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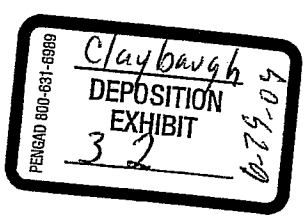
Appendix A



August 22, 2005

TO: Dina E. Brown
K.C. Harvey, LLC
Soil and Water Resources Consultants
233 Edelweiss Drive, Suite 11
Bozeman, MT 59718

FROM: Jerry Gladson
200 Vandyke St.
Buffalo, WY 82834

PROJECT: PETRO-CANADA RESOURCES
WILD HORSE CREEK SECTION 20 ANALYSIS

INTRODUCTION:

The purpose of the vegetative inventory is to identify the vegetative species present in the various fields and rank dominance of the major species.

Each field was inventoried by walking a series of random paths through the fields. These paths are identified as transects on the attached worksheets. The vegetation along the paths was identified and an ocular percentage estimate was made of the dominant species.

On fields that had been hayed, transects were completed on vegetation outside the mowed area as well as inside the mowed area. Where it had been hayed, residual vegetation was used to complete the inventory.

No attempt was made to identify the individual species of the genus Cares, Salix and Poa. Plant species exist that were not encountered along the transects, however they do not make up a significant part of the plant community and represent less than 1% of the composition.

August 22, 2005

PETRO-CANADA RESOURCES
WILD HORSE CREEK SECTION 20 ANALYSIS

MARTIN DITCH

This field had been hayed prior to the vegetative inventory. Three transects were made across the sample area. The field is predominately perennial native and introduced grasses which make up an estimated 90% of the composition. The dormant species include Prairie Cordgrass, Western wheatgrass, Smooth bromegrass, and Quack grass. The balance of the composition is a mixture of annual and perennial forbs along with other perennial and annual grasses. Grass is healthy and vigorous with good production.

Plains cottonwood and Narrowleaf cottonwood trees occur within the field along with some Salix spp. which is primarily along the banks of Wild Horse Creek.

The following chart represents the percentages of the species found in each area of the transect. The single "X" indicates the presence of the species in the transect. The double "X" indicates the presence of the species at a level of between one and three percent of the composition. Together the "X" and the "XX" make up the balance of the composition percentages.

MARTIN DITCH

Page 2

TRANSECT #	1	2	3
PERENNIAL GRASSES			
Western wheatgrass	X	30	15
Poa spp.		X	X
Foxtail barley	XX	X	X
Prairie Cordgrass	80	10	5
Carex spp.	X		
Slender wheatgrass		5	
Bearded wheatgrass	X		
Smooth brome grass	XX	30	60
Quack grass	5	15	15
Timothy		X	
ANNUAL GRASSES			
Downy brome		X	X
PERENNIAL SHRUB			
Salix spp.		X	
PERENNIAL FORBS			
Canada thistle	X		X
ANNUAL FORBS			
Kochia		X	X
Marshelder	X	X	X
Burdock		X	X
Common lambsquarter			X
Common sunflower		X	
Pennycress	X		
TREES			
Plains cottonwood	X		X
Narrowleaf cottonwood		X	

August 22, 2005

PETRO-CANADA RESOURCES
WILD HORSE CREEK SECTION 20 ANALYSIS

TUBBS DITCH

There were five transects completed across this field. Transects 1, 2, and 3 were through the upland area of the field. Transect 4 was under the tree canopy along Wild Horse Creek and transect 5 was within the riparian area of Wild Horse Creek.

All areas are predominately perennial introduced and native grasses, which make up approximately 85% of the composition. In the upland areas, dominant grasses include Western wheatgrass at 50% and Smooth bromegrass at 30% of the composition. The riparian area is dominated by Prairie Cordgrass at 50% and Foxtail barley at 25% of the riparian composition. The balance of the vegetation on both sites is a mixture of annual and perennial grasses along with annual and perennial forbs. The vegetation on this site is healthy with moderate production. Also, Plains cottonwood trees occur within the sample area.

The following chart represents the percentages of the species found in each area of the transect. The single "X" indicates the presence of the species in the transect. The double "X" indicates the presence of the species at a level of between one and three percent of the composition. Together the "X" and the "XX" make up the balance of the composition percentages.

TUBBS DITCH

Page 2

TRANSECT #	1	2	3	4	5
PERENNIAL GRASSES					
Western wheatgrass	50	50	60	50	5
Poa spp.	X	X	X		
Foxtail barley		X	X	X	25
Prairie cordgrass		X			50
Carex spp.		X			X
Crested wheatgrass	XX				
Smooth brome grass	30	30	40	30	
Quack grass	5	5	X	5	X
Timothy	XX				
ANNUAL GRASSES					
Japanese bromegrass	X	X	X	X	
Downy brome		X	X	X	
PERENNIAL FORBS					
Alfalfa		X			
Canada thistle	X	X	X	X	
ANNUAL FORBS					
Western yarrow				X	
Kochia			X		
Clasping pepperweed	X	X	X	X	
Marshelder	X	X	X	X	
Burdock	X	X	X	X	X
Common Lambsquarter	X		X		
Flixweed	X	X	X	X	
Curley cup gumweed	X	X	X	X	
Western Salsify	X		X	X	
Dandelion		X	X		
TREES					
Plains cottonwood			X	X	X

August 22, 2005

PETRO-CANADA RESOURCES
WILD HORSE CREEK SECTION 20 ANALYSIS

SNYDER DITCH

There were four transects completed across this area. Transect one is along the riparian area of Wild Horse Creek. Transect 2 and 3 are across the normal upland area and transect 4 is along the east side of the sample area and occupies a higher bench that is above the normal floodplain.

Perennial grasses make up the dominant vegetation accounting for approximately 80% of the composition. Dominant perennial grasses on the upland sites include Western wheatgrass and Smooth bromegrass. The riparian is dominated by perennial grasses, Prairie Cordgrass, Foxtail barley and Carex spp. There is a significant number of Salix spp. within the riparian area. The balance of the composition in all sites is a mixture of annual and other perennial grasses along with annual and perennial forbs.

Mature Plains cottonwood trees occur within the sample area with the exception of the upper bench (transect 4).

Vegetation is healthy with moderate vigor and production. There are areas with fairly high infestation of Canada thistle.

The following chart represents the percentages of the species found in each area of the transect. The single "X" indicates the presence of the species in the transect. The double "X" indicates the presence of the species at a level of between one and three percent of the composition. Together the "X" and the "XX" make up the balance of the composition percentages.

SNYDER DITCH

Page 2

TRANSECT #	1	2	3	4
PERENNIAL GRASSES				
Western wheatgrass		15	40	40
Poa spp.		X	X	
Foxtail barley	20	X	X	X
Prairie cordgrass	40	X		
Carex spp.	20	30	X	
Salix spp.	10			
Crested wheatgrass				X
Intermediate wheatgrass		X	5	X
Smooth brome grass	X	35	45	45
Quack grass	X	5	X	X
Orchard grass				
Timothy			X	
ANNUAL GRASSES				
Japanese bromegrass		X	X	X
Downy brome		X	X	X
PERENNIAL FORBS				
Canada thistle	X	5	X	XX
Alfalfa		XX		
Oxeye daisy			X	X
SHRUB				
Salix spp.	10			
ANNUAL FORBS				
Common sunflower				X
Flixweed			X	X
Clasping pepperweed			X	X
Curley cup gumweed		X	X	X
Western Salsify			X	X
Dandelion			X	
Kochia		X		X
Field pennycress		X		X
Western yarrow			X	X
TREES				
Plains cottonwood	X	X	X	

August 22, 2005

PETRO-CANADA RESOURCES
WILD HORSE CREEK SECTION 20 ANALYSIS

FLOYD DIKE SPREADER SYSTEM

This area had been hayed prior to making the vegetative inventory. Wild Horse Creek divides this area into two fields identified as fields "A" and "B".

FIELD "A"

Two transects were completed on this field. Transect one is along the riparian area of Wild Horse Creek and is dominated by perennial grasses which makes up 85% of the understory vegetation. The predominate grasses include Smooth brome and Western wheatgrass. The balance of the understory is primarily annual forbs.

Transect two, which is in the upland area, had been hayed. This area is also dominated by perennial grasses which make up approximately 85% of the vegetation. The dominant perennial grass is Crested wheatgrass which accounts for an estimated 70% of the understory vegetation. The balance of the composition is comprised of other perennial and annual grasses along with annual and perennial forbs.

Older Plains cottonwood trees occur within the field as well as Salix spp., which occurs along the banks of Wild Horse Creek.

The following chart represents the percentages of the species found in each area of the transect. The single "X" indicates the presence of the species in the transect. The double "X" indicates the presence of the species at a level of between one and three percent of the composition. Together the "X" and the "XX" make up the balance of the composition percentages.

