. OIL AND GAS RESOURCE POTENTIAL OF THE KOOTENAY AREA OF BRITISH COLUMBIA

by

Peter Hannigan, P.J. Lee, K.G. Osadetz and K. Olsen-Heise

Petroleum Resources Subdivision

Institute of Sedimentary and Petroleum Geology

Geological Survey of Canada

3303 - 33 Street N.W.

Calgary, Alberta

T2L 2A7

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SUMMARY

There are sixteen exploration hydrocarbon plays identified in the Kootenay area of southeastern British Columbia. The plays are:

1. Waterton Colorado Foothills Gas Play,
2. Waterton Mannville Foothills Gas Play,
3. Waterton Mannville Foothills Oil Play,
4. Waterton Rundle/Wabamun Foothills Gas Play,
5. Kishenehn Tertiary Graben Gas Play,
6. Kishenehn Tertiary Graben Oil Play,
7. MacDonald Paleozoic Structural Gas Play,
8. Fernie-Elk Valley Mesozoic Structural Gas Play,
9. Fernie-Elk Valley Paleozoic Structural Gas Play,
10. Rocky Mountain Trench Cenozoic Graben Gas Play,
11. Belt-Purcell Immature Structural Oil Play,
12. Belt-Purcell Immature Structural Gas Play,
13. Belt-Purcell Conceptual Structural Oil Play,
14. Belt-Purcell Conceptual Structural Gas Play,
15. Belt-Purcell Speculative Structural Oil Play, and
16. Belt-Purcell Speculative Structural Gas Play.

The Waterton Colorado, Waterton Mannville Oil and Gas, Rocky Mountain Trench Gas, and Belt-Purcell Oil and Gas Plays are all immature and have minor historical production. The Waterton Rundle/Wabamun Gas Play is a mature play with abundant production principally in Alberta. The remaining nine plays have no established reserves or production and are, therefore, conceptual. The Belt-Purcell Conceptual and Speculative Oil and Gas Plays were not assessed here because of the lack of relevant information. All other plays were assessed using current practices employed at the Petroleum Resources Subdivision of the Geological Survey of Canada.

The Waterton Colorado Foothills Gas Play is located in the Foothills Belt of the Western Canada Sedimentary Basin. The play covers an area of southwestern Alberta, northwestern and west-central Montana as well as southeastern British Columbia. Two gas pools have been discovered in deformed Colorado Group sediments in the play. A total mean play resource of 6.7×10^9 m^3 (238 BCF) of raw gas in place is inferred.

Similarly, the Waterton Mannville Foothills Oil and Gas Play is found in the Foothills Belt of Alberta, British Columbia and Montana. Three gas and two oil pools have been discovered in Alberta. These pools have been delineated within deformed Lower Cretaceous rocks. Total mean play resources for oil and gas is 78×10^6 m^3 (491 million barrels) and 11.9×10^9 m^3 (422 BCF), respectively.

Sufficient production has been attained in the Waterton Rundle/Wabamun Play to classify it as a mature play. The play virtually covers the same area as the previous Foothills plays. Deformed Paleozoic carbonates prove to be excellent reservoir rock for the accumulation of gas. The total expected resource is 225.9×10^9 m^3 (8 TCF) of gas. The largest pool has already been discovered in the play (79.5×10^9 m^3 (2.8 TCF)).

There is a distinct risk attached to the existence of each of the conceptual plays. The Kishenehn Tertiary Graben Oil and Gas Plays are located in the valleys of the Middle and North Forks of the Flathead River in southeastern British Columbia and northwestern Montana. A high probability that this play exists is illustrated with a play-level risk of 0.90. If the play exists, a mean play potential of 17.9×10^9 m^3 (632 BCF) and 60.7×10^6 m^3 (382 million barrels) have been computed for gas and oil, respectively. The largest inferred median pool sizes in these plays are 3.1×10^9 m^3 (109 BCF) and 9.1×10^6 m^3 (57 million barrels) respectively.

The deformed sediments that are incorporated within the MacDonald Paleozoic Structural Gas Play underlie the Tertiary sediments in the Kishenehn Graben and outcrop to the west of the graben. There is a 0.50 probability that the play does not exist, as reflected in potential problems associated with seal due to outcropping of potential reservoir material and timing of deformation with respect to hydrocarbon generation. The mean play potential has been predicted to be 3.4×10^9 m^3 (121 BCF) while the median of the largest pool size is calculated to be 1.8×10^9 m^3 (64 BCF).

The Fernie-Elk Valley Mesozoic Structural Gas Play consists of Mesozoic sediments that are found in the Fernie Basin and Elk Valley of southeastern British Columbia. There is a 0.20 probability that this play does not exist principally due to seal problems as a consequence of the outcropping of potential reservoir material. The ultimate mean play potential is 203×10^6 m^3 (7 BCF) of gas. The median of the largest pool size has been predicted to be 81.4×10^6 m^3 or 3 BCF.

The Paleozoic play in the Fernie Basin and Elk Valley is located in southeastern British Columbia as well. A 10% chance that the play does not exist has been assigned here, principally due to problems associated with the timing of hydrocarbon generation with respect to structure formation. Seal is less of a risk because the Paleozoics are less likely to outcrop. The expected mean play potential is 5.1×10^9 m^3 (182 BCF) while the median of the largest pool size is expected to be 1.5×10^9 m^3 (53 BCF).

The Cenozoic gas play in the Rocky Mountain Trench has been classified as an immature play because minor production of biogenic gas has been recorded near Flathead Lake in Montana. The ultimate mean play potential is $849x10^6$ m^3 (30 BCF). It is expected that the play is not significant because the gas pools would be very small.

The Belt-Purcell Immature Structural Oil and Gas Plays constitute one of the oldest exploration plays in Western Canada. Oil was produced at one time from Oil City in Waterton National Park. Although the play-level risk is non-existent, individual prospects would have much higher risks because production seems to be exclusively involved with secondary fracture porosity. Primary porosity has been eliminated due to Precambrian metamorphism. The ultimate mean play potential is estimated to be $4.5x10^6$ m^3 (28 million bbls.) for oil and $622x10^6$ m^3 (22 BCF) for gas. The largest median pool sizes are $8x10^5$ m^3 (5 million bbls.) and $118x10^6$ m^3 (21 BCF) respectively.

The total oil and gas potential for the entire Kootenay area is $143x10^6$ m^3 (901 million bbls.) and $272.7x10^9$ m^3 (9.6 TCF), respectively.

INTRODUCTION

In October 1992, John MacRae, Director of the Petroleum Geology Branch of British Columbia's Ministry of Energy, Mines and Petroleum Resources requested that the Institute of Sedimentary and Petroleum Geology of the Geological Survey of Canada assess the hydrocarbon potential of certain sedimentary basins in British Columbia. Consequently, an assessment of the sedimentary basins surrounding Vancouver Island was completed and submitted to the Ministry in January, 1993. That work constituted Phase I of the information requested by the Ministry. This report deals with Phase II, which describes the results obtained from an oil and gas assessment of the Kootenay area of southeastern British Columbia. Results from these assessments are to be employed by British Columbia's Commission on Resources and Environment, which is currently performing a detailed land-use planning study of selected areas in the Province.

G.S.C. hydrocarbon resource assessments are computer-generated by an internally formulated statistical program known as PETRIMES (Lee and Wang, 1990). These assessments can be applied to mature, immature and conceptual hydrocarbon plays. A play is defined as a family of hydrocarbon pools or prospects with similar histories of hydrocarbon generation and migration as well as similar trapping mechanisms and reservoir configurations. A mature play has sufficient discoveries and pool definitions for analysis by the "discovery process model" while an immature play has too few discoveries to allow analysis by this method. A conceptual play has no defined pools, just prospects.

Most of the plays in this assessment were defined as either conceptual or immature and the pool-size distributions were generated using probability distributions of geological variables substituted into the standard pool-size equation.

Following compilation of pertinent geological information in the Kootenay area as well as adjacent Montana (see reference list), 16 potential geological plays were recognized. Five of these plays have oil potential while the remainder have gas prospects. In addition, four of the plays have been defined as occurring within the Foothills Belt of the Western Canada Sedimentary Basin. The boundaries of these Foothills plays are illustrated in Figures 1-3. As illustrated on these play maps, only a small wedge of territory in southeastern British Columbia is included in the areal extent of the Foothills plays. The Foothills plays described in this report are the Waterton Colorado Gas, Waterton Mannville Oil and Gas and the Waterton Rundle/Wabamun Gas. The major proportion of the area covered by these plays is found in Alberta and Montana.

The Foothills Belt within the Western Canada Sedimentary Basin consists of a large volume of sediments occupying the area directly east of the Cordillera from southwestern Northwest Territories through northeastern British Columbia, west-central and southwestern Alberta, and northwestern and west-central Montana.

There are also five intermontane sedimentary basins in the Kootenay region which accommodate the remaining eleven exploration hydrocarbon plays (Figures 1-3).

Two plays in Tertiary sediments are recognized in the intermontane sedimentary basin called the Kishenehn Graben which is located in the Flathead River Valley in B.C. and northwestern Montana (see Figure 1).

Paleozoic sediments occurring in the hangingwall of the Flathead normal fault are basinal deposits. The sediments filled a Paleozoic basin and subsequent to thrusting now underlie the Kishenehen Tertiary sediments and outcrop west of the Graben in the MacDonald Dome. One potential gas play has been recognized in these rocks (Figure 2).

Another sedimentary basin occupied by both Mesozoic and Paleozoic sediments is known as the Fernie and Elk Valley Basin. This basin occurs north of the Kishenehen Graben in the vicinity of the town of Fernie and north into the Elk River Valley. Two potential gas plays are present (Figures 1&2).

Further west is another major graben feature known as the Rocky Mountain Trench that contains potential hydrocarbon-bearing sediments (Figure 1).

The largest sedimentary basin in the Kootenay area occupies a very large area of southeastern British Columbia, extreme southwestern Alberta, a large portion of western Montana and parts of northern Idaho. These sediments are of Proterozoic age and are known as the Belt-Purcell Series of rocks (Figure 3).

Sixteen plays were defined in this area. They are the:

1) Immature Waterton Colorado Foothills Gas Play,
2) Immature Waterton Mannville Foothills Gas Play,
3) Immature Waterton Mannville Foothills Oil Play,
4) Mature Waterton Rundle/Wabumun Foothills Gas Play,
5) Conceptual Kishenehn Tertiary Graben Gas Play,
6) Conceptual Kishenehn Tertiary Graben Oil Play,
7) Conceptual MacDonald Paleozoic Structural Gas Play,
8) Conceptual Fernie-Elk Valley Mesozoic Structural Gas Play,
9) Conceptual Fernie-Elk Valley Paleozoic Structural Gas Play,
10) Immature Rocky Mountain Trench Cenozoic Graben Gas Play,
11) Belt-Purcell Immature Structural Oil Play,
12) Belt-Purcell Immature Structural Gas Play,
13) Belt-Purcell Conceptual Structural Oil Play,
14) Belt-Purcell Conceptual Structural Gas Play,
15) Belt-Purcell Speculative Structural Gas Play, and the
16) Belt-Purcell Speculative Structural Oil Play.

GEOLOGICAL SETTING AND PLAY PARAMETERS

Waterton Colorado Foothills Gas Play

This play is located in the Foothills Belt of southwestern Alberta, extreme southeastern British Columbia, and northwestern and west-central Montana (see Figure 1). The stratigraphic interval of interest includes Lower to Upper Cretaceous sediments within the Colorado Group and equivalents.

During compilation of geological information for the study of the oil and gas potential of the Foothills Belt at the ISPG, it was recognized that there are five major geographic areas. Oil and gas pools that exhibit similar gross structural characteristics were grouped into a single geographic area. The southernmost geographic area defined within the Foothills Belt is called the Lewis Thrust Geographic Area. Sediments east of and/or directly related to the Lewis Thrust in Canada and Montana as well as the Eldorado and Lombard Thrusts in Montana are considered to occur in the Lewis Thrust Geographic Area. The four Foothills plays in this assessment are found in the Lewis geographic area.

The eastern limit of Colorado Group thrusting defines the eastern boundary of the Waterton Colorado Play. The Waterton Colorado Foothills Gas Play covers an area of approximately 35075 square kilometres of which about 1540 square kilometres is located in British Columbia (4.4% of the total area)(see Figure 1). Three hundred and nineteen exploratory and development wells have penetrated the Colorado Group rocks in the play. Two gas pools have been defined which would classify the play as immature. These pools were fortuitously discovered in the Waterton Field of southwestern Alberta since the major target was deeper Mississippian and Devonian carbonates. The gas was found in Cardium sands and total raw gas in place of the two pools has been calculated to be 199 million cubic metres (ERCB, 1990). Hall's study of the Waterton Field (1969) illustrates the overthrusting of Mississippian sediments onto younger rocks consequently forming hydrocarbon traps in the Mississippian carbonates. The younger Cardium sands would also be affected similarly, thus forming hydrocarbon traps in the sands. Bruce and Frey, 1982 indicate thrusting of Cretaceous rocks in their structural geological cross-sections in the Waterton Field. Simple and complex thrust faulted anticlines seem to be the principal trapping regime in the Foothills of southern Alberta.

The Colorado Group sediments vary greatly in thickness throughout the Waterton Colorado Play. In the Crowsnest Pass area, Colorado or Alberta Group sediments range from 378 to 830 metres thick of which the principal reservoir sand (Cardium) varies from 3 to 90 metres (Norris, 1971). Therefore, potential reservoir sands would make up approximately 1 to 25% of the total succession.

Herr, 1967, Wall and Rosene, 1977, Rice and Cobban, 1977, and Vielle and Harris, 1965 all discuss the stratigraphy of the Upper Cretaceous succession in the play area. Structural studies of these rocks are found in Bruce and Frey, 1982, Price, 1962a, 1965, Bally, Gordy and Stewart, 1966, and Dahlstrom, 1970.

Geological risks are important components in immature and conceptual play assessments. Play-level risks consider the existence of adequate source rocks, seals, migration conduits, and the timing of trap formation with respect to hydrocarbon generation. The fact that two gas pools have been defined would indicate that all play-level risks have been satisfied and the play exists. The above risk factors can be assigned to individual prospects, however.

Waterton Mannville Foothills Gas Play

The Waterton Mannville Play essentially occupies the same area as the previous play but involves older rock of Lower Cretaceous age (Mannville or Blairmore Group sediments)(see Figure 3). The eastern boundary is located west of the eastern boundary of the Colorado play. The westward movement of the eastern boundary down-section characterizes the Foothills Belt in this area. Thrusting associated with the Laramide orogeny pushed older rocks in an easterly or cratonward direction over top of younger sediments. Since these thrusts cut up-section in the direction of transport, the boundary limiting deformed rocks in the Foothills from flat-lying rocks in the Plains would move west as one goes down-section. The Waterton Mannville Play occupies an area of 33850 square kilometres of which 1540 or 4.5% is found in southeastern British Columbia (Figure 3).

A total of 280 exploratory and development wells have intersected the Mannville Group succession in this play area. Three gas pools have been defined in the play, all in Alberta (ERCB, 1990). Two pools were discovered in the Todd Strike Area while the other was found in the Waterton Field. Douglas, 1950 notes abundant thrust faults in Lower Cretaceous rocks in his structural cross-sections. Total raw gas volume recorded in this play is 459 million cubic metres (ERCB, 1990).

The Mannville or Blairmore Group of Lower Cretaceous clastic strata varies widely in thickness. For example, in the Crowsnest Pass area of Alberta, thickness varies from 375 to 2015 metres. Important reservoir examples are the Home sandstone member and the Dalhousie Formation (equivalent to Cadomin). One gas pool was defined in the Cadomin in the Waterton Field. The two remaining pools at Todd were listed as Blairmore accumulations. A general discussion of the stratigraphy and sedimentology of the Cadomin Formation is presented in McLean's paper, 1977. A discussion of Cretaceous stratigraphy in Glacier National Park is found in Rice and Cobban's paper (1977).

The existence of three gas pools satisfies all of the play-level risk factors so the play definitely exists. Any risk should be assigned to the prospect level only. The play is classified as immature.

Waterton Mannville Foothills Oil Play

This play covers the same area as the Mannville gas play and involve the same package of rocks. Two oil pools have been discovered and defined in the play. The oil pools were found in the same discovery well in the Pincher Creek Field in the Lower Mannville succession. Oil in place is $454.6x10^3$ m^3 (2.86 million bbls). These oil pools are gas-free and structurally-controlled. The Dalhousie sand of the Mannville Group is probably the main reservoir sand in the Cretaceous clastic succession.

The discovery and definition of two oil pools in the play classifies it as immature.

Waterton Rundle/Wabamun Foothills Gas Play

This Foothills play covers approximately the same area as noted previously in the other Foothills plays (Figure 2). It occupies an area of approximately 31750 square kilometres with 1540 square kilometres occurring in southeastern British Columbia (about 4.9% of the total area). A total of 232 exploratory and development wells penetrated the Mississippian and/or Devonian succession. Twenty-six gas pools in eight fields were defined in the play. Included are two large carbon dioxide-rich gas pools discovered by Shell in the Sage Creek area of British Columbia. The total in-place raw gas reserves defined in British Columbia is $17x10^9$ m^3 (600 BCF) while the total reserve for the entire play is $185.6x10^9$ m^3 (6555 BCF).

Porous Paleozoic carbonates are the principal target for gas exploration in the Foothills Belt of southern Alberta and western Montana. Dolomites found in the Mississippian Turner Valley Formation are the dominant reservoirs in the area. Trap configuration is commonly represented by structural thrust-faulted anticlines. Possible source beds are found in Devonian rocks generally associated with reef complexes, the Lower Mississippian Exshaw Formation, the Jurassic Fernie Formation and shales in the Cretaceous succession. Migration of hydrocarbons has occurred in the play through fault pathways. Seal is provided by the numerous interbeds and overlying sequences of shale and non-porous limestones. Average pay thickness in the Pincher Creek Field is 116 metres. At the Waterton Field, it averages 46 metres. Average porosity at Pincher Creek is 4.2% while at Waterton it averages 5.7% (Norris and Bally, 1972).

Sufficient discoveries have been made in this exploration play to classify it as mature. Therefore, the "discovery process model" can be used for retrieving the gas potential (Lee and Wang, 1990).

Kishenehn Tertiary Graben Gas Play

The Kishenehn Tertiary sediments fill a half-graben that occupies the valleys of the North Fork of the Flathead River in southeastern British Columbia and the Middle Fork in northwestern Montana along the western boundary of Glacier National Park (Figure 1). It covers an area of 1350 square kilometres of which 235 square kilometres or 17% of the territory is found in British Columbia. Possible targets for hydrocarbon accumulations include Early to Late Oligocene rocks. These rocks were deposited in fluvial and lacustrine depositional environments.

A total of nine wells have been drilled to date in the basin. At least four gas shows have been reported in four of the wells. Frequently, the old drilling reports are not quantitively accurate in the exact number of shows discovered in the wells. Therefore, the number of shows indicated in this report may err on the low side.

The total thickness of the Tertiary succession has been estimated up to 5000 metres (Constenius et al, 1989, R.D. McMechan, 1981, Curiale and Sperry, 1987). P.B. Jones, 1969a cites a thickness of 4700 metres. Sediments where sands and conglomerates are sufficiently porous and permeable to be classified as reservoir material seem to occur in the upper 1500 metres of the Oligocene sedimentary package.

Prospects can be found in traps formed by small-scale antithetic normal and reverse faulting within the Kishenehn extensional basin. Sandstone and conglomerate pinchouts and facies changes may produce stratigraphic traps as well. The lack of available seismic data made the inference of the area of closure as well as vertical relief of the traps poorly constrained. Appraisals of area of closure were made by using geological analogues. The largest closure estimated in this play was 5 square kilometres while the smallest could be 0.5 square kilometres (see Appendix 1). The total area under closure in the basin is gauged to be in the order of 700 square kilometres.

Porous sands and conglomerates are both thick and thin and usually stacked. These porous zones range in thickness between one to thirty metres. The proportion of potential reservoir material varies widely within the basin (1 to 45%). Porosity in reservoir zones seem to vary between 8 to 25% with average values in the 8 to 12% range. There seems to be no evidence for secondary fracture porosity in this play.

Excellent source rock potential for gas is present in the Kishenehn Basin. Organic-rich shales are the predominant gas source in the area. Type I, II and III kerogens have been observed throughout the basin (Curiale, 1987). Vitrinite reflectance (Ro) ranges from 0.27 to 0.51 in the basin. The TOC ranges from 0.1 to 50% with an average of 6%. The average HI has been observed to be 550 mg/g. These organic geochemistry values indicate that the potential for source rock in the basin is excellent, though thermally immature. Although thermal maturity data signifies that temperatures were not high enough for hydrocarbon generation on the western border of the basin (Curiale et al, 1988), burial by a thick succession of sediments in the centre would provide sufficiently high temperatures for the generation of hydrocarbons.

Most of the deformation that established the general framework of the intermontane basins in the area occurred during the Upper Cretaceous to Paleocene time interval (Constenius, 1982, and Mudge, 1982). The Kishenehn basinal structure was formed as a consequence of Lewis thrusting. Subsequent to thrusting, the Flathead listric normal fault system developed along the eastern margin of the basin. Sedimentation of the Oligocene Kishenehn Formation then occurred within the basin. There is a pervasive dip eastward of the Kishenehn sediments toward the Flathead fault system. Also, drag folding of the Kishenehn occurs along the eastern basin margin. This suggests that extension in the basin continued subsequent to sedimentation possibly to Recent times (Constenius, 1982). Therefore, the major deformation producing the basin occurred previous to sedimentation while further extensional forces operated during and subsequent to sediment deposition. The presence of many normal and thrust faults in this geological setting provide abundant opportunity for hydrocarbon migration. Numerous interbedded and overlying shales would provide sufficient seal.

Kishenehn Tertiary Graben Oil Play

The oil play occupies the same area as the Kishenehn Gas in southeastern British Columbia and northwestern Montana. The play parameters described for the Kishenehn Gas would thus be similar to this play for the most part.

At least four oil shows have been recorded within the 9 wells drilled in the basin. In addition, oil shales were recognized in various parts (Curiale, 1987a, Constenius and Dyni, 1983), principally in the lacustrine sediments as opposed to the fluvial segment. Excellent oil-prone, though thermally immature, source rocks are present in the basin. Abundant oil shales and sapropelic coals have been found in the basin. Type I kerogen is commonly present, especially in the northern part of the basin. As noted above, the sediment succession is sufficently thick that burial metamorphism would produce temperatures high enough so that both liquid and gaseous hydrocarbons could form. Trap formation, migration and seal are all present.

MacDonald Paleozoic Structural Gas Play

This conceptual petroleum play consists of the Paleozoic sequence occupying the hangingwall of the Flathead normal fault. This would place the play immediately west of and underlying the Flathead Graben (Figure 2). The total area of play is 7400 square kilometres of which 900 or 12% of the area is found in southeastern British Columbia. The MacDonald Dome located in B.C. gives the play its name (Price, 1965). A thick Paleozoic succession of carbonates as well as clastic sediments provide an age range of targets from Permian to Middle Cambrian.

Only 2 wells have been drilled into the Paleozoics in this play and no hydrocarbon shows have been reported.

Stratigraphic thicknesses recorded in this area produce a total Paleozoic sediment succession of 1600 to 1850 metres. The actual prospect succession thickness would be the same since reservoir material was found at both end-members of the sequence.

Structure types found in this play are large-scale drape folds related to listric normal faulting, simple compressional folds, thrust faults and some unconformity truncations. These structures developed during the Maastrichtian as a consequence of Lewis thrust faulting and were modified in the Oligocene during which normal faulting of the Flathead fault system produced the Flathead Graben. Compressional structures that were developed during the Laramide orogeny were modified by extensional forces functioning in the Flathead epeirogeny.

The largest area of closure recognized in the play is 100 square kilometres under the MacDonald Dome. The second largest structure observed is the Trail Creek Structure in Montana with an area of 78 square kilometres (Fritts & Klipping, 1987b). The minimum area of closure is probably 0.5 square kilometres. There are at least two prospects since two wells were drilled. However, it is felt that there should be about 100 prospects in the play. Vertical closure is estimated to be 800 metres in the MacDonald Dome and 300 metres at Trail Creek. Average relief is probably 300 metres while minimum vertical closure could be five metres.

The potential reservoir interval ranges from the Upper Mississippian Etherington Formation to the Middle Cambrian Elko Formation. Both thick and thin carbonate reservoirs occur in reef buildups, edges of marine shelves or interiors of carbonate shoals. Estimated thickness of porous and permeable material compared to total thickness varies from 2 to 6%. Secondary fracture porosity is present as exhibited by occasional water flows below the depth of 1350 metres. Primary and secondary porosity is estimated to range from 8 to 30% with an average of 15% in porous strata.

Possible source rocks for gas in the MacDonald Paleozoic Structural Play are shales in the Fernie Group and the Exshaw Formation as well as coal seams found in the Jurassic-Cretaceous Kootenay Group (Clayton et al, 1982 and Meissner et al, 1984). Solid pyrobitumens were noted in geological well logs in the Mississippian Mount Head, Livingstone, and Banff Formations as well as the Devonian Fairholme Group.

The main episodes of orogenic and epeirogenic folding postdate the peak organic maturation produced after normal burial metamorphism. The relative timing of maturation and hydrocarbon generation with respect to trap formation is considered to be unfavourable in this play. Similar timing relationships exist throughout the Foothills of western Canada without appreciably depleting the hydrocarbon content of Laramide structures. The presence of large volumes of hydrocarbons in the structures suggest that either a subsequent period of hydrocarbon generation occurs after the structures form or a redistribution of predeformational stratigraphically-trapped hydrocarbons into later structures has occurred. A substantial play-level risk is assigned to reflect this timing problem. The fact that extensional forces that predominate in the graben could generate open fractures, implies that gas leakage could occur.

Numerous normal and thrust faults and fractures present in the area provide abundant opportunity for hydrocarbon migration. The presence of overlying and interbedded shales may provide seal in some cases. However, seal may be breached if faults intersect porous Kishenehn strata overlying the Paleozoics. The gas column could come in contact with this porous material and thus be lost. The seal risk-factor would in this case be prospect-level. Seal at a play-level would also be a problem in some cases since a large portion of the Paleozoic succession outcrops to the west of the Graben.

Fernie - Elk Valley Mesozoic Structural Gas Play

This play encompasses the Fernie Basin as well as the Elk River Valley north of the Basin (Figure 1). The play area is about 2100 square kilometres of which 99% of the territory is found in southeastern British Columbia. This hydrocarbon-bearing sedimentary basin is well-known as a coal mining area and numerous articles describe the geology with the coal and coal-bed methane potential (Gibson, 1985, Grieve and Kilby, 1989, Johnson and Smith, 1991, for example). There are many other papers as well (see reference list). The age range of possible hydrocarbon targets is Late Cretaceous to Late Triassic. Thin reservoir sands have been observed throughout the Mesozoic sequence.

Four wells have penetrated the Mesozoic succession in this play area. All wells penetrated coal seams but three were classified as dry holes. Coal-bed methane potential was realized in the fourth hole in the Elk River valley. The thickness of the prospect succession as well as the total succession varies from 1370 to 4500 metres depending on its location.

Hydrocarbon traps can form as a result of simple compressional folding, normal and reverse faulting, and extensional slumping that produce accommodation structures. It has been estimated that these structures were formed from Upper Cretaceous (Maastrichtian) to Oligocene time. Structural closure area varies from 15 to 1 square kilometre while vertical closure has been estimated to range from a maximum of 400 metres down to a minimum of 5 metres. Fifty prospects were estimated in this area.

Thin reservoir sands are found interspersed throughout the stratigraphic succession. It has been estimated that only 1% of the total succession would have suitable characteristics to be classified as reservoir. Secondary fracture porosity is possible due to open fractures occurring downhole in the wells drilled in the play. Porous sands and fracture zones vary in porosity from 8 to 36% while the average porosity noted in the sands would range from 10 to 15%.

Abundant source-rock material for gas is present in the coal seams of the Mist Mountain and Elk Formations as well as dark marine shales in the Wapiabi, Blackstone, and Rock Creek Formations. Type III and lesser amounts of Type II kerogens have been recognized within these sediments. Vitrinite reflectance values range from 0.6 to 1.6.

Generally, structure formation occurs subsequent to deposition of both reservoir and source rocks. This would suggest that primary hydrocarbons produced by normal burial maturation would not be trapped during the Laramide orogeny. Structures postdate the peak organic maturation episode but as demonstrated in the previous play this sequence of events does not preclude the existence of substantial hydrocarbon resources.

Migration should be no problem because of the abundance of faults that would provide pathways for fluid passage. Seal, however, is a problem in some instances since Mesozoic rocks outcrop throughout the play area. It has been estimated that there may be at least 30% communication of hydrocarbon-bearing sediments with the surface which would imply that these hydrocarbons would leak out and be lost. However, other prospects could have seal if there are enough interbedded and overlying shales to provide impermeable layers.

Structural characteristics are very similar to the Foothills Turner Valley Blairmore mature gas play. The lognormal discovery process model was used in evaluating this Foothills play. The mean and variance of the lognormal conditional pool size distribution was retrieved and used for the statistical input parameters for the evaluation of the Fernie - Elk Valley Mesozoic play. The mean of the conditional pool size distribution is 2.96 while the variance is 1.50.

Fernie - Elk Valley Paleozoic Structural Gas Play

The Paleozoic succession generally underlying the Mesozoic sediments in the Fernie Basin and Elk Valley constitute another structural gas play in the area (Figure 2). The play area is estimated to be 1850 square kilometres with 99% of the area in

British Columbia. Three wells penetrated the Paleozoic sequence in the play. No hydrocarbon shows were reported in the wells. Stratigraphic studies indicated that the Paleozoic succession varies in total thickness from 1980 to 3050 metres. The thickness of the prospect succession ranges from 1745 to 2540 metres.

Structure characteristics would be similar to those affecting the Mesozoic succession. Area of closure would again range from 15 to 1 square kilometre. Vertical relief is unknown, however. Age of structure formation would also range from Maastrichtian to Oligocene. There may be 50 prospects in this play as well.

Prospective reservoir rock is found in the Upper Mississippian Etherington Formation and continues intermittently down the stratigraphic column to the Middle Cambrian Elko Formation. The most important reservoir occurs in the Mississippian Turner Valley Formation. The majority of the reservoirs are both thick and thin carbonate porous intervals found in reef buildups, shelf edges, and shoal interiors. Reservoir thickness compared to thickness of the total Paleozoic succession ranges from 0 to 3.5%. Minor open-fracture zones may produce secondary fracture porosity. Porous carbonates and open-fracture zones vary in porosity from 8 to 35%. The average porosity in the reservoirs is 15%.

The gas source in this play is present in the coal seams of the Kootenay Group and the marine shales of the Fernie Group and Exshaw Formation. Solid pyrobitumens were noted in geological well logs in the Tunnel Mountain, Mount Head, Livingstone, and Banff Formations.

Structure generation postdates the hydrocarbon generation that would be produced during the peak organic maturation event. Similar episodes throughout the Foothills did not severely depreciate the hydrocarbon potential in Laramide traps. Migration would be easily facilitated due to the presence of numerous fault pathways. Seal would be accomplished in part with the presence of numerous interbedded and overlying siltstones and shales. Less risk would be assigned to seal in this play than the Mesozoic since most of the Paleozoic rocks do not outcrop.

This play was identified as being very similar in character to the Burnt Timber Wabamun/Palliser Foothills Play. The lognormally-derived pool size distribution from this Foothills play was used for the evaluation of the Fernie Paleozoic play. The mean and variance used was 5.719 and 1.192.

Rocky Mountain Trench Cenozoic Graben Gas Play

This play includes the Cenozoic sedimentary succession that has accumulated in the Rocky Mountain Trench of southeastern

British Columbia and northwest Montana (see Figure 1). The Cenozoic sediments include both the Tertiary clastic sediments as well as the Quaternary glacial drift. Insufficient information was available in order to segregate the Quaternary and Tertiary sequences. Therefore, the age range of prospects ranges from Pleistocene to Paleocene. The play encompasses an area of 5100 square kilometres of which 1325 or 26% of the area is found in British Columbia.

Fifteen wells have penetrated these sediments in this play. Two of the wells in the Flathead Lake produced small amounts of biogenic gas at one time.

The total succession as well as the prospect succession varies in thickness from 370 to 1830 metres depending on location in the Trench.

Hydrocarbon trap type are small-scale antithetic and synthetic normal and reverse faults within extensional grabens in the Trench, stratigraphic sandstone and conglomerate pinchouts in the sediments, and small drape folds in the graben. The structures noted above developed post- and syn-Oligocene, subsequent to and synchronous to sedimentation.

Many of the reservoir parameters in this play are unknown, such as area of closure, vertical closure, porosity and proportion of reservoir rock to total sediment thickness. Parameters associated with the Kishenehn Graben play can be used because of the similarity of tectonics and sedimentation in the two plays. The number of prospective structures estimated in this play are estimated to be four times the Kishenehn Play due to play area. Eight hundred structures were estimated compared to 200 at Kishenehn.

Thin sands and gravels constitute the reservoir fraction in the play.

The biogenic gas source in this play would be swamp and glacial drift gas pockets as well as peat deposits. Dark marine shales could produce some thermogenic gas.

Structure formation would generally predate or be synchronous with sedimentation and primary hydrocarbon generation due to normal burial maturation. The presence of reservoir is risky in this play since the potential reservoir material is found in channel deposits which would be quite local and unpredictable. Migration would be no problem because of the many fault pathways in the play. At a play-level, the risk of seal would be small because of the presence of numerous impermeable boulder clays and shales. At a prospect-level, seal could have a greater risk since these boulder clays and shales do not occur everywhere in the play.

It has been proven that this play would be classified as immature because of minor previous gas production. The significance of this play should be downgraded because the pools are probably very small.

Belt - Purcell Structural Oil and Gas Play

This play encompasses the oldest known sedimentary succession on the North American miogeocline. Six separate geological plays are recognized within these Proterozoic sediments. An eastern, central and western subdivision are proposed because of the widely varying amount of geological and petroleum information available throughout the basin. It was decided that the Belt - Purcell Basin should be divided into an immature, conceptual, and speculative zone respectively, in order to illustrate this information contrast. In addition, each of these divisions are assigned an oil and gas potential component.

Belt - Purcell Immature Structural Oil Play

This immature oil play is one of the oldest exploration plays discovered in western Canada. The first well drilled in Alberta was spudded beside some oil seeps in Proterozoic rocks in 1901 in what is now Waterton Park. This eastern division of the Belt - Purcell Basin covers an area of 19800 square kilometres in southeastern British Columbia, southwestern Alberta and west-central and northwestern Montana (Figure 3). Six hundred square kilometres of this play is found in B.C.(3%). Ninety-seven wells have been completed in the Proterozoic sediments and at least 52 oil shows in 24 of the wells were found. About 1000 barrels of oil had been produced at one time in this play (159 cubic metres). Numerous oil seeps are found in this play especially around the International Boundary (Boberg, 1984, Darrow, 1955, Hume, 1964, and Link, 1932). The thickness of the total sediment succession as well as prospect thickness varies from 2200 to 7200 metres.

Trap types in this play would involve compressional folding, drape folding of Precambrian strata over duplex structures in the the Lewis Plate, and traps produced by normal and reverse faults. Duplex structures and drape folds would have been formed during thrusting episodes. The largest area of closure observed over one of these duplex structures is approximately 800 square kilometres. The minimum area would be in the order of 0.5 square kilometres possibly associated with simple fault traps. The large areal extent of the play implies that a very large number of structures probably exists. Five thousand was chosen as the maximum number possible while 250 denotes the lower limit. Vertical closure of the largest structure was estimated to be about 300 metres while the smallest could be 10 metres.

The prospective zone considered in this play ranges from the Upper Proterozoic Horsethief Creek Group to the Middle Proterozoic Waterton Formation. All sediments in this succession have been metamorphosed to the lower greenschist facies which destroyed all primary porosity. The clean sandstones and carbonates in this play are brittle, so fracturing is probable and secondary fracture porosity could be present. There is a relatively small percentage of clays in this succession so many of the fractures should remain open or be sparsely cemented. The mean porosity estimate considering the whole rock volume is 0.1%. If hydrocarbons are present in these fractures, the hydrocarbon saturation should be relatively high.

Source rock has been speculated to be the Colorado Group Speckled Shales. Migration could be a significant risk factor because there is a substantial thickness of stratigraphic section through which fluids must migrate vertically before they encounter any Belt - Purcell sediments. During migration, the hydrocarbons would most likely enter Belly River and Cardium reservoir sands before invading any Proterozoic rocks. Seal would have some risk as well because extensional fractures could form in the brittle rock over hydrocarbon-bearing antiformal drape structures and leakage could occur. Fractures over synformal structures can form as well. In other circumstances, seal could be a positive risk factor if one considers that since all primary porosity has been removed from these rocks, the resultant dense sediments would act as impermeable barriers. Formation of structures postdate the hydrocarbon charge produced by normal burial maturation. The fact that many Laramide structures are filled to spill-point with hydrocarbons in the Foothills of western Canada implies that timing is not necessarily an unfavourable factor for accumulation of significant resources of hydrocarbons. No play-level risk would be assigned because the play is known to exist with the presence of former oil producers and oil seeps.

Belt - Purcell Immature Structural Gas Play

An immature gas play would occupy the same position in the eastern section of the Belt - Purcell Basin (Figure 3). In the 97 wells drilled to date in the play, at least 33 gas shows were logged in 11 wells. Most of the play parameters described in the oil section would apply to the gas component. However, gas source would more likely be the Exshaw shale which would be buried much deeper than the oil sources. The deeper burial would suggest a higher risk for source and migration because any gas produced at source would have to vertically migrate past a larger number of potential reservoirs before it arrives at the uppermost Belt - Purcell sediments. In addition to diversion of gas into the reservoir sands of the Belly River and Cardium Formations, migrating gas could also be deflected into the Paleozoic carbonates found in duplexes in the footwall of the Lewis Thrust as illustrated by the Waterton Field. Gas saturation would be relatively high varying from 70 to 95% in the open fractures.

Belt - Purcell Conceptual Structural Oil Play

The central portion of the basin was called the conceptual play because there are few wells and minor oil and gas shows. The play area is 45000 square kilometres located in southeastern British Columbia, west-central and northwestern Montana (Figure 3). Twenty- three wells were completed in the Proterozoic succession and at least 4 oil shows were encountered. Structure-type and closure components are similar to the previous Belt - Purcell plays. In this portion of the basin, duplex structures involving Precambrian sediments are prevalent and these structures would provide an additional trapping mechanism. There would be a very high risk factor for source rock because there are no underlying Phanerozoic rocks west of the Flathead normal fault. Seal would be a problem because much of the Proterozoic outcrops in this area.

Belt - Purcell Conceptual Structural Gas Play

Play parameters would be identical to the oil play. One gas show was identified in one of the 23 wells drilled in this play. Risk factors would be similar to the previous play.

Belt - Purcell Speculative Structural Gas Play

The western portion of the Belt - Purcell basin is found in southeastern British Columbia, northwestern and west-central Montana, and northwestern Idaho (see Figure 3). The play area is 62000 square kilometres. Only 2 wells in this huge area have been drilled. The lack of petroleum information available makes any assessment of this area highly speculative. At least 3 gas shows were identified in the 2 wells. Presumably, the play parameters would be very similar to the previous Belt - Purcell plays. Source- rock and migration as well as seal would again have high risk factors.

Belt - Purcell Speculative Structural Oil Play

One minor oil show was observed in the Paul Gibbs well in northwestern Montana (Boberg et al, 1989). This play is highly speculative in that thermal maturity characteristics suggest that these sediments should be in the gas window well out of the oil window.

The last four plays cited above were not assessed due to the lack of information as well as the very high risk associated with source, migration and seal. All these factors would be classified as play-level risks. The oil and gas potential is possible in these plays but it is highly speculative.

ASSESSMENT TECHNIQUE

After compilation of relevant material for each hydrocarbon play, an assessment committee assigned subjective and objective probabilities and risk factors for eight of the plays (see Appendix 1 for probabilities and risk factors and Appendix 2 for the statistical data retrieved). The risk factors were defined by discussing the geological characteristics of various play parameters and then deciding upon reasonable limits for these parameters. Analogous geological plays with similar tectonic settings were also considered. Once the probabilities and risk factors were compiled, Monte Carlo and lognormal approximation options in PETRIMES were used for the immature and conceptual plays (Lee and Wang, 1990). For the mature play, that is, the Waterton Rundle/Wabamun Gas Play, the "discovery process method" of PETRIMES was invoked.

The three remaining Foothills immature exploration plays required a separate assessment technique using empirical relationships. All mature Foothills plays were taken into consideration in order to derive the mean play potential for each of these immature plays. First of all, a linear regression was performed on a plot of volumetric proportion of resources discovered versus the number of pools discovered for all the Foothills plays (see Figure 4). The volumetric proportion of the resources discovered is defined as the ratio of discovered resource to total resource. If one calculates an error on this regression line, one can then retrieve an upper and lower limit for the volumetric proportion discovered for a given number of pools. One can also graphically retrieve the total number of pools expected (N) by plotting the proportion of pools discovered (n/N) versus the number of exploratory wells for the mature Foothills plays (see Figure 5). One can infer the proportion discovered from a regression analysis to the number of exploratory wells. Knowing n, (the number of pools discovered) and the number of exploratory wells drilled in each of the immature plays, one can then analytically retrieve N (the number of pools discovered). More work is required in order to determine the largest pool size of the immature plays. The pool sizes will be quite small compared to the mature Rundle/Wabamun Foothills play and should not affect the planning study.

A substantial portion of the area covered by the Waterton Foothills plays have not been explored in Montana due to park and wildlife land restrictions. This geographic bias may substantially affect the resource estimates. However, this is not expected to affect the portion of reserves located in British Columbia significantly because of the small area involved (about 4.5% of the total area in each play) (see Figures 1,2 & 3).

RESOURCE APPRAISAL

Following is a discussion of statistical results obtained for each play (see Appendix 2 for output data).

Waterton Colorado Foothills Gas Play

As described above, empirical and graphical techniques are used to obtain the mean play potential and expected number of pools for each of the immature Foothills plays in this assessment.

The total mean play resource, that is, the reserves discovered and the expected resource, is $6.7x10^9$ m^3 or 238 BCF. The expected number of pools is 20. The gas resource figures cited above are raw gas-in-place values, not recoverable or marketable gas.

A small percentage of the areal extent of this play is found in British Columbia (4.4%). Therefore, the total mean play resource in British Columbia would be $296x10^6$ m^3 or 10.5 BCF, assuming the resources are roughly evenly distributed. However, there is no reason that all or part of the largest pool cannot be found in B.C.

Waterton Mannville Foothills Gas Play

The expected number of pools is 33. The total mean play resource is $11.9x10^9$ m^3 or 422 BCF of gas.

Again, a very small percentage of the areal extent of the play is located in British Columbia (4.5%). Therefore, the total play resource in B.C. would be $537x10^6$ m^3 or 19 BCF. However, all or part of the largest pool could occur in B.C.

Waterton Mannville Foothills Oil Play

The play exists since two oil pools have been defined, specifically in the Pincher Creek Field. The expected number of pools is 33. The total mean play resource over the full areal extent is $78x10^6$ m^3 or 491 million bbl.

In British Columbia, there would be expected a total mean play resource of $3.5x10^6$ m^3 or 22 million bbl, assuming the resource is evenly distributed.

Waterton Rundle/Wabamun Foothills Gas Play

This mature play has been assessed using the "discovery process model" (Lee and Wang, 1990). Including updated information on the carbon dioxide-rich gas pools found in southeastern British Columbia, the discovered resource is 185.6x10^9 m^3 or 6.6 TCF. The mean play potential is 40.3x10^9 m^3 or 1.4 TCF. Therefore, the total expected resource in this play would be the sum of the discovered and mean play potential, that is, 225.9x10^9 m^3 or 8 TCF. The largest pool has already been discovered according to the model (see Figure 6). This pool is found in the Waterton Field and its size is 79.5x10^9 m^3 or 2.8 TCF. The expected number of pools in the play is estimated to be 80 so with 26 pools already discovered, 54 more gas pools are yet to be found.

The two pools discovered in British Columbia probably form the largest part of the available resource in the Province. The total expected resource in B.C. if the resources are evenly distributed throughout the play is 11.1x10^9 m^3 cubic metres or 390 BCF. However, as noted in the previous section of this report, 17x10^9 m^3 have already been discovered in B.C. This implies therefore, that the resource is not evenly distributed in this play. This may be explained by observing the relative size of the Flathead duplex compared to the Waterton duplex to the east. The Flathead duplex is larger in size and thus, may contain larger reserves of gas. It is suggested that the remaining resource yet to be discovered in British Columbia is at least 2x10^9 m^3 or 70 BCF of gas. It should be emphasized that all the gas discovered in the Province is carbon dioxide-rich rather than hydrocarbon-rich. This resource could be used for enhanced oil recovery.

Kishenehn Tertiary Graben Gas Play

The overall play risk assigned to this play is 90%. The prospect-level risk is estimated to be about 50%. The greatest risk at a prospect-level was assigned to the presence of closure and source. The median of the largest pool size was calculated to be 3.1x10^9 m^3 or 109 BCF (see Figure 7). Fifty pools are expected to exist in this play. The total mean play potential is 17.9x10^9 m^3 (632 BCF).

In British Columbia, 17% of the areal extent of the play is present. Therefore, 3x10^9 m^3 (107 BCF) can be potentially present, assuming the resources are roughly evenly distributed.

Kishenehn Tertiary Graben Oil Play

The overall play- and prospect-level risks in this play would be identical to the gas play. The median of the largest pool size is $9.1x10^6$ m^3 or 57 million bbl (Figure 8). There are expected to be 50 oil pools in the Kishenehn Basin. The total mean play potential would be $60.7x10^6$ m^3 (382 million bbl).

Seventeen percent of the mean play potential would be $10.3x10^6$ m^3 (65 million bbl). This figure would represent the potential in B.C. if the resources are evenly distributed throughout the play.

MacDonald Paleozoic Structural Gas Play

Timing of structure formation compared to hydrocarbon generation was considered to be a large play-level risk in this area. The probability that the play exists was estimated to be 0.5. Another important risk identified in the play is the presence of adequate seal. On a prospect-level, seal was identified to have a risk of 25%. The overall exploration risk was calculated to be 13%. The mean play potential estimated in this play is $3.4x10^9$ m^3 (121 BCF) of gas. Five gas pools are expected to exist in this play. The largest pool size has a median value of $1.8x10^9$ m^3 (64 BCF) (Figure 9).

Twelve percent of the areal extent of the play is found in British Columbia. If the resources are evenly distributed, the mean play potential in the Province should be $411x10^6$ m^3 (14.5 BCF) of gas.

Fernie - Elk Valley Mesozoic Structural Gas Play

Risk was assigned principally to seal in this play since the Mesozoic outcrops in a large proportion of the area. The probability that leakage of hydrocarbons could occur is 0.30. Along with a less severe risk assigned to closure, the overall prospect-level risk is estimated to be 27%. The calculated mean play potential of the Fernie Mesozoic area is $203x10^6$ m^3, that is 7 BCF of gas. Note that this gas figure is for conventional natural gas and is in addition to any coal-bed methane that may be present in the area. Five gas pools are expected to exist with the largest pool size at $81x10^6$ m^3 (3 BCF) (Figure 10).

Virtually all of the play is located in British Columbia, so the above figures can be used as gas potential in the Province.

Fernie - Elk Valley Paleozoic Structural Gas Play

Seal risk was upgraded to 50% in this play because the Paleozoic sediments are less likely to outcrop. The overall play-level risk was estimated to be 90% while at the prospect-level, risk is 45%. Nine expected gas pools with a potential of $5.1x10^9$ m^3 (182 BCF) are present in this play. The median of the largest pool size is $1.5x10^9$ m^3 million cubic metres (53 BCF) (Figure 11). These figures would apply for the potential of this play in British Columbia.

Rocky Mountain Trench Cenozoic Graben Play

The play-level risk assigned to this play is 100%. This means that the play definitely exists. Previous gas production in two water wells near Flathead Lake confirms the existence of the play. It must be pointed out, however, that this play is probably not very significant because of very small pool sizes. Prospect-level risk was estimated to be in the order of 38%. Seal and source are considered to be the major factors affecting overall exploration risk in the play. One hundred and seventy small pools are expected to exist here with a total mean potential of $849x10^6$ m^3 (30 BCF). The largest pool size is expected to be $79.2x10^6$ m^3 (3 BCF) of gas (Figure 12). Twenty-six percent of the play is located in British Columbia. Therefore, the potential in the Province is $221x10^6$ m^3 (8 BCF).

Belt - Purcell Immature Structural Oil Play

This play exists with the presence of former producers as well as numerous oil seeps. Prospect-level risk would be severely affected by seal considerations in that a large proportion of the Proterozoic succession outcrops. Migration risk and closure risk pose less a problem for hydrocarbon potential in this play. The median of the largest pool size expected is $8x10^5$ m^3 (5 million bbl.) (Figure 13). The expected number of pools is 55. The total mean potential is estimated to be $4.5x10^6$ m^3 (28 million bbl).

Only 3% of the total area of the play is found in British Columbia. Assuming the potential oil resource is evenly distributed in the play, the resource should be $13.5x10^4$ m^3 (850,600 bbl).

