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Alaska Division of
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COAL RESOURCES, EXPLORATION, AND DEVELOPMENT IN ALASKA

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WITH ITS ESTIMATED 6.0 TRILLION TONS OF COAL, ALASKA HOLDS THE SECOND LARGEST RESOURCES OF COAL IN THE WORLD. ONLY THE SOVIET UNION, WITH ITS ESTIMATED 12.5 TRILLION TONS OF GEOLOGICAL RESOURCES, HOLDS MORE COAL THAN ALASKA. THE PEOPLE'S REPUBLIC OF CHINA IS ESTIMATED TO HOLD 5.0 TRILLION TONS OF COAL, THE CONTIGUOUS UNITED STATES 4.5 TRILLION TONS, AND THE REST OF THE WORLD A COMBINED 7.0 TRILLION TONS OF COAL. THE TOTAL WORLD RESOURCES OF COAL ARE ESTIMATED TO BE 35 TRILLION TONS. ALASKA'S PERCENTAGE OF WORLD COAL RESOURCES IS ANYWHERE FROM 15 TO 20 PERCENT. ALASKA HAS SUBSTANTIALLY MORE COAL RESOURCES THAN OTHER MAJOR COAL-EXPORTING COUNTRIES OF THE WORLD SUCH AS AUSTRALIA (AT 1.5 TRILLION), CANADA (AT 0.8 TRILLION), POLAND (AT 0.4 TRILLION), AND THE REPUBLIC OF SOUTH AFRICA (AT 0.2 TRILLION).

COAL-BEARING FORMATIONS ARE ESTIMATED TO UNDERLIE AS MUCH AS 8.5 PERCENT OF ALASKA'S LAND AREA---OVER 50,000 MI^2. THERE ARE OVER 20 MAJOR COAL FIELDS PRESENTLY KNOWN IN ALASKA. COAL IS FOUND IN ALL GEOGRAPHIC SUBDIVISIONS OF ALASKA EXCEPT THE ALEUTIAN ISLANDS. THE POTENTIAL FOR LARGE UNDISCOVERED COAL DEPOSITS IS GREAT. NEW EXTENSIONS TO PRESENTLY KNOWN FIELDS ARE BEING MADE ALMOST

EVERY YEAR, AND ENTIRE NEW COAL FIELDS ARE LIKELY TO BE DISCOVERED IN THE FUTURE. ALASKA IS ONE OF THE FEW PLACES IN THE WORLD TODAY WHERE THE COAL EXPLORATIONIST STILL HAS A ROLE TO PLAY.

THE ENERGY (BTU) EQUIVALENT OF THE COAL IN ALASKA EXCEEDS BY MANY MAGNITUDES THAT PRESENT IN ALL THE OIL THAT WILL ULTIMATELY FLOW FROM THE STATE. ALASKA'S COAL RESOURCES ARE EQUIVALENT TO 7-20 TRILLION BARRELS OF OIL, WHICH EQUATES TO 700-2000 PRUDHOE BAYS (WITH ORIGINAL RECOVERABLE RESERVES ESTIMATED AT 10 BILLION BARRELS).

ABOUT 55 PERCENT OF ALASKA'S COAL IS BITUMINOUS, 40 PERCENT IS SUBBITUMINOUS, 5 PERCENT IS LIGNITE, AND LESS THAN 1 PERCENT IS SEMIANTHRACITE AND ANTHRACITE. BITUMINOUS COAL Is FOUND IN THE NORTHERN FIELD, LISBURNE FIELD, KOBUK FIELD, NULATO FIELD, MATANUSKA FIELD, BERING RIVER FIELD, KOOTZNAHOO INLET (ANGOON) FIELD, UGASHIK FIELD, CHIGNIK FIELD, AND HERENDEEN BAY FIELD. SUBBITUMINOUS COAL IS FOUND IN THE NORTHERN FIELD, RAMPART FIELD, EAGLE FIELD, NENANA FIELD, FAREWELL (LITTLE TONZONA) FIELD, YENTNA FIELD, BELUGA FIELD, LITTLE SUSITNA FIELD, AND KENAI FIELD. LIGNITE Is FOUND IN THE SAGAVANIRKTOK (SAG) FIELD, SEWARD PENINSULA FIELDS, BROAD PASS FIELD, COPPER RIVER FIELD, HERENDEEN BAY FIELD, UNGA ISLAND FIELD, AND AT SCATTERED OCCURRENCES IN SOUTHEAST ALASKA. SEMIANTHRACITE AND ANTHRACITE ARE FOUND MAINLY IN THE BERING RIVER AND MATANUSKA FIELDS.

THE THREE LARGEST COAL PROVINCES OF THE STATE ARE NORTHERN ALASKA, COOK INLET-SUSITNA LOWLAND, AND THE NENANA TREND. BITUMI-

NOUS COALS TYPICALLY FORMED IN THE CRETACEOUS PERIOD. ANTHRACITIC COALS, SUBBITUMINOUS AND LIGNITE COALS FORMED IN THE TERTIARY PERIOD. THE OLDEST COALS IN ALASKA ARE FOUND IN MISSISSIPPIAN-AGED DEPOSITS OF BITUMINOUS COAL IN THE POINT HOPE FIELD ON THE LISBURNE PENINSULA.

THE QUALITY OF ALASKA COALS VARIES GENERALLY WITH RANK, PARTICULARLY SUCH PARAMETERS AS HEATING VALUES, MOISTURE, AND ASH. HOWEVER, ALMOST ALL OF ALASKA'S COALS ARE LOW SULFUR (LESS 1 PERCENT), AND MANY EXHIBIT EXTREMELY LOW SULFUR CONTENTS (LESS 0.4 PERCENT). IN FACT, ALASKA VERY WELL COULD HOLD THE LARGEST ACCUMULATIONS OF HIGHLY-VALUED LOW-SULFUR COAL IN THE WORLD. TYPICALLY, ORGANIC SULFUR IS THE MOST ABUNDANT FORM PRESENT IN ALASKA COALS.

COKING AND METALLURGICAL GRADE COALS ARE FOUND IN SELECTED SEAMS IN THE POINT HOPE (LISBURNE) FIELD, NORTHERN FIELD, BERING RIVER FIELD, MATANUSKA FIELD, AND HERENDEEN BAY FIELD.

PETROLOGICALLY, ALASKAN COALS ARE HIGH IN VITRINITE OR HUMINITE, TYPICALLY 70-95 PERCENT (ON VOLUME, MINERAL-MATTER-FREE BASIS), LIPTINITES OR EXINITES LESS 5 TO 15 PERCENT, OCCASIONALLY TO 30 PERCENT, AND INERTINITES LESS 5 PERCENT TO 20 PERCENT. SOME ALASKAN COALS WITH RELATIVELY HIGH LIPTINITE CONTENTS, THE HYDROGEN-RICH COMPONENTS, MAY BE WELL-SUITED FOR USE IN SYNTHETIC FUEL PRODUCTION.