FLOYD DIKE SPREADER SYSTEM
Page 2

FIELD "A"

TRANSECT #	1	2
PERENNIAL GRASSES		
Western wheatgrass	15	X
Poa spp.		X
Foxtail barley	5	5
Russian wildrye		5
Prairie Cordgrass	5	
Carex spp.	5	
Slender wheatgrass	X	
Crested wheatgrass	XX	70
Bearded wheatgrass	5	XX
Smooth brome grass	40	
Quack grass	5	5
Timothy	X	
Intermediate wheatgrass	5	
ANNUAL GRASSES		
Japanese brome	X	X
SHRUBS		
Salix spp.	X	
Woods rose	X	
PERENNIAL FORBS		
Canada thistle	X	X
Yellow sweetclover	X	
ANNUAL FORBS		
Clasping pepperweed		X
Field pennycress	X	X
Western salsify	X	X
Western yarrow		X
Marshelder	X	X
Curlycup gumweed	X	
Burdock		X
Prickly lettuce		X
TREES		
Plains cottonwood	X	X
Narrowleaf cottonwood		X

FIELD "B"

There were three transects completed on this field and transect one is along the Wild Horse Creek riparian area. This transect is dominated by perennial grasses which make up an estimated 85% of the understory with the dominant species being Smooth brome, Western wheatgrass and Foxtail barley. A number of other perennial grasses and Carex spp. occur in the composition. The balance of the vegetation includes annual grasses, and annual and perennial forbs. Plains cottonwood and Narrow leaf cottonwood occur throughout this transect. Woods rose was common through this area along with Salix spp. along the creek banks.

Transect two and three were completed on the upland area. Portions of transect three occurred outside of the mowed area. Both transects were dominated by perennial grasses which made up an estimated 85% of the composition. The major perennial grasses include Western wheatgrass, Crested wheatgrass and Smooth brome. The balance of the composition included annual grasses, as well as annual and perennial forbs. There were a few mature Plains cottonwood trees within these areas.

FLOYD DIKE SPREADER SYSTEM			
Page 4			
Field "B"			
Transect	1	2	3
PERENNIAL GRASSES			
Western wheatgrass	15	40	25
Poa spp.	X		X
Foxtail barley	15	5	5
Prairie cordgrass	10		
Carex spp.	5		
Slender wheatgrass	X		
Crested wheatgrass		30	40
Bearded wheatgrass	X		
Smooth brome grass	30	10	15
Quack grass	5	X	X
Timothy	5		
Intermediate wheatgrass	XX		
ANNUAL GRASSES			
Japanese brome		X	X
Downy brome	X	X	X
SHRUBS			
Salix spp.	X		
Woods rose	X	X	
PERENNIAL FORBS			
Canada thistle	X	X	X
ANNUAL FORBS			
Field pennycress	X	X	X
Kochia			X
Western salsify	X	X	X
Western yarrow	X	X	X
Flixweed		X	
Marshelder	X		
Curlycup gumweed	X	X	X
Burdock	X		X
Prickly lettuce	X	X	
Common sunflower	X		

TREES			
Plains cottonwood	X		X

August 22, 2005

PETRO-CANADA RESOURCES
WILD HORSE CREEK SECTION 20 ANALYSIS

WILSON DITCH – FIELD "A" **(changed to Floyd Dike Spreader System Field C)**

The Wilson Ditch area was divided into three fields for sampling purposes. The primary reason was due to the location of Wild Horse Creek which divides fields A & B. Field C joins field B, but only by a narrow area. Three transects were completed on each field.

In Field "A" transects one and two were within the upland areas of the field. The majority of the acreage in these transects had been hayed. Portions of transect one was completed outside the hayed area. Transect three was along the Wild Horse Creek riparian and was primarily outside the hayed area.

In transects one and two, perennial grasses made up an estimated 85% of the composition. Primary perennials include Western wheatgrass, Crested wheatgrass and Smooth brome. The balance of the composition includes other perennial and annual grasses as well as annual and perennial forbs. The Plains cottonwood tree occur within the sample area.

In transect three, perennial grasses and Carex spp. makes up 85% of the composition. Dominate perennials in this area include Prairie cordgrass, Western wheatgrass, Carex spp., and Smooth brome. The balance of the composition includes other perennial and annual grasses as well as annual and perennial forbs. The Plains cottonwood, Narrowleaf cottonwood and Boxelder trees occur within the sample area.

A significant number of willow (Salix spp.), occur along the banks of Wild Horse Creek.

The following chart represents the percentages of the species found in each area of the transect. The single "X" indicates the presence of the species in the transect. The double "X" indicates the presence of the species at a level of between one and three percent of the composition. Together the "X" and the "XX" make up the balance of the composition percentages.

PETRO-CANADA RESOURCES
WILD HORSE CREEK SECTION 20 ANALYSIS

WILSON DITCH - FIELD "A"

TRANSECT #	1	2	3
PERENNIAL GRASSES			
Western wheatgrass	25	20	15
Poa spp.	X	X	X
Foxtail barley	XX	XX	5
Prairie cordgrass	X		10
Slender wheatgrass			X
Carex spp.		X	10
Bearded wheatgrass			X
Crested wheatgrass	40	45	X
Intermediate wheatgrass	XX	X	5
Smooth brome grass	10	15	35
Quack grass	5	5	5
Timothy	5		X
ANNUAL GRASSES			
Japanese bromegrass	X	X	X
Downy brome	X	X	X
SHRUBS			
Salix spp.			X
Woods rose		X	
PERENNIAL FORBS			
Canada thistle	X		X
Alfalfa		X	
ANNUAL FORBS			
Clasping pepperweed	X	X	X
Field pennycress	X	X	X
Kochia		X	X
Western Salsify		X	X
Burdock	X		X
Prickly lettuce		X	

WILSON DITCH-FIELD "A"			
Page 3			
TRANSECT #	1	2	3
ANNUAL FORBS (cont.)			
Marshelder	X		
Curlycup gumweed	X		
Common sunflower	X		
TREES			
Plains cottonwood	X		

WILSON DITCH – FIELD "B" **(changed to Floyd Dike Spreader System Field D)**

The Wilson Ditch area was divided into three fields for sampling purposes. The primary reason was due to the location of Wild Horse Creek which divides fields A & B. Field C joins field B, but only by a narrow area. Three transects were completed on each field.

In field B, there were three transects, transects two and three were within the upland areas of the field. The majority of the acreage where these transects were made had been hayed. Portion of transect three was completed outside the hayed area. Transect one was along the Wild Horse Creek riparian and was primarily outside the hayed area.

In transects two and three, perennial grasses make up an estimated 90% of the composition. Primary perennials include Western wheatgrass, Crested wheatgrass and Smooth brome. The balance of the composition includes annual grass as well as annual and perennial forbs. The Plains cottonwood trees occur within the sample area.

In transect one, perennial grasses and Carex spp. makes up 85% of the composition. Dominate perennials in this area include Prairie cordgrass, Western wheatgrass, Carex spp., and Smooth brome. The balance of the composition includes annual grasses and annual and perennial forbs. The Plains cottonwood, Narrowleaf cottonwood and Boxelder trees occur within sample area B.

A significant number of willow (Salix spp.) Occur along the banks of wild Horse Creek.

The following chart represents the percentages of the species found in each area of the transect. The single "X" indicates the presence of the species in the transect. The double "X" indicates the presence of the species at a level of between one and three percent of the composition. Together the "X" and the "XX" make up the balance of the

PETRO-CANADA RESOURCES
WILD HORSE CREEK SECTION 20 ANALYSIS

WILSON DITCH - FIELD "B"

TRANSECT #	1	2	3
PERENNIAL GRASSES			
Western wheatgrass	15	40	30
Poa spp.	X		X
Foxtail barley	5	10	5
Prairie cordgrass	15		
Carex spp.	10		
Bearded wheatgrass	X		
Crested wheatgrass		30	40
Intermediate wheatgrass	XX		
Smooth brome grass	35	10	15
Quack grass	5	X	X
Timothy	5		
ANNUAL GRASSES			
Japanese bromegrass		X	X
Downy brome	X	X	X
SHRUBS			
Salix spp.			X
Woods rose		X	X
PERENNIAL FORBS			
Canada thistle	X	X	X
Yellow sweetclover		X	
ANNUAL FORBS			
Clasping pepperweed		X	
Field pennycress	X	X	X
Kochia			X
Western Salsify	X	X	
Western yarrow		X	X
Flixweed		X	X
Curlycup gumweed	X	X	X
Prickly lettuce		X	X

WILSON DITCH - FIELD "B"			
Page 6			
TRANSECT #	1	2	3
ANNUAL FORBS (cont.)			
Burdock	X		X
Common sunflower			
TREES			
Plains cottonwood	X	X	X
Narrowleaf cottonwood	X		

WILSON DITCH – FIELD "C" **(changed to Floyd Dike Spreader System Field E)**

The Wilson Ditch area was divided into three fields for sampling purposes. The primary reason was due to the location of Wild Horse Creek which divides fields A & B. Field C joins field B, but only by a narrow area. Three transects were completed on each field.

In field "C", there were three transects, transects two and three were within the upland areas of the field. The majority of the acreage where these transects were made had been hayed. Portion of transect three was completed outside the hayed area. Transect one was along the Wild Horse Creek riparian and was primarily outside the hayed area.

In transects two and three, perennial grasses make up an estimated 80% of the composition. Primary perennials include Western wheatgrass, Crested wheatgrass and Smooth brome. The balance of the composition includes annual grass as well as annual and perennial forbs.

In transect one, perennial grasses and Carex spp. makes up 85% of the composition. The dominate perennials in this are includes Prairie cordgrass, Western wheatgrass, Carex spp., Foxtail Barley, and Smooth brome. The balance of the composition includes annual grasses and annual and perennial forbs. A significant number of willow (Salix app.) occur along the banks of Wild Horse Creek. The Plains cottonwood is also present in Field "C".

