

Decision Memo

VANE Minerals Uranium Exploration Drilling Project

USDA Forest Service
Tusayan Ranger District
Kaibab National Forest
Coconino County, Arizona

[T30N, R5E, Section 24; T29N, R5E, Section 34 ; T28N, R5E, Section 3;
T27N, R5E, Section 5; T30N, R5E, Sections 22 & 23; T28N, R4E, Section 12;
T28N, R5E, Sections 14, 15, 22, and 23; and T28N, R4E, Section 11 of the G&SRB&M]

Background

VANE Minerals, LLC (Limited Liability Company) proposes to drill exploration holes for uranium at a total of seven (7) project sites within the Tusayan Ranger District of the Kaibab National Forest (KNF), Coconino County, Arizona. The project sites are all within KNF's Ecosystem Management Areas 8, 9, and 10, and are located east of State Route 64/U.S. Route 180, and south of State Route 64 in the Upper Basin area of the Tusayan Ranger District (see attached map).

The primary purpose and need for this project is for VANE Minerals to locate and assess the quantity and commercial resource potential for uranium ore deposits (and/or other locatable minerals), if any, on their existing mining claims within the Tusayan Ranger District of the KNF.

Mineral exploration and development is allowed on public land in keeping with the Mining Act of 1872 and the U.S. Forest Service's multiple-use mandate, and is also consistent with the goals and objectives of the KNF Land Management Plan (LMP).

Decision and Rationale

The 1872 Mining Law specifically authorizes the taking of valuable mineral commodities from Public Domain Lands. A "No Action" alternative is not an option that can be considered. Therefore, my decision is based on whether mitigation measures are sufficient to reduce or eliminate environmental impacts at the surface, but not on whether or not to allow the exploration activity. I have decided to allow VANE Minerals to drill exploratory holes for uranium only within the areas on the attached map and in areas that are accessible by existing Forest Service roads. If the exploration yields information that warrants further mine development or production, then a new environmental analysis will be conducted to address the potential impacts of those actions. Since the confirmation of ore data does not necessarily lead to mine development in the foreseeable future, there are no reasonable connected or cumulative actions to evaluate.

VANE's exploration projects are small-scale operations that utilize a common method of initial exploration for most mineral commodities including uranium. There are certainly some short-term effects from the use of drill rigs, tractors, and vehicles on some of the values and uses on national forest land such as solitude, wildlife, and recreation. These effects are acceptable in the multiple-use management of national forest lands that are subject to mining activities in addition to other uses. The short-term effects of these exploration projects are considered to be insignificant because in part there are no cumulative impacts to be considered. The effects on

other resources such as water are not impacted any more than a typical well drilling project; the equipment and methods used for water wells are the same being used to drill these exploration holes. The same State regulations and standards for abandoning (sealing) water wells are used for the exploration holes.

I have also determined that in order to ensure these sites are safe for public access, the posting of a reclamation bond is warranted. This bond must cover any and all costs associated with reclamation in the event the proponent fails to complete its operations in an appropriate or timely manner. This bond must be posted prior to the commencement of operations and will be calculated using cost estimates based on whether the Forest Service has to conduct the reclamation, or needs to hire a contractor to complete the work in case the proponent defaults.

VANE will use existing Forest Service roads to access their claim sites which will also minimize surface impacts from their operation. As shown in Table 1 (page 2), several boreholes will be drilled at most of the project sites to adequately assess the potential presence and depths to ore deposits. The expected duration of drilling activities varies at each location, but initial-phase drilling is generally expected to take not less than 30 days nor more than 60 days to complete all seven projects. Depending on results, some additional exploration drilling may occur at the same claim sites within a one-year period. The deepest borehole (2000 feet) is well above the existing water table of approximately 3200 feet.