SOME PAST STUDIES HAVE INVESTIGATED THE POTENTIAL OF USING ALASKA COALS TO PRODUCE BYPRODUCTS SUCH AS GAS, BRIQUETTED FUEL, AMMONIUM SULFATE, LIGHT OIL, AND TAR. RESEARCH ALONG THESE LINES

WERE PURSUED WITH EARNEST DURING WORLD WAR II. A BITUMINOUS COAL BED (UPPER SHAW) EXAMINED FROM THE ESKA AREA OF THE LOWER MATANUSKA VALLEY SHOWED THE FOLLOWING LOW-TEMPERATURE CARBONIZATION YIELDS BY WEIGHT OF COAL--- CARBONIZED RESIDUE (COKE) 68.8 PERCENT, TAR 15.9 PERCENT, LIGHT OIL 0.9 PERCENT, WATER 9 PERCENT, HYDROGEN SULFIDE 0.11 PERCENT, AND GAS 5.3 PERCENT. YIELDS PER TON OF COAL WERE 2140 FT^3 OF GAS, 38.1 GALLONS OF TAR, AND 2.8 GALLONS OF LIGHT OIL. THE YIELD OF TAR AND LIGHT OIL TOGETHER WAS NEARLY 41 GALLONS PER TON OF COAL. THE BTU VALUE OF THE GAS PRODUCED WAS 911 PER FT^3 (SELVIG AND OTHERS, 1944, U.S.G.S. TECHNICAL PAPER 668). IN COMPARISON, THE NO. 6 COAL (SUBBITUMINOUS) OF THE NENANA FIELD SHOWED THE FOLLOWING YIELDS BY WEIGHT OF COAL--- CARBONIZED RESIDUE 47.8 PERCENT, TAR 14.7 PERCENT, LIGHT OIL 0.64 PERCENT, WATER 25.9 PERCENT, HYDROGEN SULFIDE 0.03 PERCENT, AND GAS 10.9 PERCENT. YIELDS PER TON OF COAL WERE 3010 FT^3 OF GAS, 35.3 GALLONS OF TAR, AND 2.0 GALLONS OF LIGHT OIL. THE YIELD OF TAR AND LIGHT OIL TOGETHER IN THIS CASE WAS OVER 37 GALLONS PER TON OF COAL. THE BTU VALUE OF THE GAS PRODUCED FROM THIS SUBBITUMINOUS SEAM WAS 424 PER FT^3.

SINCE THE FIRST COAL MINE IN ALASKA WAS OPENED BY THE RUSSIAN-AMERICAN COMPANY IN 1855 NEAR PORT GRAHAM ON THE KENAI PENINSULA, COAL HAS HAD A RICH AND UNIQUE HISTORY IN THE ALASKAN TERRITORY AND LATER STATE. SLIDE 1. MINING IN ALASKA DID NOT BEGIN ON A SIGNIFICANT SCALE UNTIL ABOUT 1917 AFTER CONSTRUCTION OF THE ALASKA RAILROAD HAD BEGUN. ANNUAL COAL PRODUCTION IN ALASKA PEAKED IN 1966 AT OVER 927,000 TONS. DURING THE ERA BEGINNING WITH WORLD WAR I AND EXTENDING UP TO THE PRESENT TIME, COAL HAS BEEN MINED MAINLY IN THE

NENANA AND MATANUSKA COAL FIELDS. ABOUT ONE-THIRD OF THE 32-MILLION-SHORT-TON ALASKA PRODUCTION IS ESTIMATED TO HAVE BEEN MINED IN THE HEALY CREEK FIELD OF THE NENANA BASIN. SLIDE 2. THE SUNTRANA MINE ON HEALY CREEK WAS IN NEARLY CONTINUOUS PRODUCTION FROM 1922 TO 1962, WHEN SERIOUS FIRES FORCED ITS CLOSURE. ANOTHER THIRD HAS BEEN PRODUCED ON LIGNITE CREEK, MAINLY AT POKER FLATS. THE REMAINING THIRD WAS PRODUCED IN THE MATANUSKA VALLEY (7.5 MILLION TONS) AND ELSEWHERE IN ALASKA. THE DISCOVERY OF LESS EXPENSIVE NATURAL GAS IN THE SWANSON RIVER FIELD OF COOK INLET IN 1968 INITIATED THE DECLINE OF THE COAL MARKET IN THE ANCHORAGE AREA. AS A RESULT OF THE USIBELLI COAL MINE EXPORT CONTRACT WITH SOUTH KOREA, ALASKA'S 1985 COAL PRODUCTION SHOULD INCREASE TO OVER 1.5 MILLION SHORT TONS, ESSENTIALLY DOUBLING RECENT TOTAL COAL PRODUCTION AND SETTING A NEW ALL-TIME ALASKA COAL PRODUCTION RECORD.

IN ADDITION TO THE EXPORTATION OF ALASKA COAL, THE POTENTIAL FOR SUBSTANTIALLY INCREASED IN-STATE USE IN THE FUTURE IS GREAT. AT THE PRESENT TIME, THERE IS ONLY ONE MINE-MOUTH POWER PLANT IN OPERATION IN THE STATE---THIS BEING A 25-MEGAWATT COAL-FIRED ELECTRIC POWER PLANT AT HEALY, ALASKA. OFF-SITE MUNICIPAL, MILITARY, AND UNIVERSITY POWER PLANTS SUPPLY ENERGY TO FAIRBANKS AND MUCH OF INTERIOR ALASKA. COAL-FIRED POWER GENERATION IS BEING INVESTIGATED FOR MANY NORTHWEST ALASKA VILLAGES, AT CHICAGO CREEK ON THE SEWARD PENINSULA, AT CORDOVA SUPPLIED BY COAL FROM THE BERING RIVER FIELD, AT SUTTON SUPPLIED BY COAL FROM THE WISHBONE HILL AREA OF THE MATANUSKA FIELD, AND AT BELUGA TO SERVE THE RAILBELT OF ALASKA.

NOW, I WOULD LIKE TO BRIEFLY EXAMINE. SEVERAL MAJOR COAL FIELDS OF THE STATE AND DISCUSS CURRENT EXPLORATION AND DEVELOPMENT ACTIVITY.

