## Dynamic's Work Flow Model

Dynamic Resources Corporation divides its work flow into the following five areas:
1, Manage Regional, Play Fairway, and Prospect Data
2, Assess Strategic Fit with Stakeholders
3, Determine Gross Political and Engineering Uncertainty
4, Generate Risked Prospect Models
5, Evaluate CLPs Economic Indicators
Below, in outline form, are more detailed steps Dynamic uses to accomplish each process. Only those steps necessary to accomplish AOI/AMI objects will be executed.

1. Manage regional, play fairway, and prospect data
A. Acquire data (see pages 31-35 for types of data to be used)
i. Find relevant public domain data
ii. Purchase relevant commercial data
iii. Collect new data
B. Mine data
i. Index data by activity using the Knowledge Backbone ${ }^{\text {sM }}$
ii. Index data spatially in the Infinite Grid ${ }^{\text {sm }}$
iii. Index data temporally with the Timedex ${ }^{\text {SM }}$
iv. Integrate indices using the Dynamic Suitability Matrix (see page 30)
C. Pattern finding
i. Preliminary identification of new exploration concepts
ii. Preliminary identification of leads
iii. Preliminary identification of prospects
2. Assess the strategic fit with Stakeholder(s)
A. Interpret regional data
i. Determine regional geometry
ii. Determine chronotectonics
3. Determine depositional setting
4. Determine chronostratigraphy
iii. Identify regional seal
iv. Identify regional source
5. Find seeps
6. Determine hydrocarbon charge
A. Determine maturity of source
B. Determine extent of source rock
v. Finalize new exploration concepts from data mining and pattern finding
B. Evaluate regional economics
C. Determine stakeholders with best strategic fit to region being studied
7. Determine gross political and engineering uncertainty
A. Risk play fairway geologic model

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i. Determine extent of play fairway seal rocks
a. Determine extent of play fairway reservoir rocks

1. Determine extent of play fairway source rocks
2. Predict Hydrocarbon Migration Paths and Timing
ii. Evaluate play fairway economics
iii. Finalize leads and place in context of the play fairway
iv. Generate risked prospect model

A, Interpret prospect
i. Calculate prospect volumes
a. Integrate well and geophysical data

1. Interpret geologic data
2. Interpret geophysical data
b. Identify structural trap
3. Identify fault closure
A. Identify folded closure
c. Identify stratigraphic trap
4. Identify seal rocks
A. Identify reservoir rocks
ii. Define migration pathway
a. Define reservoir rock pathway
5. Identify biotic hydrocarbons
A. Calculate depth of burial
i. Identify source rock
6. Identify abiotic hydrocarbons
b. Define fault pathway
B. Finalize prospects and place in context of both the regional and play fairway

5, Evaluate prospect economic indicators
A. Construct decision tree
i. Estimate production forecast
ii. Estimate operating and capital cost
iii. Create sensitivity envelope and estimate probability of creating value
a. Calculate cash flow
b. Benchmark Against History
iv. Calculate Economic Measures
B. Document CLPs, and obtain QC approval from the Board of Advisors and distribute to Stakeholders
C. Establish development plan

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## Dynamic Resources Corporation Suitability Matrix ${ }_{(s w)}$



The Dynamic Oil \& Gas Corporation Suitability Matrix is a summary of business and technology funnels used to optimize the probability of business success.
The vertical access of the Suitability Matrix(SM) is a summary of principal upstream oil \& gas activities Dynamic is involved in. These activities are selected from the Knowledge Backbone(SM) developed by HyperMedia Corporation. This information model is one of the knowledge management tools Dynamic uses (see http:// www.walden3d.com/knowledge_backboneSM). Specifically, Dynamic uses the Knowledge Backbone(SM) to index the experience of members of the Dynamic Professional NetWork (see http://www.walden3d.com/network) in order to be able to identify gaps and redundancies in the skills and competencies and experience of consultants assigned to work on specific AMIs. In addition to indexing the best skills, the Knowledge Backbone(SM) also allows Dynamic to index best processes, best solutions, appropriate resources, best practices, benchmarks, lookbacks, case histories, core competencies, etc. Dynamic uses this information model to enable an environment of continuous improvement.

The horizontal access of the Suitability Matrix(SM) is a summary of measurements of time, business activity, interpretation predictions, drilling results, and physical characteristics of the earth. These measurements are a subset of the data Dynamic will mine using tools like automated self-classification to find patterns and to recognize trends. The key concept is that there are things which can be measured (Net Present Value or Porosity or Production or . . .), and if we collect these measurements and organize them in a relevant, complete, coherent, and consistent manner, then the data will tell us where there are new trends, new exploration Concepts, new Leads, and new Prospects (CLPs).