Drilling equipment will consist of one truck-mounted (10-wheel) drill rig, one 10-wheel pipe truck, one 10-wheel air compressor or booster, and one backhoe, each of which will remain on site during operations; one 10-wheel water truck, which may make 0–4 trips per day to and from the site; and one or more 3/4-ton light trucks that will be used primarily to move personnel to and from the drill sites. Operations may require placement of an 8-foot by 20-foot supply trailer on site at some locations, and possibly an 8-foot by 25-foot self-contained travel trailer at other project locations. Improvements may be necessary to certain sections of existing Forest Service roads to ensure access and safety, but will generally be limited to minor grading, filling of ruts, and cutting limbs from trees only where needed.

Table 1. General Locations and Proposed Activities

Project Name	Location	Number of Drill Sites	Maximum Depths (ft)
CP 3	T30N, R5E, Section 24	1	2,000
CP 4	T29N, R5E, Section 34 T28N, R5E, Section 3	7	500 initial, up to 2,000
CP 6	T27N, R5E, Section 5	4 (possibly 2–3 additional)	500 initial, up to 2,000
CP 8	T30N, R5E, Sections 22 & 23	3	500 initial, up to 2,000
CP 10	T28N, R4E, Section 12	5 (possibly 2–3 additional)	500 initial, up to 2,000
CP 11	T28N, R5E, Sections 14, 15, 22, and 23	8	500 initial, up to 2,000
Antelope	T28N, R4E, Section 11	3–5	2,000

Boreholes will be 6 inches in diameter with an 8-inch collar diameter for surface casing. The drilling medium will be air, or water if necessary in wet formations, using industry standard hole-stabilizing additives such as bentonite and polymer. No toxic substances will be used in drilling. Drilling in wet formations may require up to 5,000 gallons of water per day, which will be purchased from a local ranch, or nearby community, whichever is most readily available. Fluid

pits, if necessary, will be excavated to a maximum size of 10 feet by 20 feet by 3 feet deep using a backhoe, and these soils and drill cuttings set aside on site for later backfilling and reclamation. Another option is to contain drilling fluids within an on-site portable tank for later backfilling and reclamation. This tank will be covered when not in use. Work will be suspended during poor weather conditions or during evaluation of data.

Once drilling operations are complete at any one site, reclamation will begin with the return of drill cuttings to the open borehole, as much as practical. Holes will then be plugged at the surface with concrete and marked, and pits used for fluid containment (if present) will be filled with stockpiled soils once the fluids in the pit dries. Drying time is dependent on weather conditions, but is estimated to be 1–4 weeks after drilling operations cease. All equipment, waste, and trailers will be removed at the end of initial operations and at the end of each phase of any subsequent operations. Final site reclamation will consist of raking the drill sites by hand or machine to return the site surface to approximate original contours, and reseeding or replanting with native vegetation as required by the Forest Service.

Mitigation Measures

Mitigation measures are measures that are taken to minimize potential negative impacts that may occur due to implementation of the proposed action. Mitigation measures are also developed to address concerns raised about the proposed action. Following are the mitigation measures that will be added to the Plan of Operations and adhered to during project implementation:

1. Project sites are to be kept clean at all times. Operator shall comply with applicable federal and state standards for the disposal and treatment of solid wastes. All garbage, refuse, or waste, shall either be removed from national forest lands or disposed of or treated so as to minimize, so far as practicable, its impact on the environment and the forest surface resources. All tailings, dumpings, deleterious materials, or substances and other waste produced by operations shall be deployed, arranged, disposed of or treated so as to minimize adverse impact upon the environment and forest surface resources.
2. In the event fuel or waste fluids are spilled, the affected soil will be removed for disposal off-site and the Forest Service will be notified.
3. Vehicles will stay on designated driving routes to avoid excessive soil and vegetation disturbance.
4. Work will be suspended during poor weather conditions or when soils are wet and saturated.
5. To aid in reclamation and prevent potential negative impacts at certain sites, water and/or drilling fluid that circulates from boreholes is to be confined to fluid pits to be later backfilled.
6. Portable tanks will be used in place of fluid pits in areas with highly erodible soils. These areas include CP-3, 6, 8, and 11.
7. All drill cuttings will be confined to a mud pit, OR radioactive drill cuttings will be encapsulated in sealable metal containers and re-deposited in the drill hole, or removed from the Forest for appropriate disposal.
8. Mud pits will be covered with a minimum of three (3) feet of topsoil so radioactivity levels are returned to pre-drilling levels.
9. Operator shall take all practicable measures to maintain and protect wildlife and wildlife habitat that may be affected by the operations. Fencing is to be placed around fluid/mud pits as required to protect wildlife.