THE NORTHERN FIELD OF ALASKA UNDERLIES UP TO 30,000 SQUARE MILES ON THE NORTH SLOPE OF ALASKA. SLIDE 3. THIS FIELD IS THE LARGEST IN THE UNITED STATES AND INCLUDING OFFSHORE EXTENSIONS IS PROBABLY THE LARGEST COAL DEPOSIT ON EARTH IN TERMS OF TOTAL ENERGY (BTU) CONTENT. ABOUT 150 COAL BEDS OF SIGNIFICANT THICKNESS HAVE BEEN DOCUMENTED IN THE CORWIN FORMATION, A MAJOR COAL-BEARING UNIT OF THIS REGION. THE NORTHERN FIELD IS DIVIDED INTO A LARGE BITUMINOUS SUBPROVINCE TO THE SOUTH NEAR THE NORTH FLANK OF THE BROOKS RANGE AND A WIDE BELT OF PREDOMINANTLY SUBBITUMINOUS COALS FARTHER NORTH OCCUPYING THE COASTAL PLAIN. COAL BEDS FROM 5- TO 25-FT THICK ARE CHARACTERISTIC, AND A FEW BEDS ARE UP TO 40-FT THICK.

WE, THAT IS, THE STATE GEOLOGICAL SURVEY HAVE BEEN EXPLORING THE COAL DEPOSITS OF NORTHWEST ALASKA SINCE 1981. TEST DRILLING, SELECTIVE CORING, GEOPHYSICAL LOGGING, GEOLOGIC MAPPING, AND COAL-SAMPLING PROGRAMS HAVE BEEN CONDUCTED AT SEVERAL SITES INCLUDING CAPE BEAUFORT, POINT HOPE, KOBUK VALLEY, UNALAKLEET, KOYUK, SINUK RIVER, CHICAGO CREEK, AND ST. LAWRENCE ISLAND. THE CHIEF AIM OF THE PROGRAM HAS BEEN TO DETERMINE IF COAL COULD BE MINED AND USED TO REPLACE OR SUPPLEMENT COSTLY FUEL OIL AND PROVIDE HEAT AND POWER IN THE VILLAGES OF THE REGION.

SLIDE 4. AT CAPE BEAUFORT IN 1983, OVER 5,000 FT. OF EXPLORATION DRILLING WAS COMPLETED IN 27 HOLES (TO DEPTHS OF 238 FT) IN

THE DEADFALL SYNCLINE AREA AND NEAR THE KUKPOWRUK RIVER. A MINIMUM OF 20 MILLION TONS OF STRIPPABLE COAL WAS PROVEN AT A 5:1 OVERBURDEN TO COAL RATIO. COAL-QUALITY DETERMINATIONS SHOWED THAT THE COAL YIELDED FROM 13,360 TO 14,100 BTU/LB ON AN EQUILIBRIUM-MOISTURE BASIS.

FOLLOWING THE DGGS PROGRAM, THE STATE DEPARTMENT OF COMMUNITY AND REGIONAL AFFAIRS WAS FUNDED TO EXPAND PRE-DEVELOPMENT DRILLING AND MINE-FEASIBILITY INVESTIGATIONS IN THE CAPE BEAUFORT AND DEADFALL SYNCLINE AREAS. THE WESTERN ARCTIC COAL DEVELOPMENT PROJECT WAS CONDUCTED BY HOWARD GREY AND ASSOCIATES, INC. UNDER CONTRACT TO ARCTIC SLOPE TECHNICAL SERVICES, INC. OVER 55,000 ACRES WERE EXPLORED. 75 BOREHOLES WERE COMPLETED IN 1984. 22 MILLION TONS OF COAL WERE IDENTIFIED IN THE LIZ-A SYNCLINE (WITH A POTENTIAL OF 25 MILLION), AND 16 MILLION TONS WERE IDENTIFIED IN THE DEADFALL SYNCLINE (WITH A POTENTIAL OF 59 MILLION TONS). THE LATTER AREA, ALTHOUGH FARTHER FROM THE COAST, WAS SELECTED AS THE PREFERRED SITE FOR DEVELOPMENT BECAUSE OF THE SUPERIOR QUALITY OF THE COAL [HIGH-VOLATILE A OR B BITUMINOUS RANK, ASH 8-20 PERCENT, MOISTURE 2-8 PERCENT, SULFUR OFTEN LESS 0.1 PERCENT, SOMETIMES COKING].

THE MORGAN COAL COMPANY, BASED IN INDIANAPOLIS HOLDS A U.S. BUREAU OF LAND MANAGEMENT LEASE ON 5,000 ACRES OF COAL-BEARING LAND ON THE KUKPOWRUK RIVER ABOUT 12 MILES FROM THE CHUKCHI SEA COAST. SLIDE 5. THE COMPANY DROVE A 70-FT TUNNEL IN THIS 23-FT THICK BED IN 1954. THEIR LEASE HAS BEEN IN EFFECT SINCE THE EARLY 1960'S. RESERVES OF BITUMINOUS COKING COAL ON THIS LEASE IS AT A

MINIMUM 10 MILLION TONS.

MISSISSIPPIAN COALS OF THE LISBURNE (POINT HOPE) FIELD ARE THE OLDEST IN ALASKA. SLIDE 6. THE BELT OF COAL-BEARING ROCKS EXTENDS ABOUT 45 MILES NORTH-SOUTH FROM CAPE DYER TO CAPE THOMPSON. THE FIELD OGCUPIES AN AREA OF ABOUT 200 MI^2. COAL SEAMS ARE LESS THAN 6.5-FT THICK. THE BEST OUTCROPS ARE NEAR CAPE DYER WHERE A 2200-FT SECTION INCLUDES 13 BEDS OVER 2.5-FT THICK. HEATING VALUES OF THE CAPE LISBURNE COALS RANGE FROM 12,000 TO 14,700 BTU/LB AS-RECEIVED, MOISTURE 2 TO 13 PERCENT, ASH 1.7 TO 17 PERCENT, AND SULFUR 0.55 PERCENT. RECONNAISSANCE INVESTIGATIONS WERE CONDUCTED HERE BY DGGS IN 1983.

THE KOBUK FIELD CONTAINS CRETACEOUS COALS LESS THAN 3-FT THICK. HEATING VALUES RANGE FROM 9200-10,500 BTU/LB, SULFUR 0.4-1.1 PERCENT, AND ASH 7-35 PERCENT. NO COAL-RESOURCE ESTIMATES HAVE BEEN MADE FOR THESE DEPOSITS. THE FIELD IS LOCATED IN KOBUK VALLEY NATIONAL PARK AND FUTURE MINING POTENTIAL IS LOW. A SMALL AMOUNT OF COAL HAS BEEN EXTRACTED IN THE PAST FOR USE BY PLACER-GOLD MINERS. RECONNAISSANCE INVESTIGATIONS WERE CONDUCTED IN THIS FIELD BY DGGS IN 1982.

DGGS INVESTIGATIONS ON THE KOYUK RIVER (1 MILE FROM THE VILLAGE OF KOYUK), AT UNALAKLEET (ON THE COAST OF NORTON SOUND 10 MILES SOUTH OF), AND ON THE NORTHWEST COAST OF ST. LAWRENCE ISLAND DETERMINED THAT THESE DEPOSITS WERE NOT ECONOMIC.

