U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2006-141-EA

CASEFILE/PROJECT NUMBER (optional): COC057699 (24-1)
COC066739 (25-2)
COC061721 (25-4)

PROJECT NAME: KGH Operating Co. wells 24-1, 25-2, and 25-4

LEGAL DESCRIPTION: T. 1 S., R. 104 W., Sec. 24, NE¼NE¼, 6th P.M. (24-1)
T. 1 S., R. 104 W., Sec. 25, NW¼NE¼, 6th P.M. (25-2)
T. 1 S., R. 104 W., Sec. 25, NW¼NW¼, 6th P.M. (25-4)

APPLICANT: KGH Operating Company

ISSUES AND CONCERNS (optional): The proposed access route to location 24-1 will include disturbing CSU-1 "fragile soils" on slopes greater than 35%. An engineered construction/reclamation plan will be submitted by the operator prior to approval. Photos for all locations are at: S:\NEPA\onsite_photos\KGH_03-24-06. The applicant proposes to construct a diversion ditch at location 25-4.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Applications have been received to construct three well pads and access roads to each location. Site characteristics of each proposed well location are summarized in Table 1.

Table 1. Dominant vegetation, elevation, watershed, well and road density for the proposed well locations

Well Number	Dominant Vegetation	Elevation (ft)	Well Density (sq. mi)	Road Density (sq. mi)	Watershed	Onsite Date
24-1	Pinyon-juniper with mixed perennial grasses	6183	3.67	2.56	Cottonwood Creek	24 March 2006
25-2		6697	1.61	2.81		
25-4	Mixed perennial grasses	6710	<1 producing well per square mile	2.83	Weaver Canyon	

Proposed Action: The proposed action includes constructing three well pads (see Table 2 for pad dimensions and total area disturbed). Total area disturbed including overburden to construct well pads and access roads will be approximately 4.8 acres.

Table 2. Pad dimensions and acres disturbed for the proposed well pads and access roads.

Well Number	Pad Size (ft)	Disturbance[a] (Acres)	New Access Road	Disturbance (Acres)	Anticipated Construction Date
24-1	175 x 240	1.18	30 x 1300	0.90	1 June 2006
25-2	175 x 240	1.16	30 x 270	0.19	1 June 2006
25-4	175 x 240	1.16	30 x 300	0.21	1 June 2006
	Total	**3.5**	**Total**	**1.30**	
			Total acres disturbed	**4.8**	

[a] Estimate includes total acres disturbed for pad surface and overburden.

No Action Alternative: Under the no action alternative, the application would be denied and the well pads and access roads would not be constructed.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:

NEED FOR THE ACTION: To respond to request by applicant to exercise lease rights and develop potential hydrocarbon reserves.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5 thru 2-6

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The entire White River Resource area has been classified as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II. The proposed action is not located within a ten mile radius of any special designation air sheds or non-attainment areas. The air quality criteria pollutant likely to be most affected by the proposed actions is the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM_{10}) associated with fugitive dust. In addition, slight increases in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide may also occur during construction due to the combustion of fossil fuels associated with construction and drilling operations. Also, non-criteria pollutants such as visibility, nitric oxide, air toxics (e.g. benzene) and total suspended particulates (TSP) may also experience slight short term increases as a result of the proposed actions (no national ambient air quality standards have been set for non-criteria pollutants). Unfortunately, no monitoring data is available for the survey area. However, it is apparent that current air quality near the proposed location is good because only one location on the western slope (Grand Junction, CO) is monitoring for criteria pollutants other than PM_{10}. Furthermore, the Colorado Air Pollution Control Division (APCD) estimates the maximum PM_{10} levels (24-hour average) in rural portions of western Colorado to be near 50 micrograms per cubic meter ($\mu g/m^3$). This estimate is well below the National Ambient Air Quality Standard (NAAQS) for PM_{10} (24-hour average) of 150 $\mu g/m^3$.

Environmental Consequences of the Proposed Action: Cumulative impacts detrimental to air quality south of Rangely, CO can be expected as carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, particulate matter, and sulfur dioxide levels are elevated due to increased oil and gas development. Construction equipment producing elemental and organic carbon via fuel combustion combined with surface disturbing activities that leave soils exposed to eolian processes will both increase production of particulate matter (PM_{10}) during construction. Elemental and organic carbon existing in the air as PM_{10} can reduce visibility and increase the potential of respiratory health problems to exposed parties. However, following initial construction, suggested mitigation, and successful interim reclamation, criteria pollutant levels should return to near pre-construction levels.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter (fugitive dust), vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing the roadway with gravels will also help mitigate production of fugitive particulate matter.

To reduce production of fugitive particulate matter originating from well pads and associated stockpiled soils (long term storage) interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilize on slopes exceeding 5% (e.g. fill slopes). Selection of appropriate geotextiles will also consider potential small animal and wildlife issues. If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with a BLM approved seed mixture (see vegetation section of this document). Furthermore, soils stockpiled for short durations (e.g. during road construction/maintenance) will be wetted during dry periods to reduce production of fugitive particulate matter.

CULTURAL RESOURCES

Affected Environment: KGH Operating Co. well 24-1 and access; well 25-4 and access and well 25-2: The proposed well pad locations and access roads have been inventoried at the Class III (100% pedestrian) level (Conner 2006, Compliance Dated 4/21/2006) with no new cultural resources identified in the inventoried area.

Environmental Consequences of the Proposed Action: The proposed well pads and access roads will not impact any known cultural resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No Action Alternative.

Mitigation: KGH Operating Co. wells 24-1, 25-2, and 25-4 and associated access roads: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or

the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

INVASIVE, NON-NATIVE SPECIES/RECLAMATION: (This includes vegetation information related to Public Land Health Standard 3.)

