Petroleum Scoring Assessment Guidelines

Section/Region: _____ **University:** _____

Judge's Name: _____

INTRODUCTION AND TEAMWORK (5 marks)
(Includes presentation format and executive summary)
The concept of the competition is to have each team interpret a dataset and make a robust technical industry-style presentation of the assigned basin, or area within the basin, demonstrating results of the assessment of the hydrocarbon including regional geology, hydrocarbon systems, plays and prospect concepts. The introduction is important to setting the stage for the presentation. Judges should have a clear idea of what will be presented so they can begin to form an understanding of the effectiveness of the team's presentation style. Judges will also look for evidence of teamwork and interaction in their work and presentation. High quality teamwork should manifest itself in the quality of interpretation and presentation. All the team members should participate equally.

REGIONAL CONTEXT (10 marks)
(Includes geodynamics: plate tectonic setting, regional and environmental context, sedimentary basin classification; regional paleogeography; analogues for play elements and fields)
This is an important section as the understanding of the play concepts will be influenced by the understanding of the regional geology. Look for the team to demonstrate a strong understanding of the regional tectonics, how the basin formed, filled, and evolved through time and how this relates to the hydrocarbon and geothermal systems and play elements.

INTEGRATED ENERGY SYSTEMS ANALYSIS (25 marks)
(Includes play-scale source/seal/reservoir analysis, with generation/migration and trap formation, summarized with play element and composite maps, seismic interpretation, well log interpretation and correlation, regional stratigraphy, depositional environments, sequence stratigraphic framework, source and seal presence and quality, subsidence and heat flow history and source rock maturation/hydrocarbon migration, formation evaluation and evaluation of reservoir presence and quality)

This section is where the team demonstrates the ability to incorporate the interpretation and understanding of regional controls into an integrated understanding of the petroleum, geothermal and potential emissions storage systems, which might include multiple plays. The team should be able to discuss the essential elements of the source, seal and reservoir and how they relate to the essential processes of burial, generation, migration, entrapment and preservation, all within a proper temporal arrangement. The integrated interpretation should be presented in easily understood documents which should include play element maps and play composite maps.

WELLBORE & ANALOG ANALYSIS (10 marks)
(Includes subsurface fluids, pressure/temperature regimes, field analogs and hydrocarbon dry hole analysis). Teams should have analyzed the existing wells and be able to explain the existing hydrocarbon

occurrences and reservoir quality and conditions as well as demonstrate an understanding of the hydrocarbon dry holes and potential reasons for failure. Play maps must be consistent with all hydrocarbon occurrences and dry holes. Look for quality and consistency of the interpretation based on sound geologic concepts and models.

PROSPECT EVALUATION AND RISK ASSESSMENT (20 marks)

(Includes seismic and well log interpretation, prospect scale evaluation of seal presence and quality, structural and stratigraphic analysis of traps, formation evaluation, reservoir presence and quality, prospect evaluation and risk and volumetric analysis) Risk assessment presents an opportunity for the team to demonstrate the depth of understanding of the plays and prospects. Look for consistently applied logic when they are discussing their risk assessment. The best teams will demonstrate an understanding of both play and prospect risk and their interdependence. Volumetric assessment should reflect risking logic and quantitative abilities. Technical recommendations should reflect the overall analysis of the play and/or prospects (teams should recognize that 'prospects' that have already been drilled are not prospects), risking logic and volumetric assessment. Teams should make recommendations for future technical work, data acquisition, exploration strategy, etc. An economic evaluation is not recommended in the Rules and Regulations and should not be included.

PROJECT SUSTAINABILITY (5 marks)

A review of measures to mitigate the social and environmental impact of any proposed project and to achieve the sustainability goals of the United Nations. Examples include (inter alia) mitigation of carbon dioxide and methane emissions, sustainable power generation of exploration and production facilities and low emission transportation of products. Where possible, teams are encouraged to acquaint themselves with potential impact of hydrocarbon E&P activities on the local communities and propose good will projects to cater for their needs in health, education, clean water supply and local infrastructure and electrification needs.

CREATIVITY AND INNOVATION (10 marks)

(Includes play and prospect evaluation) Teams should think beyond the plays that have already been tested in the area and develop new play concepts (conventional and unconventional where appropriate) and /or alternative resources, such as geothermal energy. Look for evidence that teams have predicted new play concepts away from the current well control using their geological knowledge, and that they characterize the risk of untested plays.

QUESTION AND ANSWER SESSION (15 marks)

The ability of the contestants to effectively answer technical questions takes them beyond the prepared work and influence of their advisors. This often allows the best teams to distinguish themselves. Asking effective questions that allows the teams to demonstrate their teamwork and depth of understanding of their area is a critical responsibility of the judges.

OVERALL ASSESSMENT (100 marks)

The overall assessment should reflect the verbal summation and discussions of the judges based on their impression of the team with respect to the overall technical quality of the work, the quality of the presentation, how well the team handled questions, and the individual summary sheet filled out by the judges. This summary should be the basis for the overall ranking of the teams as well as any feedback you would give to the team. Throughout the presentation teams should make clear what they have generated versus what they have obtained through literature. Slides should be clear and uncluttered with all figures including adequate labeling, scale bars etc. Presentation style and delivery are important but should not overshadow the quality of the technical work and original/innovative thinking shown by the teams.

Note: If a judge has technical knowledge of the area a team has evaluated, the judge should base the evaluation on the overall quality of the team's technical work and presentation, not on how close the team's interpretation came to the judge's interpretation of the area. A judge can serve as a judge for a team from their alma mater without restrictions but must remain impartial.