

I. Proposed Action

Michel T. Haloutch, Operator has proposed the drilling of an 8500' test well located 334' from the east line and 2299' from the north line of section 10, T. 23 S., R. 23 E., W.B.M., in Harney County, Oregon. This 2500-acre lease OR-7309 is located 8 miles due west of Burns, Oregon but several miles east of the Ochoco National Forest where unleased leases remain as part of the proposed land block. The acreage is a farm-out from Standard Oil and the well will be drilled under their nationwide lease by Haloutch as the designated operator.

A pre-drilling inspection of the site was made on July 20, 1976 by four persons from the BLM district office at Burns that included Jerry Heinz (Resources Chief), Chad Bacon (Civ. area mgr.), Bob Pulphrey (Geologist) and Ruth McSilva (archaeologist). The BSEE was represented by John Warner and the Oregon Department of Fish and Game by Vic Mason. The indicated site (unstaked) appeared to lie on the rather steep north slope of the drainage to Willow Creek whereas on a knoll 1400' to the north was a flat area as big as a football field. This location seemed preferable at the time but was subsequently rejected by the operator on geologic considerations. Reinspection of the original site followed and a considerable reclamation program was stipulated by the BLM geologist.

The closest abandoned well (Oregon has no production) plots eleven miles due east and little information was obtained from it: United Oil drilled their Well No. 1 to 6482' depth in August, 1949 when the rig was destroyed by a fire. There are a few shallow wells 10-20 miles to the southeast but none for 40 miles in any other direction. Since Standard Oil's efforts to obtain seismic reflections have been totally unsuccessful, there is absolutely no subsurface control for the prospect.

The physiography is of little help in surface control as the whole county lies within the High Lava Plains Province (elevations 3500-6000') and thus lava flows, whose surfaces are almost uneroded, cover the area and limit outcrops of sedimentary rocks to a few patches in the north end of the county. The surface geology at the drillsite can thus be described only in regional terms as follows: the Ochoco uplift lies 40 miles to the north and it is thought that a Jurassic age seaway once existed in the Burns area; basaltic lavas then covered this ancestral Harney Basin; a subsequent crustal collapse of the evacuated magma chamber led to a major zone of an echelon normal faults; these in turn were the loci of later Miocene and basaltic vents; pyroclastic material was erupted during the Pliocene and volcanic activity continued even into the Quaternary.

Information submitted by the operator contends that photogeologic studies and surface mapping of these Upper Tertiary volcanics has suggested a N-S-E anticlinal closure 12 miles long by 6 miles wide

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In the Willow Creek area west of Burns, normal faults on strike with the fold create a graben along the crest of the anticline. No structural contour map was submitted but the drillsite was chosen at an optimum structural position.

The stratigraphic is similarly generalized in the absence of subsurface control on the thickness of the various lava flows that comprise the Columbia River Group. It is thought by the operator that the Oligo-Tocene (Clarno formation) will be topped at 2800' in the proposed hole and that the Cretaceous will be penetrated at 4500'. Since the lower Permian is estimated to be 2500' thick, the Jurassic will be topped at 7000' and the well will bottom in same at an estimated 9500' T.D. Producing horizon names will be given if and when found.

The rig specified is Signal Drilling Company's Rig 714 and its specifications and that of the BOPB can be found in the attachments to the APB. The anticipated start date has been moved back to November 15, 1976 and an estimated 90 days drilling time to 8500' is programmed. A base drilling program that includes casing, BOPB, logging and testing programs is included in the APB package.

II. Location and Natural Setting

The proposed site lies due west of Burns and is reached by a secondary road that leads in a northwesterly direction to the Ochoco National Forest; a dirt road from Willow Creek flats is taken south to the location. The surface drainage in this uplifted

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region of diverse and faulted volcanic rocks is youthful; the soil cover is shallow, very stony and well drained; the erosion hazard is slight although the runoff is rapid. The mean annual temperature is 49° F. to indicate sub-freezing temperatures for the 3 winter months.

Precipitation at Burns is 6.92"/yr but, since rainfall increases one inch for each 300' of elevation, there would be an average 11"/yr at the drillsite. Much of this would fall in the winter months as snow; July, August & September are the dry months and total only 10% of the annual average. Gricket Creek is the only perennial stream in the area and drains north; other streams like Willow Creek at the site are small but carry large volumes of water and sediment during short periods of time during spring runoff.

Vegetation at the intermediate elevation (4700') of the site is typified by a variety of grasses, forbs and shrubs; the latter is characterized by sage (both "big" and "leaf" species), rabbitbrush (both "gray" and "green") litterbrush and juniper whereas the former consists of Idaho fescue, blue bunch wheatgrass, plant wild rye and arrowweed. This mixture early differentiated is of the dominant species (with a little help from BLM) to indicate the diversity of vegetation types in this bench land zone. At slightly higher elevations the scattered mountain mahogany and juniper occur in clumps. The latter get quite large and perhaps a dozen would have to be bulldozed off the drillsite.

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The distribution of water courses and forests is good and the site is well watered in the area immediately west of the site whereas an elevated plateau some 10 miles to the north in the general area and 25-30 sage brush and two areas 10 miles northeast of the site for strutting prairie. A large variety of nongame animals inhabit or pass through the area but no species on a state or Federal Endangered Species List is known to breed in the area.

