



HEALTH RISK MANAGEMENT IN ECOPETROL

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COMPREHENSIVE RESPONSIBILITY POLICY

In ECOPETROL we act within a framework of responsibility, integrity and respect for people, institutions and the environment, promoting continuous improvement in order to generate sustainable development conditions and value for our stakeholders. Our preferred instrument is prevention and promotion. The life of human beings and the protection of the environment are predominant over any other corporate activities.

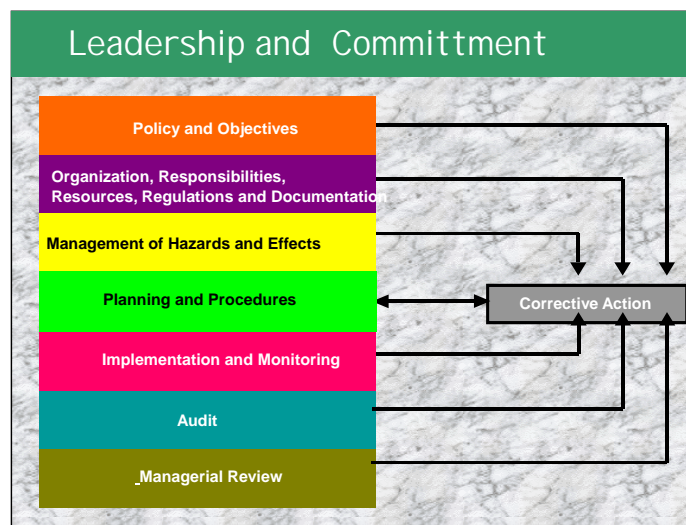


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HSE MANAGEMENT MODEL



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1. OCCUPATIONAL HEALTH OBJECTIVES

- Maintenance and promotion of the health of workers and their labor capacity.
- Improvement of the work environment, including health and safety.
- Promote and maintain the highest degree of physical, mental and social well-being of the workers in all their positions.
- Prevent any potential injuries and diseases arising from their work conditions

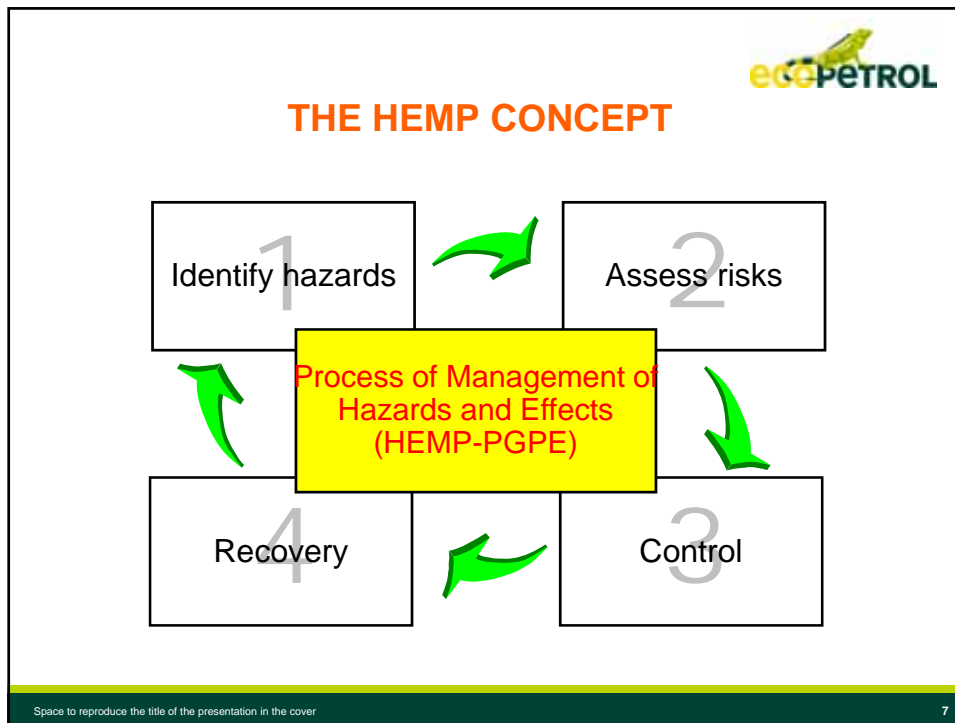



2. HEALTH RISKS ASSESSMENT (HRA)

Objective: Identify, assess and manage the risks inherent to the activities of the Company, in order to avoid any occupational diseases and/or ensure the minimization of their effects.