The following chart represents the percentages of the species found in each area of the transect. The single "X" indicates the presence of the species in the transect. The double "X" indicates the presence of the species at a level of between one and three percent of the composition. Together the "X" and the "XX" make up the balance of the composition percentages.

WILSON DITCH – FIELD "C"

TRANSECT #	1	2	3
PERENNIAL GRASSES			
Russian wildrye	X		
Prairie cordgrass	10		
Quackgrass	5		X
Western wheatgrass	15	10	20
Poa spp.	X	X	X
Slander wheat	X		
Crested wheatgrass	X	40	50
Cares spp.	10		
Foxtail barley	10	X	XX
Smooth bromegrass	30	30	15
Bearded wheatgrass	X		
Intermediate wheatgrass	5		
ANNUAL GRASSES			
Japanese brome	X	X	X
Downy brome	X	X	X
SHRUBS			
Silver sagebrush			X
Greasewood			X
Salix spp.	X		
PERENNIAL FORBS			
Canada thistle	X	X	X
Wild licorice	X		
ANNUAL FORBS			
Clasping pepperweed	X		X
Field pennycress	X	X	X
Kochia			X
Russian thistle			X
Western salsify	X	X	X
Lambsquarter		X	X
Western yarrow		X	X
Flixweed		X	X

WILSON DITCH – FIELD "C"			
Page 9			
TRANSECT #	1	2	3
ANNUAL FORBS (cont.)			
Marshelder		X	
Burdock	X		
Curlycup gumweed		X	X
TREES			
Plains cottonwood	X		

VEGETATIVE LIST

COMMON NAME	SCIENTIFIC NAME
SHRUBS	
Native Perennial	
Silver sagebrush	Artemisia cana
Sand sagebrush	Artemisia filifolia
Fringed sagebrush	Artemisia frigida
Big sagebrush	Artemisia tridentate
Western snowberry	Symphoricarpos occidentalis
Greasewood	Sarcobatus vermiculatus
Winterfat	Ceratoides lanata (Eurotia lanata)
Saltcedar	Tamarix ramosissima
Woods rose	Rosa woodsii
Willow	Salix spp.
TREES - NATIVE	
Plains cottonwood	Populus angustifolia
Rocky Mountain juniper	Juniper scopulorum
Narrowleaf cottonwood	Populus angustifolia
Boxelder	Acer negundo
TREE - INTRODUCED	
Russian olive	Elaeagnus angustifolia
FORBS	
Native Perennials	
Skeltonweed	Lygodesmia juncea
Showy milkweed	Asclepias speciosa
Western yarrow	Achillea lanulosa
Plains pricklypear	Opuntia polyacantha
Two grooved milkvetch	Astragalus bisulcatus
Wild licorice	Glycyrrhiza lepidota
(Gray) Rubber rabbitbrush	Chrysothamnus nauseosus

FORBS
Native Annual

Common sunflower	Helianthus annuus
Marshelder	Iva xanthifolia
Western sticktight	Loppula redowski
Smallseed falseflex	Camelina microcarpa
Flixweed	Descurainia sophia
Rocky Mountain beeplant	Clome serrulata
Woolly plantain	Plantago patagonica

FORBS
Introduced Annual

Redroot pigweed	Amaranthus retroflexus
Common ragweed	Ambrosia artemisiifolia
Yellow alyssum	Alyssum alyssoides
Clasping pepperweed	Lepidium perfoliatum
Field pennycress	Thlaspi arvense
Kochia	Kochia scoparia
Common lambsquarter	Chenopodium album
Russian thistle	Salsola iberica
Common mallow	Malva neglecta
Pinnate tansymustard	Descurainia pinnata

FORBS
Introduced Perennial

Canada thistle	Cirsium arvense
Dandelion	Taraxacum spp
Field bindweed	Convolvulus aryensis
Leafy spurge	Euphorbia esula
Curly dock	Rumex crispus
Oxeye daisy	Chrysanthemum leucanthemum

FORBS
Native Biennial

Common sagewort	Artemisia campestris
Plumeless thistle	Carduas acanthoides
Curlycup gumweed	Grindelia squarrosa

FORBS
Introduced Biennial

Prickly lettuce	Lactuca serriola
Scotch thistle	Onopordum acanthium
Western Salsify	Troqopogon dubius
Yellow sweetclover	Melilotus officinalis

GRASSES
Native Perennial

Western wheat	Pascopyrum smithii (Agropyron smithie)
Foxtail barley	Hordeum jubatum
Prarie cordgrass	Spartina pectinata
Salt grass	Distichtis stricta
Green needle grass	Stipa viridula
Needle and thread	Stipa comata
June grass	Koleria pyramidaya
Giant wildrye	Elymus cinerus (Russian wildrye – Elymus janceus)
Slender wheatgrass	Agropyrom trachycaulum (Elymus trachcaulus)
Bearded wheatgrass	Agropyrom subsecundum
Bluegrass	Poa spp.

GRASSES
Introduced Perennial

Crested wheatgrass	Agropyron cristatum
Intermediate wheatgrass	Agropyron intermedian (Elytrigia intermedia)
Smooth brome	Bromus inermis
Quack grass (common)	Agropyron repens (Elytrigia repens)
Orchard grass (common)	Dactylis glomerata
Timothy	Phleum pratensis
Russian wildrye	Psathyrostachys juncea
Canada wildrye	Elymus canadensis

Introduced Annual

Japenese brome	Bromus japanicus
Downy brome	Bromus tectorum (Bromus secalinus)
Common rye	Secale cereale

GRASS LIKE
Perennial

Sedges	Carex spp.

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7/10/03

THE STATE OF WYOMING

JIM GERINGER
GOVERNOR

Department of Environmental Quality

Herschler Building ● 122 West 25th Street ● Cheyenne, Wyoming 82002

ADMINISTRATION	ABANDONED MINES	AIR QUALITY	INDUSTRIAL SITING	LAND QUALITY	SOLID & HAZARDOUS WASTE	WATER QUALITY
(307) 777-7758	(307) 777-6145	(307) 777-7391	(307) 777-7368	(307) 777-7756	(307) 777-7752	(307) 777-7781
FAX 777-7682	FAX 634-0799	FAX 777-5616	FAX 777-6937	FAX 634-0799	FAX 777-5973	FAX 777-5973

STATEMENT OF BASIS

NEW

APPLICANT NAME: Williams Production RMT Company

MAILING ADDRESS: 300 North Works Ave.
Gillette, WY 82716

FACILITY LOCATION: Echeta Road Unit, which is located in the NESW of Section 23, and the SENW and NESW of Section 25, all in Township 53 North, Range 76 West in Campbell County. The produced water will be discharged to 3 on-channel reservoirs (class 3B) located on unnamed ephemeral tributaries (class 3B) to Wild Horse Creek (class 3B) which is tributary to the Powder River (class 2ABWW). The established irrigation compliance (ICP) point is located in the NWSW of Section 23, Township 53 North, Range 76 West, prior to the first downstream point of irrigation diversion/use on Wild Horse Creek. The wells associated with this facility will also discharge to outfalls authorized under permit WY0049832. The total anticipated flow rate for the wells associated with these two permits is 2.22 MGD.

NUMBER: WY0049697

This facility is a typical coal bed methane production facility in which groundwater is pumped from a coal bearing formation resulting in the release of methane from the coal bed. The permit authorizes the discharge to the surface of groundwater produced in this way provided the effluent quality is in compliance with effluent limits that are established by this permit. In developing effluent limits, all federal and state regulations and standards have been considered and the most stringent requirements incorporated into the permit. The EPA Effluent Guidelines and Standards for Oil and Gas Extraction Point Source Category (Part 435, Subpart E) predate the development of coal bed methane extraction technology; however the technology is similar enough to conventional gas extraction that, in the professional judgement of the WDEQ, this effluent limit guideline is appropriately applied to coal bed methane gas production. The guideline limits oil and grease effluent concentrations to less than 35 mg/l and requires that discharges of produced water be used to enhance agricultural production and/or wildlife propagation. This permit does not cover activities associated with discharges of drilling fluids, acids, stimulation waters or other fluids derived from the drilling or completion of the wells.

The permittee has chosen option 2 of the coal bed methane permitting options. Under this permitting option, the produced water is immediately discharged to a class 2 or 3 receiving stream which is eventually tributary to a class 2AB perennial water of the state. The permit establishes effluent limits for the end of pipe, which are protective of all the designated uses defined in Chapter 1 of Wyoming Water Quality Rules and Regulations. This may include drinking water, game and non-game fish, fish consumption, aquatic life other than fish, recreation, agriculture, wildlife, industry and scenic value. In addition, the permit establishes two irrigation compliance

points. The irrigation compliance points are designated monitoring locations prior to the first downstream point of irrigation diversion/use in Wild Horse Creek from the permitted facility. Effluent limits associated with the irrigation compliance points (SAR = 6 and EC = 2000 micromhos/cm) were determined from a combination of one or more of the following: technical information submitted by the applicant, published scientific literature, credible water quality data that has been through formally adopted quality control/quality assurance review, and best professional judgement. These limits satisfy provisions under Chapter 1, Section 20 (protection of agricultural water supply) of the Wyoming Water Quality Rules and Regulations.