Belt - Purcell Immature Structural Gas Play

Equivalent risk factors used in the previous play would apply to the gas play. The median of the largest pool size would therefore, be $118x10^6$ m^3 (4 BCF) while the expected number of pools would be 35 (Figure 14). The total mean potential of gas in this play is $622x10^6$ m^3 (22 BCF). Again, British Columbia contains 3% of the area of this play. Therefore, the mean play potential in the Province should be $18.7x10^6$ m^3 (0.7 BCF).

SUMMARY AND CONCLUSIONS

1. The discovery of two gas pools in the Waterton Colorado

Foothills Gas Play classifies it as an immature play. Graphical solutions employing data from the Foothills mature plays are used to obtain total potential resources in the immature plays. The mean ultimate play resource derived is $6.7x10^9$ m^3 (238 BCF).

2. The Waterton Mannville Foothills Gas Play is an immature play because of the presence of 3 defined gas pools. It was determined that the ultimate mean play resource is $11.9x10^9$ m^3 (422 BCF).

3. The Waterton Mannville Foothills Oil Play has 2 defined oil pools. The mean ultimate play resource is $78x10^6$ m^3 (491 million bbl).

4. The mature Waterton Rundle/Wabamun Foothills Gas Play has 26 discovered pools. Total potential in this play is $40.3x10^9$ m^3 or 1.4 TCF of gas. In British Columbia, the total expected resource is $11.1x10^9$ m^3 (390 BCF) of gas if the resource is evenly distributed throughout the total play area. However, $17x10^9$ m^3 of gas has already been discovered in the Province. This implies that the gas resource is not evenly distributed and it is thus estimated that at least $2x10^9$ m^3 (70 BCF) is yet to be found in B.C.

5. The conceptual Kishenehn Tertiary Graben Gas Play is an excellent prospective geological configuration as reflected in play-level risks, 90%. Hydrocarbons are noted in other similar configurations around the world (southern Junggar Basin, China, or Orcadian Basin, North Sea area)(Carroll et al, 1992, Parnell, 1985). The total mean gas potential of this play is $17.9x10^9$ m^3 (632 BCF).

6. The conceptual oil play in the Kishenehn Graben is an excellent prospective site as well. Abundant oil shales in the basin guarantee oil source. The total mean oil potential in this basin is $60.7x10^6$ m^3 (382 million bbl).

7. In the MacDonald Paleozoic Structural Gas Play, both play and prospect risk are significant in the potential gas resource assessment. Seal is a major problem here because a large majority of the Paleozoic reservoir rocks outcrop. In addition, the Paleozoics underlying the Tertiary sediments in the Kishenehn Graben may abut against porous sediments where leakage can also occur. A total mean potential of $3.4x10^9$ m^3 was estimated in this area (121 BCF).

8. The Fernie - Elk Valley Mesozoic Structural Gas Play has a total mean potential of $203x10^6$ m^3 (7 BCF) of gas. Seal is a major risk because a large proportion of the Mesozoic sediments outcrop in the basin. Coal- bed methane is a separate resource and is not included in this report.

9. In the Fernie - Elk Valley Paleozoic Structural Gas Play, both play and prospect-level risk are somewhat less and the total mean gas potential is $5.1x10^9$ m^3 (182 BCF).

10. The Rocky Mountain Trench Cenozoic Graben Gas Play tectonically is similar to the Kishenehn Graben. Play parameters identified in the Kishenehn were incorporated into the Trench resource analysis. Play-level risk is non-existent because production occurred at one time. The ultimate mean play potential is $849x10^6$ m^3 (30 BCF) in very small pools.

11. The Belt - Purcell Immature Structural Oil Play is the oldest play recognized in western Canada. The first oil well was drilled in this play in 1901. Former oil production and numerous oil seeps prove that this play exists. The total mean oil potential in this play is $4.5x10^6$ m^3 (28 million bbl).

12. The Belt-Purcell Immature Structural Gas Play is also known to exist. The total mean gas potential is $622x10^6$ m^3 (22 BCF).

13. The Belt - Purcell Conceptual and Speculative Oil and Gas Plays are conceptual plays in Proterozoic sediments that are found in areas where little or no geological information is available. Also, source and seal have very high risk factors at the play-level which implies a very speculative hydrocarbon potential computation would result. It was decided for these reasons that insufficient information is available to properly assess the hydrocarbon potential of these plays.

14. The total gas potential for all plays in this assessment is $272.7x10^9$ m^3 or 9.6 TCF. If the gas resources are evenly distributed throughout the total area of the Kootenay assessment, the total potential resource in British Columbia is $20.9x10^9$ m^3 (739 BCF).

15. The oil potential for the entire Kootenay assessment area is $143x10^6$ m^3 (901 million bbl.). In British Columbia the total oil potential is $13.9x10^6$ m^3 (88 million bbl.) if the resources are evenly distributed.

Statistical results for twelve plays identified in the Kootenay area of British Columbia suggest a significant undiscovered oil and gas potential.

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APPENDIX 1: PROBABILITY DISTRIBUTIONS AND RISK FACTORS
(INPUT DATA)

APPENDIX 2: STATISTICAL OUTPUT

FIGURE CAPTIONS

Figure 1: Hydrocarbon play map (Waterton Colorado (Gas), Kishenehn Tertiary Graben (Oil & Gas), Fernie - Elk Valley Mesozoic Structural (Gas), and Rocky Mountain Trench Cenozoic Graben (Gas))

Figure 2: Hydrocarbon play map (Waterton Rundle/Wabamun (Gas), MacDonald Paleozoic Structural (Gas), and Fernie - Elk Valley Paleozoic Structural (Gas))

Figure 3: Hydrocarbon play map (Waterton Mannville (Oil & Gas), Belt - Purcell Structural Immature (Oil & Gas), Belt - Purcell Structural Conceptual (Oil & Gas), and Belt - Purcell Structural Speculative (Oil & Gas))

Figure 4: Plot of volumetric proportion of resources discovered versus number of pools discovered, WCSB Foothills gas plays

Figure 5: Plot of proportion of pools discovered versus number of exploratory wells, WCSB Foothills gas plays

Figure 6: Pool size by rank diagram of the Waterton Rundle/Wabamun Foothills Gas Play

Figure 7: Pool size by rank diagram of the Kishenehn Tertiary Graben Gas Play

Figure 8: Pool size by rank diagram of the Kishenehn Tertiary Graben Oil Play

Figure 9: Pool size by rank diagram of the MacDonald Paleozoic Structural Gas Play

Figure 10: Pool size by rank diagram of the Fernie - Elk Valley Mesozoic Structural Gas Play

Figure 11: Pool size by rank diagram of the Fernie - Elk Valley Paleozoic Structural Gas Play

Figure 12: Pool size by rank diagram of the Rocky Mountain Trench Cenozoic Graben Gas Play

Figure 13: Pool size by rank diagram of the Belt - Purcell Immature Structural Oil Play

Figure 14: Pool size by rank diagram of the Belt - Purcell Immature Structural Gas Play

APPENDIX 1: PROBABILITY DISTRIBUTIONS AND RISK FACTORS (INPUT DATA)

Kishenehn Tertiary Graben Gas Play

Table 5-2. Format for entry of probability distributions.

Geological variable	Unit of measurement	Probability in upper percentiles 1.0	0.5	0.02/0.01	0.0
Area of closure/pool	mile² / km²	0.5	1	5	10
Net pay/no of pay zones	m / ft / no				
Reservoir/ formation thickness	m / ft	10	150	700	1500
Porosity	decimal fraction	0.08	0.12	0.25	0.30
Trap fill	decimal fraction	0.01	0.05	0.30	1.00
Favourable facies	decimal fraction				
Water saturation	decimal fraction				
Oil/gas saturation	decimal fraction	0.35	0.60	0.80	0.90
Shrinkage factor	decimal fraction				
Formation volume factor	decimal fraction	0.0025	0.0042	0.019	0.02
Reservoir temperature	Celsius/ Fahrenheit				
Reservoir pressure	kPa/psi				
Recovery factor	decimal fraction				

Kishenehn Tertiary Graben Gas Play

Table 5-3. Format for entry of geological risk factors and their marginal probability.

Geological factors	Marginal probability	Level Play	Level Prospect
Presence of closure		-	76
Presence of reservoir facies			91
Presence of porosity			
Adequate seal			94
Adequate timing		90	
Adequate source			76
Adequate maturation			
Adequate preservation			
Adequate recovery			
Adequate play conditions			
Adequate prospect conditions			

Table 5-4. Format for entry of number of prospects and pools.

Geological variable	Probability in upper percentiles 0.99	0.5	0.0
No of prospects	50	100	200
No of pools			

Kishenehn Tertiary Graben Oil Play

Table 5-2. Format for entry of probability distributions.

Geological variable	Unit of measurement	Probability in upper percentiles 1.0	0.5	0.02/0.01	0.0
Area of closure/pool	mile^2 / km^2	0.5	1	5	10
Net pay/no of pay zones	m / ft / no				
Reservoir/ formation thickness	m / ft	10	150	700	1500
Porosity	decimal fraction	0.08	0.12	0.25	0.30
Trap fill	decimal fraction	0.01	0.05	0.30	1.00
Favourable facies	decimal fraction				
Water saturation	decimal fraction				
Oil/gas saturation	decimal fraction	0.35	0.50	0.60	0.70
Shrinkage factor	decimal fraction	—	1.2	—	
Formation volume factor	decimal fraction				
Reservoir temperature	Celsius/ Fahrenheit				
Reservoir pressure	kPa/psi				
Recovery factor	decimal fraction				

Kishenehn Tertiary Graben Oil Play

Table 5-3. Format for entry of geological risk factors and their marginal probability.

Geological factors	Marginal probability	Level Play	Level Prospect
Presence of closure			76
Presence of reservoir facies			91
Presence of porosity			
Adequate seal			94
Adequate timing		90	
Adequate source			76
Adequate maturation			
Adequate preservation			
Adequate recovery			
Adequate play conditions			
Adequate prospect conditions			

Table 5-4. Format for entry of number of prospects and pools.

Geological variable	Probability in upper percentiles 0.99	0.5	0.0
No of prospects	50	100	200
No of pools			

MacDonald Paleozoic Structural Gas Play

Table 5-2. Format for entry of probability distributions.

Geological variable	Unit of measurement	Probability in upper percentiles 1.0	0.5	0.02/0.01	0.0
Area of closure/pool	$mile^2$ / km^2	0.5	5	78	100
Net pay/no of pay zones	m / ft / no				
Reservoir/ formation thickness	m / ft	5	300	800	1000
Porosity	decimal fraction	0.03	0.08	0.15	0.30
Trap fill	decimal fraction	0.01	0.02	0.04	0.06
Favourable facies	decimal fraction				
Water saturation	decimal fraction				
Oil/gas saturation	decimal fraction	0.35	0.6	0.8	0.9
Shrinkage factor	decimal fraction				
Formation volume factor	decimal fraction	0.005	0.007	0.03	0.04
Reservoir temperature	Celsius/ Fahrenheit				
Reservoir pressure	kPa/psi				
Recovery factor	decimal fraction				

MacDonald Paleozoic Structural Gas Play

Table 5-3. Format for entry of geological risk factors and their marginal probability.

Geological factors	Marginal probability	Level Play	Level Prospect
Presence of closure			
Presence of reservoir facies			
Presence of porosity			
Adequate seal			25
Adequate timing		50	
Adequate source			
Adequate maturation			
Adequate preservation			
Adequate recovery			
Adequate play conditions			
Adequate prospect conditions			

Table 5-4. Format for entry of number of prospects and pools.

Geological variable	Probability in upper percentiles 0.99	0.5	0.0
No of prospects	10	30	100
No of pools			

Fernie-Elk Valley Mesozoic Structural Gas Play

Table 5-2. Format for entry of probability distributions.

Geological variable	Unit of measurement	Probability in upper percentiles 1.0	0.5	0.02/0.01	0.0
Area of closure/pool	mile² / km²				
Net pay/no of pay zones	m / ft / no				
Reservoir/ formation thickness	m / ft				
Porosity	decimal fraction				
Trap fill	decimal fraction				
Favourable facies	decimal fraction				
Water saturation	decimal fraction				
Oil/gas saturation	decimal fraction				
Shrinkage factor	decimal fraction				
Formation volume factor	decimal fraction				
Reservoir temperature	Celsius/ Fahrenheit				
Reservoir pressure	kPa/psi				
Recovery factor	decimal fraction				

Used pool-size distribution from Foothills Turner Valley Blairmore play.

Mean = 2.96

Variance = 1.50

Fernie-Elk Valley Mesozoic Structural Gas Play

Table 5-3. Format for entry of geological risk factors and their marginal probability.

Geological factors	Marginal probability	Level Play	Level Prospect
Presence of closure			90
Presence of reservoir facies			
Presence of porosity			
Adequate seal			30
Adequate timing			
Adequate source			
Adequate maturation			
Adequate preservation			
Adequate recovery			
Adequate play conditions		80	
Adequate prospect conditions		--	

Table 5-4. Format for entry of number of prospects and pools.

Geological variable	Probability in upper percentiles 0.99	0.5	0.0
No of prospects	10	15	50
No of pools			

Fernie–Elk Valley Paleozoic Structural Gas Play

Table 5-2. Format for entry of probability distributions.

Geological variable	Unit of measurement	Probability in upper percentiles 1.0	0.5	0.02/0.01	0.0
Area of closure/pool	$mile^2$ / km^2				
Net pay/no of pay zones	m / ft / no				
Reservoir/ formation thickness	m / ft				
Porosity	decimal fraction				
Trap fill	decimal fraction				
Favourable facies	decimal fraction				
Water saturation	decimal fraction				
Oil/gas saturation	decimal fraction				
Shrinkage factor	decimal fraction				
Formation volume factor	decimal fraction				
Reservoir temperature	Celsius/ Fahrenheit				
Reservoir pressure	kPa/psi				
Recovery factor	decimal fraction				

Used pool-size distribution from Foothills Burnt Timber Wabamun/Palliser Play.

Mean = 5.719

Variance = 1.192

Fernie–Elk Valley Paleozoic Structural Gas Play

Table 5-3. Format for entry of geological risk factors and their marginal probability.

Geological factors	Marginal probability	Level: Play	Level: Prospect
Presence of closure			90
Presence of reservoir facies			
Presence of porosity			
Adequate seal			50
Adequate timing			
Adequate source			
Adequate maturation			
Adequate preservation			
Adequate recovery			
Adequate play conditions		90	
Adequate prospect conditions			

Table 5-4. Format for entry of number of prospects and pools.

Geological variable	Probability in upper percentiles: 0.99	0.5	0.0
No of prospects	10	15	50
No of pools			

Table 5-2. Format for entry of probability distributions.

Geological variable	Unit of measurement	Probability in upper percentiles 1.0	0.5	0.02/0.01	0.0
Area of closure/pool	mile² / km²	0.5	3	50	70
Net pay/no of pay zones	m / ft / no				
Reservoir/ formation thickness	m / ft	10	150	700	1500
Porosity	decimal fraction	0.08	0.12	0.25	0.30
Trap fill	decimal fraction	0.001	0.005	0.01	0.05
Favourable facies	decimal fraction				
Water saturation	decimal fraction				
Oil/gas saturation	decimal fraction	0.35	0.45	0.50	0.55
Shrinkage factor	decimal fraction				
Formation volume factor	decimal fraction	0.05	0.07	0.1	0.5
Reservoir temperature	Celsius/ Fahrenheit				
Reservoir pressure	kPa/psi				
Recovery factor	decimal fraction				

Rocky Mountain Trench Cenozoic Structural Gas Play

Table 5-3. Format for entry of geological risk factors and their marginal probability.

Geological factors	Marginal probability	Level Play	Level Prospect
Presence of closure			90
Presence of reservoir facies			
Presence of porosity			
Adequate seal			70
Adequate timing			
Adequate source			60
Adequate maturation			
Adequate preservation			
Adequate recovery			
Adequate play conditions		100	
Adequate prospect conditions			

Table 5-4. Format for entry of number of prospects and pools.

Geological variable	Probability in upper percentiles 0.99	0.5	0.0
No of prospects	200	400	800
No of pools			

Belt–Purcell Immature Structural Oil Play

Table 5-2. Format for entry of probability distributions.

Geological variable	Unit of measurement	Probability in upper percentiles 1.0	0.5	0.02/0.01	0.0
Area of closure/pool	mile² / km²	0.5	25	800	1000
Net pay/no of pay zones	m / ft / no				
Reservoir/formation thickness	m / ft	10	150	300	800
Porosity	decimal fraction	0.00001	0.0001	0.001	0.01
Trap fill	decimal fraction	0.01	0.05	0.25	1.00
Favourable facies	decimal fraction				
Water saturation	decimal fraction				
Oil/gas saturation	decimal fraction	0.30	0.55	0.60	0.90
Shrinkage factor	decimal fraction		——	1.2 ——	
Formation volume factor	decimal fraction				
Reservoir temperature	Celsius/Fahrenheit				
Reservoir pressure	kPa/psi				
Recovery factor	decimal fraction				

Belt–Purcell Immature Structural Oil Play

Table 5-3. Format for entry of geological risk factors and their marginal probability.

Geological factors	Marginal probability	Level Play	Level Prospect
Presence of closure			85
Presence of reservoir facies			
Presence of porosity			90
Adequate seal			5
Adequate timing			
Adequate source			80
Adequate maturation			
Adequate preservation			
Adequate recovery			
Adequate play conditions		100	
Adequate prospect conditions			

Table 5-4. Format for entry of number of prospects and pools.

Geological variable	Probability in upper percentiles 0.99	0.5	0.0
No of prospects	250	1000	5000
No of pools			

Belt–Purcell Immature Structural Gas Play

Table 5-2. Format for entry of probability distributions.

Geological variable	Unit of measurement	Probability in upper percentiles 1.0	0.5	0.02/0.01	0.0
Area of closure/pool	mile² / km²	0.5	25	800	1000
Net pay/no of pay zones	m / ft / no				
Reservoir/ formation thickness	m / ft	10	150	300	800
Porosity	decimal fraction	0.00001	0.0001	0.001	0.01
Trap fill	decimal fraction	0.01	0.05	0.25	1.00
Favourable facies	decimal fraction				
Water saturation	decimal fraction				
Oil/gas saturation	decimal fraction	0.35	0.70	0.95	0.97
Shrinkage factor	decimal fraction				
Formation volume factor	decimal fraction	0.003	0.005	0.009	0.01
Reservoir temperature	Celsius/ Fahrenheit				
Reservoir pressure	kPa/psi				
Recovery factor	decimal fraction				

Belt–Purcell Immature Structural Gas Play

Table 5-3. Format for entry of geological risk factors and their marginal probability.

Geological factors	Marginal probability	Level Play	Level Prospect
Presence of closure			85
Presence of reservoir facies			
Presence of porosity			90
Adequate seal			5
Adequate timing			
Adequate source			50
Adequate maturation			
Adequate preservation			
Adequate recovery			
Adequate play conditions		100	
Adequate prospect conditions			

Table 5-4. Format for entry of number of prospects and pools.

Geological variable	Probability in upper percentiles 0.99	0.5	0.0
No of prospects	250	1000	5000
No of pools			

APPENDIX 2: STATISTICAL OUTPUT

PETRIMES MODULE MPRO

NO. OF POOLS DISTRIBUTION AND RISKS
****

UAI C5419304
PLAY Kishenehn Tertiary Gas
Assessor PJ Lee K Olsen-Heise
Geologist P Hannigan K Osadetz
Operator KOH
Run date THU, APR 15, 1993, 4:00 PM

A) Risks

	GEOLOGICAL FACTOR		MARGINAL PROBABILITY
PLAY LEVEL	Adequate Timing	(5)	.90
	Overall Play Level Risk	=	.90
PROSPECT LEVEL	Presence of Closure	(1)	.76
	Presence of Reservoir Facies	(2)	.91
	Adequate Seal	(4)	.94
	Adequate Source	(6)	.76
	Overall Prospect Level Risk	=	.49
EXPLORATION RISK:		=	.44

B) No. of Prospects Distribution

Minimum = 50
Maximum = 200
Mean = 112.74
S.D. = 44.16

Frequency	No. of Prospects
99.00	50
95	55
90	60
80	70
75	75
60	90
50	100
40	120

25	150
20	160
10	180
5	190
1	198
0	200

C) No. of Pools Distribution

Minimum = 0
Maximum = 126
Mean = 50.13
S.D. = 27.08

Frequency	No. of Pools
90.00	0
80	30
75	33
60	41
50	47
40	55
25	71
20	77
10	88
5	94
1	103
0	126

PETRIMES MODULE PSRK

INDIVIDUAL POOL SIZES BY RANK
WHERE N IS A RANDOM VARIABLE
****

UAI	C5419304
PLAY	Kishenehn Tertiary Graben Gas Play
Assessor	PJ Lee K Olsen-Heise
Geologist	P Hannigan K Osadetz
Operator	KOH
Run date	WED, MAY 12, 1993, 3:26 PM

A) Basic Information

TYPE OF RESOURCE =Gas In Place
SYSTEM OF MEASUREMENT =S.I.
UNIT OF MEASUREMENT =M cu m (19)

B) Lognormal Pool Size Distribution

Summary Statistics	mu = 4.8539	MEAN = 356.72		
	sig. sq= 2.0461	S.D. = 925.95		
Upper Percentiles	99.99% = .62755	60.00% = 89.253	15.00% = 564.77
	99.00% = 4.6006	55.00% = 107.14	10.00% = 801.95
	95.00% = 12.195	50.00% = 128.24	8.00% = 956.93
	90.00% = 20.506	45.00% = 153.49	6.00% = 1185.4
	85.00% = 29.117	40.00% = 184.24	5.00% = 1348.5
	80.00% = 38.474	35.00% = 222.53	4.00% = 1568.9
	75.00% = 48.865	30.00% = 271.51	2.00% = 2420.2
	70.00% = 60.567	25.00% = 336.53	1.00% = 3574.4
	65.00% = 73.899	20.00% = 427.41	.01% = 26204.

C) No. of Pools Distribution

Lower Support	= 0
Upper Support	= 126
Expectation	= 50.13
Standard Deviation	= 27.08

D) Pool Sizes By Rank

Pool Rank			Distribution			
1	MEAN	= 4254.7	S.D.	= 4453.5	P(N>=r)	= .90000
	99%	= 729.81	75%	= 1988.5	10%	= 8043.1
	95%	= 1093.6	50%	= 3083.4	5%	= 11021.
	90%	= 1363.9	25%	= 4973.5	1%	= 21083.
2	MEAN	= 2147.0	S.D.	= 1363.4	P(N>=r)	= .90000
	99%	= 507.42	75%	= 1259.5	10%	= 3728.4
	95%	= 735.93	50%	= 1823.3	5%	= 4623.3
	90%	= 899.72	25%	= 2641.4	1%	= 7088.0
3	MEAN	= 1507.0	S.D.	= 816.70	P(N>=r)	= .90000
	99%	= 390.62	75%	= 940.66	10%	= 2524.9
	95%	= 559.86	50%	= 1336.7	5%	= 3025.0

	90%	= 679.78	25%	= 1872.5	1%	= 4287.6
4	MEAN	= 1175.6	S.D.	= 593.66	P(N>=r)=	.90000
	99%	= 314.74	75%	= 751.06	10%	= 1938.6
	95%	= 449.36	50%	= 1063.1	5%	= 2282.6
	90%	= 544.35	25%	= 1469.7	1%	= 3107.8
5	MEAN	= 966.72	S.D.	= 471.94	P(N>=r)=	.90000
	99%	= 260.30	75%	= 622.34	10%	= 1584.0
	95%	= 371.87	50%	= 883.12	5%	= 1845.8
	90%	= 450.53	25%	= 1215.7	1%	= 2452.0
6	MEAN	= 820.67	S.D.	= 394.79	P(N>=r)=	.90000
	99%	= 218.88	75%	= 528.09	10%	= 1343.2
	95%	= 313.86	50%	= 753.91	5%	= 1554.4
	90%	= 380.90	25%	= 1038.4	1%	= 2030.6
7	MEAN	= 711.70	S.D.	= 341.20	P(N>=r)=	.90000
	99%	= 186.10	75%	= 455.61	10%	= 1167.4
	95%	= 268.50	50%	= 655.79	5%	= 1344.4
	90%	= 326.82	25%	= 906.42	1%	= 1734.9
8	MEAN	= 626.75	S.D.	= 301.62	P(N>=r)=	.90000
	99%	= 159.39	75%	= 397.88	10%	= 1032.5
	95%	= 231.91	50%	= 578.30	5%	= 1184.8
	90%	= 283.43	25%	= 803.73	1%	= 1514.8
9	MEAN	= 558.34	S.D.	= 271.05	P(N>=r)=	.90000
	99%	= 137.17	75%	= 350.69	10%	= 925.26
	95%	= 201.69	50%	= 515.30	5%	= 1058.8
	90%	= 247.75	25%	= 721.15	1%	= 1343.8
10	MEAN	= 501.90	S.D.	= 246.64	P(N>=r)=	.90000
	99%	= 118.36	75%	= 311.32	10%	= 837.56
	95%	= 176.27	50%	= 462.93	5%	= 956.38
	90%	= 217.84	25%	= 653.08	1%	= 1206.7
11	MEAN	= 454.42	S.D.	= 226.64	P(N>=r)=	.90000
	99%	= 102.21	75%	= 277.96	10%	= 764.31
	95%	= 154.56	50%	= 418.57	5%	= 871.29
	90%	= 192.36	25%	= 595.84	1%	= 1094.0
12	MEAN	= 413.85	S.D.	= 209.90	P(N>=r)=	.90000
	99%	= 88.172	75%	= 249.30	10%	= 702.07
	95%	= 135.81	50%	= 380.45	5%	= 799.30
	90%	= 170.40	25%	= 546.93	1%	= 999.63
13	MEAN	= 378.74	S.D.	= 195.66	P(N>=r)=	.89999
	99%	= 75.859	75%	= 224.40	10%	= 648.43
	95%	= 119.46	50%	= 347.31	5%	= 737.48
	90%	= 151.27	25%	= 504.59	1%	= 919.22
14	MEAN	= 348.03	S.D.	= 183.36	P(N>=r)=	.89998
	99%	= 64.969	75%	= 202.57	10%	= 601.65
	95%	= 105.05	50%	= 318.25	5%	= 683.75
	90%	= 134.45	25%	= 467.51	1%	= 849.84
15	MEAN	= 320.92	S.D.	= 172.62	P(N>=r)=	.89995
	99%	= 55.279	75%	= 183.28	10%	= 560.45
	95%	= 92.254	50%	= 292.56	5%	= 636.55

	90%	= 119.58	25%	= 434.71	1%	= 789.30
16	MEAN	= 296.81	S.D.	= 163.13	P(N>=r)	= .89988
	99%	= 46.629	75%	= 166.13	10%	= 523.84
	95%	= 80.844	50%	= 269.71	5%	= 594.72
	90%	= 106.32	25%	= 405.47	1%	= 735.96
17	MEAN	= 275.23	S.D.	= 154.67	P(N>=r)	= .89970
	99%	= 38.923	75%	= 150.81	10%	= 491.09
	95%	= 70.632	50%	= 249.26	5%	= 557.38
	90%	= 94.435	25%	= 379.28	1%	= 688.57
18	MEAN	= 255.82	S.D.	= 147.06	P(N>=r)	= .89934
	99%	= 32.120	75%	= 137.07	10%	= 461.61
	95%	= 61.491	50%	= 230.88	5%	= 523.82
	90%	= 83.777	25%	= 355.74	1%	= 646.19
19	MEAN	= 238.30	S.D.	= 140.16	P(N>=r)	= .89864
	99%	= 26.227	75%	= 124.71	10%	= 435.00
	95%	= 53.336	50%	= 214.29	5%	= 493.49
	90%	= 74.227	25%	= 334.50	1%	= 608.04
20	MEAN	= 222.48	S.D.	= 133.83	P(N>=r)	= .89737
	99%	= 21.272	75%	= 113.61	10%	= 410.91
	95%	= 46.126	50%	= 199.31	5%	= 466.00
	90%	= 65.710	25%	= 315.20	1%	= 573.52
21	MEAN	= 208.17	S.D.	= 127.98	P(N>=r)	= .89527
	99%	= 17.257	75%	= 103.67	10%	= 389.04
	95%	= 39.838	50%	= 185.75	5%	= 441.01
	90%	= 58.178	25%	= 297.63	1%	= 542.16
22	MEAN	= 195.27	S.D.	= 122.52	P(N>=r)	= .89199
	99%	= 14.125	75%	= 94.813	10%	= 369.04
	95%	= 34.461	50%	= 173.54	5%	= 418.35
	90%	= 51.603	25%	= 281.56	1%	= 513.54
23	MEAN	= 183.66	S.D.	= 117.39	P(N>=r)	= .88720
	99%	= 11.755	75%	= 87.005	10%	= 350.57
	95%	= 29.963	50%	= 162.57	5%	= 397.50
	90%	= 45.954	25%	= 266.89	1%	= 487.36
24	MEAN	= 173.24	S.D.	= 112.55	P(N>=r)	= .88062
	99%	= 9.9989	75%	= 80.185	10%	= 333.51
	95%	= 26.287	50%	= 152.78	5%	= 378.27
	90%	= 41.187	25%	= 253.48	1%	= 463.36
25	MEAN	= 163.91	S.D.	= 107.95	P(N>=r)	= .87208
	99%	= 8.7087	75%	= 74.285	10%	= 317.77
	95%	= 23.346	50%	= 144.09	5%	= 360.42
	90%	= 37.234	25%	= 241.24	1%	= 441.23
26	MEAN	= 155.56	S.D.	= 103.58	P(N>=r)	= .86153
	99%	= 7.7624	75%	= 69.215	10%	= 303.23
	95%	= 21.031	50%	= 136.43	5%	= 343.84
	90%	= 34.002	25%	= 230.07	1%	= 420.62
27	MEAN	= 148.07	S.D.	= 99.415	P(N>=r)	= .84912
	99%	= 7.0654	75%	= 64.869	10%	= 289.76
	95%	= 19.226	50%	= 129.69	5%	= 328.48

	90%	= 31.384	25%	= 219.86	1%	= 401.35
28	MEAN	= 141.33	S.D.	= 95.448	P(N>=r)	= .83509
	99%	= 6.5471	75%	= 61.132	10%	= 277.28
	95%	= 17.819	50%	= 123.73	5%	= 314.21
	90%	= 29.263	25%	= 210.49	1%	= 383.32
29	MEAN	= 135.22	S.D.	= 91.674	P(N>=r)	= .81976
	99%	= 6.1558	75%	= 57.892	10%	= 265.69
	95%	= 16.713	50%	= 118.46	5%	= 300.93
	90%	= 27.530	25%	= 201.86	1%	= 366.53
30	MEAN	= 129.64	S.D.	= 88.085	P(N>=r)	= .80346
	99%	= 5.8530	75%	= 55.050	10%	= 254.88
	95%	= 15.826	50%	= 113.75	5%	= 288.56
	90%	= 26.087	25%	= 193.86	1%	= 351.05
31	MEAN	= 124.51	S.D.	= 84.674	P(N>=r)	= .78650
	99%	= 5.6108	75%	= 52.524	10%	= 244.76
	95%	= 15.092	50%	= 109.52	5%	= 276.97
	90%	= 24.854	25%	= 186.41	1%	= 336.62
32	MEAN	= 119.77	S.D.	= 81.434	P(N>=r)	= .76913
	99%	= 5.4088	75%	= 50.253	10%	= 235.24
	95%	= 14.463	50%	= 105.70	5%	= 266.09
	90%	= 23.771	25%	= 179.44	1%	= 323.15
33	MEAN	= 115.35	S.D.	= 78.355	P(N>=r)	= .75151
	99%	= 5.2332	75%	= 48.192	10%	= 226.27
	95%	= 13.906	50%	= 102.21	5%	= 255.84
	90%	= 22.796	25%	= 172.87	1%	= 310.51
34	MEAN	= 111.22	S.D.	= 75.425	P(N>=r)	= .73377
	99%	= 5.0748	75%	= 46.315	10%	= 217.80
	95%	= 13.399	50%	= 99.006	5%	= 246.16
	90%	= 21.903	25%	= 166.68	1%	= 298.63
35	MEAN	= 107.35	S.D.	= 72.633	P(N>=r)	= .71598
	99%	= 4.9280	75%	= 44.605	10%	= 209.77
	95%	= 12.929	50%	= 96.057	5%	= 236.99
	90%	= 21.077	25%	= 160.81	1%	= 287.39
36	MEAN	= 103.72	S.D.	= 69.968	P(N>=r)	= .69817
	99%	= 4.7900	75%	= 43.053	10%	= 202.16
	95%	= 12.490	50%	= 93.329	5%	= 228.30
	90%	= 20.309	25%	= 155.26	1%	= 276.76
37	MEAN	= 100.30	S.D.	= 67.419	P(N>=r)	= .68036
	99%	= 4.6593	75%	= 41.657	10%	= 194.93
	95%	= 12.079	50%	= 90.795	5%	= 220.05
	90%	= 19.597	25%	= 149.98	1%	= 266.67
38	MEAN	= 97.091	S.D.	= 64.975	P(N>=r)	= .66258
	99%	= 4.5358	75%	= 40.416	10%	= 188.06
	95%	= 11.695	50%	= 88.430	5%	= 212.21
	90%	= 18.941	25%	= 144.96	1%	= 257.09
39	MEAN	= 94.069	S.D.	= 62.626	P(N>=r)	= .64483
	99%	= 4.4197	75%	= 39.331	10%	= 181.51
	95%	= 11.340	50%	= 86.212	5%	= 204.74

	90%	= 18.343	25%	= 140.18	1%	= 247.97
40	MEAN	= 91.223	S.D.	= 60.364	P(N>=r)	= .62715
	99%	= 4.3118	75%	= 38.402	10%	= 175.27
	95%	= 11.016	50%	= 84.120	5%	= 197.62
	90%	= 17.806	25%	= 135.62	1%	= 239.29
41	MEAN	= 88.538	S.D.	= 58.180	P(N>=r)	= .60957
	99%	= 4.2130	75%	= 37.629	10%	= 169.31
	95%	= 10.725	50%	= 82.143	5%	= 190.83
	90%	= 17.333	25%	= 131.26	1%	= 231.01
42	MEAN	= 86.002	S.D.	= 56.067	P(N>=r)	= .59214
	99%	= 4.1246	75%	= 37.005	10%	= 163.62
	95%	= 10.469	50%	= 80.244	5%	= 184.34
	90%	= 16.928	25%	= 127.09	1%	= 223.11
43	MEAN	= 83.598	S.D.	= 54.020	P(N>=r)	= .57490
	99%	= 4.0474	75%	= 36.521	10%	= 158.17
	95%	= 10.252	50%	= 78.413	5%	= 178.13
	90%	= 16.594	25%	= 123.09	1%	= 215.56
44	MEAN	= 81.310	S.D.	= 52.035	P(N>=r)	= .55794
	99%	= 3.9825	75%	= 36.158	10%	= 152.94
	95%	= 10.075	50%	= 76.633	5%	= 172.18
	90%	= 16.332	25%	= 119.25	1%	= 208.33
45	MEAN	= 79.123	S.D.	= 50.109	P(N>=r)	= .54132
	99%	= 3.9308	75%	= 35.889	10%	= 147.91
	95%	= 9.9389	50%	= 74.884	5%	= 166.48
	90%	= 16.142	25%	= 115.54	1%	= 201.40
46	MEAN	= 77.017	S.D.	= 48.240	P(N>=r)	= .52514
	99%	= 3.8924	75%	= 35.679	10%	= 143.08
	95%	= 9.8442	50%	= 73.153	5%	= 160.99
	90%	= 16.022	25%	= 111.95	1%	= 194.75
47	MEAN	= 74.976	S.D.	= 46.431	P(N>=r)	= .50947
	99%	= 3.8671	75%	= 35.489	10%	= 138.42
	95%	= 9.7885	50%	= 71.423	5%	= 155.71
	90%	= 15.963	25%	= 108.48	1%	= 188.36
48	MEAN	= 72.982	S.D.	= 44.681	P(N>=r)	= .49438
	99%	= 3.8542	75%	= 35.281	10%	= 133.92
	95%	= 9.7673	50%	= 69.684	5%	= 150.62
	90%	= 15.953	25%	= 105.10	1%	= 182.21
49	MEAN	= 71.020	S.D.	= 42.995	P(N>=r)	= .47994
	99%	= 3.8519	75%	= 35.020	10%	= 129.57
	95%	= 9.7732	50%	= 67.927	5%	= 145.70
	90%	= 15.973	25%	= 101.80	1%	= 176.28
50	MEAN	= 69.079	S.D.	= 41.374	P(N>=r)	= .46618
	99%	= 3.8574	75%	= 34.681	10%	= 125.35
	95%	= 9.7962	50%	= 66.141	5%	= 140.95
	90%	= 16.004	25%	= 98.582	1%	= 170.57
51	MEAN	= 67.150	S.D.	= 39.821	P(N>=r)	= .45311
	99%	= 3.8674	75%	= 34.252	10%	= 121.25
	95%	= 9.8238	50%	= 64.339	5%	= 136.35

	90%	= 16.020	25%	= 95.436	1%	= 165.05
52	MEAN	= 65.227	S.D.	= 38.336	P(N>=r)	= .44073
	99%	= 3.8778	75%	= 33.727	10%	= 117.28
	95%	= 9.8427	50%	= 62.516	5%	= 131.89
	90%	= 16.001	25%	= 92.357	1%	= 159.72
53	MEAN	= 63.310	S.D.	= 36.921	P(N>=r)	= .42897
	99%	= 3.8843	75%	= 33.111	10%	= 113.42
	95%	= 9.8408	50%	= 60.671	5%	= 127.57
	90%	= 15.932	25%	= 89.345	1%	= 154.57
54	MEAN	= 61.403	S.D.	= 35.573	P(N>=r)	= .41779
	99%	= 3.8831	75%	= 32.416	10%	= 109.67
	95%	= 9.8087	50%	= 58.819	5%	= 123.39
	90%	= 15.803	25%	= 86.401	1%	= 149.59
55	MEAN	= 59.509	S.D.	= 34.288	P(N>=r)	= .40711
	99%	= 3.8715	75%	= 31.656	10%	= 106.03
	95%	= 9.7413	50%	= 56.976	5%	= 119.33
	90%	= 15.614	25%	= 83.524	1%	= 144.76
56	MEAN	= 57.635	S.D.	= 33.063	P(N>=r)	= .39684
	99%	= 3.8480	75%	= 30.848	10%	= 102.50
	95%	= 9.6380	50%	= 55.152	5%	= 115.40
	90%	= 15.371	25%	= 80.718	1%	= 140.10
57	MEAN	= 55.788	S.D.	= 31.894	P(N>=r)	= .38691
	99%	= 3.8125	75%	= 30.006	10%	= 99.074
	95%	= 9.5019	50%	= 53.359	5%	= 111.59
	90%	= 15.083	25%	= 77.985	1%	= 135.59
58	MEAN	= 53.974	S.D.	= 30.774	P(N>=r)	= .37723
	99%	= 3.7662	75%	= 29.145	10%	= 95.750
	95%	= 9.3387	50%	= 51.605	5%	= 107.90
	90%	= 14.760	25%	= 75.325	1%	= 131.22
59	MEAN	= 52.199	S.D.	= 29.701	P(N>=r)	= .36774
	99%	= 3.7109	75%	= 28.278	10%	= 92.528
	95%	= 9.1548	50%	= 49.892	5%	= 104.32
	90%	= 14.412	25%	= 72.741	1%	= 126.99
60	MEAN	= 50.465	S.D.	= 28.670	P(N>=r)	= .35839
	99%	= 3.6489	75%	= 27.413	10%	= 89.405
	95%	= 8.9566	50%	= 48.219	5%	= 100.86
	90%	= 14.050	25%	= 70.232	1%	= 122.90
61	MEAN	= 48.776	S.D.	= 27.678	P(N>=r)	= .34913
	99%	= 3.5822	75%	= 26.557	10%	= 86.380
	95%	= 8.7496	50%	= 46.592	5%	= 97.502
	90%	= 13.681	25%	= 67.797	1%	= 118.94
62	MEAN	= 47.132	S.D.	= 26.721	P(N>=r)	= .33993
	99%	= 3.5126	75%	= 25.716	10%	= 83.449
	95%	= 8.5380	50%	= 44.981	5%	= 94.254
	90%	= 13.309	25%	= 65.436	1%	= 115.11
63	MEAN	= 45.535	S.D.	= 25.797	P(N>=r)	= .33077
	99%	= 3.4414	75%	= 24.891	10%	= 80.609
	95%	= 8.3251	50%	= 43.400	5%	= 91.108

	90%	= 12.940	25%	= 63.146	1%	= 111.40
64	MEAN	= 43.984	S.D.	= 24.905	P(N>=r)	= .32163
	99%	= 3.3695	75%	= 24.085	10%	= 77.857
	95%	= 8.1129	50%	= 41.862	5%	= 88.060
	90%	= 12.575	25%	= 60.927	1%	= 107.81
65	MEAN	= 42.477	S.D.	= 24.043	P(N>=r)	= .31251
	99%	= 3.2976	75%	= 23.298	10%	= 75.190
	95%	= 7.9027	50%	= 40.376	5%	= 85.106
	90%	= 12.215	25%	= 58.774	1%	= 104.33
66	MEAN	= 41.014	S.D.	= 23.209	P(N>=r)	= .30339
	99%	= 3.2260	75%	= 22.531	10%	= 72.605
	95%	= 7.6951	50%	= 38.937	5%	= 82.244
	90%	= 11.862	25%	= 56.687	1%	= 100.96
67	MEAN	= 39.593	S.D.	= 22.402	P(N>=r)	= .29428
	99%	= 3.1550	75%	= 21.782	10%	= 70.099
	95%	= 7.4907	50%	= 37.541	5%	= 79.469
	90%	= 11.516	25%	= 54.663	1%	= 97.687
68	MEAN	= 38.213	S.D.	= 21.621	P(N>=r)	= .28517
	99%	= 3.0847	75%	= 21.051	10%	= 67.668
	95%	= 7.2894	50%	= 36.185	5%	= 76.778
	90%	= 11.176	25%	= 52.699	1%	= 94.518
69	MEAN	= 36.872	S.D.	= 20.865	P(N>=r)	= .27606
	99%	= 3.0149	75%	= 20.338	10%	= 65.311
	95%	= 7.0912	50%	= 34.867	5%	= 74.168
	90%	= 10.842	25%	= 50.790	1%	= 91.444
70	MEAN	= 35.569	S.D.	= 20.133	P(N>=r)	= .26695
	99%	= 2.9458	75%	= 19.641	10%	= 63.024
	95%	= 6.8960	50%	= 33.586	5%	= 71.636
	90%	= 10.515	25%	= 48.936	1%	= 88.462
71	MEAN	= 34.303	S.D.	= 19.425	P(N>=r)	= .25784
	99%	= 2.8772	75%	= 18.961	10%	= 60.805
	95%	= 6.7036	50%	= 32.341	5%	= 69.180
	90%	= 10.194	25%	= 47.123	1%	= 85.570
72	MEAN	= 33.071	S.D.	= 18.739	P(N>=r)	= .24873
	99%	= 2.8092	75%	= 18.296	10%	= 58.651
	95%	= 6.5139	50%	= 31.130	5%	= 66.796
	90%	= 9.8778	25%	= 45.353	1%	= 82.762
73	MEAN	= 31.874	S.D.	= 18.076	P(N>=r)	= .23963
	99%	= 2.7416	75%	= 17.646	10%	= 56.562
	95%	= 6.3266	50%	= 29.953	5%	= 64.482
	90%	= 9.5672	25%	= 43.645	1%	= 80.038
74	MEAN	= 30.710	S.D.	= 17.433	P(N>=r)	= .23052
	99%	= 2.6745	75%	= 17.011	10%	= 54.534
	95%	= 6.1418	50%	= 28.808	5%	= 62.237
	90%	= 9.2617	25%	= 42.021	1%	= 77.393
75	MEAN	= 29.578	S.D.	= 16.811	P(N>=r)	= .22142
	99%	= 2.6077	75%	= 16.389	10%	= 52.565
	95%	= 5.9591	50%	= 27.695	5%	= 60.057

	90%	= 8.9610	25%	= 40.491	1%	= 74.825
76	MEAN	= 28.478	S.D.	= 16.209	P(N>=r)	= .21231
	99%	= 2.5412	75%	= 15.782	10%	= 50.655
	95%	= 5.7786	50%	= 26.613	5%	= 57.942
	90%	= 8.6650	25%	= 38.971	1%	= 72.333
77	MEAN	= 27.408	S.D.	= 15.627	P(N>=r)	= .20321
	99%	= 2.4750	75%	= 15.188	10%	= 48.801
	95%	= 5.6001	50%	= 25.561	5%	= 55.889
	90%	= 8.3736	25%	= 37.469	1%	= 69.913
78	MEAN	= 26.368	S.D.	= 15.063	P(N>=r)	= .19411
	99%	= 2.4092	75%	= 14.608	10%	= 47.003
	95%	= 5.4237	50%	= 24.540	5%	= 53.897
	90%	= 8.0868	25%	= 36.006	1%	= 67.563
79	MEAN	= 25.359	S.D.	= 14.518	P(N>=r)	= .18502
	99%	= 2.3436	75%	= 14.042	10%	= 45.257
	95%	= 5.2493	50%	= 23.549	5%	= 51.964
	90%	= 7.8046	25%	= 34.593	1%	= 65.283
80	MEAN	= 24.378	S.D.	= 13.991	P(N>=r)	= .17593
	99%	= 2.2783	75%	= 13.489	10%	= 43.557
	95%	= 5.0770	50%	= 22.587	5%	= 50.089
	90%	= 7.5271	25%	= 33.226	1%	= 63.070
81	MEAN	= 23.427	S.D.	= 13.481	P(N>=r)	= .16686
	99%	= 2.2134	75%	= 12.951	10%	= 41.872
	95%	= 4.9070	50%	= 21.655	5%	= 48.272
	90%	= 7.2546	25%	= 31.902	1%	= 60.923
82	MEAN	= 22.505	S.D.	= 12.988	P(N>=r)	= .15781
	99%	= 2.1489	75%	= 12.427	10%	= 40.232
	95%	= 4.7395	50%	= 20.752	5%	= 46.510
	90%	= 6.9873	25%	= 30.621	1%	= 58.840
83	MEAN	= 21.612	S.D.	= 12.512	P(N>=r)	= .14878
	99%	= 2.0850	75%	= 11.918	10%	= 38.674
	95%	= 4.5748	50%	= 19.879	5%	= 44.804
	90%	= 6.7256	25%	= 29.382	1%	= 56.820
84	MEAN	= 20.748	S.D.	= 12.053	P(N>=r)	= .13979
	99%	= 2.0218	75%	= 11.424	10%	= 37.241
	95%	= 4.4131	50%	= 19.037	5%	= 43.151
	90%	= 6.4701	25%	= 28.185	1%	= 54.863
85	MEAN	= 19.914	S.D.	= 11.608	P(N>=r)	= .13085
	99%	= 1.9594	75%	= 10.947	10%	= 35.834
	95%	= 4.2548	50%	= 18.224	5%	= 41.544
	90%	= 6.2211	25%	= 27.031	1%	= 52.967
86	MEAN	= 19.109	S.D.	= 11.180	P(N>=r)	= .12198
	99%	= 1.8980	75%	= 10.486	10%	= 34.445
	95%	= 4.1003	50%	= 17.442	5%	= 39.945
	90%	= 5.9791	25%	= 25.919	1%	= 51.132
87	MEAN	= 18.334	S.D.	= 10.767	P(N>=r)	= .11319
	99%	= 1.8379	75%	= 10.042	10%	= 33.103
	95%	= 3.9501	50%	= 16.691	5%	= 38.351

	90%	= 5.7447	25%	= 24.849	1%	= 49.357
88	MEAN	= 17.589	S.D.	= 10.368	P(N>=r)	= .10452
	99%	= 1.7792	75%	= 9.6155	10%	= 31.813
	95%	= 3.8044	50%	= 15.971	5%	= 36.885
	90%	= 5.5185	25%	= 23.821	1%	= 47.641
89	MEAN	= 16.874	S.D.	= 9.9842	P(N>=r)	= .95991E-01
	99%	= 1.7220	75%	= 9.2074	10%	= 30.571
	95%	= 3.6636	50%	= 15.283	5%	= 35.545
	90%	= 5.3007	25%	= 22.834	1%	= 45.984
90	MEAN	= 16.189	S.D.	= 9.6147	P(N>=r)	= .87640E-01
	99%	= 1.6666	75%	= 8.8176	10%	= 29.379
	95%	= 3.5281	50%	= 14.626	5%	= 34.230
	90%	= 5.0918	25%	= 21.890	1%	= 44.386
91	MEAN	= 15.534	S.D.	= 9.2593	P(N>=r)	= .79507E-01
	99%	= 1.6131	75%	= 8.4464	10%	= 28.235
	95%	= 3.3981	50%	= 14.000	5%	= 32.946
	90%	= 4.8922	25%	= 20.988	1%	= 42.846
92	MEAN	= 14.909	S.D.	= 8.9177	P(N>=r)	= .71631E-01
	99%	= 1.5616	75%	= 8.0939	10%	= 27.139
	95%	= 3.2739	50%	= 13.405	5%	= 31.712
	90%	= 4.7019	25%	= 20.127	1%	= 41.363
93	MEAN	= 14.314	S.D.	= 8.5898	P(N>=r)	= .64056E-01
	99%	= 1.5122	75%	= 7.7600	10%	= 26.090
	95%	= 3.1555	50%	= 12.841	5%	= 30.530
	90%	= 4.5211	25%	= 19.307	1%	= 39.936
94	MEAN	= 13.749	S.D.	= 8.2753	P(N>=r)	= .56827E-01
	99%	= 1.4650	75%	= 7.4443	10%	= 25.089
	95%	= 3.0430	50%	= 12.307	5%	= 29.398
	90%	= 4.3499	25%	= 18.528	1%	= 38.557
95	MEAN	= 13.211	S.D.	= 7.9740	P(N>=r)	= .49984E-01
	99%	= 1.4200	75%	= 7.1467	10%	= 24.134
	95%	= 2.9364	50%	= 11.802	5%	= 28.316
	90%	= 4.1880	25%	= 17.788	1%	= 37.171
96	MEAN	= 12.703	S.D.	= 7.6856	P(N>=r)	= .43567E-01
	99%	= 1.3773	75%	= 6.8665	10%	= 23.225
	95%	= 2.8356	50%	= 11.327	5%	= 27.282
	90%	= 4.0353	25%	= 17.087	1%	= 35.722
97	MEAN	= 12.221	S.D.	= 7.4100	P(N>=r)	= .37610E-01
	99%	= 1.3367	75%	= 6.6032	10%	= 22.360
	95%	= 2.7405	50%	= 10.879	5%	= 26.297
	90%	= 3.8915	25%	= 16.423	1%	= 34.376
98	MEAN	= 11.766	S.D.	= 7.1467	P(N>=r)	= .32138E-01
	99%	= 1.2983	75%	= 6.3562	10%	= 21.538
	95%	= 2.6509	50%	= 10.458	5%	= 25.358
	90%	= 3.7564	25%	= 15.796	1%	= 33.226
99	MEAN	= 11.336	S.D.	= 6.8956	P(N>=r)	= .27169E-01
	99%	= 1.2620	75%	= 6.1246	10%	= 20.758
	95%	= 2.5666	50%	= 10.062	5%	= 24.464

	90%	= 3.6295	25%	= 15.204	1%	= 32.138
100	MEAN	= 10.930	S.D.	= 6.6561	P(N>=r)	= .22713E-01
	99%	= 1.2277	75%	= 5.9076	10%	= 20.020
	95%	= 2.4874	50%	= 9.6910	5%	= 23.615
	90%	= 3.5105	25%	= 14.646	1%	= 31.081
101	MEAN	= 10.548	S.D.	= 6.4281	P(N>=r)	= .18766E-01
	99%	= 1.1953	75%	= 5.7045	10%	= 19.320
	95%	= 2.4129	50%	= 9.3429	5%	= 22.808
	90%	= 3.3989	25%	= 14.120	1%	= 30.069
102	MEAN	= 10.188	S.D.	= 6.2111	P(N>=r)	= .15317E-01
	99%	= 1.1648	75%	= 5.5145	10%	= 18.658
	95%	= 2.3430	50%	= 9.0166	5%	= 22.042
	90%	= 3.2944	25%	= 13.625	1%	= 29.103
103	MEAN	= 9.8490	S.D.	= 6.0047	P(N>=r)	= .12345E-01
	99%	= 1.1360	75%	= 5.3366	10%	= 18.031
	95%	= 2.2774	50%	= 8.7108	5%	= 21.316
	90%	= 3.1964	25%	= 13.159	1%	= 28.181

E) The mean of the potential = 17883.

