

**FINDING OF NO SIGNIFICANT IMPACT
AND DECISION RECORD**

EA-NM-060-04-18

DECISION: It is my decision to authorize the Application For Permit To Drill Or Deepen (APD), for the **Shelly Federal #2** gas well, submitted by **Yates Petroleum Corporation**. The provisions for the approval of the APD will include the attachment of the Roswell Field Office requirements as defined in the following exhibits; **Exhibit A** - Location Map, **Exhibit B** - Well Drilling Requirements, **Exhibit C** - Conditions of Approval, **Exhibit D** - Permanent Resource Road Requirements, and special mitigating measures developed in the environmental assessment.

In the event the well proves to be a dry hole, or when the well is abandoned, I recommend that reclamation requirements be attached to the well abandonment, including additional requirements imperative for the complete reclamation of the disturbed areas. These actions are subject to 43 CFR 3160 regulations for Onshore Oil and Gas operations on federal lease NM-33944.

Authority for these actions is the Mineral Leasing Act of February 25, 1920, as amended.

These actions will affect public land described as:

New Mexico Principal Meridian

Section 23; SW $\frac{1}{4}$ SE $\frac{1}{4}$, T. 9 S., R. 24 E.
660' FSL & 1980' FEL

FINDING OF NO SIGNIFICANT IMPACT: Based on the analysis of potential environmental impacts contained in the attached environmental assessment, I have determined that impacts resulting from the proposed actions are not expected to be significant and an environmental impact statement is not required.

RATIONALE FOR DECISION: The proposed actions would not result in any undue or unnecessary environmental degradation. Portions of the subject land and adjacent land have been used for similar purposes and all present and potential uses and users have been considered.

COMPLIANCE AND MONITORING: The construction phase of the proposed actions and subsequent operational phases will be monitored as per regulations.

/s/Larry d. Bray

7/12/04

**Larry D. Bray, Assistant Field Manager,
Lands and Minerals**

Date

ENVIRONMENTAL ASSESSMENT

EA# NM-060-04-18

WELL NAME & NO.: Shelly Federal #2
Serial #: NM-33944

Section 23, T. 9 S., R. 24 E., NMPM
660' FSL & 1,980' FEL

Chaves County, New Mexico

OPERATOR: Yates Petroleum Corporation

ACTION: Application for Permit to Drill

SURFACE/MINERAL ESTATE: Federal Surface/Minerals

I. INTRODUCTION

A. Need for the Proposed Action:

Yates Petroleum Corporation proposes to drill and complete a natural gas well at the above described location. The proposed action is needed to fully develop the mineral lease.

B. Background Information:

The proposed Shelly Federal #2 gas well is located within the Habitat Protection Zone. The area is an administrative-designation for the protection of groundwater resources supplying springs at the Bitter Lake National Wildlife Refuge (BLNWR) that provide crucial year long habitat for several threatened and endangered species.

In May 1997, the U.S. Fish and Wildlife Service (USFWS) provided the BLM with a biological opinion on the Roswell Resource Area Proposed Resource Management Plan (RMP). In the opinion of the USFWS, implementation of the Proposed RMP would jeopardize the continued existence of the federal endangered Pecos gambusia (*Gambusia pecosensis*) unless the six elements of their prescribed "reasonable and prudent alternative (RPA)" are also implemented. The record of decision to adopt the Roswell Approved RMP was signed in October 1997, incorporating the reasonable and prudent alternative into the plan.

The following elements of the Pecos gambusia RPA pertain to this environmental assessment, and reads:

"Use the best available hydrologic information to map the source and movement of water that supplies springs occupied by Pecos gambusia on the BLNWR and the Salt Creek Wilderness. Close the lands within the mapped area to oil and gas leasing unless or until BLM can demonstrate that mandatory protective measures will ensure no aquifer contamination."

"For existing leases within the mapped area, apply appropriate measures taken from BLM's "Practices for Oil and Gas Drilling and Operations in Cave and Karst Areas" and any other appropriate measures to ensure no contamination of water that supplies springs occupied by Pecos gambusia on the BLNWR and the Salt Creek Wilderness. Use monitoring procedures that will detect any surface or subsurface accidents soon enough that they can be discovered and corrected before significant harm to the aquifer"

occurs.”

The hydrologic mapping has been completed by Balleau Groundwater, Inc. (**Illustration #1**), and is referenced in the environmental assessment being prepared on the habitat protection zone. This is the first well to be proposed in the area of interest since the development of the habitat protection zone map that is partly based on the hydrologic study by Balleau. The proposed well is on an existing 800-acre lease which currently has one well in production, the Shelly Federal #1 (see Exhibit A), located in Section 24, T. 9 S., R. 24 E. (600' FSL & 990' FWL), about one-half mile to the east of the proposed well site. Current the on-lease production facilities are located on the Shelly Federal #1.

This EA is for the site-specific action only and will address the Pecos gambusia habitat concerns. The EA will demonstrate that sensitive environmental concerns and lease development can co-exist when analyzed in accordance with the NEPA process to promote efforts which will prevent or eliminate damage to the environment and in this case to the Pecos gambusia habitat.

C. Conformance with Land Use Plan:

The proposed action is addressed in the Roswell Resource Area Resource Management Plan/Final Environmental Impact Statement, January 1997. The proposed action is in conformance with the Roswell Approved Resource Management Plan and Record of Decision, October 1997, which supersedes all previous planning documents. The proposed action is in conformance with the Habitat Protection Zone Environmental Assessment, EA No. NM-060-2000-030.

D. Relationship to Statutes, Regulations, or other Plans:

The proposed action does not conflict with any known State or local planning, ordinance or zoning.

II. Proposed Action and Alternatives

A. Proposed Action

Yates Petroleum Corporation resubmitted an Application for Permit to Drill on 10/24/03. Originally, Yates Petroleum Corporation submitted a Notices of Staking on May 26, 2000, to drill the Shelly Federal #2 gas well. The original Application for Permit to Drill (APD) was submitted on June 16, 2000 and approved on August 17, 2001. The proposed action would include access road and well pad construction, drilling, and production facility apparatus installment described as follows:

1. The construction of approximately 300 feet of new access road. The new access road will originate off an existing two-track road that forks off in a northern direction from the Capitán County Road. The new proposed access road would continue from the existing two-track in an easterly direction to the southwest corner of the proposed well pad and would have a 30-foot wide maximum disturbance corridor with a 14-foot wide driving surface. All other existing access roads would be maintained in as good or better condition than were existing at the commencement of operations. Surfacing material (gravel) needed for the construction of the access road and well pad could be obtained by the operator from a federal pit in the NW¹/₄SW¹/₄ of Section 18 - T. 9 S., R. 25 E., Chaves County, N.M..
2. The construction of the proposed well pad would be 260 feet long by 325 feet wide, this dimension would be a maximum and may be less. Standard oilfield construction equipment consisting of track-type tractors, motor graders, dump trucks, and water trucks would be used to construct the access road and well pad. A rotary drilling rig would be used to drill the well to a proposed total depth (TD) of 5,085 feet.
3. Because the well pad would be constructed on the BLM/Bitter Lake Habitat Protection Zone, in lieu of reserve pits, steel tanks would be used. No reserve pit, or any other pits, would be constructed for use in drilling this well. Utilizing steel tanks during drilling operation would prevent pollutants from being inundated on the surface and the possibility of the muds dissolving into the underground aquifers.
4. If the Shelly Federal #2 becomes a producing well, Yates Petroleum Corporation would submit a Sundry Notice to notify the BLM of additional developments, such as, a lateral gas pipeline to tie in to a transportation line. The potential pipeline would, in all likelihood, connect the Shelly Fed. #2 to an existing transportation line on the Shelly Fed. #1, which is located on the same lease about 3,000 feet to the east (See Exhibit A). The potential lateral pipeline would be placed within a 20' working corridor. Trenching would be allowed in order to bury the pipeline within the corridor and blading of the surface within the corridor may not be required. The corridor would not be authorized for use as a road, except for pipeline maintenance purposes only. In addition, all production facilities will be low profile not over 8 feet in height. The height limitation of the production facilities will reduce the visual intrusion.

B. Alternatives:

1. Relocate the Proposed Action:

There are no other alternate locations in this leased area that would not be under the influence of the underground aquifers. The well location is determined on the basis of subsurface geologic information and to some extent by the New Mexico Oil Conservation District II imposed spacing regulations. The well location may be moved up to 200 meters (656.2 feet) by regulation, and at the discretion of the BLM to avoid resource impacts.

No other alternative location would have significantly fewer impacts than, or have a clear advantage over, the proposed location. Therefore, the alternative of changing the location involved in this action is not analyzed further in this EA.

2. No Action:

Under this alternative the application would be rejected. None of the environmental impacts associated with the proposed action or alternate location would occur. Additionally, economic benefits of the proposed action would not be realized, and the existing environment, including the developments in place, would remain unchanged.

III. Description of the Affected Environment

A. General Setting:

The proposed access road and well pad are located on federal land about five miles northeast of Roswell, N.M. via Highway 70. Public lands in the general area are primarily grassland habitat and are sparsely developed with oil and gas production wells. The area is an important view shed for the BLM, as it is, located in close proximity to Roswell and the BLNWR. Historical and present use of the subject land has been limited to livestock grazing and limited energy development.

B. Rights of Record:

An inspection of the Master Title Plats and other Bureau records revealed the following title information pertaining to valid existing prior rights on the subject land:

- Oil and gas leases NM-33944
- No federally administered rights-of-way will be affected in the project area.
- No mining claims are recorded within Sec. 23, T. 9 S., R. 24 E., NMPM

C. Affected Resources:

The following critical resources have been evaluated and are either not present or are not affected by the proposed action or the alternatives in this EA:

Areas of Critical Environmental Concern (ACEC's)
Cultural Resources (00-R-033-A)
Farmlands, Prime/Unique
Floodplains
Native American Religious Concerns
Wastes, Hazardous/Solid
Wetlands and Riparian Zones
Wild & Scenic Rivers
Wilderness

1. Air Quality:

The area of the proposed actions is considered Class II air quality area. A Class II area allows a moderate amount of degradation of air quality. Primary sources of air pollution are wind-blown dust from disturbed or exposed soils and by exhaust emissions from motorized equipment.

2. Soils:

The soils are the Hollomex loam (0 to 1 percent slope) as described in the Soil Survey of Chaves County, New Mexico - Northern Part (Page 37 and Map 27). This deep, well-drained soil type is located on low terraces. It formed in calcareous, gypsiferous alluvium and residuum. Permeability is moderate, runoff is medium and the hazard of water erosion is moderate. The hazard of soil blowing is high. Loss of the surface layer results in a severe decrease in productivity. The main limitations are the shallow depth to gypsiferous material and high hazard of soil blowing.

3. Vegetation:

The native vegetation in the area is composed of alkali sacaton (*Sporobolus airoides*), vine-mesquite (*Panicum obtusum*), tobosa (*Pleuraphis mutica*), cactus (*Opuntia* spp.), broom snakeweed (*Gutierrezia sarothrae*), and annual forbs. The mean annual precipitation is 11 to 12 inches. There are no known populations of noxious or invasive weed species on the proposed access road and well pad.

4. Water Quality - Groundwater:

The area of analysis is at the northeast limit of the Roswell ground-water basin. The Roswell basin can be described by its three main components. First is an eastward dipping carbonate aquifer that is closely related to the San Andres limestone. It is often called the “artesian aquifer” though it is unconfined to the west. Water-producing zones near the refuge are at the upper part of the San Andres limestone and can extend into the Grayburg and Queen formations of the Artesia Group.

The Artesia Group comprises the second component of the basin, a leaky “confining bed” overlaying the carbonate aquifer. One or more water zones are present in the upper portion of the confining bed, contributing approximately ten percent of the water pumped in the Roswell basin (Welder 1983).

Finally, the confining bed is overlain by a water table aquifer of Quaternary alluvium, commonly called the “shallow aquifer”. There is evidence that the unconfined shallow aquifer is not restricted to Pecos River alluvium, but actually extends downward to the Artesia Group (Kinney *et al.* 1968). The northern limit of the shallow aquifer falls within the area of analysis.

Recharge of the Roswell ground-water basin is primarily by infiltration from precipitation, with influent from intermittent streams and subsurface underflow as secondary sources. Recharge east of the Pecos River provides flow to the river, and sustains water levels in Bottomless Lakes State Park and areas near Bitter Lake National Wildlife Refuge. The artesian aquifer receives water from the central part of the western recharge area. The shallow aquifer is replenished from the nearest part of the western recharge area (Summers 1972). The depth of the water table ranges from less than ten feet near the river in the southeast part of the area of analysis, to more than 80 feet to the west (Wilkins and Garcia 1995).

Ground water flow in much of the area of analysis converges on the Middle Tract of the refuge, which has caused concern about the risks of ground-water contamination from various sources. As a result, the U.S. Fish and Wildlife Service contracted a study of the source and movement of water supplying the refuge (Balleau Groundwater, Inc. 1999). The report provides much of the basis for delineating the area (**Illustrations #1, #3, & #4**).

5. Wildlife:

Wildlife species utilizing this area for habitat include mule deer, pronghorn antelope, coyote, fox, rabbits, kangaroo rats, pocket gophers, prairie rattlesnakes, as well as a variety of songbirds, dove, quail, and raptors.