Affected Environment: The proposed project is within the salt desert shrub and pinyon/juniper woodland vegetation associations. The salt desert shrub soils (24-1 access road(are moderately deep and also derived from shale. This soil is saline which makes for difficult reclamation. The juniper woodland soils (24-1, 25-2 and 25-4) wells and access road are shallow and shale derived. Past reclamation efforts have included non-native species, which have performed well in soil stabilization.

The two noxious weeds found in this area are halogeton and cheatgrass. Both of these species are found throughout the area. Halogeton has the ability to rapidly colonize disturbed areas, but is easily controlled by successful revegetation. Cheatgrass is found throughout the area in all of the plant communities. This specie can hinder reclamation because of its highly competitive nature. Non-native species have been shown to out-compete cheatgrass. Noxious weeds, such as knapweeds, transported on site by construction equipment and support vehicles would also be of concern.

Environmental Consequences of the Proposed Action: Using the proposed non-native seed mix would adequately stabilize soils. These species have not been shown to move off site or to interbreed with adjacent plant species.

With prompt control of any noxious weeds that occur on the project area there would not be any adverse impacts to the adjacent plant communities. Prompt reclamation would prevent cheatgrass and halogeton from establishing.

*Environmental Consequences of the No Action Alternative***:** There would be no impacts.

Mitigation: In accordance with Condition of Approval #179 from Appendix B of the White River ROD/RMP, application of herbicides must be under field supervision of an EPA-certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

MIGRATORY BIRDS

Affected Environment: The Migratory Bird Treaty Act (MBTA) prohibits disturbance or destruction to an active nest, nesting birds, or their eggs or young. This applies to all birds (including raptors), except non-native species including house sparrow, European starling, rock dove, and upland game birds.

Executive Order (EO) 13186 sets forth the responsibilities of federal agencies to implement further the provisions of the MBTA by integrating bird conservation principles and practices into agency activities and by ensuring that federal actions evaluate the effects of actions and agency plans on migratory birds.

U.S. Fish and Wildlife Service (USFWS) compiled a list of Birds of Conservation Concern (BCC) to identify migratory and non-migratory bird species (not including those already designated as federally threatened or endangered) that without conservation actions may become candidates for listing under the Endangered Species Act (ESA) (USFWS 2002). Additionally, Partners in Flight (PIF) North American Landbird Conservation Plan (Rich et al. 2004) addresses bird species not protected by other existing conservation programs.

Environmental Consequences of the Proposed Action: Surveys for raptor nests were conducted on 24 May 2006; no raptor nests were found.

Construction of the facilities would result in habitat loss and displacement of migratory birds from areas on or adjacent to the project site. Construction could also disrupt the courting or nesting of birds on or adjacent to the project area. During construction of pads and access roads, background noise and human activity may deter birds from nesting in the immediate vicinity of the operations, but sufficient nearby nesting habitat exists. Therefore, no long-term impacts would occur. Impacts associated with the proposed project would be limited to the construction and reclamation phase, and would have no measurable influence on the abundance or distribution of migratory birds at the scale proposed. Impacts would be temporary to long-term until successful revegetation occurs.

The development of reserve pits in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. It has recently been brought to the White River Field Office's attention that migratory waterfowl have contacted oil-based drilling fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the MBTA. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation).

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to disrupt the breeding activities of migratory birds or expose birds to fluids that pose a mortality risk.

Mitigation: The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: There are no threatened or endangered animals that inhabit or derive important benefit from these sites.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on special status animals or associated habitat.

Environmental Consequences of the No Action Alternative: The no action alternative would have no conceivable influence on special status animals or associated habitat.

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: The proposed action would have no effective influence on populations or habitat associated with special status species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The proposed action is located entirely within the White River Basin below Yellow Creek and is identified as Hydrologic Unit Code (HUC) 14050007. Fifth level watersheds affected by the proposed action are Cottonwood Creek and Evacuation Creek. Locations 24-1 and 25-2 can be are located in the Cottonwood Creek catchment area while location 25-4 sits in the Weaver Canyon catchment area (tributary to Evacuation Creek Watershed) near the drainage divide with Cottonwood Creek. No perennial water sources or streams are located within the boundaries of the proposed recreation area. These ephemeral drainages flow primarily in response to low elevation snowmelt and high intensity precipitation events.

The "Status of Water Quality in Colorado – 2004" plus the 2006 update (CDPHE, 2006b) were reviewed for information related to the proposed recreation area. The entire project area is located in stream segment 22 of the White River basin. The White River is a tributary to the Green River (in Utah) which is a tributary to the Colorado River. Stream segment 22 has not been classified as use protected. An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review. Stream segment 22 has been designated by the state as being beneficial for the following uses: Warm Aquatic Life 2, Recreation 1b, and Agriculture. For stream segment 22, minimum standards for four parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 325/100 ml, and 205/100 ml E. coli (CDPHE, 2006b).

Newly promulgated Colorado Regulations Nos. 93 and 94 (CDPHE, 2006c and 2006d, respectively) were also reviewed for information related to the proposed project area drainages. Regulation No. 93 is the State's list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2006 list of segments needing development of TMDLs includes two segments within the White River - segment 9b, White River tributaries North & South Forks to Piceance Creek, specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development) and segment 22, tributaries to the White River, Douglas Creek to the Colorado/Utah boarder, specifically West Evacuation Wash, and Douglas Creek (sediment impairments). Regulation 94 is the State's list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes two White River segments that are potentially impaired – 9 and 22. Cottonwood Creek and Weaver Canyon (stream segment 22) have not been identified on the 303(d) or M&E List. However, the White River RMP/ROD has listed Cottonwood Creek as a "fragile watershed" which has been identified as a significant contributor of sediment and salinity to the Colorado River system (BLM, 1997).