PETRIMES MODULE MPRO

NO. OF POOLS DISTRIBUTION AND RISKS
****

UAI	C5429304
PLAY	Kishenehn Tertiary Oil Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	MON, APR 19, 1993, 10:46 AM

A) Risks

	GEOLOGICAL FACTOR		MARGINAL PROBABILITY
PLAY LEVEL	Adequate Timing	(5)	.90
	Overall Play Level Risk	=	.90
PROSPECT LEVEL	Presence of Closure	(1)	.76
	Presence of Reservoir Facies	(2)	.91
	Adequate Seal	(4)	.94
	Adequate Source	(6)	.76
	Overall Prospect Level Risk	=	.49
EXPLORATION RISK:		=	.44

B) No. of Prospects Distribution

Minimum	=	50
Maximum	=	200
Mean	=	112.74
S.D.	=	44.16

Frequency	No. of Prospects
99.00	50
95	55
90	60
80	70
75	75
60	90
50	100
40	120

25	150
20	160
10	180
5	190
1	198
0	200

C) No. of Pools Distribution

Minimum = 0
Maximum = 126
Mean = 50.13
S.D. = 27.08

Frequency	No. of Pools
90.00	0
80	30
75	33
60	41
50	47
40	55
25	71
20	77
10	88
5	94
1	103
0	126

PETRIMES MODULE PSRK

INDIVIDUAL POOL SIZES BY RANK
WHERE N IS A RANDOM VARIABLE
****

UAI	C5429304
PLAY	Kishenehn Tertiary Graben Oil Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	WED, MAY 12, 1993, 5:00 PM

A) Basic Information

TYPE OF RESOURCE = Oil In Place
SYSTEM OF MEASUREMENT = S.I.
UNIT OF MEASUREMENT = M cu m (19)

B) Lognormal Pool Size Distribution

Summary	mu	=-.61619	MEAN	= 1.2114		
Statistics	sig. sq=	1.6160	S.D.	= 2.4328		
Upper	99.99%	= .47773E-02	60.00%	= .39131	15.00%	= 2.0165
Percentiles	99.00%	= .28058E-01	55.00%	= .46028	10.00%	= 2.7537
	95.00%	= .66726E-01	50.00%	= .54000	8.00%	= 3.2219
	90.00%	= .10589	45.00%	= .63353	6.00%	= 3.8973
	85.00%	= .14461	40.00%	= .74518	5.00%	= 4.3701
	80.00%	= .18525	35.00%	= .88130	4.00%	= 4.9994
	75.00%	= .22910	30.00%	= 1.0517	2.00%	= 7.3491
	70.00%	= .27726	25.00%	= 1.2728	1.00%	= 10.393
	65.00%	= .33088	20.00%	= 1.5741	.01%	= 61.038

C) No. of Pools Distribution

Lower Support = 0
Upper Support = 126
Expectation = 50.13
Standard Deviation= 27.08

D) Pool Sizes By Rank

Pool Rank			Distribution			
1	MEAN	= 11.767	S.D.	= 10.108	P(N>=r)=	.90000
	99%	= 2.5324	75%	= 6.1716	10%	= 21.367
	95%	= 3.6277	50%	= 9.1139	5%	= 28.271
	90%	= 4.4144	25%	= 13.939	1%	= 50.312
2	MEAN	= 6.5016	S.D.	= 3.5738	P(N>=r)=	.90000
	99%	= 1.8334	75%	= 4.1130	10%	= 10.790
	95%	= 2.5513	50%	= 5.7138	5%	= 13.063
	90%	= 3.0501	25%	= 7.9431	1%	= 19.097
3	MEAN	= 4.7624	S.D.	= 2.2623	P(N>=r)=	.90000
	99%	= 1.4531	75%	= 3.1732	10%	= 7.6308
	95%	= 2.0009	50%	= 4.3362	5%	= 8.9603

	90%	= 2.3776	25%	= 5.8506	1%	= 12.217
4	MEAN	= 3.8241	S.D.	= 1.7021	P(N>=r)	= .90000
	99%	= 1.1993	75%	= 2.5979	10%	= 6.0337
	95%	= 1.6458	50%	= 3.5377	5%	= 6.9765
	90%	= 1.9515	25%	= 4.7176	1%	= 9.1780
5	MEAN	= 3.2156	S.D.	= 1.3881	P(N>=r)	= .90000
	99%	= 1.0131	75%	= 2.1981	10%	= 5.0422
	95%	= 1.3909	50%	= 3.0001	5%	= 5.7764
	90%	= 1.6496	25%	= 3.9855	1%	= 7.4346
6	MEAN	= 2.7804	S.D.	= 1.1854	P(N>=r)	= .90000
	99%	= .86846	75%	= 1.8997	10%	= 4.3550
	95%	= 1.1963	50%	= 2.6066	5%	= 4.9585
	90%	= 1.4209	25%	= 3.4645	1%	= 6.2876
7	MEAN	= 2.4497	S.D.	= 1.0426	P(N>=r)	= .90000
	99%	= .75184	75%	= 1.6651	10%	= 3.8446
	95%	= 1.0414	50%	= 2.3028	5%	= 4.3584
	90%	= 1.2402	25%	= 3.0703	1%	= 5.4670
8	MEAN	= 2.1876	S.D.	= .93595	P(N>=r)	= .90000
	99%	= .65515	75%	= 1.4771	10%	= 3.4472
	95%	= .91424	50%	= 2.0594	5%	= 3.8954
	90%	= 1.0927	25%	= 2.7591	1%	= 4.8460
9	MEAN	= 1.9735	S.D.	= .85283	P(N>=r)	= .90000
	99%	= .57331	75%	= 1.3203	10%	= 3.1270
	95%	= .80757	50%	= 1.8587	5%	= 3.5249
	90%	= .96953	25%	= 2.5057	1%	= 4.3567
10	MEAN	= 1.7946	S.D.	= .78593	P(N>=r)	= .90000
	99%	= .50288	75%	= 1.1877	10%	= 2.8621
	95%	= .71645	50%	= 1.6899	5%	= 3.2203
	90%	= .86477	25%	= 2.2944	1%	= 3.9593
11	MEAN	= 1.6422	S.D.	= .73073	P(N>=r)	= .90000
	99%	= .44140	75%	= 1.0739	10%	= 2.6385
	95%	= .63748	50%	= 1.5452	5%	= 2.9643
	90%	= .77429	25%	= 2.1148	1%	= 3.6290
12	MEAN	= 1.5105	S.D.	= .68426	P(N>=r)	= .90000
	99%	= .38710	75%	= .97493	10%	= 2.4467
	95%	= .56827	50%	= 1.4194	5%	= 2.7456
	90%	= .69520	25%	= 1.9598	1%	= 3.3493
13	MEAN	= 1.3953	S.D.	= .64451	P(N>=r)	= .89999
	99%	= .33866	75%	= .88789	10%	= 2.2798
	95%	= .50703	50%	= 1.3090	5%	= 2.5561
	90%	= .62538	25%	= 1.8243	1%	= 3.1088
14	MEAN	= 1.2936	S.D.	= .61003	P(N>=r)	= .89998
	99%	= .29509	75%	= .81071	10%	= 2.1331
	95%	= .45228	50%	= 1.2112	5%	= 2.3899
	90%	= .56320	25%	= 1.7047	1%	= 2.8994
15	MEAN	= 1.2028	S.D.	= .57979	P(N>=r)	= .89995
	99%	= .25563	75%	= .74171	10%	= 2.0028
	95%	= .40299	50%	= 1.1239	5%	= 2.2427

	90%	= .50748	25%	= 1.5980	1%	= 2.7151
16	MEAN	= 1.1214	S.D.	= .55298	P(N>=r)	= .89988
	99%	= .21976	75%	= .67971	10%	= 1.8861
	95%	= .35837	50%	= 1.0456	5%	= 2.1112
	90%	= .45714	25%	= 1.5021	1%	= 2.5514
17	MEAN	= 1.0478	S.D.	= .52899	P(N>=r)	= .89970
	99%	= .18717	75%	= .62371	10%	= 1.7809
	95%	= .31785	50%	= .97478	5%	= 1.9930
	90%	= .41144	25%	= 1.4156	1%	= 2.4049
18	MEAN	= .98104	S.D.	= .50732	P(N>=r)	= .89934
	99%	= .15779	75%	= .57294	10%	= 1.6856
	95%	= .28101	50%	= .91062	5%	= 1.8860
	90%	= .36990	25%	= 1.3372	1%	= 2.2728
19	MEAN	= .92030	S.D.	= .48754	P(N>=r)	= .89864
	99%	= .13178	75%	= .52679	10%	= 1.5989
	95%	= .24764	50%	= .85225	5%	= 1.7886
	90%	= .33218	25%	= 1.2660	1%	= 2.1532
20	MEAN	= .86498	S.D.	= .46931	P(N>=r)	= .89737
	99%	= .10941	75%	= .48489	10%	= 1.5200
	95%	= .21765	50%	= .79908	5%	= 1.6998
	90%	= .29808	25%	= 1.2009	1%	= 2.0442
21	MEAN	= .81463	S.D.	= .45231	P(N>=r)	= .89527
	99%	= .90847E-01	75%	= .44700	10%	= 1.4479
	95%	= .19107	50%	= .75060	5%	= 1.6186
	90%	= .26752	25%	= 1.1412	1%	= 1.9446
22	MEAN	= .76890	S.D.	= .43629	P(N>=r)	= .89199
	99%	= .76033E-01	75%	= .41290	10%	= 1.3815
	95%	= .16797	50%	= .70657	5%	= 1.5444
	90%	= .24047	25%	= 1.0863	1%	= 1.8531
23	MEAN	= .72750	S.D.	= .42104	P(N>=r)	= .88720
	99%	= .64585E-01	75%	= .38254	10%	= 1.3199
	95%	= .14834	50%	= .66674	5%	= 1.4758
	90%	= .21693	25%	= 1.0358	1%	= 1.7689
24	MEAN	= .69016	S.D.	= .40641	P(N>=r)	= .88062
	99%	= .55933E-01	75%	= .35577	10%	= 1.2627
	95%	= .13205	50%	= .63093	5%	= 1.4122
	90%	= .19681	25%	= .98944	1%	= 1.6912
25	MEAN	= .65658	S.D.	= .39232	P(N>=r)	= .87208
	99%	= .49471E-01	75%	= .33241	10%	= 1.2096
	95%	= .11884	50%	= .59895	5%	= 1.3528
	90%	= .17993	25%	= .94686	1%	= 1.6193
26	MEAN	= .62640	S.D.	= .37871	P(N>=r)	= .86153
	99%	= .44663E-01	75%	= .31217	10%	= 1.1602
	95%	= .10830	50%	= .57056	5%	= 1.2974
	90%	= .16598	25%	= .90779	1%	= 1.5519
27	MEAN	= .59926	S.D.	= .36556	P(N>=r)	= .84912
	99%	= .41081E-01	75%	= .29469	10%	= 1.1143
	95%	= .99998E-01	50%	= .54542	5%	= 1.2457

	90% = .15457		25% = .87189		1% = 1.4885	
28	MEAN = .57476		S.D. = .35287		P(N>=r) = .83509	
	99% = .38392E-01		75% = .27955		10% = 1.0716	
	95% = .93470E-01		50% = .52312		5% = 1.1975	
	90% = .14526		25% = .83880		1% = 1.4289	
29	MEAN = .55249		S.D. = .34066		P(N>=r) = .81976	
	99% = .36345E-01		75% = .26635		10% = 1.0317	
	95% = .88296E-01		50% = .50325		5% = 1.1524	
	90% = .13759		25% = .80818		1% = 1.3732	
30	MEAN = .53212		S.D. = .32894		P(N>=r) = .80346	
	99% = .34752E-01		75% = .25469		10% = .99430	
	95% = .84117E-01		50% = .48544		5% = 1.1103	
	90% = .13116		25% = .77966		1% = 1.3215	
31	MEAN = .51333		S.D. = .31771		P(N>=r) = .78650	
	99% = .33471E-01		75% = .24428		10% = .95912	
	95% = .80641E-01		50% = .46937		5% = 1.0705	
	90% = .12563		25% = .75298		1% = 1.2731	
32	MEAN = .49588		S.D. = .30696		P(N>=r) = .76913	
	99% = .32398E-01		75% = .23487		10% = .92591	
	95% = .77648E-01		50% = .45476		5% = 1.0331	
	90% = .12075		25% = .72787		1% = 1.2277	
33	MEAN = .47958		S.D. = .29668		P(N>=r) = .75151	
	99% = .31462E-01		75% = .22629		10% = .89447	
	95% = .74985E-01		50% = .44139		5% = .99762	
	90% = .11634		25% = .70416		1% = 1.1850	
34	MEAN = .46431		S.D. = .28684		P(N>=r) = .73377	
	99% = .30614E-01		75% = .21844		10% = .86463	
	95% = .72550E-01		50% = .42909		5% = .96399	
	90% = .11229		25% = .68168		1% = 1.1446	
35	MEAN = .44995		S.D. = .27741		P(N>=r) = .71598	
	99% = .29826E-01		75% = .21126		10% = .83626	
	95% = .70286E-01		50% = .41772		5% = .93203	
	90% = .10851		25% = .66034		1% = 1.1062	
36	MEAN = .43643		S.D. = .26836		P(N>=r) = .69817	
	99% = .29082E-01		75% = .20472		10% = .80925	
	95% = .68160E-01		50% = .40716		5% = .90159	
	90% = .10499		25% = .64002		1% = 1.0698	
37	MEAN = .42369		S.D. = .25965		P(N>=r) = .68036	
	99% = .28376E-01		75% = .19881		10% = .78348	
	95% = .66162E-01		50% = .39732		5% = .87258	
	90% = .10171		25% = .62065		1% = 1.0351	
38	MEAN = .41168		S.D. = .25126		P(N>=r) = .66258	
	99% = .27706E-01		75% = .19353		10% = .75888	
	95% = .64291E-01		50% = .38810		5% = .84488	
	90% = .98682E-01		25% = .60216		1% = 1.0020	
39	MEAN = .40034		S.D. = .24314		P(N>=r) = .64483	
	99% = .27075E-01		75% = .18891		10% = .73536	
	95% = .62554E-01		50% = .37944		5% = .81840	

	90%	= .95908E-01	25%	= .58448	1%	= .97032
40	MEAN	= .38965	S.D.	= .23527	P(N>=r)	= .62715
	99%	= .26487E-01	75%	= .18494	10%	= .71284
	95%	= .60962E-01	50%	= .37125	5%	= .79307
	90%	= .93408E-01	25%	= .56755	1%	= .94007
41	MEAN	= .37954	S.D.	= .22762	P(N>=r)	= .60957
	99%	= .25947E-01	75%	= .18162	10%	= .69127
	95%	= .59527E-01	50%	= .36348	5%	= .76880
	90%	= .91200E-01	25%	= .55132	1%	= .91111
42	MEAN	= .36998	S.D.	= .22016	P(N>=r)	= .59214
	99%	= .25462E-01	75%	= .17895	10%	= .67056
	95%	= .58265E-01	50%	= .35601	5%	= .74553
	90%	= .89303E-01	25%	= .53573	1%	= .88336
43	MEAN	= .36090	S.D.	= .21289	P(N>=r)	= .57490
	99%	= .25039E-01	75%	= .17687	10%	= .65067
	95%	= .57189E-01	50%	= .34878	5%	= .72317
	90%	= .87734E-01	25%	= .52072	1%	= .85673
44	MEAN	= .35225	S.D.	= .20578	P(N>=r)	= .55794
	99%	= .24682E-01	75%	= .17530	10%	= .63151
	95%	= .56310E-01	50%	= .34173	5%	= .70167
	90%	= .86504E-01	25%	= .50623	1%	= .83114
45	MEAN	= .34396	S.D.	= .19883	P(N>=r)	= .54132
	99%	= .24396E-01	75%	= .17414	10%	= .61305
	95%	= .55635E-01	50%	= .33480	5%	= .68096
	90%	= .85612E-01	25%	= .49222	1%	= .80652
46	MEAN	= .33597	S.D.	= .19205	P(N>=r)	= .52514
	99%	= .24184E-01	75%	= .17324	10%	= .59521
	95%	= .55163E-01	50%	= .32791	5%	= .66098
	90%	= .85044E-01	25%	= .47862	1%	= .78282
47	MEAN	= .32820	S.D.	= .18544	P(N>=r)	= .50947
	99%	= .24045E-01	75%	= .17242	10%	= .57795
	95%	= .54886E-01	50%	= .32101	5%	= .64168
	90%	= .84765E-01	25%	= .46538	1%	= .75995
48	MEAN	= .32058	S.D.	= .17901	P(N>=r)	= .49438
	99%	= .23974E-01	75%	= .17152	10%	= .56122
	95%	= .54780E-01	50%	= .31405	5%	= .62300
	90%	= .84716E-01	25%	= .45247	1%	= .73786
49	MEAN	= .31306	S.D.	= .17279	P(N>=r)	= .47994
	99%	= .23961E-01	75%	= .17039	10%	= .54498
	95%	= .54810E-01	50%	= .30701	5%	= .60489
	90%	= .84815E-01	25%	= .43984	1%	= .71650
50	MEAN	= .30558	S.D.	= .16679	P(N>=r)	= .46618
	99%	= .23991E-01	75%	= .16892	10%	= .52917
	95%	= .54924E-01	50%	= .29982	5%	= .58732
	90%	= .84957E-01	25%	= .42746	1%	= .69582
51	MEAN	= .29810	S.D.	= .16102	P(N>=r)	= .45311
	99%	= .24047E-01	75%	= .16706	10%	= .51379
	95%	= .55062E-01	50%	= .29255	5%	= .57026

	90%	= .85034E-01	25%	= .41531	1%	= .67579
52	MEAN	= .29061	S.D.	= .15550	P(N>=r)	= .44073
	99%	= .24104E-01	75%	= .16479	10%	= .49880
	95%	= .55156E-01	50%	= .28517	5%	= .55366
	90%	= .84946E-01	25%	= .40339	1%	= .65636
53	MEAN	= .28311	S.D.	= .15023	P(N>=r)	= .42897
	99%	= .24140E-01	75%	= .16211	10%	= .48419
	95%	= .55146E-01	50%	= .27768	5%	= .53752
	90%	= .84618E-01	25%	= .39167	1%	= .63750
54	MEAN	= .27559	S.D.	= .14521	P(N>=r)	= .41779
	99%	= .24133E-01	75%	= .15908	10%	= .46994
	95%	= .54986E-01	50%	= .27014	5%	= .52182
	90%	= .84010E-01	25%	= .38018	1%	= .61920
55	MEAN	= .26809	S.D.	= .14042	P(N>=r)	= .40711
	99%	= .24069E-01	75%	= .15576	10%	= .45606
	95%	= .54651E-01	50%	= .26260	5%	= .50654
	90%	= .83119E-01	25%	= .36891	1%	= .60143
56	MEAN	= .26062	S.D.	= .13586	P(N>=r)	= .39684
	99%	= .23939E-01	75%	= .15222	10%	= .44253
	95%	= .54135E-01	50%	= .25511	5%	= .49168
	90%	= .81957E-01	25%	= .35788	1%	= .58417
57	MEAN	= .25323	S.D.	= .13150	P(N>=r)	= .38691
	99%	= .23743E-01	75%	= .14853	10%	= .42935
	95%	= .53456E-01	50%	= .24773	5%	= .47722
	90%	= .80599E-01	25%	= .34709	1%	= .56742
58	MEAN	= .24593	S.D.	= .12732	P(N>=r)	= .37723
	99%	= .23486E-01	75%	= .14473	10%	= .41653
	95%	= .52639E-01	50%	= .24048	5%	= .46317
	90%	= .79062E-01	25%	= .33655	1%	= .55115
59	MEAN	= .23875	S.D.	= .12331	P(N>=r)	= .36774
	99%	= .23180E-01	75%	= .14090	10%	= .40405
	95%	= .51716E-01	50%	= .23337	5%	= .44950
	90%	= .77407E-01	25%	= .32627	1%	= .53534
60	MEAN	= .23171	S.D.	= .11945	P(N>=r)	= .35839
	99%	= .22835E-01	75%	= .13706	10%	= .39191
	95%	= .50720E-01	50%	= .22641	5%	= .43621
	90%	= .75676E-01	25%	= .31624	1%	= .51999
61	MEAN	= .22482	S.D.	= .11573	P(N>=r)	= .34913
	99%	= .22464E-01	75%	= .13325	10%	= .38010
	95%	= .49677E-01	50%	= .21960	5%	= .42330
	90%	= .73905E-01	25%	= .30648	1%	= .50508
62	MEAN	= .21809	S.D.	= .11213	P(N>=r)	= .33993
	99%	= .22076E-01	75%	= .12950	10%	= .36862
	95%	= .48608E-01	50%	= .21284	5%	= .41074
	90%	= .72119E-01	25%	= .29698	1%	= .49060
63	MEAN	= .21152	S.D.	= .10864	P(N>=r)	= .33077
	99%	= .21677E-01	75%	= .12580	10%	= .35745
	95%	= .47529E-01	50%	= .20618	5%	= .39853

	90%	= .70337E-01	25%	= .28773	1%	= .47652
64	MEAN	= .20511	S.D.	= .10526	P(N>=r)	= .32163
	99%	= .21275E-01	75%	= .12217	10%	= .34658
	95%	= .46451E-01	50%	= .19967	5%	= .38666
	90%	= .68570E-01	25%	= .27872	1%	= .46284
65	MEAN	= .19886	S.D.	= .10198	P(N>=r)	= .31251
	99%	= .20871E-01	75%	= .11862	10%	= .33601
	95%	= .45380E-01	50%	= .19336	5%	= .37511
	90%	= .66825E-01	25%	= .26995	1%	= .44953
66	MEAN	= .19277	S.D.	= .98803E-01	P(N>=r)	= .30339
	99%	= .20468E-01	75%	= .11514	10%	= .32572
	95%	= .44319E-01	50%	= .18722	5%	= .36388
	90%	= .65106E-01	25%	= .26142	1%	= .43660
67	MEAN	= .18683	S.D.	= .95716E-01	P(N>=r)	= .29428
	99%	= .20067E-01	75%	= .11173	10%	= .31571
	95%	= .43271E-01	50%	= .18125	5%	= .35295
	90%	= .63413E-01	25%	= .25310	1%	= .42401
68	MEAN	= .18104	S.D.	= .92717E-01	P(N>=r)	= .28517
	99%	= .19668E-01	75%	= .10839	10%	= .30596
	95%	= .42236E-01	50%	= .17542	5%	= .34231
	90%	= .61747E-01	25%	= .24500	1%	= .41176
69	MEAN	= .17539	S.D.	= .89804E-01	P(N>=r)	= .27606
	99%	= .19273E-01	75%	= .10512	10%	= .29647
	95%	= .41214E-01	50%	= .16973	5%	= .33195
	90%	= .60107E-01	25%	= .23710	1%	= .39984
70	MEAN	= .16987	S.D.	= .86975E-01	P(N>=r)	= .26695
	99%	= .18880E-01	75%	= .10192	10%	= .28723
	95%	= .40204E-01	50%	= .16418	5%	= .32186
	90%	= .58492E-01	25%	= .22939	1%	= .38823
71	MEAN	= .16449	S.D.	= .84226E-01	P(N>=r)	= .25784
	99%	= .18489E-01	75%	= .98773E-01	10%	= .27822
	95%	= .39206E-01	50%	= .15876	5%	= .31203
	90%	= .56900E-01	25%	= .22183	1%	= .37693
72	MEAN	= .15924	S.D.	= .81556E-01	P(N>=r)	= .24873
	99%	= .18100E-01	75%	= .95689E-01	10%	= .26945
	95%	= .38218E-01	50%	= .15346	5%	= .30246
	90%	= .55330E-01	25%	= .21441	1%	= .36592
73	MEAN	= .15411	S.D.	= .78962E-01	P(N>=r)	= .23963
	99%	= .17712E-01	75%	= .92663E-01	10%	= .26090
	95%	= .37240E-01	50%	= .14829	5%	= .29313
	90%	= .53782E-01	25%	= .20721	1%	= .35519
74	MEAN	= .14910	S.D.	= .76442E-01	P(N>=r)	= .23052
	99%	= .17326E-01	75%	= .89692E-01	10%	= .25257
	95%	= .36272E-01	50%	= .14325	5%	= .28404
	90%	= .52253E-01	25%	= .20035	1%	= .34474
75	MEAN	= .14420	S.D.	= .73995E-01	P(N>=r)	= .22142
	99%	= .16941E-01	75%	= .86775E-01	10%	= .24445
	95%	= .35311E-01	50%	= .13832	5%	= .27518

	90%	= .50742E-01	25%	= .19385	1%	= .33456
76	MEAN	= .13942	S.D.	= .71618E-01	P(N>=r)	= .21231
	99%	= .16557E-01	75%	= .83911E-01	10%	= .23654
	95%	= .34359E-01	50%	= .13350	5%	= .26655
	90%	= .49250E-01	25%	= .18737	1%	= .32464
77	MEAN	= .13476	S.D.	= .69310E-01	P(N>=r)	= .20321
	99%	= .16173E-01	75%	= .81100E-01	10%	= .22883
	95%	= .33414E-01	50%	= .12880	5%	= .25814
	90%	= .47775E-01	25%	= .18094	1%	= .31497
78	MEAN	= .13020	S.D.	= .67070E-01	P(N>=r)	= .19411
	99%	= .15790E-01	75%	= .78341E-01	10%	= .22132
	95%	= .32477E-01	50%	= .12422	5%	= .24995
	90%	= .46318E-01	25%	= .17464	1%	= .30554
79	MEAN	= .12576	S.D.	= .64895E-01	P(N>=r)	= .18502
	99%	= .15407E-01	75%	= .75636E-01	10%	= .21400
	95%	= .31547E-01	50%	= .11975	5%	= .24197
	90%	= .44879E-01	25%	= .16854	1%	= .29636
80	MEAN	= .12143	S.D.	= .62784E-01	P(N>=r)	= .17593
	99%	= .15025E-01	75%	= .72985E-01	10%	= .20684
	95%	= .30626E-01	50%	= .11539	5%	= .23419
	90%	= .43458E-01	25%	= .16261	1%	= .28742
81	MEAN	= .11720	S.D.	= .60736E-01	P(N>=r)	= .16686
	99%	= .14644E-01	75%	= .70390E-01	10%	= .19972
	95%	= .29713E-01	50%	= .11115	5%	= .22662
	90%	= .42057E-01	25%	= .15684	1%	= .27870
82	MEAN	= .11309	S.D.	= .58750E-01	P(N>=r)	= .15781
	99%	= .14264E-01	75%	= .67854E-01	10%	= .19275
	95%	= .28810E-01	50%	= .10702	5%	= .21926
	90%	= .40677E-01	25%	= .15123	1%	= .27022
83	MEAN	= .10909	S.D.	= .56824E-01	P(N>=r)	= .14878
	99%	= .13887E-01	75%	= .65378E-01	10%	= .18610
	95%	= .27918E-01	50%	= .10301	5%	= .21210
	90%	= .39321E-01	25%	= .14578	1%	= .26196
84	MEAN	= .10520	S.D.	= .54957E-01	P(N>=r)	= .13979
	99%	= .13512E-01	75%	= .62966E-01	10%	= .17996
	95%	= .27039E-01	50%	= .99125E-01	5%	= .20513
	90%	= .37990E-01	25%	= .14049	1%	= .25392
85	MEAN	= .10142	S.D.	= .53147E-01	P(N>=r)	= .13085
	99%	= .13141E-01	75%	= .60621E-01	10%	= .17390
	95%	= .26176E-01	50%	= .95356E-01	5%	= .19832
	90%	= .36688E-01	25%	= .13536	1%	= .24611
86	MEAN	= .97764E-01	S.D.	= .51394E-01	P(N>=r)	= .12198
	99%	= .12775E-01	75%	= .58346E-01	10%	= .16790
	95%	= .25329E-01	50%	= .91712E-01	5%	= .19152
	90%	= .35417E-01	25%	= .13040	1%	= .23852
87	MEAN	= .94226E-01	S.D.	= .49697E-01	P(N>=r)	= .11319
	99%	= .12414E-01	75%	= .56146E-01	10%	= .16208
	95%	= .24503E-01	50%	= .88194E-01	5%	= .18472

	90%	= .34180E-01	25%	= .12561	1%	= .23115
88	MEAN	= .90808E-01	S.D.	= .48054E-01	P(N>=r)	= .10452
	99%	= .12061E-01	75%	= .54023E-01	10%	= .15645
	95%	= .23698E-01	50%	= .84805E-01	5%	= .17843
	90%	= .32981E-01	25%	= .12098	1%	= .22399
89	MEAN	= .87513E-01	S.D.	= .46465E-01	P(N>=r)	= .95991E-01
	99%	= .11716E-01	75%	= .51980E-01	10%	= .15101
	95%	= .22917E-01	50%	= .81548E-01	5%	= .17266
	90%	= .31822E-01	25%	= .11652	1%	= .21706
90	MEAN	= .84343E-01	S.D.	= .44929E-01	P(N>=r)	= .87640E-01
	99%	= .11380E-01	75%	= .50020E-01	10%	= .14576
	95%	= .22162E-01	50%	= .78424E-01	5%	= .16697
	90%	= .30705E-01	25%	= .11223	1%	= .21034
91	MEAN	= .81299E-01	S.D.	= .43446E-01	P(N>=r)	= .79507E-01
	99%	= .11055E-01	75%	= .48144E-01	10%	= .14071
	95%	= .21435E-01	50%	= .75433E-01	5%	= .16139
	90%	= .29633E-01	25%	= .10811	1%	= .20384
92	MEAN	= .78381E-01	S.D.	= .42014E-01	P(N>=r)	= .71631E-01
	99%	= .10741E-01	75%	= .46355E-01	10%	= .13584
	95%	= .20737E-01	50%	= .72578E-01	5%	= .15601
	90%	= .28606E-01	25%	= .10416	1%	= .19756
93	MEAN	= .75589E-01	S.D.	= .40633E-01	P(N>=r)	= .64056E-01
	99%	= .10438E-01	75%	= .44651E-01	10%	= .13117
	95%	= .20069E-01	50%	= .69857E-01	5%	= .15083
	90%	= .27627E-01	25%	= .10038	1%	= .19149
94	MEAN	= .72924E-01	S.D.	= .39303E-01	P(N>=r)	= .56827E-01
	99%	= .10148E-01	75%	= .43033E-01	10%	= .12669
	95%	= .19432E-01	50%	= .67270E-01	5%	= .14585
	90%	= .26695E-01	25%	= .96766E-01	1%	= .18560
95	MEAN	= .70383E-01	S.D.	= .38024E-01	P(N>=r)	= .49984E-01
	99%	= .98710E-02	75%	= .41501E-01	10%	= .12239
	95%	= .18826E-01	50%	= .64814E-01	5%	= .14107
	90%	= .25810E-01	25%	= .93324E-01	1%	= .17966
96	MEAN	= .67966E-01	S.D.	= .36794E-01	P(N>=r)	= .43567E-01
	99%	= .96064E-02	75%	= .40052E-01	10%	= .11828
	95%	= .18251E-01	50%	= .62487E-01	5%	= .13648
	90%	= .24972E-01	25%	= .90047E-01	1%	= .17342
97	MEAN	= .65669E-01	S.D.	= .35612E-01	P(N>=r)	= .37610E-01
	99%	= .93546E-02	75%	= .38684E-01	10%	= .11436
	95%	= .17706E-01	50%	= .60287E-01	5%	= .13209
	90%	= .24180E-01	25%	= .86933E-01	1%	= .16760
98	MEAN	= .63489E-01	S.D.	= .34480E-01	P(N>=r)	= .32138E-01
	99%	= .91153E-02	75%	= .37395E-01	10%	= .11062
	95%	= .17190E-01	50%	= .58208E-01	5%	= .12789
	90%	= .23432E-01	25%	= .83977E-01	1%	= .16261
99	MEAN	= .61423E-01	S.D.	= .33394E-01	P(N>=r)	= .27169E-01
	99%	= .88883E-02	75%	= .36181E-01	10%	= .10705
	95%	= .16704E-01	50%	= .56247E-01	5%	= .12388

	90%	= .22727E-01	25%	= .81174E-01	1%	= .15787
100	MEAN	= .59466E-01	S.D.	= .32355E-01	P(N>=r)	= .22713E-01
	99%	= .86733E-02	75%	= .35040E-01	10%	= .10366
	95%	= .16244E-01	50%	= .54400E-01	5%	= .12005
	90%	= .22064E-01	25%	= .78521E-01	1%	= .15325
101	MEAN	= .57615E-01	S.D.	= .31362E-01	P(N>=r)	= .18766E-01
	99%	= .84699E-02	75%	= .33968E-01	10%	= .10043
	95%	= .15812E-01	50%	= .52660E-01	5%	= .11640
	90%	= .21440E-01	25%	= .76010E-01	1%	= .14880
102	MEAN	= .55865E-01	S.D.	= .30412E-01	P(N>=r)	= .15317E-01
	99%	= .82774E-02	75%	= .32960E-01	10%	= .97368E-01
	95%	= .15404E-01	50%	= .51022E-01	5%	= .11292
	90%	= .20852E-01	25%	= .73636E-01	1%	= .14455
103	MEAN	= .54211E-01	S.D.	= .29506E-01	P(N>=r)	= .12345E-01
	99%	= .80955E-02	75%	= .32014E-01	10%	= .94458E-01
	95%	= .15020E-01	50%	= .49481E-01	5%	= .10960
	90%	= .20300E-01	25%	= .71394E-01	1%	= .14047

E) The mean of the potential = 60.733

PETRIMES MODULE MPRO

NO. OF POOLS DISTRIBUTION AND RISKS
****

UAI	C5439304
PLAY	MacDonald Paleozoic Structural Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	MON, APR 19, 1993, 3:07 PM

A) Risks

	GEOLOGICAL FACTOR		MARGINAL PROBABILITY
PLAY LEVEL	Adequate Timing	(5)	.50
	Overall Play Level Risk	=	.50
PROSPECT LEVEL	Adequate Seal	(4)	.25
	Overall Prospect Level Risk	=	.25
EXPLORATION RISK:		=	.13

B) No. of Prospects Distribution

Minimum	=	10
Maximum	=	100
Mean	=	42.90
S.D.	=	27.06

Frequency	No. of Prospects
99.00	10
95	12
90	14
80	18
75	20
60	26
50	30
40	44
25	65

20	36
10	43
5	47
1	50
0	50

C) No. of Pools Distribution

Minimum	=	0
Maximum	=	27
Mean	=	4.96
S.D.	=	4.32

Frequency	No. of Pools
79.22	0
75	2
60	3
50	4
40	5
25	7
20	9
10	11
5	13
1	17
0	27

20	72
10	86
5	93
1	99
0	100

C) No. of Pools Distribution

Minimum	=	0
Maximum	=	42
Mean	=	5.36
S.D.	=	7.46

Frequency	No. of Pools
49.77	0
40	4
25	8
20	11
10	18
5	22
1	28
0	42

PETRIMES MODULE PSRK

INDIVIDUAL POOL SIZES BY RANK
WHERE N IS A RANDOM VARIABLE
****

UAI	C5439304
PLAY	MacDonald Paleozoic Structural Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	TUE, APR 20, 1993, 6:05 AM

A) Basic Information

TYPE OF RESOURCE =Gas In Place
SYSTEM OF MEASUREMENT =S.I.
UNIT OF MEASUREMENT =M cu m (19)

B) Lognormal Pool Size Distribution

Summary Statistics	mu = 5.3753	MEAN = 638.43	
	sig. sq= 2.1675	S.D. = 1775.7	
Upper Percentiles	99.99% = .90485	60.00% = 148.75	15.00% = 993.41
	99.00% = 7.0311	55.00% = 179.52	10.00% = 1425.1
	95.00% = 19.176	50.00% = 216.00	8.00% = 1709.3
	90.00% = 32.738	45.00% = 259.89	6.00% = 2130.8
	85.00% = 46.965	40.00% = 313.64	5.00% = 2433.0
	80.00% = 62.565	35.00% = 380.91	4.00% = 2843.2
	75.00% = 80.019	30.00% = 467.46	2.00% = 4442.0
	70.00% = 99.807	25.00% = 583.05	1.00% = 6635.6
	65.00% = 122.49	20.00% = 745.71	.01% = 51562.

C) No. of Pools Distribution

Lower Support = 0
Upper Support = 42
Expectation = 5.36
Standard Deviation= 7.46

D) Pool Sizes By Rank

Pool Rank		Distribution	
1	MEAN = 3094.2	S.D. = 4859.9	P(N>=r)= .49765
	99% = 81.320	75% = 873.28	10% = 6645.2
	95% = 248.17	50% = 1817.7	5% = 9774.8
	90% = 410.95	25% = 3582.3	1% = 21043.
2	MEAN = 1208.6	S.D. = 1278.5	P(N>=r)= .48711
	99% = 29.651	75% = 391.88	10% = 2620.2
	95% = 98.248	50% = 848.85	5% = 3497.6
	90% = 171.89	25% = 1590.4	1% = 6023.6
3	MEAN = 738.38	S.D. = 721.20	P(N>=r)= .46369
	99% = 16.850	75% = 231.95	10% = 1621.4
	95% = 53.959	50% = 535.18	5% = 2096.9

	90%	= 96.346	25%	= 1016.3	1%	= 3341.3
4	MEAN	= 531.06	S.D.	= 500.91	P(N>=r)	= .42855
	99%	= 12.155	75%	= 162.36	10%	= 1172.7
	95%	= 37.029	50%	= 391.14	5%	= 1490.3
	90%	= 65.824	25%	= 749.19	1%	= 2278.1
5	MEAN	= 417.70	S.D.	= 381.21	P(N>=r)	= .38731
	99%	= 9.9935	75%	= 128.56	10%	= 917.24
	95%	= 29.345	50%	= 315.03	5%	= 1150.8
	90%	= 51.684	25%	= 596.93	1%	= 1711.2
6	MEAN	= 346.68	S.D.	= 304.56	P(N>=r)	= .34583
	99%	= 8.8829	75%	= 111.26	10%	= 750.12
	95%	= 25.499	50%	= 269.70	5%	= 931.44
	90%	= 44.615	25%	= 497.33	1%	= 1357.4
7	MEAN	= 297.01	S.D.	= 250.30	P(N>=r)	= .30794
	99%	= 8.3116	75%	= 102.00	10%	= 630.03
	95%	= 23.572	50%	= 238.23	5%	= 775.90
	90%	= 41.098	25%	= 424.79	1%	= 1113.7
8	MEAN	= 258.81	S.D.	= 209.42	P(N>=r)	= .27539
	99%	= 8.0467	75%	= 95.976	10%	= 537.85
	95%	= 22.680	50%	= 212.60	5%	= 658.22
	90%	= 39.407	25%	= 367.56	1%	= 934.14
9	MEAN	= 227.13	S.D.	= 177.49	P(N>=r)	= .24840
	99%	= 7.9236	75%	= 90.116	10%	= 463.79
	95%	= 22.202	50%	= 189.48	5%	= 565.09
	90%	= 38.290	25%	= 320.00	1%	= 795.53
10	MEAN	= 199.70	S.D.	= 152.04	P(N>=r)	= .22616
	99%	= 7.7908	75%	= 83.177	10%	= 402.59
	95%	= 21.608	50%	= 167.97	5%	= 489.18
	90%	= 36.789	25%	= 279.41	1%	= 684.97
11	MEAN	= 175.57	S.D.	= 131.47	P(N>=r)	= .20742
	99%	= 7.5425	75%	= 75.360	10%	= 351.21
	95%	= 20.598	50%	= 148.16	5%	= 426.15
	90%	= 34.532	25%	= 244.41	1%	= 594.82
12	MEAN	= 154.42	S.D.	= 114.60	P(N>=r)	= .19090
	99%	= 7.1604	75%	= 67.383	10%	= 307.72
	95%	= 19.198	50%	= 130.33	5%	= 373.25
	90%	= 31.715	25%	= 214.24	1%	= 520.19
13	MEAN	= 136.02	S.D.	= 100.58	P(N>=r)	= .17562
	99%	= 6.6943	75%	= 59.835	10%	= 270.71
	95%	= 17.610	50%	= 114.59	5%	= 328.50
	90%	= 28.724	25%	= 188.26	1%	= 457.71
14	MEAN	= 120.10	S.D.	= 88.783	P(N>=r)	= .16097
	99%	= 6.2045	75%	= 53.017	10%	= 239.09
	95%	= 16.022	50%	= 100.88	5%	= 290.39
	90%	= 25.845	25%	= 165.92	1%	= 404.89
15	MEAN	= 106.35	S.D.	= 78.743	P(N>=r)	= .14661
	99%	= 5.7297	75%	= 47.002	10%	= 211.94
	95%	= 14.535	50%	= 89.010	5%	= 257.75

	90%	= 23.214	25%	= 146.67	1%	= 359.88
16	MEAN	= 94.470	S.D.	= 70.129	P(N>=r)	= .13241
	99%	= 5.2869	75%	= 41.754	10%	= 188.52
	95%	= 13.185	50%	= 78.752	5%	= 229.63
	90%	= 20.866	25%	= 130.06	1%	= 321.23
17	MEAN	= 84.178	S.D.	= 62.689	P(N>=r)	= .11838
	99%	= 4.8810	75%	= 37.193	10%	= 168.24
	95%	= 11.977	50%	= 69.885	5%	= 205.28
	90%	= 18.791	25%	= 115.69	1%	= 287.83
18	MEAN	= 75.246	S.D.	= 56.228	P(N>=r)	= .10457
	99%	= 4.5119	75%	= 33.235	10%	= 150.60
	95%	= 10.903	50%	= 62.216	5%	= 184.10
	90%	= 16.966	25%	= 103.22	1%	= 258.81
19	MEAN	= 67.484	S.D.	= 50.595	P(N>=r)	= .91093E-01
	99%	= 4.1784	75%	= 29.805	10%	= 135.24
	95%	= 9.9510	50%	= 55.582	5%	= 165.63
	90%	= 15.366	25%	= 92.383	1%	= 233.49
20	MEAN	= 60.732	S.D.	= 45.669	P(N>=r)	= .78099E-01
	99%	= 3.8786	75%	= 26.837	10%	= 121.82
	95%	= 9.1111	50%	= 49.844	5%	= 149.47
	90%	= 13.967	25%	= 82.966	1%	= 211.31
21	MEAN	= 54.856	S.D.	= 41.349	P(N>=r)	= .65763E-01
	99%	= 3.6104	75%	= 24.270	10%	= 110.10
	95%	= 8.3725	50%	= 44.883	5%	= 135.32
	90%	= 12.747	25%	= 74.776	1%	= 191.84
22	MEAN	= 49.741	S.D.	= 37.554	P(N>=r)	= .54274E-01
	99%	= 3.3714	75%	= 22.054	10%	= 99.837
	95%	= 7.7247	50%	= 40.596	5%	= 122.91
	90%	= 11.685	25%	= 67.654	1%	= 174.71
23	MEAN	= 45.287	S.D.	= 34.215	P(N>=r)	= .43812E-01
	99%	= 3.1591	75%	= 20.140	10%	= 90.858
	95%	= 7.1575	50%	= 36.891	5%	= 112.01
	90%	= 10.762	25%	= 61.458	1%	= 159.60
24	MEAN	= 41.404	S.D.	= 31.275	P(N>=r)	= .34525E-01
	99%	= 2.9708	75%	= 18.487	10%	= 82.992
	95%	= 6.6612	50%	= 33.687	5%	= 102.42
	90%	= 9.9592	25%	= 56.067	1%	= 146.26
25	MEAN	= 38.017	S.D.	= 28.680	P(N>=r)	= .26511E-01
	99%	= 2.8039	75%	= 17.057	10%	= 76.095
	95%	= 6.2267	50%	= 30.914	5%	= 93.996
	90%	= 9.2605	25%	= 51.371	1%	= 134.47
26	MEAN	= 35.057	S.D.	= 26.389	P(N>=r)	= .19804E-01
	99%	= 2.6559	75%	= 15.817	10%	= 70.041
	95%	= 5.8456	50%	= 28.509	5%	= 86.569
	90%	= 8.6510	25%	= 47.275	1%	= 124.02
27	MEAN	= 32.464	S.D.	= 24.361	P(N>=r)	= .14371E-01
	99%	= 2.5244	75%	= 14.738	10%	= 64.719
	95%	= 5.5106	50%	= 26.418	5%	= 80.017

	90%	= 8.1180	25%	= 43.696	1%	= 114.74
28	MEAN	= 30.188	S.D.	= 22.564	P(N>=r)=	.10117E-01
	99%	= 2.4072	75%	= 13.796	10%	= 60.030
	95%	= 5.2151	50%	= 24.594	5%	= 74.223
	90%	= 7.6501	25%	= 40.561	1%	= 106.48

E) The mean of the potential = 3422.7

PETRIMES MODULE MPRO

NO. OF POOLS DISTRIBUTION AND RISKS
****

UAI	C5449304
PLAY	Fernie-Elk Valley Mesozoic Structural Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	TUE, APR 20, 1993, 10:21 AM

A) Risks

	GEOLOGICAL FACTOR		MARGINAL PROBABILITY
PLAY LEVEL	Adequate Play Conditions	(19)	.80
	Overall Play Level Risk	=	.80
PROSPECT LEVEL	Presence of Closure	(1)	.90
	Adequate Seal	(4)	.30
	Overall Prospect Level Risk	=	.27
EXPLORATION RISK:		=	.22

B) No. of Prospects Distribution

Minimum	=	10
Maximum	=	50
Mean	=	22.97
S.D.	=	12.36

Frequency	No. of Prospects
99.00	10
95	11
90	11
80	12
75	13
60	14
50	15
40	22
25	33

PETRIMES MODULE PSRK

INDIVIDUAL POOL SIZES BY RANK
WHERE N IS A RANDOM VARIABLE
****

UAI	C5449304
PLAY	Fernie-Elk Valley Mesozoic Structural Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	TUE, APR 20, 1993, 1:30 PM

A) Basic Information

TYPE OF RESOURCE =Gas In Place
SYSTEM OF MEASUREMENT =S.I.
UNIT OF MEASUREMENT =M cu m (19)

