

ASSIGNMENT # 1. – Generation and Screening of Alternatives

Homework DUE -- WEDNESDAY AUGUST 27, 2008

- Read Chapter 1 pages 1 → 14

Problem 1. • List and discuss the mechanism basis of several methods for effecting separations in **Liquid - Solid** systems. • Place special emphasis on selecting different physical and / or chemical basis for the separations.

ASSIGNMENT # 3. – Generation and Screening of Alternatives

Group Assignment

50 Supplemental Project POINTS = DUE -- FRIDAY AUGUST 29, 2008

- Read Chapter 2 General Design Considerations pages 15 → 62

⇒ It is recommended you work in groups of up to three.

Pick your own group members, **MAXIMUM of 3 per group.**

- ◇ Submit ONE report for the entire group. Equal scores will be assigned to each group member. Advantage of working in groups is to brainstorm and share ideas, critique and edit the group report. Score will be based on originality of your schemes, number of fundamentally different schemes, plus clarity and conciseness of your report.

Project Problem # 1.

Propose several plausible methods for performing each of the following :

- a) A laboratory 'bench-top' pilot plant utilizes flammable solvents and as a safety precaution should be purged with inert gas.
 - b) Several hundred cubic feet per hour of inert gas are to be provided for blanketing storage tanks containing flammable liquids.
- ◇ Each group is to submit a **Formal 'Executive Summary' Report** describing your proposed schemes. Screen your concepts, present advantages and disadvantages of each, list questions about additional information you think is necessary before a more thorough evaluation and selection can be made. Be specific about what the gas is, how it is obtained, and how it is incorporated into the process. Your grade above 80% will be based competitively on the quality and variety of ideas!