

WHY WE OPPOSE THE WAGON WHEEL PROJECT

prepared for
The Wyoming Association of Soil Conservation Districts
by
The Wagon Wheel Information Committee
November, 1972

NOTE: The Wagon Wheel Information Committee is a group consisting of roughly a hundred Sublette County ranchers, professional and business people, homemakers, and students. The Committee was formed nearly a year ago to investigate the Wagon Wheel Project and to distribute the fruits of these investigations.

While many of us were unbiased at that time, we can no longer claim neutrality. Because, after thousands of man-hours of study and discussion, we of the Wagon Wheel Information Committee have reached the inescapable conclusion that the Project and subsequent development would do irreparable harm to Sublette County and our way of life.

We are here to seek the help of the Wyoming Association of Soil Conservation Districts. Therefore, we hope the following information will illustrate to the convention some of the basis for our alarm.

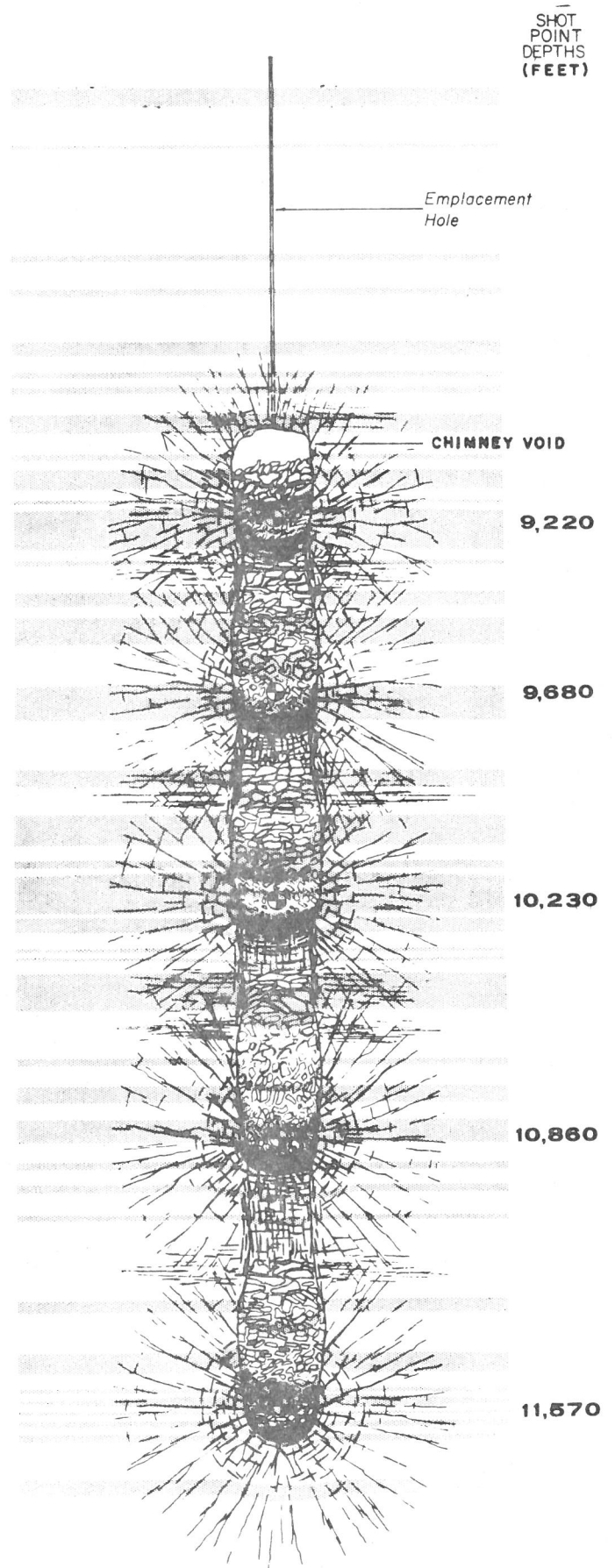
THE NATURE OF THE PROJECT

The Wagon Wheel Project is a plan to create five 100 kiloton nuclear explosions in a single bore well to stimulate, on an experimental basis, the flow of natural gas from a low-permeability rock formation (see diagram). The explosions would take place sequentially, five minutes apart.

The total yield of these blasts would equal one half million tons of TNT. By comparison, Hiroshima was leveled by a twenty kiloton bomb.