B) Lognormal Pool Size Distribution

Summary Statistics	mu	= 2.9600	MEAN	= 40.854		
	sig. sq	= 1.5000	S.D.	= 76.230		
Upper Percentiles	99.99%	= .20294	60.00%	= 14.150	15.00%	= 68.674
	99.00%	= 1.1172	55.00%	= 16.545	10.00%	= 92.719
	95.00%	= 2.5740	50.00%	= 19.298	8.00%	= 107.86
	90.00%	= 4.0166	45.00%	= 22.509	6.00%	= 129.57
	85.00%	= 5.4229	40.00%	= 26.319	5.00%	= 144.68
	80.00%	= 6.8842	35.00%	= 30.936	4.00%	= 164.70
	75.00%	= 8.4479	30.00%	= 36.681	2.00%	= 238.73
	70.00%	= 10.153	25.00%	= 44.083	1.00%	= 333.35
	65.00%	= 12.038	20.00%	= 54.097	.01%	= 1835.1

C) No. of Pools Distribution

Lower Support = 0
Upper Support = 27
Expectation = 4.96
Standard Deviation= 4.32

D) Pool Sizes By Rank

Pool Rank			Distribution			
1	MEAN	= 123.42	S.D.	= 153.25	P(N>=r)	= .79216
	99%	= 5.5311	75%	= 42.810	10%	= 258.69
	95%	= 14.438	50%	= 81.358	5%	= 363.99
	90%	= 22.354	25%	= 149.10	1%	= 712.52
2	MEAN	= 52.404	S.D.	= 48.624	P(N>=r)	= .75588
	99%	= 2.4034	75%	= 20.208	10%	= 109.03
	95%	= 6.2667	50%	= 39.300	5%	= 141.92
	90%	= 10.020	25%	= 69.050	1%	= 232.02
3	MEAN	= 33.027	S.D.	= 28.876	P(N>=r)	= .67669
	99%	= 1.5673	75%	= 12.568	10%	= 69.228
	95%	= 3.8426	50%	= 25.327	5%	= 87.970

	90%	= 6.1023	25%	= 44.858	1%	= 135.29
4	MEAN	= 24.537	S.D.	= 20.607	P(N>=r)	= .56719
	99%	= 1.2536	75%	= 9.4471	10%	= 51.205
	95%	= 2.9436	50%	= 19.187	5%	= 64.127
	90%	= 4.6061	25%	= 33.777	1%	= 95.339
5	MEAN	= 19.945	S.D.	= 15.915	P(N>=r)	= .45714
	99%	= 1.1265	75%	= 8.1004	10%	= 40.825
	95%	= 2.5871	50%	= 16.063	5%	= 50.514
	90%	= 4.0065	25%	= 27.503	1%	= 73.336
6	MEAN	= 16.861	S.D.	= 12.756	P(N>=r)	= .36756
	99%	= 1.0740	75%	= 7.3464	10%	= 33.680
	95%	= 2.4349	50%	= 13.941	5%	= 41.297
	90%	= 3.7338	25%	= 23.108	1%	= 58.969
7	MEAN	= 14.366	S.D.	= 10.445	P(N>=r)	= .30090
	99%	= 1.0286	75%	= 6.6036	10%	= 28.174
	95%	= 2.2967	50%	= 12.054	5%	= 34.360
	90%	= 3.4736	25%	= 19.546	1%	= 48.566
8	MEAN	= 12.230	S.D.	= 8.7002	P(N>=r)	= .24950
	99%	= .95903	75%	= 5.7842	10%	= 23.757
	95%	= 2.0991	50%	= 10.317	5%	= 28.904
	90%	= 3.1286	25%	= 16.558	1%	= 40.638
9	MEAN	= 10.442	S.D.	= 7.3535	P(N>=r)	= .20590
	99%	= .87525	75%	= 5.0044	10%	= 20.202
	95%	= 1.8759	50%	= 8.8142	5%	= 24.563
	90%	= 2.7605	25%	= 14.092	1%	= 34.456
10	MEAN	= 8.9828	S.D.	= 6.2927	P(N>=r)	= .16641
	99%	= .79473	75%	= 4.3387	10%	= 17.344
	95%	= 1.6699	50%	= 7.5755	5%	= 21.092
	90%	= 2.4304	25%	= 12.092	1%	= 29.568
11	MEAN	= 7.8043	S.D.	= 5.4434	P(N>=r)	= .13031
	99%	= .72462	75%	= 3.7958	10%	= 15.040
	95%	= 1.4956	50%	= 6.5753	5%	= 18.298
	90%	= 2.1555	25%	= 10.479	1%	= 25.653
12	MEAN	= 6.8513	S.D.	= 4.7548	P(N>=r)	= .98161E-01
	99%	= .66545	75%	= 3.3584	10%	= 13.171
	95%	= 1.3517	50%	= 5.7705	5%	= 16.030
	90%	= 1.9312	25%	= 9.1748	1%	= 22.478
13	MEAN	= 6.0765	S.D.	= 4.1908	P(N>=r)	= .70741E-01
	99%	= .61580	75%	= 3.0051	10%	= 11.644
	95%	= 1.2334	50%	= 5.1206	5%	= 14.173
	90%	= 1.7483	25%	= 8.1148	1%	= 19.876
14	MEAN	= 5.4422	S.D.	= 3.7252	P(N>=r)	= .48552E-01
	99%	= .57404	75%	= 2.7179	10%	= 10.388
	95%	= 1.1355	50%	= 4.5924	5%	= 12.641
	90%	= 1.5984	25%	= 7.2481	1%	= 17.725
15	MEAN	= 4.9191	S.D.	= 3.3379	P(N>=r)	= .31614E-01
	99%	= .53874	75%	= 2.4824	10%	= 9.3473
	95%	= 1.0540	50%	= 4.1598	5%	= 11.369

	90%	= 1.4744	25%	= 6.5346	1%	= 15.931
16	MEAN	= 4.4844	S.D.	= 3.0136	P(N>=r)	= .19466E-01
	99%	= .50871	75%	= 2.2876	10%	= 8.4799
	95%	= .98557	50%	= 3.8026	5%	= 10.305
	90%	= 1.3710	25%	= 5.9429	1%	= 14.425
17	MEAN	= 4.1203	S.D.	= 2.7402	P(N>=r)	= .11304E-01
	99%	= .48296	75%	= 2.1249	10%	= 7.7517
	95%	= .92761	50%	= 3.5049	5%	= 9.4093
	90%	= 1.2839	25%	= 5.4485	1%	= 13.150

E) The mean of the potential = 202.65

PETRIMES MODULE MPRO

NO. OF POOLS DISTRIBUTION AND RISKS
****

UAI	C5459304
PLAY	Fernie-Elk Valley Paleozoic Structural Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	TUE, APR 20, 1993, 11:13 AM

A) Risks

	GEOLOGICAL FACTOR		MARGINAL PROBABILITY
PLAY LEVEL	Adequate Play Conditions	(19)	.90
	Overall Play Level Risk	=	.90
PROSPECT LEVEL	Presence of Closure	(1)	.90
	Adequate Seal	(4)	.50
	Overall Prospect Level Risk	=	.45
EXPLORATION RISK:		=	.40

B) No. of Prospects Distribution

Minimum	=	10
Maximum	=	50
Mean	=	22.97
S.D.	=	12.36

Frequency	No. of Prospects
99.00	10
95	11
90	11
80	12
75	13
60	14
50	15
40	22
25	33

20	36
10	43
5	47
1	50
0	50

C) No. of Pools Distribution

Minimum	=	0
Maximum	=	36
Mean	=	9.30
S.D.	=	6.52

Frequency	No. of Pools
89.97	0
80	4
75	5
60	6
50	7
40	9
25	14
20	15
10	19
5	22
1	26
0	36

PETRIMES MODULE PSRK

INDIVIDUAL POOL SIZES BY RANK
WHERE N IS A RANDOM VARIABLE
****

UAI	C5459304
PLAY	Fernie-Elk Valley Paleozoic Structural Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	TUE, APR 20, 1993, 1:33 PM

A) Basic Information

TYPE OF RESOURCE =Gas In Place
SYSTEM OF MEASUREMENT =S.I.
UNIT OF MEASUREMENT =M cu m (19)

B) Lognormal Pool Size Distribution

Summary Statistics	mu = 5.7190	MEAN = 552.80			
	sig. sq= 1.1920	S.D. = 837.21			

Upper Percentiles	99.99% = 5.2521	60.00% = 231.00	15.00% = 944.41
	99.00% = 24.026	55.00% = 265.55	10.00% = 1234.2
	95.00% = 50.560	50.00% = 304.60	8.00% = 1412.4
	90.00% = 75.175	45.00% = 349.39	6.00% = 1663.2
	85.00% = 98.242	40.00% = 401.66	5.00% = 1835.1
	80.00% = 121.53	35.00% = 463.91	4.00% = 2059.8
	75.00% = 145.85	30.00% = 539.98	2.00% = 2867.7
	70.00% = 171.82	25.00% = 636.13	1.00% = 3861.8
	65.00% = 200.00	20.00% = 763.47	.01% = 17666.

C) No. of Pools Distribution

Lower Support = 0
Upper Support = 36
Expectation = 9.30
Standard Deviation= 6.52

D) Pool Sizes By Rank

Pool Rank		Distribution	
1	MEAN = 1973.1	S.D. = 1831.2	P(N>=r)= .89972
	99% = 235.34	75% = 909.26	10% = 3811.7
	95% = 426.20	50% = 1488.4	5% = 5073.8
	90% = 570.51	25% = 2419.7	1% = 8970.3
2	MEAN = 993.65	S.D. = 703.82	P(N>=r)= .89696
	99% = 112.82	75% = 507.68	10% = 1857.7
	95% = 227.10	50% = 831.23	5% = 2302.2
	90% = 311.90	25% = 1288.8	1% = 3455.2
3	MEAN = 666.63	S.D. = 460.77	P(N>=r)= .88460
	99% = 61.028	75% = 329.52	10% = 1265.9
	95% = 134.33	50% = 564.99	5% = 1537.0

	90%	= 192.41	25%	= 892.56	1%	= 2185.4
4	MEAN	= 498.74	S.D.	= 352.62	P(N>=r)	= .85035
	99%	= 39.341	75%	= 231.25	10%	= 971.75
	95%	= 87.250	50%	= 419.55	5%	= 1169.2
	90%	= 128.46	25%	= 686.13	1%	= 1618.6
5	MEAN	= 402.34	S.D.	= 289.42	P(N>=r)	= .78465
	99%	= 29.704	75%	= 176.39	10%	= 797.51
	95%	= 64.098	50%	= 336.80	5%	= 952.81
	90%	= 94.888	25%	= 565.26	1%	= 1295.4
6	MEAN	= 345.92	S.D.	= 246.53	P(N>=r)	= .69154
	99%	= 25.190	75%	= 148.63	10%	= 684.26
	95%	= 53.081	50%	= 293.86	5%	= 811.15
	90%	= 78.412	25%	= 491.36	1%	= 1086.1
7	MEAN	= 312.27	S.D.	= 213.66	P(N>=r)	= .58945
	99%	= 23.329	75%	= 138.87	10%	= 603.87
	95%	= 48.677	50%	= 274.45	5%	= 709.92
	90%	= 71.986	25%	= 442.16	1%	= 937.65
8	MEAN	= 289.11	S.D.	= 185.89	P(N>=r)	= .49897
	99%	= 23.121	75%	= 139.77	10%	= 540.37
	95%	= 48.391	50%	= 262.37	5%	= 630.64
	90%	= 71.964	25%	= 403.11	1%	= 823.65
9	MEAN	= 267.96	S.D.	= 161.91	P(N>=r)	= .43025
	99%	= 23.817	75%	= 141.29	10%	= 485.36
	95%	= 50.195	50%	= 247.24	5%	= 563.54
	90%	= 74.735	25%	= 366.83	1%	= 730.15
10	MEAN	= 245.50	S.D.	= 141.99	P(N>=r)	= .38130
	99%	= 24.393	75%	= 136.51	10%	= 435.77
	95%	= 51.280	50%	= 227.69	5%	= 504.54
	90%	= 75.519	25%	= 331.61	1%	= 650.58
11	MEAN	= 222.49	S.D.	= 125.83	P(N>=r)	= .34462
	99%	= 24.048	75%	= 126.67	10%	= 391.24
	95%	= 49.906	50%	= 206.41	5%	= 452.49
	90%	= 72.420	25%	= 298.42	1%	= 582.09
12	MEAN	= 200.70	S.D.	= 112.50	P(N>=r)	= .31356
	99%	= 22.918	75%	= 115.26	10%	= 351.83
	95%	= 46.820	50%	= 185.89	5%	= 406.90
	90%	= 67.158	25%	= 268.32	1%	= 523.05
13	MEAN	= 181.05	S.D.	= 101.19	P(N>=r)	= .28444
	99%	= 21.515	75%	= 104.27	10%	= 317.24
	95%	= 43.283	50%	= 167.28	5%	= 367.10
	90%	= 61.522	25%	= 241.60	1%	= 471.99
14	MEAN	= 163.63	S.D.	= 91.417	P(N>=r)	= .25587
	99%	= 20.118	75%	= 94.329	10%	= 286.87
	95%	= 39.885	50%	= 150.75	5%	= 332.26
	90%	= 56.238	25%	= 218.04	1%	= 427.59
15	MEAN	= 148.22	S.D.	= 82.865	P(N>=r)	= .22751
	99%	= 18.804	75%	= 85.477	10%	= 260.10
	95%	= 36.763	50%	= 136.15	5%	= 301.61

	90%	= 51.448	25%	= 197.23	1%	= 388.69
16	MEAN	= 134.59	S.D.	= 75.333	P(N>=r)	= .19942
	99%	= 17.584	75%	= 77.617	10%	= 236.42
	95%	= 33.923	50%	= 123.23	5%	= 274.52
	90%	= 47.138	25%	= 178.82	1%	= 354.40
17	MEAN	= 122.50	S.D.	= 68.667	P(N>=r)	= .17180
	99%	= 16.457	75%	= 70.648	10%	= 215.40
	95%	= 31.350	50%	= 111.81	5%	= 250.48
	90%	= 43.272	25%	= 162.50	1%	= 324.03
18	MEAN	= 111.78	S.D.	= 62.746	P(N>=r)	= .14498
	99%	= 15.423	75%	= 64.489	10%	= 196.73
	95%	= 29.032	50%	= 101.73	5%	= 229.10
	90%	= 39.822	25%	= 148.04	1%	= 297.04
19	MEAN	= 102.31	S.D.	= 57.476	P(N>=r)	= .11939
	99%	= 14.484	75%	= 59.071	10%	= 180.14
	95%	= 26.960	50%	= 92.849	5%	= 210.08
	90%	= 36.761	25%	= 135.25	1%	= 272.99
20	MEAN	= 93.940	S.D.	= 52.780	P(N>=r)	= .95559E-01
	99%	= 13.637	75%	= 54.325	10%	= 165.41
	95%	= 25.120	50%	= 85.063	5%	= 193.16
	90%	= 34.062	25%	= 123.95	1%	= 251.56
21	MEAN	= 86.575	S.D.	= 48.595	P(N>=r)	= .74022E-01
	99%	= 12.880	75%	= 50.185	10%	= 152.36
	95%	= 23.495	50%	= 78.254	5%	= 178.11
	90%	= 31.694	25%	= 114.00	1%	= 232.43
22	MEAN	= 80.103	S.D.	= 44.866	P(N>=r)	= .55258E-01
	99%	= 12.206	75%	= 46.583	10%	= 140.80
	95%	= 22.068	50%	= 72.316	5%	= 164.75
	90%	= 29.624	25%	= 105.25	1%	= 215.37
23	MEAN	= 74.423	S.D.	= 41.545	P(N>=r)	= .39587E-01
	99%	= 11.608	75%	= 43.455	10%	= 130.59
	95%	= 20.816	50%	= 67.145	5%	= 152.90
	90%	= 27.818	25%	= 97.573	1%	= 200.14
24	MEAN	= 69.440	S.D.	= 38.590	P(N>=r)	= .27108E-01
	99%	= 11.078	75%	= 40.737	10%	= 121.56
	95%	= 19.718	50%	= 62.643	5%	= 142.38
	90%	= 26.243	25%	= 90.843	1%	= 186.56
25	MEAN	= 65.066	S.D.	= 35.961	P(N>=r)	= .17676E-01
	99%	= 10.609	75%	= 38.371	10%	= 113.59
	95%	= 18.754	50%	= 58.719	5%	= 133.06
	90%	= 24.865	25%	= 84.940	1%	= 174.43
26	MEAN	= 61.220	S.D.	= 33.619	P(N>=r)	= .10935E-01
	99%	= 10.193	75%	= 36.307	10%	= 106.55
	95%	= 17.906	50%	= 55.293	5%	= 124.78
	90%	= 23.658	25%	= 79.758	1%	= 163.59

E) The mean of the potential = 5141.9

PETRIMES MODULE MPRO

NO. OF POOLS DISTRIBUTION AND RISKS
****

UAI C5469304
PLAY Rocky Mountain Trench Cenozoic Graben Gas Play
Assessor PJ Lee & K Olsen-Heise
Geologist P Hannigan & K Osadetz
Operator KOH
Run date MON, APR 19, 1993, 3:37 PM

A) Risks

	GEOLOGICAL FACTOR			MARGINAL PROBABILITY
PLAY LEVEL	Overall Play Level Risk		=	1.00
PROSPECT LEVEL	Presence of Closure	(1)		.90
	Adequate Seal	(4)		.70
	Adequate Source	(6)		.60
	Overall Prospect Level Risk		=	.38
EXPLORATION RISK:			=	.38

B) No. of Prospects Distribution

Minimum = 200
Maximum = 800
Mean = 449.49
S.D. = 176.64

Frequency	No. of Prospects
99.00	200
95	217
90	237
80	278
75	298
60	360
50	400
40	480
25	600

20	640
10	720
5	760
1	792
0	800

C) No. of Pools Distribution

Minimum	=	25
Maximum	=	354
Mean	=	169.91
S.D.	=	67.56

Frequency	No. of Pools
100.00	25
99	71
95	81
90	89
80	105
75	113
60	136
50	154
40	181
25	227
20	242
10	272
5	288
1	308
0	354

PETRIMES MODULE PSRK

INDIVIDUAL POOL SIZES BY RANK
WHERE N IS A RANDOM VARIABLE
****

UAI	C5469304
PLAY	Rocky Mountain Trench Cenozoic Graben Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	MON, APR 19, 1993, 5:18 PM

A) Basic Information

TYPE OF RESOURCE =Gas In Place
SYSTEM OF MEASUREMENT =S.I.
UNIT OF MEASUREMENT =M cu m (19)

B) Lognormal Pool Size Distribution

Summary	mu = .55142	MEAN = 4.9972		
Statistics	sig. sq= 2.1149	S.D. = 13.491		
Upper	99.99% = .77733E-02	60.00% = 1.2008	15.00% = 7.8356
Percentiles	99.00% = .58911E-01	55.00% = 1.4458	10.00% = 11.191
	95.00% = .15871	50.00% = 1.7357	8.00% = 13.394
	90.00% = .26920	45.00% = 2.0837	6.00% = 16.651
	85.00% = .38449	40.00% = 2.5089	5.00% = 18.982
	80.00% = .51041	35.00% = 3.0398	4.00% = 22.140
	75.00% = .65085	30.00% = 3.7212	2.00% = 34.403
	70.00% = .80961	25.00% = 4.6289	1.00% = 51.140
	65.00% = .99110	20.00% = 5.9025	.01% = 387.57

C) No. of Pools Distribution

Lower Support = 25
Upper Support = 354
Expectation = 169.91
Standard Deviation= 67.56

D) Pool Sizes By Rank

Pool Rank		Distribution	
1	MEAN = 104.29	S.D. = 96.371	P(N>=r)= 1.0000
	99% = 23.078	75% = 53.756	10% = 189.54
	95% = 32.221	50% = 79.170	5% = 254.15
	90% = 38.836	25% = 121.85	1% = 468.51
2	MEAN = 57.062	S.D. = 31.345	P(N>=r)= 1.0000
	99% = 17.349	75% = 36.400	10% = 94.024
	95% = 23.322	50% = 49.965	5% = 114.20
	90% = 27.485	25% = 69.130	1% = 168.87
3	MEAN = 42.128	S.D. = 19.397	P(N>=r)= 1.0000
	99% = 14.253	75% = 28.594	10% = 66.527
	95% = 18.816	50% = 38.365	5% = 78.083

	90%	= 21.953	25%	= 51.222	1%	= 106.80
4	MEAN	= 34.206	S.D.	= 14.434	P(N>=r)	= 1.0000
	99%	= 12.195	75%	= 23.856	10%	= 52.856
	95%	= 15.925	50%	= 31.710	5%	= 60.953
	90%	= 18.472	25%	= 41.651	1%	= 80.076
5	MEAN	= 29.119	S.D.	= 11.694	P(N>=r)	= 1.0000
	99%	= 10.689	75%	= 20.583	10%	= 44.456
	95%	= 13.858	50%	= 27.260	5%	= 50.713
	90%	= 16.016	25%	= 35.518	1%	= 64.978
6	MEAN	= 25.505	S.D.	= 9.9418	P(N>=r)	= 1.0000
	99%	= 9.5221	75%	= 18.149	10%	= 38.676
	95%	= 12.283	50%	= 24.020	5%	= 43.792
	90%	= 14.162	25%	= 31.180	1%	= 55.149
7	MEAN	= 22.772	S.D.	= 8.7167	P(N>=r)	= 1.0000
	99%	= 8.5816	75%	= 16.250	10%	= 34.406
	95%	= 11.032	50%	= 21.528	5%	= 38.745
	90%	= 12.699	25%	= 27.911	1%	= 48.173
8	MEAN	= 20.614	S.D.	= 7.8065	P(N>=r)	= 1.0000
	99%	= 7.8011	75%	= 14.716	10%	= 31.096
	95%	= 10.007	50%	= 19.536	5%	= 34.869
	90%	= 11.508	25%	= 25.339	1%	= 42.925
9	MEAN	= 18.857	S.D.	= 7.1001	P(N>=r)	= 1.0000
	99%	= 7.1402	75%	= 13.446	10%	= 28.437
	95%	= 9.1481	50%	= 17.899	5%	= 31.781
	90%	= 10.515	25%	= 23.250	1%	= 38.811
10	MEAN	= 17.391	S.D.	= 6.5337	P(N>=r)	= 1.0000
	99%	= 6.5720	75%	= 12.373	10%	= 26.245
	95%	= 8.4139	50%	= 16.523	5%	= 29.250
	90%	= 9.6710	25%	= 21.511	1%	= 35.484
11	MEAN	= 16.146	S.D.	= 6.0678	P(N>=r)	= 1.0000
	99%	= 6.0745	75%	= 11.452	10%	= 24.399
	95%	= 7.7771	50%	= 15.346	5%	= 27.129
	90%	= 8.9423	25%	= 20.037	1%	= 32.729
12	MEAN	= 15.071	S.D.	= 5.6765	P(N>=r)	= 1.0000
	99%	= 5.6366	75%	= 10.652	10%	= 22.817
	95%	= 7.2191	50%	= 14.322	5%	= 25.321
	90%	= 8.3042	25%	= 18.766	1%	= 30.402
13	MEAN	= 14.132	S.D.	= 5.3424	P(N>=r)	= 1.0000
	99%	= 5.2478	75%	= 9.9488	10%	= 21.445
	95%	= 6.7255	50%	= 13.423	5%	= 23.757
	90%	= 7.7413	25%	= 17.657	1%	= 28.407
14	MEAN	= 13.304	S.D.	= 5.0531	P(N>=r)	= 1.0000
	99%	= 4.9013	75%	= 9.3260	10%	= 20.239
	95%	= 6.2868	50%	= 12.629	5%	= 22.389
	90%	= 7.2407	25%	= 16.678	1%	= 26.673
15	MEAN	= 12.566	S.D.	= 4.7996	P(N>=r)	= 1.0000
	99%	= 4.5906	75%	= 8.7693	10%	= 19.169
	95%	= 5.8933	50%	= 11.920	5%	= 21.178

	90%	= 6.7932	25%	= 15.807	1%	= 25.150
16	MEAN	= 11.904	S.D.	= 4.5753	P(N>=r)	= 1.0000
	99%	= 4.3127	75%	= 8.2692	10%	= 18.213
	95%	= 5.5400	50%	= 11.285	5%	= 20.099
	90%	= 6.3911	25%	= 15.023	1%	= 23.800
17	MEAN	= 11.306	S.D.	= 4.3751	P(N>=r)	= 1.0000
	99%	= 4.0616	75%	= 7.8178	10%	= 17.352
	95%	= 5.2202	50%	= 10.712	5%	= 19.129
	90%	= 6.0275	25%	= 14.317	1%	= 22.593
18	MEAN	= 10.762	S.D.	= 4.1950	P(N>=r)	= 1.0000
	99%	= 3.8323	75%	= 7.4088	10%	= 16.570
	95%	= 4.9298	50%	= 10.192	5%	= 18.251
	90%	= 5.6975	25%	= 13.679	1%	= 21.507
19	MEAN	= 10.266	S.D.	= 4.0319	P(N>=r)	= 1.0000
	99%	= 3.6211	75%	= 7.0355	10%	= 15.860
	95%	= 4.6640	50%	= 9.7176	5%	= 17.452
	90%	= 5.3960	25%	= 13.097	1%	= 20.523
20	MEAN	= 9.8101	S.D.	= 3.8833	P(N>=r)	= 1.0000
	99%	= 3.4256	75%	= 6.6932	10%	= 15.215
	95%	= 4.4191	50%	= 9.2824	5%	= 16.722
	90%	= 5.1185	25%	= 12.564	1%	= 19.627
21	MEAN	= 9.3902	S.D.	= 3.7473	P(N>=r)	= 1.0000
	99%	= 3.2440	75%	= 6.3777	10%	= 14.626
	95%	= 4.1915	50%	= 8.8814	5%	= 16.053
	90%	= 4.8619	25%	= 12.072	1%	= 18.806
22	MEAN	= 9.0017	S.D.	= 3.6221	P(N>=r)	= 1.0000
	99%	= 3.0749	75%	= 6.0846	10%	= 14.081
	95%	= 3.9797	50%	= 8.5098	5%	= 15.441
	90%	= 4.6235	25%	= 11.615	1%	= 18.052
23	MEAN	= 8.6411	S.D.	= 3.5065	P(N>=r)	= 1.0000
	99%	= 2.9172	75%	= 5.8112	10%	= 13.572
	95%	= 3.7820	50%	= 8.1634	5%	= 14.879
	90%	= 4.4006	25%	= 11.189	1%	= 17.357
24	MEAN	= 8.3054	S.D.	= 3.3992	P(N>=r)	= 1.0000
	99%	= 2.7696	75%	= 5.5559	10%	= 13.094
	95%	= 3.5974	50%	= 7.8394	5%	= 14.352
	90%	= 4.1922	25%	= 10.790	1%	= 16.712
25	MEAN	= 7.9919	S.D.	= 3.2994	P(N>=r)	= 1.0000
	99%	= 2.6314	75%	= 5.3169	10%	= 12.646
	95%	= 3.4246	50%	= 7.5352	5%	= 13.857
	90%	= 3.9973	25%	= 10.416	1%	= 16.113
26	MEAN	= 7.6983	S.D.	= 3.2062	P(N>=r)	= 1.0000
	99%	= 2.5015	75%	= 5.0928	10%	= 12.224
	95%	= 3.2627	50%	= 7.2493	5%	= 13.389
	90%	= 3.8146	25%	= 10.065	1%	= 15.552
27	MEAN	= 7.4229	S.D.	= 3.1189	P(N>=r)	= 1.0000
	99%	= 2.3793	75%	= 4.8824	10%	= 11.827
	95%	= 3.1106	50%	= 6.9807	5%	= 12.949

	90%	= 3.6431	25%	= 9.7339	1%	= 15.018
28	MEAN	= 7.1638	S.D.	= 3.0370	P(N>=r)	= 1.0000
	99%	= 2.2640	75%	= 4.6848	10%	= 11.453
	95%	= 2.9675	50%	= 6.7277	5%	= 12.535
	90%	= 3.4819	25%	= 9.4225	1%	= 14.509
29	MEAN	= 6.9196	S.D.	= 2.9598	P(N>=r)	= 1.0000
	99%	= 2.1552	75%	= 4.4989	10%	= 11.102
	95%	= 2.8326	50%	= 6.4896	5%	= 12.147
	90%	= 3.3300	25%	= 9.1287	1%	= 14.032
30	MEAN	= 6.6890	S.D.	= 2.8871	P(N>=r)	= 1.0000
	99%	= 2.0522	75%	= 4.3235	10%	= 10.770
	95%	= 2.7051	50%	= 6.2649	5%	= 11.780
	90%	= 3.1866	25%	= 8.8513	1%	= 13.588
31	MEAN	= 6.4709	S.D.	= 2.8182	P(N>=r)	= 1.0000
	99%	= 1.9547	75%	= 4.1580	10%	= 10.457
	95%	= 2.5846	50%	= 6.0527	5%	= 11.435
	90%	= 3.0511	25%	= 8.5887	1%	= 13.173
32	MEAN	= 6.2641	S.D.	= 2.7530	P(N>=r)	= 1.0000
	99%	= 1.8621	75%	= 4.0013	10%	= 10.161
	95%	= 2.4704	50%	= 5.8517	5%	= 11.109
	90%	= 2.9227	25%	= 8.3399	1%	= 12.785
33	MEAN	= 6.0679	S.D.	= 2.6912	P(N>=r)	= 1.0000
	99%	= 1.7742	75%	= 3.8527	10%	= 9.8797
	95%	= 2.3620	50%	= 5.6611	5%	= 10.800
	90%	= 2.8010	25%	= 8.1037	1%	= 12.420
34	MEAN	= 5.8814	S.D.	= 2.6323	P(N>=r)	= 1.0000
	99%	= 1.6905	75%	= 3.7117	10%	= 9.6127
	95%	= 2.2591	50%	= 5.4800	5%	= 10.507
	90%	= 2.6854	25%	= 7.8792	1%	= 12.076
35	MEAN	= 5.7039	S.D.	= 2.5763	P(N>=r)	= 1.0000
	99%	= 1.6109	75%	= 3.5776	10%	= 9.3586
	95%	= 2.1612	50%	= 5.3077	5%	= 10.228
	90%	= 2.5754	25%	= 7.6653	1%	= 11.750
36	MEAN	= 5.5346	S.D.	= 2.5228	P(N>=r)	= 1.0000
	99%	= 1.5349	75%	= 3.4499	10%	= 9.1163
	95%	= 2.0679	50%	= 5.1435	5%	= 9.9629
	90%	= 2.4708	25%	= 7.4613	1%	= 11.440
37	MEAN	= 5.3731	S.D.	= 2.4718	P(N>=r)	= 1.0000
	99%	= 1.4624	75%	= 3.3282	10%	= 8.8851
	95%	= 1.9790	50%	= 4.9868	5%	= 9.7098
	90%	= 2.3710	25%	= 7.2664	1%	= 11.146
38	MEAN	= 5.2189	S.D.	= 2.4230	P(N>=r)	= 1.0000
	99%	= 1.3932	75%	= 3.2121	10%	= 8.6641
	95%	= 1.8942	50%	= 4.8372	5%	= 9.4680
	90%	= 2.2758	25%	= 7.0800	1%	= 10.865
39	MEAN	= 5.0713	S.D.	= 2.3762	P(N>=r)	= 1.0000
	99%	= 1.3269	75%	= 3.1011	10%	= 8.4525
	95%	= 1.8131	50%	= 4.6940	5%	= 9.2367

	90%	= 2.1849	25%	= 6.9015	1%	= 10.596
40	MEAN	= 4.9300	S.D.	= 2.3314	P(N>=r)	= 1.0000
	99%	= 1.2635	75%	= 2.9950	10%	= 8.2499
	95%	= 1.7356	50%	= 4.5570	5%	= 9.0153
	90%	= 2.0980	25%	= 6.7304	1%	= 10.340
41	MEAN	= 4.7945	S.D.	= 2.2884	P(N>=r)	= 1.0000
	99%	= 1.2027	75%	= 2.8934	10%	= 8.0556
	95%	= 1.6614	50%	= 4.4256	5%	= 8.8030
	90%	= 2.0148	25%	= 6.5662	1%	= 10.094
42	MEAN	= 4.6646	S.D.	= 2.2470	P(N>=r)	= 1.0000
	99%	= 1.1444	75%	= 2.7961	10%	= 7.8690
	95%	= 1.5903	50%	= 4.2996	5%	= 8.5993
	90%	= 1.9351	25%	= 6.4084	1%	= 9.8581
43	MEAN	= 4.5398	S.D.	= 2.2073	P(N>=r)	=1.00000
	99%	= 1.0884	75%	= 2.7028	10%	= 7.6897
	95%	= 1.5221	50%	= 4.1787	5%	= 8.4037
	90%	= 1.8587	25%	= 6.2568	1%	= 9.6319
44	MEAN	= 4.4199	S.D.	= 2.1690	P(N>=r)	=1.00000
	99%	= 1.0347	75%	= 2.6132	10%	= 7.5173
	95%	= 1.4567	50%	= 4.0625	5%	= 8.2156
	90%	= 1.7854	25%	= 6.1108	1%	= 9.4146
45	MEAN	= 4.3046	S.D.	= 2.1321	P(N>=r)	=1.00000
	99%	= .98298	75%	= 2.5271	10%	= 7.3513
	95%	= 1.3939	50%	= 3.9507	5%	= 8.0347
	90%	= 1.7150	25%	= 5.9703	1%	= 9.2057
46	MEAN	= 4.1935	S.D.	= 2.0965	P(N>=r)	=1.00000
	99%	= .93323	75%	= 2.4444	10%	= 7.1914
	95%	= 1.3335	50%	= 3.8431	5%	= 7.8604
	90%	= 1.6474	25%	= 5.8348	1%	= 9.0048
47	MEAN	= 4.0865	S.D.	= 2.0622	P(N>=r)	=1.00000
	99%	= .88531	75%	= 2.3648	10%	= 7.0373
	95%	= 1.2754	50%	= 3.7395	5%	= 7.6925
	90%	= 1.5823	25%	= 5.7041	1%	= 8.8112
48	MEAN	= 3.9834	S.D.	= 2.0290	P(N>=r)	=1.00000
	99%	= .83914	75%	= 2.2881	10%	= 6.8885
	95%	= 1.2194	50%	= 3.6396	5%	= 7.5305
	90%	= 1.5197	25%	= 5.5780	1%	= 8.6247
49	MEAN	= 3.8839	S.D.	= 1.9970	P(N>=r)	=1.00000
	99%	= .79480	75%	= 2.2143	10%	= 6.7449
	95%	= 1.1656	50%	= 3.5433	5%	= 7.3742
	90%	= 1.4594	25%	= 5.4562	1%	= 8.4448
50	MEAN	= 3.7879	S.D.	= 1.9659	P(N>=r)	=1.00000
	99%	= .75235	75%	= 2.1431	10%	= 6.6062
	95%	= 1.1137	50%	= 3.4503	5%	= 7.2232
	90%	= 1.4013	25%	= 5.3385	1%	= 8.2712
51	MEAN	= 3.6951	S.D.	= 1.9359	P(N>=r)	=1.00000
	99%	= .71142	75%	= 2.0744	10%	= 6.4720
	95%	= 1.0636	50%	= 3.3606	5%	= 7.0773

	90%	= 1.3453	25%	= 5.2246	1%	= 8.1035
52	MEAN	= 3.6054	S.D.	= 1.9068	P(N>=r)	=1.00000
	99%	= .67098	75%	= 2.0081	10%	= 6.3423
	95%	= 1.0153	50%	= 3.2738	5%	= 6.9362
	90%	= 1.2913	25%	= 5.1144	1%	= 7.9414
53	MEAN	= 3.5187	S.D.	= 1.8786	P(N>=r)	= .99999
	99%	= .63112	75%	= 1.9441	10%	= 6.2167
	95%	= .96864	50%	= 3.1899	5%	= 6.7997
	90%	= 1.2391	25%	= 5.0077	1%	= 7.7847
54	MEAN	= 3.4347	S.D.	= 1.8512	P(N>=r)	= .99999
	99%	= .59328	75%	= 1.8823	10%	= 6.0950
	95%	= .92357	50%	= 3.1088	5%	= 6.6675
	90%	= 1.1887	25%	= 4.9043	1%	= 7.6330
55	MEAN	= 3.3535	S.D.	= 1.8247	P(N>=r)	= .99998
	99%	= .55695	75%	= 1.8225	10%	= 5.9771
	95%	= .88002	50%	= 3.0303	5%	= 6.5394
	90%	= 1.1400	25%	= 4.8041	1%	= 7.4862
56	MEAN	= 3.2748	S.D.	= 1.7989	P(N>=r)	= .99996
	99%	= .52184	75%	= 1.7646	10%	= 5.8628
	95%	= .83791	50%	= 2.9542	5%	= 6.4152
	90%	= 1.0930	25%	= 4.7069	1%	= 7.3439
57	MEAN	= 3.1985	S.D.	= 1.7738	P(N>=r)	= .99993
	99%	= .48787	75%	= 1.7087	10%	= 5.7519
	95%	= .79717	50%	= 2.8806	5%	= 6.2948
	90%	= 1.0475	25%	= 4.6126	1%	= 7.2060
58	MEAN	= 3.1246	S.D.	= 1.7494	P(N>=r)	= .99990
	99%	= .45503	75%	= 1.6545	10%	= 5.6443
	95%	= .75772	50%	= 2.8092	5%	= 6.1780
	90%	= 1.0035	25%	= 4.5211	1%	= 7.0723
59	MEAN	= 3.0529	S.D.	= 1.7257	P(N>=r)	= .99984
	99%	= .42331	75%	= 1.6021	10%	= 5.5398
	95%	= .71950	50%	= 2.7401	5%	= 6.0646
	90%	= .96097	25%	= 4.4322	1%	= 6.9426
60	MEAN	= 2.9834	S.D.	= 1.7026	P(N>=r)	= .99975
	99%	= .39273	75%	= 1.5514	10%	= 5.4383
	95%	= .68269	50%	= 2.6730	5%	= 5.9545
	90%	= .91986	25%	= 4.3459	1%	= 6.8166
61	MEAN	= 2.9160	S.D.	= 1.6800	P(N>=r)	= .99963
	99%	= .36334	75%	= 1.5023	10%	= 5.3397
	95%	= .64781	50%	= 2.6081	5%	= 5.8475
	90%	= .88016	25%	= 4.2621	1%	= 6.6944
62	MEAN	= 2.8507	S.D.	= 1.6580	P(N>=r)	= .99946
	99%	= .33521	75%	= 1.4549	10%	= 5.2438
	95%	= .61434	50%	= 2.5451	5%	= 5.7435
	90%	= .84184	25%	= 4.1806	1%	= 6.5756
63	MEAN	= 2.7873	S.D.	= 1.6365	P(N>=r)	= .99921
	99%	= .30841	75%	= 1.4090	10%	= 5.1507
	95%	= .58128	50%	= 2.4841	5%	= 5.6424

	90%	= .80491	25%	= 4.1015	1%	= 6.4601
64	MEAN	= 2.7260	S.D.	= 1.6154	P(N>=r)	= .99888
	99%	= .28306	75%	= 1.3648	10%	= 5.0600
	95%	= .54913	50%	= 2.4251	5%	= 5.5441
	90%	= .76938	25%	= 4.0246	1%	= 6.3478
65	MEAN	= 2.6666	S.D.	= 1.5947	P(N>=r)	= .99843
	99%	= .25926	75%	= 1.3221	10%	= 4.9719
	95%	= .51868	50%	= 2.3680	5%	= 5.4485
	90%	= .73528	25%	= 3.9500	1%	= 6.2387
66	MEAN	= 2.6091	S.D.	= 1.5744	P(N>=r)	= .99784
	99%	= .23711	75%	= 1.2810	10%	= 4.8862
	95%	= .48979	50%	= 2.3129	5%	= 5.3555
	90%	= .70263	25%	= 3.8774	1%	= 6.1325
67	MEAN	= 2.5536	S.D.	= 1.5544	P(N>=r)	= .99708
	99%	= .21672	75%	= 1.2416	10%	= 4.8028
	95%	= .46238	50%	= 2.2597	5%	= 5.2650
	90%	= .67142	25%	= 3.8071	1%	= 6.0292
68	MEAN	= 2.5000	S.D.	= 1.5347	P(N>=r)	= .99611
	99%	= .19812	75%	= 1.2039	10%	= 4.7217
	95%	= .43650	50%	= 2.2084	5%	= 5.1769
	90%	= .64154	25%	= 3.7388	1%	= 5.9286
69	MEAN	= 2.4483	S.D.	= 1.5152	P(N>=r)	= .99489
	99%	= .18135	75%	= 1.1678	10%	= 4.6428
	95%	= .41221	50%	= 2.1591	5%	= 5.0912
	90%	= .61339	25%	= 3.6726	1%	= 5.8307
70	MEAN	= 2.3986	S.D.	= 1.4959	P(N>=r)	= .99341
	99%	= .16638	75%	= 1.1334	10%	= 4.5660
	95%	= .38956	50%	= 2.1118	5%	= 5.0077
	90%	= .58726	25%	= 3.6085	1%	= 5.7354
71	MEAN	= 2.3508	S.D.	= 1.4769	P(N>=r)	= .99161
	99%	= .15314	75%	= 1.1008	10%	= 4.4913
	95%	= .36859	50%	= 2.0665	5%	= 4.9265
	90%	= .56342	25%	= 3.5463	1%	= 5.6425
72	MEAN	= 2.3049	S.D.	= 1.4580	P(N>=r)	= .98948
	99%	= .14154	75%	= 1.0699	10%	= 4.4187
	95%	= .34931	50%	= 2.0232	5%	= 4.8474
	90%	= .54093	25%	= 3.4862	1%	= 5.5521
73	MEAN	= 2.2609	S.D.	= 1.4392	P(N>=r)	= .98698
	99%	= .13143	75%	= 1.0408	10%	= 4.3481
	95%	= .33171	50%	= 1.9819	5%	= 4.7704
	90%	= .51969	25%	= 3.4281	1%	= 5.4640
74	MEAN	= 2.2188	S.D.	= 1.4206	P(N>=r)	= .98411
	99%	= .12270	75%	= 1.0134	10%	= 4.2793
	95%	= .31577	50%	= 1.9426	5%	= 4.6954
	90%	= .49992	25%	= 3.3719	1%	= 5.3781
75	MEAN	= 2.1784	S.D.	= 1.4021	P(N>=r)	= .98086
	99%	= .11517	75%	= .98762	10%	= 4.2125
	95%	= .30143	50%	= 1.9052	5%	= 4.6223

	90%	= .48198	25%	= 3.3175	1%	= 5.2944
76	MEAN	= 2.1398	S.D.	= 1.3837	P(N>=r)	= .97722
	99%	= .10872	75%	= .96348	10%	= 4.1474
	95%	= .28862	50%	= 1.8697	5%	= 4.5511
	90%	= .46573	25%	= 3.2650	1%	= 5.2128
77	MEAN	= 2.1029	S.D.	= 1.3655	P(N>=r)	= .97320
	99%	= .10321	75%	= .94088	10%	= 4.0841
	95%	= .27723	50%	= 1.8360	5%	= 4.4818
	90%	= .45107	25%	= 3.2142	1%	= 5.1332
78	MEAN	= 2.0676	S.D.	= 1.3474	P(N>=r)	= .96882
	99%	= .98510E-01	75%	= .91971	10%	= 4.0224
	95%	= .26717	50%	= 1.8041	5%	= 4.4141
	90%	= .43783	25%	= 3.1650	1%	= 5.0555
79	MEAN	= 2.0337	S.D.	= 1.3294	P(N>=r)	= .96411
	99%	= .94510E-01	75%	= .89988	10%	= 3.9623
	95%	= .25831	50%	= 1.7739	5%	= 4.3482
	90%	= .42590	25%	= 3.1174	1%	= 4.9797
80	MEAN	= 2.0012	S.D.	= 1.3117	P(N>=r)	= .95909
	99%	= .91107E-01	75%	= .88127	10%	= 3.9037
	95%	= .25052	50%	= 1.7452	5%	= 4.2838
	90%	= .41515	25%	= 3.0713	1%	= 4.9057
81	MEAN	= 1.9700	S.D.	= 1.2941	P(N>=r)	= .95379
	99%	= .88213E-01	75%	= .86375	10%	= 3.8466
	95%	= .24368	50%	= 1.7180	5%	= 4.2209
	90%	= .40545	25%	= 3.0266	1%	= 4.8334
82	MEAN	= 1.9400	S.D.	= 1.2767	P(N>=r)	= .94825
	99%	= .85748E-01	75%	= .84722	10%	= 3.7908
	95%	= .23766	50%	= 1.6921	5%	= 4.1596
	90%	= .39665	25%	= 2.9832	1%	= 4.7627
83	MEAN	= 1.9110	S.D.	= 1.2596	P(N>=r)	= .94250
	99%	= .83641E-01	75%	= .83155	10%	= 3.7364
	95%	= .23234	50%	= 1.6675	5%	= 4.0996
	90%	= .38864	25%	= 2.9410	1%	= 4.6936
84	MEAN	= 1.8831	S.D.	= 1.2427	P(N>=r)	= .93658
	99%	= .81831E-01	75%	= .81663	10%	= 3.6832
	95%	= .22761	50%	= 1.6440	5%	= 4.0409
	90%	= .38129	25%	= 2.8999	1%	= 4.6261
85	MEAN	= 1.8560	S.D.	= 1.2260	P(N>=r)	= .93052
	99%	= .80265E-01	75%	= .80238	10%	= 3.6312
	95%	= .22337	50%	= 1.6215	5%	= 3.9836
	90%	= .37449	25%	= 2.8599	1%	= 4.5600
86	MEAN	= 1.8297	S.D.	= 1.2096	P(N>=r)	= .92435
	99%	= .78896E-01	75%	= .78871	10%	= 3.5803
	95%	= .21952	50%	= 1.6000	5%	= 3.9275
	90%	= .36815	25%	= 2.8209	1%	= 4.4954
87	MEAN	= 1.8042	S.D.	= 1.1935	P(N>=r)	= .91810
	99%	= .77684E-01	75%	= .77554	10%	= 3.5305
	95%	= .21599	50%	= 1.5793	5%	= 3.8725

	90%	= .36219	25%	= 2.7827	1%	= 4.4320
88	MEAN	= 1.7793	S.D.	= 1.1776	P(N>=r)	= .91177
	99%	= .76597E-01	75%	= .76281	10%	= 3.4818
	95%	= .21272	50%	= 1.5595	5%	= 3.8187
	90%	= .35654	25%	= 2.7455	1%	= 4.3700
89	MEAN	= 1.7551	S.D.	= 1.1620	P(N>=r)	= .90540
	99%	= .75607E-01	75%	= .75048	10%	= 3.4340
	95%	= .20964	50%	= 1.5403	5%	= 3.7660
	90%	= .35113	25%	= 2.7090	1%	= 4.3093
90	MEAN	= 1.7315	S.D.	= 1.1467	P(N>=r)	= .89899
	99%	= .74691E-01	75%	= .73850	10%	= 3.3872
	95%	= .20673	50%	= 1.5219	5%	= 3.7143
	90%	= .34593	25%	= 2.6734	1%	= 4.2498
91	MEAN	= 1.7085	S.D.	= 1.1317	P(N>=r)	= .89256
	99%	= .73832E-01	75%	= .72683	10%	= 3.3414
	95%	= .20394	50%	= 1.5040	5%	= 3.6637
	90%	= .34091	25%	= 2.6384	1%	= 4.1915
92	MEAN	= 1.6860	S.D.	= 1.1169	P(N>=r)	= .88611
	99%	= .73017E-01	75%	= .71547	10%	= 3.2964
	95%	= .20125	50%	= 1.4868	5%	= 3.6140
	90%	= .33603	25%	= 2.6042	1%	= 4.1343
93	MEAN	= 1.6640	S.D.	= 1.1023	P(N>=r)	= .87964
	99%	= .72236E-01	75%	= .70438	10%	= 3.2523
	95%	= .19864	50%	= 1.4701	5%	= 3.5653
	90%	= .33128	25%	= 2.5707	1%	= 4.0782
94	MEAN	= 1.6424	S.D.	= 1.0881	P(N>=r)	= .87318
	99%	= .71480E-01	75%	= .69355	10%	= 3.2090
	95%	= .19611	50%	= 1.4540	5%	= 3.5176
	90%	= .32664	25%	= 2.5378	1%	= 4.0232
95	MEAN	= 1.6214	S.D.	= 1.0740	P(N>=r)	= .86670
	99%	= .70745E-01	75%	= .68297	10%	= 3.1666
	95%	= .19363	50%	= 1.4383	5%	= 3.4707
	90%	= .32211	25%	= 2.5055	1%	= 3.9693
96	MEAN	= 1.6008	S.D.	= 1.0602	P(N>=r)	= .86022
	99%	= .70026E-01	75%	= .67263	10%	= 3.1249
	95%	= .19121	50%	= 1.4231	5%	= 3.4247
	90%	= .31767	25%	= 2.4739	1%	= 3.9163
97	MEAN	= 1.5806	S.D.	= 1.0467	P(N>=r)	= .85374
	99%	= .69322E-01	75%	= .66253	10%	= 3.0841
	95%	= .18883	50%	= 1.4083	5%	= 3.3795
	90%	= .31332	25%	= 2.4429	1%	= 3.8644
98	MEAN	= 1.5608	S.D.	= 1.0334	P(N>=r)	= .84726
	99%	= .68630E-01	75%	= .65266	10%	= 3.0439
	95%	= .18650	50%	= 1.3939	5%	= 3.3352
	90%	= .30906	25%	= 2.4124	1%	= 3.8134
99	MEAN	= 1.5415	S.D.	= 1.0203	P(N>=r)	= .84078
	99%	= .67950E-01	75%	= .64301	10%	= 3.0045
	95%	= .18421	50%	= 1.3800	5%	= 3.2917

