

CHANGING KNOWLEDGE NEEDS FOR WELLSITE RECLAMATION

Jim Smith, M.Sc., P.Ag.

Mancroft Resource Consultants Ltd.
4801 - 49 Avenue, Olds, Alberta
T4H 1E1

PURPOSE

One of the mandates of the Canadian Land Reclamation Association is to develop and promote education in the field of land reclamation. This paper will attempt to inventory the educational and informational sources available in this field and to do a qualitative check of their effectiveness. To ensure that the immense topic of reclamation is manageable, this paper will focus on reclamation of abandoned petroleum wellsite and related facilities within the province of Alberta.

INTRODUCTION

Within the last four or five years, most petroleum companies have recognized the need for an environment department. While this department varies in size from one person to a comprehensive staff, it is often assigned the responsibility for reclamation and decommissioning subsequent to many other pre existing responsibilities. Certain skills are necessary to have a properly functioning environment department. These skills are outlined below, although it should be recognized that these skill sets should not be expected in the same proportion across all of the various reclamation workplace positions such as management, field superintendent, contractors, etc.

Reclamation of abandoned petroleum surface leases requires the application of knowledge and experience from numerous fields or disciplines, many of which are grounded in physical science, others on social sciences. Fields of required expertise extend to agronomy, range management, soil science, agriculture, forestry, wildlife, environment, contaminant remediation, resource economics -- science in general. It requires application of knowledge of the production practices of agriculture, forestry or the land use within which the site is located; it may involve the application of knowledge of water management and/or remediation matters; it usually requires the need for sampling and analyses of various physical and chemical parameters. Technological expertise is required in understanding capabilities and outputs of various industrial processes, reclamation and agricultural equipment. Finally, an understanding of the legislative environment and the impacts of such legislation on stakeholders party to a site reclamation is essential. It goes without saying that an understanding of people component is imperative here as in many other fields of endeavour.

In some cases it is apparent that the combination of the necessary skills listed above are not present.

In addition to the need for formalized education opportunities for information and guidelines, those involved with reclamation reference various sets of legislation, regulations and constructs on which to base reclamation decisions and processes. A few of those elements are outlined here and are rated as either consistent or needing modification or harmonization to provide clarity and a more stable objective.

* Presented at the 21st Annual Meeting, Canadian Land Reclamation Association, Calgary, Alberta, September 18 - 20, 1996.

CONSTRUCTS

Equivalent Land Capability: (ELC) *A situation where the ability of the land to support land uses after reclamation is similar to the ability that existed prior to an activity being conducted on the land. The ability to support individual land uses will not necessarily be identical after reclamation.*

RATING: THIS HAS BEEN THE CENTRAL OBJECTIVE FOR RECLAMATION ACTIVITY AND IS THEREFORE CONSISTENT.

Reclamation Criteria for Wellsites and Associated Facilities - attempts to satisfy the need for more objective criteria.

RATING: THIS IS CONSISTENT BUT STILL NEEDS SOME FINE TUNING TO ENSURE INTERPRETATION AGAINST ELC. THERE ARE CONCERNS THAT THE CRITERIA MAY BE UTILIZED AS GOSPEL RATHER THAN AS A GUIDELINE WITH THE OVERALL OBJECTIVE OF ELC CAPABILITY BEING SET ASIDE.

EDUCATION

Industry has recognized the need for enhanced educational opportunities in the field of reclamation. A cursory review of the response to such needs suggests that private, public and industry associations have been responding well. This review found many institutions offering reclamation related programs. Vermilion College, Olds College, Lethbridge Community College, the University of Lethbridge, the University of Calgary, the University of Alberta, NAIT and SAIT, have courses ranging from short-term extension classes through two year diploma and post-diploma programs, up to and including transfer programs and degree programs.

Two developments I consider worthy of particular mention are:

- In 1993 the University of Alberta restructured some of its traditional offerings through the Faculty of Agriculture to recognize the importance of conservation and reclamation by developing a related degree program.
- Olds College, Vermilion College and Northern Alberta Institute of Technology have collaborated in developing an applied degree in Environmental Management after a two year certificate at any of these institutions.

Private Sector and or Association education providers include the Environmental Service Association (ESA), and the Petroleum Industry Training Service (PITS), as well as a number of consulting firms. Over the last four to five years both PITS and ESA have offered more short term classes such as one to four day courses on various reclamation related subjects.