The Wyoming DEQ has determined through review of the permit application and available scientific information that effluent discharged from this facility will be put to beneficial use and is unlikely to reach the Powder River. The permittee has submitted certified statements that demonstrate discharged effluent will be put to beneficial use for wildlife watering. In addition, the permittee has submitted a water budget which indicates that all effluent from this facility can be contained in a series of on-channel reservoirs. Although the discharge will be contained in reservoirs and/or used by wildlife, a portion of the flow may also be lost due to stream channel infiltration. Information gathered from Western Land Services, Sheridan Wyoming (April 19, 2001) and Hydrologic Consultants, Inc. (2001) indicate a mean channel infiltration loss rate for ephemeral drainages in the Powder River at 0.1 cfs per mile of stream channel. Review of the permit application reveals that this facility is located approximately 10 miles from the confluence with the Powder River. In addition, maximum total effluent flow rate from this facility is estimated at 3.4 cfs. The permittee has committed that effluent shall not reach the Powder River. However, in the event that such a situation occurs, this permit establishes a monitoring station on the receiving stream prior to the confluence with the Powder River. This station will function to monitor any effluent flows to the Powder River.

Discharge of effluent from the reservoirs is not authorized except in the event of a 25-year / 24-hour storm event or greater. If such a storm event occurs upstream or upon this facility, this permit allows for overtopping of the reservoirs, but not additional releases. In addition, if overtopping of the reservoirs occurs as a result of a 25-year / 24-hour storm event or greater, the permit establishes effluent limits for specific conductance (2000 micromhos/cm) and sodium adsorption ratio (6) at the irrigation compliance point, in this case located in the NWSW of Section 23 in Township 53 North, Range 76 West on Wild Horse Creek. Effluent limits at the irrigation compliance point, which are protective of irrigation uses, are effective year-round for this permit.

Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. The permit limits total petroleum hydrocarbons to 10 mg/l and the pH must remain within 6.5 and 8.5 standard units. Effluent limits for total dissolved solids (5,000 mg/l), specific conductance (7,500 micromhos/cm), and sulfates (3,000 mg/l) are included to protect for stock and wildlife watering. These limits are based upon Wyoming Water Quality Rules and Regulations, Chapter 7 and apply to discharge from any permitted outfall. In addition, the permit establishes a radium 226 limit of 1 pCi/l, a dissolved iron limit of 299 µg/l, a dissolved manganese limit of 629 µg/l, a total barium limit of 1800 µg/l, a total arsenic limit of 7 µg/l, and a chlorides limit of 46 mg/l. These limits are based on standards for class 2AB waters which are intended to protect for the above listed designated uses and reflect the application of the antidegradation provisions required under Chapter 1 of the Wyoming Water Quality Rules and Regulations.

Results are to be reported twice-yearly and if no discharge occurs at the outfall then "no discharge" is to be reported. The permit also requires that an initial monitoring of the effluent be conducted within the first 30 days of discharge and the results submitted to WDEQ and the U.S. Environmental Protection Agency within 90 days of the commencement of discharge.

In order to monitor and regulate coal bed methane discharge for compliance with Chapter 1, Section 20 (protection of agricultural water supply), effluent limits for sodium adsorption ratio (SAR) and specific conductance are included in this permit. The Wyoming DEQ has determined that an SAR of 6 and specific conductance of 2,000 micromhos/cm is intended to be protective of agriculture use in the Wild Horse Creek drainage. The default specific conductance limit of 2,000 micromhos/cm is based on the threshold value for

alfalfa which is considered to be the most salt sensitive plant irrigated in northeastern Wyoming (USDA George E. Brown Jr. Salinity Laboratory, Salt Tolerance Database, Grasses and Forage Crops) in addition to unavailable data to characterize EC tolerance of alfalfa specific to the Wild Horse Creek drainage. The SAR limit of 6 was determined to not reduce the rate of infiltration of irrigated soils in the Wild Horse Creek drainage, given the specific conductance threshold referenced above as ascertained from Figure 3 (page 44) of Agricultural Salinity and Drainage, Hanson et al., 1999 revision. In addition, water with an SAR at or below 6 is typically considered usable for irrigation as determined by Applied Hydrology Associates, Inc. in their technical document "Certification of Compliance with Chapter 1, Section 20 of the Wyoming Water Quality Rules and Regulations for Devon Energy Production Company, LP CBM Discharge Permits within Wild Horse Creek Watershed" (see permit WY0047759). An SAR limit of 6 and specific conductance limit of 2,000 micromhos/cm will also maintain the baseline C3-S2 irrigation suitability category for the Powder River drainage (see Figure 25, of Diagnosis and Improvement of Saline and Alkali Soils, US Dept. of Agricultural Handbook No. 60, 1954). The SAR of 6 was also derived from the mean ambient SAR value of the Powder River at Arvada, WY. Monitoring will be required for flow volume, calcium, magnesium, sodium, bicarbonate, sodium adsorption ratio and specific conductance when flow is present at the irrigation compliance point(s) during the irrigation season April 1 through September 30.

The permit requires daily monitoring on Wild Horse Creek and the confluence of the unnamed draw to Wild Horse Creek to determine whether water discharged from the outfalls reaches the established irrigation compliance points from April 1 through September 30. Daily monitoring is necessary during this period because the permit establishes different sampling and analysis requirements based on whether the effluent from the outfalls reaches the irrigation compliance point. Once effluent flow at the irrigation compliance point has been documented within a sampling month, then weekly monitoring of flow is required for the remainder of that calendar month. At the beginning of each calendar month from April 1 through September 30, the frequency will revert to daily until such time as effluent flow occurs at the irrigation compliance point and a sample is collected to represent effluent quality for irrigation compliance point constituents for that month. Results are to be reported twice-yearly and if no effluent from this facility intercepts the ICP during a given sampling month, then "no discharge" is to be reported for the ICP that month.

The permit also requires sampling at designated water quality monitoring stations located on the receiving stream Wild Horse Creek and at locations on the Powder River (class 2ABWW water) that Wild Horse Creek confluences. Water quality monitoring stations on the Powder River will be located upstream and downstream of the confluence of Wild Horse Creek with the Powder River. Effluent samples at the designated water quality monitoring stations must be collected on a monthly sampling period and are to be reported semiannually. If no effluent from this facility intercepts the tributary monitoring station on Wild Horse Creek then "no discharge" is to be reported and samples need not be collected at the three water quality monitoring stations for that monthly sampling period. At the designated water quality monitoring stations, monitoring will be required for calcium, chlorides, magnesium, sodium, sodium adsorption ratio and specific conductance. Information gathered from the water quality monitoring stations may result in modification of the permit to protect existing uses on the tributary and mainstem.

The designated water quality monitoring stations are located on the tributary in the SESE of Section 16, Township 54 North, Range 77 West and on the mainstem in the SWSE and NESE of Section 16 in Township 54 North, Range 77 West. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone of the tributary with the mainstem.

There shall be no discharge of floating solids or visible foam in other than trace amounts, nor shall the discharge cause formation of visible deposits of iron, hydrocarbons or any other constituent on the bottom or shoreline of the receiving water. In addition, erosion control measures will be implemented to prevent significant damage to or erosion of the receiving water channel at the point of discharge.

The discharge of wastewater and the effluent limits that are established in this permit have been reviewed to ensure that the levels of water quality necessary to protect the designated uses of the receiving waters are maintained and protected. An antidegradation review has been conducted and verifies that the permit conditions, including the effluent limitations established, provide a level of protection to the receiving water consistent with the antidegradation provisions of Wyoming surface water quality standards.

Self monitoring of effluent quality and quantity is required on a regular basis with reporting of results semiannually. The permit is scheduled to expire on September 30, 2007.

This permit was revised by WDEQ subsequent to its public notice period (Jan. 15 through Feb. 15, 2003). The permit now includes a requirement for the permittee to contain the CBM effluent in reservoirs, except in the event of a 25-year/24-hour storm event or greater (Part I.A.1). During the comment period, it was discovered that this facility is located immediately upstream from an active irrigation use on Wild Horse Creek. In addition, it was revealed during this period that the irrigation practice used in this area is passive flood irrigation without by-pass control structures. Given the close proximity of this CBM facility to the downstream irrigated lands, and given that any discharged effluent leaving the reservoirs would have a high likelihood of spreading on to those irrigated lands, WDEQ determined that it was necessary to include this water management requirement in the permit.

Jason Thomas
Water Quality Division
Department of Environmental Quality
December 20, 2002
Draft revised March 20, 2003

Permit Number WY0049697

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, (hereinafter referred to as "the Act"), and the Wyoming Environmental Quality Act,

Williams Production RMT Company

is authorized to discharge from the wastewater treatment facilities serving the

Echeta Road Unit

located in

the NESW of Section 23, and the SENW and NESW of Section 25, all in Township 53 North, Range 76 West in Campbell County

to receiving waters named

3 on-channel reservoirs (class 3B) located on unnamed ephemeral tributaries (class 3B) to Wild Horse Creek (class 3B) which is tributary to the Powder River (class 2ABWW)

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II and III hereof.

This permit shall become effective on the date of signature by the Director of the Department of Environmental Quality.

This permit and the authorization to discharge shall expire at midnight January 31, 2008

Gary Beach
Administrator - Water Quality

6/20/03
Date

John V. Corra
Director - Department of Environmental Quality

7/10/03
Date

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through January 31, 2008, the quality of effluent discharged by the permittee shall, at a minimum, meet the limitations set forth below. The permittee is authorized to discharge from outfalls(s) serial numbers 001-003.