No known special status plant or animal species or critical habitat occur in the project area. The main habitat concern for this proposed project is the protection of the subsurface aquifers and groundwater supplying springs and sinkholes occupied by the Pecos gambusia and invertebrates on the BLNWR.

Even though, gas does not occur in underground aquifers or sinkholes, but instead, occur in small, interconnected pore spaces in rock, protective measures will be specified to this action to prevent the possibility of river water contamination. In view of the project being proposed on the BLM/Bitter Lake Habitat Protection Zone, uncompromising environmental protection measures will be implemented for the preservation of the Pecos gambusia and invertebrates. Reasonable and prudent measures would be enacted on the proposed action so that the project would not directly or indirectly influence the downstream Pecos River habitat of the species. Steel tanks would be recommended to be used during the drilling phase of the operations, to prevent the possibility of the drilling muds dissolving into the underground aquifers.

Pecos gambusia (*Gambusia pecosensis*)

The Pecos gambusia is listed as an endangered species under the Endangered Species Act of 1973. The Pecos gambusia is a small fish 25-40 millimeters long and is endemic to the Pecos River basin in the southeastern New Mexico and western Texas. Historically, Pecos gambusia occurred as far north as the Pecos River near Fort Sumner, NM, and south to Fort Stockton, TX. However, recent records indicate that its native range is restricted to sinkholes or springs and their outflows, on the west side of the Pecos River in Chaves County, NM. In spite of population declines, the species remains locally common in a few areas of suitable habitat. In N.M., populations are present on the BLNWR and the Salt Creek Wilderness Area (both in Chaves County). These areas constitute the key habitat of the species in the Roswell Field Office. Populations of Pecos gambusia occur in several springs and isolated gypsum sinkholes at the BLNWR Middle Unit (Lake St. Francis Research Natural Area) and the Ink Spot sinkhole in the Salt Creek Wilderness. The drilling aspects of the well may have a remote but potential negative affect upon groundwater aquifers supplying springs and isolated gypsum sinkholes at the refuge.

Pecos Assiminea Snail (*Assiminea pecosensis*) Proposed Endangered with Critical Habitat

Roswell Springsnail (*Pyrgulopsis roswellensis*) Proposed Endangered with Critical Habitat

Koster's Tryonia Snail (*Tryonia kosteri*) Proposed Endangered with Critical Habitat

Noel's Amphipod (*Gammarus desparatus*) Proposed Endangered with Critical Habitat

These three snails and one amphipod are found in the same locations and share the same threats and management needs. All have extremely limited distribution in the Roswell FO area. Significant populations of these species occur at sinkholes, springs and associated spring runs and wetland habitat at the Bitter Lake National Wildlife Refuge. The Roswell springsnail and Koster's tryonia (*Hydrobiid* snails) are known only from Bitter Creek, Lost River and Sago spring system at the refuge, and North Springs at the Roswell Country Club (private land, status uncertain). The Pecos assiminea (marine snail family) is known only from the refuge and Diamond Y Spring near Ft. Stockton, Texas. Noel's amphipod is known only from the refuge. If listed as endangered, BLNWR would be considered critical habitat for these species.

6. Range:

The well is located on BLM grazing allotment #64054 operated by E.H. Cattle Co., HCR 31 Box 1318, Roswell, NM, 88201.

7. Visual Resource Management (VRM)/Recreation:

The proposed action is located in a designated VRM Class III area. Contrasts to the basic elements (form, line color, texture) caused by a management activity may be evident and begin to attract attention in the landscape. The changes, however, should remain subordinate in the existing landscape. Recreation in the vicinity includes seasonal hunting.

The access road and well pad are within a visual corridor that is designated VRM Class III area. The proposed actions are in very close proximity to the visual view from the Capitan County Road and Highway 70 and in order to minimize the visual affect from the construction of an access road and well pad, minimal surface disturbance activities would be required.

8. Cave/Karst:

No surface cave/karst features were observed in the immediate vicinity of the proposed action. There is the possibility of below ground level karst-type structures due to shallow occurrences of carbonates halite, and gypsum.

9. Minority or Low-income Populations or Communities: The proposed project would not affect the minority or low-income populations or communities.

IV. ENVIRONMENTAL IMPACTS

A. Proposed Action:

The surface disturbance involved in the construction of the access road and well pad would total about 2.2 acres of federal surface (plus an additional 1.4 acres for a potential buried pipeline). Environmental impacts that can be anticipated include:

1. Air Quality:

Air quality would temporarily be impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the access road, well pad, and by the rotary drilling rig. Dust dissemination would be greatly reduced upon completion of the construction phase of the access road and well pad. Air pollution from the motorized heavy equipment would discontinue entirely upon completion of the drilling phase of the operation. Winds that frequent southeastern New Mexico generally disperse odors and emissions. The impact to air quality would become greatly reduced as the construction and drilling phases are completed.

2. Soils:

As stated above, the construction of the access road and well pad would physically disturb about 2.2 acres of topsoil material and vegetation. The exposed soils would be susceptible to wind blowing and

water erosion. Surfacing the exposed areas would minimize the impacts to the soil. The impact would be remedied upon reclamation when the stockpiled soil would be spread over the disturbed areas to establish a seed bed.

The access road would be impacted when heavy precipitation causes water erosion damage. When water-saturated segment(s) on the access road become impassable, vehicles may still be driven over the road. Consequently, deep tire ruts would develop. Where impassable segments are created from deep rutting, unauthorized driving may occur outside the designated 14-foot wide driving surface access road. This would create additional soil impacts associated with lease development. Road construction requirements would alleviate potential impacts to the access road from water erosion damage.

The potential pipeline would disturb up to 1.4 acres of topsoil along the pipeline corridor and would mix soil horizons to a depth of 36 inches from trenching operations. Because blading would not be required for pipeline installation, this disturbance acreage could be less than 1.4 acres.

3. Vegetation:

Construction activities for the access road and well pad would remove about 2.2 acres of native vegetation from the site. Vegetation that would be removed would be tobosa grass that dominates the site and scattered cacti. Vegetative recovery on the site would depend on the life of the well. If drilled as a dry hole and plugged, reclamation of the site would immediately follow with vegetation re-establishing within three to five years. Vegetative impacts would be short-term with the site re-vegetating in a few years, if a gravel surfacing material were used instead of caliche. If it is a producing well, reclamation would not commence until the well is a depleted producer and plugged and abandoned. Native vegetation would encroach on the site over time with only high traffic areas remaining unvegetated.

