

# Investment opportunity in the Argentine Oil & Gas Industry

Aguada del Chañar area (Province of Neuquén)  
Update April 2019

# Notice to interested parties and bidding process

## Notice to interested parties:

This information has been prepared by Integración Energética Argentina S.A. (IEASA) for the exclusive benefit and internal use of interested parties concerning the investment opportunity detailed hereunder (the Transaction), with the sole purpose of being useful to analyze certain issues related to the Transaction.

This information shall not be construed as a description of the financial position of Aguada del Chañar area concessions, its results of operations, cash flows or of the prospects as of the date. IEASA assumes no liability and makes no representation or warranty with regard to the accuracy, adequacy or reliability of the information included in this document.

This document has been issued to assist interested parties in the assessment of the business concerning the concessions for unconventional exploitation, for conventional exploitation, and for the transportation of hydrocarbons in Aguada del Chañar and does not seek to be fully comprehensive or to contain all the information an interested party may need. Interested parties must only rely on the results of their own research and on the explicit statements and representations provided by IEASA in a final contract to be executed.

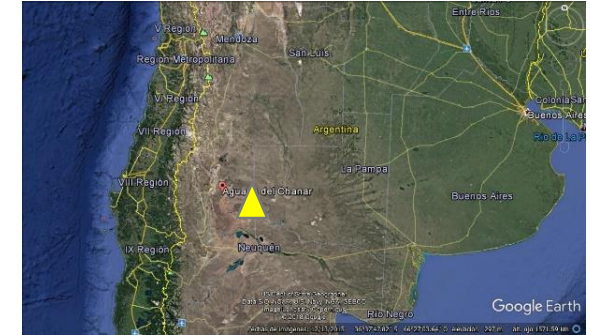
This document has no contractual value and does not create any right for interested parties, for offerors, for awardees, or for acquirers.

## Bidding process:

This document is submitted to all parties interested in participating in the Transaction and seeks to ease a preliminary review of the concessions for unconventional exploitation, for conventional exploitation, and for the transportation of hydrocarbons in Aguada del Chañar. Should any party be interested in revising in more detail this investment opportunity and in researching the Transaction, Tender Specifications must be downloaded and the right to access the Data Room must be acquired.

After downloading the Tender Specifications and acquiring the right to access, IEASA will provide an Information Memorandum with further and detailed data concerning operations and financial performance of Aguada del Chañar area and will provide access to the relevant Data Room.

The attached Bidding Process Guidance contains the steps to be followed by interested parties in order to sign up and have access to IEASA email which must be used to contact our company for this opportunity.





# Description of the transaction

IEASA calls for Public Bidding to assign the concessions it holds for conventional exploitation, for unconventional exploitation, and for the transportation of hydrocarbons in Aguada del Chañar lot and to assign its contractual position concerning specific contracts and the transfer of ownership of certain surface facilities and tangible assets with regard to such lot. IEASA will not retain any interest in the concessions, price will be fully payable in cash at closing.

IEASA holds 100% of the concessions granted by the Executive Branch of the Province of Neuquén for conventional exploitation (for a period of 25 years, until 2039, with the option to extend it for 10 years more), for unconventional exploitation (for a period of 35 years, until 2053) and for the transportation of natural gas in Aguada del Chañar lot (for a period of 35 years, until 2053).

Aguada del Chañar lot is surrounded by oil & gas areas with important investment commitments already announced or under implementation. The area has two fields: Loma Colorada (Gas) and Bosque Chañar (Crude Oil). The existence of hydrocarbons in four formations has been recorded, three of which contain conventional resources (Lotena, Sierras Blancas and Vaca Muerta naturally broken), and the fourth (Punta Rosada) with "tight" features (unconventional). As of the date, 9 wells have been drilled.

IEASA has contracted the Oil & Gas consultancy firm Gaffney, Cline & Associates in order to carry out an assessment of the existing conventional and unconventional resources in the lot, which will be available in the Data Room to all interested parties once completed.

