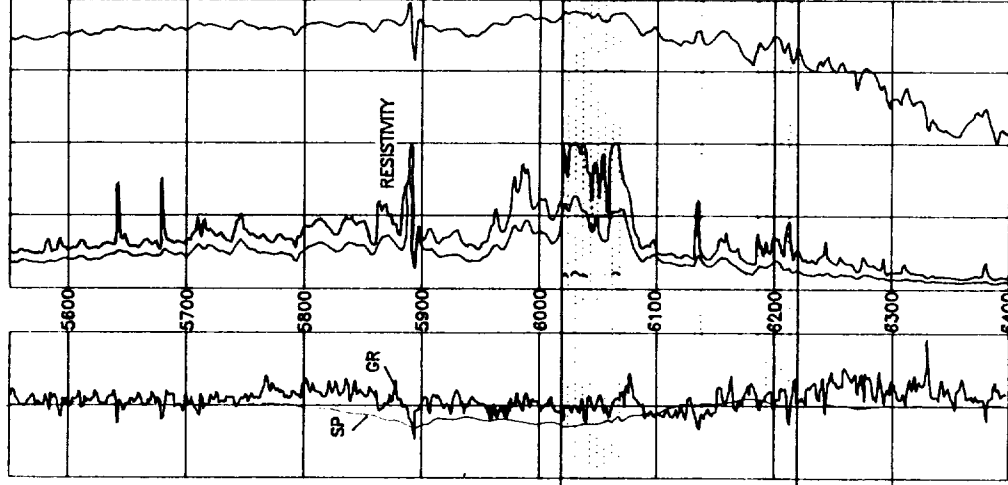


TYPE LOG

USA #2
SW SEC. 24, T32N-R13W
San Juan Co., N.M.

