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ABSTRACTS

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THE KANSAS STATE BOARD OF HEALTH AND ITS NATIONAL LEADERSHIP ROLE IN OIL FIELD SALTWATER DISPOSAL, 1927-1962

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Oil field saltwater pollution control varied significantly in the oil-producing states during the 1930s-1960s. Reasons included: inland vs. seaboard states, freshwater availability, and the regulatory strength of a designated state agency to oversee pollution. Common 1920s national saltwater disposal practices included pit evaporation and seepage, release during high stream flow, direct input into coastal waters, and direct ground spillage. Saltwater re-injection was in its infancy, and only minor research had been conducted by the U.S. Bureau of Mines due to limited funding.

Growing Kansas oil production, thus growing oil field waste, became a looming threat to the state's limited fresh water supplies in the 1920s. The Kansas State Board of Health was the main regulatory agency over water pollution, and its responsibilities were expanded in 1927 and 1933 to oversee oil field-related water pollution. Under Earnest Boyce, chief engineer of the Division of Sanitation, the agency received stable income from an oil production tax to support oil field waste management. Acute danger to limited drinking water supplies prioritized the oil fields for study and possible regulatory action.

In 1932, Boyce contacted the Bureau of Mines which led to cooperative research on saltwater issues through the 1930s and 1940s. While the research was in Kansas, the results were disseminated nationally in Bureau of Mines publications, API meetings, and in major trade journals. Saltwater re-injection, under the regulatory authority of the Kansas Corporation, expanded rapidly. By 1945, Russell County alone had more saltwater re-injection wells than Oklahoma, Arkansas, Texas, and Louisiana combined. By the early 1960s, 99.8% of all Kansas oil field brines were disposed of by re-injection.

GERMAN OIL PRODUCTION IN THE SOVIET CAUCASUS, 1942-43: MINERALOEL KOMMANDO (K)

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This is an account of a major oilfield operation from its first conception to be carried out with deadly force against armed resistance. Planning began in Berlin during the early months of 1941, while German military strategists were preparing to launch a violent assault on the Soviet Union. The army would be more powerful than anything seen in Europe, and would include a new force of petroleum engineers and geologists whose primary task would be to seize oilfields in the Soviet Caucasus, nearly a thousand miles beyond the German frontier. Preparations for the Caucasus operation were made knowing that the vast military cost of overwhelming and defeating Soviet resistance could draw down the Reich's oil reserves to the point where consumption might exceed existing means of replacement. From the German point of view, the military high command knew that effective administration of their growing European Empire could not succeed without a major additional supply of crude oil. The existing main source in Romania was in decline, and had been since the 1930s.

To meet the Wehrmacht's needs for an oilfield workforce, armed and under military control, the strategists organized a technical brigade fully equipped for restoring production in former Soviet oil-producing areas, and capable of drilling up new fields and building refineries. This task-force would consist of some six thousand personnel, including geological and production staff, supported by engineering units to assemble drilling-rigs, refineries and pipe-lines, the whole being provided with transportation and military protection. This huge and unique creation was called *Technische Brigade Mineraloel*, and subtitled '*K*', meaning *Kaukasus*. Its designed purpose to seize and operate major crude-oil sources was so bold, so highly planned and yet so clumsily realized, that it must be worthy of serious historical comment.

By the summer of 1942, *Mineraloel* geologists and engineers actually did reach the northern Caucasus oilfields, and in the face of Russian guerilla attacks among the wreckage and

devastation there, they did succeed in recovering several thousand tons of oil.

Much of this story was compiled from a unique record found among papers originating from the British Military Government 912 Celle, between 1945 and 1947.

ACCESSIBLE GEO-ARTIFACTS

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The Geophysical Society of Houston (GHS) formed a museum committee in 1960 and started collecting geophysical instruments/artifacts used to locate petroleum resources. The timing was such that seismic data was being recorded on analog magnetic tape, older technology of recording it on photographic paper was obsolete, and digital recording was on the horizon. Companies were required to make serious technology changes and change hardware, making their older hardware available for donation to the GSH. By 1967, the Society had more than 360 such items and displayed a portion at the annual convention of the Society of Exploration Geophysicists (SEG) in Oklahoma City. Today, the GSH has artifacts on display at four sites in Houston, two in Austin, Texas (including the Bob Bullock State Museum) and one in Canmore, Alberta, Canada. A traveling museum is being prepared for Wichita, Kansas.

GSH's artifacts include: a Mintrop mechanical seismograph developed by Germany to locate enemy artillery and used to locate salt domes. Many types of torsion balances also important in salt dome exploration, gravity meters, magnetometers, seismic recording equipment including a doghouse from the 1950s, interpretation aids, a key punch machine and a huge Landmark interpretation workstation. The largest display was at the recent 75th Anniversary of the SEG in Houston in November, 2005.

PARKERSBURG AND ITS HISTORY WITH THE STANDARD OIL COMPANY

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Abstract not received.

ADVANCES IN THE SCIENCE AND TECHNOLOGY OF FINDING AND PRODUCING PETROLEUM IN KANSAS

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The science of exploring for oil and gas and the technology of producing it is inextricably intertwined. As progress is made or refined in one area, it is reflected in the other. This symbiotic relationship is repeated in most petroleum oil-producing areas, but is well exhibited by the development of the petroleum industry in Kansas. Petroleum exploration and exploitation have a long history in Kansas dating from 1860 when supposedly the second oil well in the U.S. was drilled near Paola in Miami County. Since that time, some 380,000 wells have been drilled in the state in search of the black gold in this mature Midcontinent petroleum province.

THE HISTORY AND GEOLOGY OF THE FAIRPORT OIL FIELD IN RUSSELL AND ELLIS COUNTIES, KANSAS

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The Fairport Anticline was a known surface feature that was drilled in 1923 to open the Central Kansas Uplift Province. Discovery of the Fairport-Natoma anticline by geologist V.H. McNutt led to the drilling of the No. 1 Oswald by the Valerius Oil and Gas Company. The Oswald was spudded in May of 1923 and reportedly swabbed the first oil on Thanksgiving Day of the same year. The well had an initial potential of 270 barrels of oil per day from the Pennsylvanian Lansing Group strata. Since the No. 1 Oswald was drilled in 1923, there have been 85 additional wells drilled in the same section of land.

The Fairport Field now extends out of Russell into Ellis County and over 800 wells are attributed to it. The Fairport has produced over 58 million barrels of petroleum from seven different pay zones. The field remains active with some development taking place as recently as 2004 and the possibility exists of enhanced production through polymer treatment.