

Gathering and primary separation plants

During 1998-2004, National Oil Company has upgraded around 100 gathering stations located throughout the country. The modernization has replaced the old 'open' system which was based on separation in non-automatic mode at atmospheric pressure without the recovery of associated gas, with a 'closed', automated separation system operating at 2-6 bar, with full recovery of the associated gas. The surface of modernized gathering station is 6-8 times smaller than that of the classical system.



Gathering and primary separation plants

The main equipment in a modern gathering and primary separation station:

1. The inlet manifold
2. Bi-phase calibration skid
3. Pipe in pipe heat exchanger to enable the separation temperature
4. Three phase separator skid
5. Emulsion breaker injection skid
6. Crude oil emergency tank
7. Saltwater tank
8. Flotation cells

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9. Circulation pumps
10. Progressive cavity pumps for oil discharge
11. Progressive cavity pumps for saltwater injection
12. Drain tank with vertical progressive cavity pump
13. Boiler
14. Staff container
15. Control room
16. Process shed
17. Metering/adjusting skid
18. Electric Panels

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During this modernization process, Confind was the supplier of the following equipment:

- Calibration separators;
- Three phase separators;
- Progressive cavity pumps for crude oil and salt water;
- Horizontal 50 m³ tanks;
- Vertical axis tanks with capacity m³;
- Corrosion inhibitor and demulsion breaker injection skids;
- Manifolds;
- Pipe in pipe heat exchangers;
- Process sheds, containers.

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877 Mislea Separation Installation



201 Colibasi Separation Installation



1 Cobia Separation Installation



Glambocel Separation Installation

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701 Gura Ocritei Separation Installation



31 Leordeni Separation Installation



2 A Mosoia Separation Installation



877 Mislea Separation Installation

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703 Boldesti Separation Installation



669 Boldesti Separation Installation



Ticleni Separation Installation



700 Boldesti Separation Installation

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2 Manesti Separation Installation



15 Bis Vata Separation Installation



Moinesti Separation Installation



Predealu Sarari Separation Installation

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Kazakhstan Tasbulat Separation Installation



Kazakhstan Tasbulat Separation Installation



Kazakhstan Tasbulat Separation Installation



Kazakhstan Tasbulat Separation Installation

Gathering and primary separation plants



Kazakhstan Tolkin Gathering Center



Kazakhstan Tolkin-Borankol Separation Installation



UKPG gas/condensate Separation Installation



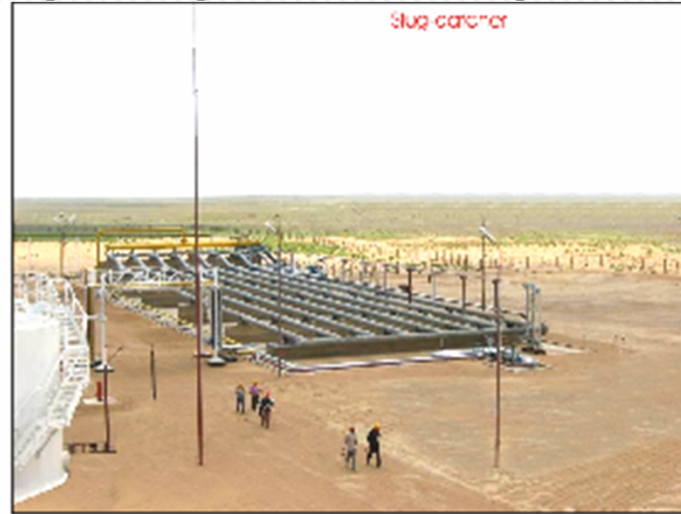
UKPG gas/condensate Separation Installation

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Gathering and primary separation plants



UKPG gas/condensate separators



UKPG gas/condensate Separation Installation



UKPG gas/condensate Separation Installation



UKPG gas/condensate Separation Installation

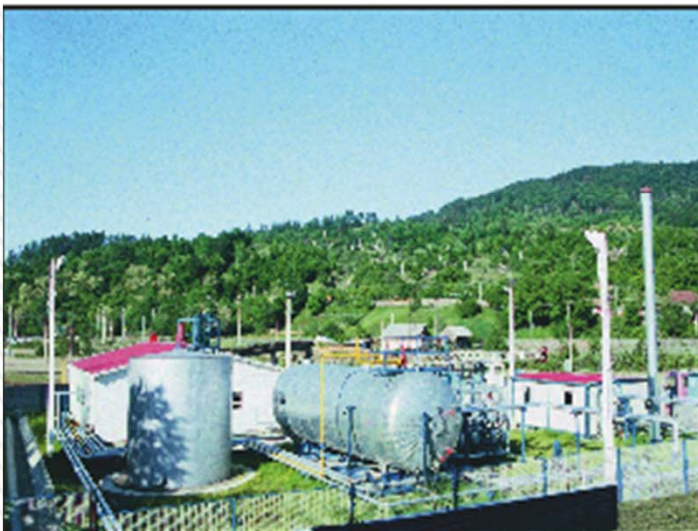
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3 Sud Moreni Major Gathering Center



795 Lucacesti Separation Installation



20 Tazlau Separation Installation



3 Dragomiresti Separation Installation

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Tasbulat Separation Installation



Craiova Separation Installation



UKPG Separation Installation



877 Mislea Separation Installation

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Opornaia TSB



3 Balteni Separation Installation



Ticleni Separation Installation

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Gathering and primary separation plants

Founded in 1991, CONFIND has developed during more than 23 years, from the production of simple parts, to the fabrication of complex equipment for oil & gas industry : pressure vessels(bi-phase and three phase separators, process columns, reboilers, heat exchangers), crude oil and salt water tanks, filtration skids, fluid measuring and adjusting skids, progressive cavity pumps, compressors, containers, sheds etc.