The Concession has an investment commitment to explore unconventional hydrocarbons for an amount of 10 MMUSD submitted by IEASA to the Province of Neuquén, with an execution term expiring on October 2020.

The transaction includes the sale of surface facilities existing in the area, which consist mainly of a gas treatment plant, a 42 km gas pipeline connecting such plant with YPF S.A facilities in Loma Campana and a battery which includes 3 oil storage tanks of 160 m<sup>3</sup> each.

The transaction is an excellent opportunity to develop a relevant platform concerning unconventional exploitation in Vaca Muerta and other formations, close to blocks already being developed or with pilot plans already completed. Furthermore, it is a inorganic growth opportunity with regard to existing developments, achieving synergies and efficiencies.

IEASA will address this process through a National and International Public Bidding, the proceeding of which will be established in Tender Specifications..



# Lot location and description of surface assets

Aguada del Chañar lot covers an area of 57 km<sup>2</sup> (14,085 acres). It is located in the central-east area of the Neuquén Basin, approximately 100 Km from Añelo town, 110 Km from Rincón de los Sauces town and 160 km from Neuquén Capital City.

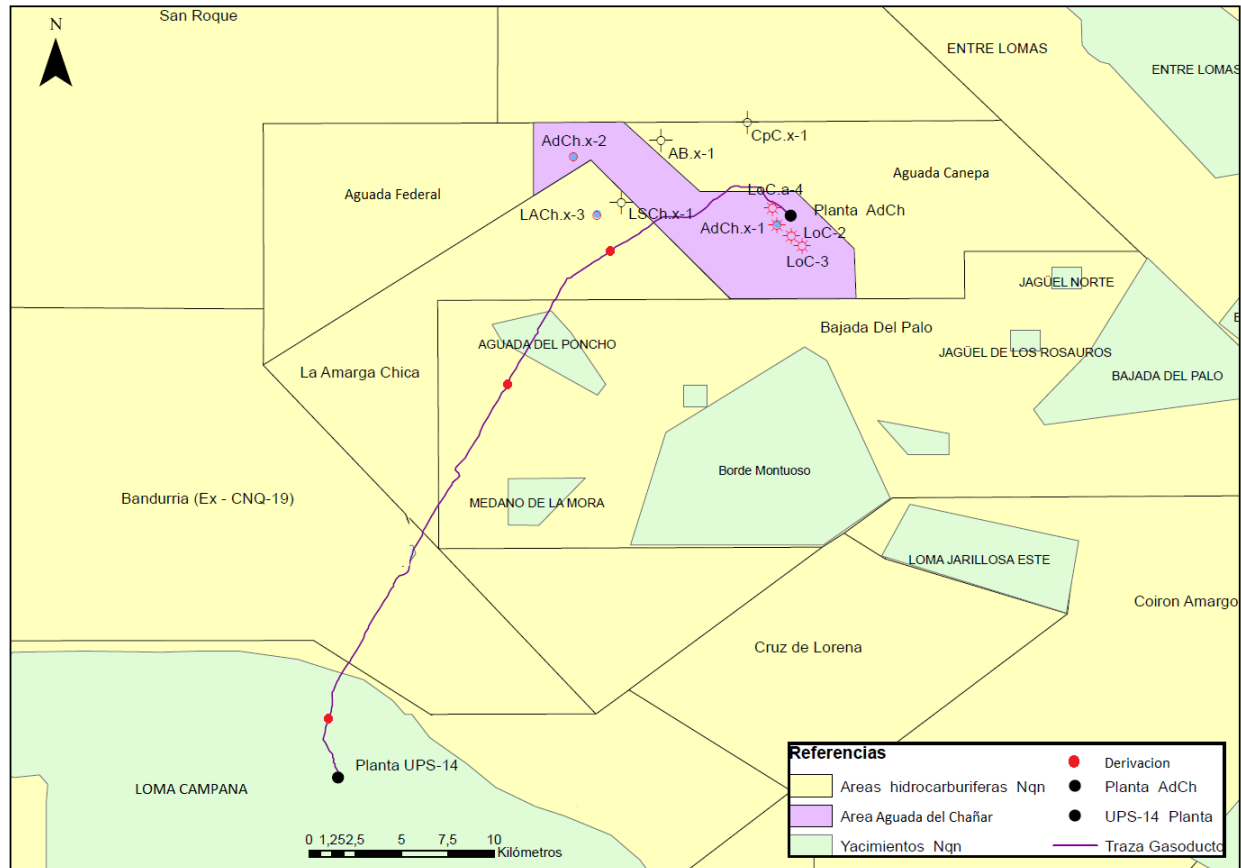
There is an important production activity of conventional oil & gas in this area as well as a high development of unconventional wells.

