April 16, 2002

VIA FEDERAL EXPRESS OVERNIGHT

Ms. Kate Fay
Dudley & Associates, LLC
1776 Lincoln St., Suite 904
Denver, CO 80203-1026

RE: Seminoe Road Coalbed Methane Gas Gathering Pipeline and Access Roads Project Biological Investigation

Dear Kate:

This letter summarizes the findings of TRC Mariah Associates Inc.'s (TRC Mariah's) biological investigation along Dudley & Associates, LLC's (Dudley's) proposed natural gas gathering pipeline and construction access road corridors located in Carbon County, Wyoming. This letter report is provided in support of the Plan of Development for this proposed project (Dudley 2002a). Baseline conditions along proposed pipeline and access road corridors were identified so that potential project impacts may be evaluated by the Bureau of Land Management, Rawlins Field Office (BLM-RFO) during project permitting. On-site surveys were conducted on July 27 to August 1; August 6; October 16 to 19; November 2 and 13; and December 19, 2001. The purpose of the investigations was to map vegetation types; identify potential jurisdictional wetlands and other waters of the U.S. (WUS) under the jurisdiction of the U.S. Army Corps of Engineers (COE); identify potentially affected threatened, endangered, proposed, and candidate (TEP&C) species habitat (e.g., mountain plover, Ute ladies' tresses); and delineate prairie dog towns along the affected corridors and determine their suitability as black-footed ferret habitat. In addition, the occurrence of known crucial big game range, sage grouse leks, and raptor nests along the proposed pipeline route and access roads were investigated.

The northernmost portion of the pipeline route and the southernmost access road have not been field investigated (see Maps 1 and 2 in map pockets). Field investigations for vegetation, wetland/WUS, and TEP&C habitat delineations are scheduled to be conducted in these areas during the week of April 15, 2002 and, once completed, a supplemental report describing conditions would be prepared.

Vegetation Mapping

Vegetation along the 100-ft wide temporary construction right-of-way (ROW) for the pipeline and access road corridors (50 ft on each side of centerline) was mapped by traversing the area on foot or using four-wheel-drive trucks or all-terrain vehicles. Eight primary vegetation types occur along the affected corridors: mixed shrub/grassland; sagebrush/shadscale shrubland; mixed grass/low shrub; cushion plant; greasewood shrub; riparian; rock outcrop; and disturbed land (see Map 1). A list of the plant species observed is presented in Table 1 (attached).

The mixed shrub/grassland is the predominant vegetation type along the corridor, typically occurring on slopes, hilltops, terraces, and gently sloping plains. Wyoming big sagebrush, Douglas rabbitbrush, and shadscale are the dominant shrub species, with broom snakeweed, winterfat, fringed sage, and greasewood also being common. Grasses/grass-like species include a mix of western wheatgrass, needle-and-thread, Sandberg bluegrass, Indian ricegrass, bluebunch wheatgrass, galleta, blue grama, and threadleaf sedge. Franklin's sandwort, Hood's phlox, various buckwheat species, milkvetch, prickly pear cactus, and various annual species such as bluebur stick seed are the principal understory forb species.

Vegetation cover in the mixed shrub/grassland type varies with topographic location and soil depth. Lichen and rock fragments are present on the soil surface in some locations.

The sagebrush/shadscale shrubland community is similar in composition to the mixed shrub/ grassland but is characterized by greater shrub cover. The sagebrush/shadscale shrubland occurs on slopes and gently sloping plains and along drainages.

The mixed grass/low shrub community is dominated by grasses (e.g., Indian ricegrass and western wheatgrass) and low shrubs (i.e., Gardner's saltbush, fringed sage, and birdfoot sage) intermixed with scattered forbs. This vegetation type generally occurs in areas of low topographic relief to slightly sloping uplands. Franklin's sandwort, Hood's phlox, various buckwheat species, and prickly pear cactus are common forbs in this type.

The cushion plant community generally occurs on nearly level to slightly sloping uplands and is composed primarily of Gardner's saltbush and birdfoot sage. Grasses and forbs are a minor component of this vegetation type. Prickly pear cactus is common within the cushion plant communities located south of the North Platte River. Bare ground occupies greater than an estimated 40% of the area within this type.

The greasewood shrub community occurs along ephemeral drainages and on nearly level to gently sloping areas throughout the corridors. Although Wyoming big sagebrush, shadscale, and Gardner's saltbush occur within this type, greasewood is the predominant shrub species. Douglas rabbitbrush is also common at some locations. Grasses such as western wheatgrass, Sandberg bluegrass, alkali bluegrass, and galleta and forb species such as seepweed, halogeton, and Russian thistle are common.