RATING: THIS PAPER THEREFORE FINDS THAT THE EDUCATION COMPONENT IS DOING QUITE WELL AND IS CONSISTENT.

PROFESSIONAL AND INDUSTRY ASSOCIATIONS

Alberta Institute of Agrologists, Alberta Society of Professional Biologists, and APEGGA all report increased numbers of members as listing reclamation as an area of professional practice. A joint conference was held last year, in part to foster communication and cooperation among these professions practising in the area of reclamation and environment. Other organizations such as the Environmental Services Association and the Canadian Land Reclamation Association serve the needs and interests of members and practitioners.

RATING: PROFESSIONAL AND INDUSTRY ASSOCIATIONS PROVIDE OPPORTUNITIES THAT ARE CONSISTENT AND IMPROVING.

LEGISLATIVE

Alberta Energy and Utilities Board / Alberta Environmental Protection

Jurisdictional issues between these two entities, particularly in the areas of oilfield waste, clean up of pits and ponds, etc., have lead to some confusion and occasional inconsistencies.

RATING: SOME FURTHER CLARITY AND HARMONIZATION WOULD BE DESIRABLE IN REDUCING CONFUSION ASSOCIATED WITH INTER JURISDICTIONAL RESPONSIBILITIES.

Alberta Tier I Criteria for contaminated soil assessment and remediation

RATING: THIS IS A CONSISTENT STATIONARY OBJECTIVE, WITH PROVISION TO GO TO TIER II.

Alberta Tier II - Risk Assessment based criteria

RATING: CONSISTENT IN PRINCIPLE ALTHOUGH THE PROCESS IS GENERALLY NOT WELL RECOGNIZED OR TRUSTED BY POTENTIAL PROPONENTS.

Tier I versus CCME Guidelines

RATING: ALBERTA AND FEDERAL GUIDELINES DIFFER. SOME HARMONIZATION WOULD BE DESIRABLE.

Alberta Environmental Protection Enhancement Act versus Surface Rights Act

APEA drives the requirement for reclamation of petroleum wellsites and sets conditions for certification. The Surface Rights Act governs the rights of access by petroleum operators onto privately owned or leased lands. Reclaimed sites can often benefit from a period of management and monitoring before certification. The Surface Rights Act has no provision, however, to support rental reduction on such sites during that interim period. Some landowners faced with the prospect of losing a \$2500/year rental from a four acre wellsite have found cooperation in the reclamation process inconsistent with their best financial interests.

RATING: THERE ARE SIGNIFICANT INCONSISTENCIES BETWEEN SOUND RECLAMATION OBJECTIVES AND FINANCIAL REALITIES - NEEDS REVISION/HARMONIZATION.

Reclamation Criteria versus Common Law

If a farmer chooses to have a road or corral site built, then to sell the land, the purchaser is buying it as he sees it. However, if that same farmer asks a petroleum company to leave a road, pad, approach, culvert or whatever in place to accommodate his farming operations, several inconsistencies can occur. First of all, AEP representatives can overrule the farmer's wishes and require removal of such facilities. Secondly, if the farmer chose to sell the farm, the purchaser could go back to the petroleum company and, with the support of AEP, insist on the removal of the facilities that the farmer had requested and which the operator had, in good faith, agreed to leave and or enhance.

RATING: CLEARLY THERE ARE SOME INCONSISTENCIES BETWEEN RECLAMATION CRITERIA AND COMMON LAW THAT SHOULD BE ADDRESSED.

SUMMARY

Changing knowledge requirements in the area of reclamation practice require availability of current formalized education programs, clear legislation capable of providing objectives consistent with core constructs, and industry/professional associations dedicated to support and development of the industry. This review has found general consistency and support in the parameters examined, but has identified the need for modification/harmonization in several legislative or regulatory issues.

1
R.J. Mahnic, L.J. Knapik, T.R. Bossenberry and G.C. Mott, 1993. Proceedings of the Alberta Wellsite Reclamation Criteria Workshop. Alberta Conservation and Reclamation Council Report No. RRTAC 93-10.



CANADIAN LAND RECLAMATION ASSOCIATION

ASSOCIATION CANADIENNE DE RÉHABILITATION DES SITES DÉGRADÉS

*Conservation and Reclamation:
An Ecosystem Perspective*

Canadian Land Reclamation Association's
21st Annual Meeting

Calgary, Alberta
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