DGGS HAS BEEN EXPLORING THE CHICAGO CREEK FIELD (SLIDE 7) ON THE SEWARD PENINSULA SINCE 1982 AND EXPLORATION IS STILL CONTINUING. THE FIELD LIES ON NANA REGIONAL CORPORATION LANDS, OCCU-

PIES AN AREA LESS THAN 40 MI^2, AND CONTAINS TERTIARY LIGNITE BEDS TO 80-FT THICK. HEATING VALUES RANGE FROM 6500-7700 BTU/LB, SULFUR 0.5-1.1 PERCENT, AND ASH 4.0-10.5 PERCENT. BETWEEN 1908 AND 1911, OVER 110,000 TONS WERE PRODUCED FROM A 330-FT SHAFT AND USED BY GOLD MINERS IN THE AREA. SLIDE 8. IN 1982 AND 1983 FIELD SEASONS, A TOTAL OF 28 HOLES TO 310-FT DEEP WERE DRILLED AND DEMONSTRATED RESOURCES OF 3.4 MILLION TONS WERE DETERMINED. SLIDE 9. A GEOLOGIC CROSS SECTION DEVELOPED FROM THE DRILLING DATA IS SHOWN HERE. HYPOTHETICAL RESOURCES ARE 10 MILLION TONS. THE FEASIBILITY OF CONSTRUCTING A POWER PLANT NEAR THE MINE TO SUPPLY ENERGY TO THE VILLAGE OF KOTZEBUE IS CURRENTLY BEING STUDIED.

THE NULATO FIELD CONTAINS CRETACEOUS COAL DEPOSITS OF THE KALTAG FORMATION. SEAMS ARE LESS THAN 4-FT THICK AND ARE OF BITUMINOUS RANK [9100-9750 BTU/LB; O-2-0.6 PERCENT SULFUR; 3-22 PERCENT ASH]. HYPOTHETICAL RESOURCES ARE 50 MILLION TONS. PAST PRODUCTION HAS BEEN LESS THAN 5,000 TONS EXTRACTED FROM SEVERAL SMALL MINES LOCATED ALONG THE LOWER YUKON RIVER OF WESTERN ALASKA. THE FIELD IS LITTLE KNOWN AND ADDITIONAL EXPLORATION IS WARRANTED.

TERTIARY COAL DEPOSITS OF THE RAMPART FIELD ARE FOUND ALONG THE MIDDLE REACHES OF THE YUKON RIVER AND NEAR ITS CONFLUENCE WITH THE TANANA RIVER IN THE VICINITY OF RAMPART, ALASKA. SUBBITUMINOUS TO HIGH-VOLATILE BITUMINOUS COAL BEDS ARE LESS THAN 5-FT THICK. HEATING VALUES RANGE FROM 9500-11,000 BTU/LB, SULFUR 0.2 TO 0.5 PERCENT, ASH 8-15 PERCENT: HYPOTHETICAL RESOURCES ARE 50 MILLION TONS. PAST PRODUCTION HAS BEEN LESS THAN 5,000 TONS. FURTHER EXPLORATION OF THIS FIELD IS ALSO WARRANTED.

LATE CRETACEOUS-TERTIARY SUBBITUMINOUS COALS OF THE EAGLE FIELD ARE FOUND ALONG AN 80-MILE STRETCH OF THE UPPER YUKON RIVER IN EASTERN-INTERIOR ALASKA. SEAMS ARE GENERALLY LESS THAN 5-FT THICK. HYPOTHETICAL RESOURCES ARE 100 MILLION SHORT TONS. THE FIELD INCLUDES SEVERAL COAL PROSPECTS AND SITES OF MINOR COAL EXTRACTION. LESS THAN 2,000 TONS WERE MINED ON THE NATION RIVER NEAR ITS JUNCTION WITH THE YUKON RIVER. THE FIELD IS LOCATED IN YUKON-CHARLEY RIVERS NATIONAL PRESERVE.

THE COOK INLET-SUSITNA LOWLAND COAL PROVINCE CONTAINS THE SECOND LARGEST COAL-RESOURCE BASE IN ALASKA. SLIDE 10. IT INCLUDES THE BELUGA, YENTNA, LITTLE SUSITNA, MATANUSKA, BROAD PASS, AND KENAI FIELDS, AS WELL AS DEPOSITS OFFSHORE BENEATH COOK INLET.

THE BELUGA AND YENTNA FIELDS OF THE SUSITNA LOWLAND CONTAIN THE LARGEST RESERVES OF COAL RECOVERABLE BY SURFACE MINING IN SOUTHERN ALASKA. COAL-BEARING ROCKS OF THE TERTIARY KENAI GROUP (BELUGA, TYONEK, AND STERLING FORMATIONS) ARE SCATTERED OVER SOME 6,000 MI^2. THE COALS ARE SUBBITUMINOUS [AVERAGE 8,000 BTU/LB, WITH VARIABLE ASH, LESS 0.5 PERCENT SULFUR]. SEAMS TO 50-FT THICK ARE PRESENT WITH LESS THAN 150 FT OF OVERBURDEN. SLIDE 11. THE 28-FT THICK BROWN SEAM ON THE CHUITNA RIVER IS SHOWN HERE. IDENTIFIED RESOURCES FOR THE BELUGA AND YENTNA FIELDS ARE 10 BILLION SHORT TONS, AND HYPOTHETICAL RESOURCES ARE 30 BILLION SHORT TONS.

DIAMOND ALASKA COAL COMPANY HOLDS OVER 20,500 ACRES IN STATE LEASES IN THE BELUGA FIELD. THE COMPANY HAS COMPLETED ITS EXPLO-

RATION PHASE, HAS SUBMITTED ITS MINE-PERMIT APPLICATION TO THE STATE, AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY HAS JUST RELEASED ITS DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED MINE DEVELOPMENT. BULK-COAL SAMPLING WAS COMPLETED WITH THE EXTRACTION OF 500-TON BULK SAMPLES FROM TWO SEAMS WHICH WERE SHIPPED TO JAPAN. SLIDE 12. THIS SLIDE SHOWS A VIEW OF THE BLUE PIT BULK-SAMPLING SITE IN THE BELUGA AREA.

PLACER U.S., INC. (BELUGA COAL COMPANY) HOLDS ABOUT 26,000 ACRES IN THE BELUGA AREA IN STATE AND NATIVE (CIRI) LEASES. THE COMPANY CONTINUES TO SEEK EXPORT MARKETS AND INVESTIGATE THE COMMERCIAL POTENTIAL FOR SYNTHETIC FUELS PRODUCTION. SLIDE 13. THEIR CAPPS-AREA LEASE HAS TWO MAJOR MINABLE COALS, THE CAPPS AND WATERFALL SEAMS OF 50- and 25-FT MAXIMUM THICKNESSES RESPECTIVELY. THE CAPPS SEAM IS SHOWN HERE.