10. Operator shall maintain all roads so as to assure adequate drainage and to minimize or, where practicable, eliminate damage to soil, water, and other resource values.
11. To prevent fire, all equipment including small gas engines for generators and water pumps will have spark arrestors. All equipment on site and going to and from the site will have chemical fire extinguishers, which are to be readily accessible during drilling operations. Drill rigs and water pumps will have hoses with nozzles with pressure suitable for use in the event of a fire. On-site smoking will be by Forest Service rules and guidelines, and no smoking materials such as cigarette butts will be discarded on the ground.
12. To prevent the importation and/or spread of noxious and invasive weed species, all vehicles and equipment will be washed before they are taken into the project areas.
13. Document new locations of noxious weed populations. Treat existing weed populations at each project site before drilling. Minimize ground disturbance at project sites to prevent new populations. To avoid the spread of weeds, vehicles must be cleaned of all plant material when moving from an area of infestation. (Note: No noxious weed populations were found during field surveys of the drilling sites in fall 2007.)
14. Surveys will be conducted during the appropriate season for detection and identification of noxious weeds for at least 3 years following project completion. New weed populations will be controlled as necessary.
15. Disturbed areas will be reshaped and revegetated using a native seed mix.
16. VANE Minerals will notify the Forest Service when substantial uranium ore deposits are located so that interested tribal communities can be notified by the Forest Service.
17. No cultural resource sites will be affected by the project. Any heritage sites will be delineated, buffer zones established, the site flagged or fenced off to avoid trespass, and monitored by an archaeologist.
18. Operator will permanently mark individual claim boundary corners with a t-post and 4X4 foot piece of white plastic pipe. Each corner will be identified with the claim number, name, and description (i.e. NE Corner).

Reasons for Categorically Excluding the Decision

Decisions may be categorically excluded from documentation in an environmental impact statement or environmental assessment when they are within one of the categories identified by the U.S. Department of Agriculture in 7 CFR Part 1b.3 or one of the categories identified by the Chief of the Forest Service in Forest Service Handbook (FSH) 1909.15, Sec. 31.12 or 31.2, and there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative environmental effect.

Pursuant to FSH 1909.15, Section 31.2, Category 8, this decision may be categorically excluded from documentation in an environmental impact statement (EIS) or environmental assessment (EA). Category 8 provides categorical exclusion for "Short-term (one year or less) mineral, energy, or geophysical investigations and their incidental support activities that may require cross-country travel by vehicles and equipment, construction of less than one mile of low standard road (Service Level D, FSH 7709.56), or use and minor repair of existing roads."

The categorical exclusion is appropriate in this situation because there are no extraordinary circumstances potentially having effects that may significantly affect the environment. This project was developed in consideration of the best available science.

Finding of No Extraordinary Circumstances

Based on my review of the resource analysis reports and the public comments received, I have determined that no extraordinary circumstances exist related to implementation of this action. Therefore, this action is categorically excluded under Category 8 as identified.