1. Such discharges shall be limited as specified below:

Effluent Characteristic	Effluent Limits Daily Maximum Outfall	Daily Maximum Irrigation Compliance Point
Chlorides, mg/l	46	
Dissolved Iron, µg/l	299	
Dissolved Manganese, µg/l	629	
pH, standard units	6.5 - 8.5	
Specific Conductance, micromhos/cm	7500	2000
Sulfates, mg/l	3000	
Total Arsenic, µg/l	7	
Total Barium, µg/l	1800	
Total Dissolved Solids, mg/l	5000	
Total Petroleum Hydrocarbons (TPH), mg/l*	10	
Sodium Adsorption Ratio, calculated		6
Total Radium 226, pCi/l	1	

*Acceptable methods for this parameter are 1664 in the latest edition of Standard Methods for the Examination of Water and Wastewater and EPA SW846 Method 8015 (modified) for Total Extractable Petroleum Hydrocarbons.

The pH shall not be less than 6.5 standard units nor greater than 8.5 standard units in any single grab sample.

Discharge of effluent from the reservoirs is not authorized except in the event of a 25-year / 24-hour storm event or greater. If such a storm event occurs upstream or upon this facility, this permit allows for overtopping of the reservoirs, but not additional releases.

The 206 wells associated with this permit (WY0049697) are the same wells that will discharge to outfalls authorized under permit WY0049832. The total flow for these wells is anticipated to be 2.22 MGD. These wells will discharge effluent originating from the Anderson, Werner, and Gates coal seams.

Information gathered from the water quality monitoring stations may result in modification of the permit to protect existing uses on the tributary and the mainstem.

Effluent limits at the irrigation compliance point are effective year-round for this permit.

There shall be no discharge of floating solids or visible foam in other than trace amounts, nor shall the discharge cause formation of a visible sheen or visible hydrocarbon deposits on the bottom or shoreline of the receiving water.

All waters shall be discharged in a manner to prevent erosion, scouring, or damage to stream banks, stream beds, ditches, or other waters of the state at the point of discharge. In addition, there shall be no deposition of substances in quantities which could result in significant aesthetic degradation, or degradation of habitat for aquatic life, plant life or wildlife; or which could adversely affect public water supplies or those intended for agricultural or industrial use.

2. Discharges shall be monitored by the permittee as specified below:

a. Monitoring of the initial discharge

Within 30 days of commencement of discharge following issuance of this permit or permit renewal, a sample shall be collected from each outfall and analyzed for the 37 constituents specified below, at the required detection limits. Within 90 days of commencement of discharge following issuance of this permit or permit renewal, a summary report on the produced water must be submitted to the Wyoming Department of Environmental Quality and the U.S. EPA Region 8 at the addresses listed below. This summary report must include the results and detection limits for each of the 37 constituents. In addition, the report must include written notification of the established location of the discharge point (refer to Part I.B.11). This notification must include a confirmation that the location of the established discharge point(s) is within 1,510 feet of the location of the identified discharge point(s), is within the same drainage, and discharges to the same landowner's property as identified on the original application form. The legal description and location in decimal degrees of the established discharge point(s) must also be provided. After receiving the monitoring results for the initial discharge, the routine monitoring requirements described in Part I.A.2.b. may be modified to require more stringent monitoring.

Parameter	Required Detection Limit	Sample Type
Total Aluminum	50 µg/l	Grab
Bicarbonate	1 mg/l	Grab
Dissolved Cadmium	0.1 µg/l	Grab
Dissolved Calcium	as me/l	Grab
Chlorides	5 mg/l	Grab
Dissolved Chromium	1 µg/l	Grab
Dissolved Copper	1 µg/l	Grab
Cyanide (total)	5 µg/l	Grab
Dissolved Boron	0.1 mg/l	Grab
Dissolved Iron	30 µg/l	Grab
Dissolved Manganese	10 µg/l	Grab
Flow Volume	± 10% of actual volume	Monthly Total
Dissolved Fluoride	0.1 mg/l	Grab

Parameter	Required Detection Limit	Sample Type
Hardness	10 mg/l as $CaCO_3$	Grab
Dissolved Lead	2 µg/l	Grab
Dissolved Magnesium	as me/l	Grab
Dissolved Mercury	0.06 µg/l	Grab
Dissolved Nickel	10 µg/l	Grab
pH	to 0.1 pH unit	Grab
Phenol	10 µg/l	Grab
Dissolved Potassium	1 mg/l	Grab
Radium 226	0.2 pCi/l	Grab
Total Selenium	5 µg/l	Grab
Dissolved Silver	3 µg/l	Grab
Dissolved Sodium	as me/l	Grab
Sodium Adsorption Ratio	not applicable	Calculated
Specific Conductance	5 micromhos/cm	Grab
Sulfates	10 mg/l	Grab
Total Alkalinity	1 mg/l as $CaCO_3$	Grab
Total Antimony	5 µg/l	Grab
Total Arsenic	1 µg/l	Grab
Total Barium	100 µg/l	Grab
Total Beryllium	0.03 µg/l	Grab
Total Dissolved Solids	5 mg/l	Grab
Total Petroleum Hydrocarbons*	1 mg/l	Grab
Total Thallium	10 µg/l	Grab
Dissolved Zinc	10 µg/l	Grab

*Acceptable methods for this parameter are 1664 in the latest edition of Standard Methods for the Examination of Water and Wastewater and EPA SW846 Method 8015 (modified) for Total Extractable Petroleum Hydrocarbons.

Initial monitoring reports are to be sent to the following addresses:

Planning and Targeting Program, 8ENF-PT
Office of Enforcement, Compliance, and Environmental Justice
U.S. EPA Region 8
999 18th St., Suite 300
Denver, CO 80202-2466

and

Wyoming Department of Environmental Quality

Water Quality Division
Herschler Building, 4 West
122 West 25th Street
Cheyenne, WY 82002

b. Routine monitoring End of Pipe (001-003)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. The first routine monitoring for the time frame during which the monitoring of initial discharge occurs will, at a minimum, consist of flow measurements for the duration of the six-month monitoring time frame. Monitoring will be based on semi-annual time frames, from January through June, and from July through December.

Parameter	Measurement Frequency	Sample Type
Bicarbonate	Monthly	Grab
Dissolved Calcium	Monthly	Grab
Chloride	Monthly	Grab
Dissolved Iron	Annually	Grab
Dissolved Manganese	Annually	Grab
Dissolved Fluoride	Monthly	Grab
Dissolved Magnesium	Monthly	Grab
pH	Once Every Six Months	Grab
Dissolved Potassium	Monthly	Grab
Radium 226	Annually	Grab
Dissolved Sodium	Monthly	Grab
Sodium Adsorption Ratio	Monthly	Calculated
Specific Conductance	Monthly	Grab
Sulfate	Monthly	Grab
Total Alkalinity	Monthly	Grab
Total Arsenic	Annually	Grab
Total Barium	Annually	Grab
Total Flow - (MGD)	Monthly	Continuous
Total Petroleum Hydrocarbons	Annually	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At the outfall of the final treatment unit which is located out of the natural drainage and prior to admixture with diluent waters.

c. Irrigation Compliance Point (ICP)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies when water discharged from the outfalls reaches the irrigation compliance point. Monitoring will be based on monthly time frames and reported semi-annually.

Parameter	Measurement Frequency	Sample Type
Bicarbonate	Monthly	Grab
Dissolved Calcium	Monthly	Grab
Dissolved Magnesium	Monthly	Grab
Dissolved Sodium	Monthly	Grab
Sodium Adsorption Ratio	Monthly	Calculated
Specific Conductance	Monthly	Grab
Total Flow - (MGD)	Monthly	Instantaneous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the irrigation compliance point which is located in the NWSW of Section 23 in Township 53 North, Range 76 West on Wild Horse Creek.

The permit requires daily monitoring on Wild Horse Creek to determine whether water discharged from the outfalls reaches the established irrigation compliance point. Daily monitoring is necessary because the permit establishes different sampling and analysis requirements based on whether the effluent reaches the irrigation compliance point. Once effluent flow at the irrigation compliance point has been documented within a sampling month, then weekly monitoring of effluent flow is required for the remainder of that calendar month. At the beginning of each calendar month, the frequency will revert to daily until such time as effluent flow occurs at the irrigation compliance point and a sample is collected to represent effluent quality for irrigation compliance point constituents for that month. Results are to be reported twice-yearly and if no effluent from this facility intercepts the ICP during a given sampling month, then "no discharge" is to be reported for the ICP that month.

d. Water Quality Monitoring Stations (TRIB1, UPR, DPR)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. Monitoring will be based on monthly time frames, and reported semiannually.

Parameter	Measurement Frequency	Sample Type
Dissolved Calcium	Monthly	Grab
Chloride	Monthly	Grab
Dissolved Magnesium	Monthly	Grab

Dissolved Sodium	Monthly	Grab
Sodium Adsorption Ratio	Monthly	Calculated
Specific Conductance	Monthly	Grab
Flow	Monthly	Instantaneous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): designated water quality monitoring stations located on Wild Horse Creek and in the main channel of the Powder River, upstream and downstream of the confluence with the Powder River. The designated water quality monitoring stations are located on the tributary in the SESE of Section 16, Township 54 North, Range 77 West and on the mainstem in the SWSE and NESE of Section 16 in Township 54 North, Range 77 West. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone with the tributary and the mainstem. Results are to be reported semiannually and if no effluent from this facility intercepts the designated tributary monitoring station on Wild Horse Creek, then "no flow" is to be reported for that month and samples need not be collected at the three water quality monitoring stations for that monthly sampling period.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and approval by, the permit issuing authority.