The construction of an access road and/or well pad may unintentionally contribute to the establishment and spread of noxious weeds. The noxious weed seed could be carried to and from the project areas by construction equipment, the drilling rig, and transport vehicles. The main mechanism for seed dispersion on road and well pad is by vehicles and equipment previously used and/or driven through noxious weed-infested areas. Washing and decontaminating the equipment prior to entering federal land would minimize this impact.

The potential pipeline construction would disturb up to 1.4 acres of vegetation along the pipeline corridor, from trenching operations. Because blading would not be required for pipeline installation, this disturbance acreage could be less than 1.4 acres.

4. Water Quality - Ground Water:

The drilling of a gas well should be a rather simple procedure in that a subsurface hole, or borehole, is drilled until it penetrates a gas-bearing formation. However, in reality, the drilling of a gas well is accomplished by a highly sophisticated and complex operation that has been developed after years of study, experimentation, and acceptance of practices that have been proven to be successful in the field.

The casing and cementing procedures used in drilling a gas well are designed so that drilling fluids (mud) are contained within the casing/cemented borehole and are not allowed to discharge into

underground aquifers. Another pertinent point to drilling a gas well is how the formation pressure mechanism works in reverse; gas pressure pushes up instead of down into the borehole and consequently not into the formations and the water table. The pressure energy from the producing formations would prevent the inverse suction of drilling fluids from entering into those formations and would not allow any drilling fluids from being released or escaping into the underground aquifers.

The impact from drilling fluid contamination is minimal since downhole pressures would prevent drilling fluids from entering the underground aquifers. The impacts to the aquifers would be minimized by the proper cementing of casing in the borehole. Once the well is completed, the casing and cement would provide adequate protection to groundwater resources by sealing off aquifers, and preventing seepage from the borehole into the underground aquifers. Monitoring the well for casing integrity would alleviate potential impacts to groundwater sources that could affect significant springs and sinkholes at the BLNWR.

However, there is a likelihood that drilling fluid contamination could occur during the drilling phase. If this happens, the effects would be very minimal because the use of steel tanks would protect the surface from mud contamination and the borehole casing program would protect the sub-surface aquifers from the possibility of mud contamination. The drilling of a well is of a short duration. Usually the amount of time it takes to drill or complete the well is typically two weeks but may take up to four weeks.

Produced fluids (e.g.: saltwater, oil, and/or condensate) could cause permanent damage off the well pad in the event of a breach, overflow, or spill from storage tanks associated with production facilities on the well pad.

5. Wildlife:

Proposed Action and Preferred Alternative -

Some small wildlife species may be killed and their dens or nests destroyed during construction of the access road and well pad. The construction of the access road and well pad could cause fragmentation of wildlife habitat. The short term negative impact to wildlife would occur during the construction phase of the operation due to noise and habitat destruction. In general, most wildlife species would become habituated to the new facilities. For other wildlife species with a low tolerance to activities, the operations on the well pad would continue to displace wildlife from the area due to ongoing disturbances such as vehicle traffic and equipment maintenance. The conditions of approval would alleviate most losses of wildlife species, such as; no open reserve pits, netting storage tanks, installation or other modifications of cones on separator stacks, and timing stipulations. Upon abandonment of the well, the area would revegetate and wildlife would return to previous levels.

The construction of the buried pipeline would also augment the fragmentation of wildlife habitat. The construction of the pipeline trench would also contribute to the same impacts that result from the access road and well pad construction. However the impacts from the buried pipeline are minimal when compared with the short time it takes for the construction phase to be accomplished and for the rehabilitation of the buried pipeline disturbed areas. When the pipeline is constructed, wildlife species would only be disturbed during short periods, such as, when the pipeline requires maintenance or is reclaimed.

Pecos gambusia (*Gambusia pecosensis*) Endangered

Pecos Assiminea Snail (*Assiminea pecosensis*) Proposed Endangered with Critical Habitat
Roswell Springsnail (*Pyrgulopsis roswellensis*) Proposed Endangered with Critical Habitat
Koster's Tryonia Snail (*Tryonia kosteri*) Proposed Endangered with Critical Habitat
Noel's Amphipod (*Gammarus desparatus*) Proposed Endangered with Critical Habitat

Loss or alteration of habitat (periodic dewatering), and introduction of exotic fish species (mosquitofish) are the key threats to the Pecos gambusia. Potential impacts to habitat may occur from surface disturbing activities at sinkholes or springs and their outflows. There are no sinkholes or springs in the vicinity of the proposed well. Impacts to groundwater resources have been addressed under Ground Water Quality.

The probability of contamination of groundwater resources supplying springs at the BLNWR from the proposed gas well is very remote, but not discountable. The probability of an accident occurring increases as the number of wells are developed in the area. The proposed well is located north of Highway 70 about three miles northwest of the Refuge.

Located between the proposed well and the Refuge are other developments which pose an even greater risk for surface and subsurface contamination, such as the growing subdivision located one mile west of the BLNWR, the Atchison Topeka and Santa Fe Railroad, and Highway 70. At the present time, the BLM does not own either the surface or the mineral estate to lands located immediately adjacent to the BLNWR. These lands pose a much greater and immediate threat to the listed and proposed species than the proposed gas well. Weighing the possibility of groundwater contamination from the proposed well and the potential for contamination from other sources (septic tanks, highway spills, railroad spills) further reduces the magnitude of potential contamination from the proposed well.

Based on these analyses, the effects determination for the federal endangered Pecos gambusia and proposed Endangered Pecos assiminea, Roswell springsnail, Koster's tryonia and Noel's amphipod at the BLNWR from the development of a gas well is May Affect, Not Likely to Adversely Affect.

6. Range:

There would be some minor disruption of livestock grazing in the pasture, specifically at the well pad location, during the construction and drilling phase of the well.

7. Visual Resource Management/Recreation:

The construction of the access road and well pad would modify the existing visual features of the landscape. The visual impact from the construction of the access road and well pad would appear intrusive in this area and minimum construction activities on the access road, well pad, and pipeline would to a great extent lessen the visual impacts in this area. Until reclamation of the access road and well pad are accomplished, oil and gas operations development may dominate the view of the landscape. There would be no impact to recreation uses in the area.

8. Cave/Karst:

There would be no impact to known cave entrances, or karst features within the project area.

9. Minority or Low-income Populations or Communities: The proposed project would not impact the minority or low-income populations or communities.

B. Alternatives:

1. Relocation Alternative:

The alternative of changing the location involved in this action was not analyzed further because no other alternative location would have significantly fewer impacts than, or have a clear advantage over, the proposed location.

2. No Action Alternative

The "No Action" alternative would constitute denial of the application. This alternative would result in none of the identified environmental impacts. There would, however, be an adverse economic impact to the applicant through the denial of the lessee's right to develop the mineral reserves or through increased costs of accessing those mineral reserves through other means. There have been no significant or unmitigatable impacts identified as a result of this analysis which would warrant selection of the no action alternative.