Project Prioritization (A1-A154)


Reservoir Description and Calibration (A3-A3112214116)

| 81 | Reservoir Description | 5 | 5 | 5 | 4 | 3 | 5 | 2 | 5 | 3 | 5 | 3 | 3 | 1 | 1 | 5 | 2 | 5 | 2 | 1 | 1 | 4 | 1 | 5 | 1 | 1 | 1 | 1 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 71 | 4-D Feasibility | 1 | 5 | 5 | 3 | $\frac{5}{5}$ | 2 | 4 | $\frac{5}{5}$ | $\frac{5}{5}$ | 2 | 2 | 2 | 4 | 1 | 3 | 1 | 4 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 |
| 76 | Rapid 4D Fluid Front Locations | 3 | 4 | 3 | 4 | 5 | 2 | 2 | 5 | 5 | 4 | 3 | 3 | 4 | 1 | 3 | 1 | 5 | 5 | 1 | 1 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| 78 | Inversion | 4 | 5 | 4 | 5 | 2 | 2 | 2 | 4 | 3 | 5 | 5 | 5 | 5 | 1 | 1 | 1 | 5 | 4 | 1 | 1 | 4 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| 78 | Region Growing/Permeability Path | 4 | 5 | 5 | 4 | 4 | 3 | 2 | 4 | 3 | 5 | 4 | 4 | 4 | 1 | 1 | 1 | 5 | 3 | 1 | 1 | 5 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| 55 | Seismic Simulation | 3 | 3 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| 76 | Reservoir Simulation (A312-A3124) | 5 | 5 | 3 | 5 | 2 | 1 | 2 | 3 | 2 | 5 | 5 | 5 | 4 | 1 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |


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| 74 | $\begin{aligned} & \text { Deviated Wellpath Planning (A3114331- } \\ & \text { A3114331525) } \end{aligned}$ | 4 | 4 | 1 | 4 | 2 | 2 | 2 | 3 | 5 | 1 | 1 | 1 | 1 | 5 | 5 | 5 | 5 | 4 | 1 | 1 | 4 | 1 | 3 | 1 | 1 | 1 | 1 | 5 |
| 52 | Permeable Fracture Detection | 1 | 3 | 1 | 4 <? ${ }^{\text {¢ }}$ | 2 | 1 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 5 | 4 | $\frac{5}{5}$ | 5<?> | 4 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 |
| 67 | Cost Optimization | 5 | 4 | 4 | 1 | 2 | 1 | 1 | 1 | 5 | 1 | 1 | 1 | 3 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 4 | 4 | 1 | 3 | 1 | 1 | 1 | 3 |
| 65 | Mud: Audit, Select, Optimize | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | $\frac{5}{5}$ | 1 | 3 | 1 | 3 | 1 | 4 | $\frac{5}{5}$ | 3 | 2 | 1 | 1 | 4 | 4 | 1 | 3 | 1 | 1 | 1 | 5 |
| 74 | Formation Damage Control | 4 | 3 | 1 | 4 | 2 | 1 | 1 | 1 | $\frac{5}{5}$ | 1 | 4 | 3 | 1 | $\frac{5}{5}$ | 4 | $\frac{5}{5}$ | , | 5 | 4 | 1 | 1 | 4 | 3 | 3 | 1 | 1 | 1 | 3 |
| 62 | Geopressure Drilling | 4 | 4 | 1 | 4 | 3 | 1 | 1 | 1 | 5 | 1 | 4 | 3 | 1 | 5 | 3 | $\frac{5}{5}$ | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 2 |
| 74 | Drilling and Completion Fluids | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 5 | 1 | 4 | 1 | 1 | 5 | 3 | $\frac{5}{5}$ | 1 | 4 | 4 | 4 | 4 | 5 | 1 | 5 | 1 | 1 | 1 | 3 |
| 52 | Asphaltene and Paraffin Remediation | 3 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | $\frac{5}{5}$ | 1 | 1 | 1 | 1 | 1 | 1 | $\frac{5}{5}$ | 1 | 3 | 1 | 1 | 1 | 5 | 2 | 5 | 1 | 1 | 1 | 1 |
| 65 | Impairment Diagnostics | 4 | 1 | 1 | 4 | 2 | 1 | 1 | 1 | 5 | 1 | 4 | 1 | 1 | 1 | 1 | $\frac{5}{5}$ | 1 | 5 | 4 | 4 | 4 | 5 | 1 | 3 | 1 | 1 | 1 | 1 |
| 48 | Over/Underbalanced Drilling | 4 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 5 | 1 | 4 | 1 | 1 | 1 | 4 | $\frac{5}{5}$ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 58 | Horizontal Well Optimization | 4 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 5 | 1 | 4 | 1 | 1 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 4 |

Production (A31121413-A3112141363)