2. Reporting

Results of initial monitoring, including the date the discharge began, shall be summarized on a Monitoring Report Form for Monitoring of Initial Discharge and submitted to the state water pollution control agency at the address below postmarked no later than 90 days after the commencement of discharge.

Results of routine end of pipe, irrigation compliance point, and water quality station monitoring during the previous six (6) months shall be summarized and reported semiannually on a Discharge Monitoring Report Form (DMR). If the discharge is intermittent, the date the discharge began and ended must be included. The information submitted on the first semiannual DMR shall contain a summary of flow measurements and any additional monitoring conducted subsequent to the submittal of the initial monitoring report. If whole effluent toxicity testing (biomonitoring) is required, results must be reported on the most recent version of EPA Region VIII's Guidance for Whole Effluent Reporting. Monitoring reports must be submitted to the state water pollution control agency at the following address postmarked no later than the 15th day of second the month following the completed reporting period. The first report is due on August 15, 2003.

Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements contained in Part II.A.11.

Wyoming Department of Environmental Quality
Water Quality Division
Herschler Building, 4 West
122 West 25th Street
Cheyenne, WY 82002
Telephone: (307) 777-7781

If no discharge occurs during the reporting period, "no discharge" shall be reported. If discharge is intermittent during the reporting period, sampling shall be done while the facility is discharging.

3. Definitions

a. The "monthly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during a calendar month.

b. The "weekly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during any week.

c. The "daily maximum" shall be determined by the analysis of a single grab or composite sample.

d. "MGD", for monitoring requirements, is defined as million gallons per day.

e. "Net" value, if noted under Effluent Characteristics, is calculated on the basis of the net increase of the individual parameter over the quantity of that same parameter present in the intake water measured prior to any contamination or use in the process of this facility. Any contaminants contained in any intake water obtained from underground wells shall not be adjusted for as described above and, therefore, shall be considered as process input to the final effluent. Limitations in which "net" is not noted are calculated on the basis of gross measurements of each parameter in the discharge, irrespective of the quantity of those parameters in the intake waters.

f. A "composite" sample, for monitoring requirements, is defined as a minimum of four grab samples collected at equally spaced two hour intervals and proportioned according to flow.

g. An "instantaneous" measurement for monitoring requirements is defined as a single reading, measurement, or observation.

h. A "pollutant" is any substance or substances which, if allowed to enter surface waters of the state, causes or threatens to cause pollution as defined in the Wyoming Environmental Quality Act, Section 35-11-103.

i. "Total Flow" is the total volume of water discharged, measured on a continuous basis and reported as a total volume for each month during a reporting period. The accuracy of flow measurement must comply with Part III.A.1.

4. Test Procedures

Test procedures for the analysis of pollutants, collection of samples, sample containers, sample preservation, and holding times, shall conform to regulations published pursuant to 40 CFR, Part 136, unless other test procedures have been specified in this permit.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling;

b. The dates and times the analyses were performed;

c. The person(s) who performed the analyses and collected the samples;

d. The analytical techniques or methods used; and

e. The results of all required analyses including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine the results.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated.

7. Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the administrator at any time. Data collected on site, copies of Discharge Monitoring Reports and a copy of this NPDES permit must be maintained on site during the duration of activity at the permitted location.

8. Penalties for Tampering

The Act provides that any person who falsifies, tampers with or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or both.

9. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

10. Facility Identification

All facilities discharging produced water shall be clearly identified with an all-weather sign posted at each outfall and flow monitoring locations (points of compliance). This sign shall, as a minimum, convey the following information:

a. The name of the company, corporation, person(s) who holds the discharge permit, and the NPDES permit number;

b. The contact name and phone number of the person responsible for the records associated with the permit;

c. The name of the facility (lease, well number, etc.) and the outfall number as identified by the discharge permit.

11. Identification and Establishment of Discharge Points

According to 40 CFR 122.21(k)(1), the permittee shall identify the expected location of each discharge point on the appropriate NPDES permit application form. The location of the discharge point must be identified to within an accuracy of 15 seconds. This equates to a distance of 1,510 feet.

In order for the permit not to be subjected to additional public notice, the location of the established discharge point must be within 1,510 feet of the location of the discharge point originally identified on the permit application. In addition, the discharge must be within the same drainage and must discharge to the same landowner's property as identified on the original application form. If the three previously stated requirements are not satisfied, modification of the discharge point location(s) constitutes a major modification of the permit as defined in Part I.B.12. The permittee shall provide written notification of the establishment of each discharge point in accordance with Part I.A.2.a above.

12. Location of Discharge Points and Irrigation Compliance Points

As of the date of permit issuance, authorized points of discharge were as follows:

SEE TABLE 1 FOR A LIST OF WELLS, OUTFALLS, AND IRRIGATION COMPLIANCE POINTS

13. Location of water quality monitoring stations

As of the date of issuance, authorized water quality monitoring stations were as follows:

SEE TABLE 1 FOR A LIST OF WATER QUALITY STATIONS

Table 1: WY0049697 Echeta Road Unit

OUT FALL #	WELL NAME	Qtr/Qtr	SEC	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage
001		NESW	23	53	76	44.557301	-105.977629	On-channel "Rick's Reservoir" in UET to Wild Horse Creek
002		SENW	25	53	76	44.546907	-105.950212	On-channel "Boone Reservoir" in UET to Wild Horse Creek
003		NESW	25	53	76	44.543003	-105.950738	On-channel "North Lacey Reservoir" in UET to Wild Horse Creek
	CDU 11-5-5375A							
	CDU 11-5-5375W							
	CDU 13-5-5375A		*All wells permitted to all outfalls					
	CDU 13-5-5375W							
	CDU CRUMP L&L 22-5-5375A							
	CDU CRUMP L&L 22-5-5375W							
	CDU 24-5-5375A							
	CDU 24-5-5375W							
	CDU CRUMP L&L 31-5-5375A							
	CDU CRUMP L&L 31-5-5375W							
	CDU 33-5-5375A							
	CDU 33-5-5375W							
	CDU 42-5-5375A							
	CDU 42-5-5375W							
	CDU 44-5-5375A							
	CDU 44-5-5375W							
	CDU 11-6-5375A							
	CDU 11-6-5375W							
	CDU 13-6-5375A							
	CDU 13-6-5375W							
	CDU 22-6-5375A							
	CDU 22-6-5375W							
	CDU 24-6-5375A							
	CDU 24-6-5375W							
	CDU 31-6-5375A							
	CDU 31-6-5375W							
	CDU 33-6-5375A							
	CDU 33-6-5375W							
	CDU 42-6-5375A							

Table 1: WY0049697 Echeta Road Unit

OUT FALL #	WELL NAME	Qtr/Qtr	SEC	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage
	CDU 42-6-5375W							
	CDU 44-6-5375A							
	CDU 44-6-5375W							
	CDU 11-8-5375A							
	CDU 11-8-5375W							
	CDU 13-8-5375A							
	CDU 13-8-5375W							
	CDU 22-8-5375A							
	CDU 22-8-5375W							
	CDU 24-8-5375A							
	CDU 24-8-5375W							
	CDU 31-8-5375A							
	CDU 31-8-5375W							
	CDU 33-8-5375A							
	CDU 33-8-5375W							
	CDU 42-8-5375A							
	CDU 42-8-5375W							
	CDU 44-8-5375A							
	CDU 44-8-5375W							
	CDU 11-9-5375A							
	CDU 11-9-5375W							
	CDU 22-9-5375A							
	CDU 22-9-5375W							
	CDU 32-9-5375A							
	CDU 32-9-5375W							
	CDU 41-9-5375A							
	CDU 41-9-5375W							
	CDU 11-15-5375A							
	CDU 11-15-5375W							
	CDU 13-15-5375A							
	CDU 13-15-5375W							
	CDU 22-15-5375A							
	CDU 22-15-5375W							
	CDU 24-15-5375A							
	CDU 24-15-5375W							
	CDU 31-15-5375A							
	CDU 31-15-5375W							
	CDU 33-15-5375A							
	CDU 33-15-5375W							
	CDU 42-15-5375A							
	CDU 42-15-5375W							
	CDU 44-15-5375A							
	CDU 44-15-5375W							
	CDU 11-17-5375A							
	CDU 11-17-5375W							
	CDU 13-17-5375A							
	CDU 13-17-5375W							
	CDU 22-17-5375A							
	CDU 22-17-5375W							