The lot borders with the following hydrocarbon areas:

- Bajada del Palo (Vista O&G)
- La Amarga Chica (YPF / Petronas)
- Aguada Federal (Wintershall / GyP)
- Rincón de Aranda (Pampa Energía)
- Aguada Canepa (PAE / GyP)

It is close to the following hydrocarbon areas:

- Bandurria Centro (PAE)
- Bandurria Sur (YPF / Schlumberger)
- San Roque (Total)
- Loma Campana (YPF / Chevron)
- Cruz de Lorena (Shell)
- Coirón Amargo Norte (Pluspetrol / Madalena / GyP)
- Coirón Amargo Sur Este (PAE / Madalena / GyP)
- Coirón Amargo Sur Oeste (Shell / Vista O&G / GyP)



Surface facilities of the lot include:

- One gas treatment plant (separation and dehydration gas plant), with a processing capacity of 1.1 MM m<sup>3</sup>/d of gas and 30 m<sup>3</sup>/d of liquid. The plant started operations in July 2015.
- One gas pipeline of 12 inches with a trace of 42 km connecting such plant with YPF S.A facilities (Loma Campana area). It has three connection points which enable productions from other surrounding hydrocarbon areas to be connected to the main line, allowing a maximum flow of 3.4 MMSm<sup>3</sup>/d of dehydrated gas to be transported. The pipeline started operations in July 2015.
- One battery assembled in the surroundings of the oil producer well in Sierras Blancas formation, with 3 storage tanks of 160 m<sup>3</sup> each.

The concession for the transportation of gas has been granted for a period of 35 years, expiring on October 5, 2053.

# Conventional exploitation

The lot has two fields: Loma Colorada (Gas) and Bosque Chañar (Crude Oil), located in the south and northern area of the lot, respectively.

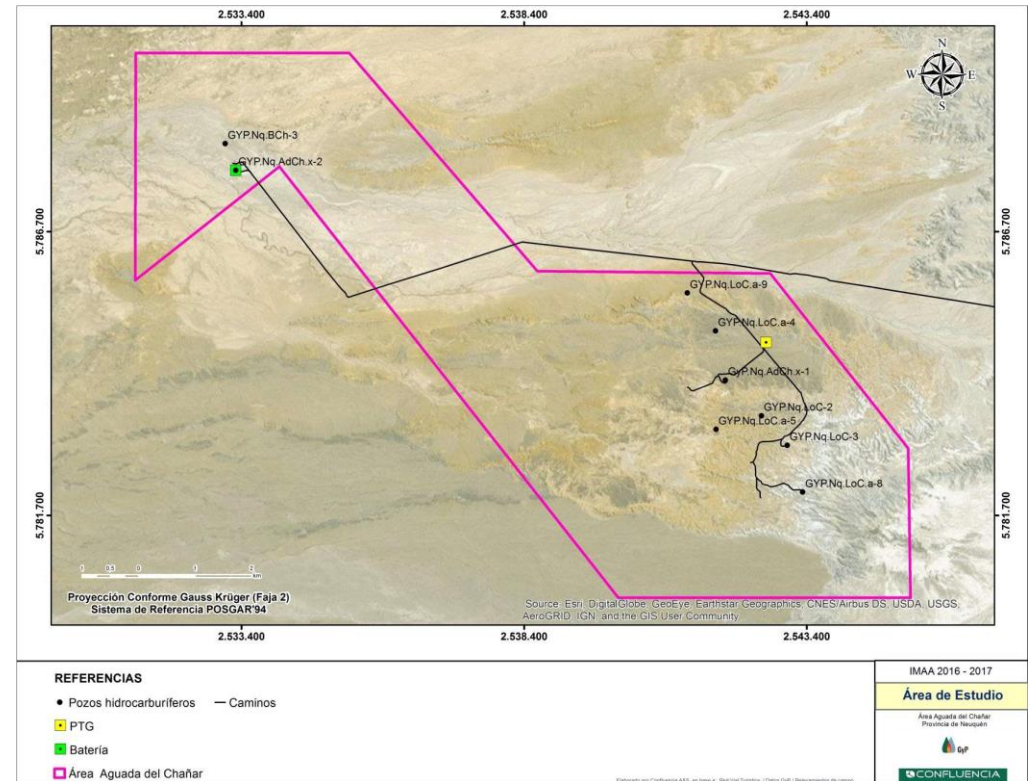
The existence of conventional hydrocarbons has been registered in three formations: Lotena (gas), Sierras Blancas (oil) and Vaca Muerta naturally broken (oil).

