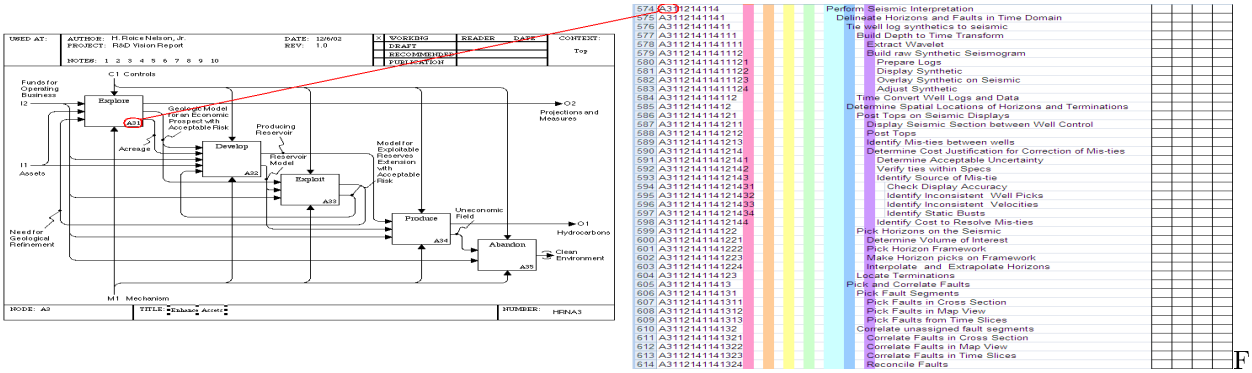

Figure 1: IDEF Process Models and the Knowledge Backbone^{SM}

Knowledge Backbone^{SM} Process Model of the Ideal Oil and Gas Company

One of DRC's parent companies, HyperMedia Corporation, was hired to build a process model of seismic acquisition for Fletcher Challenge Petroleum in Auckland, New Zealand. A process modeling language developed for the U.S. Air Force, named IDEF, was used. IDEF roughly translates as the Information Definition Exchange Format. Using the checklist from the resulting process model to guide their next 3-D seismic survey acquisition, Fletcher Challenge was able to quantify a 35% savings in seismic acquisition costs. Management got excited, and hired HyperMedia to build a process model for their entire range of oil company activities, upstream of pipelines and transportation. This work was done over 18 months using the best experts available in Houston. HyperMedia did this work at a significant discount (US$660,000) in order to retain rights to the process model. Fletcher Challenge successfully used this model to sell their company to Shell Oil for a premium. DRC now owns this process model of ideal oil and gas company, TMI-20.

DRC uses this formal process model for upstream oil & gas activities as an organization framework. The left side of Figure 1 shows an example IDEF ICOM (Input, Control, Output, Mechanism sheet), which is the way the process model is built. Activities are decomposed to define the process flow. The right side of this figure shows a subset of the seismic interpretation portion of the checklist, which falls out of the model. The red line shows the relationship between the Activity Names on the two charts. The basic industry processes are the same across oil companies, vendors, and cultures. This language of lines and boxes can become the common language of the oil and gas E&P industry. The group managing this language manages industry conversations, minimizing duplication in mergers and acquisitions, managing industry leadership and training programs, optimizing portfolios and strategic exploration activities, and providing an integrated process framework for data and risk. The model gives context to data and to new development tools, providing analogs to identify and evaluate exploitable opportunities, optimizing production, and providing a framework to identify by-pass and undiscovered deeper pay. The optimal management of information and knowledge bases follows seamlessly tying together process models and data models at the regional (basin), play fairway, lead and prospect scales, with analogs for production as well as capital and operating expenditures. Reservoir development is optimized with analog go-by examples, real-time SCADA controls, and quantifiable and calibrated performance indicators. Case histories guide process acceptability and data needs, guiding the information management plan, making sure customer requirements and development plans are met by providing a process map, a checklist, a data model, an organization plan, and a taxonomy.

DRC proposes $500,000 for non-exclusive access to the Knowledge Backbone^{SM} by Investors and their specified oil companies. Technical team leaders are H. Roice Nelson, Jr. and Blaine Taylor who will provide support at $200 per hour plus pre-approved travel and living expenses.