Table 1: WY0049697 Echeta Road Unit

OUT FALL #	WELL NAME	Qtr/Qtr	SEC	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage
	CDU 24-17-5375A							
	CDU 24-17-5375W							
	CDU 31-17-5375A							
	CDU 31-17-5375W							
	CDU 33-17-5375A							
	CDU 33-17-5375W							
	CDU 42-17-5375A							
	CDU 42-17-5375W							
	CDU 44-17-5375A							
	CDU 44-17-5375W							
	CDU 11-20-5375A							
	CDU 11-20-5375W							
	CDU 13-20-5375A							
	CDU 13-20-5375W							
	CDU 22-20-5375A							
	CDU 22-20-5375W							
	CDU 24-20-5375A							
	CDU 24-20-5375W							
	CDU 31-20-5375A							
	CDU 31-20-5375W							
	CDU 33-20-5375A							
	CDU 33-20-5375W							
	CDU 42-20-5375A							
	CDU 42-20-5375W							
	CDU 44-20-5375A							
	CDU 44-20-5375W							
	CDU 11-21-5375A							
	CDU 11-21-5375W							
	CDU 13-21-5375A							
	CDU 13-21-5375W							
	CDU 22-21-5375A							
	CDU 22-21-5375W							
	CDU 24-21-5375A							
	CDU 24-21-5375W							
	CDU 31-21-5375A							
	CDU 31-21-5375W							
	CDU 33-21-5375A							
	CDU 33-21-5375W							
	CDU 42-21-5375A							
	CDU 42-21-5375W							
	CDU 44-21-5375A							
	CDU 44-21-5375W							
	CDU 12-22-5375A							
	CDU 12-22-5375W							
	CDU 21-22-5375A							
	CDU 21-22-5375W							
	CDU 32-22-5375A							
	CDU 32-22-5375W							
	CDU 41-22-5375A							
	CDU 41-22-5375W							
	Floyd L & L 12-23-5376A							

Table 1: WY0049697 Echeta Road Unit

OUT FALL #	WELL NAME	Qtr/Qtr	SEC	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage
	Floyd L & L 12-23-5376We							
	Floyd L & L 12-23-5376G							
	Floyd L & L 14-23-5376A							
	Floyd L & L 14-23-5376We							
	Floyd L & L 14-23-5376G							
	Floyd L & L 21-23-5376A							
	Floyd L & L 21-23-5376We							
	Floyd L & L 21-23-5376G							
	Floyd L & L 23-23-5376A							
	Floyd L & L 23-23-5376We							
	Floyd L & L 23-23-5376G							
	Floyd L & L 32-23-5376A							
	Floyd L & L 32-23-5376We							
	Floyd L & L 32-23-5376G							
	Floyd L & L 34-23-5376A							
	Floyd L & L 34-23-5376We							
	Floyd L & L 34-23-5376G							
	Floyd L & L 41-23-5376A							
	Floyd L & L 41-23-5376We							
	Floyd L & L 41-23-5376G							
	R Floyd 12-24-5376A							
	R Floyd 12-24-5376We							
	R Floyd 12-24-5376G							
	R Floyd 14-24-5376A							
	R Floyd 14-24-5376We							
	R Floyd 14-24-5376G							
	R Floyd 32-24-5376A							
	R Floyd 32-24-5376We							
	R Floyd 32-24-5376G							
	Floyd L & L 12-25-5376A							
	Floyd L & L 12-25-5376We							
	Floyd L & L 12-25-5376G							
	Floyd L & L 14-25-5376A							
	Floyd L & L 14-25-5376We							
	Floyd L & L 14-25-5376G							
	Floyd L & L 21-25-5376A							
	Floyd L & L 21-25-5376We							
	Floyd L & L 21-25-5376G							
	Floyd L & L 23-25-5376A							
	Floyd L & L 23-25-5376We							
	Floyd L & L 23-25-5376G							
	Floyd L & L 32-25-5376A-R							
	Floyd L & L 32-25-5376We							
	Floyd L & L 32-25-5376G							
	Floyd L & L 34-25-5376A							
	Floyd L & L 34-25-5376We							
	Floyd L & L 34-25-5376G							
	Floyd L & L 41-25-5376A							
	Floyd L & L 41-25-5376We							
	Floyd L & L 41-25-5376G							
	Floyd L & L 43-25-5376A							

Table 1: WY0049697 Echeta Road Unit

OUT FALL #	WELL NAME	Qtr/Qtr	SEC	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage
	Floyd L & L 43-25-5376We							
	Floyd L & L 43-25-5376G							
	Floyd L & L 21-26-5376A							
	Floyd L & L 21-26-5376We							
	Floyd L & L 21-26-5376G							
	Floyd L & L 32-26-5376A							
	Floyd L & L 32-26-5376We							
	Floyd L & L 32-26-5376G							
	Floyd L & L 41-26-5376A							
	Floyd L & L 41-26-5376We							
	Floyd L & L 41-26-5376G							
	Floyd L & L 43-26-5376A							
	Floyd L & L 43-26-5376We							
	Floyd L & L 43-26-5376G							
	State 12-36-5376A							
	State 12-36-5376We							
	State 12-36-5376G							
	State 13-36-5376A							
	State 13-36-5376We							
	State 13-36-5376G							
	State 21-36-5376A							
	State 21-36-5376We							
	State 21-36-5376G							
	State 23-36-5376A							
	State 23-36-5376We							
	State 23-36-5376G							
ICP		NWSW	23	53	76	44.559393	-105.988008	Wild Horse Creek
TRIB 1		SESE	16	54	77	44.649948	-106.123464	Wild Horse Creek
UPR		SWSE	16	54	77	44.653320	-106.123529	Upstream Powder River (above Wild Horse Creek)
DPR		NWSE	34	54	77	44.650121	-106.127307	Downstream Powder River (below Wild Horse Creek)

**** All wells linked to permit WY0049832**

Requests for modification of the above list will be processed as follows. If the requested modification satisfies the definition of a minor permit modification as defined in 40 CFR 122.63 modifications will not be required to be advertised in a public notice. A minor modification constitutes a correction of a typographical error, increase in monitoring and/or reporting, revision to an interim compliance schedule date, change in ownership, revision of a construction schedule for a new source discharger, deletion of permitted outfalls, and/or the incorporation of an approved local pretreatment program.

A request for a minor modification must be initiated by the permittee by completing the form titled National Pollutant Discharge Elimination System Permit Modification Application For Coal Bed Methane. Incomplete application forms will be returned to the applicant.

PART II

A. MANAGEMENT REQUIREMENTS

1. Changes

The permittee shall give notice to the administrator of the Water Quality Division as soon as possible of any physical alterations or additions to the permitted facility. Notice is required when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29 (b); or

b. The alteration or addition could change the nature or increase the quantity of pollutants discharged.

2. Noncompliance Notification

a. The permittee shall give advance notice of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

b. The permittee shall report any noncompliance which may endanger health or the environment as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Quality Division, Wyoming Department of Environmental Quality at (307) 777-7781.

c. A written submission shall be provided within five (5) days of the time that the permittee becomes aware of a noncompliance circumstance as described in paragraph c. above.

The written submission shall contain:

(1) A description of the noncompliance and its cause;

(2) The period of noncompliance, including exact dates and times;

(3) The estimated time noncompliance is expected to continue if it has not been corrected; and

(4) Steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance.

d. The following occurrences of unanticipated noncompliance shall be reported by telephone to the Water Quality Division, Watershed Management Section, NPDES Program (307) 777-7781 by the first workday following the day the permittee became aware of the circumstances.

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit;

(2) Any upset which exceeds any effluent limitation in the permit; or

(3) Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.

e. The administrator of the Water Quality Division may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Quality Division, Watershed Management Section, NPDES Program (307) 777-7781.

f. Reports shall be submitted to the Wyoming Department of Environmental Quality at the address in Part I under Reporting and to the Planning and Targeting Program, 8ENF-PT, Office of Enforcement, Compliance, and Environmental Justice, U.S. EPA Region 8, 999 18th St., Suite 300, Denver, CO 80202-2466.

g. The permittee shall report all instances of noncompliance that have not been specifically addressed in any part of this permit at the time the monitoring reports are due.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, as a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. Bypass of Treatment Facilities

a. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

b. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs c. and d. of this section. Return of removed substances to the discharge stream shall not be considered a bypass under the provisions of this paragraph.

c. Notice:

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice at least 60 days before the date of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.A.2.

d. Prohibition of bypass.

(1) Bypass is prohibited and the administrator of the Water Quality Division may take enforcement action against a permittee for a bypass, unless:

(a) The bypass was unavoidable to prevent loss of life, personal injury or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(c) The permittee submitted notices as required under paragraph c. of this section.

e. The administrator of the Water Quality Division may approve an anticipated bypass, after considering its adverse effects, if the administrator determines that it will meet the three conditions listed above in paragraph d. (l) of this section.

6. Upset Conditions

a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improper designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph c. of this section are met.

c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required under Part II.A.2; and

(4) The permittee complied with any remedial measures required under Part II.A.4.

d. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

7. Removed Substances

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters or intake waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the state.

8. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. In accordance with a schedule of compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities; or

b. If such alternative power source as described in paragraph a. above is not in existence and no date for its implementation appears in Part I, take such precautions as are necessary to maintain and operate the facility under its control in a manner that will minimize upsets and insure stable operation until power is restored.

9. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal act and the Wyoming Environmental Quality Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give the administrator of the Water Quality Division advance notice of any planned changes at the permitted facility or of any activity which may result in permit noncompliance.

10. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

11. Signatory Requirements

All applications, reports or information submitted to the administrator of the Water Quality Division shall be signed and certified.

a. All permit applications shall be signed as follows:

(1) For a corporation: by a responsible corporate officer;

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;

(3) For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected official.

b. All reports required by the permit and other information requested by the administrator of the Water Quality Division shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above and submitted to the administrator of the Water Quality Division; and

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

c. If an authorization under paragraph II.A.11.b. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph II.A.11.b must be submitted to the administrator of the Water Quality Division prior to or together with any reports, information or applications to be signed by an authorized representative.

d. Any person signing a document under this section shall make the following certification:

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

B. RESPONSIBILITIES

1. Inspection and Entry

If requested, the permittee shall provide written certification from the surface landowner(s), if different than the permittee, that the administrator or the administrator's authorized agent has access to all physical locations associated with this permit including well heads, discharge points, reservoirs, monitoring locations, and any waters of the state.