Ground water: A review of the US Geological Survey Ground Water Atlas of the United States (Topper et al., 2003) was done to assess ground water resources at the location of the proposed actions. Information presented in Topper et al. (2003) indicates the extent of the Mesaverde aquifer encompasses the project area south of Rangely, CO. Surface geology at the proposed well pad locations consists of the Parachute Creek Member of the Green River Formation (location 25-4), and the Lower Green River Formation (locations 24-1, and 25-2) which overlays the Wasatch and upper portion of the Mesaverde Group. The upper portion of the Mesaverde Group is comprised primarily of shale however within the unit, the Frontier Sandstone may occur as a local aquifer which is of poor water quality (highly saline). No springs or water wells have been identified near any of the proposed locations. On-site evaluation during the spring of 2005 indicated that local ground water stored in colluvial/alluvial material in the affected drainage bottoms is not extensive and seasonal in nature.

Environmental Consequences of the Proposed Action: Surface Water: New surface disturbing activities associated with the proposed actions will increased soil exposure to erosional processes. New surface disturbance will destroy existing vegetation and increase compaction. Increased compaction combined with reduced vegetation will further decrease infiltration rates and elevate erosive potential due to runoff (overland flows) and raindrop impact during storm events. Improper road design and inadequate drainage relief structures will further contribute to hill slope soil erosion.
Increased erosion associated with the proposed actions could eventually elevate sediment and salt loading to the Colorado River system deteriorating water quality.

Ground Water: In the event of any leaks or spills, ground water may be adversely impacted if contaminants intersect joints or fractures within the surface formation. Hydraulic conductivity increases exponentially along fracture zones resulting in rapid transport of fluids/contaminants in these areas. Depending on the quantity and quality of spilled substances, potential mixing of contaminants with ground water could potentially degrade water quality down gradient in the affected water bearing units.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase II Storm Water Permit, and Industrial Wastewater/Produced Water Permits). The operator will also be required to provide the BLM with documentation that all required permits were obtained.

Surface Water: All surface disturbing activities will strictly adhere to "Gold Book" fourth edition surface operating standards for oil and gas exploration and development (copies of the "Gold Book" fourth edition can be obtained at the WRFO). Oil and gas development activities require a stormwater discharge permit from the Colorado Department of Public Health and Environment, Water Quality Control Division, for construction associated with well pads, pipelines, roads and other facilities. As a condition of the permit, a Stormwater Management Plan (SWMP) would be developed showing how Best Management Practices (BMPs) are to be used to control runoff and sediment transport. The applicant is required to have a copy of the SWMP on file with the Meeker Field Office and to implement the BMPs in that plan as on-site conditions warrant.

Furthermore, to mitigate additional soil erosion at the well pad, interim reclamation will be required as outlined in the Air Quality mitigation section above.

To mitigate erosion from well pads and access roads, and effectively reduce sediment/salt loading to the Colorado River, all activity shall cease when soils or road surfaces become saturated to a depth of three inches. Upon final abandonment of well pads and access roads, all disturbed surfaces will be promptly recontoured as close as possible to the original grade, re-seeded with a BLM approved seed mixture (see Vegetation portion of this document), fitted with appropriate drainage relieve structures (e.g. water bars) and sediment retention barriers (e.g. silt fences and straw bails), and covered with available woody debris (flow deflectors and sediment traps).

Ground Water: Shallow aquifers shall be protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. Produced water will be hauled off and disposed of due to poor water quality to prevent potential adverse impacts to valuable surface and ground water resources. Environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested to intercept such contaminants prior to infiltrating soils and contaminating ground water. Furthermore, all pits shall be lined and all wastes associated with construction and drilling will be properly treated and disposed of.

Finding on the Public Land Health Standard for water quality: Portions of stream segment 22 of the White River Basin have been listed on the states 303(d) list of water-quality-limited segments requiring TMDLS. The EPA has not identified Cottonwood Creek or Weaver Canyon (tributary to Evacuation Creek) as water-quality-limited segments requiring TMDLS. However, the White River Resource Area RMP/ROD has identified Cottonwood Creek as a "fragile watershed" contributing to increased sediment and salt loads to the Colorado River. Cottonwood Creek and Weaver Gulch are both ephemeral in nature and likely do not meet standards during peak flows. Implementation of the proposed action with suggested mitigation should not alter the EPA's 303(d) list of impaired watersheds or the White River Resource Area RMP/ROD listing of "fragile watersheds".

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: The area adjacent to the proposed project area does not support riparian or wetland communities. Furthermore, riparian or wetland communities will not be directly involved or potentially affected by the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on riparian or wetland communities.

Environmental Consequences of the No Action Alternative: The no-action alternative would not have any conceivable influence on riparian or wetland communities.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: This project would have no conceivable potential for influencing riparian attributes addressed in the Standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC's, flood plains, prime and unique farmlands, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey conducted by the Natural Resources Conservation Service (NRCS) in Rio Blanco County, CO. The following table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

Soil #	Soil Name	Site associated with surface disturbance	Affected acres (w/in 30m radius)	Slope	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
73	Rentsac channery loam	25-2 & 25-4	9.77	5-50%	Pinyon-Juniper woodlands	<2	Rapid	Moderate to very high	20-Oct
74	Rentsac-Moyerson-Rock Outcrop complex	24-1	6.45	5-65%	PJ Woodlands /Clayey Slopes	<2	Medium	Moderate to very high	20-Oct

Controlled surface use (CSU-1) "fragile soils" have been mapped at location 24-1 and its associated access road. Surface disturbing activities will be allowed on CSU-1 "fragile soils" only after an engineered construction/reclamation plan is submitted by the operator and approved by the Area Manager. KGH has provided an engineered construction/reclamation plan to the BLM. This plan has been reviewed and approved by the WRFO Hydrologist.