In 2003, CONFIND encountered an new chalange: turn key project. As a consequence, CONFIND provided design, fabrication, international procurement, installation, start up for „Gathering and treating gas and condensate plant“, having as Client a Houston, USA based company.

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The plant is capable to separate and dry about 200.000 scm³/day in order to reach a dew point of -15°C. During the design phase one of the main targets was to ensure the maximum extent skid mounted equipment, in order to decrease site works, that was limited to civil works, the installation of the skids and interconnecting piping. Particular attention during the design phase was given to the safety and environmental impact of the plant. The entire plant was CE certified.

Main equipment of the plant are:

- Inlet manifold skid(Pn 64) ;
- Calibration skid(ID 1100 Pn16) ;
- Three phase separator(ID 2200 Pn16) ;
- Bi-phase separator(ID 1100 Pn40) ;

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- Condensate storage tank skid(ID 3000) ;
- Salt water storage tank skid(ID 2500) ;
- Gas compression module composed of three boxer type GEC 160, two stages compressors;
- Gas dehydration unit(glycol), including glycol regeneration;
- Measuring and adjusting skid;
- Salt water pump injection skid(Pn 100) ;
- Loading arm;
- Drain tanks;
- Flare.

Civil works have been composed of:

- concrete platforms;
- containers;
- loading bay;
- foundations.

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- Due to some high pressure wells, the plant has two pressure levels:
- High pressure wells go to bi-phase separator(ID 1100 Pn40), and resulting gas after drying can be directly injected into the transport line. Liquid goes to the three phase separator(ID 2200 Pn16).
- Medium pressure wells go to the three phase separator (ID 2200 Pn16) or to the calibration skid(ID 1100 Pn16). Resulting gas goes to the compression units for further injection into the transport line.

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- Salt water is injected by means of progressive cavity pumps into the reservoir, the condensate is delivered through a fiscal metering
- Plant is fully automated. For supervision the plant requires 2 persons per shift.

Continuing the direction of turn key projects, CONFIND contracted:

1.Modernization of Parc 5 and Parc 2 Colibasi;

2.Modernization of Parc 2 Turburea;

Modernization of Parc 8 Bradesti.

In these cases, the design was provide by the Client.

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1. Modernization Parc 5 and Parc 2 Colibasi :

1.1. Existing Parc 5 is transformed into a gathering point "Gathering Point 5 Colibasi" and will include:

- 10 slots, 3" inlet manifold 3" with 2 exits, one on 3" for well calibration and one on 4" for total production;
- Corrosion inhibitor injection skid on 4" line;
- Process shed for the above;
- Electric distributor.

1.2. Existing 2 is transformed into a gathering and crude oil/gas measurement point named "Punct de masura 2 Colibasi" and will include:

- 30 slots, 3" inlet manifold 3" with 2 exits, one on 3" for well calibration and one on 6" for total production;
- Three bi-phase horizontal calibration separators equipped with washing system;
- One three phase horizontal separator equipped with washing system;
- Progressive cavity pumps type GP 10.24 for crude oil evacuation;
- Emergency tank for crude oil;

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- Drain tank with vertical pump for evacuation;
- Process shed for calibration separators and pumps;
- Personnel shed;
- Heating unit for process heating;
- Measurement & adjusting skid for gas;
- Desanding tank;
- Instrument air system;
- stack;
- Control system.

1.3. Pipes for well calibration(3") between Parc 5 and Parc 2 Colibasi.

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2. Modernization Parc 2 Turburea :

Modernized Parc 2 Turburea will include:

- 10 slots inlet manifold;
- One bi-phase calibration separator $\Phi 1100$ PN16 ;
- One three phase separator for emergency $\Phi 1100$ PN16 ;
- One three phase separator $\Phi 2200$ PN16-30mc ;
- One separator SVB-70 for high pressure gas;
- Gas injection distributor;
- Crude oil pumps type GP-1024;
- Measurement & adjusting skid;
- Heat exchanger;
- 50 m³ vertical emergency tank for crude oil;
- 10 m³ drain tank;
- Electric distributor and electric panels;
- Process control system;
- Heating unit and stacks;
- Sheds, containers.

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3. Modernization Parc 8 Bradesti

Modernized plant will include:

- Inlet manifold;
- One bi-phase horizontal separator;
- One drain tank;
- Electrical equipment.



CONFIND along with plants' designers is permanently looking for improving process and construction solutions incorporating all lessons learned from previous projects. All solutions that are applied take into account the possibility of further development.