The following resources were considered in determining that no extraordinary circumstances exist related to the VANE Minerals Uranium Exploration Drilling Project that would warrant further analysis and documentation in an EA or an EIS:

1. Federally Listed Threatened and Endangered Species or their Critical Habitat; Management Indicator Species; and Migratory Birds

The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered, or result in adverse modification to such species' designated critical habitat. In accordance with Section 7(c) of this Act, a list of the listed and proposed, threatened or endangered species that may be present in the project area was requested from the U.S. Fish and Wildlife Service. As required by this Act, potential effects of this decision on listed species were evaluated in the Wildlife Biologist Assessment and Evaluation (Rhodes and Waters 10-04-2007). The wildlife biologist for the Tusayan and Williams ranger districts (South Zone) of the Kaibab National Forest made the determination that the project would have *No Effect* on the 12 animal species listed under the Endangered Species Act and identified for Coconino County by the U.S. Fish and Wildlife Service.

Requirements for the relevant Management Indicator Species (MIS) in the Kaibab Land and Resource Management Plan were considered in the above-referenced report that was completed for this project. There will be no loss of or adverse effects on any MIS habitat as a result of this action. It was disclosed that the noise from exploratory drilling operations would have a slight short-term negative effect to some individuals, but would not affect overall distribution of identified MIS. This population analysis and habitat information contained in the project report meets NFMA obligations for Management Indicator Species under 36 CFR 219.14(f). It has also been determined that there will be no adverse effects on migratory birds. But there may be short-term impacts related to noise disturbance, but no long-term effects to habitat or populations.

The USDI Fish and Wildlife Service has determined that there are no federally threatened or endangered plant species that occur on the South Zone of the Kaibab National Forest (letter from the USDI Fish and Wildlife Service to the USDA Forest Service Southwestern Region June 4, 2003; Consultation #2-22-03-F-633). There is also no suitable or critical habitat present for any T&E listed species within the project area. The selection of the proposed action would have no effect on T&E plants. Because there are no populations and no habitat for any T&E species in the project areas, there are no cumulative effects. These findings are documented in the VANE Minerals Uranium Exploratory Drilling Project Biological Assessment and Evaluation for Plant Species (Rhodes and Hydock 12-17-2007).

2. Forest Service Sensitive Species

Potential effects on 11 Forest Service sensitive species (1999 Southwestern Region Forest Service Sensitive Species List) known to occur, or that based on current knowledge potentially occur, on the South Zone of the Kaibab National Forest were listed in the Wildlife BA&E. The wildlife biologist determined that the only species with potential habitat in the project areas that

required evaluation are the northern goshawk and Mogollon vole. There are no known goshawk nest sites in or adjacent to the project areas, and goshawks were not detected during surveys conducted during June 2007. It is unknown whether Mogollon voles occur in the project area. Because of the opportunistic nature of potential use of the project areas and the small areas of disturbance relative to the much larger range of this species, the wildlife biologist made the determination that the proposed action would not negatively affect the Mogollon vole, if present. The project is unlikely to cause any trend toward listing by the USFWS.

Ten plant species were considered to have a high likelihood of occurring or are known to occur on the South Zone of the Kaibab National Forest. Known locations and suitable habitat for these species are evaluated in the VANE Minerals Exploratory Drilling Project Watershed and Plant Ecology Report (Rhodes and Hydock 12-12-2007). It was determined that there is no habitat in the project area for seven of the sensitive species. There is suitable habitat within the project areas for Tusayan rabbitbrush, Flagstaff pennyroyal, and Flagstaff beardstongue. Surveys for sensitive plants conducted on November 9 and 26, 2007 did not identify any sensitive species. Project activities may impact habitat or individuals not identified during the surveys, but will likely not contribute to a trend toward federal listing or loss of viability to populations or species. Because no USFS sensitive plants were identified during surveys, there is no cumulative effect on those species. With the implementation of the mitigation measures, this project will have no significant negative effects on threatened, endangered, and sensitive plants, or noxious weeds.

