

# **Environmental Training for Heavy Machinery Operators**

## **Niche Profile**

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## **Introduction**

A combination of increasing oilfield activity and government regulations regarding the abandonment of well sites in Alberta has provided a great deal of work for contractors and consultants in the field of site reclamation. Not all contractors have benefitted however. Many have found that errors made by machinery operators lacking specific environmental knowledge have proven expensive, if not impossible, to repair. As a result, many in the contracting as well as the consulting and the oil and gas industries have identified a need for environmental training for all personnel who work in the reclamation industry.

An earlier Clearinghouse report on Land Reclamation Specialists examined the demand for technicians and technologists to work in the field of site reclamation; the present report looks at the need for environmental training for workers at the “ground level”, the heavy machinery operators. Keyano College has the primary interest in this area as they provide instruction in heavy machinery operation. This report is based on a series of interviews with oil field contractors, environmental consultants and Alberta Environmental Protection (AEP) personnel.

## **Industry Notes**

Environmental reclamation work in northern Alberta is dominated by well site abandonments, although there is also work available in the clean up of other contaminated sites and the reclamation of gravel pits. In Alberta, when oil well sites are abandoned the land must be reclaimed to its “equivalent productivity” prior to disturbance. In order to accomplish this oil companies hire environmental consultants to design the reclamation project, and general oilfield contractors to carry out the work. The consultants often provide supervision of the work as well. Many contractors have supervisors with environmental training but most machinery operators do not have any. Once a project has been completed it must pass inspection by AEP.

Throughout Alberta some 2500 oil and gas well sites are abandoned annually. This figure is likely to rise over the next three years to about 5500 according to Larry Brocke of AEP. Industry sources agree that reclamation work is a growing part of the oilfield contracting industry. Many contractors are currently busy drilling wells that will eventually have to be “put to bed”. This suggests that the market for trained heavy machinery operators will grow significantly through the early years of the next century.

## **Training Need**

While virtually all reclamation projects are supervised by personnel trained in soils and regulations, almost everyone interviewed for this report answered with an emphatic “yes” when asked whether it would be valuable for heavy machinery operators to have similar training. As one official put it, there is a need to fight the “idiot factor” in reclamation work. Workers who do not know the details of what they are doing and why they are doing it are much more likely to

make mistakes than are their better trained colleagues. One contractor interviewed stated that experience is more important than specific environmental training. Nonetheless, he agreed with the other contacts that such training would be useful for an operator seeking employment

As with technicians, the most important areas of environmental knowledge for machinery operators are soils, and reclamation criteria.

Oilfield contractors recognize the need for soils knowledge on the part of machinery operators but have not necessarily acted upon it to date. According to one contractor, environmental training would be useful for machinery operators, but of his 150 to 200 employees (at peak times) only the six or seven supervisors actually have such training. Several people interviewed pointed out that market forces will change this; seeing the expense of repairing mistakes, oil companies will insist that the contractors whom they hire have appropriately trained staff.

### **Training Demand**

The employers contacted for this study all said that they would support upgrading training in this area for their staff. As one contractor pointed out, such training is simply a part of keeping up with developments in the industry. Even so, his machinery operators have little or no environmental training so far.

Brent Biegel of Sharp Environmental estimates that only 20% of those working in reclamation contracting have any environmental training. This is in spite of the fact that his company trains some 500 people in Alberta each year. Courses offered at NAIT have also been filled.

Generally, those contacted have expressed greater enthusiasm for upgrading training than for pre-employment training in this field; which corresponds with the greater importance accorded to experience.

### **Available Training**

The bulk of the training available in this area is available from private trainers; PITS and Sharp Environmental in particular. PITS offers two courses directly related to this topic: Decommissioning and Reclamation of Small Oil and Gas Sites, and Reclamation Criteria for Wellsites and Associated Facilities. The latter is offered at sites throughout the province and is taught by soil experts and AEP inspectors. Sharp Environmental trains approximately 500 people per year, including cat operators, supervisors and others in regulations and standards as well as in soil types. Additional training has been available from NAIT, which presented a number of courses funded by the government through Employment Insurance and developed with the assistance of AEP. These courses were very well attended.

Alberta Agriculture also has home study courses available covering soils of Alberta.

## **Comments**

Larry Brocke of Alberta Environmental Protection reported that his department is willing to help colleges develop and present courses in this area. Likewise, Alpine Environmental is willing to make presentations to colleges in support of this training and to help with curriculum design.

Environmental upgrading courses should be offered so as to coincide with slow periods in the oilfield contracting business (i.e. spring and fall).

## **Implications for Training**

Environmental training for heavy machinery operators is a strong training opportunity. Demand exists both for courses in soils and for reclamation criteria to be part of pre-employment training and for this knowledge to be provided as upgrading training for those already working in the industry. The latter seems to be the stronger opportunity, as experience is valued more highly than training by contractors. The same course material could well serve both types of instruction. The market for upgrading courses includes a wide range of people, from heavy machinery operators to supervisors and oil company personnel.

The assistance available from AEP and from Alpine Environmental would make curriculum development relatively easy and inexpensive. Another possible option would be to broker the courses recently offered by NAIT.

## **Contacts**

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## **Sources**

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