73-Rentsac channery loam (5 to 50 percent slopes) is a shallow, well drained soil found on ridges, foothills, and side slopes. It formed in residuum derived dominantly from calcareous sandstone. The native vegetation is mainly pinyon, juniper, brush, and grasses. Elevation is 6,000 to 7,600 feet. The average annual precipitation is 14 to 18 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 80 to 105 days. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is very channery loam about 4 inches thick. The underlying material is extremely flaggy light loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. Permeability of this Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is moderate to very high.

74-Rentsac-Moyerson-Rock outcrop complex (5 to 65 percent slopes) is located on foothills and ridges. The native vegetation is mainly pinyon and juniper trees with an understory of shrubs and grasses. Elevation is 5,800 to 7,200 feet. The average annual precipitation is 13 to 16 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 75 to 105 days. The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy loam 7 inches thick. Sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. In some areas the surface layer is quite variable in texture. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to very high.

The Moyerson soil is shallow and well drained. It formed in residuum derived dominantly from shale. Typically, the surface layer is light gray stony clay loam about 2 inches thick. The next layer is gray clay loam about 8 inches thick. The underlying material is gray clay 7 inches thick. Shale is at a depth of 17 inches. Depth to shale ranges from 10 to 20 inches. In some areas the surface layer is silty clay loam, silty clay, light clay, or bouldery clay loam. Permeability of the Moyerson soil is slow. Available water capacity is low. Effective rooting depth is 10 to 20 inches. Runoff is medium to rapid, and the hazard of water erosion is very high. This unit is poorly suited to urban development. The main limitations are steepness of slope and the shallow depth to bedrock.

Environmental Consequences of the Proposed Action: The well pads and access roads are all situated on soils which have been identified as having moderate to very high erosive potential. In addition, location 24-1 and access road are situated on “fragile soils” which are very susceptible to erosion given the steepness of slopes. Improper drainage and soil stabilization techniques on well pad locations and access roads will increase potential for overland flows accelerating erosion rates leading to soil piping, head cutting and gully formation. Removal of limited ground cover will also expose soils to erosional processes. Heavy traffic will increase soil compaction further decreasing infiltration rates which in turn will also increase potential for erosive overland flows.

Leaks or spills of environmentally unfriendly substances on or near the pad may contaminate soils hindering revegetation efforts. Soils unable to support a healthy plant community will be less cohesive (due to lack of root structure) and more vulnerable to erosional processes.

Environmental Consequences of the No Action Alternative: None

Mitigation: All construction must comply with "Gold Book" (fourth edition) surface operating standards for Oil and Gas development. Copies of the "Gold Book" can be obtained at the White River Field Office-BLM. Interim reclamation will be required as addressed in the Air and Water Quality portions of this document. To mitigate contamination of soils and local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment (tanks, pumps, or other equipment used in handling hazardous liquids) is suggested to intercept such contaminants prior to contacting soils. Complete reclamation will follow abandonment of well pads. Access roads and well pads will be recontoured and 100% of disturbed surfaces will be revegetated with the suggested seed mixture as outlined in the vegetation section of this document.

Finding on the Public Land Health Standard for upland soils: Affected soils currently exhibit infiltration and permeability rates appropriate for soil types and are meeting standards. With proper mitigation techniques and reclamation procedures, implementation of the proposed actions should not greatly alter the status of soil health. Land health standards for upland soils should continue to be met.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The project area is primarily salt desert shrub with pinyon/juniper woodlands growing on ridgetops. The salt desert shrub vegetation associations are on sites with relatively clayey soils, high salt content and relatively low precipitation 10-12 inches. Woodlands are found on shallow, rocky soils primarily ridge tops. The 24-1 well contains both the salt desert shrub and pinyon/juniper woodland types and the 25-2 and 25-4 wells are located on woodland sites which have been burned by wildfire.

Environmental Consequences of the Proposed Action: Following reclamation these vegetation sites have relatively good success at establishment of perennial vegetation cover. The salt desert shrub type should be adequately reclaimed in 3-5 years with the native community dominating within 20 years. The juniper woodland would establish cover suitable for soil retention within 3-5 years and initial establishment of junipers in 15-20 years. Development of a late seral community would take 150-200 years.

Environmental Consequences of the No Action Alternative: There would be no impacts.

Mitigation: Use Standard Seed Mix #2 from the White River ROD/RMP:

Seed Mix #	Species (Variety)	Lbs PLS/ Acre	Ecological Sites
2	Western wheatgrass (Arriba)	3	Alkaline Slopes, Clayey Foothills,

Seed Mix #	Species (Variety)	Lbs PLS/ Acre	Ecological Sites
	Pubescent wheatgrass (Luna) Russian wildrye (Bozoisky) Crested wheatgrass (Fairway/Ephraim) Yellow sweetclover (Madrid) Fourwing saltbush (Wytana/Rincon)	2 2 2 0.5 2	Clayey Slopes, Claypan, Mountain Shale

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* The above described plant communities meet the standards for plant health. This status will not change with the proposed action.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The proposed locations are separated from warm-water aquatic communities supported by the lower White River by approximately 8 miles of ephemeral channel.

Environmental Consequences of the Proposed Action: Separated by approximately 8 miles of ephemeral channel, there is no reasonable likelihood that aquatic habitats associated with downstream perennial systems would be influenced by proposed well and road construction.