As of the date, 9 wells have been drilled:

- Two exploratory wells (2010 and 2011) were productive and showed commercial quantities of gas and oil.
- Four wells during the first stage of the Development Plan (2012 and 2013).
- Three outpost wells (2014) with the purpose of outlining Loma Colorada field.

Currently, none of the wells is producing. However, their production start-up is possible in the short-term with a minimum investment (hydraulic fracturing in order to stimulate the formation in 3 wells, completion in 2 wells and pulling in 2 oil wells).

The concession for exploitation was granted on August 3, 2012 for a period of 25 years plus the time of the exploration permit not elapsed, expiring on November 17, 2039, with the option to extend it for 10 more years.



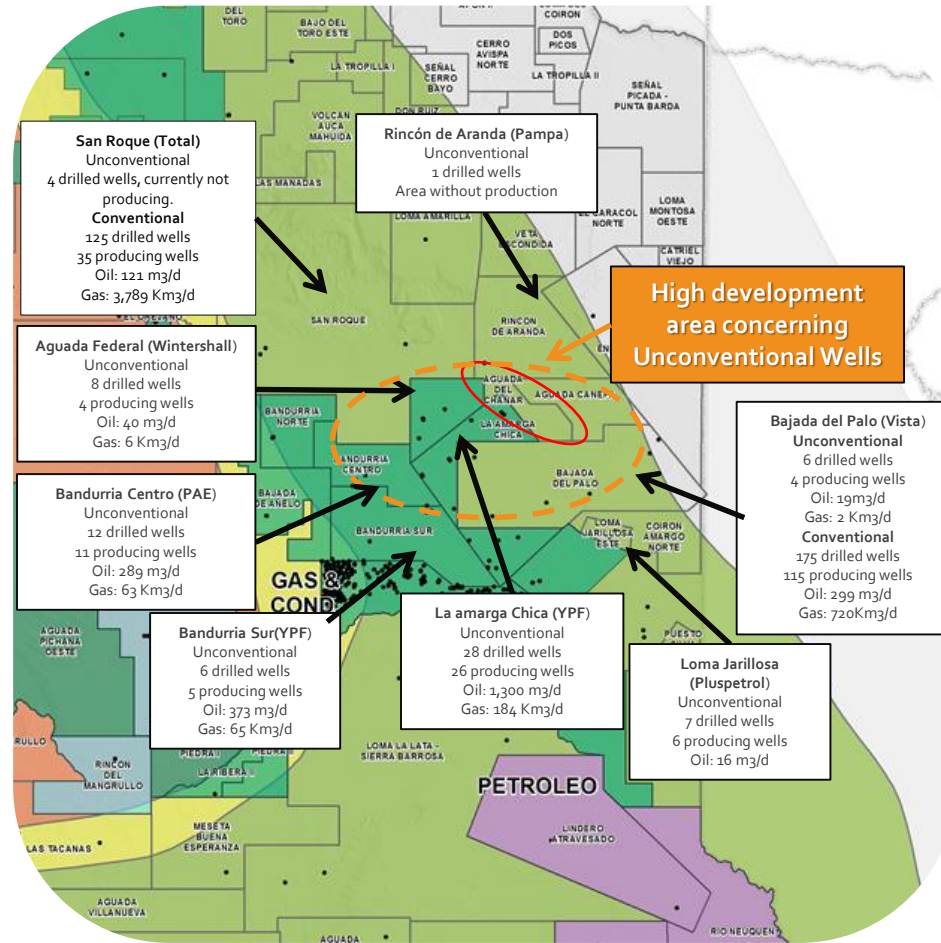
Well	Plan	Field	Formation	Purpose	Drilling commencement	Completion	Operational period	Oil accumulated production (m3)	Gas accumulated production (Mm3)
AdCh.x-1	Exploratory study	Loma Colorada	Lotena	Gas	2010	2011	2015/2017	1,972	48,130
AdCh.x-2	Exploratory study	Bosque Chañar	Sierras Blancas	Oil	2011	2011	2011/2016	5,222	1,678
Loc-2	Development plan	Loma Colorada	Lotena	Gas	2012	2013	2015/2017	149	14,554
Loc-3	Development plan	Loma Colorada	Lotena	Gas	2013	2013	2015/2017	589	29,480
Loc.a-4	Development plan	Loma Colorada	Lotena	Gas	2013	2013			
Bch-3	Development plan	Bosque Chañar	Vaca Muerta	Oil	2013	2013	2013/2017	4,656	940
Loc.a-5	Outlining	Loma Colorada	Lotena	Gas	2014	Unfinished			
Loc.a-8	Outlining	Loma Colorada	Lotena	Gas	2014	Unfinished			
Loc.a-9	Outlining	Loma Colorada	Lotena	Gas	2014	Unfinished			