	90%	= .30487	25%	= 2.3825	1%	= 3.7634
100	MEAN	= 1.5226	S.D.	= 1.0074	P(N>=r)	= .83430
	99%	= .67280E-01	75%	= .63359	10%	= 2.9658
	95%	= .18196	50%	= 1.3664	5%	= 3.2490
	90%	= .30076	25%	= 2.3531	1%	= 3.7142
101	MEAN	= 1.5040	S.D.	= .99471	P(N>=r)	= .82782
	99%	= .66620E-01	75%	= .62438	10%	= 2.9278
	95%	= .17975	50%	= 1.3531	5%	= 3.2070
	90%	= .29673	25%	= 2.3243	1%	= 3.6660
102	MEAN	= 1.4859	S.D.	= .98224	P(N>=r)	= .82134
	99%	= .65969E-01	75%	= .61540	10%	= 2.8904
	95%	= .17758	50%	= 1.3402	5%	= 3.1657
	90%	= .29277	25%	= 2.2960	1%	= 3.6186
103	MEAN	= 1.4681	S.D.	= .96997	P(N>=r)	= .81486
	99%	= .65327E-01	75%	= .60663	10%	= 2.8537
	95%	= .17544	50%	= 1.3276	5%	= 3.1252
	90%	= .28888	25%	= 2.2682	1%	= 3.5720
104	MEAN	= 1.4507	S.D.	= .95789	P(N>=r)	= .80838
	99%	= .64694E-01	75%	= .59808	10%	= 2.8177
	95%	= .17334	50%	= 1.3154	5%	= 3.0854
	90%	= .28506	25%	= 2.2409	1%	= 3.5263
105	MEAN	= 1.4336	S.D.	= .94599	P(N>=r)	= .80189
	99%	= .64070E-01	75%	= .58975	10%	= 2.7822
	95%	= .17127	50%	= 1.3034	5%	= 3.0463
	90%	= .28131	25%	= 2.2141	1%	= 3.4813
106	MEAN	= 1.4169	S.D.	= .93427	P(N>=r)	= .79541
	99%	= .63453E-01	75%	= .58163	10%	= 2.7474
	95%	= .16924	50%	= 1.2916	5%	= 3.0078
	90%	= .27762	25%	= 2.1877	1%	= 3.4371
107	MEAN	= 1.4005	S.D.	= .92272	P(N>=r)	= .78893
	99%	= .62845E-01	75%	= .57374	10%	= 2.7131
	95%	= .16723	50%	= 1.2801	5%	= 2.9700
	90%	= .27400	25%	= 2.1618	1%	= 3.3937
108	MEAN	= 1.3844	S.D.	= .91134	P(N>=r)	= .78245
	99%	= .62244E-01	75%	= .56606	10%	= 2.6795
	95%	= .16526	50%	= 1.2689	5%	= 2.9329
	90%	= .27043	25%	= 2.1363	1%	= 3.3510
109	MEAN	= 1.3687	S.D.	= .90013	P(N>=r)	= .77597
	99%	= .61651E-01	75%	= .55862	10%	= 2.6463
	95%	= .16332	50%	= 1.2579	5%	= 2.8963
	90%	= .26693	25%	= 2.1112	1%	= 3.3091
110	MEAN	= 1.3533	S.D.	= .88907	P(N>=r)	= .76949
	99%	= .61065E-01	75%	= .55140	10%	= 2.6138
	95%	= .16140	50%	= 1.2471	5%	= 2.8604
	90%	= .26349	25%	= 2.0866	1%	= 3.2678
111	MEAN	= 1.3382	S.D.	= .87816	P(N>=r)	= .76301
	99%	= .60487E-01	75%	= .54442	10%	= 2.5817
	95%	= .15952	50%	= 1.2366	5%	= 2.8250

	90%	= .26011	25%	= 2.0624	1%	= 3.2272
112	MEAN	= 1.3234	S.D.	= .86740	P(N>=r)	= .75652
	99%	= .59915E-01	75%	= .53768	10%	= 2.5502
	95%	= .15766	50%	= 1.2262	5%	= 2.7902
	90%	= .25679	25%	= 2.0386	1%	= 3.1873
113	MEAN	= 1.3089	S.D.	= .85678	P(N>=r)	= .75004
	99%	= .59351E-01	75%	= .53118	10%	= 2.5192
	95%	= .15583	50%	= 1.2160	5%	= 2.7560
	90%	= .25352	25%	= 2.0152	1%	= 3.1481
114	MEAN	= 1.2947	S.D.	= .84630	P(N>=r)	= .74356
	99%	= .58793E-01	75%	= .52494	10%	= 2.4887
	95%	= .15403	50%	= 1.2060	5%	= 2.7224
	90%	= .25032	25%	= 1.9921	1%	= 3.1094
115	MEAN	= 1.2808	S.D.	= .83596	P(N>=r)	= .73708
	99%	= .58242E-01	75%	= .51896	10%	= 2.4587
	95%	= .15226	50%	= 1.1962	5%	= 2.6892
	90%	= .24717	25%	= 1.9694	1%	= 3.0714
116	MEAN	= 1.2671	S.D.	= .82574	P(N>=r)	= .73060
	99%	= .57697E-01	75%	= .51325	10%	= 2.4292
	95%	= .15051	50%	= 1.1866	5%	= 2.6566
	90%	= .24408	25%	= 1.9471	1%	= 3.0340
117	MEAN	= 1.2538	S.D.	= .81564	P(N>=r)	= .72412
	99%	= .57158E-01	75%	= .50782	10%	= 2.4001
	95%	= .14880	50%	= 1.1771	5%	= 2.6245
	90%	= .24106	25%	= 1.9252	1%	= 2.9972
118	MEAN	= 1.2407	S.D.	= .80566	P(N>=r)	= .71764
	99%	= .56627E-01	75%	= .50268	10%	= 2.3715
	95%	= .14710	50%	= 1.1678	5%	= 2.5929
	90%	= .23809	25%	= 1.9036	1%	= 2.9610
119	MEAN	= 1.2278	S.D.	= .79580	P(N>=r)	= .71116
	99%	= .56101E-01	75%	= .49785	10%	= 2.3433
	95%	= .14544	50%	= 1.1587	5%	= 2.5618
	90%	= .23519	25%	= 1.8823	1%	= 2.9253
120	MEAN	= 1.2153	S.D.	= .78604	P(N>=r)	= .70468
	99%	= .55582E-01	75%	= .49332	10%	= 2.3155
	95%	= .14381	50%	= 1.1497	5%	= 2.5312
	90%	= .23236	25%	= 1.8614	1%	= 2.8902
121	MEAN	= 1.2030	S.D.	= .77639	P(N>=r)	= .69820
	99%	= .55070E-01	75%	= .48913	10%	= 2.2882
	95%	= .14220	50%	= 1.1408	5%	= 2.5010
	90%	= .22960	25%	= 1.8407	1%	= 2.8556
122	MEAN	= 1.1909	S.D.	= .76683	P(N>=r)	= .69172
	99%	= .54565E-01	75%	= .48527	10%	= 2.2613
	95%	= .14063	50%	= 1.1321	5%	= 2.4713
	90%	= .22692	25%	= 1.8204	1%	= 2.8216
123	MEAN	= 1.1791	S.D.	= .75738	P(N>=r)	= .68524
	99%	= .54068E-01	75%	= .48177	10%	= 2.2348
	95%	= .13908	50%	= 1.1235	5%	= 2.4421

	90%	= .22432	25%	= 1.8004	1%	= 2.7881
124	MEAN	= 1.1675	S.D.	= .74801	P(N>=r)	= .67877
	99%	= .53578E-01	75%	= .47863	10%	= 2.2086
	95%	= .13758	50%	= 1.1151	5%	= 2.4133
	90%	= .22180	25%	= 1.7807	1%	= 2.7550
125	MEAN	= 1.1562	S.D.	= .73873	P(N>=r)	= .67229
	99%	= .53097E-01	75%	= .47587	10%	= 2.1829
	95%	= .13611	50%	= 1.1068	5%	= 2.3849
	90%	= .21937	25%	= 1.7613	1%	= 2.7225
126	MEAN	= 1.1451	S.D.	= .72953	P(N>=r)	= .66582
	99%	= .52626E-01	75%	= .47350	10%	= 2.1576
	95%	= .13468	50%	= 1.0986	5%	= 2.3569
	90%	= .21705	25%	= 1.7422	1%	= 2.6904
127	MEAN	= 1.1342	S.D.	= .72041	P(N>=r)	= .65936
	99%	= .52164E-01	75%	= .47152	10%	= 2.1326
	95%	= .13330	50%	= 1.0905	5%	= 2.3293
	90%	= .21483	25%	= 1.7234	1%	= 2.6589
128	MEAN	= 1.1236	S.D.	= .71137	P(N>=r)	= .65290
	99%	= .51715E-01	75%	= .46994	10%	= 2.1080
	95%	= .13197	50%	= 1.0826	5%	= 2.3022
	90%	= .21272	25%	= 1.7048	1%	= 2.6277
129	MEAN	= 1.1132	S.D.	= .70239	P(N>=r)	= .64644
	99%	= .51278E-01	75%	= .46876	10%	= 2.0837
	95%	= .13069	50%	= 1.0747	5%	= 2.2754
	90%	= .21074	25%	= 1.6865	1%	= 2.5971
130	MEAN	= 1.1030	S.D.	= .69348	P(N>=r)	= .64000
	99%	= .50855E-01	75%	= .46796	10%	= 2.0598
	95%	= .12947	50%	= 1.0670	5%	= 2.2490
	90%	= .20890	25%	= 1.6685	1%	= 2.5669
131	MEAN	= 1.0930	S.D.	= .68463	P(N>=r)	= .63356
	99%	= .50448E-01	75%	= .46755	10%	= 2.0362
	95%	= .12831	50%	= 1.0593	5%	= 2.2230
	90%	= .20720	25%	= 1.6507	1%	= 2.5371
132	MEAN	= 1.0832	S.D.	= .67585	P(N>=r)	= .62714
	99%	= .50059E-01	75%	= .46750	10%	= 2.0130
	95%	= .12723	50%	= 1.0517	5%	= 2.1974
	90%	= .20566	25%	= 1.6331	1%	= 2.5077
133	MEAN	= 1.0736	S.D.	= .66712	P(N>=r)	= .62074
	99%	= .49691E-01	75%	= .46778	10%	= 1.9900
	95%	= .12622	50%	= 1.0443	5%	= 2.1721
	90%	= .20429	25%	= 1.6158	1%	= 2.4788
134	MEAN	= 1.0642	S.D.	= .65845	P(N>=r)	= .61436
	99%	= .49344E-01	75%	= .46836	10%	= 1.9674
	95%	= .12530	50%	= 1.0368	5%	= 2.1471
	90%	= .20310	25%	= 1.5987	1%	= 2.4502
135	MEAN	= 1.0549	S.D.	= .64983	P(N>=r)	= .60800
	99%	= .49022E-01	75%	= .46919	10%	= 1.9451
	95%	= .12447	50%	= 1.0295	5%	= 2.1225

	90%	= .20211	25%	= 1.5818	1%	= 2.4221
136	MEAN	= 1.0459	S.D.	= .64126	P(N>=r)	= .60168
	99%	= .48727E-01	75%	= .47024	10%	= 1.9231
	95%	= .12374	50%	= 1.0222	5%	= 2.0982
	90%	= .20131	25%	= 1.5652	1%	= 2.3943
137	MEAN	= 1.0369	S.D.	= .63275	P(N>=r)	= .59539
	99%	= .48462E-01	75%	= .47144	10%	= 1.9014
	95%	= .12312	50%	= 1.0149	5%	= 2.0743
	90%	= .20073	25%	= 1.5487	1%	= 2.3669
138	MEAN	= 1.0282	S.D.	= .62429	P(N>=r)	= .58914
	99%	= .48228E-01	75%	= .47275	10%	= 1.8799
	95%	= .12260	50%	= 1.0077	5%	= 2.0507
	90%	= .20038	25%	= 1.5324	1%	= 2.3399
139	MEAN	= 1.0195	S.D.	= .61589	P(N>=r)	= .58294
	99%	= .48028E-01	75%	= .47412	10%	= 1.8587
	95%	= .12221	50%	= 1.0005	5%	= 2.0273
	90%	= .20025	25%	= 1.5163	1%	= 2.3132
140	MEAN	= 1.0110	S.D.	= .60754	P(N>=r)	= .57680
	99%	= .47865E-01	75%	= .47548	10%	= 1.8378
	95%	= .12194	50%	= .99323	5%	= 2.0043
	90%	= .20036	25%	= 1.5004	1%	= 2.2869
141	MEAN	= 1.0025	S.D.	= .59926	P(N>=r)	= .57072
	99%	= .47741E-01	75%	= .47678	10%	= 1.8172
	95%	= .12180	50%	= .98599	5%	= 1.9816
	90%	= .20071	25%	= 1.4846	1%	= 2.2609
142	MEAN	= .99418	S.D.	= .59104	P(N>=r)	= .56471
	99%	= .47656E-01	75%	= .47799	10%	= 1.7967
	95%	= .12179	50%	= .97872	5%	= 1.9591
	90%	= .20130	25%	= 1.4690	1%	= 2.2353
143	MEAN	= .98588	S.D.	= .58289	P(N>=r)	= .55879
	99%	= .47613E-01	75%	= .47905	10%	= 1.7766
	95%	= .12191	50%	= .97142	5%	= 1.9369
	90%	= .20211	25%	= 1.4535	1%	= 2.2099
144	MEAN	= .97764	S.D.	= .57482	P(N>=r)	= .55295
	99%	= .47612E-01	75%	= .47993	10%	= 1.7566
	95%	= .12217	50%	= .96406	5%	= 1.9150
	90%	= .20313	25%	= 1.4382	1%	= 2.1849
145	MEAN	= .96942	S.D.	= .56683	P(N>=r)	= .54721
	99%	= .47654E-01	75%	= .48060	10%	= 1.7369
	95%	= .12256	50%	= .95663	5%	= 1.8933
	90%	= .20434	25%	= 1.4229	1%	= 2.1602
146	MEAN	= .96122	S.D.	= .55893	P(N>=r)	= .54157
	99%	= .47737E-01	75%	= .48102	10%	= 1.7173
	95%	= .12308	50%	= .94913	5%	= 1.8719
	90%	= .20572	25%	= 1.4078	1%	= 2.1358
147	MEAN	= .95302	S.D.	= .55113	P(N>=r)	= .53604
	99%	= .47862E-01	75%	= .48118	10%	= 1.6980
	95%	= .12372	50%	= .94154	5%	= 1.8507

	90%	= .20723	25%	= 1.3928	1%	= 2.1117
148	MEAN	= .94480	S.D.	= .54344	P(N>=r)	= .53063
	99%	= .48027E-01	75%	= .48106	10%	= 1.6789
	95%	= .12446	50%	= .93385	5%	= 1.8297
	90%	= .20883	25%	= 1.3779	1%	= 2.0879
149	MEAN	= .93655	S.D.	= .53586	P(N>=r)	= .52534
	99%	= .48227E-01	75%	= .48063	10%	= 1.6599
	95%	= .12529	50%	= .92606	5%	= 1.8090
	90%	= .21047	25%	= 1.3631	1%	= 2.0643
150	MEAN	= .92825	S.D.	= .52839	P(N>=r)	= .52018
	99%	= .48461E-01	75%	= .47990	10%	= 1.6412
	95%	= .12619	50%	= .91816	5%	= 1.7885
	90%	= .21211	25%	= 1.3483	1%	= 2.0410
151	MEAN	= .91991	S.D.	= .52106	P(N>=r)	= .51515
	99%	= .48722E-01	75%	= .47886	10%	= 1.6226
	95%	= .12714	50%	= .91015	5%	= 1.7682
	90%	= .21368	25%	= 1.3336	1%	= 2.0180
152	MEAN	= .91151	S.D.	= .51385	P(N>=r)	= .51024
	99%	= .49006E-01	75%	= .47751	10%	= 1.6042
	95%	= .12811	50%	= .90203	5%	= 1.7481
	90%	= .21515	25%	= 1.3190	1%	= 1.9952
153	MEAN	= .90305	S.D.	= .50679	P(N>=r)	= .50547
	99%	= .49306E-01	75%	= .47585	10%	= 1.5859
	95%	= .12909	50%	= .89379	5%	= 1.7282
	90%	= .21647	25%	= 1.3045	1%	= 1.9727
154	MEAN	= .89452	S.D.	= .49986	P(N>=r)	= .50082
	99%	= .49615E-01	75%	= .47390	10%	= 1.5679
	95%	= .13003	50%	= .88546	5%	= 1.7085
	90%	= .21761	25%	= 1.2901	1%	= 1.9505
155	MEAN	= .88593	S.D.	= .49307	P(N>=r)	= .49630
	99%	= .49925E-01	75%	= .47165	10%	= 1.5500
	95%	= .13091	50%	= .87702	5%	= 1.6890
	90%	= .21853	25%	= 1.2757	1%	= 1.9285
156	MEAN	= .87728	S.D.	= .48643	P(N>=r)	= .49191
	99%	= .50228E-01	75%	= .46913	10%	= 1.5322
	95%	= .13171	50%	= .86849	5%	= 1.6698
	90%	= .21922	25%	= 1.2614	1%	= 1.9067
157	MEAN	= .86856	S.D.	= .47993	P(N>=r)	= .48763
	99%	= .50516E-01	75%	= .46635	10%	= 1.5147
	95%	= .13240	50%	= .85988	5%	= 1.6507
	90%	= .21966	25%	= 1.2472	1%	= 1.8851
158	MEAN	= .85980	S.D.	= .47356	P(N>=r)	= .48346
	99%	= .50781E-01	75%	= .46334	10%	= 1.4972
	95%	= .13297	50%	= .85120	5%	= 1.6318
	90%	= .21985	25%	= 1.2331	1%	= 1.8638
159	MEAN	= .85099	S.D.	= .46734	P(N>=r)	= .47940
	99%	= .51016E-01	75%	= .46010	10%	= 1.4800
	95%	= .13340	50%	= .84245	5%	= 1.6130

	90%	= .21980	25%	= 1.2191	1%	= 1.8428
160	MEAN	= .84215	S.D.	= .46125	P(N>=r)	= .47543
	99%	= .51216E-01	75%	= .45667	10%	= 1.4629
	95%	= .13369	50%	= .83366	5%	= 1.5945
	90%	= .21950	25%	= 1.2051	1%	= 1.8219
161	MEAN	= .83328	S.D.	= .45529	P(N>=r)	= .47156
	99%	= .51374E-01	75%	= .45307	10%	= 1.4460
	95%	= .13382	50%	= .82484	5%	= 1.5762
	90%	= .21898	25%	= 1.1912	1%	= 1.8013
162	MEAN	= .82439	S.D.	= .44945	P(N>=r)	= .46776
	99%	= .51488E-01	75%	= .44931	10%	= 1.4292
	95%	= .13381	50%	= .81599	5%	= 1.5580
	90%	= .21825	25%	= 1.1775	1%	= 1.7809
163	MEAN	= .81551	S.D.	= .44373	P(N>=r)	= .46404
	99%	= .51556E-01	75%	= .44542	10%	= 1.4126
	95%	= .13366	50%	= .80714	5%	= 1.5401
	90%	= .21734	25%	= 1.1638	1%	= 1.7607
164	MEAN	= .80663	S.D.	= .43813	P(N>=r)	= .46039
	99%	= .51577E-01	75%	= .44142	10%	= 1.3962
	95%	= .13338	50%	= .79829	5%	= 1.5223
	90%	= .21625	25%	= 1.1503	1%	= 1.7408
165	MEAN	= .79776	S.D.	= .43262	P(N>=r)	= .45679
	99%	= .51551E-01	75%	= .43733	10%	= 1.3799
	95%	= .13297	50%	= .78946	5%	= 1.5047
	90%	= .21502	25%	= 1.1369	1%	= 1.7210
166	MEAN	= .78893	S.D.	= .42722	P(N>=r)	= .45324
	99%	= .51482E-01	75%	= .43318	10%	= 1.3638
	95%	= .13244	50%	= .78065	5%	= 1.4873
	90%	= .21366	25%	= 1.1235	1%	= 1.7015
167	MEAN	= .78013	S.D.	= .42191	P(N>=r)	= .44974
	99%	= .51371E-01	75%	= .42896	10%	= 1.3479
	95%	= .13182	50%	= .77188	5%	= 1.4701
	90%	= .21219	25%	= 1.1103	1%	= 1.6822
168	MEAN	= .77138	S.D.	= .41669	P(N>=r)	= .44627
	99%	= .51222E-01	75%	= .42471	10%	= 1.3321
	95%	= .13112	50%	= .76315	5%	= 1.4531
	90%	= .21064	25%	= 1.0973	1%	= 1.6631
169	MEAN	= .76268	S.D.	= .41156	P(N>=r)	= .44283
	99%	= .51039E-01	75%	= .42043	10%	= 1.3165
	95%	= .13034	50%	= .75447	5%	= 1.4362
	90%	= .20901	25%	= 1.0843	1%	= 1.6443
170	MEAN	= .75404	S.D.	= .40650	P(N>=r)	= .43942
	99%	= .50826E-01	75%	= .41614	10%	= 1.3010
	95%	= .12951	50%	= .74586	5%	= 1.4196
	90%	= .20732	25%	= 1.0715	1%	= 1.6256
171	MEAN	= .74546	S.D.	= .40151	P(N>=r)	= .43603
	99%	= .50588E-01	75%	= .41185	10%	= 1.2858
	95%	= .12862	50%	= .73731	5%	= 1.4031

	90%	= .20559	25%	= 1.0588	1%	= 1.6071
172	MEAN	= .73695	S.D.	= .39660	P(N>=r)	= .43266
	99%	= .50328E-01	75%	= .40757	10%	= 1.2706
	95%	= .12769	50%	= .72883	5%	= 1.3868
	90%	= .20383	25%	= 1.0462	1%	= 1.5889
173	MEAN	= .72852	S.D.	= .39175	P(N>=r)	= .42931
	99%	= .50051E-01	75%	= .40329	10%	= 1.2557
	95%	= .12674	50%	= .72042	5%	= 1.3707
	90%	= .20204	25%	= 1.0338	1%	= 1.5708
174	MEAN	= .72016	S.D.	= .38696	P(N>=r)	= .42596
	99%	= .49759E-01	75%	= .39904	10%	= 1.2409
	95%	= .12576	50%	= .71208	5%	= 1.3547
	90%	= .20024	25%	= 1.0215	1%	= 1.5530
175	MEAN	= .71187	S.D.	= .38224	P(N>=r)	= .42263
	99%	= .49455E-01	75%	= .39481	10%	= 1.2263
	95%	= .12476	50%	= .70383	5%	= 1.3389
	90%	= .19842	25%	= 1.0093	1%	= 1.5353
176	MEAN	= .70367	S.D.	= .37757	P(N>=r)	= .41930
	99%	= .49143E-01	75%	= .39061	10%	= 1.2118
	95%	= .12375	50%	= .69565	5%	= 1.3233
	90%	= .19661	25%	= .99721	1%	= 1.5178
177	MEAN	= .69555	S.D.	= .37296	P(N>=r)	= .41597
	99%	= .48825E-01	75%	= .38644	10%	= 1.1975
	95%	= .12274	50%	= .68756	5%	= 1.3079
	90%	= .19479	25%	= .98528	1%	= 1.5006
178	MEAN	= .68751	S.D.	= .36841	P(N>=r)	= .41266
	99%	= .48501E-01	75%	= .38231	10%	= 1.1833
	95%	= .12172	50%	= .67954	5%	= 1.2926
	90%	= .19298	25%	= .97347	1%	= 1.4835
179	MEAN	= .67954	S.D.	= .36391	P(N>=r)	= .40934
	99%	= .48175E-01	75%	= .37820	10%	= 1.1693
	95%	= .12070	50%	= .67161	5%	= 1.2775
	90%	= .19118	25%	= .96179	1%	= 1.4666
180	MEAN	= .67166	S.D.	= .35946	P(N>=r)	= .40603
	99%	= .47846E-01	75%	= .37414	10%	= 1.1554
	95%	= .11968	50%	= .66375	5%	= 1.2625
	90%	= .18939	25%	= .95023	1%	= 1.4499
181	MEAN	= .66386	S.D.	= .35506	P(N>=r)	= .40272
	99%	= .47517E-01	75%	= .37011	10%	= 1.1417
	95%	= .11866	50%	= .65598	5%	= 1.2478
	90%	= .18760	25%	= .93880	1%	= 1.4333
182	MEAN	= .65614	S.D.	= .35071	P(N>=r)	= .39940
	99%	= .47187E-01	75%	= .36612	10%	= 1.1281
	95%	= .11765	50%	= .64829	5%	= 1.2331
	90%	= .18583	25%	= .92748	1%	= 1.4170
183	MEAN	= .64850	S.D.	= .34640	P(N>=r)	= .39610
	99%	= .46857E-01	75%	= .36217	10%	= 1.1147
	95%	= .11665	50%	= .64067	5%	= 1.2187

	90%	= .18407	25%	= .91629	1%	= 1.4008
184	MEAN	= .64094	S.D.	= .34215	P(N>=r)	= .39279
	99%	= .46528E-01	75%	= .35825	10%	= 1.1014
	95%	= .11564	50%	= .63313	5%	= 1.2043
	90%	= .18233	25%	= .90521	1%	= 1.3848
185	MEAN	= .63345	S.D.	= .33794	P(N>=r)	= .38948
	99%	= .46199E-01	75%	= .35438	10%	= 1.0883
	95%	= .11465	50%	= .62567	5%	= 1.1902
	90%	= .18060	25%	= .89424	1%	= 1.3689
186	MEAN	= .62604	S.D.	= .33378	P(N>=r)	= .38617
	99%	= .45872E-01	75%	= .35053	10%	= 1.0752
	95%	= .11366	50%	= .61829	5%	= 1.1762
	90%	= .17888	25%	= .88339	1%	= 1.3532
187	MEAN	= .61870	S.D.	= .32966	P(N>=r)	= .38286
	99%	= .45547E-01	75%	= .34673	10%	= 1.0624
	95%	= .11268	50%	= .61098	5%	= 1.1623
	90%	= .17718	25%	= .87266	1%	= 1.3377
188	MEAN	= .61144	S.D.	= .32558	P(N>=r)	= .37956
	99%	= .45222E-01	75%	= .34296	10%	= 1.0496
	95%	= .11170	50%	= .60374	5%	= 1.1486
	90%	= .17549	25%	= .86203	1%	= 1.3224
189	MEAN	= .60426	S.D.	= .32155	P(N>=r)	= .37625
	99%	= .44900E-01	75%	= .33922	10%	= 1.0370
	95%	= .11073	50%	= .59657	5%	= 1.1350
	90%	= .17381	25%	= .85151	1%	= 1.3072
190	MEAN	= .59714	S.D.	= .31757	P(N>=r)	= .37294
	99%	= .44578E-01	75%	= .33552	10%	= 1.0246
	95%	= .10977	50%	= .58948	5%	= 1.1215
	90%	= .17214	25%	= .84110	1%	= 1.2922
191	MEAN	= .59009	S.D.	= .31362	P(N>=r)	= .36964
	99%	= .44259E-01	75%	= .33186	10%	= 1.0122
	95%	= .10882	50%	= .58246	5%	= 1.1082
	90%	= .17049	25%	= .83080	1%	= 1.2773
192	MEAN	= .58312	S.D.	= .30972	P(N>=r)	= .36633
	99%	= .43940E-01	75%	= .32823	10%	= .99998
	95%	= .10787	50%	= .57550	5%	= 1.0951
	90%	= .16886	25%	= .82060	1%	= 1.2626
193	MEAN	= .57621	S.D.	= .30586	P(N>=r)	= .36302
	99%	= .43624E-01	75%	= .32463	10%	= .98789
	95%	= .10692	50%	= .56861	5%	= 1.0820
	90%	= .16723	25%	= .81050	1%	= 1.2480
194	MEAN	= .56937	S.D.	= .30204	P(N>=r)	= .35972
	99%	= .43308E-01	75%	= .32104	10%	= .97591
	95%	= .10599	50%	= .56179	5%	= 1.0691
	90%	= .16562	25%	= .80050	1%	= 1.2336
195	MEAN	= .56260	S.D.	= .29826	P(N>=r)	= .35641
	99%	= .42995E-01	75%	= .31753	10%	= .96406
	95%	= .10506	50%	= .55504	5%	= 1.0564

	90%	= .16402	25%	= .79061	1%	= 1.2193
196	MEAN	= .55589	S.D.	= .29452	P(N>=r)	= .35310
	99%	= .42682E-01	75%	= .31403	10%	= .95233
	95%	= .10413	50%	= .54835	5%	= 1.0437
	90%	= .16243	25%	= .78081	1%	= 1.2052
197	MEAN	= .54925	S.D.	= .29082	P(N>=r)	= .34979
	99%	= .42372E-01	75%	= .31055	10%	= .94071
	95%	= .10321	50%	= .54172	5%	= 1.0312
	90%	= .16086	25%	= .77111	1%	= 1.1912
198	MEAN	= .54267	S.D.	= .28715	P(N>=r)	= .34649
	99%	= .42062E-01	75%	= .30711	10%	= .92921
	95%	= .10230	50%	= .53516	5%	= 1.0188
	90%	= .15929	25%	= .76150	1%	= 1.1774
199	MEAN	= .53616	S.D.	= .28353	P(N>=r)	= .34318
	99%	= .41754E-01	75%	= .30370	10%	= .91783
	95%	= .10140	50%	= .52866	5%	= 1.0065
	90%	= .15774	25%	= .75199	1%	= 1.1637
200	MEAN	= .52970	S.D.	= .27994	P(N>=r)	= .33987
	99%	= .41447E-01	75%	= .30032	10%	= .90655
	95%	= .10049	50%	= .52222	5%	= .99440
	90%	= .15620	25%	= .74257	1%	= 1.1501
201	MEAN	= .52331	S.D.	= .27639	P(N>=r)	= .33657
	99%	= .41142E-01	75%	= .29697	10%	= .89539
	95%	= .99600E-01	50%	= .51583	5%	= .98238
	90%	= .15467	25%	= .73325	1%	= 1.1367
202	MEAN	= .51698	S.D.	= .27288	P(N>=r)	= .33326
	99%	= .40837E-01	75%	= .29364	10%	= .88434
	95%	= .98710E-01	50%	= .50951	5%	= .97048
	90%	= .15315	25%	= .72401	1%	= 1.1234
203	MEAN	= .51071	S.D.	= .26940	P(N>=r)	= .32995
	99%	= .40534E-01	75%	= .29034	10%	= .87340
	95%	= .97825E-01	50%	= .50325	5%	= .95869
	90%	= .15164	25%	= .71487	1%	= 1.1102
204	MEAN	= .50449	S.D.	= .26596	P(N>=r)	= .32665
	99%	= .40232E-01	75%	= .28707	10%	= .86257
	95%	= .96946E-01	50%	= .49704	5%	= .94702
	90%	= .15014	25%	= .70581	1%	= 1.0972
205	MEAN	= .49833	S.D.	= .26255	P(N>=r)	= .32334
	99%	= .39932E-01	75%	= .28383	10%	= .85184
	95%	= .96071E-01	50%	= .49089	5%	= .93547
	90%	= .14865	25%	= .69684	1%	= 1.0843
206	MEAN	= .49223	S.D.	= .25918	P(N>=r)	= .32003
	99%	= .39632E-01	75%	= .28061	10%	= .84121
	95%	= .95202E-01	50%	= .48479	5%	= .92403
	90%	= .14717	25%	= .68795	1%	= 1.0715
207	MEAN	= .48619	S.D.	= .25584	P(N>=r)	= .31673
	99%	= .39333E-01	75%	= .27742	10%	= .83069
	95%	= .94338E-01	50%	= .47875	5%	= .91270

	90%	= .14571	25%	= .67915	1%	= 1.0588
208	MEAN	= .48020	S.D.	= .25254	P(N>=r)	= .31342
	99%	= .39036E-01	75%	= .27426	10%	= .82027
	95%	= .93478E-01	50%	= .47276	5%	= .90147
	90%	= .14425	25%	= .67043	1%	= 1.0463
209	MEAN	= .47426	S.D.	= .24927	P(N>=r)	= .31011
	99%	= .38739E-01	75%	= .27112	10%	= .80995
	95%	= .92623E-01	50%	= .46682	5%	= .89036
	90%	= .14280	25%	= .66180	1%	= 1.0339
210	MEAN	= .46838	S.D.	= .24604	P(N>=r)	= .30681
	99%	= .38444E-01	75%	= .26800	10%	= .79973
	95%	= .91772E-01	50%	= .46094	5%	= .87935
	90%	= .14136	25%	= .65325	1%	= 1.0216
211	MEAN	= .46255	S.D.	= .24283	P(N>=r)	= .30350
	99%	= .38149E-01	75%	= .26491	10%	= .78961
	95%	= .90926E-01	50%	= .45510	5%	= .86845
	90%	= .13993	25%	= .64477	1%	= 1.0094
212	MEAN	= .45678	S.D.	= .23966	P(N>=r)	= .30019
	99%	= .37856E-01	75%	= .26184	10%	= .77958
	95%	= .90085E-01	50%	= .44932	5%	= .85766
	90%	= .13851	25%	= .63638	1%	= .99738
213	MEAN	= .45105	S.D.	= .23652	P(N>=r)	= .29688
	99%	= .37563E-01	75%	= .25880	10%	= .76965
	95%	= .89247E-01	50%	= .44359	5%	= .84696
	90%	= .13709	25%	= .62806	1%	= .98544
214	MEAN	= .44538	S.D.	= .23341	P(N>=r)	= .29358
	99%	= .37271E-01	75%	= .25578	10%	= .75981
	95%	= .88414E-01	50%	= .43790	5%	= .83637
	90%	= .13569	25%	= .61982	1%	= .97361
215	MEAN	= .43975	S.D.	= .23034	P(N>=r)	= .29027
	99%	= .36980E-01	75%	= .25278	10%	= .75007
	95%	= .87585E-01	50%	= .43227	5%	= .82588
	90%	= .13429	25%	= .61166	1%	= .96190
216	MEAN	= .43417	S.D.	= .22729	P(N>=r)	= .28696
	99%	= .36690E-01	75%	= .24980	10%	= .74041
	95%	= .86759E-01	50%	= .42668	5%	= .81549
	90%	= .13290	25%	= .60357	1%	= .95030
217	MEAN	= .42865	S.D.	= .22428	P(N>=r)	= .28366
	99%	= .36401E-01	75%	= .24684	10%	= .73085
	95%	= .85938E-01	50%	= .42114	5%	= .80519
	90%	= .13152	25%	= .59556	1%	= .93880
218	MEAN	= .42317	S.D.	= .22130	P(N>=r)	= .28035
	99%	= .36112E-01	75%	= .24389	10%	= .72138
	95%	= .85120E-01	50%	= .41564	5%	= .79499
	90%	= .13015	25%	= .58762	1%	= .92742
219	MEAN	= .41774	S.D.	= .21834	P(N>=r)	= .27704
	99%	= .35824E-01	75%	= .24089	10%	= .71199
	95%	= .84306E-01	50%	= .41019	5%	= .78489

	90%	= .12879	25%	= .57975	1%	= .91614
220	MEAN	= .41235	S.D.	= .21542	P(N>=r)	= .27374
	99%	= .35536E-01	75%	= .23788	10%	= .70270
	95%	= .83496E-01	50%	= .40479	5%	= .77488
	90%	= .12743	25%	= .57195	1%	= .90497
221	MEAN	= .40701	S.D.	= .21252	P(N>=r)	= .27043
	99%	= .35250E-01	75%	= .23490	10%	= .69349
	95%	= .82689E-01	50%	= .39942	5%	= .76497
	90%	= .12608	25%	= .56423	1%	= .89390
222	MEAN	= .40171	S.D.	= .20966	P(N>=r)	= .26712
	99%	= .34963E-01	75%	= .23223	10%	= .68436
	95%	= .81885E-01	50%	= .39411	5%	= .75515
	90%	= .12474	25%	= .55657	1%	= .88293
223	MEAN	= .39646	S.D.	= .20682	P(N>=r)	= .26382
	99%	= .34678E-01	75%	= .22964	10%	= .67532
	95%	= .81084E-01	50%	= .38883	5%	= .74541
	90%	= .12340	25%	= .54899	1%	= .87207
224	MEAN	= .39126	S.D.	= .20401	P(N>=r)	= .26051
	99%	= .34393E-01	75%	= .22701	10%	= .66637
	95%	= .80287E-01	50%	= .38360	5%	= .73577
	90%	= .12207	25%	= .54147	1%	= .86131
225	MEAN	= .38610	S.D.	= .20123	P(N>=r)	= .25720
	99%	= .34108E-01	75%	= .22415	10%	= .65749
	95%	= .79493E-01	50%	= .37841	5%	= .72622
	90%	= .12075	25%	= .53402	1%	= .85064
226	MEAN	= .38098	S.D.	= .19848	P(N>=r)	= .25389
	99%	= .33824E-01	75%	= .22124	10%	= .64870
	95%	= .78702E-01	50%	= .37326	5%	= .71675
	90%	= .11943	25%	= .52664	1%	= .84008
227	MEAN	= .37590	S.D.	= .19575	P(N>=r)	= .25059
	99%	= .33540E-01	75%	= .21842	10%	= .63999
	95%	= .77913E-01	50%	= .36814	5%	= .70738
	90%	= .11812	25%	= .51932	1%	= .82961
228	MEAN	= .37087	S.D.	= .19305	P(N>=r)	= .24728
	99%	= .33257E-01	75%	= .21566	10%	= .63135
	95%	= .77128E-01	50%	= .36307	5%	= .69809
	90%	= .11682	25%	= .51207	1%	= .81924
229	MEAN	= .36587	S.D.	= .19038	P(N>=r)	= .24397
	99%	= .32974E-01	75%	= .21293	10%	= .62280
	95%	= .76345E-01	50%	= .35804	5%	= .68888
	90%	= .11552	25%	= .50488	1%	= .80896
230	MEAN	= .36092	S.D.	= .1[illegible]74	P(N>=r)	= .24067
	99%	= .32691E-01	75%	= .21022	10%	= .61432
	95%	= .75564E-01	50%	= .35305	5%	= .67976
	90%	= .11423	25%	= .49776	1%	= .79878
231	MEAN	= .35601	S.D.	= .18512	P(N>=r)	= .23736
	99%	= .32409E-01	75%	= .20753	10%	= .60592
	95%	= .74786E-01	50%	= .34810	5%	= .67072

	90%	= .11294	25%	= .49070	1%	= .78869
232	MEAN	= .35114	S.D.	= .18253	P(N>=r)=	.23405
	99%	= .32127E-01	75%	= .20485	10%	= .59760
	95%	= .74011E-01	50%	= .34318	5%	= .66176
	90%	= .11166	25%	= .48370	1%	= .77870
233	MEAN	= .34630	S.D.	= .17997	P(N>=r)=	.23075
	99%	= .31845E-01	75%	= .20219	10%	= .58936
	95%	= .73237E-01	50%	= .33831	5%	= .65289
	90%	= .11039	25%	= .47676	1%	= .76879
234	MEAN	= .34151	S.D.	= .17743	P(N>=r)=	.22744
	99%	= .31563E-01	75%	= .19955	10%	= .58118
	95%	= .72466E-01	50%	= .33347	5%	= .64409
	90%	= .10912	25%	= .46989	1%	= .75897
235	MEAN	= .33675	S.D.	= .17492	P(N>=r)=	.22413
	99%	= .31282E-01	75%	= .19692	10%	= .57309
	95%	= .71697E-01	50%	= .32866	5%	= .63538
	90%	= .10785	25%	= .46308	1%	= .74925
236	MEAN	= .33204	S.D.	= .17243	P(N>=r)=	.22083
	99%	= .31000E-01	75%	= .19431	10%	= .56506
	95%	= .70930E-01	50%	= .32389	5%	= .62674
	90%	= .10659	25%	= .45632	1%	= .73961
237	MEAN	= .32736	S.D.	= .16997	P(N>=r)=	.21752
	99%	= .30719E-01	75%	= .19171	10%	= .55711
	95%	= .70164E-01	50%	= .31916	5%	= .61818
	90%	= .10533	25%	= .44963	1%	= ,73005
238	MEAN	= .32271	S.D.	= .16754	P(N>=r)=	.21421
	99%	= .30437E-01	75%	= .18912	10%	= .54923
	95%	= .69401E-01	50%	= .31446	5%	= .60970
	90%	= .10408	25%	= .44299	1%	= .72059
239	MEAN	= .31811	S.D.	= .16513	P(N>=r)=	.21091
	99%	= .30156E-01	75%	= .18655	10%	= .54142
	95%	= .68639E-01	50%	= .30980	5%	= .60130
	90%	= .10283	25%	= .43642	1%	= .71121
240	MEAN	= .31354	S.D.	= .16274	P(N>=r)=	.20760
	99%	= .29874E-01	75%	= .18399	10%	= .53369
	95%	= .67879E-01	50%	= .30518	5%	= .59298
	90%	= .10159	25%	= .42990	1%	= .70191
241	MEAN	= .30901	S.D.	= .16038	P(N>=r)=	.20429
	99%	= .29592E-01	75%	= .18145	10%	= .52602
	95%	= .67120E-01	50%	= .30058	5%	= .58472
	90%	= .10035	25%	= .42344	1%	= .69270
242	MEAN	= .30451	S.D.	= .15805	P(N>=r)=	.20098
	99%	= .29310E-01	75%	= .17891	10%	= .51842
	95%	= .66362E-01	50%	= .29603	5%	= .57655
	90%	= .99117E-01	25%	= .41704	1%	= .68357
243	MEAN	= .30005	S.D.	= .15573	P(N>=r)=	.19768
	99%	= .29028E-01	75%	= .17639	10%	= .51089
	95%	= .65606E-01	50%	= .29150	5%	= .56845

	90%	= .97885E-01	25%	= .41069	1%	= .67453
244	MEAN	= .29562	S.D.	= .15345	P(N>=r)	= .19[illegible]7
	99%	= .28746E-01	75%	= .17389	10%	= .50343
	95%	= .64850E-01	50%	= .28701	5%	= .[illegible]6042
	90%	= .96656E-01	25%	= .40440	1%	= .66558
245	MEAN	= .29123	S.D.	= .15118	P(N>=r)	= .19106
	99%	= .28463E-01	75%	= .17139	10%	= .49604
	95%	= .64096E-01	50%	= .28256	5%	= .55246
	90%	= .95431E-01	25%	= .39817	1%	= .65668
246	MEAN	= .28687	S.D.	= .14895	P(N>=r)	= .18776
	99%	= .28180E-01	75%	= .16891	10%	= .48872
	95%	= .63343E-01	50%	= .27813	5%	= .54458
	90%	= .94209E-01	25%	= .39199	1%	= .64787
247	MEAN	= .28255	S.D.	= .14673	P(N>=r)	= .18445
	99%	= .27897E-01	75%	= .16644	10%	= .48146
	95%	= .62590E-01	50%	= .27374	5%	= .53677
	90%	= .92990E-01	25%	= .38587	1%	= .63915
248	MEAN	= .27826	S.D.	= .14454	P(N>=r)	= .18114
	99%	= .27613E-01	75%	= .16398	10%	= .47427
	95%	= .61838E-01	50%	= .26939	5%	= .52903
	90%	= .91773E-01	25%	= .37980	1%	= .63051
249	MEAN	= .27400	S.D.	= .14237	P(N>=r)	= .17784
	99%	= .27329E-01	75%	= .16154	10%	= .46715
	95%	= .61086E-01	50%	= .26507	5%	= .52136
	90%	= .90560E-01	25%	= .37379	1%	= .62194
250	MEAN	= .26978	S.D.	= .14023	P(N>=r)	= .17453
	99%	= .27044E-01	75%	= .15910	10%	= .46009
	95%	= .60336E-01	50%	= .26078	5%	= .51376
	90%	= .89349E-01	25%	= .36783	1%	= .61345
251	MEAN	= .26559	S.D.	= .13811	P(N>=r)	= .17122
	99%	= .26758E-01	75%	= .15668	10%	= .45309
	95%	= .59585E-01	50%	= .25652	5%	= .50623
	90%	= .88140E-01	25%	= .36193	1%	= .60504
252	MEAN	= .26144	S.D.	= .13601	P(N>=r)	= .16792
	99%	= .26472E-01	75%	= .15427	10%	= .44616
	95%	= .58835E-01	50%	= .25230	5%	= .49877
	90%	= .86934E-01	25%	= .35608	1%	= .59671
253	MEAN	= .25732	S.D.	= .13394	P(N>=r)	= .16461
	99%	= .26186E-01	75%	= .15187	10%	= .43930
	95%	= .58085E-01	50%	= .24810	5%	= .49138
	90%	= .85730E-01	25%	= .35028	1%	= .58845
254	MEAN	= .25323	S.D.	= .13189	P(N>=r)	= .16130
	99%	= .25898E-01	75%	= .14948	10%	= .43250
	95%	= .57335E-01	50%	= .24395	5%	= .48406
	90%	= .84528E-01	25%	= .34454	1%	= .58026
255	MEAN	= .24918	S.D.	= .12987	P(N>=r)	= .15800
	99%	= .25610E-01	75%	= .14710	10%	= .42577
	95%	= .56585E-01	50%	= .23982	5%	= .47681

	90%	= .83328E-01	25%	= .33886	1%	= .57216
256	MEAN	= .24516	S.D.	= .12786	P(N>=r)	= .15469
	99%	= .25321E-01	75%	= .14473	10%	= .41910
	95%	= .55835E-01	50%	= .23573	5%	= .46963
	90%	= .82131E-01	25%	= .33323	1%	= .56413
257	MEAN	= .24117	S.D.	= .12588	P(N>=r)	= .15139
	99%	= .25031E-01	75%	= .14238	10%	= .41249
	95%	= .55086E-01	50%	= .23168	5%	= .46251
	90%	= .80935E-01	25%	= .32765	1%	= .55617
258	MEAN	= .23722	S.D.	= .12393	P(N>=r)	= .14808
	99%	= .24740E-01	75%	= .14004	10%	= .40595
	95%	= .54336E-01	50%	= .22766	5%	= .45547
	90%	= .79742E-01	25%	= .32213	1%	= .54829
259	MEAN	= .23330	S.D.	= .12199	P(N>=r)	= .14478
	99%	= .24449E-01	75%	= .13771	10%	= .39948
	95%	= .53586E-01	50%	= .22367	5%	= .44849
	90%	= .78551E-01	25%	= .31666	1%	= .54048
260	MEAN	= .22942	S.D.	= .12008	P(N>=r)	= .14147
	99%	= .24156E-01	75%	= .13539	10%	= .39306
	95%	= .52837E-01	50%	= .21972	5%	= .44158
	90%	= .77362E-01	25%	= .31124	1%	= .53274
261	MEAN	= .22557	S.D.	= .11820	P(N>=r)	= .13817
	99%	= .23863E-01	75%	= .13309	10%	= .38672
	95%	= .52087E-01	50%	= .21581	5%	= .43474
	90%	= .76176E-01	25%	= .30589	1%	= .52508
262	MEAN	= .22175	S.D.	= .11633	P(N>=r)	= .13487
	99%	= .23569E-01	75%	= .13079	10%	= .38043
	95%	= .51338E-01	50%	= .21189	5%	= .42796
	90%	= .74993E-01	25%	= .30058	1%	= .51750
263	MEAN	= .21797	S.D.	= .11449	P(N>=r)	= .13157
	99%	= .23275E-01	75%	= .12852	10%	= .37421
	95%	= .50589E-01	50%	= .20781	5%	= .42126
	90%	= .73812E-01	25%	= .29534	1%	= .50999
264	MEAN	= .21423	S.D.	= .11267	P(N>=r)	= .12827
	99%	= .22979E-01	75%	= .12626	10%	= .36806
	95%	= .49841E-01	50%	= .20424	5%	= .41462
	90%	= .72635E-01	25%	= .29014	1%	= .50255
265	MEAN	= .21052	S.D.	= .11087	P(N>=r)	= .12497
	99%	= .22683E-01	75%	= .12401	10%	= .36197
	95%	= .49094E-01	50%	= .20074	5%	= .40805
	90%	= .71461E-01	25%	= .28501	1%	= .49518
266	MEAN	= .20685	S.D.	= .10910	P(N>=r)	= .12167
	99%	= .22386E-01	75%	= .12178	10%	= .35595
	95%	= .48347E-01	50%	= .19683	5%	= .40155
	90%	= .70291E-01	25%	= .27993	1%	= .48789
267	MEAN	= .20322	S.D.	= .10735	P(N>=r)	= .11838
	99%	= .22089E-01	75%	= .11957	10%	= .34999
	95%	= .47602E-01	50%	= .19313	5%	= .39512