Environmental Consequences of the No Action Alternative: There would be no immediate action authorized that would have potential to affect wetland or riparian communities.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Because there are no aquatic habitats or animals potentially influenced by the proposed or no-action alternatives, a land health standard finding is not applicable. The proposed and no action alternatives would have no measurable influence on aquatic habitats associated with downstream systems.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The proposed locations for 24-1 and 25-2 are situated in stunted, open-canopied pinyon-juniper woodlands with minor inclusions of mixed Wyoming big sagebrush and shadscale-saltbush parks. The proposed location for the 25-4 well pad includes mixed perennial grasses as the dominant vegetation cover; this site has recently burned.

The pad and access road for locations 24-1 and 25-2 were inspected by BLM biologists for evidence of raptor nesting activity on 24 May 2006. The stunted, open-canopied and juniper dominated stands typically involve shaley substrates or poorly developed understories and

contain few larger-diameter trees that provide spreading crowns preferred as raptor nest substrate. No evidence of past or recent raptor nest activity was found during on-site surveys.

The proposed location for the well pads and access roads include deer and elk winter range. These ranges sustain big game use from November through early May. Current road densities are moderate (2.56 to 2.83 miles of road per square mile) in the project vicinity and meet the road density objectives established in the White River ROD/RMP (i.e., road densities of 3 miles/square mile on big game ranges, White River ROD/RMP, page 2-29).

Non-game wildlife using this area are typical and widely distributed in extensive like habitats across the Resource Area and northwest Colorado; there are no narrowly endemic or highly specialized species known to inhabit those lands potentially influenced by this action.

Environmental Consequences of the Proposed Action: Well and road construction related activities would be completed in late summer and early fall prior to big game occupation. Well maintenance and monitoring activities during the winter and early spring months would result in minor and temporary displacement of animals and disuse of local forage and cover resources by big game, particularly elk. Long term occupation of these lands and the reduction in the herbaceous and woody forage base for big game (approximately 5 acres) would be discountable at the landscape level. Similarly, the loss of forage and cover for non-game animals would be negligible.

Environmental Consequences of the No Action Alternative: No immediate action would be authorized that would involve the adverse modification of terrestrial wildlife habitats.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project area presently meets the public land health standards for terrestrial animal communities. As conditioned, the proposed action would have negligible long term influence on the utility or function of big game, raptor, or non-game habitats surrounding the proposed location for the well pad and access road. In an overall context, lands affected by the no-action or proposed action would continue to meet the land health standard for terrestrial animals.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management			X
Forest Management			X
Geology and Minerals			X

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Hydrology/Water Rights		X	
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: The proposed action occurs within an area designated as open seasonally. The area is closed to off road cross-country travel from October 1 through April 30 of each year.

Environmental Consequences of the Proposed Action: Approximately 1900 feet of new access road is proposed to be constructed but this does not appreciably change the access profile to the area.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

FIRE MANAGEMENT

Affected Environment: The 24-1 well proposed involves approximately 1/2 miles of road construction/upgrading and about 1 acres of drill pad clearing for an approximate total of 2 acres of disturbance. Due to the existing tree cover of pinion and juniper, there will be a need for the operator to clear some of these trees. .

Environmental Consequences of the Proposed Action: There will be approximately 2 acres of road and well pad construction requiring the removal of pinion/juniper fuel type on the 24-1 well site. The volume of material is not expected to create a fire hazard following treatment as described in the Forest Management section (below).

Environmental Consequences of the No Action Alternative: There would be no tree removal or disturbance which would cause significant dead fuel loading.

Mitigation: See Forest Management below.

FOREST MANAGEMENT

Affected Environment: The 24-1 well is partially within a sparse Utah juniper/pinyon community. These woodlands produce marginal wood products in the form of firewood and fence posts for local consumption. The 25-2 and 25-4 wells are within burned woodlands containing a grass and forb understory.

Environmental Consequences of the Proposed Action: there will be removal of pinyon/Utah juniper from construction activities. The initial establishment of pinyon/juniper would occur in 15-20 years, with development of a late seral community in 150-200 years, post reclamation. The trees are to be disposed of as described in mitigation, although the quantities are insufficient to require purchase by the applicant.

Environmental Consequences of the No Action Alternative: There would be no impacts.

Mitigation: From the White River RMP of 1997, Appendix B, 7; All trees removed in the process of construction shall be purchased from the Bureau of Land Management. The trees shall be cut with a maximum stump height of six inches and disposed of by one of the following methods:

a. Trees must be cut before being dozed off the area of disturbance. Trees shall be cut into four-foot lengths, down to four inches in diameter and placed along the edge of the disturbance.

b. Purchased trees may be removed from federal land for resale or private use. Limbs may be scattered off the area of disturbance but not dozed off.

c. Chipped and scattered.

GEOLOGY AND MINERALS

Affected Environment: The surface geologic formation of the proposed well locations is Green River. The targeted zone for this well is in the Mancos. The wells are located on federal oil and gas leases COC057699 (24-1), COC066739 (25-2) and COC061721 (25-4). During drilling potential water, coal, oil and gas zones will be encountered from surface to the targeted zone.

Environmental Consequences of the Proposed Action: The cementing procedure for wells 24-1, 25-2 and 25-4 isolates the formations and will prevent the migration of gas, water, and oil between formations. Coal zones located in the Mesaverde will also be isolated during this procedure. Development of this well will deplete the hydrocarbon resources in the targeted formation

Environmental Consequences of the No Action Alternative: The oil and gas resources of the targeted zones would not be fully developed.