The riparian community primarily occurs along the North Platte River. Willow, skunkbush sumac, and basin wildrye are the dominant species. Grasses/grasslike species include spikerush, bulrush, and tufted hairgrass. Vegetation is dense, with cover near 100%.

In addition to the above-mentioned vegetative communities, small scattered rock outcrops exist along low ridges and topographic high points. Vegetation is sparse to nonexistent in these areas. Shrub species include dwarfed individuals characteristic of the aforementioned vegetation types.

Disturbed land consists primarily of bladed and two-track roads and railroad tracks.

The vegetation types that occur along the proposed pipeline and project-related access road routes are common throughout Wyoming.

Wetlands and Waters of the U.S. (WUS)

A complete description of the wetlands and other WUS along the proposed pipeline and access road routes is presented in a separate report, *Wetlands and Waters of the U.S., Seminoe Road Coalbed Methane Gas Gathering Pipeline and Access Roads Project, Carbon County, Wyoming* (TRC Mariah 2002).

Threatened, Endangered, Proposed and Candidate Species

Based on our current general understanding of the area to be affected by the proposed project, the federally listed threatened and endangered species that could occur in the area are the black-footed ferret, Ute ladies' tresses, and blowout penstemon. The bald eagle, a species previously listed as endangered that has been downlisted to threatened also occurs in the area, and mountain plover, a species proposed for listing as threatened, also may be present in the vicinity of the proposed project. Federally listed North Platte River species potentially occurring downstream from the proposed project include whooping crane, interior least tern, pallid sturgeon, eskimo curlew, piping plover, bald eagle, and western prairie fringed orchid.

Additional TEP&C species known to occur, potentially occurring, and/or potentially affected by actions within the BLM-RFO area include: Wyoming toad, boreal toad, Preble's meadow jumping mouse, Canada lynx, and Colorado butterfly plant, as well as the Colorado River system fish species humpback chub, razorback sucker, Colorado pikeminnow, and bonytail chub. Habitat for these species does not occur in the vicinity of the proposed project and/or would not be affected by the proposed project; therefore, no impacts are expected and these species are not discussed further in this report.

Black-footed Ferret

The black-footed ferret is a federally listed endangered species. The *Black-footed Ferret Survey Guidelines for Compliance with the Endangered Species Act* (U.S. Fish and Wildlife Service [USFWS] 1989) defines potential black-footed ferret habitat as any white-tailed prairie dog colonies or complexes greater than 200 acres in size with a burrow density of greater than 8 burrows per acre. A complex consists of two or more neighboring prairie dog colonies within 4.3 mi of each other.

Potentially affected white-tailed prairie dog colonies occurring within 0.5 mi of the proposed pipeline and access road corridors were mapped by traversing the area on foot, or using four-wheel-drive trucks and all-terrain vehicles (see Map 2). Other prairie dog colonies in the vicinity of the

project which were mapped for other projects are also presented on Map 2. Colony boundaries were mapped using a global positioning system (GPS). Burrow densities were determined for most colonies occurring within 0.5 mile of proposed pipeline construction by using burrow censuses (i.e., all open burrows within the town were counted) (see Table 2, attached).

Thirteen prairie dog colonies occur within 0.5 mi of proposed project disturbance areas. Individual towns range in size from approximately 6 to 276 acres. Burrow densities range from 1.6 to 8.4 burrows/acre. Six of the colonies would be disturbed during pipeline construction and/or potential road improvements (see Map 2). Seven prairie dog colonies, numbers 1, 3, 4, 7, 8, 14, and 15 would not be disturbed by the proposed project (i.e., not within the 100-ft wide proposed construction right-of-way [ROW] corridors), but are within 0.5 mi of proposed pipeline route and/or access road disturbance areas. Two colonies (14 and 15) were surveyed for black-footed ferret in 2002 for another project and no black-footed ferret or sign indicative of black-footed ferret was found (Dudley 2002b).

All prairie dog colonies within 0.5 mi of proposed pipeline and access road route disturbance areas that meet USFWS criteria as potential black-footed ferret habitat (i.e., burrow densities greater than eight per acre) (USFWS 1989) have been surveyed for black-footed ferret and no black-footed ferret or sign of black-footed ferret was found (Dudley 2002b). Therefore, the proposed project would not adversely affect black-footed ferret.