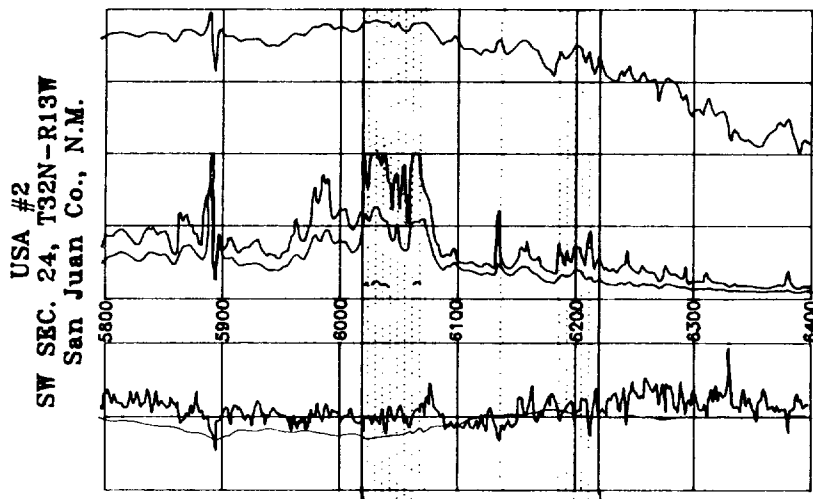
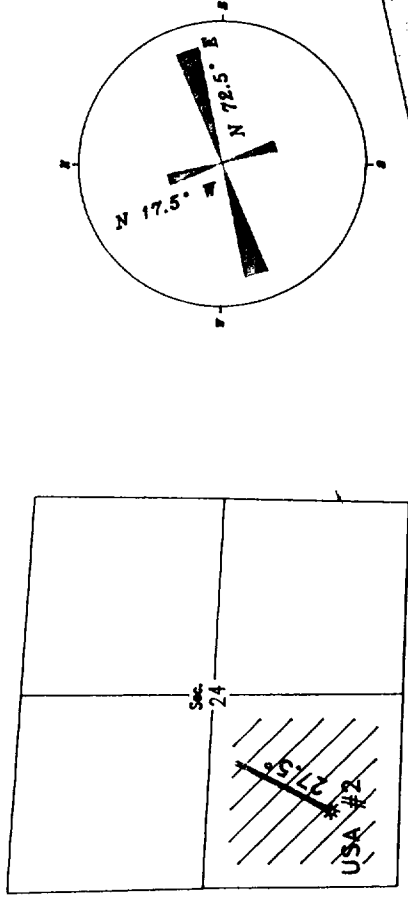
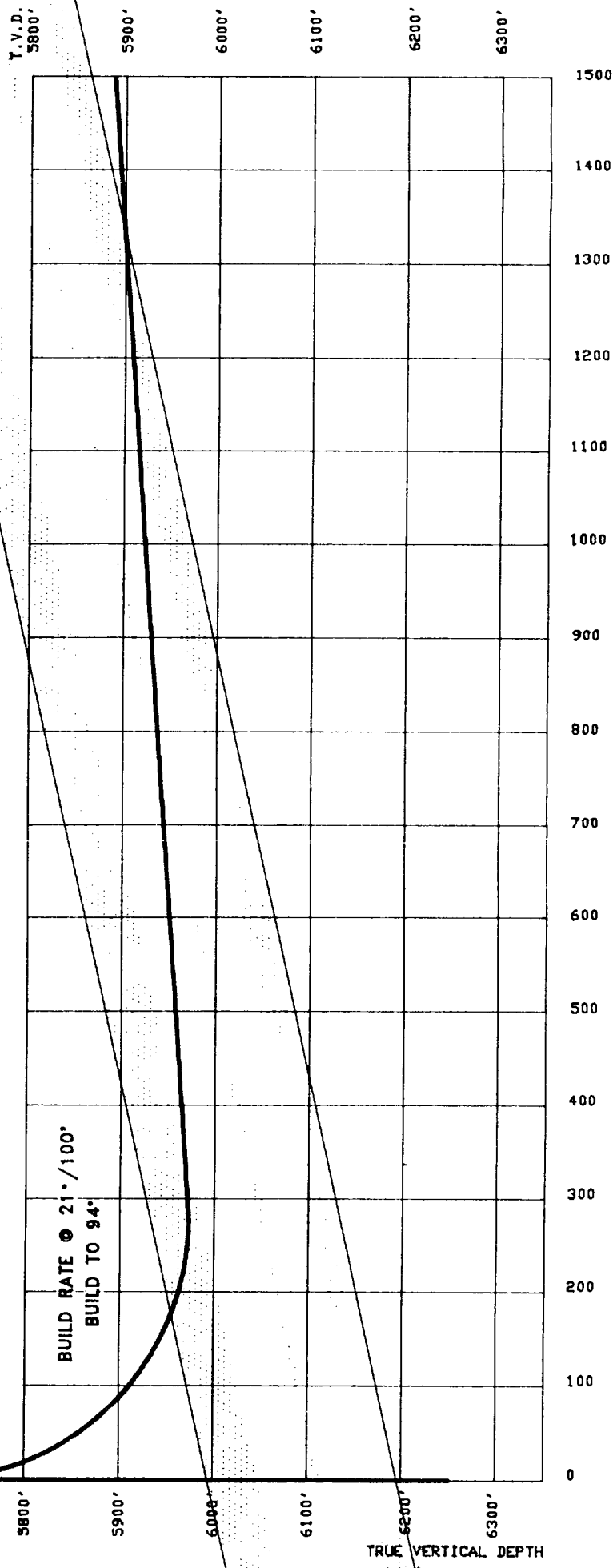


GENERAL WELL PLAN

- RUN CGL/OBL - SET CEMENT RETAINER @ 5750'
- SQUEEZE CEMENT DAKOTA (5720'-7033')
- MILL SECTION / UNDER-BEAM TO 7,875'
FROM 5450' TO 5720' (60')
- SET CEMENT KICKOFF PLUG FROM 5800' TO 5750'
- DRILL CEMENT (4 1/2" HOLE) TO KICKOFF POINT
@ 5760'
- RUN DOWNHOLE MOTOR ASSEMBLY -
BUILD ANGLE APPROX. 21°/100' TO 84.0°
- RUN STEERABLE MOTOR ASSEMBLY - HOLD
84.0° IN MOMBASA FOR 1000'

— KICKOFF POINT @ 5700'

**BUILD RATE @ 21"/100"
BUILD TO 94"**



MERIDIAN OIL

USA #2

HORIZONTAL GALLUP RECOMPLETION
SW/SW Sec. 24, T32N-R13W
San Juan Co., N.M.