Activities:

- Dissemination and promotion of HEMP methodology, HRA Cases
- Execution of HRA Cases of HEMP in all the areas of the Company
- Computing tool to keep the HRA updated, easy to access and with control and monitoring of intervention plans.



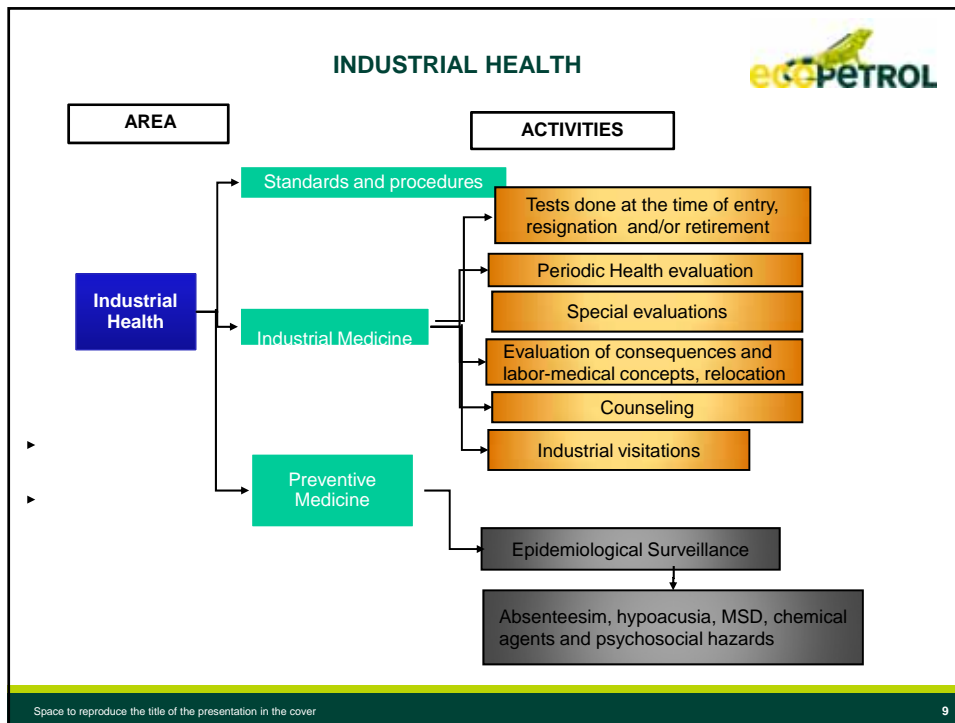


3. INDUSTRIAL HEALTH

Objective: Guarantee a healthy and safe environment for workers and monitor occupational health in a timely manner.

Activities:
There is an Industrial Health Service Provision Contract ECOPETROL INC. ensuring the achievement of the goals stated in the National Plan of Occupational Health.

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ecopETROL

4. INDUSTRIAL HYGIENE

Objective: To assess and monitor significant physical and chemical hazards identified in the HRA, to perform a risk map of physical and chemical agents in ECO PETROL S.A. and to prioritize the interventions.

Activities:

- Industrial Hygiene Agreement (Universidad Javeriana)
- Monitoring of physical risks and chemical agents
- Intervention plans
- Design and implementation of continuous monitoring network in high-risk areas due to exposure to chemicals

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5. OCCUPATIONAL EPIDEMIOLOGICAL SURVEILLANCE

Objective: To describe the activities to consider for the systematic, continuous and timely collection of information about issues to be subject to occupational surveillance in ECOPETROL S.A., in order to analyze and interpret data providing bases for decision-making and implement action plans contributing to control and/or decrease the causes of risks.