THE MOBIL OIL CORPORATION HOLDS 23,000 ACRES IN STATE LEASES IN THE YENTNA BASIN (CANYON CREEK AND JOHNSON CREEK AREAS) ABOUT 55 MILES NORTHWEST OF TYONEK. THE COMPANY CONTINUES EXPLORATION AND PREMINE EVALUATIONS. A COAL SEAM ON CANYON CREEK Is SHOWN HERE. SLIDE 14. MOBIL ALSO HAS AN OPTION AGREEMENT WITH MEADOWLARK FARMS (AMAX COAL COMPANY) FOR COAL RIGHTS ON 3,880 ACRES LOCATED ON FRIDAY AND SATURDAY CREEKS ABOUT 45 MILES NORTHWEST OF TYONEK. SLIDE 15. A COAL SEAM ON FRIDAY CREEK IS SHOWN HERE.

THE LITTLE SUSITNA FIELD CONTAINS SUBBITUMINOUS COAL BEDS OF THE TERTIARY KENAI GROUP. HEATING VALUES RANGE FROM 8400-9300 BTU/LB, SULFUR 0.3-0.6 PERCENT, AND ASH FROM 9-25 PERCENT. BEDS RANGE FROM 2- TO 10-FT THICK. MOST REMAINING RESOURCES ARE AT CONSIDERA-

BLE DEPTH. HYPOTHETICAL RESOURCES ARE 10 MILLION SHORT TONS. PAST PRODUCTION HAS BEEN LESS THAN 100,000 TONS.

THE BROAD PASS FIELD IS CONSIDERED A NORTHEASTERN EXTENSION OF THE COOK INLET BASIN. THE FIELD OCCUPIES AN AREA LESS THAN 50 MI^2. GENTLY-DIPPING BEDS (LESS 10°) OCCUR IN A NARROW GRABEN. COALS OF BROAD PASS TROUGH ITSELF ARE TERTIARY LIGNITES [5500-7100 BTU/LB; 0.2-0.4 PERCENT SULFUR; AND 10-20 PERCENT ASH]. COALS OF THE COSTELLO CREEK BASIN TO THE NORTHWEST ARE OF SUBBITUMINOUS RANK [8000-10,200 BTU/LB; 0.3-0.6 PERCENT SULFUR; AND 7-21 PERCENT ASH]. SEAMS OF THE BROAD PASS FIELD ARE GENERALLY 5- TO 10-FT THICK. IDENTIFIED RESOURCES ARE 50 MILLION SHORT TONS AND HYPOTHETICAL RESOURCES ARE 500 MILLION SHORT TONS. PAST PRODUCTION AT THE DUNKLE MINE ON COSTELLO CREEK WAS LESS THAN 100,000 TONS. FUTURE DEVELOPMENT OF THIS FIELD IS UNLIKELY SINCE IT LIES IN DENALI NATIONAL PARK.

COAL-BEARING ROCKS OF THE KENAI FIELD UNDERLIE MUCH OF' THE KENAI PENINSULA AND EXTEND OFFSHORE BENEATH COOK INLET. SLIDE 16. THE TERTIARY COALS OF THE KENAI GROUP (BELUGA AND STERLING FORMATIONS) ARE SUBBITUMINOUS AND RANGE TO 20-FT THICK BUT ARE TYPICALLY LESS THAN 10-FT THICK. SEVERAL OF THESE BEDS CAN BE OBSERVED ON THE NORTH SIDE OF KACHEMAK BAY NEAR HOMER. SLIDE 17. HEATING VALUES RANGE FROM 6500-8500 BTU/LB, SULFUR FROM 0.2 TO 0.4 PERCENT, AND ASH FROM 3 TO 25 PERCENT. IDENTIFIED RESOURCES (ONSHORE ONLY) ARE 320 MILLION SHORT TONS. HYPOTHETICAL RESOURCES (ONSHORE) ARE 35 BILLION SHORT TONS. 150 BILLION TONS OF HYPOTHETICAL RESOURCES UNDERLIE COOK INLET TO 2,000-FT DEPTH, AND 1.5 TRILLION TONS OF HYPOTHETICAL RESOURCES ARE ESTIMATED TO OCCUR TO

DEPTHS OF 10,000 FT. PAST PRODUCTION IN THE KENAI FIELD HAS BEEN LESS THAN 100,000 TONS.

THE MATANUSKA FIELD COVERS AN AREA OF ABOUT 700 MI^2. SLIDE 18. THE TERTIARY'COAL-BEARING UNIT, THE CHICKALOON FORMATION, CONTAINS AT LEAST 30 COAL BEDS RANGING TO 40-FT THICK. COAL DEPOSITS OF THIS FIELD FALL IN THREE MAIN DISTRICTS---WISHBONE HILL, CHICKALOON, AND ANTHRACITE RIDGE. COAL RANK INCREASES EASTWARD IN THE MATANUSKA VALLEY. WISHBONE HILL COAL IS HIGH-VOLATILE BITUMINOUS [10,400-13,200 BTU/LB; 0.2-1.0 PERCENT SULFUR; AND 4-22 PERCENT ASH]. CHICKALOON AREA COAL IS MEDIUM- TO LOW-VOLATILE BITUMINOUS [11,960-14,400 BTU/LB; 0.4-0.7 PERCENT SULFUR; 5-20 PERCENT ASH]. ANTHRACITE RIDGE COAL IS SEMIANTHRACITE TO ANTHRACITE [10,700-14,000 BTU/LB; 0.2-0.7 PERCENT SULFUR; AND 7-20 PERCENT ASH]. VITRINITE REFLECTANCE RANGES FROM 0.47 IN THE LOWER MATANUSKA VALLEY TO OVER 5.0 IN UPPER MATANUSKA VALLEY. SLIDE 19. SEAMS FROM THE OLD EVAN JONES-SURFACE MINE CUTS ON THE NORTH FLANK OF WISHBONE HILL ARE SHOWN HERE. IN THE EARLY 1950'S, 1000 TONS OF COAL PER DAY WAS BEING PRODUCED AT THIS SITE. SLIDE 20. SOME COALS OF THE CHICKALOON AREA ARE OF COKING QUALITY. SLIDE 21. NATURAL COKE HAS ALSO FORMED LOCALLY AS SHOWN IN THIS SLIDE OF AN AREA IN THE OLD CASTLE MOUNTAIN MINE. BETWEEN 1958 AND 1960 OVER 20,000 TONS OF COAL WERE PRODUCED IN THIS AREA FROM TWO SEPARATE MINE PITS. SLIDE 22. MINOR DEPOSITS OF SEMIANTHRACITE AND ANTHRACITE ARE FOUND IN THE ANTHRACITE RIDGE DISTRICT. IDENTIFIED RESOURCES OF THE MATANUSKA FIELD ARE 180 MILLION SHORT TONS, AND HYPOTHETICAL RESOURCES ARE 500 MILLION SHORT TONS. TOTAL PAST PRODUCTION HAS BEEN 7.5 MILLION TONS.