| 92 | Rock and Fluid Physics/4D Seismic (A31121414-A3112141444) | 4 | 4 | 3 | 5 | 3 | 5 | 1 | 5 | 3 | 4 | 5 | 5 | 3 | 5 | 5 | 3 | 5 | 2 | 3 | 3 | 4 | 3 | 3 | 2 | 1 | 1 | 1 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 74 | Low Resistivity Pay Detection | 4 | 3 | 3 | 4 | 3 | 2 | 1 | 3 | 3 | 5 | 4 | 5 | 3 | 1 | 4 | 3 | 4 | 1 | 4 | 1 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 |
| 64 | $\begin{array}{l}\text { Oil Behind Casing Detection (A31121414- } \\ \text { A3112141444) }\end{array}$ | 4 | 3 | 5 | 3 | 2 | 2 | 1 | 1 | 1 | 5 | 4 | $\frac{5}{5}$ | 2 | 1 | 3 | 3 | 3 | 1 | 3 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| 81 | Water Flood and Pressure Remediation | 5 | 5 | 3 | 5 | 2 | 2 | 1 | , | 1 | 3 | 5 | 5 | 5 | 5 | 1 | 1 | 2 | 2 | 2 | 4 | 5 | 4 | 3 | 1 | 1 | 1 | 1 | 5 |
| 60 | $\mathrm{V} / \mathrm{V}$ / and AVO Analyses | 3 | 3 | 2 | 4 | 2 | 2 | 1 | 1 | 3 | 2 | 5 | 5 | 3 | 1 | 1 | 1 | 2 | 5 | 2 |  | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 |
| 66 | Remedial Stimulation | 4 | 3 | 5 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 5 | 1 | 1 | 5 | 5 | 2 | 2 | 5 | 5 | 2 | 1 | 1 | 1 | 1 | 1 |
| 61 | Compartment Ids | 5 | 4 | 5 | 5 | 2 | 1 | 1 | 1 | 1 | 4 | 4 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| 63 | Maximum Well Potential \& Permeability | 5 | 4 | 5 | 5 | 2 | 1 | 1 | 1 | 1 | 4 | 4 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 1 |

Operations Optimization (A311223-A3112234)

| 90 | $\begin{aligned} & \text { Multiple Attribute Visualization (A31121414- } \\ & \text { A3112141444) } \end{aligned}$ | 4 | 4 | 4 | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 2 | 2 | 1 | 5 | 5 | 5 | 5 | 1 | 1 | 1 | 5 | 2 | 5 | 1 | 1 | 1 | 1 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 86 | Identify Complex Connectivity (A313-A31333) | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 5 | 5 | 5 | 4 | 1 | 1 | 1 | 5 | 1 | 4 | 1 | 1 | 1 | 1 | 1 |
| 81 | Integrate Geology, Geophysics, and Engineering | 4 | 5 | 3 | 5 | 4 | 5 | 4 | 4 | 5 | 3 | 1 | 1 | 1 | 5 | 5 | 5 | 3 | 1 | 1 | 1 | 4 | 2 | 4 | 1 | 1 | 1 | 1 | 1 |
| 62 | Track New Wells in Real-Time | 3 | 4 | 5 | 5 | 1 | 1 | 1 | 1 | $\frac{5}{5}$ | 2 | 1 | 1 | 1 | 5 | $\frac{5}{5}$ | $\frac{5}{5}$ | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| 71 | Track Fluids Production (A314-A33) | 4 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | $\frac{5}{5}$ | 2 | 1 | 1 | 1 | 3 | 5 | 5 | 5 | 1 | 1 | 1 | 4 | 1 | 5 | 3 | 1 | 1 | 1 | 1 |
| Totals Vertically ^ | Totals Horizontally > | 132 | 124 | 109 | 135 | 92 | 65 | 66 | 82 | 124 | 99 | 103 | 90 | 75 | 951 | 102 | 105 | 95 | 81 | 55 | 55 | 101 | 70 | 102 | 63 | 40 | 37 | 34 | 59 |

Equations used by Dynamic to determine BUSINESS SUCCESS Attributes:

$$
\text { BUSINESS PLAN }=(\text { NPV } \times \text { Growth mix }) \times \text { (Profit from New Technologies } / \text { Cost of those technologies) } \times \text { Cycle-Time-Savings } \times \text { Probability of Success }
$$

EXPLORATION SUCCESS = acres examined (Data Mining) $x$ geologic likelihood (Petroleum System) x acres acquired (Purchasing Strategy) x exploratory targets (3-D Interpretation) x Wildcat Success Rate
RESERVES DEFINITION $=$ time lapse change x acre-ft of pay (including bypassed x porosity $\mathrm{x}(1-S w) *(1-$ Sor/Soi)
DRILLING SUCCESS $=$ well path (stress field) x (drilling and testing) x quality of completion
RODUCTIVITY-OF-WELLS $=$ permeability x height of perf interval x delta pressure $/$ (viscosity x compressibility $\mathrm{x}(\ln$ (radius of drainage) + skin effect)
PRODUCTION-TO-MARKET $=$ GOR (Volume-to-Surface) x (\$bblo $(1-\%$ Sulphur $)+\$ \operatorname{mcf}(1-C O 2)+\$$ bblcondensate $-\$($ Separator Maintenance $)-\$$ (Produced Water Disposal)

General Data to be Collected and Mined with Data Mining

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## Reservoir Geological Data to be Collected and Mined





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\end{tabular}





## Investment Use

The budget for US $\$ 2,000,000$. investment is included on the next page. The largest single expense is for leases (US $\$ 600,000$.), needed to demonstrate the value of Dynamic Technologies with proven discoveries. The second largest expense is US $\$ 480,000$. to tie up 12 month exclusive business relationships within the AOI with a vetted database vendor, the owner of the automated self-classifier, and the owners of advanced seismic pattern finding technologies. The third largest expense is for people (US\$357,000.) Because of the opportunity to participate in the success with a performance bonus or an overriding royalty interest, this work is being done at a full-time equivalent of US $\$ 10,000$. per month (including benefits), which is between $25 \%$ and $75 \%$ of the normal consulting rates of the people committed to work this project. There is a budgeted expense for raising the investment (US\$90,000. calculated as a standard Lehman Brothers fee and US $\$ 60,000$. for the three exploratory wells). Dynamic will license or purchase appropriate data and technology not currently in-house (US\$255,000.+ US\$200,000. for spec seismic data).