3. Floodplains, Wetlands, or Municipal Watersheds

There are no wetlands, perennial or intermittent streams, or major water bodies in the project vicinity. The only semi-reliable water in the area is found in earthen stock tanks, wildlife catchments, or roadside tanks that catch and hold rainfall and snowmelt. However, even these water sources can dry up during drought conditions. The project area is not part of any municipal watershed or other domestic water supply. There are no impaired waters listed by the Arizona Department of Environmental Quality on the Tusayan Ranger District (ADEQ 2004 and 2006). Floodplains are present along ephemeral drainages. Flow events are classified as ephemeral, flowing in response to snowmelt or runoff from heavy rains. According to the Terrestrial Ecosystem Survey (USFS 1991), erosion rates in the project area were within the sustainable range as of 1989. Field visits to the sites in fall 2007 confirmed that erosion rates are not excessive. There are no springs in the project area, which is south of the Colorado River. The groundwater basin in this area is at a depth of 3,000 feet; maximum drilling depth would be 2,000 feet, with most bore holes at a depth of 500 feet or less. Therefore, groundwater quality would not be affected. With the implementation of the mitigation measures, this project will have no significant negative effects on watershed and soils, and no cumulative effects (Rhodes and Hydock, 2-12-2007).

4. Native American Religious or Cultural Sites, Archaeological Sites, and Historic Properties or Areas

This project is in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. This Act requires federal agencies to consider the effects of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion, in the National Register. Heritage clearance for this project was obtained on April 5, 2007.

5. Specially Designated Areas

There are no wilderness, wilderness study areas, national recreation areas, inventoried roadless areas, or research natural areas that would be affected by this project.

Public Involvement

A proposal to drill exploration holes for uranium originally on 10 project sites on the Tusayan Ranger District of the Kaibab National Forest was listed in the Fiscal Year 2007 Second Quarter Schedule of Proposed Actions (SOPA) in January 2007. The Forest Supervisor initiated government-to-government consultation (via letter) on January 24, 2007 with the Hopi Tribe, the Navajo Nation, the Havasupai Tribe, the Hualapai Tribe, and the Yavapai-Prescott Indian Tribe and initiated public scoping of tribal communities represented by the Bodaway-Gap, Cameron, Coalmine, Coppermine, Lechee, Leupp, and To' Nanees' Dizi Chapter Houses of the Western Agency of the Navajo Nation.

Follow-up government-to-government consultation meetings were conducted with the following to discuss tribal concerns about the proposal and mitigation measures:

- 2/21/2007: meeting with Hopi Cultural Preservation Office
- 5/30/2007: meeting with Navajo Nation Heritage Protection Department and Traditional Cultural Properties directors in Window Rock, Arizona
- 6/19/2007: field trip with Navajo Nation HPD-TCP at Kaibab to VANE drilling sites and claim areas
- 6/21/2007: meeting with Hopi Cultural Preservation Office and Cultural Resource Advisory Team at Kykotsmovi, Arizona
- 7/10/2007: conference call with Havasupai Tribal Council
- 8/07/2007: inter-tribal uranium consultation meeting at Williams Ranger District, Kaibab NF, with representatives of the Havasupai, Hopi, Yavapai-Prescott, Kaibab Paiute, Navajo Nation, and Hualapai tribes and Forest Service Region 3 Arizona Zone Staff, Cibola National Forest and Kaibab National Forest staff

Due to tribal concerns, VANE Minerals made the decision to drop three claims from their original proposal (CP-1, CP-2, and Shale). CP-1 and Shale were in close proximity to Red Butte, and CP-2 would have adversely affected an archaeological site in the Upper Basin area of the district.

The proposal was provided to the public and other agencies for scoping on March 15, 2007 with a comment period extending through April 13, 2007. Press releases were sent to various media on March 15, 2007. The *Grand Canyon News* published an article regarding the proposal, "Mining Eyed on Tusayan Ranger District," on March 29, 2007. Sixteen letters of comment were received, six of which included requests for further information on the project.