VALLEY COAL COMPANY (ROCKY MOUNTAIN ENERGY AND HAWLEY RESOURCE GROUP) HOLDS SEVERAL LEASES IN THE WISHBONE HILL AREA OF LOWER MATANUSKA VALLEY. SLIDE 23. THE GENERAL AREA OF THEIR LEASES IS SHOWN IN THIS REGIONAL VIEW IN THE GENERAL VICINITY OF THE OLD PREMIER AND BUFFALO MINES. THE VALLEY COAL COMPANY DRILL CAMP IS ALSO SHOWN. THE GROUP PICKED UP THREE ADDITIONAL LEASE BLOCKS IN THE DECEMBER 1984 COAL-LEASE SALE IN THE REGION. VALLEY COAL COMPANY HAS COMPLETED EXTENSIVE EXPLORATION, STUDIED MARKET OPTIONS, AND COMPLETED A MINE FEASIBILITY STUDY. SLIDE 24. A VIEW OF ONE OF THEIR DRILL RIGS IN OPERATION IS SHOWN HERE. THE VIABILITY OF A 170 MEGAWATT MINE-MOUTH POWER PLANT IS ALSO BEING EXAMINED. THE MINE IS LOOKING TO PRODUCE SOME 700,000 TONS OF COAL PER YEAR.

EVAN JONES COAL COMPANY, A SUBSIDIARY OF PLACER U.S., INC., HAS PERFORMED A PRELIMINARY FEASIBILITY STUDY AIMED AT DETERMINING IF THE OLD EVAN JONES UNDERGROUND MINE ON THE EAST SIDE OF WISHBONE HILL CAN BE REOPENED. IT IS PROJECTED THAT THIS MINE WOULD PRODUCE SOME 500,000 TONS OF COAL PER YEAR.

THE NENANA BASIN FORMS AN IMPORTANT PART OF THE NENANA TREND, WHICH HOLDS THE THIRD LARGEST COAL-RESOURCE BASE IN ALASKA. SLIDE 25. THE DEPOSITS OF THE BASIN TREND EAST-WEST FOR ABOUT 140 MILES ALONG THE NORTH-CENTRAL FLANK OF THE ALASKA RANGE. THE BASIN INCLUDES SEVERAL FIELDS---THE WESTERN NENANA (OR TEKLANIKA), HEALY CREEK, LIGNITE CREEK, REX CREEK, TATLANIKA CREEK, MYSTIC CREEK, WOOD RIVER, AND JARVIS CREEK FIELDS.

THE TERTIARY COAL-BEARING GROUP INCLUDES THE SUNTRANA, HEALY

CREEK, AND LIGNITE CREEK FORMATIONS. COALS ARE SUBBITUMINOUS, AVERAGING 8000 BTU/LB, LESS 0.5 PERCENT SULFUR, AND 15 PERCENT ASH. COAL SEAMS IN THE REGION ARE UP TO 60-FT THICK. SLIDE 26; ONE OF THE NUMEROUS SEAMS FROM THE UPPER LIGNITE CREEK FIELD IS SHOWN HERE. SLIDE 27. A SEAM FROM THE TATLANIKA CREEK FIELD IS SHOWN HERE. SLIDE 28. AT LEAST 16 SIGNIFICANTLY THICK COAL SEAMS WITH AN AGGREGATE THICKNESS OVER 100-FT ARE EXPOSED ALONG COAL CREEK ON THE NORTHEAST SIDE OF MYSTIC MOUNTAIN IN THE WOOD RIVER FIELD. IDENTIFIED RESOURCES OF THE NENANA BASIN ARE 8 BILLION SHORT TONS AND HYPOTHETICAL RESOURCES ARE 20 BILLION SHORT TONS. PAST PRODUCTION HAS BEEN OVER 20 MILLION TONS, THE HIGHEST OF ANY AREA IN THE STATE.

ALL OF ALASKA'S COAL PRODUCTION TODAY COMES FROM THE USI-BELL1 MINE AT POKER FLATS IN THE LOWER LIGNITE CREEK FIELD. SLIDE 29. THREE SEAMS EACH AVERAGING ABOUT 20-FT THICK ARE CUR-, RENTLY BEING MINED. SLIDE 30. A CLOSE-UP OF THE 'ACE-IN-THE-HOLE' DRAGLINE IS SHOWN HERE. THIS 4.3 MILLION POUND MACHINE WITH A 33-YD^3 BUCKET CAPACITY IS REPUTED TO BE THE LARGEST SINGLE PIECE OF EQUIPMENT IN ALASKA. USIBELLI COAL MINE BEGAN EXPORTING COAL TO SOUTH KOREA IN LATE-1984 AFTER THE DEVELOPMENT OF ALASKA'S FIRST DEEP-WATER COAL-HANDLING PORT FACILITY AT SEWARD WAS COM-PLETED. IN 1983, THE COMPANY COMPLETED A NEW 46,000 FT^3 HEAD-QUARTERS COMPLEX INCLUDING OFFICES, SHOP, AND WAREHOUSE FACILI-TIES. SLIDE 31. IN 1981 A NEW $6-MILLION COAL PREPARATION AND LOADING FACILITY (OR TIPPLE: SLIDE 32) NEAR THE CURRENT MINE SITE AT POKER FLATS WAS COMPLETED. RUN-OF-MINE COAL IS DUMPED INTO A LARGE HOPPER (SLIDE 33) WITH A STAMLER FEEDER-BREAKER AT ITS BASE THAT CRUSHES THE COAL TO LESS THAN EIGHT-INCH SIZE.

THIS PRIMARY CRUSHER THEN FEEDS THE COAL INTO A TWO-ROLL SECONDARY CRUSHER THAT REDUCES IT TO A TWO-INCH TOP SIZE. THE COAL IS THEN TRANSPORTED ACROSS THE NENANA RIVER ON A 30-INCH WIDE CLOSED CONVEYOR BELT, AND IT IS STORED IN THE A-FRAME SILO AWAITING SUBSEQUENT LOADING ON RAILCARS. THE UNIT-TRAIN LOADING FACILITY (TIPPLE WEST) AT THE MINE CAN FILL 45 75-TON HOPPER CARS PER HOUR.

IN ADDITION TO THE USIBELLI MINE LEASES IN THE NENANA BASIN, AMAX COAL COMPANY (BASED IN INDIANAPOLIS, INDIANA) ALSO HOLDS SUBSTANTIAL ACREAGES IN STATE LEASES IN THE REGION.