C. Mitigation:

The Roswell Field Office's Well Drilling Requirements (Exhibit B), Conditions of Approval (Exhibit C), Permanent Resource Road Requirements (Exhibit D) and the special requirements derived from this EA that would be applied to this proposed action to minimize the surface disturbance and conserve the surrounding landscape.

The protective measures for the borehole casing and cementing process are requirements in the drilling phase that would sustain the integrity of the well and would also be sufficient for the protection of aquifers. The protective measures that would be implemented for this action would significantly reduce the probability of groundwater contamination. The BLM would monitor surface activity to detect any surface accidents soon enough that they can be discovered and corrected before significant harm to the underground aquifer can occur.

D. Cumulative Impacts:

In the foreseeable future, lease holders could develop more wells that could accumulate to a substantial reduction of habitat. Well development mitigation measures would greatly reduce, but may not completely eliminate accidental spills or casing failures that could contaminate the aquifers. While it is unlikely that there will be significant cumulative effects from this individual action, continued oil and gas development, and other surface-disturbing activities in this area may potentially have cumulative impacts on vegetation, soil, water, and wildlife. In the foreseeable future, the cumulative impacts from oil and gas activities would be reduced as the wells play out and the lands are reclaimed.

V. Consultation and Coordination

An onsite inspection was conducted on the access road and well pad (June 14, 2000). In attendance was Cy Cowan, Regulatory Agent for Yates Petroleum Corporation, Richard Hill, Environmental Protection

EXHIBIT B

1 of 7 pages

WELL DRILLING REQUIREMENTS

OPERATORS NAME: Yates Petroleum Corporation LEASE NO.: NM-33944

WELL NAME & NO: Shelly Federal #2

QUARTER/QUARTER & FOOTAGE: SW¼SE¼ & 660' FSL & 1980' FEL

LOCATION: Section 23, T. 9 S., R. 24 E., N.M.P.M.

COUNTY: Chaves County, New Mexico

I. GENERAL PROVISIONS:

1. **The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).**
2. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

II. WELL PAD CONSTRUCTION REQUIREMENTS:

1. The BLM shall administer compliance and monitor construction of the access road and well pad. Notify **Richard G. Hill** at least **3** working days (72 Hours) prior to commencing construction of the access road and/or well pad. Roswell Field Office number **(505) 627-0247**.
2. Prior to commencing construction of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with **a copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).**
3. **The construction of the access road and well pad shall be kept to a minimum by not performing excessive construction operations.** The soil disturbance during construction of the well pad and access road shall be kept to an absolute minimum by clearing vegetation and blading only where it is absolutely necessary during the construction of the access road and well pad. In accordance with sound resource management practices in those areas where soil stabilization conditions require, the holder shall not have to excessively grade or blade the access road and/or well pad beyond the minimum grubbing of vegetation and the minor leveling of land irregularities to provide a smooth running travelway on the access road. The holder shall comply with acceptable construction procedures for the specific soil conditions that are encountered on the access road and well pad by laying surfacing (gravel) material on top of the ground level of the terrain and within the proposed access road route without excessive blading. The construction of the access road and well pad shall require minimal grubbing of vegetation and leveling of the ground prior to the progressive surfacing of the access road and well pad with gravel material. Minimizing the surface disturbing activities would help diminish the distraction from the construction of the well pad and access road on the visual resources of the area.

4. **The stockpiling of the topsoil for this well pad has been waived.** The holder shall not have an earthen stockpile of topsoil on the well pad. The construction of the well pad shall be kept to minimum when grading or blading except where topography irregularities necessitates deep ground leveling. The well pad shall be leveled to the extent possible with minimal surface disturbance and grubbing of the vegetation shall be kept to a minimum. In order to minimize the visual resources of the area, the holder shall not have any intrusive earthen mounds above ground level on the well pad. Upon reclamation of the well pad, the holder shall use and comply with the Well Drilling Requirements - VI. Seeding Requirements, mandated for the well pad.

5. **Steel Tank Requirements: NO RESERVE PITS**

1. **The holder shall use steel tanks for drilling the well in lieu of reserve pits.** Steel tanks will help prevent the possibility of the drilling fluid leaching into the underground aquifers and reduce soil disturbance.

2. The steel tanks shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances shall the steel tank be opened and allowed to drain drilling muds on the ground.

3. The steel tanks shall be equipped to deter entry by birds, bats, and other wildlife.

4. The holder shall dispose of drilling muds and cuttings at an authorized disposal site. No drilling muds and/or cuttings shall be dumped on location.

6. **Federal Mineral Materials Pit Requirements:**

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 -0236.

2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.

7. **Well Pad Surfacing Requirement:**

A. The well pad shall be surfaced with 6 inches of compacted gravel or other approved surfacing material. The well pad shall be surfaced prior to drilling operations. Surfacing of the well pad shall be done with gravel material only. See **Permanent Resource Road Requirements - EXHIBIT D - requirement #4, for road surfacing.**

8. **Cave Requirements:**

A. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease, and the Roswell Field Office shall be notified, contact **Larry Bray** at (505) 627-0250.

B. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

III. DRILLING OPERATION REQUIREMENTS:

A. General Requirements:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 in sufficient time for a representative to witness:

A. Spudding B. Cementing casing: 8⁵/₈ inch 4¹/₂ inch C. BOP tests

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

B. CASING:

1. The 8⁵/₈ inch surface casing shall be set at 975' and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 4¹/₂ inch intermediate casing is **shall be sufficient to circulate to the surface.**

C. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 8⁵/₈ inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

D. DRILLING MUD:

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

- Recording pit level indicator to indicate volume gains and losses.
- Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
- Flow-sensor on the flow-line to warn of abnormal mud returns from the well.

E. MONITORING:

In order to provide a means of monitoring the integrity of the 4¹/₂-inch casing during production operations, a production packer shall be required to be set above the perforations and a pressure gauge placed at the surface.

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IV. DOWN HOLE ABANDONMENT REQUIREMENTS:

1. If the well is a dry hole and will be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing a Sundry

Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", and submitting an original and five (5) copies to the Roswell Field Office. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where plugs are to be placed, type of plug, type of plugging mud, etc.

