# Harvey Aluminum Cites Need for Technical Skill

The aluminum industry was born in a laboratory and has progressed to its present status largely as a result of the technological advances that followed.

The qualities of courage, faith, and foresight have also been characteristic of leaders in this industry contributing vitality to its prograss. The degree to which these qualities together with a high order of technical competence are found in the future leaders of the industry will determine in large measure the rate at which the industry will continue to progress.

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**MEN WITH** practically all degrees of technical and scientific training and experience may find interesting work in the aluminum industry. The mining operation, for erample, requires geologists to search for new bauxite deposits and to determine the nature and extent of known deposits.

Mining engineers are needed to plan and supervise the actual mining. Mechanical engineers are required to specify the equipment required at the mines and to supervise its operation. Chemists are needed to analyze and properly classify the ore samples that are periodically taken.

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**REFINING THE** ore is a chemical process which requires the services of chemical engineers and chemists. Mechanical engineers are needed to specify and supervise stme of the plant equipment. Those with experience in some of the other so-called process industries could easily fit into this branch of the aluminum industry.

To specify and supervise the electrical equipment needed for the reduction process requires the services of electrical engineers, for every reduction plant, or primary smelter, involves also a large electric power plant.

Metallurgists first enter the picture here, for this is the earliest step in the industry's processes where the metal actually appears. Chemists and chemical engineers are needed also to keep an eye on raw materials, to conduct testing, and to handle other technical needs of the plant.

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**METALLURGISTS**, metallurgical engineers, and chemists are needed by the secondary smelting plants. Technically trained personnel who can handle the various chemical, mechanical, and other tests conducted to maintain quality of the product also are required.

Opportunities in fabricating plants are more diversified in nature. Metallurgists and metallurgical engineers are needed for all types of operations, including foundries. There are also jobs for chemists in some of these plants.

Mechanical engineers are required for these operations and in some cases electrical engineers. Mechanical designers and application engineers are employed by many fabricating plants to develop the various forms of the metal needed by users.

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**INDUSTRIAL ENGINEERS** are required in all branches of the aluminum industry as in other major industries. These men supervise not only certain technical aspects of plant production but also important economic phases such as production cost analyses, production methods, and plant layout.

The research laboratories, similar to those mantained by Harvey Aluminum in Torrance, offer a limited number of extremely varied opportunities for many types of engineers and scientists. These units are constantly exploring for new methods of production that might yield cheaper metal, better and stronger alloys, and new ways to use them.

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**ALL OF THE** talents needed in any other branch of the industry have a place here and many more besides. For example, electrical engineers are needed to study new uses in that field, architects in the building field, and home economists in the cooking utensil field, to mention only a few.

So far the discussion of specific job opportunities has centered on the higher levels of technical talent. There are many opportunities for men of lesser technical training, too, as in other industries.

In fact, the openings for men with semi-technical or limited technical training and experience undoubtedly outnumber those for men possessing the highest degrees of training and experience.

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**AMONG THE** opportunities open to these men are jobs in plant laboratories where the many tests required for maintaining product quality are conducted. There are also opportunities for draftsmen, especially in the fabricating divisions of the industry.

Besides its great need for engineers, scientists, and other technical personnel, the aluminum industry, like other large and important industries today, requires others with special qualifications. For example, those trained and experienced in such diverse subjects as accounting, advertising, patent law, medical care, and industrial and public relations are among this group.

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**SALESMEN TOO** are just as necessary in the aluminum industry as in other industries, for obviously after the metal has been produced it must be sold. In fact, with many thousands of firms in the United States now using aluminum in its various forms, the sales department of the producers and fabricators of the metal offer many opportunities to those having aptitudes in this direction.

Like other metal industries, the greatest number of job opportunities in the aluminum industry are in the skilled labor class with a smaller requirement for unskilled labor. The opportunities for these classes of workers are much greater in the fabricating plants than in the producing phases of the industry. Skilled workers with supervisory ability will find numerous opportunities to work as foremen.

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**MANY OPPORTUNITIES** for employment are offered to women by the industry. In addition to the obvious positions in office work, there are openings in the manufacture of aluminum products, and for those qualified by technical or scientific training there are laboratory and research positions. Women also find opportunities in the fields of designing and drafting, which form an essential part of the industry.

Chances of advancement are good because aluminum is still a growing industry, and personnel to fill new positions usually are drawn from those who have already received training within the industry. There is much opportunity for originality and invention in all branches of the industry. Naturally the responsibility of the individual increases with advancement, with continuing challenges to initiative and resourcefulness.

# Cline to Leave Northrop Next Month He Says

A. V. Cline, for the past 12 years director of public relations for Northrop Aircraft and Northrop Corp., has resigned, effective March 1, to establish an industrial service organization in the Los Angeles area.

Mr. Cline will continue to serve Northrop as a consultant.

Thomas V. Jones, Northrop president, said the appointment of a successor will be announced within a few days.