	90%	= .69126E-01	25%	= .27491	1%	= .48067
268	MEAN	= .19962	S.D.	= .10562	P(N>=r)	= .11509
	99%	= .21791E-01	75%	= .11737	10%	= .34410
	95%	= .46858E-01	50%	= .18948	5%	= .38876
	90%	= .67966E-01	25%	= .26995	1%	= .47353
269	MEAN	= .19607	S.D.	= .10391	P(N>=r)	= .11180
	99%	= .21494E-01	75%	= .11520	10%	= .33828
	95%	= .46116E-01	50%	= .18588	5%	= .38247
	90%	= .66811E-01	25%	= .26505	1%	= .46646
270	MEAN	= .19255	S.D.	= .10222	P(N>=r)	= .10852
	99%	= .21196E-01	75%	= .11304	10%	= .33252
	95%	= .45377E-01	50%	= .18231	5%	= .37625
	90%	= .65663E-01	25%	= .26020	1%	= .45947
271	MEAN	= .18907	S.D.	= .10056	P(N>=r)	= .10524
	99%	= .20898E-01	75%	= .11090	10%	= .32683
	95%	= .44641E-01	50%	= .17879	5%	= .37010
	90%	= .64522E-01	25%	= .25542	1%	= .45255
272	MEAN	= .18564	S.D.	= .98921E-01	P(N>=r)	= .10197
	99%	= .20601E-01	75%	= .10879	10%	= .32121
	95%	= .43908E-01	50%	= .17532	5%	= .36402
	90%	= .63388E-01	25%	= .25070	1%	= .44571
273	MEAN	= .18225	S.D.	= .97303E-01	P(N>=r)	= .98713E-01
	99%	= .20304E-01	75%	= .10670	10%	= .31566
	95%	= .43178E-01	50%	= .17189	5%	= .35802
	90%	= .62262E-01	25%	= .24604	1%	= .43894
274	MEAN	= .17890	S.D.	= .95706E-01	P(N>=r)	= .95460E-01
	99%	= .20008E-01	75%	= .10463	10%	= .31018
	95%	= .42453E-01	50%	= .16851	5%	= .35208
	90%	= .61146E-01	25%	= .24145	1%	= .43225
275	MEAN	= .17559	S.D.	= .94131E-01	P(N>=r)	= .92219E-01
	99%	= .19713E-01	75%	= .10259	10%	= .30477
	95%	= .41734E-01	50%	= .16518	5%	= .34622
	90%	= .60040E-01	25%	= .23692	1%	= .42564
276	MEAN	= .17233	S.D.	= .92578E-01	P(N>=r)	= .88989E-01
	99%	= .19419E-01	75%	= .10058	10%	= .29943
	95%	= .41019E-01	50%	= .16190	5%	= .34044
	90%	= .58944E-01	25%	= .23245	1%	= .41910
277	MEAN	= .16912	S.D.	= .91047E-01	P(N>=r)	= .85774E-01
	99%	= .19126E-01	75%	= .98592E-01	10%	= .29417
	95%	= .40311E-01	50%	= .15866	5%	= .33472
	90%	= .57860E-01	25%	= .22805	1%	= .41264
278	MEAN	= .16595	S.D.	= .89537E-01	P(N>=r)	= .82576E-01
	99%	= .18836E-01	75%	= .96634E-01	10%	= .28898
	95%	= .39610E-01	50%	= .15548	5%	= .32909
	90%	= .56789E-01	25%	= .22372	1%	= .40626
279	MEAN	= .16283	S.D.	= .88049E-01	P(N>=r)	= .79396E-01
	99%	= .18548E-01	75%	= .94706E-01	10%	= .28386
	95%	= .38916E-01	50%	= .15235	5%	= .32353

	90%	= .55732E-01	25%	= .21945	1%	= .39996
280	MEAN	= .15976	S.D.	= .86582E-01	P(N>=r)	= .76238E-01
	99%	= .18262E-01	75%	= .92810E-01	10%	= .27882
	95%	= .38231E-01	50%	= .14928	5%	= .31805
	90%	= .54688E-01	25%	= .21526	1%	= .39374
281	MEAN	= .15674	S.D.	= .85137E-01	P(N>=r)	= .73104E-01
	99%	= .17978E-01	75%	= .90945E-01	10%	= .27385
	95%	= .37554E-01	50%	= .14626	5%	= .31264
	90%	= .53660E-01	25%	= .21113	1%	= .38760
282	MEAN	= .15377	S.D.	= .83713E-01	P(N>=r)	= .69997E-01
	99%	= .17698E-01	75%	= .89114E-01	10%	= .26896
	95%	= .36886E-01	50%	= .14329	5%	= .30732
	90%	= .52648E-01	25%	= .20707	1%	= .38154
283	MEAN	= .15085	S.D.	= .82311E-01	P(N>=r)	= .66921E-01
	99%	= .17421E-01	75%	= .87317E-01	10%	= .26415
	95%	= .36228E-01	50%	= .14039	5%	= .30207
	90%	= .51652E-01	25%	= .20309	1%	= .37556
284	MEAN	= .14799	S.D.	= .80930E-01	P(N>=r)	= .63879E-01
	99%	= .17148E-01	75%	= .85555E-01	10%	= .25942
	95%	= .35581E-01	50%	= .13753	5%	= .29691
	90%	= .50674E-01	25%	= .19907	1%	= .36967
285	MEAN	= .14518	S.D.	= .79571E-01	P(N>=r)	= .60874E-01
	99%	= .16878E-01	75%	= .83828E-01	10%	= .25477
	95%	= .34944E-01	50%	= .13474	5%	= .29182
	90%	= .49714E-01	25%	= .19492	1%	= .36386
286	MEAN	= .14242	S.D.	= .78233E-01	P(N>=r)	= .57912E-01
	99%	= .16612E-01	75%	= .82138E-01	10%	= .25019
	95%	= .34319E-01	50%	= .13201	5%	= .28682
	90%	= .48772E-01	25%	= .19162	1%	= .35813
287	MEAN	= .13971	S.D.	= .76916E-01	P(N>=r)	= .54994E-01
	99%	= .16351E-01	75%	= .80485E-01	10%	= .24570
	95%	= .33706E-01	50%	= .12933	5%	= .28190
	90%	= .47849E-01	25%	= .18786	1%	= .35249
288	MEAN	= .13706	S.D.	= .75621E-01	P(N>=r)	= .52127E-01
	99%	= .16094E-01	75%	= .78870E-01	10%	= .24129
	95%	= .33104E-01	50%	= .12672	5%	= .27706
	90%	= .46946E-01	25%	= .18422	1%	= .34693
289	MEAN	= .13447	S.D.	= .74347E-01	P(N>=r)	= .49313E-01
	99%	= .15841E-01	75%	= .77292E-01	10%	= .23696
	95%	= .32515E-01	50%	= .12416	5%	= .27231
	90%	= .46063E-01	25%	= .18067	1%	= .34146
290	MEAN	= .13193	S.D.	= .73095E-01	P(N>=r)	= .46557E-01
	99%	= .15593E-01	75%	= .75752E-01	10%	= .23271
	95%	= .31939E-01	50%	= .12166	5%	= .26764
	90%	= .45200E-01	25%	= .17720	1%	= .33607
291	MEAN	= .12944	S.D.	= .71864E-01	P(N>=r)	= .43864E-01
	99%	= .15351E-01	75%	= .74251E-01	10%	= .22854
	95%	= .31376E-01	50%	= .11923	5%	= .26306

	90%	.44358E-01	25%	.17381	1%	.33077
292	MEAN	.12702	S.D.	.70655E-01	P(N>=r)	.41237E-01
	99%	.15113E-01	75%	.72787E-01	10%	.22446
	95%	.30826E-01	50%	.11685	5%	.25856
	90%	.43536E-01	25%	.17049	1%	.32556
293	MEAN	.12464	S.D.	.69467E-01	P(N>=r)	.38680E-01
	99%	.14880E-01	75%	.71363E-01	10%	.22046
	95%	.30290E-01	50%	.11454	5%	.25414
	90%	.42735E-01	25%	.16724	1%	.32044
294	MEAN	.12233	S.D.	.68300E-01	P(N>=r)	.36199E-01
	99%	.14653E-01	75%	.69976E-01	10%	.21654
	95%	.29766E-01	50%	.11228	5%	.24981
	90%	.41954E-01	25%	.16408	1%	.31540
295	MEAN	.12006	S.D.	.67155E-01	P(N>=r)	.33795E-01
	99%	.14431E-01	75%	.68627E-01	10%	.21271
	95%	.29256E-01	50%	.11008	5%	.24557
	90%	.41195E-01	25%	.16098	1%	.31045
296	MEAN	.11786	S.D.	.66032E-01	P(N>=r)	.31474E-01
	99%	.14214E-01	75%	.67316E-01	10%	.20895
	95%	.28759E-01	50%	.10795	5%	.24141
	90%	.40456E-01	25%	.15796	1%	.30559
297	MEAN	.11570	S.D.	.64929E-01	P(N>=r)	.29237E-01
	99%	.14002E-01	75%	.66042E-01	10%	.20528
	95%	.28276E-01	50%	.10587	5%	.23734
	90%	.39737E-01	25%	.15502	1%	.30081
298	MEAN	.11361	S.D.	.63848E-01	P(N>=r)	.27089E-01
	99%	.13796E-01	75%	.64805E-01	10%	.20170
	95%	.27806E-01	50%	.10385	5%	.23335
	90%	.39039E-01	25%	.15215	1%	.29612
299	MEAN	.11156	S.D.	.62788E-01	P(N>=r)	.25031E-01
	99%	.13595E-01	75%	.63604E-01	10%	.19819
	95%	.27348E-01	50%	.10188	5%	.22944
	90%	.38361E-01	25%	.14935	1%	.29152
300	MEAN	.10957	S.D.	.61750E-01	P(N>=r)	.23065E-01
	99%	.13399E-01	75%	.62439E-01	10%	.19476
	95%	.26904E-01	50%	.99971E-01	5%	.22562
	90%	.37703E-01	25%	.14662	1%	.28701
301	MEAN	.10763	S.D.	.60732E-01	P(N>=r)	.21194E-01
	99%	.13208E-01	75%	.61309E-01	10%	.19129
	95%	.26472E-01	50%	.98117E-01	5%	.22188
	90%	.37064E-01	25%	.14397	1%	.28258
302	MEAN	.10574	S.D.	.59735E-01	P(N>=r)	.19418E-01
	99%	.13022E-01	75%	.60213E-01	10%	.18744
	95%	.26053E-01	50%	.96316E-01	5%	.21823
	90%	.36444E-01	25%	.14138	1%	.27824
303	MEAN	.10390	S.D.	.58759E-01	P(N>=r)	.17737E-01
	99%	.12842E-01	75%	.59151E-01	10%	.18467
	95%	.25646E-01	50%	.94569E-01	5%	.21466

	90% = .35843E-01	25%	= .13887	1%	= .27399
304	MEAN = .10212	S.D.	= .57803E-01	P(N>=r)	= .16153E-01
	99% = .12666E-01	75%	= .58121E-01	10%	= .18157
	95% = .25252E-01	50%	= .92874E-01	5%	= .21117
	90% = .35260E-01	25%	= .13642	1%	= .26982
305	MEAN = .10038	S.D.	= .56868E-01	P(N>=r)	= .14665E-01
	99% = .12496E-01	75%	= .57123E-01	10%	= .17851
	95% = .24868E-01	50%	= .91229E-01	5%	= .20776
	90% = .34694E-01	25%	= .13404	1%	= .26573
306	MEAN = .98686E-01	S.D.	= .55952E-01	P(N>=r)	= .13271E-01
	99% = .12330E-01	75%	= .56157E-01	10%	= .17554
	95% = .24497E-01	50%	= .89634E-01	5%	= .20443
	90% = .34147E-01	25%	= .13172	1%	= .26173
307	MEAN = .97041E-01	S.D.	= .55057E-01	P(N>=r)	= .11971E-01
	99% = .12168E-01	75%	= .55221E-01	10%	= .17265
	95% = .24136E-01	50%	= .88087E-01	5%	= .20117
	90% = .33616E-01	25%	= .12947	1%	= .25780
308	MEAN = .95442E-01	S.D.	= .54181E-01	P(N>=r)	= .10763E-01
	99% = .12012E-01	75%	= .54314E-01	10%	= .16983
	95% = .23787E-01	50%	= .86587E-01	5%	= .19800
	90% = .33101E-01	25%	= .12729	1%	= .25396

E) The mean of the potential = 849.06

PETRIMES MODULE MPRO

NO. OF POOLS DISTRIBUTION AND RISKS
****

UAI	C5479304
PLAY	Belt-Purcell Basin Structural Immature Oil Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	FRI, APR 23, 1993, 2:32 PM

A) Risks

	GEOLOGICAL FACTOR		MARGINAL PROBABILITY
PLAY LEVEL	Overall Play Level Risk	=	1.00
PROSPECT LEVEL	Presence of Closure	(1)	.85
	Presence of Porosity	(3)	.90
	Adequate Seal	(4)	.05
	Adequate Source	(6)	.80
	Overall Prospect Level Risk	=	.03
EXPLORATION RISK:		=	.03

B) No. of Prospects Distribution

Minimum	= 250
Maximum	= 5000
Mean	= 1809.25
S.D.	= 1452.62

Frequency	No. of Prospects
99.00	250
95	312
90	388
80	541
75	618
60	847
50	1000
40	1800
25	3000

20	3400
10	4200
5	4600
1	4920
0	5000

C) No. of Pools Distribution

Minimum	=	0
Maximum	=	198
Mean	=	55.36
S.D.	=	45.05

Frequency	No. of Pools
100.00	0
99	5
95	9
90	11
80	16
75	18
60	26
50	34
40	55
25	91
20	104
10	128
5	142
1	159
0	198

PETRIMES MODULE PSRK

INDIVIDUAL POOL SIZES BY RANK
WHERE N IS A RANDOM VARIABLE
****

UAI	C5479304
PLAY	Belt-Purcell Basin Structural Immature Oil Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	P Hannigan & K Osadetz
Operator	KOH
Run date	FRI, MAY 14, 1993, 3:17 PM

A) Basic Information

TYPE OF RESOURCE =Oil In Place
SYSTEM OF MEASUREMENT =S.I.
UNIT OF MEASUREMENT =M cu m (19)

B) Lognormal Pool Size Distribution

Summary	mu =-4.3921		MEAN = .81421E-01			
Statistics	sig. sq= 3.7679		S.D. = .52948			
Upper Percentiles	99.99%	= .90649E-05	60.00%	= .75678E-02	15.00%	= .92528E-01
	99.00%	= .13533E-03	55.00%	= .96964E-02	10.00%	= .14891
	95.00%	= .50806E-03	50.00%	= .12375E-01	8.00%	= .18925
	90.00%	= .10284E-02	45.00%	= .15794E-01	6.00%	= .25307
	85.00%	= .16551E-02	40.00%	= .20236E-01	5.00%	= .30143
	80.00%	= .24157E-02	35.00%	= .26144E-01	4.00%	= .37017
	75.00%	= .33415E-02	30.00%	= .34247E-01	2.00%	= .66663
	70.00%	= .44717E-02	25.00%	= .45830E-01	1.00%	= 1.1316
	65.00%	= .58575E-02	20.00%	= .63393E-01	.01%	= 16.894

C) No. of Pools Distribution

Lower Support = 0
Upper Support = 198
Expectation = 55.36
Standard Deviation= 45.05

D) Pool Sizes By Rank

Pool Rank	Distribution					
1	MEAN	= 1.5559	S.D.	= 3.4621	P(N>=r)	= .99999
	99%	= .38492E-01	75%	= .33779	10%	= 3.3326
	95%	= .96352E-01	50%	= .78123	5%	= 5.1587
	90%	= .15392	25%	= 1.6718	1%	= 12.521
2	MEAN	= .57024	S.D.	= .68281	P(N>=r)	= .99988
	99%	= .16462E-01	75%	= .15413	10%	= 1.2789
	95%	= .44233E-01	50%	= .36488	5%	= 1.7443
	90%	= .71293E-01	25%	= .74640	1%	= 3.1542
3	MEAN	= .34902	S.D.	= .37199	P(N>=r)	= .99939
	99%	= .81653E-02	75%	= .92337E-01	10%	= .80011
	95%	= .24788E-01	50%	= .22891	5%	= 1.0452

	90%	= .41483E-01	25%	= .48765	1%	= 1.7034
4	MEAN	= .24956	S.D.	= .25798	P(N>=r)	= .99798
	99%	= .42969E-02	75%	= .61989E-01	10%	= .58441
	95%	= .15080E-01	50%	= .16121	5%	= .74612
	90%	= .26528E-01	25%	= .36337	1%	= 1.1510
5	MEAN	= .19279	S.D.	= .19821	P(N>=r)	= .99485
	99%	= .24018E-02	75%	= .44450E-01	10%	= .46023
	95%	= .96666E-02	50%	= .12130	5%	= .57899
	90%	= .17957E-01	25%	= .28955	1%	= .86269
6	MEAN	= .15622	S.D.	= .16107	P(N>=r)	= .98916
	99%	= .14612E-02	75%	= .33387E-01	10%	= .37905
	95%	= .65040E-02	50%	= .95558E-01	5%	= .47190
	90%	= .12720E-01	25%	= .24047	1%	= .68618
7	MEAN	= .13090	S.D.	= .13559	P(N>=r)	= .98034
	99%	= .97938E-03	75%	= .26031E-01	10%	= .32174
	95%	= .46120E-02	50%	= .78064E-01	5%	= .39734
	90%	= .94064E-02	25%	= .20554	1%	= .56725
8	MEAN	= .11248	S.D.	= .11695	P(N>=r)	= .96827
	99%	= .71815E-03	75%	= .20953E-01	10%	= .27910
	95%	= .34545E-02	50%	= .65768E-01	5%	= .34244
	90%	= .72564E-02	25%	= .17948	1%	= .48182
9	MEAN	= .98583E-01	S.D.	= .10268	P(N>=r)	= .95324
	99%	= .56650E-03	75%	= .17336E-01	10%	= .24614
	95%	= .27243E-02	50%	= .56924E-01	5%	= .30033
	90%	= .58223E-02	25%	= .15935	1%	= .41756
10	MEAN	= .87774E-01	S.D.	= .91387E-01	P(N>=r)	= .93587
	99%	= .47209E-03	75%	= .14679E-01	10%	= .21989
	95%	= .22441E-02	50%	= .50458E-01	5%	= .26700
	90%	= .48321E-02	25%	= .14335	1%	= .36749
11	MEAN	= .79146E-01	S.D.	= .82208E-01	P(N>=r)	= .91682
	99%	= .40913E-03	75%	= .12668E-01	10%	= .19847
	95%	= .19119E-02	50%	= .45675E-01	5%	= .23995
	90%	= .41198E-02	25%	= .13030	1%	= .32738
12	MEAN	= .72106E-01	S.D.	= .74591E-01	P(N>=r)	= .89670
	99%	= .36417E-03	75%	= .11104E-01	10%	= .18064
	95%	= .16695E-02	50%	= .42115E-01	5%	= .21754
	90%	= .35846E-02	25%	= .11945	1%	= .29454
13	MEAN	= .66255E-01	S.D.	= .68161E-01	P(N>=r)	= .87595
	99%	= .32996E-03	75%	= .98585E-02	10%	= .16556
	95%	= .14831E-02	50%	= .39454E-01	5%	= .19866
	90%	= .31663E-02	25%	= .11024	1%	= .26715
14	MEAN	= .61319E-01	S.D.	= .62653E-01	P(N>=r)	= .85488
	99%	= .30249E-03	75%	= .88513E-02	10%	= .15263
	95%	= .13337E-02	50%	= .37460E-01	5%	= .18253
	90%	= .28285E-02	25%	= .10232	1%	= .24397
15	MEAN	= .57104E-01	S.D.	= .57878E-01	P(N>=r)	= .83365
	99%	= .27952E-03	75%	= .80292E-02	10%	= .14141
	95%	= .12100E-02	50%	= .35951E-01	5%	= .16859

	90%	= .25495E-02	25%	= .95436E-01	1%	= .22410
16	MEAN	= .53471E-01	S.D.	= .53695E-01	P(N>=r)	= .81235
	99%	= .25981E-03	75%	= .73574E-02	10%	= .13159
	95%	= .11056E-02	50%	= .34793E-01	5%	= .15642
	90%	= .23159E-02	25%	= .89416E-01	1%	= .20688
17	MEAN	= .50314E-01	S.D.	= .49995E-01	P(N>=r)	= .79104
	99%	= .24265E-03	75%	= .68126E-02	10%	= .12292
	95%	= .10166E-02	50%	= .33879E-01	5%	= .14572
	90%	= .21189E-02	25%	= .84119E-01	1%	= .19182
18	MEAN	= .47553E-01	S.D.	= .46696E-01	P(N>=r)	= .76975
	99%	= .22761E-03	75%	= .63799E-02	10%	= .11523
	95%	= .94037E-03	50%	= .33134E-01	5%	= .13622
	90%	= .19528E-02	25%	= .79422E-01	1%	= .17855
19	MEAN	= .45124E-01	S.D.	= .43732E-01	P(N>=r)	= .74853
	99%	= .21447E-03	75%	= .60507E-02	10%	= .10838
	95%	= .87535E-03	50%	= .32506E-01	5%	= .12775
	90%	= .18137E-02	25%	= .75232E-01	1%	= .16677
20	MEAN	= .42977E-01	S.D.	= .41051E-01	P(N>=r)	= .72741
	99%	= .20306E-03	75%	= .58219E-02	10%	= .10224
	95%	= .82041E-03	50%	= .31953E-01	5%	= .12016
	90%	= .16987E-02	25%	= .71455E-01	1%	= .15624
21	MEAN	= .41069E-01	S.D.	= .38610E-01	P(N>=r)	= .70647
	99%	= .19331E-03	75%	= .56957E-02	10%	= .96704E-01
	95%	= .77478E-03	50%	= .31440E-01	5%	= .11335
	90%	= .16061E-02	25%	= .68030E-01	1%	= .14678
22	MEAN	= .39363E-01	S.D.	= .36376E-01	P(N>=r)	= .68581
	99%	= .18518E-03	75%	= .56802E-02	10%	= .91665E-01
	95%	= .73797E-03	50%	= .30954E-01	5%	= .10719
	90%	= .15347E-02	25%	= .64897E-01	1%	= .13824
23	MEAN	= .37826E-01	S.D.	= .34319E-01	P(N>=r)	= .66552
	99%	= .17864E-03	75%	= .57888E-02	10%	= .87029E-01
	95%	= .70969E-03	50%	= .30472E-01	5%	= .10159
	90%	= .14840E-02	25%	= .62001E-01	1%	= .13049
24	MEAN	= .36431E-01	S.D.	= .32417E-01	P(N>=r)	= .64574
	99%	= .17368E-03	75%	= .60366E-02	10%	= .82747E-01
	95%	= .68982E-03	50%	= .29983E-01	5%	= .96407E-01
	90%	= .14542E-02	25%	= .59313E-01	1%	= .12343
25	MEAN	= .35152E-01	S.D.	= .30652E-01	P(N>=r)	= .62662
	99%	= .17034E-03	75%	= .64295E-02	10%	= .78771E-01
	95%	= .67839E-03	50%	= .29476E-01	5%	= .91601E-01
	90%	= .14461E-02	25%	= .56804E-01	1%	= .11696
26	MEAN	= .33965E-01	S.D.	= .29008E-01	P(N>=r)	= .60830
	99%	= .16861E-03	75%	= .69450E-02	10%	= .75070E-01
	95%	= .67563E-03	50%	= .28942E-01	5%	= .87132E-01
	90%	= .14613E-02	25%	= .54448E-01	1%	= .11095
27	MEAN	= .32849E-01	S.D.	= .27474E-01	P(N>=r)	= .59094
	99%	= .16854E-03	75%	= .75192E-02	10%	= .71618E-01
	95%	= .68192E-03	50%	= .28374E-01	5%	= .82967E-01

	90%	= .15021E-02	25%	= .52229E-01	1%	= .10535
28	MEAN	= .31786E-01	S.D.	= .26041E-01	P(N>=r)	= .57465
	99%	= .17017E-03	75%	= .80678E-02	10%	= .68389E-01
	95%	= .69780E-03	50%	= .27771E-01	5%	= .79084E-01
	90%	= .15713E-02	25%	= .50127E-01	1%	= .10010
29	MEAN	= .30762E-01	S.D.	= .24703E-01	P(N>=r)	= .55953
	99%	= .17354E-03	75%	= .85354E-02	10%	= .65368E-01
	95%	= .72391E-03	50%	= .27127E-01	5%	= .75468E-01
	90%	= .16719E-02	25%	= .48130E-01	1%	= .95197E-01
30	MEAN	= .29764E-01	S.D.	= .23453E-01	P(N>=r)	= .54564
	99%	= .17866E-03	75%	= .88974E-02	10%	= .62529E-01
	95%	= .76083E-03	50%	= .26443E-01	5%	= .72086E-01
	90%	= .18049E-02	25%	= .46223E-01	1%	= .90676E-01
31	MEAN	= .28785E-01	S.D.	= .22288E-01	P(N>=r)	= .53300
	99%	= .18553E-03	75%	= .91465E-02	10%	= .59850E-01
	95%	= .80876E-03	50%	= .25724E-01	5%	= .68920E-01
	90%	= .19668E-02	25%	= .44399E-01	1%	= .86482E-01
32	MEAN	= .27818E-01	S.D.	= .21204E-01	P(N>=r)	= .52161
	99%	= .19406E-03	75%	= .92844E-02	10%	= .57324E-01
	95%	= .86700E-03	50%	= .24973E-01	5%	= .65941E-01
	90%	= .21462E-02	25%	= .42648E-01	1%	= .82588E-01
33	MEAN	= .26862E-01	S.D.	= .20194E-01	P(N>=r)	= .51139
	99%	= .20405E-03	75%	= .93219E-02	10%	= .54931E-01
	95%	= .93330E-03	50%	= .24197E-01	5%	= .63136E-01
	90%	= .23244E-02	25%	= .40966E-01	1%	= .78967E-01
34	MEAN	= .25918E-01	S.D.	= .19256E-01	P(N>=r)	= .50226
	99%	= .21515E-03	75%	= .92734E-02	10%	= .52662E-01
	95%	= .10033E-02	50%	= .23404E-01	5%	= .60488E-01
	90%	= .24807E-02	25%	= .39350E-01	1%	= .75574E-01
35	MEAN	= .24988E-01	S.D.	= .18383E-01	P(N>=r)	= .49411
	99%	= .22679E-03	75%	= .91544E-02	10%	= .50508E-01
	95%	= .10710E-02	50%	= .22603E-01	5%	= .57983E-01
	90%	= .26005E-02	25%	= .37798E-01	1%	= .72388E-01
36	MEAN	= .24074E-01	S.D.	= .17572E-01	P(N>=r)	= .48683
	99%	= .23827E-03	75%	= .89797E-02	10%	= .48462E-01
	95%	= .11300E-02	50%	= .21801E-01	5%	= .55612E-01
	90%	= .26782E-02	25%	= .36[illegible]09E-01	1%	= .69385E-01
37	MEAN	= .23181E-01	S.D.	= .16815E-01	P(N>=r)	= .48027
	99%	= .24877E-03	75%	= .87641E-02	10%	= .46519E-01
	95%	= .11751E-02	50%	= .21007E-01	5%	= .53366E-01
	90%	= .27153E-02	25%	= .34881E-01	1%	= .66552E-01
38	MEAN	= .22312E-01	S.D.	= .16108E-01	P(N>=r)	= .47433
	99%	= .25752E-03	75%	= .85196E-02	10%	= .44672E-01
	95%	= .12041E-02	50%	= .20226E-01	5%	= .51236E-01
	90%	= .27178E-02	25%	= .33515E-01	1%	= .63875E-01
39	MEAN	= .21471E-01	S.D.	= .15447E-01	P(N>=r)	= .46887
	99%	= .26397E-03	75%	= .82570E-02	10%	= .42917E-01
	95%	= .12172E-02	50%	= .19464E-01	5%	= .49216E-01

	90%	= .26929E-02	25%	= .32209E-01	1%	= .61342E-01
40	MEAN	= .20659E-01	S.D.	= .14826E-01	P(N>=r)	= .46379
	99%	= .26789E-03	75%	= .79846E-02	10%	= .41249E-01
	95%	= .12165E-02	50%	= .18726E-01	5%	= .47300E-01
	90%	= .26479E-02	25%	= .30961E-01	1%	= .58944E-01
41	MEAN	= .19878E-01	S.D.	= .14241E-01	P(N>=r)	= .45901
	99%	= .26933E-03	75%	= .77093E-02	10%	= .39663E-01
	95%	= .12049E-02	50%	= .18013E-01	5%	= .45480E-01
	90%	= .25890E-02	25%	= .29771E-01	1%	= .56672E-01
42	MEAN	= .19130E-01	S.D.	= .13690E-01	P(N>=r)	= .45444
	99%	= .26861E-03	75%	= .74359E-02	10%	= .38156E-01
	95%	= .11853E-02	50%	= .17328E-01	5%	= .43752E-01
	90%	= .25212E-02	25%	= .28637E-01	1%	= .54516E-01
43	MEAN	= .18414E-01	S.D.	= .13168E-01	P(N>=r)	= .45003
	99%	= .26618E-03	75%	= .71681E-02	10%	= .36722E-01
	95%	= .11603E-02	50%	= .16671E-01	5%	= .42110E-01
	90%	= .24485E-02	25%	= .27556E-01	1%	= .52471E-01
44	MEAN	= .17730E-01	S.D.	= .12674E-01	P(N>=r)	= .44573
	99%	= .26247E-03	75%	= .69082E-02	10%	= .35358E-01
	95%	= .11321E-02	50%	= .16043E-01	5%	= .40548E-01
	90%	= .23738E-02	25%	= .26525E-01	1%	= .50528E-01
45	MEAN	= .17077E-01	S.D.	= .12205E-01	P(N>=r)	= .44151
	99%	= .25792E-03	75%	= .66575E-02	10%	= .34059E-01
	95%	= .11021E-02	50%	= .15443E-01	5%	= .39062E-01
	90%	= .22989E-02	25%	= .25543E-01	1%	= .48680E-01
46	MEAN	= .16453E-01	S.D.	= .11759E-01	P(N>=r)	= .43734
	99%	= .25284E-03	75%	= .64170E-02	10%	= .32821E-01
	95%	= .10715E-02	50%	= .14871E-01	5%	= .37647E-01
	90%	= .22252E-02	25%	= .24607E-01	1%	= .46923E-01
47	MEAN	= .15859E-01	S.D.	= .11335E-01	P(N>=r)	= .43320
	99%	= .24749E-03	75%	= .61867E-02	10%	= .31641E-01
	95%	= .10410E-02	50%	= .14325E-01	5%	= .36299E-01
	90%	= .21535E-02	25%	= .23714E-01	1%	= .45249E-01
48	MEAN	= .15291E-01	S.D.	= .10931E-01	P(N>=r)	= .42909
	99%	= .24204E-03	75%	= .59666E-02	10%	= .30516E-01
	95%	= .10111E-02	50%	= .13805E-01	5%	= .35013E-01
	90%	= .20843E-02	25%	= .22862E-01	1%	= .43654E-01
49	MEAN	= .14750E-01	S.D.	= .10545E-01	P(N>=r)	= .42498
	99%	= .23661E-03	75%	= .57566E-02	10%	= .29442E-01
	95%	= .98200E-03	50%	= .13308E-01	5%	= .33786E-01
	90%	= .20177E-02	25%	= .22049E-01	1%	= .42133E-01
50	MEAN	= .14233E-01	S.D.	= .10176E-01	P(N>=r)	= .42089
	99%	= .23127E-03	75%	= .55561E-02	10%	= .28415E-01
	95%	= .95387E-03	50%	= .12834E-01	5%	= .32614E-01
	90%	= .19538E-02	25%	= .21272E-01	1%	= .40680E-01
51	MEAN	= .13738E-01	S.D.	= .98241E-02	P(N>=r)	= .41680
	99%	= .22606E-03	75%	= .53647E-02	10%	= .27434E-01
	95%	= .92678E-03	50%	= .12381E-01	5%	= .31493E-01

	90%	= .18926E-02	25%	= .20529E-01	1%	= .39293E-01
52	MEAN	= .13266E-01	S.D.	= .94873E-02	P(N>=r)	= .41271
	99%	= .22099E-03	75%	= .51817E-02	10%	= .26496E-01
	95%	= .90074E-03	50%	= .11948E-01	5%	= .30422E-01
	90%	= .18340E-02	25%	= .19818E-01	1%	= .37967E-01
53	MEAN	= .12813E-01	S.D.	= .91649E-02	P(N>=r)	= .40862
	99%	= .21608E-03	75%	= .50070E-02	10%	= .25597E-01
	95%	= .87570E-03	50%	= .11534E-01	5%	= .29396E-01
	90%	= .17779E-02	25%	= .19138E-01	1%	= .36698E-01
54	MEAN	= .12381E-01	S.D.	= .88561E-02	P(N>=r)	= .40454
	99%	= .21132E-03	75%	= .48400E-02	10%	= .24737E-01
	95%	= .85165E-03	50%	= .11138E-01	5%	= .28414E-01
	90%	= .17242E-02	25%	= .18486E-01	1%	= .35483E-01
55	MEAN	= .11966E-01	S.D.	= .85602E-02	P(N>=r)	= .40045
	99%	= .20672E-03	75%	= .46803E-02	10%	= .23912E-01
	95%	= .82853E-03	50%	= .10759E-01	5%	= .27473E-01
	90%	= .16727E-02	25%	= .17862E-01	1%	= .34319E-01
56	MEAN	= .11568E-01	S.D.	= .82764E-02	P(N>=r)	= .39637
	99%	= .20227E-03	75%	= .45269E-02	10%	= .23121E-01
	95%	= .80630E-03	50%	= .10395E-01	5%	= .26570E-01
	90%	= .16232E-02	25%	= .17263E-01	1%	= .33203E-01
57	MEAN	= .11187E-01	S.D.	= .80041E-02	P(N>=r)	= .39228
	99%	= .19795E-03	75%	= .43804E-02	10%	= .22361E-01
	95%	= .78491E-03	50%	= .10047E-01	5%	= .25704E-01
	90%	= .15758E-02	25%	= .16688E-01	1%	= .32133E-01
58	MEAN	= .10821E-01	S.D.	= .77426E-02	P(N>=r)	= .38820
	99%	= .19378E-03	75%	= .42399E-02	10%	= .21632E-01
	95%	= .76431E-03	50%	= .97130E-02	5%	= .24872E-01
	90%	= .15303E-02	25%	= .16136E-01	1%	= .31105E-01
59	MEAN	= .10469E-01	S.D.	= .74914E-02	P(N>=r)	= .38411
	99%	= .18973E-03	75%	= .41045E-02	10%	= .20932E-01
	95%	= .74446E-03	50%	= .93923E-02	5%	= .24074E-01
	90%	= .14865E-02	25%	= .15606E-01	1%	= .30119E-01
60	MEAN	= .10131E-01	S.D.	= .72500E-02	P(N>=r)	= .38003
	99%	= .18580E-03	75%	= .39751E-02	10%	= .20259E-01
	95%	= .72532E-03	50%	= .90844E-02	5%	= .23306E-01
	90%	= .14444E-02	25%	= .15097E-01	1%	= .29171E-01
61	MEAN	= .98066E-02	S.D.	= .70178E-02	P(N>=r)	= .37594
	99%	= .18200E-03	75%	= .38500E-02	10%	= .19611E-01
	95%	= .70686E-03	50%	= .87885E-02	5%	= .22567E-01
	90%	= .14038E-02	25%	= .14607E-01	1%	= .28259E-01
62	MEAN	= .94942E-02	S.D.	= .67945E-02	P(N>=r)	= .37186
	99%	= .17830E-03	75%	= .37306E-02	10%	= .18988E-01
	95%	= .68903E-03	50%	= .85040E-02	5%	= .21857E-01
	90%	= .13648E-02	25%	= .14136E-01	1%	= .27383E-01
63	MEAN	= .91937E-02	S.D.	= .65795E-02	P(N>=r)	= .36777
	99%	= .17470E-03	75%	= .36148E-02	10%	= .18388E-01
	95%	= .67181E-03	50%	= .82304E-02	5%	= .21173E-01

	90%	= .13272E-02	25%	= .13682E-01	1%	= .26539E-01
64	MEAN	= .89043E-02	S.D.	= .63725E-02	P(N>=r)	= .36369
	99%	= .17121E-03	75%	= .35043E-02	10%	= .17811E-01
	95%	= .65516E-03	50%	= .79671E-02	5%	= .20514E-01
	90%	= .12909E-02	25%	= .13245E-01	1%	= .25727E-01
65	MEAN	= .86255E-02	S.D.	= .61730E-02	P(N>=r)	= .35960
	99%	= .16781E-03	75%	= .33971E-02	10%	= .17254E-01
	95%	= .63905E-03	50%	= .77136E-02	5%	= .19879E-01
	90%	= .12559E-02	25%	= .12824E-01	1%	= .24944E-01
66	MEAN	= .83568E-02	S.D.	= .59808E-02	P(N>=r)	= .35552
	99%	= .16451E-03	75%	= .32946E-02	10%	= .16717E-01
	95%	= .62347E-03	50%	= .74693E-02	5%	= .19268E-01
	90%	= .12221E-02	25%	= .12418E-01	1%	= .24190E-01
67	MEAN	= .80979E-02	S.D.	= .57954E-02	P(N>=r)	= .35143
	99%	= .16129E-03	75%	= .31956E-02	10%	= .16200E-01
	95%	= .60837E-03	50%	= .72340E-02	5%	= .18678E-01
	90%	= .11895E-02	25%	= .12027E-01	1%	= .23462E-01
68	MEAN	= .78480E-02	S.D.	= .56166E-02	P(N>=r)	= .34735
	99%	= .15816E-03	75%	= .31006E-02	10%	= .15701E-01
	95%	= .59375E-03	50%	= .70071E-02	5%	= .18109E-01
	90%	= .11579E-02	25%	= .11650E-01	1%	= .22761E-01
69	MEAN	= .76070E-02	S.D.	= .54441E-02	P(N>=r)	= .34326
	99%	= .15510E-03	75%	= .30089E-02	10%	= .15219E-01
	95%	= .57957E-03	50%	= .67883E-02	5%	= .17560E-01
	90%	= .11274E-02	25%	= .11286E-01	1%	= .22084E-01
70	MEAN	= .73743E-02	S.D.	= .52776E-02	P(N>=r)	= .33918
	99%	= .15212E-03	75%	= .29212E-02	10%	= .14754E-01
	95%	= .56581E-03	50%	= .65771E-02	5%	= .17029E-01
	90%	= .10979E-02	25%	= .10934E-01	1%	= .21430E-01
71	MEAN	= .71497E-02	S.D.	= .51168E-02	P(N>=r)	= .33509
	99%	= .14921E-03	75%	= .28370E-02	10%	= .14305E-01
	95%	= .55247E-03	50%	= .63732E-02	5%	= .16517E-01
	90%	= .10693E-02	25%	= .10595E-01	1%	= .20799E-01
72	MEAN	= .69326E-02	S.D.	= .49615E-02	P(N>=r)	= .33101
	99%	= .14638E-03	75%	= .27561E-02	10%	= .13871E-01
	95%	= .53951E-03	50%	= .61764E-02	5%	= .16022E-01
	90%	= .10416E-02	25%	= .10267E-01	1%	= .20190E-01
73	MEAN	= .67229E-02	S.D.	= .48114E-02	P(N>=r)	= .32692
	99%	= .14360E-03	75%	= .26765E-02	10%	= .13451E-01
	95%	= .52691E-03	50%	= .59862E-02	5%	= .15544E-01
	90%	= .10148E-02	25%	= .99505E-02	1%	= .19600E-01
74	MEAN	= .65201E-02	S.D.	= .46664E-02	P(N>=r)	= .32284
	99%	= .14090E-03	75%	= .26009E-02	10%	= .13046E-01
	95%	= .51468E-03	50%	= .58024E-02	5%	= .15082E-01
	90%	= .98881E-03	25%	= .96443E-02	1%	= .19031E-01
75	MEAN	= .63240E-02	S.D.	= .45261E-02	P(N>=r)	= .31875
	99%	= .13825E-03	75%	= .25274E-02	10%	= .12654E-01
	95%	= .50278E-03	50%	= .56247E-02	5%	= .14635E-01

	90%	= .96358E-03	25%	= .93482E-02	1%	= .18480E-01
76	MEAN	= .61344E-02	S.D.	= .43905E-02	P(N>=r)	= .31467
	99%	= .13567E-03	75%	= .24558E-02	10%	= .12274E-01
	95%	= .49121E-03	50%	= .54529E-02	5%	= .14202E-01
	90%	= .93910E-03	25%	= .90619E-02	1%	= .17947E-01
77	MEAN	= .59508E-02	S.D.	= .42592E-02	P(N>=r)	= .31058
	99%	= .13314E-03	75%	= .23860E-02	10%	= .11907E-01
	95%	= .47994E-03	50%	= .52867E-02	5%	= .13784E-01
	90%	= .91534E-03	25%	= .87848E-02	1%	= .17431E-01
78	MEAN	= .57732E-02	S.D.	= .41322E-02	P(N>=r)	= .30650
	99%	= .13066E-03	75%	= .23174E-02	10%	= .11552E-01
	95%	= .46897E-03	50%	= .51258E-02	5%	= .13379E-01
	90%	= .89225E-03	25%	= .85167E-02	1%	= .16932E-01
79	MEAN	= .56012E-02	S.D.	= .40093E-02	P(N>=r)	= .30241
	99%	= .12824E-03	75%	= .22509E-02	10%	= .11208E-01
	95%	= .45829E-03	50%	= .49701E-02	5%	= .12986E-01
	90%	= .86983E-03	25%	= .82571E-02	1%	= .16449E-01
80	MEAN	= .54346E-02	S.D.	= .38903E-02	P(N>=r)	= .29833
	99%	= .12586E-03	75%	= .21864E-02	10%	= .10875E-01
	95%	= .44788E-03	50%	= .48193E-02	5%	= .12606E-01
	90%	= .84803E-03	25%	= .80058E-02	1%	= .15980E-01
81	MEAN	= .52732E-02	S.D.	= .37751E-02	P(N>=r)	= .29424
	99%	= .12354E-03	75%	= .21240E-02	10%	= .10552E-01
	95%	= .43773E-03	50%	= .46733E-02	5%	= .12238E-01
	90%	= .82683E-03	25%	= .77624E-02	1%	= .15527E-01
82	MEAN	= .51169E-02	S.D.	= .36635E-02	P(N>=r)	= .29016
	99%	= .12126E-03	75%	= .20633E-02	10%	= .10239E-01
	95%	= .42783E-03	50%	= .45317E-02	5%	= .11882E-01
	90%	= .80620E-03	25%	= .75266E-02	1%	= .15087E-01
83	MEAN	= .49653E-02	S.D.	= .35553E-02	P(N>=r)	= .28607
	99%	= .11902E-03	75%	= .20049E-02	10%	= .99363E-02
	95%	= .41818E-03	50%	= .43946E-02	5%	= .11536E-01
	90%	= .78613E-03	25%	= .72981E-02	1%	= .14661E-01
84	MEAN	= .48183E-02	S.D.	= .34505E-02	P(N>=r)	= .28199
	99%	= .11683E-03	75%	= .19482E-02	10%	= .96425E-02
	95%	= .40875E-03	50%	= .42616E-02	5%	= .11201E-01
	90%	= .76659E-03	25%	= .70767E-02	1%	= .14248E-01
85	MEAN	= .46758E-02	S.D.	= .33489E-02	P(N>=r)	= .27790
	99%	= .11468E-03	75%	= .18933E-02	10%	= .93576E-02
	95%	= .39955E-03	50%	= .41327E-02	5%	= .10876E-01
	90%	= .74756E-03	25%	= .68620E-02	1%	= .13847E-01
86	MEAN	= .45375E-02	S.D.	= .32504E-02	P(N>=r)	= .27382
	99%	= .11257E-03	75%	= .18400E-02	10%	= .90814E-02
	95%	= .39056E-03	50%	= .40076E-02	5%	= .10560E-01
	90%	= .72901E-03	25%	= .66538E-02	1%	= .13459E-01
87	MEAN	= .44034E-02	S.D.	= .31549E-02	P(N>=r)	= .26973
	99%	= .11049E-03	75%	= .17882E-02	10%	= .88134E-02
	95%	= .38178E-03	50%	= .38863E-02	5%	= .10255E-01

	90%	.71094E-03	25%	.64519E-02	1%	.13082E-01
88	MEAN	.42732E-02	S.D.	.30623E-02	P(N>=r)	.26565
	99%	.10846E-03	75%	.17379E-02	10%	.85534E-02
	95%	.37319E-03	50%	.37686E-02	5%	.99578E-02
	90%	.69332E-03	25%	.62561E-02	1%	.12716E-01
89	MEAN	.41469E-02	S.D.	.29725E-02	P(N>=r)	.26156
	99%	.10646E-03	75%	.16889E-02	10%	.83011E-02
	95%	.36479E-03	50%	.36543E-02	5%	.96698E-02
	90%	.67613E-03	25%	.60661E-02	1%	.12360E-01
90	MEAN	.40242E-02	S.D.	.28853E-02	P(N>=r)	.25748
	99%	.10449E-03	75%	.16413E-02	10%	.80562E-02
	95%	.35658E-03	50%	.35434E-02	5%	.93903E-02
	90%	.65936E-03	25%	.58818E-02	1%	.12016E-01
91	MEAN	.39051E-02	S.D.	.28008E-02	P(N>=r)	.25339
	99%	.10256E-03	75%	.15950E-02	10%	.78185E-02
	95%	.34855E-03	50%	.34357E-02	5%	.91189E-02
	90%	.64299E-03	25%	.57028E-02	1%	.11681E-01
92	MEAN	.37894E-02	S.D.	.27187E-02	P(N>=r)	.24931
	99%	.10065E-03	75%	.15500E-02	10%	.75877E-02
	95%	.34068E-03	50%	.33310E-02	5%	.88553E-02
	90%	.62701E-03	25%	.55292E-02	1%	.11355E-01
93	MEAN	.36770E-02	S.D.	.26390E-02	P(N>=r)	.24522
	99%	.98781E-04	75%	.15061E-02	10%	.73636E-02
	95%	.33298E-03	50%	.32294E-02	5%	.85993E-02
	90%	.61140E-03	25%	.53605E-02	1%	.11039E-01
94	MEAN	.35678E-02	S.D.	.25617E-02	P(N>=r)	.24114
	99%	.96939E-04	75%	.14634E-02	10%	.71459E-02
	95%	.32544E-03	50%	.31307E-02	5%	.83507E-02
	90%	.59615E-03	25%	.51968E-02	1%	.10732E-01
95	MEAN	.34617E-02	S.D.	.24866E-02	P(N>=r)	.23705
	99%	.95125E-04	75%	.14218E-02	10%	.69345E-02
	95%	.31805E-03	50%	.30347E-02	5%	.81091E-02
	90%	.58125E-03	25%	.50378E-02	1%	.10434E-01
96	MEAN	.33586E-02	S.D.	.24137E-02	P(N>=r)	.23297
	99%	.93338E-04	75%	.13813E-02	10%	.67291E-02
	95%	.31080E-03	50%	.29415E-02	5%	.78744E-02
	90%	.56668E-03	25%	.48834E-02	1%	.10144E-01
97	MEAN	.32584E-02	S.D.	.23429E-02	P(N>=r)	.22888
	99%	.91578E-04	75%	.13418E-02	10%	.65296E-02
	95%	.30370E-03	50%	.28508E-02	5%	.76463E-02
	90%	.55243E-03	25%	.47334E-02	1%	.98621E-02
98	MEAN	.31609E-02	S.D.	.22741E-02	P(N>=r)	.22480
	99%	.89843E-04	75%	.13033E-02	10%	.63357E-02
	95%	.29674E-03	50%	.27627E-02	5%	.74246E-02
	90%	.53850E-03	25%	.45877E-02	1%	.95880E-02
99	MEAN	.30662E-02	S.D.	.22073E-02	P(N>=r)	.22071
	99%	.88133E-04	75%	.12658E-02	10%	.61472E-02
	95%	.28990E-03	50%	.26770E-02	5%	.72091E-02