Three quarters of the land in the immediate vicinity of the drillsite is Federal and two-thirds of this is national forest to indicate why half of the desired acreage must circumscribe unleased leases (Oregon has had a moratorium on oil and gas leasing since October, 1971). Indications are that the Oregon Department of Environmental Quality is ready to relent now that an EIS has been published (July, 1976) and lease applications in the area will be honored. The State of Oregon owns a little over 2% and a handful of private owners hold the rest.

The Federal acreage within a 5 mile radius of the drillsite is administered under the multiple use management concept by BLM; the forest acreage to the northwest is administered by the Snow Mountain Oregon District. The latter is commercially important for its timber, especially ponderosa pine, but it also provides livestock forage, recreation, watershed and wildlife habitat uses.

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The grazing of domestic livestock is the primary activity on the land and the grazing of domestic livestock is the primary activity on the land and the grazing of domestic livestock is the primary activity on the land.

The surface hydrology will scarcely be affected as drilling operations are self contained but for the disposal of well cuttings and excess drilling mud. The latter can apparently be handled in unlined pits per BLM and the residue buried along with the cuttings. Apparently the water table is not shallow and a cause for major concern. Dams and pits will keep waste fluids and trash out of the dry wash.

The effects on the local economy of this 1-100 wildcat test are negligible unless a discovery is made. Development of an oilfield west of the sleepy town of Burns (population 4000) would be quite stimulating. The drilling crews will need food and lodging in town but the dozen-odd persons involved will have no measurable effect on land use, recreation, noise, air pollution or traffic in the area. The drilling rig will not be visible even from secondary roads; the townfolk will have to hunt to find the location.

Waste handling poses no particular problems according to the drilling program; chemical toilets and a burn pit will be provided. The excess drilling mud will be buried in a burn pit and the residue will be buried in the reserve pits along with the drill cuttings.

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Under the plan approved, the area will first be returned to gentle slopes and planted with litter trash seedlings through a protective mesh.

Whereas one can't attempt or predict the effects of field development in the case of discovery one could describe the conditions as almost ideal. The soil is extremely stony and often covered with lava flow to restrict tillage and even domestic grazing (sheep). There is no construction for miles and no pipelines or power lines to interfere as rights-of-way. Field development could not extend into the town limits or even restrict recreational activities but for the occasional motorcyclist or hunter.

The effects of a blowout, fire, spill or other accident are thereby mitigated from what they could cause if located close to town. Subsurface there are no troublesome water zones of incompetent beds to impede drilling and no evidence or earthquakes are not known in the area. The Burns Police PAR (June, 1976) opined for 60 odd pages but could not raise significant objections to leasing or subsequent exploration.

IV. Alternatives

Delay of drilling until spring may be justified in that a late November start date and 90 day drilling time could carry into winter snows. Such depends on the delay by the state in the issuance of leases (within the Ochoco Forest) that constitute the northern portion of the drilling block. There is nothing to be gained by a relocation of site or the access road.

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V. Mitigative Measures

Restoration of the site and access road has been thoroughly discussed with BLM and the regrading, seeding and revegetation actions have been specified. Placement and removal of culverts, sump and pit location and subsequent burial, water supply proposals and ground-water pollution control have all been investigated. The topsoil is of no special value and need not be stockpiled for subsequent spreading.

An archaeological investigation was made by Ruth McSilva, BLM archaeologist, and her negative findings are appended to this analysis. Her check of State and National Registers was also negative in regard to historicity. In the unlikely event that an artifact is found at some subsequent date during road and site preparation the operator has been notified to suspend such operations and notify BLM or OS, respectively, according to the Division of Authority as specified under S.O. 2948.

There is little chance for runoff contamination as drilling fluids will be contained in tanks and pits and the closest bodies of water are many miles distant. Berms can be built if drilling extends into the rainy season and dikes will be constructed around storage facilities in the event of a discovery. Traffic to the site may raise some dust on the last 2 miles of dirt road but this can be mitigated by watering. Noise pollution and visual impact will be almost nil.

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Procedures and the casing program to be utilized in the subsurface protection of fresh water zones are described in the APB and attachments submitted with this analysis. It is to be noted that an intermediate string of 10 3/4" casing will be set with sufficient cement to tie into the surface casing at 400' to provide additional protection in this regard.

VI. Outside Agency Involvement

Interest to date (4 months after announcement) has been low and no outside agencies have made negative commentary. Protection of the town water supply is not a problem and a state fish and game inspector has been to the site and expressed no concern. BLM has just finished their EIS of this area and, although not wary, will be watchful of the general conduct of operations from their nearby office.

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VII. Determination

Concurrence statements:
I recommend that the proposal does not constitute a "major Federal Action" significantly affecting the quality of the human environment in the sense of NEPA, section 102(2)(c).

D. F. Russell
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District Engineer

I determine that the proposal does not constitute a "major Federal action" significantly affecting the quality of the human environment in the sense of NEPA, section 102(2)(c).

F. J. Schumacher
Fred J. Schumacher
Area Oil & Gas Supervisor

Date 11/8/76