J. M. HORNBECK
P. D. ALLAN

OWG: C. GROTH
6/11/92

**STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**CASE NO. 10488
Order No. R-9692**

**APPLICATION OF MERIDIAN OIL INC.
FOR A HIGH ANGLE/HORIZONTAL DIRECTIONAL
DRILLING PILOT PROJECT, SPECIAL OPERATING
RULES THEREFOR, A NON-STANDARD OIL
PRORATION UNIT, A SPECIAL PROJECT OIL
ALLOWABLE, AND SPECIAL GOR ASSIGNMENT,
SAN JUAN COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 25, 1992, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 13th day of July, 1992, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Meridian Oil Inc., seeks authority to initiate a high angle/horizontal directional drilling pilot project in the Gallup formation underlying the SW/4 of Section 24, Township 32 North, Range 13 West, NMPM, San Juan County, New Mexico.

(3) The applicant proposes to utilize its existing USA Well No. 2 located at a standard surface location 930 feet from the South line and 1050 feet from the West line (Unit M) of Section 24 by sidetracking and drilling in the following unconventional manner:

Cement squeeze existing Dakota perforations at 6692 feet to 7033 feet. Mill a section from 5660 feet to 5720 feet. Plug back to the kickoff point at 5700 feet. Kickoff in a northeasterly direction building angle to approximately 80 degrees. Penetrate the top of the Niobrara member of the Gallup formation at an estimated vertical depth of 6160 feet. Continue drilling horizontally a distance of approximately 1250 feet bottoming said wellbore no closer than 330 feet from the outer boundary of the project area.

(4) The applicant further seeks:

- a) the adoption of special operating provisions and rules within the pilot project area including the designation of a prescribed area limiting the horizontal displacement of said well's producing interval such that it can be no closer than 330 feet from the outer boundary of the project area.
- b) approval of a 160-acre non-standard oil proration unit comprising the SW/4 of Section 24.
- c) a special project allowable equal to four times the state-wide depth bracket allowable for an oil well in the Gallup formation.

(5) At the time of the hearing, the applicant requested that its proposal for a special gas-oil ratio limitation within the pilot project area be dismissed.

(6) The subject well is not located within the boundaries of any designated Gallup oil pool and is therefore subject to General Statewide Rules and Regulations, including 40-acre spacing with wells to be located no closer than 330 feet from the outer boundary of the proration unit, a gas-oil ratio limitation of 2,000 cubic feet of gas per barrel of oil, and a daily oil and gas allowable of 142 barrels and 284 MCF, respectively.

(7) The Niobrara member of the Gallup formation is the potentially productive zone within the pilot project area and is characterized by low permeability and interconnected fracture systems.

(8) Because vertical wells drilled to the Niobrara interval within a three mile radius of the USA Well No. 2 have not been commercially successful, the applicant is attempting to increase the probability of encountering several of these fractures.

(9) Past experience in this area has shown that unless a conventional vertical well intersects natural fractures, the chance of obtaining commercial production is severely curtailed.

(10) Through its evidence and testimony, the applicant demonstrated that the proposed horizontal wellbore should encounter a substantially greater number of natural fractures within the Niobrara member of the Gallup formation than would a conventional wellbore, which should substantially increase the productivity of the subject well and which should ultimately result in the recovery of a greater amount of oil and gas from the proposed project area, thereby preventing waste.

(11) The SW/4 of Section 24 is owned and controlled solely by Meridian Oil Inc.

(12) No offset operator and/or interest owner appeared at the hearing in opposition to the application.

(13) In the interest of conservation and prevention of waste, the application of Meridian Oil Inc. for a high angle/horizontal directional drilling project should be approved.

(14) In support of its request for a special project allowable of 568 barrels of oil per day, the applicant presented drilling cost estimates of \$850,000 to \$1.4 million dollars as compared to conventional vertical well costs in the ranges of \$500,000 to \$600,000.

(15) In addition, the applicant contends that each of the 40-acre tracts within the proposed project area will either be penetrated by the producing interval in the wellbore or will be so closely located to that interval as to contribute production to the well.

(16) The applicant further contends that the requested allowable gives proper credit to the contribution of reserves from each of the 40-acre tracts and would afford the applicant an allowable incentive to justify the risk and higher cost for such a project.