The El Paso Natural Gas Company conceived the Project, has drilled the well, and, should it be possible, will market the gas. The Atomic Energy Commission, operating on public money, will furnish this area of the private sector with the nuclear device and whatever technical assistance may be required.

The device to be used has not been made yet, nor tested. It will be of a design which has no precedence



in atomic testing.

The ultimate object of the test is to set up a nuclear stimulation program whereby it is hoped that 300 trillion cubic feet of gas could be recovered in the Rocky Mountain area (see map below). It has been projected that 13,000 blasts will be needed to recover this gas, or $4\frac{1}{2}$ detonations per day for twelve years. Most of these detonations would take place in Wyoming. In Sublette County alone the Second Environmental Statement of the AEC portrays the "stimulation of 10 wells in 1977, 20 in 1978, with a continuing increase of 10 wells per year to a peak of 50 wells in 1981. The rate of development would then level off to 40 or 50 wells per year for several years and slowly decline."

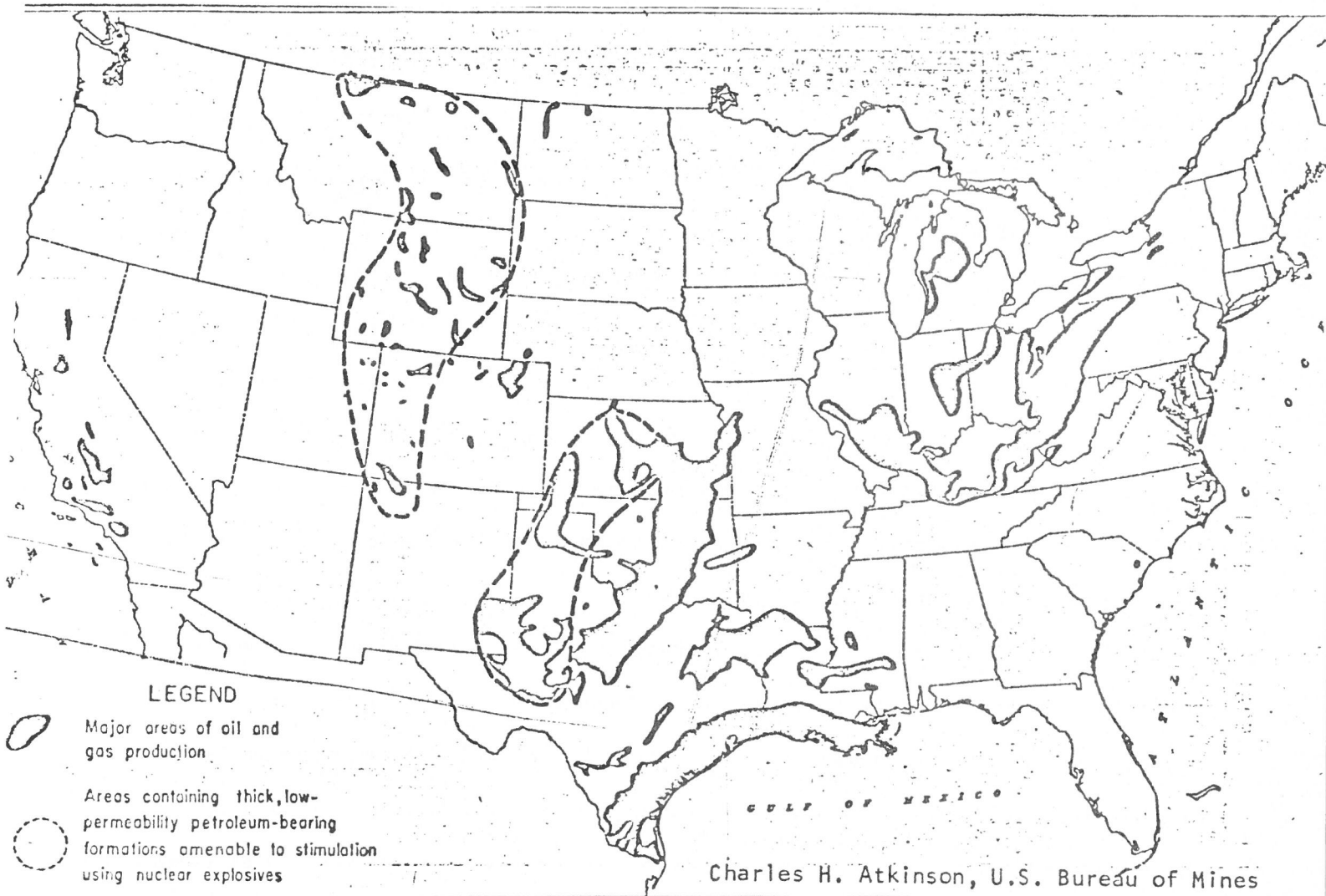


FIGURE 3.-Major Areas of Oil and Gas Production in the United States.