Most of the initial data mining and pattern finding will be done on the vetted well database, along with supporting geological and geophysical potential field data sets. Dynamic anticipates most of the new exploration Concepts and Leads will be derived from this data. The primary source of this data is from Richard Nehring and Associates, and Richard has committed to spend about one week per month consulting for Dynamic in order to get the most possible information out of this. Appropriate portions of the Dwight's/PI database (now ISH Energy Group) will be purchased, in addition to needed electric logs from A2D and check-shot and other well data from Velocity Databank. As mentioned above, the best available gravity and magnetics databases will be integrated. There is a small budget for other data and for Travel and Living Expenses for the year.

Based on Concepts and Leads derived from this and related public domain data, Dynamic will turn as many leads as possible, within budget constraints, into drillable Prospects. If the Business Partner has data and properties within the AOI, they are encouraged to make their in-house databases available to the team, in order to maximize the number of Prospects delivered at the end of the study.

Fairfield has DMO P-Wave seismic data available out to about the 100 foot water depth for US $\$ 125,000$. per block in the transition zone. Fairfield is also shooting a multicomponent survey between 100 and 250 feet of water which will be available in April of 2001. This data is priced at US $\$ 325,000$. per block. The pattern finding techniques Dynamic is using will have particularly strong application to these data. Dynamic will only obtain enough data to turn Leads into 20 Prospects within the AOI. Western Geophysical, now part of Schlumberger, Seitel, and other contractors have. The Business Partner will work with Dynamic's management and with the Team Leader in order to insure responsibility to approve and account for all expenditures within the AOI.

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[^1]- URL: http://www.walden3d.com/dynamic • e-mail: dynamic@walden3d.com •

| Dynamike Resources Corporation |
| :--- |
| $\begin{array}{l}\text { Iocatiny replemishing reserves } \\ \text { Description }\end{array} \quad \mathbf{1 Q 2 0 0 1}$ |

Investment | Business Partner(s) \#1 | $\$ 2,000,000$ |
| :--- | ---: |
| Total Inflow | $\mathbf{\$ 2 , 0 0 0}, \mathbf{0 0 0}$ |

Total l nflow $\$ 2,000,000 \quad$ \$0
(1) 12 Month Exclusive Business Relationships within Area-Of-Interest:

 | Automated Self-Classifer |
| :--- |
| Seismic Patterns |
| Total Technology Tie-Up | Total Technology Tie-Up (3) Development of 20 CLPs:

## Sam LeRoy

Ray Kozusko

| Ray Kozuskon |
| :--- |
| Roice Nelson |
| Landman |


| Landman |
| :--- |
| Technical Support |
| Total FTE |

Total at Discounted Rate Lehman Brothers Fee for Capita
ech ructure

| Pattern Finding |
| :--- |
| Immersive Environments |

Data
Collection of Public Data

| Gravity Data |
| :--- |
| Magnetic Data |
| HS Energy Grou |


| Magnetic Data |
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| IHS Energy Group \& A2D |
| Velocity Databank |

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| or TGS Spec Seisme |
| Reprocessing Velocity for | Reprocessing Velocity for

Pressure


## Anticipated Return-on-Investment

Dynamic anticipates generating 20 new exploration Concepts, Leads, and Prospects (CLPs) within a few months of receiving the US $\$ 2$ million investment, to high-grading areas to lease and to leasing enough property to prove the value of this data mining approach.. Of these 20 CLPs, the business partner is expected to select 3 (three), which they will drill as a demonstration project to enable raising a US $\$ 100,000,000$. exploration fund. Updated projections of return-on-investment for these three wells will be part of Dynamic's responsibilities under the funding of the AOI.

Once Dynamic's data mining concepts are demonstrated, and an exploration fund is raised, Dynamic conservatively anticipates being able to discover, on average, 6 new fields each year for five years, with each new field averaging 10 MBOE each. This implies 30 new reservoirs resulting from the exploration fund. Reservoirs in the Gulf Coast AOI have between 5 and 25 million BOE (Barrels of Oil Equivalent). Cutting this average down to 10 million BOE per new field, implies 300 million BOE for the 30 discoveries. Using a discounted price of US\$10. per BOE in the ground, implies the value of will be in excess of US\$3. billion.

On the next page is a Pro Forma Gulf Coast AOI Return-On-Investment Spread-Sheet for the AOI. For US $\$ 100,000,000$. in investment, Dynamic projects a total value in the ground of US $\$ 3,120,000,000$. Offsetting estimated exploration expenditures of US $\$ 204,000,000$. still leaves a net value in-the-ground of US $\$ 2,916,000,000$. Assuming a worst case $40 \%$ tax, and no offsetting expenditures, still works out to a simple return-on-investment of over $1500 \%$ over 10 years, or an average return of about 1.6 -times the initial investment per year. Again, these numbers were calculated based on 30 discoveries averaging 10 million BOE each and depleting these reserves over five years (i.e. 10 million BOE $/ 5$ years $=2$ million BOE / year x US\$10./BOE in the ground $=$ US $\$ 20$ million return per year). This is a very conservative estimate, especially considering (1) the lack of technical focus fields in some parts of the AOI have received over the last few decades due to more exciting subsalt and deepwater plays; (2) the potential of multiple stacked pays in small bypassed fault blocks; and (3) the potential of dynamic replenishment, which means finding reservoirs which do not deplete as traditional reservoirs, and could produce extensive reserves beyond traditional expectations.