<u>Ute Ladies' Tresses</u>

The Ute ladies' tresses is a federally threatened orchid, 20 to 50 cm in height, with narrow leaves and small white or ivory flowers clustered into a spike arrangement. They flower from mid-July to September and can remain dormant for several years. This species occurs in flat floodplain terraces, abandoned oxbows, wetlands, wet meadows, springs, lakes, and perennial streams from 4,650 to 5,420 ft (1,417 to 1,652 m) above sea level (Fertig 2000). Ute ladies' tresses colonize early successional riparian habitats such as point bars, sandbars, and low gravely, sandy, or cobbley edges and persist in those areas that are provided with perennial moisture.

Four populations of Ute ladies' tresses are known to occur in eastern Wyoming; however, there are no known occurrences of Ute ladies' tresses in central Wyoming along the North Platte River (personal communication, July 26, 2001, with Walt Fertig, Wyoming Natural Diversity Database [WNDD], Laramie, Wyoming). Two areas of potential Ute ladies' tresses habitat occur within the wetland areas adjacent to the North Platte River and along Saint Marys Creek (see Map 1 and TRC Mariah [2002]). **Since all potentially suitable Ute ladies' tresses habitats would be avoided by boring and/or directional drilling during pipeline construction, the proposed project would not adversely affect this species.**

Blowout Penstemon

Blowout penstemon, a federally endangered species, is a perennial herb associated with blowout depressions in sparsely vegetated, active sand dunes. Individual plants have deep root systems and multiple stems which can survive burial in shifting sands. Currently, only 3,000-5,000 plants are known from 12 sites in Nebraska, and 300-500 individuals are documented in the Ferris Mountains of Wyoming. The Wyoming population of blowout penstemon occurs on steep blowing slopes with less than 5% cover of blowout grass (*Redfieldia flexuosa*), thickspike wildrye (*Elymus lanceolatus*), lemon scurf-pea (*Psoralidium lanceolatum*), and occasional rubber rabbitbrush (*Chrysothamnus nauseosus*) (Fertig 1999). **No suitable habitat for this plant species was identified during vegetation mapping; therefore, the proposed project would not adversely affect the species.**

Bald Eagle

The bald eagle is a federally threatened species (downlisted from endangered and now proposed for removal from federal listing). Although bald eagle observations have been made on and adjacent to proposed pipeline and access road corridors (personal communication with Steve Tessman, Biologist, Wyoming Game and Fish Department [WGFD] June 2000), no known bald eagle nests or winter roosts are known to occur within 1.0 mi of the area (WNDD 2000; WGFD 2000). Migrating bald eagles and those wintering at locations sufficiently close to the proposed project may occasionally fly over the area while foraging. **Since no known nests or roosts occur near the proposed project nor are nests or roosts likely to be established, the proposed project is unlikely to adversely affect bald eagles.**

Mountain Plover

The mountain plover is proposed for federal listing as threatened. The species nests on high plains shortgrass prairie, shrub-steppe, and desert tablelands, commonly on or near prairie dog colonies or pastures that are heavily grazed by livestock. Potential plover habitat occurs throughout the region, and areas of potential mountain plover habitat were noted during vegetation mapping. Mountain plover habitat (Graul 1975, Graul and Webster 1976, Knopf 1996, USFWS 2001) is characterized by the following:

- generally flat or gently sloping terrain;
- sparse ground vegetation with at least 30% bare ground (ocular estimate);
- grasses, shrubs, and forbs (less than 4 inches [10 cm] tall) in spaced clumps or mats (e.g., cushion plant communities);
- widely spaced and generally low-growing shrubs (4 to 16 inches [10-41 cm] tall); and/or
- active prairie dog colonies.

Both the mixed grass/low shrub and the cushion plant communities, as well as small inclusions within the mixed shrub/grassland community types (see Map 1) and prairie dog colonies (see Map 2), are suitable nesting habitat for mountain plover within the proposed pipeline and access road corridors.

Mountain plover generally nest beginning in April and the young are fledged by July. Plovers occupy the breeding range in Wyoming from about April 10 to July 10 then migrate to wintering grounds located in California, Texas, and New Mexico. No plover were observed during vegetation mapping, prairie dog town delineations, or wetland inventory tasks; however, based on the presence of potential mountain plover breeding habitat on and adjacent to the proposed pipeline and access road routes, there is potential for mountain plover to occur in project-affected areas. If construction activities are planned for the period of April 10 to July 10, mountain plover presence/absence surveys would need to be implemented in potential breeding habitat prior to construction pursuant to USFWS (2001). If an active mountain plover nest is found within 0.25 mile of a proposed facility, construction activities would be delayed, the BLM and USFWS would be notified, and appropriate avoidance and/or protection measures would be implemented as deemed necessary by the BLM in conference with the USFWS. **With the implementation of the aforementioned survey, avoidance, and protection measures, the proposed project is unlikely to adversely affect this species.**