THE JARVIS CREEK FIELD OCCURS AT THE EAST END OF THE NENANA BASIN ADJACENT TO THE DELTA RIVER. SLIDE 34. THE COAL FIELD ENCOMPASSES AN AREA LESS THAN 40 MI^2. AT LEAST 30 SUBBITUMINOUS COAL BEDS (MAXIMUM THICKNESS 10-FT) HAVE BEEN IDENTIFIED. THE COAL VARIES FROM 7800-9500 BTU/LB, HAS 0.3-1.5 PERCENT SULFUR, AND 5-15 PERCENT ASH. IDENTIFIED RESOURCES ARE 75 MILLION SHORT TONS, AND HYPOTHETICAL RESOURCES ARE 175 MILLION SHORT TONS. PAST PRODUCTION HAS PROBABLY BEEN LESS THAN 5,000 TONS. THIS SLIDE SHOWS A VIEW OF THE MAIN SEAM IN THE PIT WHERE MINING OCCURRED IN THE LATE 1950'S AND INTERMITTENTLY UNTIL 1970. IN 1969-1970, THE COMPANY HAD A CONTRACT TO SUPPLY COAL TO THE FAIRBANKS NORTH STAR BOROUGH. AFTER ONE YEAR OF TRUCKING COAL TO FAIRBANKS, THE COMPANY WENT BANKRUPT.

THE DELTA COAL COMPANY BASED IN FAIRBANKS HOLDS A U.S. BUREAU OF LAND MANAGEMENT LEASE THAT TAKES IN MOST OF THE JARVIS CREEK FIELD. THE COMPANY HAS COMPLETED EXPLORATION, MINE FEASIBI-

BILITY, AND AN EIS STATEMENT. IN 1984, THE FEDERAL DEFENSE AGENCY DECIDED TO CONVERT THE FORT GREELY POWER PLANT TO COAL. COAL FROM THE PLANNED DELTA COAL COMPANY MINE IS LIKELY TO SUPPLY THE 7.5-MEGAWATT PLANT.

THE FAREWELL FIELD IS LOCATED AT THE SOUTHWEST MARGIN OF THE NENANA TREND. COAL UNDERLIES SOME 200 MI^2 IN THE LITTLE TONZONA RIVER, WINDY-MIDDLE FORKS, AND CHEENEETNUK RIVER AREAS. THE TERTIARY-AGED COAL-BEARING SEQUENCE INCLUDES ONE SEAM OVER 110-FT THICK. OTHER COALS IN THE REGION RANGE FROM 5- TO 20-FT THICK. THE COALS ARE PREDOMINANTLY SUBBITUMINOUS [7600-8500 BTU/LB, 1.0-1.5 PERCENT SULFUR, 5-11 PERCENT ASH]. TOTAL MEASURED RESOURCES ARE 500 MILLION SHORT TONS, IDENTIFIED RESOURCES ARE 1 BILLION SHORT TONS, AND HYPOTHETICAL RESOURCES ARE 3 BILLION SHORT TONS. THE FIELD HAS HAD NO SIGNIFICANT PAST PRODUCTION. McINTYRE MINES (FORMERLY CANADIAN SUPERIOR, LTD.) DRILLED THE LITTLE TONZONA RIVER COAL DEPOSITS IN 1980. THIS EXPLORATION PROGRAM WAS CONDUCTED FOR DOYON, LTD., THE FAIRBANKS-BASED REGIONAL NATIVE CORPORATION.

THE COPPER RIVER FIELD INCLUDES NUMEROUS TERTIARY LIGNITE BEDS TO 18-FT THICK. THE FIELD OCCUPIES AN AREA LESS THAN 300 MI^2 ON STATE LANDS IN SOUTH-CENTRAL ALASKA. THERE ARE NO PUBLISHED ANALYSES OF THE COALS, NO RESOURCE ESTIMATES HAVE BEEN MADE, AND THE FIELD HAS HAD NO PAST PRODUCTION.

THE BERING RIVER FIELD COVERS SOME 300 MI^2 IN SOUTH-CENTRAL ALASKA. SLIDE 35. TERTIARY COALS OF THE KUSHTAKA FORMATION IN-

CREASE IN RANK FROM THE WESTERN PART OF THE FIELD TO THE EASTERN PART. THE COALS ARE PREDOMINANTLY HIGH-QUALITY BITUMINOUS AND ANTHRACITE, AND ARE FOUND IN VEINS FROM 6- TO 30-FT THICK. HEATING VALUES RANGE FROM 11,000-15,000 BTU/LB, SULFUR FROM 0.1-1.0 PERCENT, AND ASH, FROM 2-30 PERCENT. SLIDE 36. THE 28-FT THICK 'QUEEN VEIN' IS SHOWN HERE. IDENTIFIED RESOURCES OF THE BERING RIVER FIELD ARE ABOUT 100 MILLION TONS AND HYPOTHETICAL RESOURCES ARE ABOUT 3.5 BILLION SHORT TONS. THE COAL FIELD HAS NUMEROUS SURFACE AND UNDERGROUND PROSPECTS BUT NO COMMERCIAL MINES HAVE BEEN DEVELOPED. PAST PRODUCTION HAS BEEN LESS THAN 100,000 TONS. DESPITE THE COMPLEX GEOLOGIC STRUCTURE, EXPLORATION HAS BEEN INTENSE OVER RECENT YEARS BECAUSE OF THE HIGH COAL QUALITY.

THE CHUGACH NATIVES, INC. AND THE KOREAN ALASKA DEVELOPMENT CORPORATION (KADCO) ARE PURSUING EXPLORATION AND ULTIMATE DEVELOPMENT OF A COAL MINE IN THE BERING RIVER FIELD. EXPLORATION AND GEOLOGIC MAPPING COVERING SOME 30,000 ACRES HAS BEEN COMPLETED. THE BERING DEVELOPMENT CORPORATION PLANS TO MINE AND EXPORT UP TO 2 MILLION SHORT TONS OF COAL ANNUALLY TO SOUTH KOREA.

THE KOOTZNAHOO INLET (ANGOON) FIELD OF SOUTHEAST ALASKA IS LOCATED IN TONGASS NATIONAL FOREST. THE FIELD CONTAINS TERTIARY BITUMINOUS COALS TYPICALLY LESS THAN 4-FT THICK. HEATING VALUES RANGE FROM 9900-10,700 BTU/LB, SULFUR FROM 0.8-1.5 PERCENT, AND ASH FROM 10-30 PERCENT. NO RESOURCE ESTIMATES HAVE BEEN MADE, AND PAST PRODUCTION HAS BEEN LESS THAN 1,000 TONS.