Mitigation: None

PALEONTOLOGY

Affected Environment: KGH Operating Co. well 24-1 and access road and well 25-2: These proposed well pads and access road are located in an area generally mapped at the Douglas Creek member of the Green River Formation (Tweto 1979) which the BLM has classified as a Condition II formation in the WRRMP (1997) meaning that at the time the fossil bearing potential of the formation was poorly understood.

KGH Operating Co. well 25-4 and access: The proposed well pad and access road are located in an area generally mapped as the Parachute Creek member of the Green River Formation (Tweto 1979) which the BLM has classified as a Condition I formation, meaning it is known to produce scientifically important fossil resources.

Environmental Consequences of the Proposed Action: For the proposed action, if it should become necessary to excavate into the underlying rock formation to construct the road, level the well pad or excavate the reserve/blooie pit there is a potential to impact scientifically important fossil resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to fossil resources under the No Action Alternative.

Mitigation: KGH Operating Co. well 25-4 and access :All exposed outcrops of the rock formation in the well pad and access road route must be examine by an approved paleontologist and a report detailing the results of the inventory and any recommended mitigation prior to the initiation of construction.

For the proposed action: The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines

for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

3. If, at any time, it becomes necessary to excavate into the underlying rock formation to construct the road, level the well pad or excavate the reserve/blooie pit a paleontological monitor shall be present during said excavations.

RANGELAND MANAGEMENT

Affected Environment: The 24-1 and 25-2 wells are within the Banta Flats allotment. This allotment is grazed by sheep during the winter and spring. The 15-4 well is within the Weaver Draw allotment which is also grazed by sheep during the winter and spring.

Environmental Consequences of the Proposed Action: The proposed project would remove one animal unit month (AUM) of important forage for livestock during the life of the project. Halogeton was discussed in the noxious weed section. This weed is highly toxic to sheep. If disturbed soils are reclaimed promptly there would not be a problem with this weed. Using sheep wire on all pits would prevent access to livestock.

Environmental Consequences of the No Action Alternative: There would be no adverse impacts.

Mitigation: The operator will install sheep wire fencing to prevent livestock from accessing all constructed pits. Also, in accordance with Condition of Approval #181 from Appendix B of the White River ROD/RMP, reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within six months of the termination of operations unless otherwise approved in writing by the Authorized officer.

REALTY AUTHORIZATIONS

Affected Environment: There are several BLM roads in the area of the planned wells. KGH holds 2 roads authorizations COC 63986 and 66797. Pioneer Natural Resources, Robert L Bayless Producers, and Canyon Gas Resources also hold existing ROWs.

Environmental Consequences of the Proposed Action: The access into the 25-2 and 25-4 well will be on lease from existing rights-of way. The access to the 24-1 well will require a ROW for the .22 miles from the road in section 18 (COC66797), to the lease line.

Environmental Consequences of the No Action Alternative: The wells would not be permitted, access would not be necessary, and there would be no authorization required.

Mitigation: Authorization for the access road to the 24-1 well will be by amendment to COC66797.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project area most resembles a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will lose approximately 5 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None

VISUAL RESOURCES

Affected Environment: The proposed actions are located in an area with a VRM II classification. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action: The proposed actions are located on benches and slopes below the ridge tops and within thick to scattered woody vegetation comprised mostly of Pinyon/Juniper. There are no major routes of travel in the area that would be frequented by a casual observer. Dirt roads in the area are utilized primarily for activity associated with energy development and seasonally by big game hunters in the fall. By utilizing

low profile production facilities and painting all production equipment Juniper Green to mimic the surrounding and adjacent vegetation, a casual observer could see the change to the character of the landscape, but the change should not attract his/her attention. The level of change to the characteristic landscape should be low, and the standards of the VRM II classification would be retained.

Environmental Consequences of the No Action Alternative: There would be no impacts.

Mitigation: All above ground production facilities shall be low profile and painted Juniper Green within six (6) months of installation to blend with the surrounding environment.

CUMULATIVE IMPACTS SUMMARY: This action is consistent with the scope of impacts addressed in the White River ROD/RMP. The cumulative impacts of these activities are addressed in the White River ROD/RMP for each resource value that would be affected by the proposed action.

REFERENCES CITED:

Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission (WQCC), 2004a. Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin. Adopted 1983 and Effective January 20, 2004.

CDPHE-WQCC, 2006b. "Status of Water Quality in Colorado – 2006, The Update to the 2002 and 2004 305(b) Report," April 2006.

CDPHE-WQCC, 2006c. "Regulation No. 93, 2006 Section 303(d) List Water-Quality-Limited Segments Requiring TMDLs," effective April 30.

CDPHE-WQCC, 2006d. "Regulation No. 94, Colorado's Monitoring and Evaluation List," effective April 30.

Conner, Carl E. Class III Cultural Resources Inventory for Three Proposed Well Locations (Fed.#24-1, Fed. #25-2 and Fed. #2504) and Short (1250') related accesses in the Gilsonite Hills Area of Rio Blanco County, Colorado. Grand River Institute, Grand Junction, Colorado.

Rich, T.D., C.J. Beardmore, H. Berlanga, P.J. Blancher, M.S.W. Bradstreet, G.S. Buthcer, D.W. Demarest, E.H. Dunn, W.C. Hunter, E.E. Inigo-Elias, J.A. Kennedy, A.M. Martell, A.O. Panjabi, D.N. Parshley, K.V. Rosenberg, C.M. Rustay, J.S. Wendt, and T.C. Will. 2004. Partners in Flight North American Landbird Conservation Plan. Cornell Lab of Ornithology. Ithaca, NY.