2. If the well is not drilled, please notify the BLM so that an official release can be approved.

V. SURFACE RECLAMATION/RESTORATION REQUIREMENTS:

1. When the well is abandoned the "**Notice of Intention to Abandon**" (Form 3160-5) could also be used by the holder as the initial report for the surface reclamation/restoration of the access road and well pad. Upon receipt of the "NOI" the Authorized Officer shall provide the holder with the specific requirements for the reclamation/restoration of the access road and well pad.
2. **Subsequent Report Of Abandonment:** The holder shall submit a second report on Form 3160-5, Sundry Notice and Report On Wells, the original and five (5) copies to the Roswell Field Office, pertaining to the reclamation/restoration of the access road and well pad. The holder shall demonstrate that the surface reclamation/restoration requirements have been complied with. The holder shall specify that the reclamation work accomplished the restoration of the disturbed areas to as near the original surface condition the land was in prior to construction of the access road and well pad.
3. **Final Abandonment Notice:** The holder shall submit a third report on Form 3160-5, Sundry Notice and Report On Wells, the original and five (5) copies to the Roswell Field Office, that will ascertain that all surface reclamation/restoration requirements have finally been completed and that the access road and well pad are ready for final inspection. The holder shall specify that the surface has been reclaimed in accordance with federal regulations and request final approval of the access road and well pad.
4. The holder shall comply with all the surface reclamation/restoration required by the Authorized Officer pertaining to the reclamation/restoration of the access road and well pad. Liability under bond shall be retained until surface reclamation/restoration of the access road and well pad has been completed to the satisfaction of the Authorized Officer.

VI. SEEDING REQUIREMENTS:

A. **No topsoil stockpile shall be conserved for this well pad**, this requirement has been waived. However, upon reclamation, the well pad shall have an established seed bed that shall be accomplished with cultivating equipment. The well pad shall be harrowed to provide a viable seed bed in order to proliferate plant growth. The dissemination of the prescribed DPC seed mixture over the cultivated areas would generate plant growth.

B. The reclaimed area(s) shall be seeded with the seed mixture that was determined by the Roswell Field Office for the Desired Plant Community on this well site.

C. The same seed mixture shall be used on the reclaimed access road; **See PERMANENT RESOURCE ROAD REQUIREMENT #12.**

D. The planting of the seed shall be done in accordance with the following seeding requirements:

1. **The access road and well pad shall be ripped a minimum of 16 inches deep.** The topsoil soil shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. Seed shall be planted using a drill equipped planter with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seeds have a tendency to drop to the bottom of the drill and are planted first, the holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled.

2. The holder shall seed all the disturbed areas with the DPC seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed per acre, (Pounds of pure live seed per acre: pounds of seed X percent purity X percent germination = pounds pure live seed). There shall be no primary or secondary noxious weeds in the seed mixture. In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and the certified seed tag shall be made available for inspection by the Authorized Officer.

3. Desired Plant Community seed mixture to be planted in pounds of pure live seed per acre:

BLUE GRAMA, var. Lovington or Hachita (<i>Bouteloua gracilis</i>)	4.00 Lbs.
SIDEOATS GRAMA, (<i>Bouteloua curtipendula</i>)	
var. Vaughn or El Reno	1.00 Lb.
SAND DROPSEED (<i>Sporobolus cryptandrus</i>)	0.50 Lbs.
VINE MESQUITE (<i>Panicum obtusum</i>)	1.00 Lbs.
PLAINS BRISTLEGRASS (<i>Setaria macrostachya</i>)	1.00 Lb.
INDIAN BLANKETFLOWER (<i>Gaillardia aristata</i>)	0.50 Lb.
DESERT or SCARLET (<i>Sphaeralcea ambigua</i> or <i>S. coccinea</i>)	
GLOBEMALLOW	<u>1.00 Lb.</u>
Pure live seed per acre =	9.00 Lbs.

If one species is not available, increase all other proportionately, a minimum of four species is required. Certified Weed Free Seed.

E. The recommended time to seed is from June 15th through September 15th. The optimum seeding time is in mid-July. Successive seeding should be done either late in the fall (Sept. 15th - Nov. 15th, before freeze up) or early as possible the following spring to take advantage of available ground moisture. However, the holder may seed immediately after completing surface abandonment requirements.

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F. The seeding of the disturbed areas shall be repeated until a vegetation thicket is established on the access road and well pad. The Authorized Officer shall make the determination when the regrowth on the disturbed areas is satisfactory.

G. The holder shall be responsible for the establishment of vegetation on the access road and well pad.

Evaluation of vegetation growth will not be made before the completion of the first growing season after seeding. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the disturbed areas have failed and the Authorized Officer determines that any further attempts to reseed the access road and well pad is futile.

H. Contact Ms. Jessica Rubado (505) 627-0240 to witness the seeding operations, two (2) days prior to seeding the disturbed areas.

I. Invasive and Noxious Weeds Requirement:

A. The holder shall be held responsible should the establishment of noxious weeds began to grow within the area. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land resulting from this action, which includes the roads, pads, associated pipelines and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and/or vehicles that will be used to construct the access road and/or well location are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and/or vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds and the probability that the equipment and/or vehicles are carriers of noxious weed seed from the conduct of previous projects in noxious weed infested areas, the Authorized Officer shall require that the equipment and vehicles be washed clean prior to construction of the access road and/or well location.

VII. ON LEASE - WELL REQUIREMENTS:

1. A. The holder shall post signs identifying the location permitted herein with the requirements contained in Onshore Oil and Gas Order #1 and 43 CFR 3162.6.

B. The following data is required on the well sign that shall be posted in a conspicuous place on the well pad. The sign shall be kept up with current identification and shall be legible for as long as the well is in existence:

Operator Name: Yates Petroleum Corporation
Well Name & No.: Shelly Federal #2
Lease No.: NM-33944
Footage: 660' FSL & 1980' FEL
Location: Section 23, T. 9 S., R. 25 E.

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C. UPON ABANDONMENT OF THE WELL, THE SAME INFORMATION SHALL BE INSCRIBED ON THE DRY HOLE MARKER WITH A BEADED WELD.

2. The approval of the APD does not in any way imply or grant approval of any on-lease, off-lease, or off-unit action(s). It is the responsibility of the holder to obtain other approval(s) such as rights-of-

way from the Roswell Field Office or other agencies, including private surface landowner(s).

3. All vehicles, including caterpillar track-type tractors, motor graders, off-highway trucks and any other type of motorized equipment that is used in the construction of the access road and well pad shall be confined to the area(s) herein approved. The drilling rig that is used to drill the well shall also be confined to the approved area(s).

4. Well Completion Requirement:

A. If the well is completed, all areas of the well pad not necessary for operations shall be reclaimed to resemble the original contours of the surrounding terrain.

5. Painting Requirement:

All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is Carlsbad Canyon, Munsell Soil Color Number A 6/2.

6. Fence Requirement: None required.

7. Open-vent Exhaust Stack Requirements:

A. All open-vent exhaust stacks associated with heater-treater, separators and dehydrator units shall be modified to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.