THE BLAST ITSELF

Ground Motion

The lowest value for the resulting earthquake is 5 on the Richter Scale, although Dr. Randolph has admitted that the shock could reach 5.8 in magnitude. (Because of the logarithmic nature of the scale, 6 is ten times more severe than 5.)

A 5 magnitude earthquake causes cabinet doors to pop open, dishes to fall out, pictures to fall off walls, light fixtures to drop from ceilings, cracks to appear in walls and foundations, and misalignment to occur in buildings so that doors and windows will not open properly thereafter.

Although El Paso keeps insisting that the predicted ground motion effects are accurate, Blume Associates reminds us that "the planned sequence of five detonations, fairly closely spaced in time, may engender cumulative effects" and "no experience exists for the planned multiple detonations."

Property Damage

While no building is completely immune from earthquake damage, concrete block constructions are particularly vulnerable. Damage to them is "probable" fifteen miles from the blast and "possible" twenty miles away (according to Dames and Moore, a consulting group hired by El Paso to study possible damage). Also vulnerable are masonry structures such as brick walls, fireplaces, chimneys, and building foundations. It should also be noted that schools in both Big Piney and Pinedale are concrete block structures.

El Paso admits that there will be damage. They are prepared to make compensation for the property they destroy. However, will they determine the value of that property (homes, barns, and out-buildings) from the tax rolls, or from discussions with the owners? Since tax valuation is usually 25% of the market value, there will undoubtedly be some discrepancy between what owners

feel they have coming and what El Paso will pay.

According to the Blume Report, various household furnishings, shelf goods, bric-a-brac, dishes, etc. can easily be overlooked in the El Paso survey and, if damaged, will represent both a real and sentimental loss to their owners. Ski lifts, vehicles, towers, poles, signs, antennas, fences, agricultural equipment, and irrigation lines are other items mentioned in the report which may not be surveyed.

Furthermore, since El Paso intends to flare the radioactive gas over a 325 day period, the isotope tritium will be released into the air to fall and remain as part of the water and forage. Livestock may thereby suffer radioactive contamination, in which case the rancher would inevitably suffer some loss.. Nothing has been said about how this loss, should it occur, would be taken care of by El Paso.

Damage to Water Systems

Anyone involved with agriculture in Wyoming is aware that water is vital to the survival of a farm or ranch. Since most of Sublette County's income is derived from cattle production, it is no surprise that we are concerned about the protection of our water systems.

Dames and Moore estimate that 90 of the 425 water wells within a twenty mile radius of the site will be damaged. However, Mr. H.L. Hammons, the local well driller, has records for waterwell drilling all over the county and thinks that the damage would be much greater than estimated by Dames and Moore (by whom he was never contacted). He points out that well casings are very sensitive to ground motion. Should these casings be cracked or broken, drilling a new well would be the only recourse.

Mr. Hammons also contends that water layers will mix as the result of the blast. The water in the lower layers is saline and, if allowed to mix with

surface or sub water, would render it unusable for irrigation for livestock watering.

In support of this contention, he points out that 1000 foot seismographic holes, filled with nothing but mud, are now causing the mixing of water layers and that after the blast these holes will very possibly allow radioactive contamination of water.

There are two major reservoirs within range of the blast, Boulder Lake and Ward Ball Reservoir. Dames and Moore admit that these reservoirs might sustain damage and recommend that they be reduced in level to the base of their dams before the blast.

However, if the highest ground accelerations that El Paso considers possible should occur, Ward Ball Dam would be breached, flooding the land below it, and Boulder Lake Dam would be severely damaged.

Ward Ball Dam was built at cost of \$33,000 dollars in 1965; Boulder Lake Dam cost \$280,000. At present costs, it would require \$50,000 to replace Ward Ball Dam and \$450,000 to replace Boulder Dam, according to the estimates of John R. Long, State Conservation Engineer.