Topper, R., K.L. Spray, W.H. Bellis, J.L. Hamilton, and P.E. Barkmann. 2003. Groundwater Atlas of Colorado, Special Publication 53. Prepared for State of Colorado Department of

Natural Resources, Division of Minerals and Geology. Colorado Geological Survey. Denver, Colorado.

Tweto, Ogden. 1979. Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

U.S. Department of Interior Bureau of Land Management (BLM). White River Record of Decision and Approved Resource Management Plan. 1997. White River Resource Area, Colorado. July 1997.

U.S. Fish and Wildlife Service (USFWS). 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp. Online version available at http://migratorybirds.fws.gov/reports/bcc2002.pdf

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality, Water Quality, Surface and Ground Hydrology and Water Rights, Soils
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern, Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources, Paleontological Resources
Robert Fowler	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation, Forest Management, Rangeland Management, Wild Horses
Brett Smithers	Natural Resource Specialist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Wildlife, Wetlands and Riparian Zones, Wildlife Terrestrial and Aquatic
Melissa J. Kindall	Hazmat Collateral, Range Technician	Wastes, Hazardous or Solid, Wild Horses
Chris Ham	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation
Ken Holsinger	Natural Resource Specialist	Fire Management
Paul Daggett	Mining Engineer	Geology and Minerals
Linda Jones	Realty Specialist	Realty Authorizations
Keith Whitaker	Natural Resource Specialist	Visual Resources

Finding of No Significant Impact/Decision Record (FONSI/DR)

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FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve the proposed action with the following mitigation measures.

MITIGATION MEASURES:

1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter (fugitive dust), vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing the roadway with gravels will also help mitigate production of fugitive particulate matter.

2. To reduce production of fugitive particulate matter originating from well pads and associated stockpiled soils (long term storage) interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilize on slopes exceeding 5% (e.g. fill slopes). Selection of appropriate geotextiles will also consider potential small animal and wildlife issues. If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with a BLM approved seed mixture (see vegetation section of this document). Furthermore, soils stockpiled for short durations (e.g. during road construction/maintenance) will be wetted during dry periods to reduce production of fugitive particulate matter.

3. KGH Operating Co. wells 24-1, 25-2, and 25-4 and associated access roads:
   a) The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop

activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

b) Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

4. In accordance with Condition of Approval #179 from Appendix B of the White River ROD/RMP, application of herbicides must be under field supervision of an EPA-certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

5. The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

6. The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

7. The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase II Storm Water Permit, and Industrial Wastewater/Produced Water Permits). The operator will also be required to provide the BLM with documentation that all required permits were obtained.

8. Surface Water: All surface disturbing activities will strictly adhere to "Gold Book" fourth edition surface operating standards for oil and gas exploration and development (copies of the "Gold Book" fourth edition can be obtained at the WRFO). Oil and gas development activities require a stormwater discharge permit from the Colorado Department of Public Health and Environment, Water Quality Control Division, for construction associated with well pads, pipelines, roads and other facilities. As a condition of the permit, a Stormwater Management Plan (SWMP) would be developed showing how Best Management Practices (BMPs) are to be used to control runoff and sediment transport. The applicant is required to have a copy of the SWMP on file with the Meeker Field Office and to implement the BMPs in that plan as on-site conditions warrant. Furthermore, to mitigate additional soil erosion at the well pad, interim reclamation will be required as outlined in the Air Quality mitigation section above.

9. To mitigate erosion from well pads and access roads, and effectively reduce sediment/salt loading to the Colorado River, all activity shall cease when soils or road surfaces become saturated to a depth of three inches. Upon final abandonment of well pads and access roads, all disturbed surfaces will be promptly recontoured as close as possible to the original grade, re-seeded with a BLM approved seed mixture (see Vegetation portion of this document), fitted with appropriate drainage relieve structures (e.g. water bars) and sediment retention barriers (e.g. silt fences and straw bails), and covered with available woody debris (flow deflectors and sediment traps).

10. Ground Water: Shallow aquifers shall be protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. Produced water will be hauled off and disposed of due to poor water quality to prevent potential adverse impacts to valuable surface and ground water resources. Environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested to intercept such contaminants prior to infiltrating soils and contaminating ground water. Furthermore, all pits shall be lined and all wastes associated with construction and drilling will be properly treated and disposed of.

11. All construction must comply with "Gold Book" (fourth edition) surface operating standards for Oil and Gas development. Copies of the "Gold Book" can be obtained at the White River Field Office-BLM. Interim reclamation will be required as addressed in the Air and Water Quality portions of this document. To mitigate contamination of soils and local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment (tanks, pumps, or other equipment used in handling hazardous liquids) is suggested to intercept such contaminants prior to contacting soils. Complete reclamation will follow abandonment of well pads. Access roads and well pads will be recontoured and 100% of disturbed surfaces will be revegetated with the suggested seed mixture as outlined in the vegetation section of this document.

12. Use Standard Seed Mix #2 from the White River ROD/RMP:

Seed Mix #	Species (Variety)	Lbs PLS/ Acre	Ecological Sites
2	Western wheatgrass (Arriba) Pubescent wheatgrass (Luna)	3 2	Alkaline Slopes, Clayey Foothills, Clayey Slopes, Claypan,

Seed Mix #	Species (Variety)	Lbs PLS/ Acre	Ecological Sites
	Russian wildrye (Bozoisky) Crested wheatgrass (Fairway/Ephraim) Yellow sweetclover (Madrid) Fourwing saltbush (Wytana/Rincon)	2 2 0.5 2	Mountain Shale

13. From the White River RMP of 1997, Appendix B, 7; All trees removed in the process of construction shall be purchased from the Bureau of Land Management. The trees shall be cut with a maximum stump height of six inches and disposed of by one of the following methods:

a) Trees must be cut before being dozed off the area of disturbance. Trees shall be cut into four-foot lengths, down to four inches in diameter and placed along the edge of the disturbance.

b) Purchased trees may be removed from federal land for resale or private use. Limbs may be scattered off the area of disturbance but not dozed off.

c) Chipped and scattered.