B. New production equipment installed on federal leases after November 1, 1993, shall have the open-vent exhaust stacks constructed to prevent the entry of birds and bats and to the extent practical, to discourage perching, and nesting.

VIII. SPECIAL REQUIREMENT(S):

1. The production facilities (storage tanks, dehydrator unit, heater/treater, separator, meter housing, stacks, expander-compressor unit, etc.) shall not be higher than 8 feet high for the life of this well. Low-profile facilities no greater than eight-feet-high shall be used. If necessary, multiple tanks shall be used.

CONDITIONS OF APPROVAL

OPERATOR: Yates Petroleum Corporation

LEASE NO: NM-33944

WELL NAME & NO.: Shelly Federal #2

LOCATION: Section 23, T. 9 S., R. 24 E., N.M.P.M.

QUARTER/QUARTER & FOOTAGE: SW¹/₄SE¹/₄ - 660' FEL & 1980' FSL

COUNTY: Chaves County, New Mexico

I. GENERAL CONDITIONS OF APPROVAL:

1. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Conditions Of Approval.
2. The holder shall indemnify the United States against any liability for damage to life or property arising from occupancy or use of public lands under this authorization.
3. The holder shall have surface use approval prior to any construction work on change(s) or modification(s) to the access road and/or well pad. The holder shall submit (Form 3160-5), Sundry Notice and Report On Wells, an original plus one (1) copy to the Roswell Field Office, stating the basis for any changes to previously approved plans. Prior to any revised construction the holder shall have an approved Sundry Notice and Report On Wells or written authorization to proceed with the change in plans ratified by the Authorized Officer.
4. **Weed Control:**
 - A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land resulting from this action, which includes the roads, pads, associated pipelines and adjacent land affected by this weed establishment. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad, and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

5. Hazardous Substance:

A. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act Of 1976, as amended (15 U.S.C. 2601, et. seg.) with regard to any toxic Substances that are used, generated by or stored on the project/pipeline route or on facilities authorized. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

B. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et. seg. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et. seg.) on this project/pipeline (unless the release or threatened release is wholly unrelated to the operator's activity on the pipeline). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

6. Undesirable Event:

If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutants should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutants, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

7. Archaeological, Paleontology, and Historical Sites:

A. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be

immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

B. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of the project work, the holder shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The holder or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes. Any unauthorized collection or disturbance of cultural resources may result in a shutdown order by the Authorized Officer.

8. **Sanitation:**

The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

9. **Open-top tanks:**

Any open-top tank containing oil and/or toxic fluids shall be covered with netting or equipped to prevent birds, bats, and other wildlife from entering the open-top tank.

10. **Other:** none

EXHIBIT D

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PERMANENT RESOURCE ROAD REQUIREMENTS

Operator: Yates Petroleum Corporation
BLM Serial Number: NM-33944
Well Name & NO.: Shelly Federal #2
Location: Section 23, T. 9 S., R. 24 E.
660' FSL & 1980' FEL, Chaves County, N.M.

1. The holder agrees to comply with the following requirements:

GENERAL REQUIREMENTS:

- A. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Permanent Resource Road Requirements.
- B. The holder shall minimize any disturbance to structures on public domain surface. Damages caused to any structure during road construction operations shall be promptly repaired by the holder. Functional use of any structure shall be maintained at all times. The holder shall make a documented good-faith effort to contact the owner prior to disturbing any structure.
- C. When necessary to pass through an existing fence line, the fence shall be braced on both sides of the passageway prior to cutting and the fence shall be promptly repaired to at least it's former state or to a higher standard than it was previously constructed.
- D. A professional engineer shall design the access road if the road grade exceeds 10 percent slope.

2. INGRESS AND EGRESS:

The access road shall be constructed to access the well pad on the **Southwest** side of the well pad to comply with the planned access road route.

3. ROAD TRAVELWAY WIDTH: Minimize grading to irregularities on the road only.

- a. The travelway of the road shall be constructed 14 feet wide. The maximum width of surface disturbance shall not exceed 30 feet of road construction. The specified travelway width is 14 feet for all road travelway surfaces unless the Authorized Officer approves a different width.

4. SURFACING:

b. Prior to drilling operations, the entire length of the access road travelway on federal surface shall be surfaced with gravel material only.

c. The access road travelway shall be surfaced with gravel material. If other surfacing material is used, the new type of material shall be approved by the Authorized Officer. The travelway of the road shall be surfaced with gravel material. The gravel material shall be compacted to a minimum thickness of 6 inches for the entire length of the travelway surface on the access road. The width of surfacing shall not be less than 14 feet of travelway surface. Prior to using any mineral materials from an existing federal pit, authorization must first be obtained from the Authorized Officer.

5. CROWNING AND DITCHING:

Crowning with materials on site and ditching on one side of the road, on the uphill side, shall be required. The road cross section shall conform to the cross section diagrams in Figure 1 (attached page 6). Where conditions dictate, ditching is required on both sides of the road. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road).

6. DRAINAGE: No lead-off ditches are required for this road.

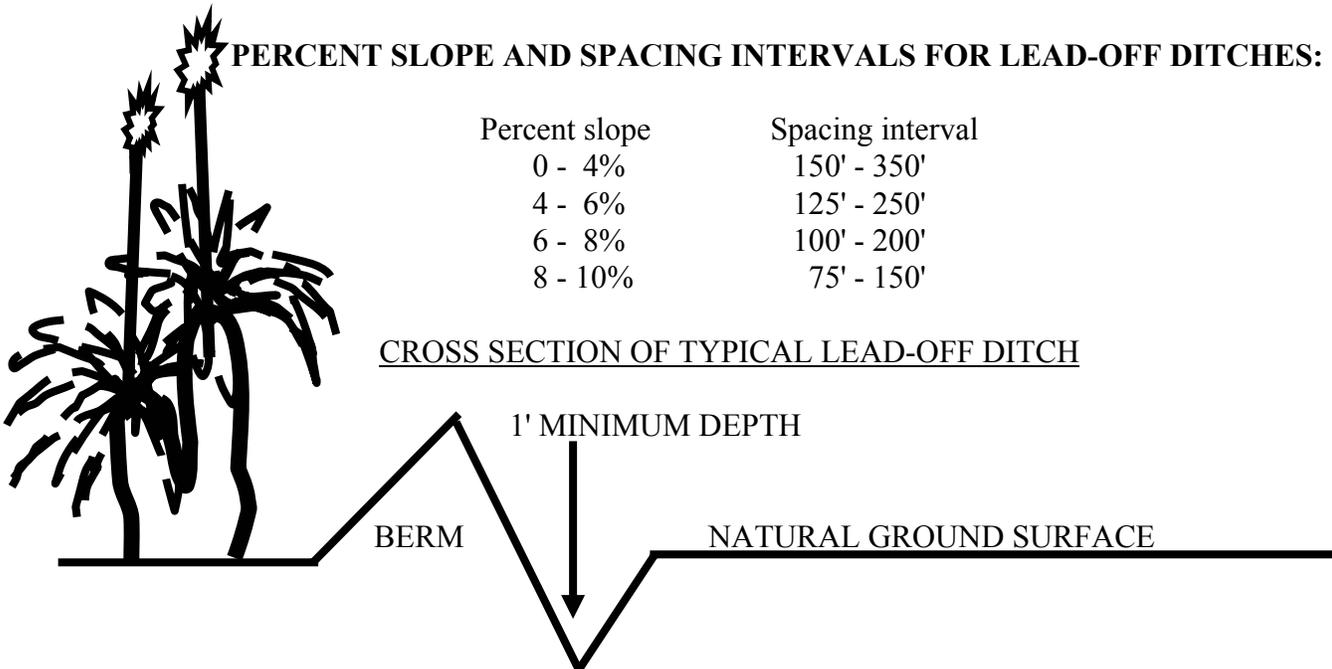
A. Drainage control shall be ensured over the entire road through the construction of ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings.

B. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

PERCENT SLOPE AND SPACING INTERVALS FOR LEAD-OFF DITCHES:

Percent slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'

CROSS SECTION OF TYPICAL LEAD-OFF DITCH



C. A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

D. On road slopes exceeding 2%, water flow shall drain water into an adjacent lead-off ditch. Water flow drainage location and spacing shall be determined by the following formula:

FORMULA FOR SPACING INTERVAL OF LEAD-OFF DITCHES:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Ex. 4% slope: spacing interval = $\frac{400}{4} + 100 = 200$ feet

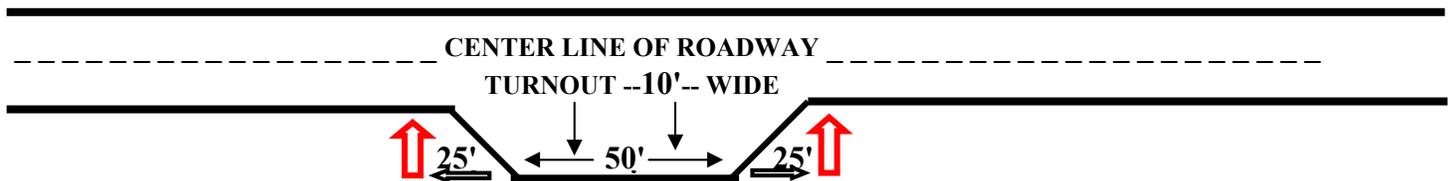
7. CULVERT INSTALLATION: NONE REQUIRED.

A. **No culvert pipes are required on this road.** Culvert pipes shall be used in drainage ravines and/or at water flow crossings that require a culvert to cross over the water drainages. The culvert shall be XXX inches in diameter (minimum 18 inch culvert). The location for the culvert installation is designated on the attached map - **EXHIBIT A**. (A culvert pipe installation diagram shall be attached to this stipulation when a culvert is required to be installed, see EXHIBIT - X).

8. TURNOUTS: NONE REQUIRED.

Vehicle turnouts shall be constructed on all single lane roads (unless the Authorized Officer determines that the turnouts are not required). Turnouts shall be intervisible and shall be constructed on all blind curves with additional turnouts as needed to keep spacing below 1000 feet. Turnouts shall conform to the following diagram:

STANDARD TURNOUT - PLAN VIEW



9. CATTLEGUARDS: NONE REQUIRED.

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although

AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading,) are anticipated.

(See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user. **(A cattleguard installation diagram shall be attached to this stipulation when a cattleguard is required to be installed - see EXHIBIT X - DIAGRAM A & B).**

10. MAINTENANCE:

A. The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, cattleguard maintenance, and surfacing.

B. The holder shall cooperate with other authorized users in maintenance of the road(s). Failure of the holder to share maintenance costs in dollars, equipment, materials, and manpower proportionate to the holders use with other authorized users may be adequate grounds to terminate the road use. The determination as to whether maintenance expenditures have been withheld by the holder and the decision to terminate the road use shall be at the discretion of the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreements entered into by the holder.

11. PUBLIC ACCESS:

A Public access on this road shall not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public land shall not be locked or closed to public use unless closure is absolutely necessary and is authorized in writing by the Authorized Officer.

12. ROAD REHABILITATION REQUIREMENTS:

A. **The access road shall be ripped a minimum of 16 inches deep.** The surface material on the road may be removed and re-used in other approved area(s). Surfacing material left in place shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. All culverts and other road structures shall be removed. All over-burden material shall be replaced in the cut areas, ditches, lead-off ditches, and any other excavated earthwork shall be back filled. The road shall be recontoured to as near it's original topography, as possible. An earthen berm shall be constructed at the entrance of the road to prevent vehicular traffic on the reclaimed road.

B. The reclaimed road shall be seeded with the following **DPC seed mixture** (the Roswell Field Office has determined the Desired Plant Community seed mixture for the reclaimed area(s)):

SEE EXHIBIT B - WELL DRILLING REQUIREMENTS - VI. SEEDING REQUIREMENTS - FOR THE DESIRED PLANT COMMUNITY SEED MIXTURE THAT SHALL BE USED ON THE RECLAIMED ACCESS ROAD.

C. The seed and any fertilizer involved shall be broadcast over the road bed with a spreader, than harrowed to cover the seed. Use of a seed drill planter to plant is acceptable. Appropriate measures shall be taken to ensure that the seed/fertilizer mixture is evenly and uniformly applied. There shall be no primary or **ROAD REQUIREMENTS**

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secondary noxious weeds in the seed mixture. In accordance with State law(s) the seed should be tested for

purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered and the seed mixture container shall be tagged in accordance with State law(s). The seed mixture tag shall be made available to the Authorized Officer for inspection. The seeding shall be repeated until a satisfactory vegetation thicket is established and this determination shall be made by the Authorized Officer. Evaluation of plant growth will not be made before the first growing season.

D. Seeding shall be done between June 15th through September 15th. However, the holder can seed the road immediately after preparing the road bed.

E. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one (1) growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the road has repeatedly failed and the Authorized Officer determines that further attempts to revegetate the road would be futile.

F. Invasive and Noxious Weeds Requirement:

1. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land resulting from this actions, which include the roads, pads and associated pipelines and on adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

2. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad, and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

G. Contact Ms Jessica Rubado at (505) 627-0240 to witness the seeding operations two (2) days before the start of the seeding process.

13. SPECIAL REQUIREMENTS: NONE.