27,578	85,595	113,173
Proved Undeveloped	106,100	11,050	39,652	47,277	86,895
Total Proved	359,107	14,799	67,230	132,872	200,068
Probable	155,452	2,614	17,855	12,865	30,753
Proved plus Probable	514,559	17,413	85,085	145,737	230,821
Possible	92,823	2,218	10,733	28,280	39,012
Proved plus Probable plus Possible	607,382	19,631	95,817	174,016	269,833

Note: Probable and possible reserves have not been risk adjusted to make them comparable to proved reserves.

Contingent resources estimated in this letter are expressed as net contingent resources. The net contingent resources estimated herein cannot be classified as reserves. The net contingent resources estimates presented herein are provided as a means of comparison to other contingent resources and do not provide a direct comparison to reserves. The estimated net 1C, 2C, and 3C contingent resources, as of December 31, 2021, as presented in the Reserves and Contingent Resources Report, are summarized as follows, expressed in metric units in thousands of metric tons (10³mt) and millions of cubic meters (10⁶m³):

Category	Net Contingent Resources			
	English Units		Metric Units	
	Oil and Condensate (10 ³ bbl)	Sales Gas (10 ⁶ ft ³)	Oil and Condensate (10 ³ mt)	Sales Gas (10 ⁶ m ³)
Economically Viable				
1C	129,349	604,895	17,563	17,131
2C	496,498	1,824,728	67,342	51,670
3C	1,253,261	3,318,127	169,860	93,953
Economically Not Viable				
1C	67,260	953,210	8,975	26,989
2C	169,662	2,026,568	22,441	57,379
3C	341,078	6,374,011	45,285	180,481
Total				
1C	196,609	1,558,105	26,538	44,120
2C	666,160	3,851,296	89,783	109,049
3C	1,594,339	9,692,138	215,145	274,434

Notes:

1. Application of any risk factor to contingent resources quantities does not equate contingent resources with reserves.
2. There is no certainty that it will be commercially viable to produce any portion of the contingent resources evaluated herein.

The estimated NC KMG future net revenue and NC KMG present worth attributable to NC KMG's interest in the proved, proved-plus-probable, and

proved-plus-probable-plus-possible reserves, as of December 31, 2021, as presented in the Reserves and Contingent Resources Report, are summarized as follows, expressed in thousands of United States dollars (10^3 U.S.\$):

Reserves Category	NC KMG	
	Future Net Revenue (10^3 U.S.\$)	Present Worth at 10 Percent (10^3 U.S.\$)
Proved Developed	34,898,274	14,717,292
Proved Undeveloped	17,837,826	7,443,408
Total Proved	52,736,100	22,160,700
Proved plus Probable	69,308,596	24,945,684
Proved plus Probable plus Possible	79,502,898	26,796,847

Note: Values for probable and possible reserves have not been risk adjusted to make them comparable to values for proved reserves.

Prospective resources were evaluated in various license blocks in the Republic of Kazakhstan. The prospective resources estimates presented below were summarized using the statistical aggregation method. Estimates of the gross prospective resources, as of December 31, 2021, as presented in the Prospective Resources Report, are summarized as follows, expressed in English units in thousands of barrels (10^3 bbl) and millions of cubic feet (10^6 ft³) and in metric units in thousands of metric tons (10^3 mt) and millions of cubic meters (10^6 m³):

	Gross Prospective Resources			
	1U (Low) Estimate	2U (Best) Estimate	3U (High) Estimate	Mean Estimate
English Units				
Gross Oil Prospective Resources, 10^3 bbl	5,806,371	11,397,494	18,865,589	12,550,089
Gross Sales Gas Prospective Resources, 10^6 ft ³	3,680,387	5,207,045	6,272,410	5,256,800
Gross Condensate Prospective Resources, 10^3 bbl	31,290	70,099	127,348	81,004
Gross Solution Gas Prospective Resources, 10^6 ft ³	2,722,351	5,717,083	10,128,533	6,494,992
Metric Units				
Gross Oil Prospective Resources, 10^3 mt	795,393	1,561,300	2,584,327	1,719,190
Gross Sales Gas Prospective Resources, 10^6 m ³	104,216	147,446	177,613	148,855
Gross Condensate Prospective Resources, 10^3 mt	3,793	8,497	15,436	9,819
Gross Solution Gas Prospective Resources, 10^6 m ³	77,088	161,888	286,805	183,916

Notes:

- 1U (Low), 2U (Best), 3U (High), and mean estimates in this table are P_{90} , P_{50} , P_{10} , and mean, respectively.
- P_4 and P_5 have not been applied to the volumes in this table.
- Application of any geological or economic chance factor does not equate prospective resources to contingent resources or reserves.
- Recovery efficiency was applied to prospective resources in this table.
- The prospective resources presented above were based on the statistical aggregation method.
- The prospective resources quantities for the prospects evaluated in this report were aggregated by the arithmetic summation method, as required by the PRMS.
- There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

The following table summarizes the NC KMG estimated potential present worth at 10 percent that might be realized from the production and sale of the truncated, TEFS-adjusted, P_e-adjusted prospective resources, as of December 31, 2021, of the various prospects evaluated in the Prospective Resources Report, using the potential present worth at 10 percent per prospective resources quantity methodology, are summarized as follows, expressed in thousands of United States dollars (10³U.S.\$):

	NC KMG Potential Present Worth at 10 Percent			
	1U (Low) Estimate (10³U.S.\$)	2U (Best) Estimate (10³U.S.\$)	3U (High) Estimate (10³U.S.\$)	Mean Estimate (10³U.S.\$)
NC KMG Truncated, TEFS-Adjusted, P _e -Adjusted Oil Prospective Resources	3,576,032	4,326,831	5,235,261	4,374,940
NC KMG Truncated, TEFS-Adjusted, P _e -Adjusted Sales Gas Prospective Resources	-	-	-	-

Notes:

1. 1U (Low), 2U (Best), 3U (High), and mean estimates in this table are P₉₀, P₅₀, P₁₀, and mean, respectively.
2. Estimates of potential present worth at 10 percent for prospective resources are not comparable to present worth estimates of contingent resources or reserves.
3. Estimates of potential present worth at 10 percent for prospective resources do not consider adjustments for political and/or environmental uncertainties.
4. Estimates of the potential present worth at 10 percent for prospective resources presented above were based on the statistical aggregation method.
5. A possibility exists that the prospects will not result in successful discovery and development, in which case there would be no potential present worth at 10 percent.
6. The prospective resources quantities for the prospects evaluated in this report were aggregated by the arithmetic summation method, as required by the PRMS.
7. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.
8. TEFS data, potential production profiles, cost schedules, prices, and discounted cash flows utilized in the potential present worth estimation herein have been provided by NC KMG; these data have not been independently verified by DeGolyer and MacNaughton.
9. Prospective sales gas resources designated with a hyphen (-) were estimated to yield a negative potential present worth at 10 percent and were not included at the request of NV KMG.

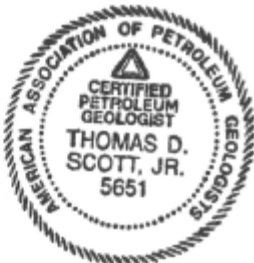
DeGOLYER AND MacNAUGHTON

Information used in the preparation of this letter was obtained from NC KMG. In the preparation of this letter we have relied, without independent verification, upon information furnished by NC KMG with respect to ownership, production, and various other information and data that were accepted as represented. A field examination was not considered necessary for the purposes of this letter.

Submitted,

DeGolyer and MacNaughton

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