North Platte River Species

Since 1978, the USFWS has consistently taken the position in its Section 7 consultations that federal agency actions resulting in water depletions to the North Platte River system may affect the endangered whooping crane, interior least tern, pallid sturgeon, and eskimo curlew, as well as the threatened piping plover, bald eagle, and western prairie fringed orchid. **Since no North Platte River depletions would occur from this project, the project would not adversely affect these species.**

Sage Grouse

Three sage grouse leks occur within 2 mi of the proposed pipeline and access road routes. Of these, one lek, located in NENW of Section 5, T22N, R85W, occurs within 0.25 mi of a proposed access road (see Map 2 and ROW Plan of Development, Exhibit 1, Access Road 2 [Dudley 2002a]). However, no surface disturbance activities are proposed for this road segment, nor is any other surface disturbance proposed within 0.25 mi of any known leks.

Approximately 8.3 mi of the proposed pipeline route would be constructed within 2.0 mi of known sage grouse leks. If pipeline construction is planned to occur between March 1 and June 30, the following measures may be required by the BLM to mitigate potential impacts to sage grouse.

1) One aerial sage grouse lek survey of areas within 2.0 mi of proposed disturbance may be conducted during mid-March/mid-April 2002 to identify potentially unknown leks in the area.
2) Existing and newly identified leks in the area would be avoided (i.e., no surface disturbance requiring long-term repeated human presence would occur within 0.25 mi of the leks).
3) Project-required areas within 0.25 mi of a lek which do not require surface disturbance, but which will have use (e.g., existing suitable access roads) would not be used from midnight to 9:00 a.m. from March 1-June 1 to avoid disturbing strutting grouse.

4) Areas of suitable sage grouse nesting habitat (e.g., sagebrush dominated areas within 2.0 mi of known leks) would be searched for active sage grouse nests prior to disturbance and in the event an active nest is found no disturbance to the nest site would occur until nesting is complete.

Raptors

A search of the BLM-RFO database (i.e., overlay information) revealed numerous raptor nests within 1.0 mi of the proposed pipeline and access road routes (see Map 2); however, the activity status of these raptor nests is unknown. Therefore, if project construction is proposed during the raptor nesting season (i.e., February 1-July 31), the following measures may be implemented as directed by the BLM to mitigate potential project-related impacts to raptors.

1) A search for active raptor nests on and within 1.0 mi of proposed construction sites would be implemented prior to construction during the period of March - May.
2) In the event an active nest is found, construction activities within 1.0 mi of the nest or other suitable distance as determined by the BLM would be avoided until nesting is complete, unless an exception is granted by the BLM.

Wildlife Crucial Winter Range

WGFD data reveal the presence of crucial winter yearlong range for pronghorn antelope and mule deer along approximately 2.0 miles of the southernmost portions of the proposed pipeline and access road corridors. The locations of these ranges are presented on Map 2. Construction activities in crucial winter range would not occur during crucial winter periods (i.e., November 15 - April 30), unless granted an exception by the BLM.

Conclusion

With the implementation of mitigation and monitoring measures defined for each species/wildlife group, the proposed project is not likely to adversely affect TEP&C species or significantly affect vegetation, wetlands, and/or the other wildlife species discussed herein.

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Thank you for using TRC Mariah for this project. Please feel free to call me or Ms. Jan Hart with any questions, or if we may be of further assistance.

Sincerely,

TRC Mariah Associates Inc.

Peter J. Guernsey
Project Manager

PJG:ta
Enclosures
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Table 1 List of Plant Species Observed Along the Seminoe Road Coalbed Methane Gas Gathering Pipeline and Access Roads Project.