(17) It has been the practice of the Division in previously heard cases of this nature to assign an allowable based upon the number of standard proration units actually contacted by the wellbore.

(18) Such allowable based upon the number of standard proration units contacted by the wellbore has proven to be adequate in previous instances.

(19) The subject well and project area should be assigned an allowable in conformance with current Division policy. Based upon the evidence presented, the subject well should be assigned an allowable equal to 142 BOPD times the number of 40-acre tracts contacted by the wellbore as determined from directional surveys.

(20) The Division Director should have the authority to administratively grant a higher allowable to the subject well and project area upon a satisfactory presentation of data regarding the drainage characteristics of the well.

(21) The applicant should be required to determine the actual location of the kick-off point prior to commencing directional drilling operations. Also, the applicant should be required to conduct a directional survey on the lateral portion of the wellbore during or after completion of drilling operations.

(22) The applicant should notify the supervisor of the Aztec district office of the Division of the date and time of conductance of any directional surveys in order that the same may be witnessed.

(23) The applicant should be required to submit copies of all directional surveys conducted on the subject well to both the Santa Fe and Aztec offices of the Division.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Meridian Oil Inc., is hereby authorized to initiate a high angle/horizontal directional drilling pilot project in the SW/4 of Section 24, Township 32 North, Range 13 West, NMPM, San Juan County, New Mexico, by utilizing its existing USA Well No. 2 located at a standard surface location 930 feet from the South line and 1050 feet from the West line (Unit M) of Section 24 to drill a lateral wellbore in the following unconventional manner:

Cement squeeze existing Dakota perforations at 6692 feet to 7033 feet. Mill a section from 5660 feet to 5720 feet. Plug back to the kickoff point at 5700 feet. Kickoff in a northeasterly direction building angle to approximately 80 degrees. Penetrate the top of the Niobrara member of the Gallup formation at an estimated vertical depth of 6160 feet. Continue drilling horizontally a distance of approximately 1250 feet bottoming said wellbore no closer than 330 feet from the outer boundary of the project area.

PROVIDED HOWEVER THAT, no portion of the horizontal portion of the wellbore shall be located closer than 330 feet from the outer boundary of the project area.

(2) The SW/4 of Section 24 shall be dedicated to the above-described well forming a non-standard 160-acre oil spacing and proration unit, also hereby approved.

(3) The subject well shall be assigned an oil allowable equal to 142 BOPD times the number of standard 40-acre tracts contacted by the wellbore as determined from directional surveys.

(4) The Division Director shall have the authority to administratively grant a higher allowable to the subject well and project area upon a satisfactory presentation of data regarding the drainage characteristics of the well.

(5) The applicant shall determine the actual location of the kick-off point prior to commencing directional drilling operations. Also, the applicant shall conduct a directional survey on the lateral portion of the wellbore during or after completion of drilling operations.

(6) The applicant shall notify the supervisor of the Aztec district office of the Division of the date and time of conductance of any directional surveys in order that the same may be witnessed.

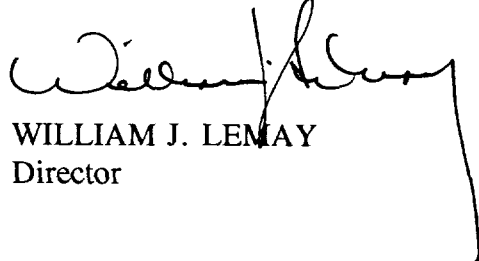
(7) The applicant shall submit copies of all directional surveys conducted on the subject well to both the Santa Fe and Aztec offices of the Division.

(8) The portion of this case requesting a special gas-oil ratio limitation within the pilot project area is hereby dismissed.

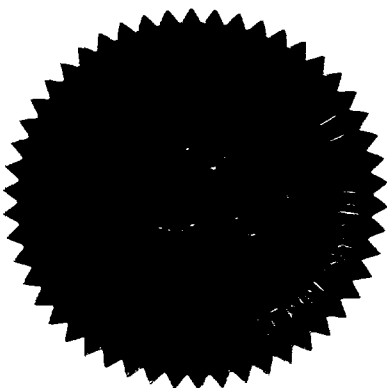
(9) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
Director



S E A L