# Unconventional potential

The existence of unconventional hydrocarbons has been registered within the lot (tight gas) in Punta Rosada formation, in 3 wells within Loma Colorada field and in 1 well within Bosque Chañar field, positively encouraging the exploration of the lot.

The Lajas formation is located immediately below the Punta Rosada formation. Even though it has not been crossed, it is considered, by analogy, that "tight" reserves may be found there since they are part of a similar depositing process. Productivity of "tight" sand in Punta Rosada-Lajas formations has been verified in surrounding areas such as Rio Neuquén and Lindero Atravesado.

The concession for unconventional exploitation was granted on October 5, 2018 for a period of 35 years, expiring on October 5, 2053. The condition of the lot for the concession to be valid is a development commitment of a Pilot Plan, which consists in acquiring, processing and interpreting 80 km<sup>2</sup> of 3D seismic and in deepening an exploratory well (re-entry), both focused on Punta Rosada-Lajas formations. The amount committed is USD 10 MM and the execution period expires on October 2020.



The lot is located in the area of Vaca Muerta which thickness is greater than 150m; with features similar to those in Loma Campana, Bajada del Palo and La Amarga Chica.

Vaca Muerta formation runs through the Province of Neuquén covering an area of 30,000 square kilometers. Concerning unconventional resources, it is the second formation of shale gas and the fourth of shale oil worldwide. VM has a great potential for obtaining gas (128.6 TCF) and oil (10.434 MMBbl)

(Source: Plan Energético Septiembre 2018, [https://www.argentina.gob.ar/sites/default/files/plan\\_energetico.pdf](https://www.argentina.gob.ar/sites/default/files/plan_energetico.pdf)).

Its depth is between 2,700 and 3,000 meters, far below the fresh water aquifer, making the extraction safer and reducing environmental risks.

It has a great thickness (layers between 30m and 450m) and a significant amount of Total Organic Carbon (between 3% and 10%), high pressure (between 4,500 and 9,500 psi) and a good level of permeability.

It is far from urban centers, making exploitation much easier.

Extensive infrastructure available in the region as a result of the important conventional oil & gas production activity in the area.