Scope:

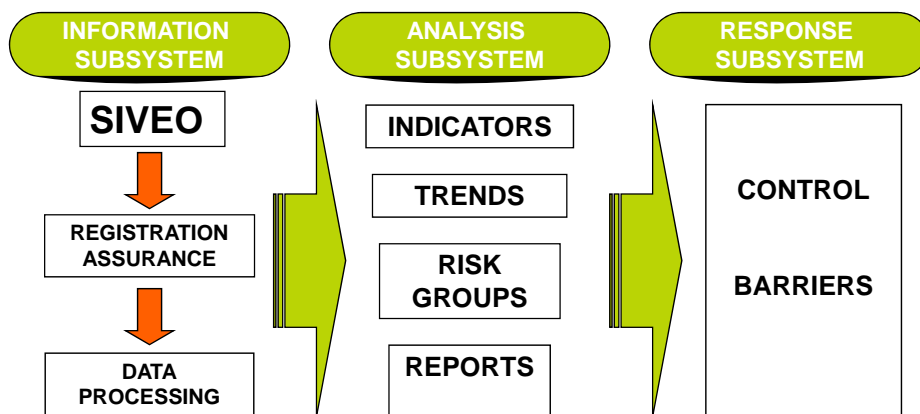
Applies to all the areas and workers of ECOPETROL S.A.
 The process goes from the collection of information to the establishment of control measures or barriers for the causes of such events.

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EPIDEMIOLOGICAL SURVEILLANCE MODEL





6. EPIDEMIOLOGICAL SURVEILLANCE OF PSYCHOSOCIAL FACTORS

- **Objective:** To establish the principles and methodology to manage the surveillance of psychosocial factors and their effects on people's health or work.

Scope:

- It applies to all the activities and operations performed by the employees at all departments in all the facilities of ECOPEPETROL S.A.
- It comprises the methodological guidelines for surveillance of psychosocial hazards that might affect the health of people and their work.
- It goes from the collection of information to the establishment of control measures.
- It refers to procedure ECP-DHS-P-003

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DEFINITIONS

- **Psychosocial Factors:** “Comprise the intra-labor and extra-labor aspects, aspects external to the organization, individual conditions or intrinsic characteristics of the worker, which interact through perceptions and experiences and have an effect on health and performance”.

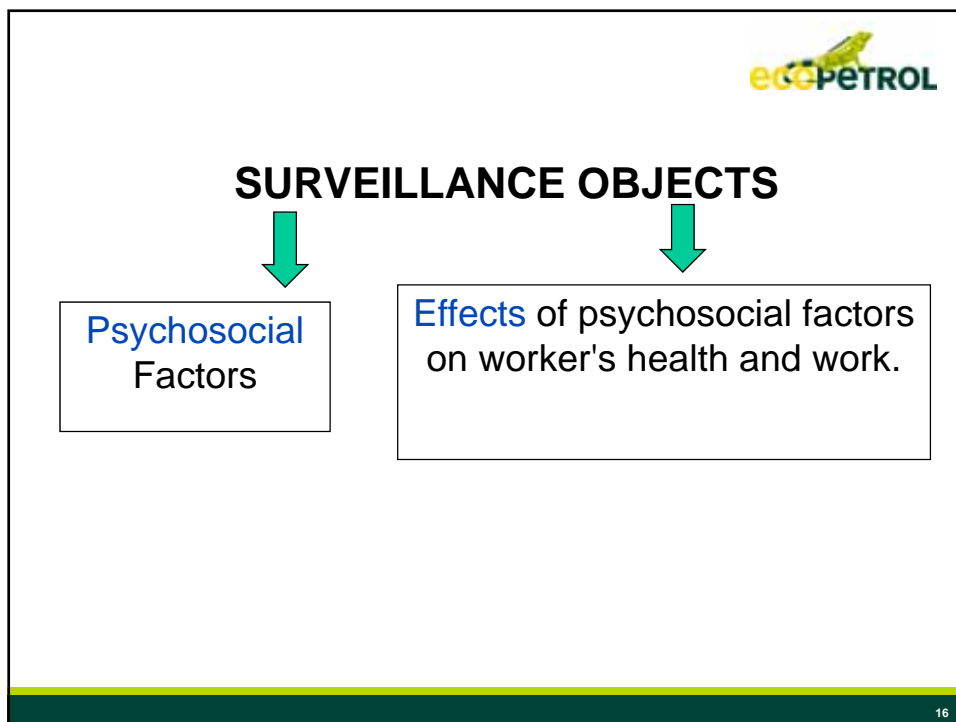
Resolution 2646. Ministry of Social Protection – Colombia. Technical standard on psychosocial factors