Many of the comments did not support uranium exploration on national forest land, or did not support the activity because it could lead to the mining of uranium. However, this activity is authorized by the 1872 Mining Law and the scale of exploration projects being proposed to-date are well within the parameters of the categorical exclusion as stated on page 4. The effects of impacts that were voiced as concerns are appropriate considerations if and when an actual extraction mining proposal is ever made by a mineral claim holder. Such things as the hauling of uranium ore would be considered as a connected action for an actual mining operation that produces uranium ore. These actions would need to be analyzed in an environmental assessment or environmental impact statement.

In addition to the tribal contacts identified above, the following agencies and organizations were also contacted during scoping:

- Arizona Game and Fish Department
- Center for Biological Diversity
- Coconino County Board of Supervisors
- Williams-Grand Canyon News
- Grand Canyon National Park
- Wildlands Council
- GCNP Airport and FAA Control Tower
- KSGC Radio
- Auza & Sons Farms (Anita-Cameron Allotment Permittee)
- Arizona Department of Water Resources
- Babbitt Ranches (Moqui Allotment Permittee)
- Grand Canyon Trust
- Forest Guardians
- Sierra Club
- Arizona Public Service
- Tusayan Fire Department

Findings Required by Other Laws

This decision is consistent with the Kaibab National Forest Land Management Plan (KNF LMP) (as amended) as required by the National Forest Management Act. The Plan “provides for the timely analysis and processing of locatable and leasable mineral prospecting, exploration, leasing and development proposals. Lands potentially valuable for uranium and oil and gas production are available for exploration and development.” (KNF LMP, p.13). The Plan supports “sound energy and minerals exploration and development.” (KNF LMP, p.19). The project was designated in conformance with KNF LMP standards and incorporates appropriate Forest Plan guidelines and management direction for Ecosystem Management Areas 8, 9, and 10 where the project is located.

The proposed project conforms to KNF LMP standards and guidelines for heritage resource operations (KNF LMP, p. 72). No sites, that are listed on, or potentially eligible for the National Register of Historic Places, will be affected by this project. This project is in compliance with the National Historic Preservation Act of 1966, as amended. Heritage clearance for this project was obtained on April 5, 2007.

A wildlife biological assessment and evaluation was prepared by SWCA in 2007 and approved by the district wildlife biologist on October 4, 2007. The proposed project would not result in significant impacts to species populations or habitat trends for any federally listed species, Forest Service sensitive species, management indicator species, or migratory birds.

A plant biological assessment and evaluation was prepared by SWCA in 2007 and approved by the district range specialist on December 17, 2007. The proposed project would have no effect on threatened and endangered plants because there are no populations or habitat for any T&E species in the project areas. Because no USFS sensitive plants were identified in the project areas during surveys, there is no cumulative effect on those species. In addition, the project will have no cumulative effects on noxious weeds because this project has very limited and site-specific disturbance, and will be mitigated in order to prevent the introduction and spread of noxious weeds.

The Operator will comply with applicable federal and state air quality standards, including the requirements of the Clean Air Act, as amended (42 USC 1857 *et seq.*) during project implementation.

The Operator will comply with applicable federal and state water quality standards, including regulations issued pursuant to the Federal Water Pollution Control Act, as amended (33 USC 1151 *et seq.*) during project implementation.

The existing forest road system provides adequate access for implementation of project activities. There is no need to re-open closed roads, obliterate or close existing roads, or construct new roads. Therefore, a formal roads analysis process will not be undertaken for this project.

Administrative Review or Appeal Opportunities

This decision is not subject to a higher level of administrative review or appeal pursuant to 36 CFR 215.12.

Implementation

This decision may be implemented once an approved Plan of Operations is completed and the required reclamation bond is posted.

Contact Person

For additional information concerning this decision or the Forest Service appeals process, contact Barbara McCurry, NEPA Planner, Tusayan Ranger District, P.O. Box 3088, Grand Canyon, Arizona 86023; phone 928-638-2443 or 928-635-8220; or e-mail bmccurry@fs.fed.us.

/s/ Richard Stahn _____

RICHARD STAHN
District Ranger
Responsible Official

12-20-2007 _____

Date

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