Note that because the initial Business Partner receives $20 \%$ of all overriding royalty interests Dynamic generates between year 1 and year 5 , they end up receiving over US $\$ 170,000,000$. for their initial US $\$ 2,000,000$. Investment and the US $\$ 3,000,000$. drilling fund. Using the total US $\$ 5,000,000$. investment, this works out to a return-oninvestment of over $3,300 \%$, or an average return of about 34-times the initial investment per year..

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- URL: http://www.walden3d.com/dynamic • e-mail: dynamic@walden3d.com •


## $\xrightarrow[\text { Aoseliny ruplenishing reserves }]{\text { Whawic Resoarcies Corporalion }}$

| Description | Year 1 | Year 2 |
| :--- | :--- | :--- |
| INV ESTMENTS | $\$ 100,000,000$ |  |
| Investment \#2 |  |  |
| RESULTS: I Ioint Venture Return from New Drilling assuming a budget of US |  |  |

RESULTS: J oint Venture Return from New Drilling assuming a budget of US $\$ 100$ million to
This model ssumes each new field averag
New Hydrocarbon Field 01 at 10 MBOE
New Hydrocarbon Field 01 at 10 MBOE
New Hydrocarbon Field 02 at 10 MBOE
New Hydrocarbon Field 03 at 10 MBOE
New Hydrocarbon Field 04 at 10 MBOE
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 \begin{tabular}{|l|}
\hline Exploration Expenditures <br>
\hline Leases (US $\$ 500,000 /$ field) <br>
\hline

 

\hline Data (US $\$ 1,000,000 /$ year) <br>
\hline Geotech (US $\$ 1,500,000 /$ field) <br>
\hline

 

\hline Drilling (US $\$ 6,000,000 /$ field) <br>
\hline Total Exploration Costs <br>
\hline

 

Total Exploration Costs <br>
\hline Net Value in-The-Ground <br>
Cumulative Net Value

 

Cumulative Net Value <br>
Taxes at $\mathbf{4 0 \%}$ <br>
\hline

 

\hline Cumulative Net After Taxes <br>
\hline Value to Investor \#2 (60\%) <br>
\hline Return Business Partner \#1 (20\%) <br>
\hline

 

Value to Geotechologists (10\%) <br>
\hline Dynamic Value (10\%, 20\% 5 yrs) <br>
\hline
\end{tabular} * Confidential Information *




## Risk

Dynamic has selected the Gulf Coast AOI to focus its new data mining technologies in order to minimize risk. There are hydrocarbons present. There is extensive data available at a reasonable price. The pattern finding and data mining techniques described in this Prospectus are known to work. The primary risks are (1) the relationship of information space technologies to physical reality, and (2) the price of oil.

Dynamic believes its technologies will significantly improve the 50\% drilling success ratio currently enjoyed in this mature petroleum province. A $75+\%$ success ratio minimizes the physical reality risk.

Henry Groppe, who has been watching oil prices for 52 years, expects prices to stay in the range of US\$30./BOE. He notes non-OPEC oil production peaked in 1998. He further states that all of OPEC reached maximum production capacity 10 years ago, except for the United Arab Emirates, Kuwait, Saudi, and Venezuela, and Iraq. Iraq will be the principal incremental producer. Just as prices climbed above $\$ 2 . / \mathrm{BOE}$ decades ago and never dropped below this benchmark again, Groppe expects prices in the future to always be above $\$ 20 . / \mathrm{BOE}$.

As described above, Dynamic will work with the Business Partner to package and sell the CLPs and to obtain a good lease position. Dynamic anticipates an exploration fund Joint Venture business relationship will be formed to exploit CLP defined opportunities. Dynamic's goal in selling these CLPs is to earn a performance bonus or retain an overriding royalty interest equivalent to $2-5 \%$, and then to distribute any bonuses or royalties generated to Investors and professionals who help work up the CLPs. This is a strong motivation for Dynamic to perform as defined in this Prospectus. For example, if Dynamic is successful in selling the top 10 CLPs for an average of $2 \%$ overriding royalty interest, and the discoveries average 5 million BOE, then at a discounted price of US\$10. per BOE in the ground, the value to participants of this AMI is US $\$ 10$ million ( 10 CLPs x 5 million BOE/CLP x \$10/BOE x 2\%). Of this US $\$ 10$ million, The first $60 \%$ goes pro-rata to the investors in the US $\$ 100,000,000$. exploration fund. Then $20 \%$ goes to the initial Business Partner, $10 \%$ remains in Dynamic, and the last $10 \%$ goes to team members who worked up the CLPs.

Additional funds will be raised, if AOI Investors and Stakeholders agree. These funds will become the basis of a separate sub-AOI AMIs, and will be used for more detailed work in some portions of the AOI or for the purchase of leases or fields. The objective is to maximize return on investment for everyone who participates in this Gulf Coast AOI.