	90%	= .52486E-03	25%	= .44461E-02	1%	= .93215E-02
100	MEAN	= .29740E-02	S.D.	= .21425E-02	P(N>=r)	= .21663
	99%	= .86446E-04	75%	= .12292E-02	10%	= .59640E-02
	95%	= .28320E-03	50%	= .25937E-02	5%	= .69996E-02
	90%	= .51151E-03	25%	= .43086E-02	1%	= .90623E-02
101	MEAN	= .28844E-02	S.D.	= .20794E-02	P(N>=r)	= .21254
	99%	= .84782E-04	75%	= .11935E-02	10%	= .57860E-02
	95%	= .27661E-03	50%	= .25126E-02	5%	= .67959E-02
	90%	= .49844E-03	25%	= .41749E-02	1%	= .88103E-02
102	MEAN	= .27973E-02	S.D.	= .20182E-02	P(N>=r)	= .20846
	99%	= .83140E-04	75%	= .11587E-02	10%	= .56129E-02
	95%	= .27015E-03	50%	= .24338E-02	5%	= .65979E-02
	90%	= .48565E-03	25%	= .40450E-02	1%	= .85651E-02
103	MEAN	= .27125E-02	S.D.	= .19587E-02	P(N>=r)	= .20437
	99%	= .81519E-04	75%	= .11247E-02	10%	= .54447E-02
	95%	= .26380E-03	50%	= .23572E-02	5%	= .64053E-02
	90%	= .47311E-03	25%	= .39188E-02	1%	= .83265E-02
104	MEAN	= .26301E-02	S.D.	= .19009E-02	P(N>=r)	= .20029
	99%	= .79919E-04	75%	= .10916E-02	10%	= .52811E-02
	95%	= .25756E-03	50%	= .22826E-02	5%	= .62179E-02
	90%	= .46083E-03	25%	= .37960E-02	1%	= .80944E-02
105	MEAN	= .25498E-02	S.D.	= .18447E-02	P(N>=r)	= .19620
	99%	= .78338E-04	75%	= .10592E-02	10%	= .51220E-02
	95%	= .25143E-03	50%	= .22100E-02	5%	= .60358E-02
	90%	= .44879E-03	25%	= .36768E-02	1%	= .78686E-02
106	MEAN	= .24718E-02	S.D.	= .17901E-02	P(N>=r)	= .19212
	99%	= .76776E-04	75%	= .10276E-02	10%	= .49673E-02
	95%	= .24540E-03	50%	= .21394E-02	5%	= .58586E-02
	90%	= .43699E-03	25%	= .35609E-02	1%	= .76488E-02
107	MEAN	= .23958E-02	S.D.	= .17371E-02	P(N>=r)	= .18803
	99%	= .75232E-04	75%	= .99680E-03	10%	= .48169E-02
	95%	= .23947E-03	50%	= .20708E-02	5%	= .56862E-02
	90%	= .42542E-03	25%	= .34482E-02	1%	= .74349E-02
108	MEAN	= .23219E-02	S.D.	= .16855E-02	P(N>=r)	= .18395
	99%	= .73706E-04	75%	= .96669E-03	10%	= .46706E-02
	95%	= .23364E-03	50%	= .20039E-02	5%	= .55185E-02
	90%	= .41407E-03	25%	= .33387E-02	1%	= .72267E-02
109	MEAN	= .22500E-02	S.D.	= .16354E-02	P(N>=r)	= .17986
	99%	= .72197E-04	75%	= .93730E-03	10%	= .45284E-02
	95%	= .22791E-03	50%	= .19387E-02	5%	= .53554E-02
	90%	= .40294E-03	25%	= .32322E-02	1%	= .70240E-02
110	MEAN	= .21801E-02	S.D.	= .15867E-02	P(N>=r)	= .17578
	99%	= .70705E-04	75%	= .90859E-03	10%	= .43900E-02
	95%	= .22227E-03	50%	= .18748E-02	5%	= .51967E-02
	90%	= .39202E-03	25%	= .31287E-02	1%	= .68268E-02
111	MEAN	= .21120E-02	S.D.	= .15394E-02	P(N>=r)	= .17170
	99%	= .69228E-04	75%	= .88057E-03	10%	= .42555E-02
	95%	= .21671E-03	50%	= .18115E-02	5%	= .50423E-02

	90%	= .38130E-03	25%	= .30281E-02	1%	= .66347E-02
112	MEAN	= .20457E-02	S.D.	= .14934E-02	P(N>=r)	= .16761
	99%	= .67767E-04	75%	= .85320E-03	10%	= .41247E-02
	95%	= .21125E-03	50%	= .17510E-02	5%	= .48920E-02
	90%	= .37079E-03	25%	= .29304E-02	1%	= .64478E-02
113	MEAN	= .19813E-02	S.D.	= .14487E-02	P(N>=r)	= .16353
	99%	= .66322E-04	75%	= .82648E-03	10%	= .39974E-02
	95%	= .20587E-03	50%	= .16938E-02	5%	= .47459E-02
	90%	= .36047E-03	25%	= .28354E-02	1%	= .62658E-02
114	MEAN	= .19186E-02	S.D.	= .14052E-02	P(N>=r)	= .15945
	99%	= .64891E-04	75%	= .80039E-03	10%	= .38737E-02
	95%	= .20057E-03	50%	= .16405E-02	5%	= .46037E-02
	90%	= .35035E-03	25%	= .27430E-02	1%	= .60886E-02
115	MEAN	= .18576E-02	S.D.	= .13630E-02	P(N>=r)	= .15537
	99%	= .63474E-04	75%	= .77493E-03	10%	= .37534E-02
	95%	= .19536E-03	50%	= .15871E-02	5%	= .44654E-02
	90%	= .34041E-03	25%	= .26533E-02	1%	= .59161E-02
116	MEAN	= .17983E-02	S.D.	= .13220E-02	P(N>=r)	= .15128
	99%	= .62072E-04	75%	= .75007E-03	10%	= .36364E-02
	95%	= .19023E-03	50%	= .15334E-02	5%	= .43309E-02
	90%	= .33067E-03	25%	= .25662E-02	1%	= .57481E-02
117	MEAN	= .17406E-02	S.D.	= .12821E-02	P(N>=r)	= .14721
	99%	= .60685E-04	75%	= .72582E-03	10%	= .35227E-02
	95%	= .18518E-03	50%	= .14801E-02	5%	= .42000E-02
	90%	= .32110E-03	25%	= .24815E-02	1%	= .55846E-02
118	MEAN	= .16845E-02	S.D.	= .12433E-02	P(N>=r)	= .14313
	99%	= .59311E-04	75%	= .70217E-03	10%	= .34122E-02
	95%	= .18021E-03	50%	= .14292E-02	5%	= .40727E-02
	90%	= .31172E-03	25%	= .23993E-02	1%	= .54254E-02
119	MEAN	= .16299E-02	S.D.	= .12057E-02	P(N>=r)	= .13905
	99%	= .57952E-04	75%	= .67910E-03	10%	= .33047E-02
	95%	= .17532E-03	50%	= .13801E-02	5%	= .39488E-02
	90%	= .30253E-03	25%	= .23194E-02	1%	= .52704E-02
120	MEAN	= .15769E-02	S.D.	= .11691E-02	P(N>=r)	= .13498
	99%	= .56608E-04	75%	= .65661E-03	10%	= .32003E-02
	95%	= .17051E-03	50%	= .13324E-02	5%	= .38284E-02
	90%	= .29351E-03	25%	= .22419E-02	1%	= .51195E-02
121	MEAN	= .15254E-02	S.D.	= .11336E-02	P(N>=r)	= .13091
	99%	= .55278E-04	75%	= .63470E-03	10%	= .30988E-02
	95%	= .16578E-03	50%	= .12862E-02	5%	= .37113E-02
	90%	= .28468E-03	25%	= .21666E-02	1%	= .49727E-02
122	MEAN	= .14753E-02	S.D.	= .10991E-02	P(N>=r)	= .12684
	99%	= .53963E-04	75%	= .61335E-03	10%	= .30002E-02
	95%	= .16113E-03	50%	= .12413E-02	5%	= .35975E-02
	90%	= .27603E-03	25%	= .20936E-02	1%	= .48297E-02
123	MEAN	= .14267E-02	S.D.	= .10656E-02	P(N>=r)	= .12278
	99%	= .52664E-04	75%	= .59258E-03	10%	= .29044E-02
	95%	= .15656E-03	50%	= .11977E-02	5%	= .34868E-02

	90%	= .26756E-03	25%	= .20227E-02	1%	= .46906E-02
124	MEAN	= .13795E-02	S.D.	= .10330E-02	P(N>=r)	= .11873
	99%	= .51381E-04	75%	= .57237E-03	10%	= .28114E-02
	95%	= .15208E-03	50%	= .11555E-02	5%	= .33793E-02
	90%	= .25928E-03	25%	= .19540E-02	1%	= .45552E-02
125	MEAN	= .13336E-02	S.D.	= .10014E-02	P(N>=r)	= .11469
	99%	= .50115E-04	75%	= .55272E-03	10%	= .27211E-02
	95%	= .14768E-03	50%	= .11146E-02	5%	= .32747E-02
	90%	= .25118E-03	25%	= .18874E-02	1%	= .44235E-02
126	MEAN	= .12892E-02	S.D.	= .97071E-03	P(N>=r)	= .11065
	99%	= .48867E-04	75%	= .53363E-03	10%	= .26334E-02
	95%	= .14337E-03	50%	= .10750E-02	5%	= .31732E-02
	90%	= .24327E-03	25%	= .18228E-02	1%	= .42953E-02
127	MEAN	= .12461E-02	S.D.	= .94091E-03	P(N>=r)	= .10663
	99%	= .47637E-04	75%	= .51509E-03	10%	= .25483E-02
	95%	= .13915E-03	50%	= .10366E-02	5%	= .30745E-02
	90%	= .23555E-03	25%	= .17602E-02	1%	= .41707E-02
128	MEAN	= .12043E-02	S.D.	= .91199E-03	P(N>=r)	= .10261
	99%	= .46426E-04	75%	= .49711E-03	10%	= .24658E-02
	95%	= .13502E-03	50%	= .99944E-03	5%	= .29788E-02
	90%	= .22802E-03	25%	= .16996E-02	1%	= .40494E-02
129	MEAN	= .11638E-02	S.D.	= .88392E-03	P(N>=r)	= .98620E-01
	99%	= .45235E-04	75%	= .47967E-03	10%	= .23858E-02
	95%	= .13098E-03	50%	= .96352E-03	5%	= .28858E-02
	90%	= .22069E-03	25%	= .16409E-02	1%	= .39315E-02
130	MEAN	= .11245E-02	S.D.	= .85669E-03	P(N>=r)	= .94644E-01
	99%	= .44066E-04	75%	= .46279E-03	10%	= .23082E-02
	95%	= .12703E-03	50%	= .92880E-03	5%	= .27955E-02
	90%	= .21355E-03	25%	= .15838E-02	1%	= .38169E-02
131	MEAN	= .10865E-02	S.D.	= .83028E-03	P(N>=r)	= .90691E-01
	99%	= .42918E-04	75%	= .44645E-03	10%	= .22330E-02
	95%	= .12319E-03	50%	= .89526E-03	5%	= .27079E-02
	90%	= .20661E-03	25%	= .15272E-02	1%	= .37055E-02
132	MEAN	= .10498E-02	S.D.	= .80466E-03	P(N>=r)	= .86764E-01
	99%	= .41793E-04	75%	= .43064E-03	10%	= .21601E-02
	95%	= .11944E-03	50%	= .86289E-03	5%	= .26230E-02
	90%	= .19987E-03	25%	= .14721E-02	1%	= .35972E-02
133	MEAN	= .10142E-02	S.D.	= .77982E-03	P(N>=r)	= .82868E-01
	99%	= .40692E-04	75%	= .41538E-03	10%	= .20895E-02
	95%	= .11579E-03	50%	= .83166E-03	5%	= .25406E-02
	90%	= .19333E-03	25%	= .14216E-02	1%	= .34920E-02
134	MEAN	= .97988E-03	S.D.	= .75574E-03	P(N>=r)	= .79006E-01
	99%	= .39615E-04	75%	= .40064E-03	10%	= .20212E-02
	95%	= .11224E-03	50%	= .80156E-03	5%	= .24608E-02
	90%	= .18699E-03	25%	= .13756E-02	1%	= .33898E-02
135	MEAN	= .94669E-03	S.D.	= .73240E-03	P(N>=r)	= .75183E-01
	99%	= .38564E-04	75%	= .38643E-03	10%	= .19551E-02
	95%	= .10880E-03	50%	= .77256E-03	5%	= .23834E-02

	90%	= .18086E-03	25%	= .13284E-02	1%	= .32906E-02
136	MEAN	= .91465E-03	S.D.	= .70979E-03	P(N>=r)	= .71406E-01
	99%	= .37539E-04	75%	= .37274E-03	10%	= .18912E-02
	95%	= .10546E-03	50%	= .74464E-03	5%	= .23085E-02
	90%	= .17492E-03	25%	= .12816E-02	1%	= .31943E-02
137	MEAN	= .88373E-03	S.D.	= .68789E-03	P(N>=r)	= .67679E-01
	99%	= .36541E-04	75%	= .35956E-03	10%	= .18294E-02
	95%	= .10222E-03	50%	= .71777E-03	5%	= .22359E-02
	90%	= .16919E-03	25%	= .12368E-02	1%	= .31008E-02
138	MEAN	= .85390E-03	S.D.	= .66668E-03	P(N>=r)	= .64008E-01
	99%	= .35569E-04	75%	= .34688E-03	10%	= .17697E-02
	95%	= .99092E-04	50%	= .69195E-03	5%	= .21657E-02
	90%	= .16366E-03	25%	= .11939E-02	1%	= .30101E-02
139	MEAN	= .82515E-03	S.D.	= .64615E-03	P(N>=r)	= .60399E-01
	99%	= .34625E-04	75%	= .33470E-03	10%	= .17120E-02
	95%	= .96065E-04	50%	= .66714E-03	5%	= .20977E-02
	90%	= .15833E-03	25%	= .11526E-02	1%	= .29222E-02
140	MEAN	= .79746E-03	S.D.	= .62627E-03	P(N>=r)	= .56860E-01
	99%	= .33709E-04	75%	= .32300E-03	10%	= .16563E-02
	95%	= .93143E-04	50%	= .64332E-03	5%	= .20320E-02
	90%	= .15319E-03	25%	= .11129E-02	1%	= .28369E-02
141	MEAN	= .77079E-03	S.D.	= .60705E-03	P(N>=r)	= .53396E-01
	99%	= .32821E-04	75%	= .31178E-03	10%	= .16025E-02
	95%	= .90324E-04	50%	= .62046E-03	5%	= .19685E-02
	90%	= .14825E-03	25%	= .10746E-02	1%	= .27542E-02
142	MEAN	= .74512E-03	S.D.	= .58846E-03	P(N>=r)	= .50014E-01
	99%	= .31961E-04	75%	= .30102E-03	10%	= .15507E-02
	95%	= .87608E-04	50%	= .59853E-03	5%	= .19071E-02
	90%	= .14350E-03	25%	= .10378E-02	1%	= .26741E-02
143	MEAN	= .72043E-03	S.D.	= .57048E-03	P(N>=r)	= .46721E-01
	99%	= .31128E-04	75%	= .29071E-03	10%	= .15007E-02
	95%	= .84992E-04	50%	= .57752E-03	5%	= .18478E-02
	90%	= .13894E-03	25%	= .10024E-02	1%	= .25965E-02
144	MEAN	= .69669E-03	S.D.	= .55310E-03	P(N>=r)	= .43523E-01
	99%	= .30324E-04	75%	= .28083E-03	10%	= .14524E-02
	95%	= .82476E-04	50%	= .55740E-03	5%	= .17906E-02
	90%	= .13456E-03	25%	= .96845E-03	1%	= .25213E-02
145	MEAN	= .67387E-03	S.D.	= .53630E-03	P(N>=r)	= .40427E-01
	99%	= .29547E-04	75%	= .27138E-03	10%	= .14055E-02
	95%	= .80057E-04	50%	= .53813E-03	5%	= .17353E-02
	90%	= .13036E-03	25%	= .93582E-03	1%	= .24486E-02
146	MEAN	= .65195E-03	S.D.	= .52008E-03	P(N>=r)	= .37439E-01
	99%	= .28797E-04	75%	= .26235E-03	10%	= .13587E-02
	95%	= .77733E-04	50%	= .51969E-03	5%	= .16820E-02
	90%	= .12633E-03	25%	= .90450E-03	1%	= .23781E-02
147	MEAN	= .63090E-03	S.D.	= .50441E-03	P(N>=r)	= .34563E-01
	99%	= .28074E-04	75%	= .25371E-03	10%	= .13118E-02
	95%	= .75503E-04	50%	= .50205E-03	5%	= .16306E-02

	90%	= .12247E-03	25%	= .87445E-03	1%	= .23100E-02
148	MEAN	= .61070E-03	S.D.	= .48929E-03	P(N>=r)	= .31806E-01
	99%	= .27377E-04	75%	= .24545E-03	10%	= .12711E-02
	95%	= .73362E-04	50%	= .48518E-03	5%	= .15810E-02
	90%	= .11878E-03	25%	= .84563E-03	1%	= .22441E-02
149	MEAN	= .59130E-03	S.D.	= .47469E-03	P(N>=r)	= .29172E-01
	99%	= .26706E-04	75%	= .23756E-03	10%	= .12342E-02
	95%	= .71309E-04	50%	= .46906E-03	5%	= .15332E-02
	90%	= .11524E-03	25%	= .81800E-03	1%	= .21804E-02
150	MEAN	= .57270E-03	S.D.	= .46060E-03	P(N>=r)	= .26664E-01
	99%	= .26060E-04	75%	= .23003E-03	10%	= .11962E-02
	95%	= .69341E-04	50%	= .45365E-03	5%	= .14872E-02
	90%	= .11186E-03	25%	= .79151E-03	1%	= .21188E-02
151	MEAN	= .55485E-03	S.D.	= .44701E-03	P(N>=r)	= .24285E-01
	99%	= .25439E-04	75%	= .22283E-03	10%	= .11590E-02
	95%	= .67455E-04	50%	= .43893E-03	5%	= .14428E-02
	90%	= .10862E-03	25%	= .76614E-03	1%	= .20592E-02
152	MEAN	= .53774E-03	S.D.	= .43390E-03	P(N>=r)	= .22039E-01
	99%	= .24841E-04	75%	= .21597E-03	10%	= .11235E-02
	95%	= .65647E-04	50%	= .42487E-03	5%	= .14001E-02
	90%	= .10553E-03	25%	= .74183E-03	1%	= .20016E-02
153	MEAN	= .52134E-03	S.D.	= .42125E-03	P(N>=r)	= .19925E-01
	99%	= .24265E-04	75%	= .20942E-03	10%	= .10894E-02
	95%	= .63916E-04	50%	= .41144E-03	5%	= .13589E-02
	90%	= .10257E-03	25%	= .71854E-03	1%	= .19460E-02
154	MEAN	= .50561E-03	S.D.	= .40906E-03	P(N>=r)	= .17946E-01
	99%	= .23712E-04	75%	= .20316E-03	10%	= .10566E-02
	95%	= .62258E-04	50%	= .39862E-03	5%	= .13189E-02
	90%	= .99739E-04	25%	= .69625E-03	1%	= .18923E-02
155	MEAN	= .49053E-03	S.D.	= .39731E-03	P(N>=r)	= .16099E-01
	99%	= .23181E-04	75%	= .19719E-03	10%	= .10252E-02
	95%	= .60670E-04	50%	= .38638E-03	5%	= .12774E-02
	90%	= .97034E-04	25%	= .67490E-03	1%	= .18404E-02
156	MEAN	= .47608E-03	S.D.	= .38597E-03	P(N>=r)	= .14384E-01
	99%	= .22670E-04	75%	= .19149E-03	10%	= .99495E-03
	95%	= .59149E-04	50%	= .37469E-03	5%	= .12365E-02
	90%	= .94447E-04	25%	= .65447E-03	1%	= .17903E-02
157	MEAN	= .46224E-03	S.D.	= .37505E-03	P(N>=r)	= .12799E-01
	99%	= .22179E-04	75%	= .18605E-03	10%	= .96594E-03
	95%	= .57692E-04	50%	= .36352E-03	5%	= .12012E-02
	90%	= .91974E-04	25%	= .63490E-03	1%	= .17419E-02
158	MEAN	= .44896E-03	S.D.	= .36452E-03	P(N>=r)	= .11341E-01
	99%	= .21707E-04	75%	= .18086E-03	10%	= .93808E-03
	95%	= .56297E-04	50%	= .35286E-03	5%	= .11694E-02
	90%	= .89609E-04	25%	= .61617E-03	1%	= .16952E-02
159	MEAN	= .43624E-03	S.D.	= .35437E-03	P(N>=r)	= .10006E-01
	99%	= .21253E-04	75%	= .17591E-03	10%	= .91132E-03
	95%	= .54960E-04	50%	= .34268E-03	5%	= .11373E-02

90% = .87347E-04 25% = .59825E-03 1% = .16500E-02

E) The mean of the potential = 4.5077

PETRIMES MODULE MPRO

NO. OF POOLS DISTRIBUTION AND RISKS
****

UAI	C5489304
PLAY	Belt-Purcell Basin Structural Immature Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	Peter Hannigan & K Osadetz
Operator	KOH
Run date	FRI, APR 23, 1993, 2:24 PM

A) Risks

	GEOLOGICAL FACTOR		MARGINAL PROBABILITY
PLAY LEVEL	Overall Play Level Risk	=	1.00
PROSPECT LEVEL	Presence of Closure	(1)	.85
	Presence of Porosity	(3)	.90
	Adequate Seal	(4)	.05
	Adequate Source	(6)	.50
	Overall Prospect Level Risk	=	.02
EXPLORATION RISK:		=	.02

B) No. of Prospects Distribution

Minimum	=	250
Maximum	=	5000
Mean	=	1809.25
S.D.	=	1452.62

Frequency	No. of Prospects
99.00	250
95	312
90	388
80	541
75	618
60	847
50	1000
40	1800
25	3000

20	3400
10	4200
5	4600
1	4920
0	5000

C) No. of Pools Distribution

Minimum	=	0
Maximum	=	132
Mean	=	34.60
S.D.	=	28.39

Frequency	No. of Pools
99.97	0
99	3
95	5
90	7
80	10
75	11
60	16
50	22
40	34
25	57
20	65
10	80
5	89
1	101
0	132

PETRIMES MODULE PSRK

INDIVIDUAL POOL SIZES BY RANK
WHERE N IS A RANDOM VARIABLE
****

UAI	C5489304
PLAY	Belt-Purcell Basin Structural Immature Gas Play
Assessor	PJ Lee & K Olsen-Heise
Geologist	Peter Hannigan & K Osadetz
Operator	KOH
Run date	FRI, MAY 14, 1993, 10:21 PM

A) Basic Information

TYPE OF RESOURCE =Gas In Place
SYSTEM OF MEASUREMENT =S.I.
UNIT OF MEASUREMENT =M cu m (19)

B) Lognormal Pool Size Distribution

Summary Statistics	mu = .96508	MEAN = 17.973		
	sig. sq= 3.8476	S.D. = 121.74		
Upper Percentiles	99.99% = .17823E-02	60.00% = 1.5970	15.00% = 20.047
	99.00% = .27375E-01	55.00% = 2.0515	10.00% = 32.423
	95.00% = .10421	50.00% = 2.6250	8.00% = 41.313
	90.00% = .21252	45.00% = 3.3587	6.00% = 55.413
	85.00% = .34373	40.00% = 4.3147	5.00% = 66.122
	80.00% = .50370	35.00% = 5.5895	4.00% = 81.377
	75.00% = .69911	30.00% = 7.3427	2.00% = 147.46
	70.00% = .93843	25.00% = 9.8563	1.00% = 251.71
	65.00% = 1.2328	20.00% = 13.680	.01% = 3866.2

C) No. of Pools Distribution

Lower Support = 0
Upper Support = 132
Expectation = 34.60
Standard Deviation= 28.39

D) Pool Sizes By Rank

Pool Rank		Distribution	
1	MEAN = 257.88	S.D. = 650.05	P(N>=r)= .99965
	99% = 3.4905	75% = 46.980	10% = 557.27
	95% = 11.073	50% = 118.08	5% = 883.25
	90% = 19.239	25% = 267.80	1% = 2234.8
2	MEAN = 86.774	S.D. = 115.10	P(N>=r)= .99768
	99% = 1.1150	75% = 19.368	10% = 201.18
	95% = 4.2659	50% = 51.326	5% = 280.40
	90% = 7.7529	25% = 112.51	1% = 526.06
3	MEAN = 50.882	S.D. = 59.908	P(N>=r)= .99195
	99% = .45948	75% = 10.758	10% = 121.54
	95% = 2.0802	50% = 30.708	5% = 162.17

	90%	= 4.0427	25%	= 70.916	1%	= 273.70
4	MEAN	= 35.452	S.D.	= 40.311	P(N>=r)	= .98047
	99%	= .23733	75%	= 6.8503	10%	= 86.667
	95%	= 1.1669	50%	= 21.016	5%	= 112.95
	90%	= 2.4031	25%	= 51.627	1%	= 180.23
5	MEAN	= 26.988	S.D.	= 30.263	P(N>=r)	= .96241
	99%	= .14851	75%	= 4.7702	10%	= 67.058
	95%	= .74012	50%	= 15.665	5%	= 86.041
	90%	= 1.5807	25%	= 40.551	1%	= 132.43
6	MEAN	= 21.718	S.D.	= 24.128	P(N>=r)	= .93840
	99%	= .10667	75%	= 3.5541	10%	= 54.489
	95%	= .52151	50%	= 12.453	5%	= 69.101
	90%	= 1.1318	25%	= 33.406	1%	= 103.65
7	MEAN	= 18.162	S.D.	= 19.981	P(N>=r)	= .90994
	99%	= .83943E-01	75%	= 2.7916	10%	= 45.743
	95%	= .39838	50%	= 10.427	5%	= 57.465
	90%	= .86688	25%	= 28.427	1%	= 84.516
8	MEAN	= 15.617	S.D.	= 16.982	P(N>=r)	= .87866
	99%	= .70013E-01	75%	= 2.2859	10%	= 39.301
	95%	= .32217	50%	= 9.1103	5%	= 48.982
	90%	= .69811	25%	= 24.756	1%	= 70.907
9	MEAN	= 13.715	S.D.	= 14.707	P(N>=r)	= .84587
	99%	= .60581E-01	75%	= 1.9363	10%	= 34.355
	95%	= .27091	50%	= 8.2405	5%	= 42.523
	90%	= .58313	25%	= 21.930	1%	= 60.752
10	MEAN	= 12.245	S.D.	= 12.919	P(N>=r)	= .81245
	99%	= .53701E-01	75%	= 1.6894	10%	= 30.434
	95%	= .23419	50%	= 7.6575	5%	= 37.441
	90%	= .50085	25%	= 19.681	1%	= 52.896
11	MEAN	= 11.079	S.D.	= 11.472	P(N>=r)	= .77892
	99%	= .48453E-01	75%	= 1.5163	10%	= 27.250
	95%	= .20690	50%	= 7.2545	5%	= 33.339
	90%	= .44039	25%	= 17.845	1%	= 46.646
12	MEAN	= 10.134	S.D.	= 10.276	P(N>=r)	= .74569
	99%	= .44387E-01	75%	= 1.4012	10%	= 24.611
	95%	= .18640	50%	= 6.9579	5%	= 29.960
	90%	= .39586	25%	= 16.313	1%	= 41.560
13	MEAN	= 9.3554	S.D.	= 9.2672	P(N>=r)	= .71307
	99%	= .41268E-01	75%	= 1.3365	10%	= 22.388
	95%	= .17121	50%	= 6.7198	5%	= 27.129
	90%	= .36390	25%	= 15.012	1%	= 37.346
14	MEAN	= 8.7016	S.D.	= 8.4029	P(N>=r)	= .68142
	99%	= .38962E-01	75%	= 1.3195	10%	= 20.488
	95%	= .16048	50%	= 6.5094	5%	= 24.721
	90%	= .34259	25%	= 13.889	1%	= 33.798
15	MEAN	= 8.1424	S.D.	= 7.6523	P(N>=r)	= .65112
	99%	= .37392E-01	75%	= 1.3501	10%	= 18.842
	95%	= .15369	50%	= 6.3085	5%	= 22.646

	90%	= .33087	25%	= 12.903	1%	= 30.770
16	MEAN	= 7.6538	S.D.	= 6.9932	P(N>=r)	= .62255
	99%	= .36507E-01	75%	= 1.4263	10%	= 17.399
	95%	= .15055	50%	= 6.1058	5%	= 20.838
	90%	= .32831	25%	= 12.027	1%	= 28.156
17	MEAN	= 7.2171	S.D.	= 6.4096	P(N>=r)	= .59607
	99%	= .36274E-01	75%	= 1.5354	10%	= 16.120
	95%	= .15094	50%	= 5.8965	5%	= 19.245
	90%	= .33497	25%	= 11.240	1%	= 25.874
18	MEAN	= 6.8180	S.D.	= 5.8898	P(N>=r)	= .57195
	99%	= .36670E-01	75%	= 1.6517	10%	= 14.976
	95%	= .15481	50%	= 5.6765	5%	= 17.828
	90%	= .35107	25%	= 10.524	1%	= 23.863
19	MEAN	= 6.4458	S.D.	= 5.4252	P(N>=r)	= .55033
	99%	= .37667E-01	75%	= 1.7476	10%	= 13.946
	95%	= .16212	50%	= 5.4451	5%	= 16.557
	90%	= .37639	25%	= 9.8662	1%	= 22.076
20	MEAN	= 6.0933	S.D.	= 5.0093	P(N>=r)	= .53125
	99%	= .39220E-01	75%	= 1.8072	10%	= 13.013
	95%	= .17262	50%	= 5.2034	5%	= 15.411
	90%	= .40930	25%	= 9.2588	1%	= 20.478
21	MEAN	= 5.7562	S.D.	= 4.6366	P(N>=r)	= .51460
	99%	= .41238E-01	75%	= 1.8280	10%	= 12.163
	95%	= .18564	50%	= 4.954[illegible]	5%	= 14.375
	90%	= .44557	25%	= 8.69[illegible]	1%	= 19.039
22	MEAN	= 5.4328	S.D.	= 4.3023	P(N>=r)	= .50016
	99%	= .43565E-01	75%	= 1.8143	10%	= 11.382
	95%	= .19979	50%	= 4.7015	5%	= 13.433
	90%	= .47886	25%	= 8.1570	1%	= 17.738
23	MEAN	= 5.1226	S.D.	= 4.0022	P(N>=r)	= .48765
	99%	= .45972E-01	75%	= 1.7741	10%	= 10.663
	95%	= .21309	50%	= 4.4487	5%	= 12.569
	90%	= .50325	25%	= 7.6578	1%	= 16.557
24	MEAN	= 4.8264	S.D.	= 3.7320	P(N>=r)	= .47675
	99%	= .48177E-01	75%	= 1.7148	10%	= 9.9952
	95%	= .22350	50%	= 4.1998	5%	= 11.775
	90%	= .51582	25%	= 7.1895	1%	= 15.483
25	MEAN	= 4.5449	S.D.	= 3.4880	P(N>=r)	= .46713
	99%	= .49905E-01	75%	= 1.6434	10%	= 9.3757
	95%	= .22965	50%	= 3.9587	5%	= 11.040
	90%	= .51687	25%	= 6.7514	1%	= 14.500
26	MEAN	= 4.2789	S.D.	= 3.2668	P(N>=r)	= .45850
	99%	= .50967E-01	75%	= 1.5655	10%	= 8.8019
	95%	= .23128	50%	= 3.7282	5%	= 10.359
	90%	= .50864	25%	= 6.3431	1%	= 13.593
27	MEAN	= 4.0289	S.D.	= 3.0653	P(N>=r)	= .45060
	99%	= .51300E-01	75%	= 1.4852	10%	= 8.2712
	95%	= .22893	50%	= 3.5098	5%	= 9.7314

	90%	= .49389	25%	= 5.9634	1%	= 12.754
28	MEAN	= 3.7947	S.D.	= 2.8812	P(N>=r)	= .44322
	99%	= .50965E-01	75%	= 1.4053	10%	= 7.7817
	95%	= .22362	50%	= 3.3043	5%	= 9.1521
	90%	= .47514	25%	= 5.6109	1%	= 11.976
29	MEAN	= 3.5761	S.D.	= 2.7121	P(N>=r)	= .43619
	99%	= .50097E-01	75%	= 1.3279	10%	= 7.3285
	95%	= .21635	50%	= 3.1119	5%	= 8.6178
	90%	= .45432	25%	= 5.2838	1%	= 11.259
30	MEAN	= 3.3724	S.D.	= 2.5563	P(N>=r)	= .42939
	99%	= .48855E-01	75%	= 1.2540	10%	= 6.9099
	95%	= .20800	50%	= 2.9323	5%	= 8.1250
	90%	= .43282	25%	= 4.9803	1%	= 10.601
31	MEAN	= 3.1827	S.D.	= 2.4123	P(N>=r)	= .42274
	99%	= .47386E-01	75%	= 1.1843	10%	= 6.5220
	95%	= .19920	50%	= 2.7649	5%	= 7.6699
	90%	= .41154	25%	= 4.6984	1%	= 10.002
32	MEAN	= 3.0061	S.D.	= 2.2788	P(N>=r)	= .41616
	99%	= .45805E-01	75%	= 1.1191	10%	= 6.1618
	95%	= .19038	50%	= 2.6090	5%	= 7.2480
	90%	= .39104	25%	= 4.4363	1%	= 9.4497
33	MEAN	= 2.8417	S.D.	= 2.1548	P(N>=r)	= .40962
	99%	= .44196E-01	75%	= 1.0582	10%	= 5.8268
	95%	= .18182	50%	= 2.4638	5%	= 6.8560
	90%	= .37160	25%	= 4.1923	1%	= 8.9406
34	MEAN	= 2.6885	S.D.	= 2.0393	P(N>=r)	= .40310
	99%	= .42615E-01	75%	= 1.0015	10%	= 5.5147
	95%	= .17367	50%	= 2.3286	5%	= 6.4909
	90%	= .35337	25%	= 3.9648	1%	= 8.4675
35	MEAN	= 2.5456	S.D.	= 1.9315	P(N>=r)	= .39657
	99%	= .41092E-01	75%	= .94884	10%	= 5.2234
	95%	= .16599	50%	= 2.2026	5%	= 6.1504
	90%	= .33634	25%	= 3.7524	1%	= 8.0274
36	MEAN	= 2.4121	S.D.	= 1.8308	P(N>=r)	= .39003
	99%	= .39645E-01	75%	= .89976	10%	= 4.9510
	95%	= .15880	50%	= 2.0849	5%	= 5.8321
	90%	= .32048	25%	= 3.5538	1%	= 7.6167
37	MEAN	= 2.2872	S.D.	= 1.7365	P(N>=r)	= .38349
	99%	= .38279E-01	75%	= .85399	10%	= 4.6961
	95%	= .15208	50%	= 1.9749	5%	= 5.5342
	90%	= .30569	25%	= 3.3679	1%	= 7.2326
38	MEAN	= 2.1701	S.D.	= 1.6481	P(N>=r)	= .37693
	99%	= .36992E-01	75%	= .81120	10%	= 4.4570
	95%	= .14580	50%	= 1.8719	5%	= 5.2549
	90%	= .29187	25%	= 3.1937	1%	= 6.8727
39	MEAN	= 2.0603	S.D.	= 1.5652	P(N>=r)	= .37037
	99%	= .35777E-01	75%	= .77112	10%	= 4.2325
	95%	= .13991	50%	= 1.7753	5%	= 4.9928

	90%	= .27893	25%	= 3.0301	1%	= 6.5350
40	MEAN	= 1.9571	S.D.	= 1.4872	P(N>=r)	= .36381
	99%	= .34627E-01	75%	= .73350	10%	= 4.0215
	95%	= .13437	50%	= 1.6845	5%	= 4.7464
	90%	= .26677	25%	= 2.8763	1%	= 6.2177
41	MEAN	= 1.8600	S.D.	= 1.4139	P(N>=r)	= .35725
	99%	= .33534E-01	75%	= .69812	10%	= 3.8229
	95%	= .12913	50%	= 1.5992	5%	= 4.5145
	90%	= .25530	25%	= 2.7315	1%	= 5.9192
42	MEAN	= 1.7685	S.D.	= 1.3448	P(N>=r)	= .35069
	99%	= .32491E-01	75%	= .66478	10%	= 3.6357
	95%	= .12417	50%	= 1.5188	5%	= 4.2960
	90%	= .24446	25%	= 2.5952	1%	= 5.6380
43	MEAN	= 1.6823	S.D.	= 1.2797	P(N>=r)	= .34414
	99%	= .31492E-01	75%	= .63331	10%	= 3.4592
	95%	= .11944	50%	= 1.4430	5%	= 4.0898
	90%	= .23418	25%	= 2.4665	1%	= 5.3728
44	MEAN	= 1.6008	S.D.	= 1.2182	P(N>=r)	= .33758
	99%	= .30532E-01	75%	= .60357	10%	= 3.2924
	95%	= .11494	50%	= 1.3714	5%	= 3.8952
	90%	= .22442	25%	= 2.3451	1%	= 5.1225
45	MEAN	= 1.5238	S.D.	= 1.1601	P(N>=r)	= .33103
	99%	= .29607E-01	75%	= .57543	10%	= 3.1348
	95%	= .11064	50%	= 1.3039	5%	= 3.7113
	90%	= .21514	25%	= 2.2303	1%	= 4.8860
46	MEAN	= 1.4509	S.D.	= 1.1053	P(N>=r)	= .32449
	99%	= .28715E-01	75%	= .54877	10%	= 2.9858
	95%	= .10653	50%	= 1.2399	5%	= 3.5373
	90%	= .20631	25%	= 2.1217	1%	= 4.6622
47	MEAN	= 1.3820	S.D.	= 1.0533	P(N>=r)	= .31795
	99%	= .27854E-01	75%	= .52350	10%	= 2.8446
	95%	= .10259	50%	= 1.1793	5%	= 3.3725
	90%	= .19789	25%	= 2.0190	1%	= 4.4504
48	MEAN	= 1.3166	S.D.	= 1.0041	P(N>=r)	= .31141
	99%	= .27021E-01	75%	= .49952	10%	= 2.7109
	95%	= .98823E-01	50%	= 1.1218	5%	= 3.2164
	90%	= .18986	25%	= 1.9216	1%	= 4.2497
49	MEAN	= 1.2546	S.D.	= .95749	P(N>=r)	= .30487
	99%	= .26217E-01	75%	= .47674	10%	= 2.5841
	95%	= .95207E-01	50%	= 1.0674	5%	= 3.0683
	90%	= .18220	25%	= 1.8293	1%	= 4.0593
50	MEAN	= 1.1958	S.D.	= .91327	P(N>=r)	= .29833
	99%	= .25438E-01	75%	= .45508	10%	= 2.4637
	95%	= .91738E-01	50%	= 1.0156	5%	= 2.9278
	90%	= .17487	25%	= 1.7418	1%	= 3.8786
51	MEAN	= 1.1399	S.D.	= .87130	P(N>=r)	= .29179
	99%	= .24683E-01	75%	= .43447	10%	= 2.3494
	95%	= .88406E-01	50%	= .96650	5%	= 2.7943

	90%	= .16787	25%	= 1.6587	1%	= 3.7070
52	MEAN	= 1.0868	S.D.	= .83145	P(N>=r)	= .28526
	99%	= .23953E-01	75%	= .41485	10%	= 2.2409
	95%	= .85204E-01	50%	= .91991	5%	= 2.6675
	90%	= .16117	25%	= 1.5797	1%	= 3.5439
53	MEAN	= 1.0364	S.D.	= .79358	P(N>=r)	= .27872
	99%	= .23244E-01	75%	= .39615	10%	= 2.1376
	95%	= .82123E-01	50%	= .87579	5%	= 2.5469
	90%	= .15475	25%	= 1.5047	1%	= 3.3888
54	MEAN	= .98832	S.D.	= .75757	P(N>=r)	= .27218
	99%	= .22556E-01	75%	= .37831	10%	= 2.0394
	95%	= .79158E-01	50%	= .83404	5%	= 2.4322
	90%	= .14859	25%	= 1.4334	1%	= 3.2412
55	MEAN	= .94259	S.D.	= .72332	P(N>=r)	= .26565
	99%	= .21888E-01	75%	= .36129	10%	= 1.9459
	95%	= .76301E-01	50%	= .79451	5%	= 2.3230
	90%	= .14268	25%	= 1.3655	1%	= 3.1006
56	MEAN	= .89903	S.D.	= .69072	P(N>=r)	= .25911
	99%	= .21239E-01	75%	= .34503	10%	= 1.8569
	95%	= .73546E-01	50%	= .75735	5%	= 2.2189
	90%	= .13701	25%	= 1.3009	1%	= 2.9667
57	MEAN	= .85753	S.D.	= .65969	P(N>=r)	= .25258
	99%	= .20607E-01	75%	= .32949	10%	= 1.7721
	95%	= .70887E-01	50%	= .72153	5%	= 2.1198
	90%	= .13156	25%	= 1.2394	1%	= 2.8390
58	MEAN	= .81795	S.D.	= .63012	P(N>=r)	= .24604
	99%	= .19992E-01	75%	= .31462	10%	= 1.6913
	95%	= .68319E-01	50%	= .68723	5%	= 2.0252
	90%	= .12632	25%	= 1.1808	1%	= 2.7172
59	MEAN	= .78021	S.D.	= .60195	P(N>=r)	= .23950
	99%	= .19393E-01	75%	= .30040	10%	= 1.6143
	95%	= .65836E-01	50%	= .65427	5%	= 1.9351
	90%	= .12127	25%	= 1.1250	1%	= 2.6010
60	MEAN	= .74420	S.D.	= .57509	P(N>=r)	= .23297
	99%	= .18809E-01	75%	= .28679	10%	= 1.5408
	95%	= .63435E-01	50%	= .62256	5%	= 1.8491
	90%	= .11641	25%	= 1.0718	1%	= 2.4901
61	MEAN	= .70983	S.D.	= .54948	P(N>=r)	= .22643
	99%	= .18239E-01	75%	= .27375	10%	= 1.4706
	95%	= .61110E-01	50%	= .59233	5%	= 1.7669
	90%	= .11172	25%	= 1.0210	1%	= 2.3841
62	MEAN	= .67701	S.D.	= .52504	P(N>=r)	= .21990
	99%	= .17683E-01	75%	= .26125	10%	= 1.4037
	95%	= .58859E-01	50%	= .56360	5%	= 1.6885
	90%	= .10721	25%	= .97262	1%	= 2.2829
63	MEAN	= .64567	S.D.	= .50173	P(N>=r)	= .21337
	99%	= .17139E-01	75%	= .24928	10%	= 1.3398
	95%	= .56677E-01	50%	= .53628	5%	= 1.6137

	90%	= .10285	25%	= .92645	1%	= 2.1861
64	MEAN	= .61574	S.D.	= .47948	P(N>=r)	= .20683
	99%	= .16608E-01	75%	= .23780	10%	= 1.2788
	95%	= .54562E-01	50%	= .51023	5%	= 1.5421
	90%	= .98640E-01	25%	= .88240	1%	= 2.0936
65	MEAN	= .58715	S.D.	= .45824	P(N>=r)	= .20030
	99%	= .16088E-01	75%	= .22679	10%	= 1.2205
	95%	= .52510E-01	50%	= .48537	5%	= 1.4737
	90%	= .94579E-01	25%	= .84035	1%	= 2.0051
66	MEAN	= .55983	S.D.	= .43796	P(N>=r)	= .19377
	99%	= .15580E-01	75%	= .21624	10%	= 1.1648
	95%	= .50519E-01	50%	= .46165	5%	= 1.4084
	90%	= .90657E-01	25%	= .80022	1%	= 1.9205
67	MEAN	= .53372	S.D.	= .41859	P(N>=r)	= .18724
	99%	= .15082E-01	75%	= .20612	10%	= 1.1116
	95%	= .48587E-01	50%	= .43901	5%	= 1.3459
	90%	= .86869E-01	25%	= .76188	1%	= 1.8395
68	MEAN	= .50878	S.D.	= .40009	P(N>=r)	= .18072
	99%	= .14596E-01	75%	= .19642	10%	= 1.0608
	95%	= .46713E-01	50%	= .41740	5%	= 1.2862
	90%	= .83211E-01	25%	= .72511	1%	= 1.7620
69	MEAN	= .48495	S.D.	= .38241	P(N>=r)	= .17420
	99%	= .14119E-01	75%	= .18712	10%	= 1.0123
	95%	= .44894E-01	50%	= .39678	5%	= 1.2291
	90%	= .79678E-01	25%	= .68999	1%	= 1.6878
70	MEAN	= .46219	S.D.	= .36553	P(N>=r)	= .16769
	99%	= .13653E-01	75%	= .17821	10%	= .96590
	95%	= .43129E-01	50%	= .37710	5%	= 1.1745
	90%	= .76269E-01	25%	= .65615	1%	= 1.6168
71	MEAN	= .44044	S.D.	= .34940	P(N>=r)	= .16118
	99%	= .13197E-01	75%	= .16968	10%	= .92159
	95%	= .41418E-01	50%	= .35834	5%	= 1.1223
	90%	= .72978E-01	25%	= .62406	1%	= 1.5488
72	MEAN	= .41968	S.D.	= .33399	P(N>=r)	= .15469
	99%	= .12752E-01	75%	= .16151	10%	= .87926
	95%	= .39760E-01	50%	= .34046	5%	= 1.0724
	90%	= .69806E-01	25%	= .59409	1%	= 1.4837
73	MEAN	= .39985	S.D.	= .31926	P(N>=r)	= .14821
	99%	= .12317E-01	75%	= .15370	10%	= .83883
	95%	= .38154E-01	50%	= .32342	5%	= 1.0247
	90%	= .66748E-01	25%	= .56604	1%	= 1.4213
74	MEAN	= .38093	S.D.	= .30520	P(N>=r)	= .14175
	99%	= .11892E-01	75%	= .14623	10%	= .80022
	95%	= .36600E-01	50%	= .30718	5%	= .97904
	90%	= .63805E-01	25%	= .53922	1%	= 1.3616
75	MEAN	= .36288	S.D.	= .29176	P(N>=r)	= .13531
	99%	= .11478E-01	75%	= .13910	10%	= .76336
	95%	= .35099E-01	50%	= .29174	5%	= .93543

	90%	= .60973E-01	25%	= .51321	1%	= 1.3045
76	MEAN	= .34567	S.D.	= .27892	P(N>=r)	= .12889
	99%	= .11075E-01	75%	= .13229	10%	= .72817
	95%	= .33649E-01	50%	= .27704	5%	= .89375
	90%	= .58253E-01	25%	= .48809	1%	= 1.2498
77	MEAN	= .32926	S.D.	= .26666	P(N>=r)	= .12252
	99%	= .10683E-01	75%	= .12580	10%	= .69460
	95%	= .32250E-01	50%	= .26307	5%	= .85394
	90%	= .55643E-01	25%	= .46419	1%	= 1.1974
78	MEAN	= .31364	S.D.	= .25494	P(N>=r)	= .11618
	99%	= .10302E-01	75%	= .11963	10%	= .66257
	95%	= .30904E-01	50%	= .24980	5%	= .81591
	90%	= .53141E-01	25%	= .44155	1%	= 1.1473
79	MEAN	= .29876	S.D.	= .24376	P(N>=r)	= .10990
	99%	= .99330E-02	75%	= .11375	10%	= .63200
	95%	= .29610E-01	50%	= .23721	5%	= .77960
	90%	= .50747E-01	25%	= .42004	1%	= 1.0993
80	MEAN	= .28461	S.D.	= .23309	P(N>=r)	= .10368
	99%	= .95758E-02	75%	= .10817	10%	= .60272
	95%	= .28368E-01	50%	= .22527	5%	= .74494
	90%	= .48459E-01	25%	= .39960	1%	= 1.0534
81	MEAN	= .27115	S.D.	= .22290	P(N>=r)	= .97528E-01
	99%	= .92308E-02	75%	= .10287	10%	= .57450
	95%	= .27178E-01	50%	= .21395	5%	= .71187
	90%	= .46276E-01	25%	= .38018	1%	= 1.0094
82	MEAN	= .25836	S.D.	= .21318	P(N>=r)	= .91466E-01
	99%	= .88980E-02	75%	= .97847E-01	10%	= .54724
	95%	= .26038E-01	50%	= .20324	5%	= .68033
	90%	= .44195E-01	25%	= .36176	1%	= .96745
83	MEAN	= .24621	S.D.	= .20390	P(N>=r)	= .85504E-01
	99%	= .85776E-02	75%	= .93092E-01	10%	= .52137
	95%	= .24950E-01	50%	= .19311	5%	= .65026
	90%	= .42216E-01	25%	= .34428	1%	= .92731
84	MEAN	= .23469	S.D.	= .19506	P(N>=r)	= .79656E-01
	99%	= .82697E-02	75%	= .88596E-01	10%	= .49746
	95%	= .23912E-01	50%	= .18354	5%	= .62160
	90%	= .40335E-01	25%	= .32771	1%	= .88894
85	MEAN	= .22376	S.D.	= .18663	P(N>=r)	= .73939E-01
	99%	= .79743E-02	75%	= .84348E-01	10%	= .47566
	95%	= .22924E-01	50%	= .17449	5%	= .59430
	90%	= .38551E-01	25%	= .31202	1%	= .85228
86	MEAN	= .21340	S.D.	= .17859	P(N>=r)	= .68370E-01
	99%	= .76913E-02	75%	= .80339E-01	10%	= .45455
	95%	= .21983E-01	50%	= .16596	5%	= .56829
	90%	= .36860E-01	25%	= .29717	1%	= .81726
87	MEAN	= .20359	S.D.	= .17094	P(N>=r)	= .62965E-01
	99%	= .74206E-02	75%	= .76559E-01	10%	= .43414
	95%	= .21090E-01	50%	= .15792	5%	= .54338