This cost estimate does not include the loss of hay production in the thousands of acres that are served by these reservoirs.

In fact, even if the dams remained intact, draining them before the blast would necessarily involve considerable damage to hay production, since they wouldn't have time to recover before the irrigation season. El Paso has made no mention of this inevitable loss.

In addition to water wells and dams, it is projected that irrigation canals and natural streams would be affected by the blast.

According to Curtis Bolen, Acting Assistant Secretary of the Interior, "it can be assumed that some of the bluffs over [the New Fork River] would undergo major sloughing and that the volume of material dislodged into the river would be huge." Dames and Moore note that there would also be sloughing of bluffs on

Cottonwood Creek, Green River, Big Sandy Creek, East Fork, Boulder Creek, Hole Creek, Silver Creek, Hatchery Bluffs, and the shorelines of both Fremont and Boulder Lakes.

The discharge of soil into these bodies of water would cause some banks to be breached and water levels to be altered at various points. Obviously such changes would force reevaluation of the entire system of ditches and canals which take their water from the above-mentioned streams and lakes.

Finally, a Colorado geologist, David Evans, has suggested that changing the underground balance in the area of a fault which underlies the proposed gas field could eventually result in the introduction of radioactive elements into underground aquifers. He maintains that, in such an instance, radioactive pollution of the entire Colorado River Basin would be a possible result.

Damage to Wildlife

Recreation is second only to agriculture in importance to the area, while no socio-economic study has been made to determine the effect of this project on the various tourist industries, some investigation has been made into dangers presented to fish and wildlife. Obviously, any damage to game would reduce the income now derived from hunters and fishermen.

Biologists of the Bureau of Sports Fisheries and Wildlife expect adverse effects on stream fishing in the area as a result of the aforementioned sloughing of bluffs into rivers and streams.

Trout eggs are extremely delicate. It is assumed that natural trout reproduction would be affected by the shock of the blast. It should also be observed that a major fish-rearing station, the New Fork Fishery, is only five miles from the Wagon Wheel site.

The land game animals would, of course, be exposed to the same dangers as cattle, both from possible tritium in their forage and from fallout in the event

of an accidental venting. There is no knowledge of what effects the ground shocks might have on larger game or their grazing and migratory patterns, but speculation in this regard is of particular concern to hunters and outfitters.

Conclusion

The above remarks are a very brief summary of the effects the blast might possibly have. Much has been said and written on both sides about what could take place on the day of the blast.

One thing should be kept in mind. No one, neither pro nor con, can make any statement about Wagon Wheel which is not basically speculative. Nothing like the Wagon Wheel device has ever been used before. It could be harmless or calamitous. It is an experiment.

It is, however, an experiment which poses a real danger to the well-being and livelihoods of real people, the residents of Sublette County.

ECONOMIC AND PSYCHOLOGICAL EFFECTS ON THE AREA

Our most profound objections to the project are likewise the hardest to articulate. We are concerned about what changes will be forced upon what we hold dearest: our way of life.

Sublette County is a unique place. It is nearly free from pollution of any sort. By basing its economy largely on agriculture and tourism, it has been able to maintain a satisfactory level of prosperity without industrialization. And it remains a true community of people; we know one another and how to look after one another's interests. We suffer in no way from the anonymity and social helplessness which seems to be rotting the fabric of American life elsewhere.

Any measurement of how our way of life will be affected by the experiment and subsequent nuclear development of the field would be impossibly subjective.

El Paso has made no study of this area of concern because no study can be made.

However, a few obvious consequences can be pointed out. They have to do with our safety, the disruption of our daily activities, the long-term psychological effects of living with the threat of an "accident", the erosion of our present economic base for a short term gain, and the irremediable dissolution of our sense of community.

That our personal safety will be compromised is without doubt. Our buildings will be weakened, so much so that persons living within eight miles of the blast will be asked to evacuate their homes and not reenter them until a thorough inspection has taken place. The possibility of venting and consequent fallout is, admittedly, slim, but it remains a possibility. The flaring of radioactive gas, as mentioned above, cannot help but change the level of background radiation in the area.