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## APPENDIX. Confidentiality and AOI Agreement

To be signed by anyone reviewing AOI data

To: $\qquad$ (Prospective Participant)

## Re: Gulf Coast AOI <br> From: Dynamic Resources Corporation (Dynamic)

Gentlemen:
The purpose of this letter is to establish an understanding and agreement between Dynamic Resources Corporation (herein after referred to as Dynamic) and
$\qquad$ (herein after referred to as "Prospective Participant"), with regards to Dynamic's disclosure of CLPs [Concept(s), Lead(s), and Prospect(s)] within the boundaries of the subject AOI to Prospective Participant and the review of data relevant thereto.

Dynamic is disclosing information and data to Prospective Participant in connection with Prospective Participant's possible interest in negotiating a business transaction with Dynamic. Prospective Participant acknowledges that, but for the information and data disclosed by Dynamic, it would not presently have access to the CLPs and would not at this time be in a position to independently proceed with efforts to drill a well within the Gulf Coast AOI (herein after referred to as the "Property"). Accordingly, in consideration of the disclosure by Dynamic of the Property CLPs and related information and data to Prospective Participant, it is agreed as follows:

1. Prospective Participant shall keep, save and hold as confidential the Property CLPs and all information, studies, compilation, analysis, data, records, maps, interpretations, models, visualizations, and simulations of whatsoever character, kind, or nature relative to the Property (collectively herein after referred to as "Data"), which Dynamic discloses to Prospective Participant.
2. Prospective Participant shall not, without Dynamic's prior written consent, disclose, furnish, nor reveal Data to any individual or entity which is not a party hereto and, similarly, shall not permit or authorize any of its agents, employees, or representatives to disclose, furnish or reveal Data to any individual or entity which is not a party hereto.
3. Prospective Participant, its agents, representatives, and employees shall use the Data solely for the purposes of evaluating or implementing a possible transaction between Prospective Client and Dynamic.
4. Prospective Participant shall be responsible for and shall indemnify and hold harmless Dynamic for any costs, charges, or damages sustained by Dynamic due to any breach of this agreement by Prospective Participant, its agents, representatives, or employees.
5. Notwithstanding the aforementioned provisions, it is agreed and understood that Prospective Participant may disclose any information, studies, compilation, analyses, data, records, maps, interpretations, models, visualizations, and simulations that Prospective Participant may presently have or hereafter may lawfully obtain from any party who legally is entitled to such Data. Prospective Participant may also disclose Data that is filed in public records and may disclose Data in response to a judicial or administrative process from a court or governmental body of competent jurisdiction with lawful authority to demand the production of the same.
6. Prospective Participant agrees to be responsible for enforcing the confidentiality of the Data provided by Dynamic and agrees to take such action, legal or otherwise, to the extent necessary to prevent any disclosure by any of its agents or employees.
7. At any time at the request of the Company and promptly on the conclusion of the Prospective Participant's review of the Data without the requirement of any request therefor, the Prospective Participant will deliver to the Company all the following then in the Prospective Participant's possession or subject to disposition by the Prospective Participant: (I) the originals and all copies of all Data and any extracts or analysis thereof, and (ii) the originals and all copies of all drawings, files, lists, memoranda, notebooks, notes, records, and other documents (including all thereof stored in computer memories or on disks, on microfiche or by any other means) which relate to the Data, whether compiled, made or prepared by the Consultant or by any other person.
8. Prospective Participant recognizes the effort and expense that Dynamic has expended relevant to the Property CLPs to be disclosed and, accordingly, in addition to any equitable or other relief that Dynamic is entitled, if during the term of this agreement Prospective Participant acquires from any party other than Dynamic (a) an interest in the Property, or (b) a right to acquire an interest in the Property, then Prospective Participant shall deliver to Dynamic a $10 \%$ of $8 / 8$ ths overriding royalty interest in the lease or interest acquired on the Property. Such overriding royalty interest shall be calculated on the same basis as the lessor's royalty interest is calculated.

Page 2 of 4
9. Should Prospective Participant, as of the date of execution of this agreement, already have an interest in any lease or leases covering all or a portion of the Property, and should Prospective Participant drill, cause to be drilled, or in any other way participate in any well to develop Dynamic's CLPs, then Prospective Participant shall deliver to Dynamic 5\% of 8/8ths overriding royalty interest in production from the lease or leases owned by the Prospective Participant prior to this agreement or an equivalent performance bonus.
10. In the event Dynamic deems it necessary to initiate any action to enforce Prospective Participant's obligations hereunder, Prospective Participant agrees to reimburse Dynamic, if it prevails, all costs and expenses, including reasonable attorney's fees incurred by Dynamic in this regards.
11. This Agreement shall be construed and interpreted in accordance with the laws of the State of Texas.
12. This Agreement shall inure to the benefit of and bind the respective successors, heirs, representatives, and permitted assigns of the Parties.
13. This Agreement is the full and complete agreement of the Parties with respect to the Confidentiality and AOI Agreement for the Gulf Coast Louisiana AOI Property, supersedes and cancels all prior communications, understandings, and Agreements between the Parties, whether oral or written, expressed or implied, in respect to that subject matter. This Agreement may not be amended, except by a written instrument signed by the authorized representative of each Party.