	90%	= .35259E-01	25%	= .28312	1%	= .78383
88	MEAN	= .19431	S.D.	= .16365	P(N>=r)	= .57740E-01
	99%	= .71620E-02	75%	= .72997E-01	10%	= .41461
	95%	= .20243E-01	50%	= .15034	5%	= .51930
	90%	= .33745E-01	25%	= .26983	1%	= .75192
89	MEAN	= .18552	S.D.	= .15671	P(N>=r)	= .52712E-01
	99%	= .69152E-02	75%	= .69645E-01	10%	= .39612
	95%	= .19440E-01	50%	= .14321	5%	= .49536
	90%	= .32315E-01	25%	= .25728	1%	= .72148
90	MEAN	= .17721	S.D.	= .15010	P(N>=r)	= .47897E-01
	99%	= .66801E-02	75%	= .66491E-01	10%	= .37861
	95%	= .18679E-01	50%	= .13650	5%	= .47321
	90%	= .30965E-01	25%	= .24543	1%	= .69244
91	MEAN	= .16936	S.D.	= .14382	P(N>=r)	= .43308E-01
	99%	= .64563E-02	75%	= .63526E-01	10%	= .36201
	95%	= .17960E-01	50%	= .13018	5%	= .45301
	90%	= .29692E-01	25%	= .23424	1%	= .66475
92	MEAN	= .16195	S.D.	= .13785	P(N>=r)	= .38960E-01
	99%	= .62433E-02	75%	= .60740E-01	10%	= .34629
	95%	= .17280E-01	50%	= .12425	5%	= .43463
	90%	= .28492E-01	25%	= .22368	1%	= .63836
93	MEAN	= .15494	S.D.	= .13216	P(N>=r)	= .34861E-01
	99%	= .60409E-02	75%	= .58122E-01	10%	= .33140
	95%	= .16637E-01	50%	= .11867	5%	= .41677
	90%	= .27361E-01	25%	= .21372	1%	= .61321
94	MEAN	= .14833	S.D.	= .12676	P(N>=r)	= .31021E-01
	99%	= .58487E-02	75%	= .55663E-01	10%	= .31730
	95%	= .16030E-01	50%	= .11343	5%	= .39955
	90%	= .26296E-01	25%	= .20434	1%	= .58926
95	MEAN	= .14208	S.D.	= .12163	P(N>=r)	= .27446E-01
	99%	= .56661E-02	75%	= .53354E-01	10%	= .30396
	95%	= .15457E-01	50%	= .10850	5%	= .38312
	90%	= .25293E-01	25%	= .19549	1%	= .56644
96	MEAN	= .13619	S.D.	= .11675	P(N>=r)	= .24140E-01
	99%	= .54927E-02	75%	= .51185E-01	10%	= .29134
	95%	= .14916E-01	50%	= .10388	5%	= .36756
	90%	= .24348E-01	25%	= .18715	1%	= .54471
97	MEAN	= .13062	S.D.	= .11211	P(N>=r)	= .21101E-01
	99%	= .53282E-02	75%	= .49149E-01	10%	= .27940
	95%	= .14405E-01	50%	= .99533E-01	5%	= .35281
	90%	= .23458E-01	25%	= .17929	1%	= .52402
98	MEAN	= .12537	S.D.	= .10771	P(N>=r)	= .18329E-01
	99%	= .51721E-02	75%	= .47236E-01	10%	= .26810
	95%	= .13922E-01	50%	= .95452E-01	5%	= .33882
	90%	= .22620E-01	25%	= .17189	1%	= .50432
99	MEAN	= .12042	S.D.	= .10353	P(N>=r)	= .15817E-01
	99%	= .50239E-02	75%	= .45438E-01	10%	= .25741
	95%	= .13467E-01	50%	= .91616E-01	5%	= .32556

	90%	= .21831E-01	25%	= .16491	1%	= .48554
100	MEAN	= .11574	S.D.	= .99554E-01	P(N>=r)	= .13559E-01
	99%	= .48833E-02	75%	= .43748E-01	10%	= .24731
	95%	= .13036E-01	50%	= .88012E-01	5%	= .31299
	90%	= .21087E-01	25%	= .15834	1%	= .46752
101	MEAN	= .11132	S.D.	= .95778E-01	P(N>=r)	= .11544E-01
	99%	= .47497E-02	75%	= .42160E-01	10%	= .23775
	95%	= .12630E-01	50%	= .84623E-01	5%	= .30108
	90%	= .20385E-01	25%	= .15214	1%	= .44992

E) The mean of the potential = 621.89

FIGURE CAPTIONS

Figure 1: Hydrocarbon play map (Waterton Colorado (Gas), Kishenehn Tertiary Graben (Oil & Gas), Fernie - Elk Valley Mesozoic Structural (Gas), and Rocky Mountain Trench Cenozoic Graben (Gas))

Figure 2: Hydrocarbon play map (Waterton Rundle/Wabamun (Gas), MacDonald Paleozoic Structural (Gas), and Fernie - Elk Valley Paleozoic Structural (Gas))

Figure 3: Hydrocarbon play map (Waterton Mannville (Oil & Gas), Belt - Purcell Structural Immature (Oil & Gas), Belt - Purcell Structural Conceptual (Oil & Gas), and Belt - Purcell Structural Speculative (Oil & Gas))

Figure 4: Plot of volumetric proportion of resources discovered versus number of pools discovered, WCSB Foothills gas plays

Figure 5: Plot of proportion of pools discovered versus number of exploratory wells, WCSB Foothills gas plays

Figure 6: Pool size by rank diagram of the Waterton Rundle/Wabamun Foothills Gas Play

Figure 7: Pool size by rank diagram of the Kishenehn Tertiary Graben Gas Play

Figure 8: Pool size by rank diagram of the Kishenehn Tertiary Graben Oil Play

Figure 9: Pool size by rank diagram of the MacDonald Paleozoic Structural Gas Play

Figure 10: Pool size by rank diagram of the Fernie - Elk Valley Mesozoic Structural Gas Play

Figure 11: Pool size by rank diagram of the Fernie - Elk Valley Paleozoic Structural Gas Play

Figure 12: Pool size by rank diagram of the Rocky Mountain Trench Cenozoic Graben Gas Play

Figure 13: Pool size by rank diagram of the Belt - Purcell Immature Structural Oil Play

Figure 14: Pool size by rank diagram of the Belt - Purcell Immature Structural Gas Play

WCSB FOOTHILLS GAS PLAYS
ISPG JUNE 1993
Edited data set - Lewis Waterton Rundle/Wabamun play removed
Volumetric proportion discovered vs Number of pools discovered

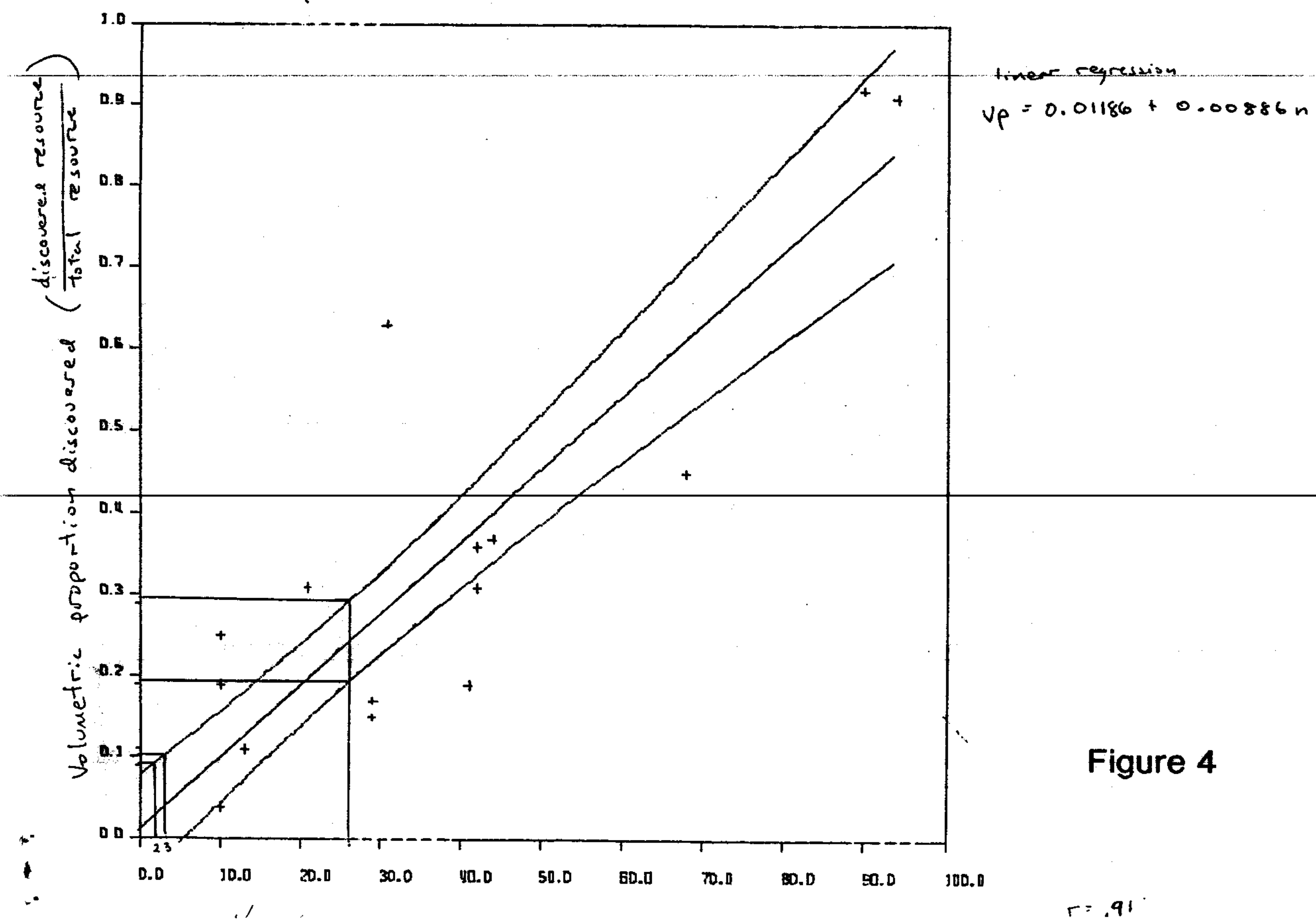
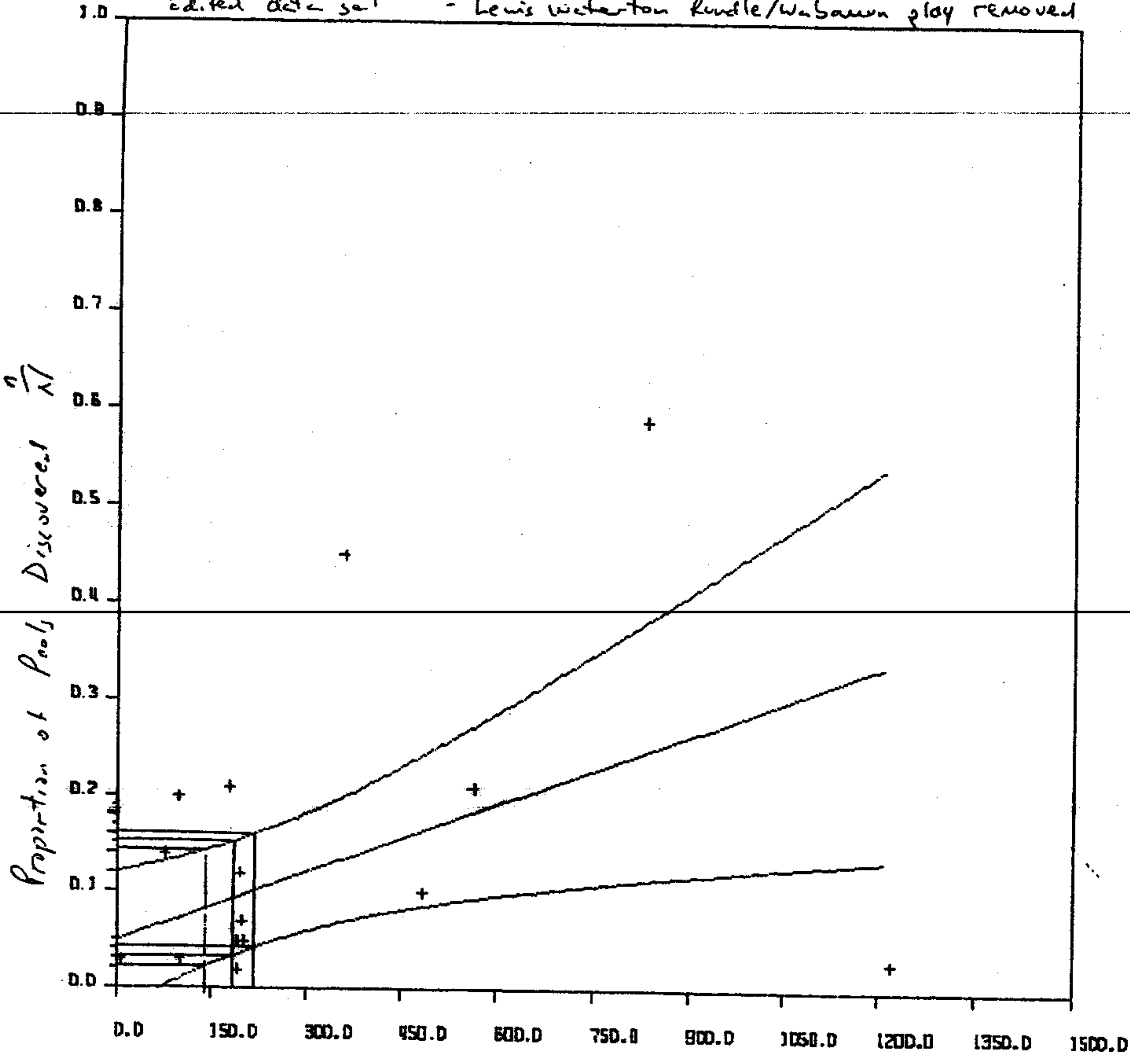


Figure 4

WCSB FOOTHILLS GAS PLAYS
ISPG JUNE 1993

Proportion of Pools Discovered vs # of Exploratory Wells
Edited data set - Lewis Waterton Rundle/Wabamun play removed

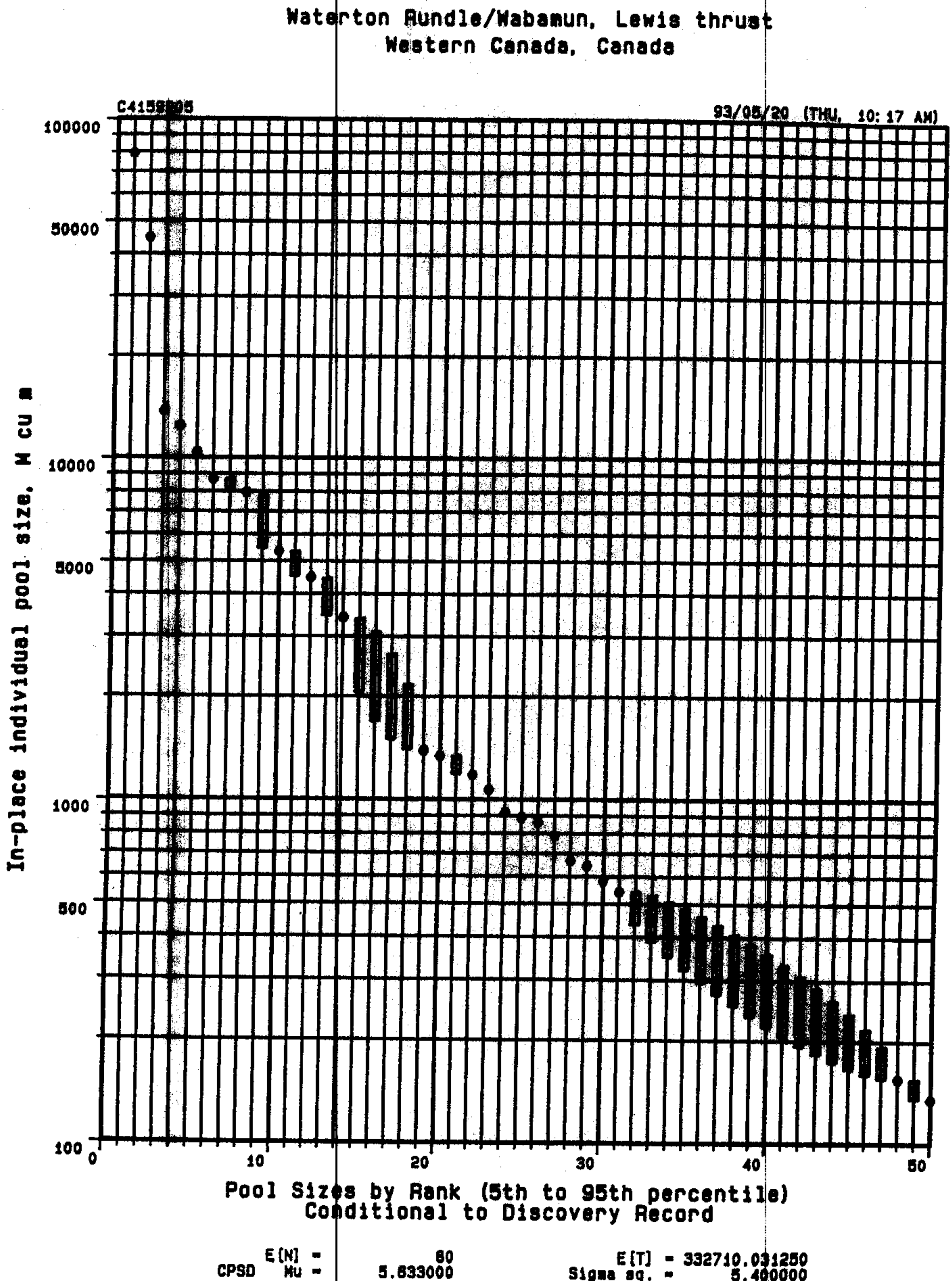


linear regression

$\frac{n}{N} = 0.04862 + 0.00024$ (# exp wells)

Figure 5

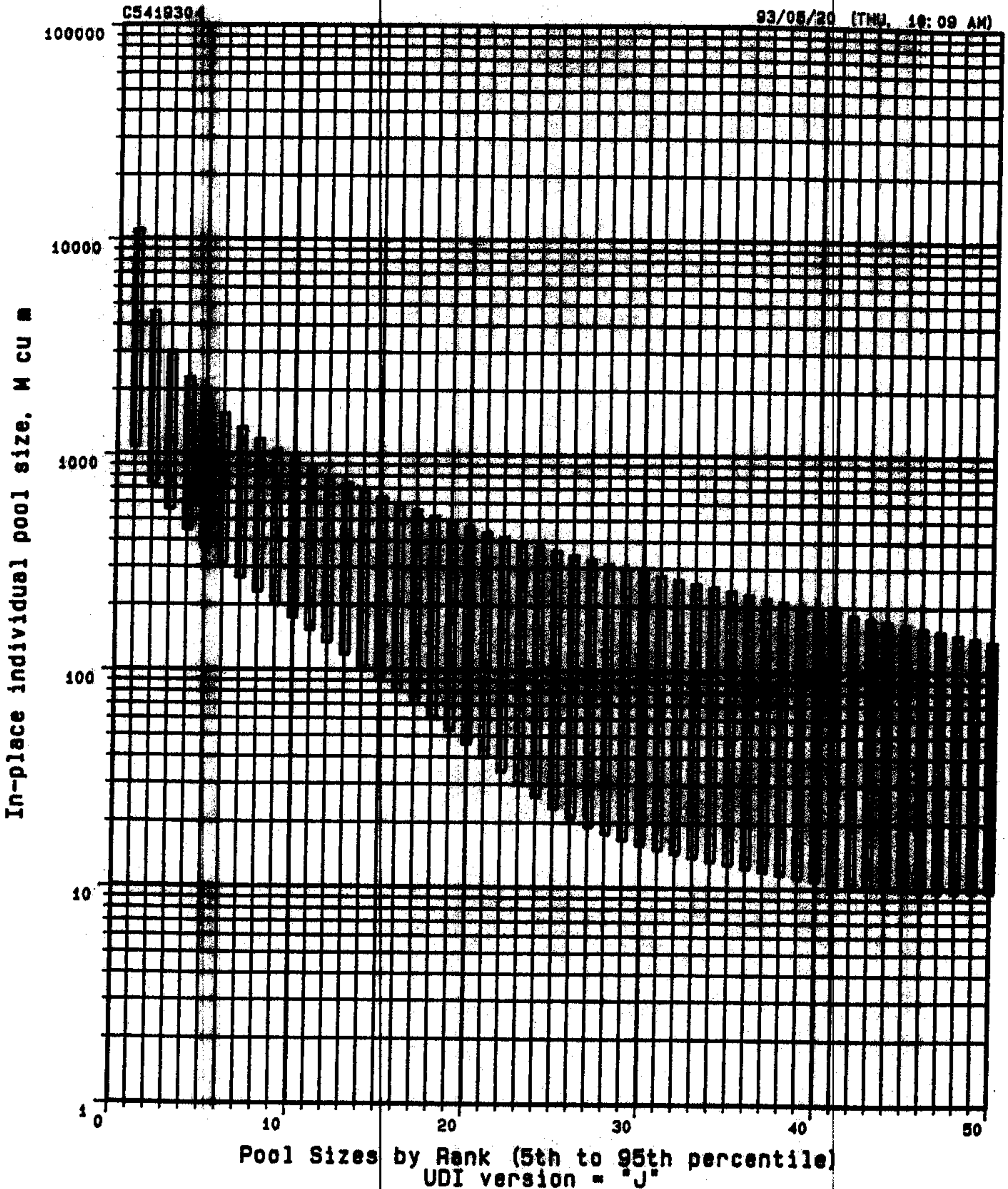
r = 0.48618



Waterton Rundle/Wabamun, Lewis thrust
Western Canada, Canada
C4158805
93/05/20 (THU, 10:17 AM)
100000
50000
10000
5000
1000
500
100
0
10
20
30
40
50
In-place individual pool size, M cu m
Pool Sizes by Rank (5th to 95th percentile)
Conditional to Discovery Record
E[N] = 60
CPSD Mu = 5.633000
E[T] = 332710.031250
Sigma sq. = 5.400000

Figure 6

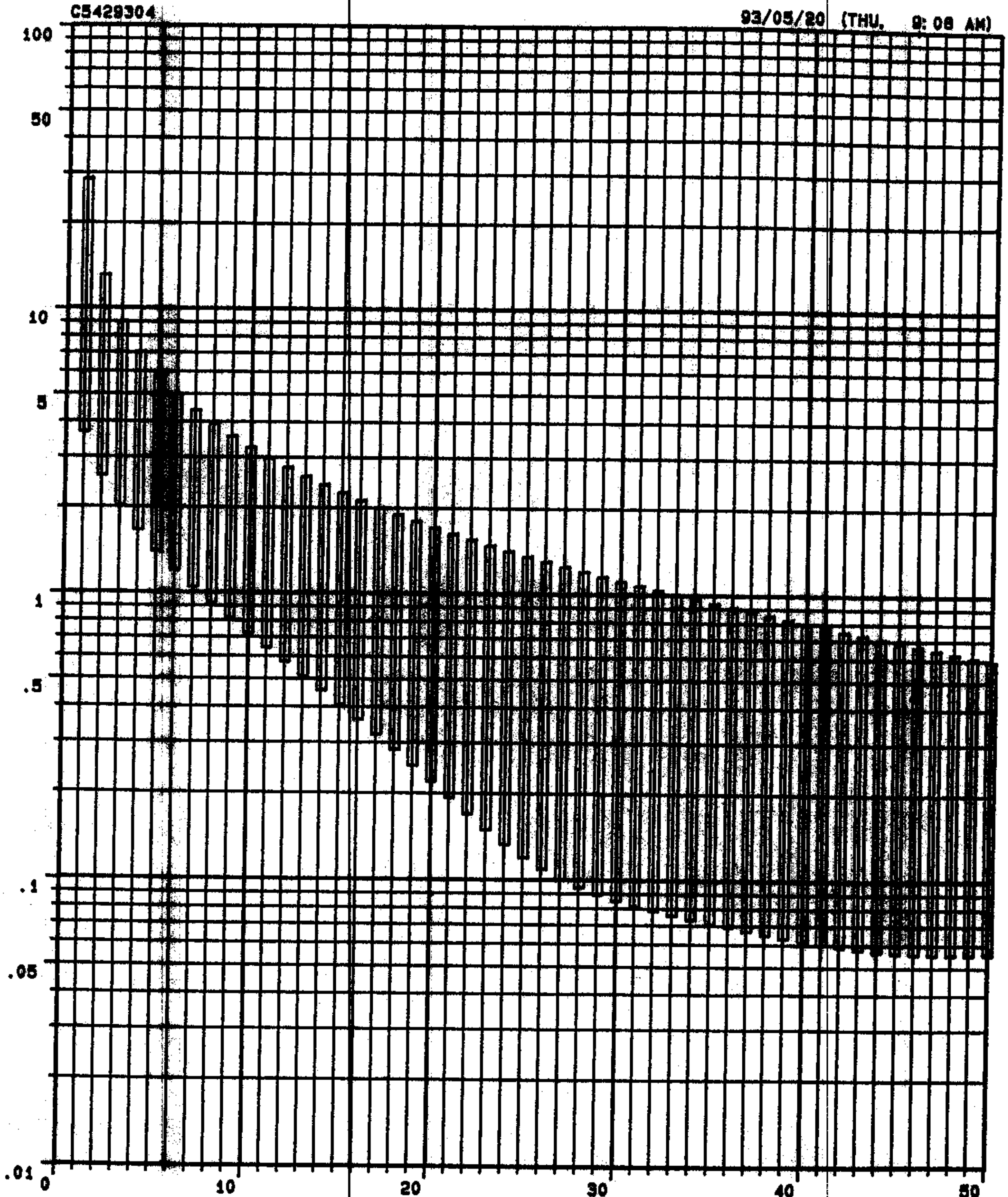
Kishenehn Tertiary Graben Gas Play, Kootenay
British Columbia, Canada



E[N] =	50.134445	E[T] =	17883.722656
CPSD Mu =	4.853869	Sigma sq. =	2.046138

Figure 7

Kishenehn Tertiary Graben Oil Play, Kootenay
British Columbia, Canada



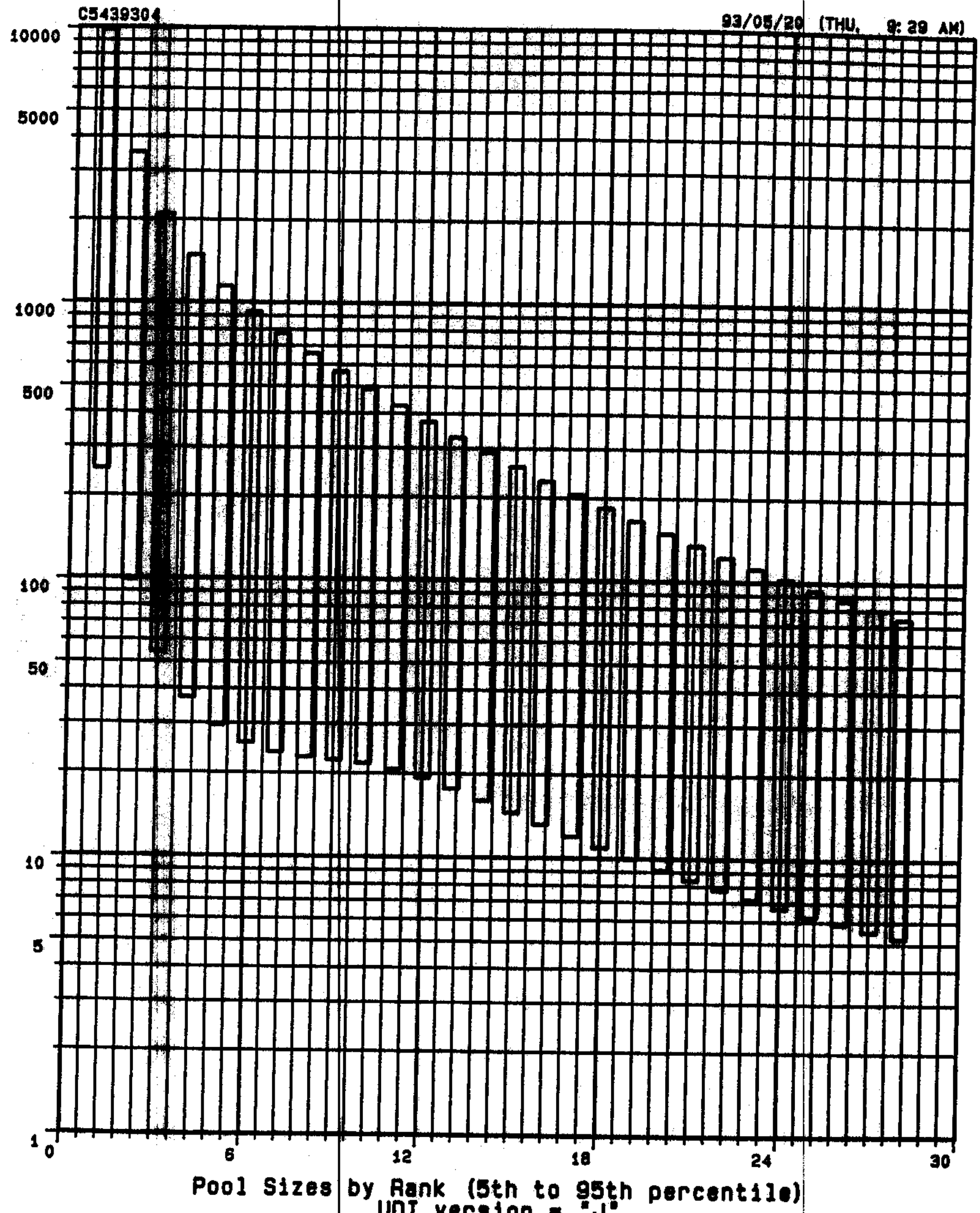
Pool Sizes by Rank (5th to 95th percentile)
UDI version = "J"

CPSD E[N] = 50.134445 Mu = -.616186

E[T] = 60.735092 Sigma sq. = 1.615999

Figure 8

MacDonald Paleozoic Structural Gas Play, Kootenay
British Columbia, Canada

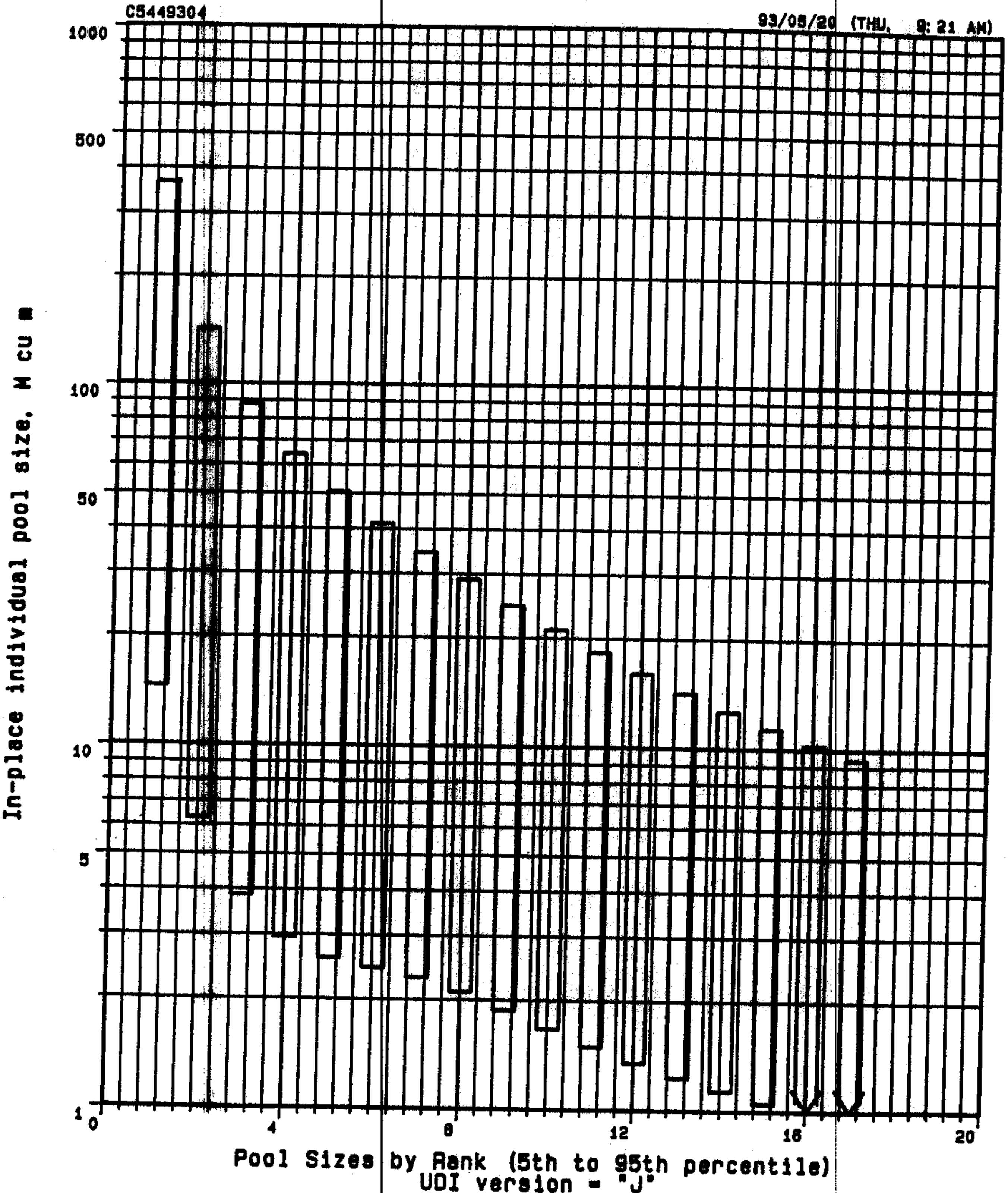


CPSD E[N] = 5.361875
Mu = 5.375273

E[T] = 3423.169922
Sigma sq. = 2.167470

Figure 9

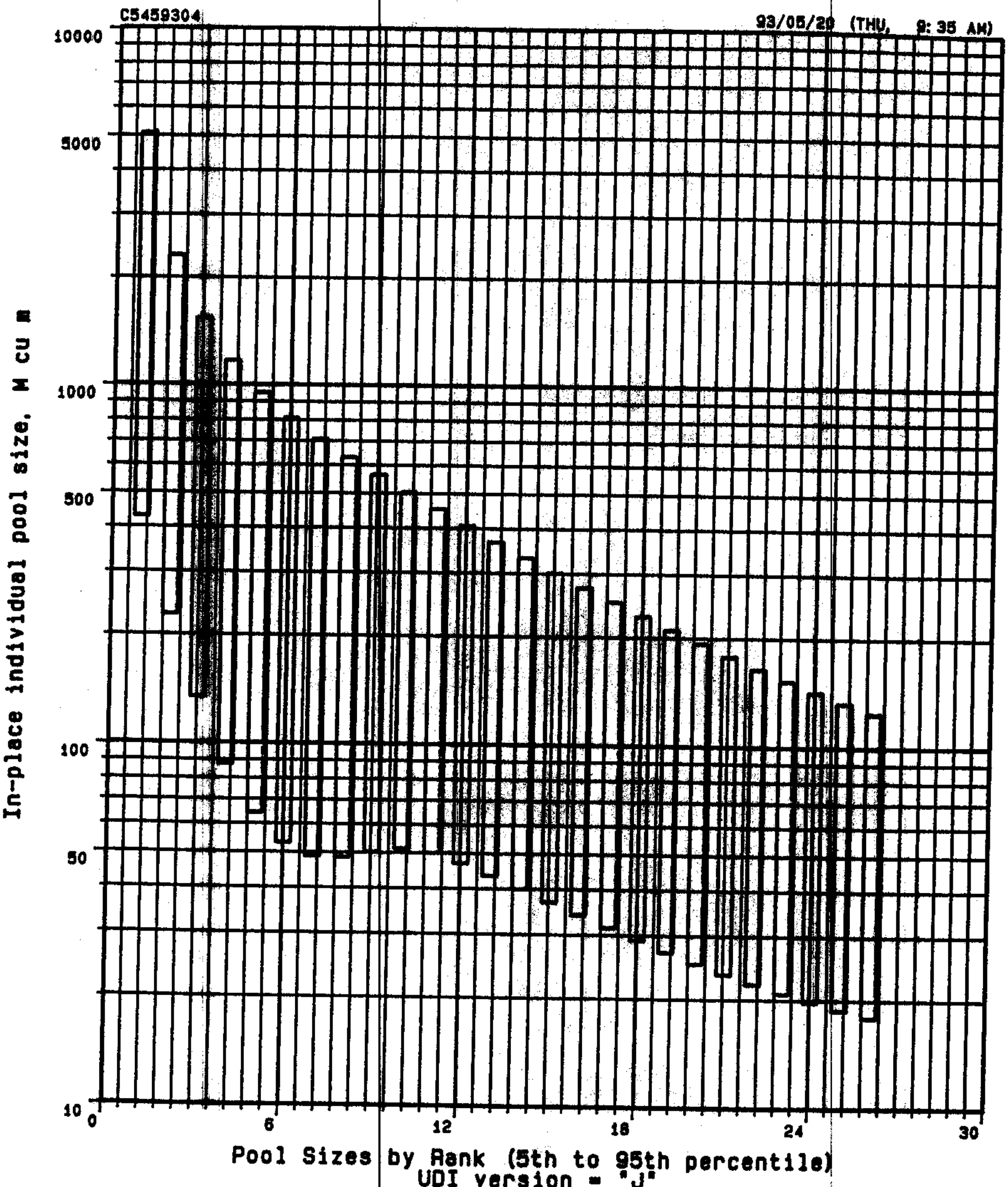
Fernie-Elk Valley Mesozoic Structural Gas Play, Kootenay
British Columbia, Canada



E[N] = 4.96152
CPSD Mu = 2.960000
E[T] = 202.696991
Sigma sq. = 1.500000

Figure 10

Fernie-Elk Valley Paleozoic Structural Gas Play, Kootenay
British Columbia, Canada

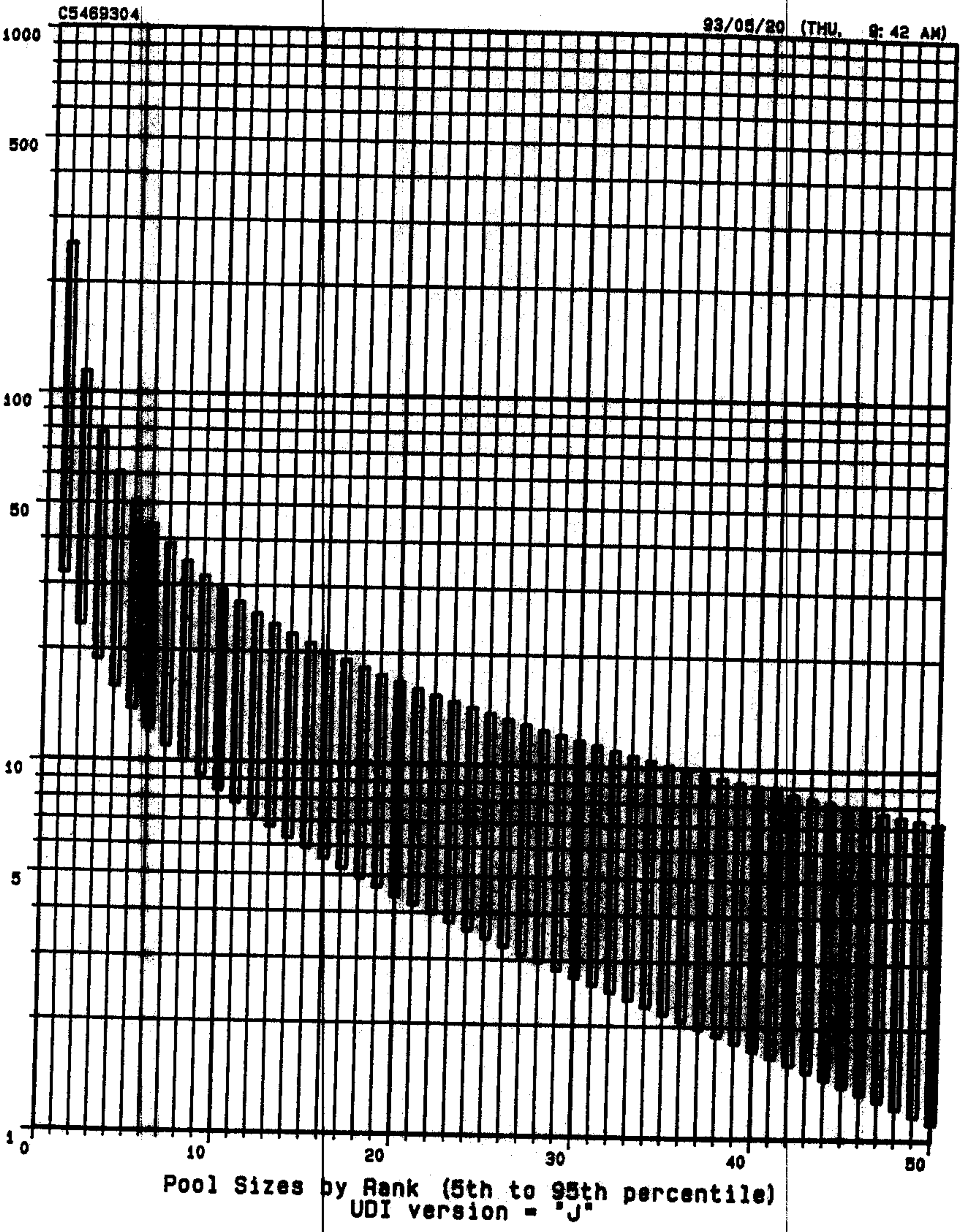


CPSD E(N) = 9.30285
Mu = 5.719000

E(T) = 5142.634277
Sigma sq. = 1.192000

Figure 11

Rocky Mountain Trench Cenozoic Graben Gas Play, Kootenay
British Columbia, Canada

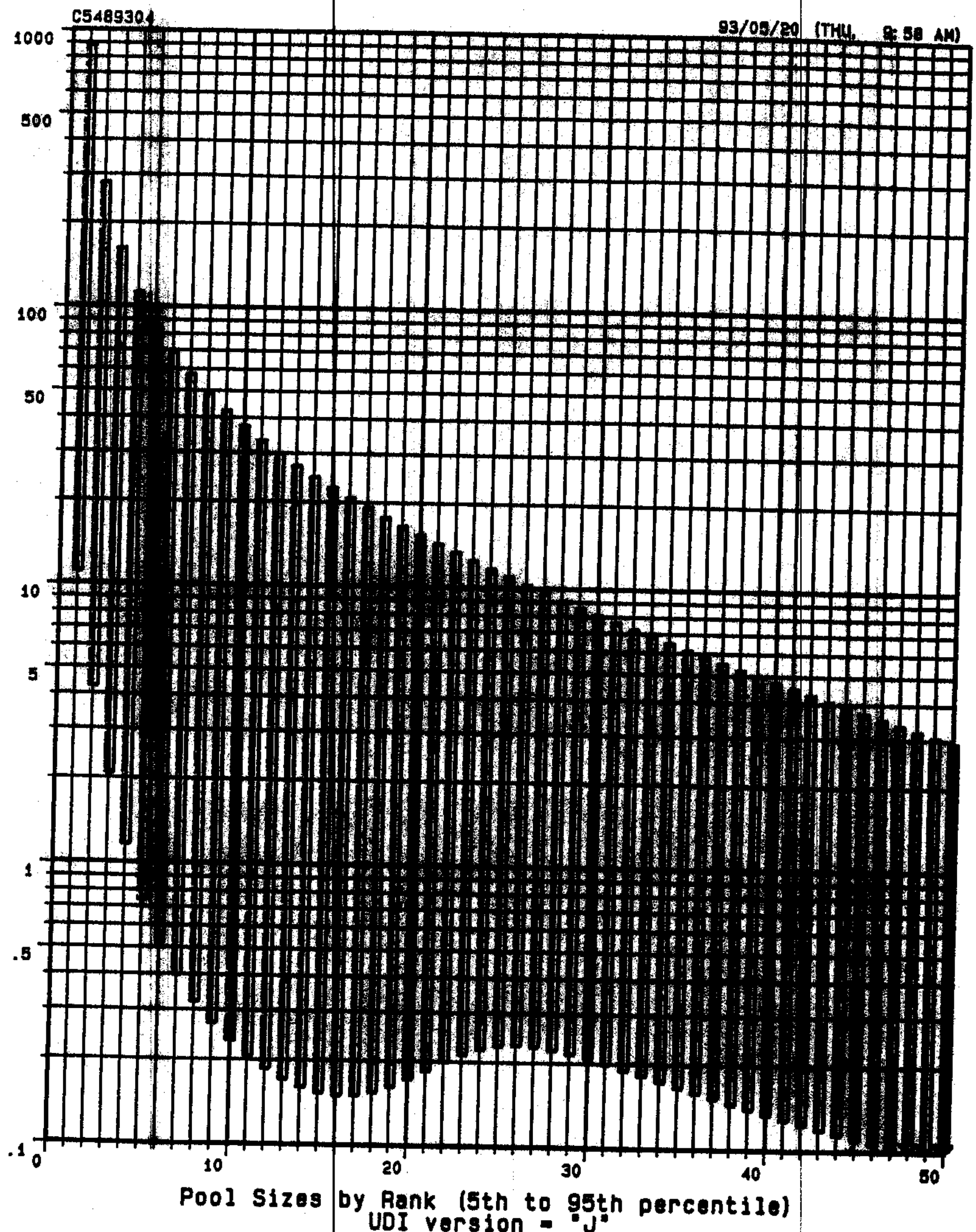


CPSD E[N] = 169.909103
Mu = .551419

E[T] = 849.071472
Sigma sq. = 2.114922

Figure 12

Belt-Purcell Basin Structural Immature Gas Play, Kootenay
British Columbia, Canada



CPSD E(N) = 34.601814 Mu = .965081

E(T) = 621.899719 Sigma sq. = 3.847584

Figure 13

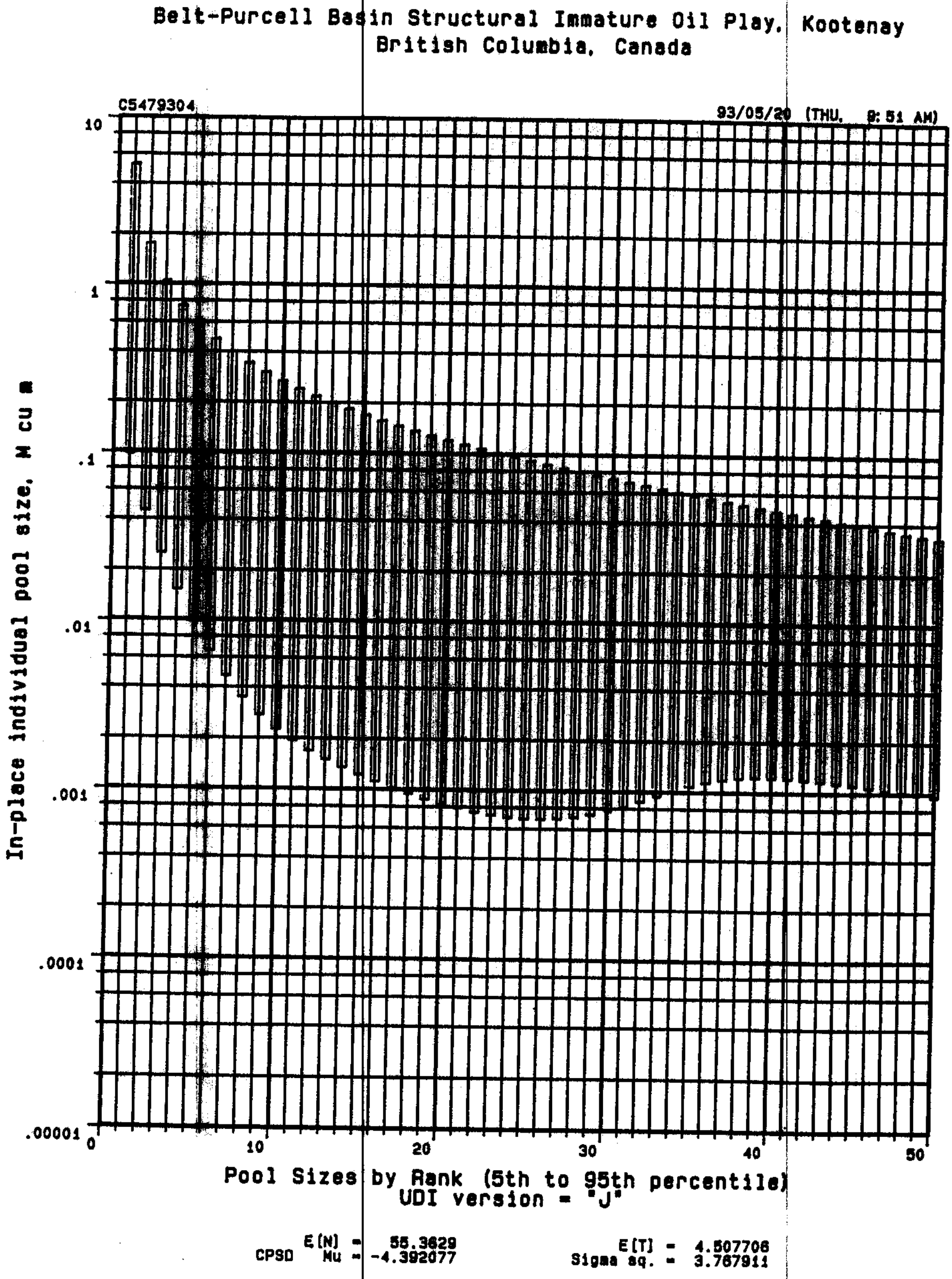

Belt-Purcell Basin Structural Immature Oil Play, Kootenay
British Columbia, Canada
C5479304
93/05/20 (THU, 9:51 AM)
In-place individual pool size, M cu m
10
1
.1
.01
.001
.0001
.00001
0
10
20
30
40
50
Pool Sizes by Rank (5th to 95th percentile)
UDI version = "J"
E(N) = 55.3629
CPSD Mu = -4.392077
E(T) = 4.507706
Sigma sq. = 3.767911

Figure 14