14. KGH Operating Co. well 25-4 and access :All exposed outcrops of the rock formation in the well pad and access road route must be examine by an approved paleontologist and a report detailing the results of the inventory and any recommended mitigation prior to the initiation of construction.

15. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

16. If, at any time, it becomes necessary to excavate into the underlying rock formation to construct the road, level the well pad or excavate the reserve/blooie pit a paleontological monitor shall be present during said excavations.

17. The operator will install sheep wire fencing to prevent livestock from accessing all constructed pits. Also, in accordance with Condition of Approval #181 from Appendix B of the White River ROD/RMP, reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within

six months of the termination of operations unless otherwise approved in writing by the Authorized officer.

18. Authorization for the access road to the 24-1 well will be by amendment to COC66797.

19. All above ground production facilities shall be low profile and painted Juniper Green within six (6) months of installation to blend with the surrounding environment.

COMPLIANCE/MONITORING: On-going compliance monitoring will be conducted by White River Field Office staff during construction of well pads, access roads, and pipelines. Specific mitigation developed in this Environmental Assessment will be followed. The Operator will be notified of compliance related issues in writing, and depending on the nature of the issue, will be provided 30 days to resolve such issues.

NAME OF PREPARER: Brett Smithers

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: Kent C. Walter
Field Manager

DATE SIGNED: 06/19/06

ATTACHMENTS: General Location Map of the Proposed Action

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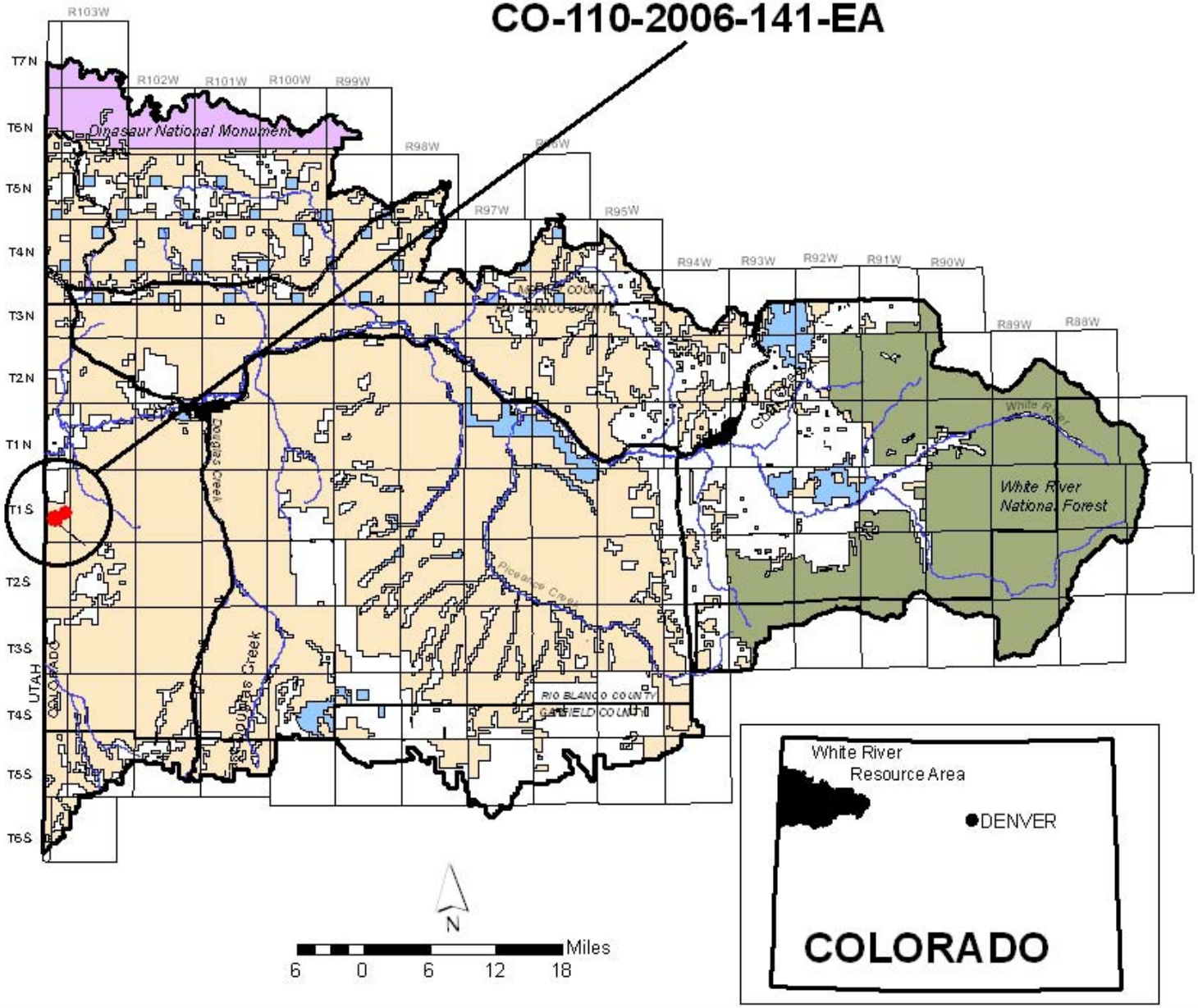
Location Map of the Proposed Action
CO-110-2006-141-EA