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SOURCES OF PSYCHOSOCIAL FACTORS	
Individual conditions	
Personality traits	
Intra-labor conditions	
Workplace conditions	
Task conditions	Mental stress
	Task content
Conditions related to the organization	Characteristics of management
	Charachteristics of the work social group
	Characteristics of the organization of work itself
Vital labor events	
Extra-labor conditions	
Economic and educational situation of the family group	
Work-family interfase	
Family relations	
Personal relations	
Political, social and economic situation of the location and the country	
Free time activities	
Extra-labor work and educational activities	
Vital extra-labor events	

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NEGATIVE EFFECTS OF THE PSYCHOSOCIAL FACTORS ON PEOPLE

a) **General effects**

b) **Stress-induced effects:**

- Physiological disturbances
- Psychological disturbances
- Behavioral disturbances

c) **Diseases**

The diseases caused by stress under Decree 1832

Protocol for determination of the origin of pathologies produced by stress. Ministry of Social Protection 2004.

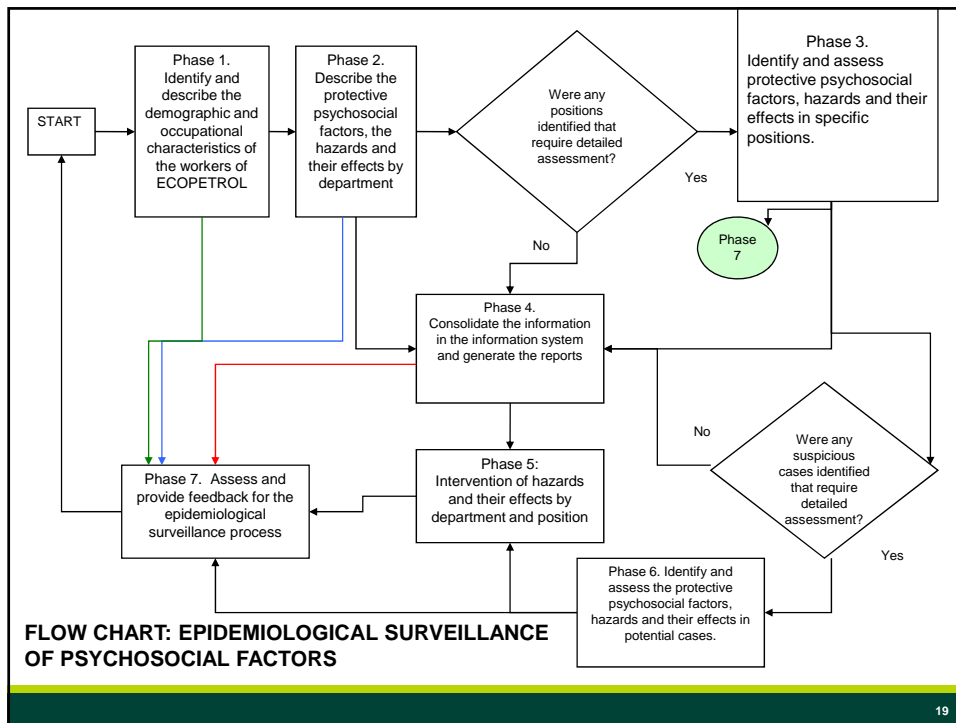

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NEGATIVE EFFECTS OF THE PSYCHOSOCIAL FACTORS ON WORK

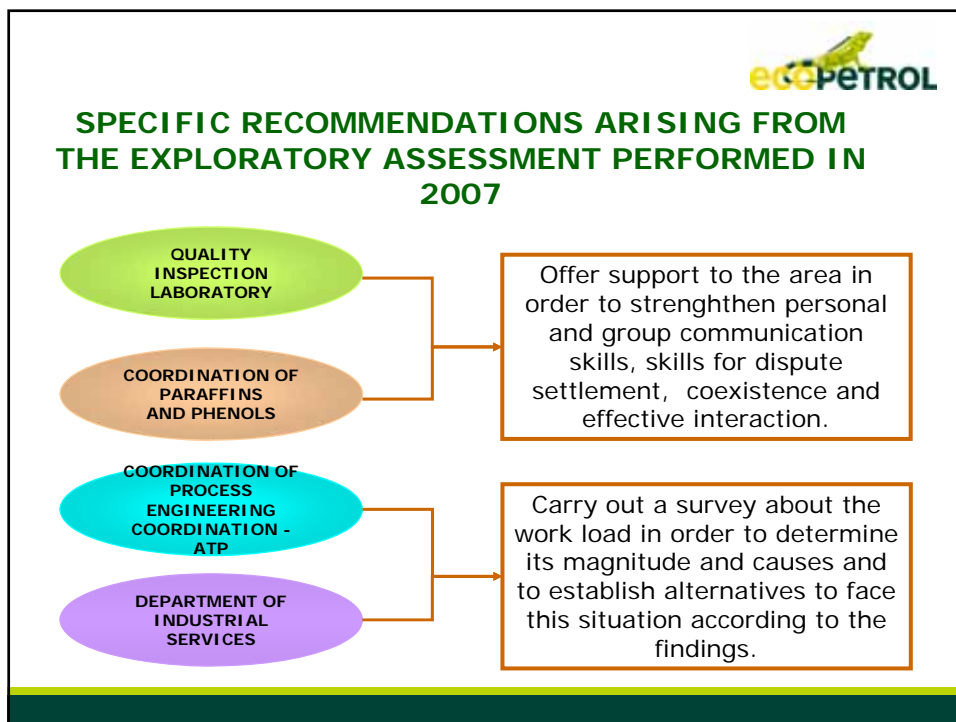
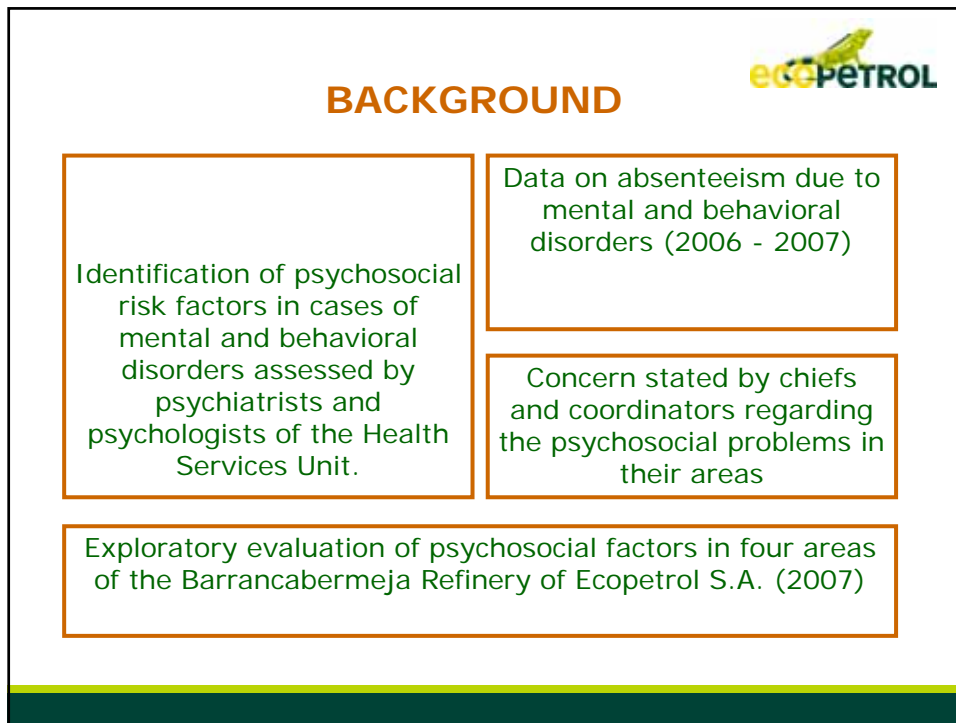
- Alteration of the organizational environment
- Personnel retirement
- Work accidents
- Absenteeism due to medical reasons
- Occupational diseases related to potential stress causes.
- Professional diseases caused by stress