The provisions of this agreement shall remain in force and effect for a period of two (2) years from the date of this agreement or until all of the Property is no longer under lease, whichever is sooner. If during the term of this agreement Prospective Participant should acquire the right to acquire or earn an interest in the Property, or a lease or other interest in all or part thereof, the above referenced overriding royalty or performance bonus shall be assigned to Dynamic within forty-five (45) days of acquisition of the aforesaid right or interest by Prospective Participant.

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Please indicate your acceptance of the terms and conditions expressed herein by signing this agreement in the space provided below and returning an original executed copy to Dynamic.

Sincerely,
H. Roice Nelson, Jr.

Finder
Dynamic Resources Corporation
AGREED and ACCEPTED
This $\qquad$ Day of $\qquad$ (Month), $\qquad$ (Year)

Prospective Participant
By: $\qquad$
Title: $\qquad$
Company: $\qquad$

## APPENDIX. Confidentiality and AOI Agreement

Executed copy to be returned to Dynamic Resources Corporation

To: $\qquad$ (Prospective Participant)

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This $\qquad$ Day of $\qquad$ (Month), $\qquad$ (Year)

Prospective Participant
By: $\qquad$
Title: $\qquad$
Company: $\qquad$

## Technology Supplement 1:

## Example from Baseball of Self-Training Classification

An Example from Baseball Analysis of the hitting statistics of Baseball players is a useful way to demonstrate the strengths of the automated self-classification technology. In addition to ready availability of statistical data, there is a consensus regarding types of players and the value of each type. Therefore this context serves a means to understand and verify the significance of our results. The data consists of the detailed hitting statistics of a sampling of baseball players including members of the Hall of Fame, current players who bear promise of being elected to the Hall of Fame, as well as a sample of players new to the major leagues. For many of the more famous players, their entire career, year by year, has been entered. The data for each player's year includes six measures of batting prowess. A batting average includes two parts. If a player bats, say, .300 , he also has an "out" average of .700 . The data includes all the components of the batting average, the components of the batting average arising from singles, doubles, triples, and home runs plus two components of the "out average', strike outs and nonstrikeouts. This yields six variables that can represent the hitting of a player in each season. These six variables do not exhaust those available in baseball in that similar numbers are available in terms of fielding performance, walks, etc. However we will use the smaller set of variables because the analysis started to evolve for us from a demonstration to an obsession. We show that all of the outfielders can be classified in terms of four "archetypes". Of course no single player may be a pure type but commonly is a hybrid between two or more types.

Table I Archetypal Players*

|  | Player 1 | Player 2 | Player 3 | Player 4 |
| :--- | :--- | :--- | :--- | :--- |
| Singles | 26.2 | 0 | 0 | 18.9 |
| Doubles | 5.2 | 0 | 0 | 7.1 |
| Triples | 0 | 0 | 16.2 | 0 |
| Home Runs | 0 | 6.8 | 0 | 9.6 |
| Strikeouts | 0 | 93.2 | 83.8 | 0 |
| Other Outs | 68.6 | 0 | 0 | 64.4 |

* Note: Values in percentage. The sum of the first four rows in any column $=$ batting average.
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The object of the analysis is not to necessarily provide new insights into baseball but to illustrate the validity of automated self-classification analysis capabilities within a wellknown framework. We argue that any business-related data will similarly be easily interpretable with the customary framework shared by business executives. Table 1 lists the batting attributes of four archetypal players. Baseball addicts can easily describe each archetype.

In the paragraphs below we discuss the characteristics of each archetypal player and compare their resemblance to actual players. Before this, however, we point out that many archetypes share common characteristics but to different degrees. Both Players I and 4 do not strike out but have dissimilar batting averages (. 314 and .356 respectively). Player 1 is a singles hitter and Player 4 hits for extra bases. Both Player 1 and 4 hit about the same number of doubles. Players 2 and 3 tend to strike out as opposed to flying out. Both have miniscule averages ( 0.007 and 0.016 respectively) but player 2 tends to hit home runs and Player 3 hits triples. Player 2 is the only archetype that hits triples, which is a result of superior base running speed.

## Player 1

Player 1 (column 1, table 1) has a batting average of .314 (the sum of rows $1-4$ in column 1 , table 1). The batting average is composed of singles (.262) and doubles (.052). Player 1 flies out but never strikes out. The real player resembling Player 1 most closely is Pete Rose, especially in the latter part of his career. In fact, Rose actually is located at a vertex of the classification tetrahedron in 1983 (a value of 1.00 Player 1) and so defines Player 1.

Other players with high degrees of Player 1 include John Cangelosi, Tony Gwynn and Lou Brock. Cangelosi has been consistent in this regard for his entire career examined in this analysis (1986-1998) having a greater than 0.8 resemblance, whereas both Gwynn and Brock display some variability over time. Tony Gwynn has strongly resembled Player 1 in some years (e.g. 1982-1986, 1990-1993, 1995-1995) where his score on Player 1 is about 0.8 . In the intervening years his score declines coincident with a significant rise in his resemblance to Player 4 (Hall of Fame Superstar, as discussed below). Lou Brock, in contrast, has only an intermediate degree of resemblance to Player 1 in his early years (.5-.7) along with a relatively strong resemblance to Player 2 (.1-.15, strikes out a lot). In his later years his resemblance to Player 1 soars (.8-.9) as his resemblance to Player 2 decreases. Players with very low resemblance to Player 1 (>O.I) are generally superstars at the height of their careers: Greg Vaughn (0.08, 1996 (before and after his trade from Milwaukee to San Diego), Sammy Sosa (0.08,1996 and $0.00,1998)$ and Willy Mays ( 0.00 1995, $0.081962,0.061964$ and 0.02 in 1965).