5 Development projects	YPF:	Loma Campana – El Orejano – La Amarga Chica
	Total:	Aguada Pichana Este
	Tecpetrol:	Fortín de Piedra

26 Pilot projects	YPF:	10	Wintershall:	1
	Total:	3	Vista O&G:	1
	Exxon Mobil:	3	Pampa Energía:	1
	Shell:	2	Pluspetrol:	1
	PAE:	2	Phoenix:	1



# Resources evaluation - Operating and Financial information

## Resources evaluation as of December 2018:

Conventional Exploitation			
Contingent Resources			
Bosque Chañar & Loma Colorada Fields			
Category	Liquids (MBBL)	Gas (MM CF)	
1C	25	1.342	
2C	38	4.414	
3C	38	4.414	

Unconventional Exploitation		
Technical volumes (*)		
Vaca Muerta Formation		
Scenario	Liquids (MBBL)	Gas (MM CF)
Low Estimate	24.302	14.302
Mid Estimate	37.220	24.862
High Estimate	76.931	51.418

(\*) The technical volumes are based on a conceptual development plan targeting the unconventional Vaca Muerta formation; it does not constitute a defined project for the operator (IEASA), which might allow these volumes to be characterized as petroleum resources within the Petroleum Resources Management System (PRMS) framework.

## Operating and Financial historical information (Conventional Exploitation)

Operating Information	Unit	2011	2012	2013	2014	2015	2016	2017
Production of crude oil	MBBL	15	8	14	16	14	11	1
Production of gas	MM CF	173	26	5	66	1.275	1.716	85
<u>Crude oil reserves</u>								
Proved	MBBL	1.321	1.220	270	151	82	50	-
Probable + Possible	MBBL	3.522	3.138	805	421	409	415	-
Resources	MBBL	-	-	-	-	-	-	472
<u>Gas Reserves</u>								
Proved	MM CF	14.444	14.656	30.018	22.178	15.892	7.593	-
Probable + Possible	MM CF	43.190	43.225	63.672	8.864	9.500	12.431	-
Resources	MM CF	-	-	-	-	-	-	20.836

Financial Information (US\$ MM)	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenues	0,0	0,9	0,5	1,0	1,3	3,8	10,1	0,3	0,0
OpEx	-0,0	-2,0	-1,7	-1,5	-2,3	-4,8	-4,7	-1,9	-0,6
G&A	-0,0	-0,1	-0,4	-0,6	-0,7	-2,5	-1,3	-0,4	-0,2
EBITDA	-0,0	-1,1	-1,6	-1,1	-1,7	-3,5	4,2	-2,0	-0,8
CAPEX	5,8	10,0	2,4	27,6	49,9	12,8	0,3	0,0	0,0

# Investment Highlights – Bidding dates

**1**

**Ideal location in the Neuquén Basin**

- Aguada del Chañar lot is a block surrounded by areas with high conventional and unconventional development.
- The activity of surrounding blocks contributes to greater efficiency.
- Asset in a location which gained international relevance.

**2**

**Immediate conventional opportunity**

- Production of conventional gas ready to be started with minimum investments and identified growth potential.
- Idle midstream infrastructure which makes the provision of services to neighboring producers possible.
- Existing assets enable cash flow to be generated in the short term and with minimum investment.

**3**

**Great unconventional opportunity**

- Clear opportunity in Vaca Muerta. Identified potential in “tight” gas field in Punta Rosada formation.
- Reduced unconventional exploration risk due to developments in neighboring blocks.
- Government interest in fostering unconventional development: infrastructure (railway line, gas pipelines), stimulating prices, competitiveness agreements with trade unions.

**4**

**Balanced asset of accessible scale**

- Two fields producing crude oil and gas.
- Concessions for conventional exploitation, for unconventional exploitation and for transportation in a single asset.
- Ideal platform to enter the Neuquén Basin or to expand in it.

○ Publication of Teaser, Process Letter and Tender Specifications	February 28-2019
○ Data Room Opening	March 15-2019
○ Reception of tenders	May 31-2019

○ Estimated date of award	June 14-2019
○ Estimated date of execution of the Transfer Contract and payment of the price	June 28-2019