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7. INTERVENTION MODEL FOR PSYCHOSOCIAL HAZARDS:

**LIFE HORIZON PROJECT
BARRANCABERMEJA REFINERY MANAGEMENT
2008**



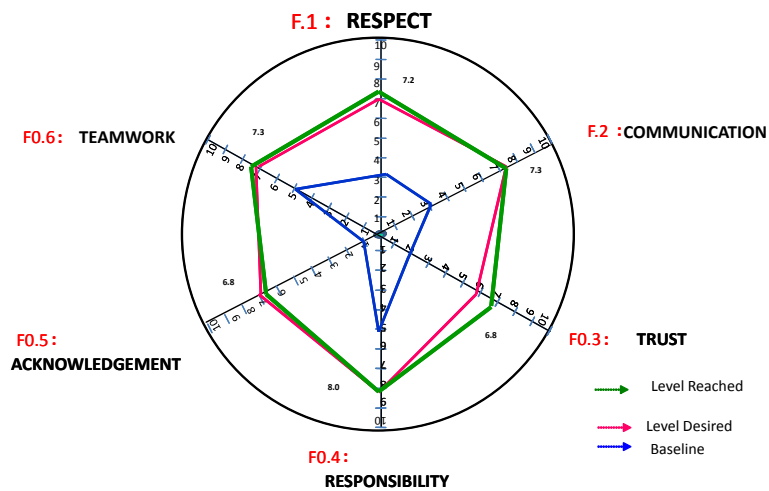


"LIFE HORIZON" PROJECT

PURPOSE	Accompany the Life Project of the workers of GRB through life experiences strengthening personal resources and skills for personal and group well-being
WHAT IS SOUGHT?	Offer support to the area in order to strengthen personal and group communication skills, skills for dispute settlement, coexistence and effective interaction.
WHAT IS IT?	Group or personal advisory activities formulated as progressive development process