## Player 2

Player 2 represents an archetype that is impossible to exist in pure form in the Major Leagues. Player 2 hits exclusively home runs but has an abysmal batting average ( 0.007 ) and strikes out rather than flies out. Players who have a relatively high resemblance to Player 2 include Willy Mays, Reggie Jackson and, in some years, Sammy Sosa. Thus all tend to strike out if they don't hit the home run. They differ significantly from Joe DiMaggio and Ted Williams who have very low resemblance to Player 2.

## Player 3

Player 3 in his pure form has never existed in the Major Leagues. He is purely a triples hitter with a modest batting average of 0.162 . Generally, hitting a triple requires superior base running speed and so achieving a triple is more than a function of just power hitting. The actual player most resembling Player 3 is Willy Mays in 1958 ( 0.21 ) and it is not a coincidence that Mays is second in triples in the major league record book (behind Mike Tieman) and led the league, in stolen bases during four seasons. The high value for Mays for Player 3 as well as a high resemblance to Player 4 (home run superstar) indicates the uniqueness of Will Mays. Other players with similar values of Player 3 include Joe DiMaggio and Lou Brock.

## Player 4

Player 4 is the archetype of the baseball superstar. He has a batting average of 0.359 and hits more home runs than any other archetype. He however never hits triples indicating a lack of speed on the bases. Only when combined with significant values of Player 3 does he become the epitome of a hitter. Of all hitters, Ralph Kiner most resembles Player 4. In 1949 he essentially was Player 4 with a value of 0.93 . If we combine his scores that year with Player 3, Kiner achieves a score of 1.00 , which by these standards makes him the greatest hitter in the set of players analyzed. Bill James in The Historical Baseball Almanac echoes this evaluation. Other players who strongly resemble Player 4 include: Greg Vaughn (I998), Joe DiMaggio (entire career), Willy Mays (1954-1965), Ted Williams and Mel Ott (1929).

Most of the Major League Players can be considered to be mixtures of archetypes 1,2, and 4. The player who represents the most uniform blend of these three archetypes is Reggie Jackson, "Mr. October', one of the most maddeningly inconsistent stars in baseball. Jay Buhner is a similar mixture but unfortunately has been unable to display the late season spud of Jackson.


Discussion
From this demonstration we can see that successful players are not alike with respect to a single characteristic but that they all contain high amounts of various combinations of three of the four archetypes. Some players are binary mixtures (Sosa), while others may contain significant amounts of Player 1 (the journeyman) but like DiMaggio, achieve maximum values in other categories (Player 2, the home run king). Comparison between players can turn up surprises. For instance, in terms of hitting, both Joe DiMaggio and Ralph Kiner are similar but the values suggest that Kiner was the better hitter. Kiner, albeit in the Hall of Fame, has garnered little recognition because, we imagine, he played for Pittsburgh and did not have the luxury of having played for the storied Yankees. Any two players can be compared on the basis of the relative amounts of only four archetypes. Commonly, the number of archetypes does not increase as rapidly as the number of variables. That is, if we further refine the at-bat record by including bunts, sacrifice flies, hitting into double plays, advancing the runner, etc., the number of archetypes will change little, if at all. In many cases, a characteristic that is "minor' to a statistician can be of major importance in the "real" world whether it be baseball or commerce. For instance, the maximum value of Player 3 (triples) is 0.13 for Willy Mays (I952) and Mays consistently scored above 0.05 in this category. The reason for the low variance is that triples are a rare event in any baseball game and so do not account for much of the batting average. In statistical jargon, this characteristic absorbs little variance and so is likely to be ignored in variance-driven decision making. Yet this characteristic alone, serves to differentiate Mays from all of the other players in the analysis.

The logic behind this demonstration can be easily generalized into a number of business related situations. A balance sheet subdividing revenues and expenditures by category by month or year is an exact analogy to the baseball example. The spending decisions of customers are another. Comparing a set of companies within an industry is yet another. A business can be classified in terms of archetypal units of income and expenditure and the "mix" of archetypes can be monitored continuously. Similarly, customers can be classed in terms of archetypal membership (derived from the data itself.) and this, in turn, can be used to predict their future behavior. The gist of this report is that this technology represents a new way to evaluate data complexes and to report the data in a fashion that is simple and understandable to decision-makers.

## Relevance of the Baseball Example to Hydrocarbon Exploration

Simply change baseball players to oil and gas reservoirs, and baseball statistics to production histories, properties of produced fluids and gasses, decline curves, results of Drill Stem Tests, stratigraphic tops, gravity data, magnetic data, seismic data, etc. The same type of patterns, groupings, and classifications as were derived in the baseball example will naturally fall out of the data. Remember, a key concept being pursued is that data is deterministic, in that it does speak, and data is a precursor to decision making. Understanding the structure of and relationships within data results in better decisions.

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