Life Form	Common Name	Scientific Name
Shrubs and Subshrubs	Wyoming big sagebrush	*Artemisia tridentata wyomingensis*
	Broom snakeweed	*Gutierrezia sarothrae*
	Skunkbush sumac	*Rhus trilobata*
	Shadscale	*Atriplex confertifolia*
	Gardner's saltbush	*Atriplex gardneri*
	Douglas rabbitbrush	*Chrysothamnus viscidiflorus*
	Grey rabbitbrush	*Chrysothamnus nauseosus*
	Sandbar willow	*Salix exigua*
	Greasewood	*Sarcobatus vermiculatus*
	Winterfat	*Kraschenninikovia lanata*
	Spiny horsebrush	*Tetradymia spinosa*
	Birdfoot sage	*Artemisia pedatifida*
	Fringed sage	*Artemisia frigida*
Forbs	Milk vetch	*Astragalus* spp.
	Clasping pepperweed	*Lepidium perfoliatum*
	Bluebur stickseed	*Lappula redowskii*
	Scarlet globemallow	*Sphaeralcea coccinea*
	Franklin's sandwort	*Arenaria franklinii*
	Buckwheat	*Eriogonum* spp.
	Yellow beeplant	*Cleome lutea*
	Canada thistle	*Circium canadensis*
	Field mint	*Mentha arvensis*
	Russian thistle	*Salsola kali*
	Seepweed	*Iva axillaria*
	Lupine	*Lupine* spp.
	Rockcress	*Arabis* spp.
	Halogeton	*Halogeton glomerata*
	Hood's phlox	*Phlox hoodii*
	Prickly pear cactus	*Opuntia polyacantha*

Table 1 (Continued)

Life Form	Common Name	Scientific Name
Grasses/Grasslike	Blue grama	*Bouteloua gracilis*
Species	Threadleaf sedge	*Carex filifolia*
	Smooth brome	*Bromus inermis*
	Scouring rush	*Equisetum arvense*
	Cheatgrass	*Bromus tectorum*
	Slender wheatgrass	*Elymus trachycaulum*
	Spike rush	*Eleocharis palustris*
	Meadow barley	*Hordeum pusillum*
	Sandberg bluegrass	*Poa sandbergii*
	Basin wildrye	*Elymus cinerus*
	Rush	*Juncus compressus*
	Needle-and-thread grass	*Stipa comata*
	Bulrush	*Scirpus maritimus*
	Junegrass	*Koeleria macrantha*
	Timothy	*Phleum pratense*
	Alkali bluegrass	*Poa juncifolia*
	Indian ricegrass	*Oryzopsis hymenoides*
	Foxtail barley	*Hordeum jubatum*
	Tufted hairgrass	*Deschampsia cespitosa*
	Seaside arrowgrass	*Triglochin martimum*
	Bottlebrush squirreltail	*Sitanion hystrix*
	Western wheatgrass	*Pascopyron smithii*
	Crested wheatgrass	*Agropyron cristatum*
	Bluebunch wheatgrass	*Psuedorygnaria spicatum*
	Galleta	*Hilaria jamesii*
	Inland saltgrass	*Distichlis stricta*

Table 2 Potentially Affected Prairie Dog Colonies and Associated Burrow Densities, Seminoe Road Coalbed Methane Gas Gathering Pipeline and Access Road Project.

Colony Identification Number [1]	Burrow Density Determination Method	Number of Open Burrows	Area (acre)	Density (burrows/acre)
PD-1 [2]	Census	262	47.2	5.6
PD-2	Census	746	128.0	5.8
PD-3[2]	Census	372	48.6	7.6
PD-4[1]/5[2,3]	Census	275	71.4	3.9
PD-6	Census	449	276.4	1.6
PD-7[2]	Census	199	57.4	3.5
PD-8[2]	Census	42	5.9	7.1
PD-9 [4]	Census	256	45.4	5.6
PD-10 [4,5]	None	Unknown	19.0	Unknown
PD-11 [2,4]	Census	34	10.8	3.1
PD-14 [2,6]	Modified Biggins et al. (1993)	Unknown	131.3	8.4
PD-15 [2,6]	Modified Biggins et al. (1993)	Unknown	102.1	7.8

[1] See Map 2 for locations; colony numbers are not sequential to preserve the existing colony identification numbers reported in BLM (2001) for those colonies occurring within the Seminoe Road Coalbed Methane Pilot Project area.

[2] Colonies not affected by the proposed project, but occurring within 0.5 mi of proposed pipeline and access road corridor disturbance areas.

[3] Colonies 4 and 5 occur within 200 m of each other and were therefore considered a single colony for acreage and burrow density determinations.

[4] Colony occurs in Carbon County, Wyoming, south and east of North Platte River which was designated "ferret-free" pursuant to WGFD (1991); and 56 *Federal Register* 41486 (August 21, 1991). Any ferrets potentially occurring in this area would be from the designated nonessential experimental population which must be treated as a species proposed for listing (rather than listed as threatened or endangered) for purposes of Section 7 of the *Endangered Species Act of 1973*, as amended (16 *United States Code* 1531 et seq.) (56 *Federal Register* 41473, August 21, 1991).

[5] All proposed disturbance within this colony would occur within existing disturbed areas.

[6] Colonies described in BLM (2002) and surveyed for black-footed ferret as described in Dudley (2002b).