THE CHIGNIK, UGASHIK, HERENDEEN BAY, AND UNGA ISLAND FIELDS ARE LOCATED ON THE ALASKA PENINSULA. LATE-CRETACEOUS COAL-BEAR-

ING ROCKS FORM A BELT BETWEEN WIDE BAY ON THE NORTHEAST AND PAV-LOF BAY ON THE SOUTHWEST. THE UGASHIK FIELD IS LITTLE EXPLORED, AND VERY LITTLE Is KNOWN ABOUT THE COAL DEPOSITS. THE CHIGNIK AND HERENDEEN BAY FIELDS ARE LOCATED ABOUT 100 MILES APART AND EACH OCCUPY AT **LEAST** 50 MI^2 (INCLUDING CRETACEOUS COALS ONLY). BOTH FIELDS ARE LOCATED ON OR NEAR TIDEWATER. THE COALS OF THE TWO FIELDS ARE TYPICALLY LESS THAN 8-FT THICK, HIGH-VOLATILE BITUMINOUS, 10,000-11,800 BTU/LB, 0.3 TO GREATER THAN 2.0 PER-CENT SULFUR, AND 7-30 PERCENT ASH. SLIDE 37. THE CHIGNIK FIELD SHOWN HERE OCCURS IN A REGIONAL ANTICLINAL STRUCTURE. THE MAIN COAL OUTCROPS OCCUR ON THE SOUTHEAST LIMB OF THIS NORTHEAST-TRENDING ANTICLINE. SLIDE 38. ONE OF THE MAIN COAL-BEARING LOCA-LITIES OF THE REGION IS THOMPSON VALLEY SHOWN HERE. THIS AREA HAS AT LEAST TWO MAJOR COAL-BEARING ZONES. SLIDE 39. THE MORE EXTENSIVE LOWER HORIZON SUPPORTED THE THOMPSON VALLEY MINE IN THE EARLY 1900'S. SLIDE 40. THE HERENDEEN BAY AND UNGA ISLAND FIELDS ARE SHOWN HERE. BETWEEN 1889 AND 1904 SEVERAL ATTEMPTS WERE MADE TO MINE COAL IN THIS FIELD, INCLUDING AT MINE HARBOR (SLIDE 41) WHERE SOME 17 BEDS OUTCROP. SLIDE 42. ONE OF THE THICKER BEDS (ABOUT 8-9 FT) Is SHOWN HERE. SLIDE 43. COALS ON UNGA ISLAND WERE FIRST EXPLORED BY PETER DOROSHIN, A MINING ENGINEER OF THE RUSSIAN TRADING COMPANY, BEGINNING IN 1851. THE COALS OF UNGA ISLAND WERE LAST EXPLORED BY ME IN 1984. SMALL TONNAGES OF COAL WERE REMOVED BEGINNING IN 1880'S. SMALL-SCALE MINING CONTINUED THERE UNTIL WELL AFTER THE TURN OF THE CENTURY. TOTAL IDENTIFIED RESOURCES FOR BOTH THE CHIGNIK AND HERENDEEN BAY FIELDS ARE 200 MILLION SHORT TONS AND HYPOTHETICAL RESOURCES ARE 3 BILLION SHORT TONS. TERTIARY LIGNITE DEPOSITS UNDERLIE

FROM THE FEDERAL GOVERNMENT. THE ALASKA RAILROAD FORMS A MAJOR PART OF THE ESSENTIAL INFRASTRUCTURE NEEDED TO TRANSPORT ALASKA COAL TO MARKET, AND ITS ROLE IS DESTINED TO INCREASE IN THE FUTURE. FURTHERMORE, AS WE HAVE SEEN, THE STATE HAS PROVIDED SEVERAL MILLION DOLLARS FOR COAL EXPLORATION, COAL-MINE FEASIBILITY STUDIES, AND PRE-DEVELOPMENT SITE INVESTIGATIONS IN MANY OF ALASKA'S COAL FIELDS. 1985 IS A HISTORIC YEAR IN THAT THE STATE'S ALL-TIME COAL PRODUCTION WILL BE DOUBLED AS A RESULT OF THE EXPORT OF COAL TO SOUTH KOREA. UNDOUBTEDLY, COAL CONSTITUTES THE MOST IMPORTANT ASSET IN ALASKA'S ENERGY FUTURE.

SUBSTANTIAL AREAS OF THE HERENDEEN BAY FIELD AND THE NORTHWEST PORTION OF UNGA ISLAND. ABOUT ONE-THIRD OF THE HERENDEEN BAY FIELD LIES ON ALEUT NATIVE CORPORATION LANDS WITH THE REMAINDER, INCLUDING THE ORIGINAL DISCOVERY SITES OF CRETACEOUS COALS, ON STATE LANDS. ABOUT ALL OF THE CHIGNIK FIELD LIES ON BRISTOL BAY NATIVE CORPORATION LANDS. PAST PRODUCTION FROM THE COAL FIELDS OF THE ALASKA PENINSULA IS BELIEVED TO HAVE BEEN LESS THAN 100,000 TONS.

RESOURCE ASSOCIATES OF ALASKA, NOW A SUBSIDIARY OF NERCO MINERALS COMPANY, CONDUCTED AN EXPLORATION PROGRAM IN THE CHIGNIK FIELD IN 1981 AND 1982. THEY SOUGHT TO DELINEATE LARGE-TONNAGE COAL RESERVES FOR EXPORT, BUT WERE ONLY ABLE TO DEFINE THREE RELATIVELY SMALL RESOURCE BLOCKS.

IN CONCLUSION, I FEEL THAT THE POTENTIAL FOR COAL DEVELOPMENT IS UNLIMITED IN ALASKA. ITS STRATEGIC LOCATION ON THE NORTHERN PACIFIC RIM PLACES IT IN THE CENTER OF PROJECTED EXPANDING COAL-TRADE ROUTES FOR THE NEXT DECADE AND FOR THE 21ST CENTURY, WHICH INDEED PROMISES TO BE THE 'AGE OF THE PACIFIC.' THE STATE OF ALASKA IS INTERESTED IN PROMOTING COAL DEVELOPMENT. TWO SIGNIFICANT EVENTS IN 1984 LEND EVIDENCE OF THE STATE'S INTEREST AND BODE WELL FOR THE FUTURE INCREASED DEVELOPMENT OF ALASKA COAL. THE FIRST WAS THE COMPLETION OF THE FIRST DEEP-WATER COAL-HANDLING PORT FACILITY AT SEWARD, THE SOUTHERN TERMINUS OF THE ALASKA RAILROAD. THE ALASKA LEGISLATURE PROVIDED FUNDS FOR THE DREDGING OF THE HARBOR TO ACCOMODATE LARGE SHIPS AND AUTHORIZED THE CONSTRUCTION OF THE FACILITIES REQUIRED FOR THE OFFLOADING OF COAL FROM RAILCARS INTO AWAITING COLLIERS. CONSTRUCTION BEGAN IN 1983 AND WAS COMPLETED IN LATE 1984. THE SECOND PROMISING EVENT WAS THE PURCHASE OF THE ALASKA RAILROAD