BASELINE - RESULTS



QUALITY INSPECTION
LABORATORY



**RESULTS OF THE 3rd VALIDATION WITH FOCAL
GROUP:
IMPACT PERCEIVED AT INDIVIDUAL LEVEL
(Grade: 4.5)**

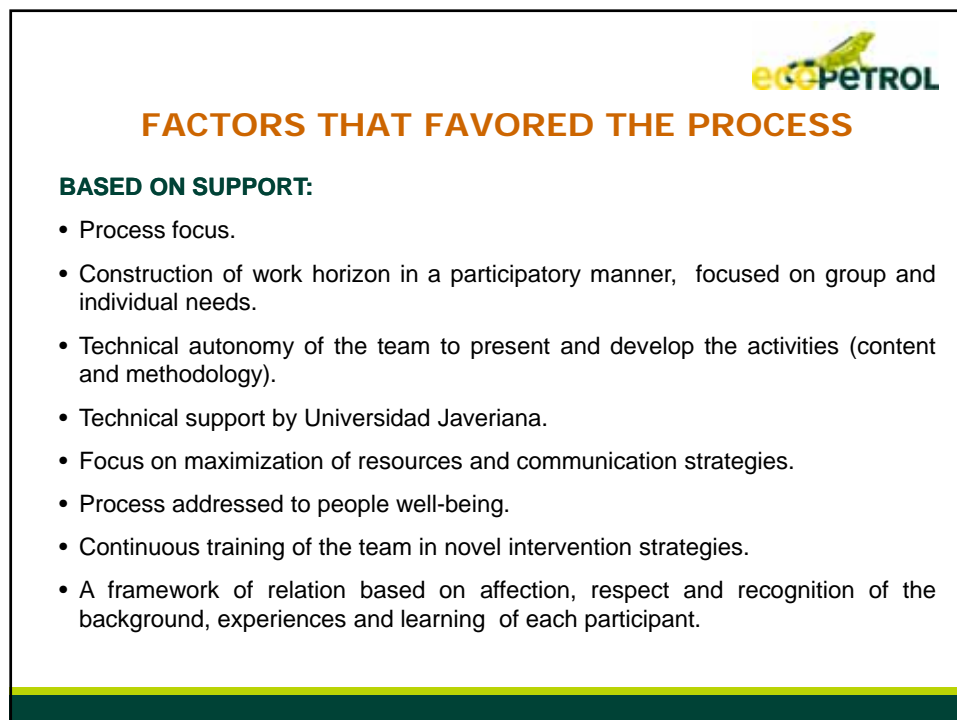
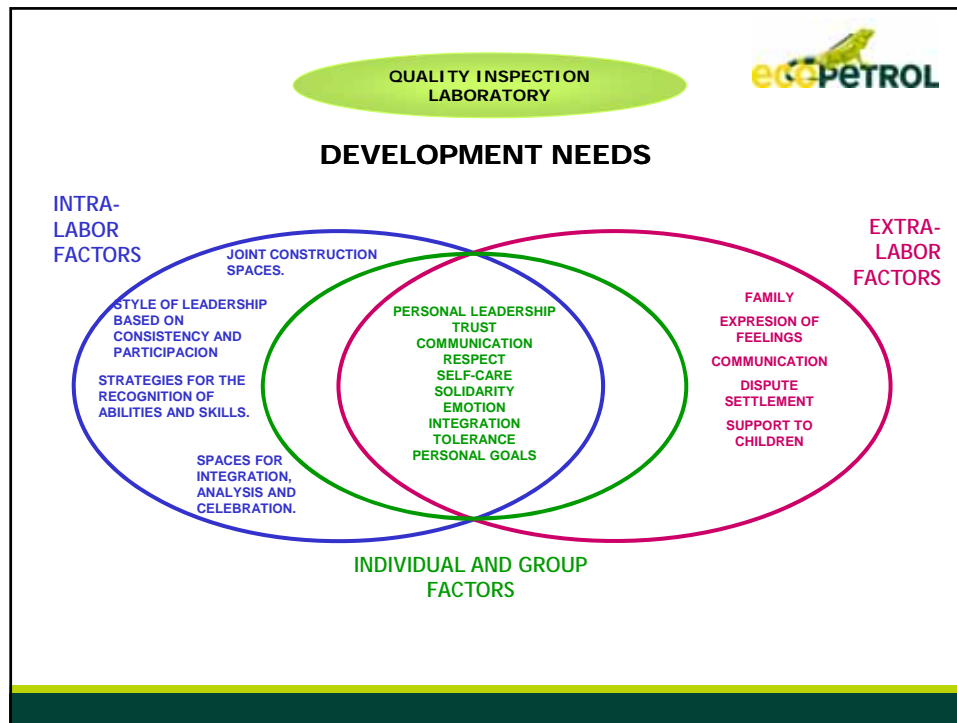
- ✓ Personal growth. It has enabled the acknowledgment of personal resources.
- ✓ Processes of improvement of individual attitudes to face situations. Process of improvement at family level (expression of feelings and appraisal of own resources). Improvement in family relation with children and partner.
- ✓ Possibility to modify and integrate aspects that hindered personal decisions to make progress regarding personal development and thus achieving greater tranquility.

QUALITY INSPECTION
LABORATORY



**RESULTS OF THE 3rd VALIDATION WITH FOCAL
GROUP:
IMPACT PERCEIVED AT GROUP LEVEL
(Grade: 4.3)**

- ✓ Self-acknowledgment and recognition of others with a positive attitude. Need to integrate the co-workers who did not participate in the process in order to share the experience of life in this scenario. Perception of union, integration, proximity and possibility to know the others from a human viewpoint.
- ✓ Creation of better spaces for integration and teamwork. Perception of improvement in cooperation, communication and nicer work environment.





RELEVANT ASPECTS IDENTIFIED DURING THE PROCESS

Through group and individual activities, it has been possible to identify some aspects we suggest to review by some areas of the organization jointly, in order to maximize and strengthen the progress made.

- **Strengthen the participation of management.**
- **Greater disclosure of the policies of human development toward collaborators.**
- Integration of efforts and articulation with the human talent area and the programs that this area provides (leadership).
- Strengthen communication from the point of view of managerial and administrative decisions.



ELEMENTS TO CONTINUE DEVELOPING

- Generation of human transformation processes.
- Keep the commitment with the development of people and work teams
- Review of visible aspects, such as as promotion ladder, HRA, labor load.
- Spaces of proximity and direct contact with the workers.
- Sustainability of processes in intervened areas



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