The schedule of our daily lives will be changed. There is reason to believe that three major bridges in the area, two on US 187 and one on the Big Finney Cutoff, will be unusable after the shot. (Dames and Moore.) People travelling these roads will be subjected to long delaying detours. The repairing of damage mentioned previously, however minor it might be, is likely to take months, even years.

Anyone who has ever had to ask a governmental or industrial agency for compensation is aware of the red-tape entanglements and frustrations that usually take place. One must imagine dealing with these frustrations every time a well is stimulated. One must also imagine the constant fear that the next shot will be the one which vents, or presents some underground fault to undue stress, or permanently pollutes an aquifer. This is a kind of uncertainty which could not help but become intolerable to Sublette County residents.

No one can know what effects the fear of radiation, groundless or not, will

have on our tourist industry. There is ample reason to believe that their desire to breath our clean air and fish in our clear streams may be dampened by the notion that both air and water may be loaded with invisible radiation. Furthermore, who can say whether or not cattle buyers may find cattle more desirable elsewhere when exposed to the idea that our beef may be radioactive? In these and other ways, it is possible that our two economic foundations may suffer forever in order that we may have several years of false prosperity.

Our greatest concern is for our community, our institutions, and our sense of tradition. The second environmental statement says that "field development may result in a population increase of several hundred percent."

This influx will consist of people who cannot share our sense of pride in Sublette County. Rootless themselves, they can have little respect for the roots we cherish. They will pass through, spending a few years here in their temporary homes, and meanwhile place a tremendous burden on schools, dwelling areas, and necessary services. We natives will become strangers in our own country, having sacrificed our birthright for a dubious kind of progress.

THE PEOPLE OF SUBLETTE COUNTY DO NOT WANT WAGON WHEEL

On November 7, the Wagon Wheel Information Committee conducted a straw poll at all precincts. Our polling procedures were in strict accord with Wyoming Election Laws, and were supervised by a committee of five local ministers and one Chief of Police.

We have some two hundred absentee straw ballots which will not be received until after this convention. However, of the fourteen hundred odd voters who showed up to vote in the general election on November 11, 1230 took the time to vote in the straw poll as well.

Without absentee ballots, the results were as follow:

873 "Oppose Nuclear Stimulation of Natural Gas in Sublette County, Wyoming"
(Wagon Wheel Project)

292 "Favor Nuclear Stimulation, etc., etc."

95 are "Undecided about Nuclear Stimulation, etc., etc."

In certain precincts, the opposition ran as high as 98%, and a significant portion of the affirmative ballots were cast in an area where the majority of the voters are employees of El Paso Natural Gas Co.

This is not the opposition of an uninformed public. El Paso has spent considerable time and unknown thousands in presenting its case to us. Public meetings have been held all over the county. Wagon Wheel has perhaps been second only to the weather and the cattle market as a subject of discussion. We know what Wagon Wheel is and we oppose it 4 - 1.

ARE WE A FREE PEOPLE?

A question is arising in Sublette County which should be important to every American. Our system of government rests on the Jeffersonian principle that the individual has a value and is to be protected against occasional violations made in the name of a so-called "Common Good."

It may be that the country needs gas and it may be that, as a limited population, we are insignificant against the governmental and corporate interests of the AEC and El Paso Natural Gas. Dr. Randolph has made the remark that one of the things to be studied in the Wagon Wheel experiment is whether people can be "conditioned" to accept nuclear blasts in their daily lives.

We reject this. We will be neither guinea pigs nor sacrificial lambs. And every American who values his freedom has a stake in seeing that we are not forced to become so.

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- Mr. H. L. Hammons, Hammons Drilling Company, Finedale, Wyoming. Personal communication to Wagon Wheel Information Committee members.
- Letter, dated September 15, 1972, from Mr. Curtis Bohlen, Acting Assistant Secretary of the Interior, to Mr. P. M. Kerridge, Box 17, Fullerton, California 92632.
- Environmental Statement, Wagon Wheel Gas Stimulation Project, Sublette County, Wyoming, April 1972, U.S. Atomic Energy Commission, R.E. Hollingsworth, General Manager.
- John R. Long, State Conservation Engineer, SCS, Casper, Wyoming 82601, "Possible Effects of the Wagon Wheel Project on the Boulder Irrigation Project, Sublette County, Wyoming."
- David M. Evans, Certified Professional Geologist, "Statement of Opposition," Project Rio Blanco Public Hearings. Denver, Colorado, March 27, 1972.