The permittee shall allow the administrator of the Water Quality Division or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

d. Sample or monitor, at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the federal act, any substances or parameters at any location.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the regional administrator of the Environmental Protection Agency and the administrator of the Water Quality Division. The administrator of the Water Quality Division shall then provide written notification to the new owner or controller of the date in which they assume legal responsibility of the permit. The permit may be modified or revoked and reissued to change the name of the permittee and incorporate such other requirements as described in the federal act.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the federal act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Wyoming Department of Environmental Quality and the regional administrator of the Environmental Protection Agency. As required by the federal act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the federal act.

4. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the federal act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Changes in Discharge of Toxic Substances

Notification shall be provided to the administrator of the Water Quality Division as soon as the permittee knows of, or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/1) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or

(4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 µg/l);

(2) One milligram per liter (1 mg/1) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or

(4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).

6. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. As long as the conditions related to the provisions of "Bypass of Treatment Facilities" (Part II.A.5), "Upset Conditions" (Part II.A.6), and "Power Failures" (Part II.A.8) are satisfied then they shall not be considered as noncompliance.

7. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the federal act.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable state or federal law or regulation. In addition, issuance of this permit does not substitute for any other permits required under the Clean Water Act or any other federal, state, or local law.

10. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights nor any infringement of federal, state or local laws or regulations.

11. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit.

12. Duty to Provide Information

The permittee shall furnish to the administrator of the Water Quality Division, within a reasonable time, any information which the administrator may request to determine whether cause exists for modifying, revoking and reissuing or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the administrator, upon request, copies of records required by this permit to be kept.

13. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to the administrator of the Water Quality Division, it shall promptly submit such facts or information.

14. Permit Action

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

PART III

A. OTHER REQUIREMENTS

1. Flow Measurement

At the request of the administrator of the Water Quality Division, the permittee must be able to show proof of the accuracy of any flow measuring device used in obtaining data submitted in the monitoring report. The flow measuring device must indicate values of within plus or minus ten (10) percent of the actual flow being measured.

2. 208(b) Plans

This permit may be modified, suspended or revoked to comply with the provisions of any 208(b) plan certified by the Governor of the State of Wyoming.

3. Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary) or other appropriate requirements if one or more of the following events occurs:

a. The state water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit;

b. A total maximum daily load (TMDL) and/or watershed management plan is developed and approved by the state and/or the Environmental Protection Agency which specifies a wasteload allocation for incorporation in this permit;

c. A revision to the current water quality management plan is approved and adopted which calls for different effluent limitations than contained in this permit;

d. Downstream impairment is observed and the permitted facility is contributing to the impairment;

e. The limits established by the permit no longer attain and/or maintain applicable water quality standards;

f. The permit does not control or limit a pollutant that has the potential to cause or contribute to a violation of a state water quality standard.

g. If new applicable effluent guidelines and/or standards have been promulgated and the standards are more stringent than the effluent limits established by the permit.

h. If an Interstate Memorandum of Cooperation exists, effluent limits may be incorporated into this permit or existing limits may be modified to ensure that the appropriate criteria, water quality standards and assimilative capacity are attained.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. If necessary to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b) (2) (C) and (D), 304 (b) (2) and 307 (a) (2) of the federal act, if the effluent standard or limitation so issued or approved:

(1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

(2) Controls any pollutant not limited in the permit.

5. Toxicity Limitation - Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include a new compliance date, additional or modified numerical limitations, a new or different compliance schedule, a change in the whole effluent protocol or any other conditions related to the control of toxicants if one or more of the following events occur:

a. Toxicity was detected late in the life of the permit near or past the deadline for compliance;

b. The TRE results indicate that compliance with the toxic limits will require an implementation schedule past the date for compliance and the permit issuing authority agrees with the conclusion;

c. The TRE results indicate that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits and the permit issuing authority agrees that numerical controls are the most appropriate course of action;

d. Following the implementation of numerical controls on toxicants, the permit issuing authority agrees that a modified whole effluent protocol is necessary to compensate for those toxicants that are controlled numerically;

e. The TRE reveals other unique conditions or characteristics which, in the opinion of the permit issuing authority, justify the incorporation of unanticipated special conditions in the permit.

6. Severability

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit, shall not be affected thereby.

7. Penalties for Falsification of Reports

The federal act provides that any person who knowingly makes any false statement, representation or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation or by imprisonment for not more than two years per violation or both.

/pjb
2-0395-doc
02/02

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From:	KCHarvey@aol.com
To:	jdriscoll@cbmainc.com;
cc:	Kalus, Tim;
Subject:	Re: LOG: Echeta Road (Wild Horse Creek)
Date:	Thursday, July 12, 2007 4:20:23 PM

Hi Jason,

I just found your email today. Sorry for not seeing it earlier. In the future, it would be best if you use my official business email address which is as follows: kevin@kcharvey.com.

Regarding the permit application, we are "testing" an alternative approach with the DEQ in a Section 20 report for a nearby drainage. We are waiting for some feedback so that we might use the same effluent limit derivation process in WHC for Lance. In any event, you should know that the additional sampling and analysis we conducted in WHC for Williams that will be used also for the Lance project, did not result in a significant change in soil chemistry when statistically blended in with the rest of the field data collected some time ago.

I would suggest that you and I discuss the permit application on the phone. I am in the field tomorrow, however, I should have the chance to call you in the afternoon. If that does not work, I would like to set up a firm time on Tuesday for me to call you. Please suggest a time (or times) that might work for you. Tim might want to jump on with us.

Thanks for contacting me.

Kevin

Kevin Harvey
President and Principal Scientist

KC Harvey, Inc.
An EnerCrest Company
233 Edelweiss Drive, Unit 11
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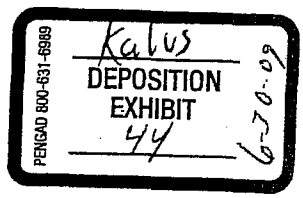
Email: kevin@kcharvey.com



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Counsel for Lance Oil and Gas Company, Inc.

BEFORE THE ENVIRONMENTAL QUALITY COUNCIL

OF THE STATE OF WYOMING

IN THE MATTER OF THE APPEAL OF CLABAUGH RANCH, INC. FROM WYPDES PERMIT NO. WY0049697	Docket No. 08-3802

AFFIDAVIT OF JASON THOMAS

COMES NOW your Affiant after having been first duly sworn and states as follows:

1. Your Affiant is employed by the Department of Environmental Quality ("DEQ"). Your Affiant has been employed by DEQ since 2001. Your Affiant is presently the Coal Bed Methane Permitting Manager.

2. During the course of your Affiant's employment with DEQ, your Affiant has reviewed hundreds of WYPDES permits issued by Wyoming DEQ. Your Affiant is well versed in the Wyoming Environmental Quality Act as it pertains to water quality and the Water Quality Rules and Regulations adopted by Wyoming DEQ. Your Affiant is responsible on a daily basis for issuing WYPDES permits within the parameters established by Wyoming statutes, Wyoming Water Quality Rules and Regulations, and federal statutes governing water quality.

3. As the Coal Bed Methane Permitting Manager, your Affiant is familiar with WYPDES Permit No. WY0049697 issued to Lance Oil and Gas on

or about March 24, 2008. A copy of this permit is attached to this Affidavit as **Exhibit 1**.

4. Your Affiant believes that the effluent limits set with regard to Outfall 13, which provide a maximum EC of 2560 and an SAR limit derived from the 1999 Hansen equation are protective of downstream uses and will not cause a measurable decrease in livestock or crop production. Your Affiant does not believe that the permit needs to reflect the revised Hansen formula recognized in the 2006 version of the Hansen Manual. The approximately ten percent (10%) difference in allowable SAR discharge pursuant to the 2006 Hansen formula will not, in your Affiant's opinion, cause a measurable decrease in crop or livestock production or harm downstream land.

5. Your Affiant is also aware, based on your Affiant's education, experience, and training, as well as your Affiant's examination of water quality testing of CBM water in northeast Wyoming, that end-of-pipe effluent limits are frequently not consistent with EC and SAR measurements made downstream from a particular outfall. Water chemistry frequently changes as water travels from an outfall to an irrigation monitoring point, irrigation compliance point, and to where water is actually applied via artificial or non-artificial irrigation practices.

6. Based on your Affiant's education, training, and experience, the WYPDES Permit issued to Lance Oil & Gas on March 24, 2008, which is attached hereto as **Exhibit 1**, fully complies with the Wyoming Environmental Quality Act, Water Quality Rules and Regulations, and the Section 20 Agricultural Use Protection Policy currently being considered as a proposed rule by the Wyoming Environmental Quality Council. While the DEQ may modify the Permit in the future if Lance Oil & Gas seeks renewal of the Permit in the future to reflect the 2006 Hansen formula for calculation of SAR based on a given EC effluent limit, your Affiant does not believe that the SAR effluent limit established pursuant to the 1999 Hansen formula in this permit is posing any immediate risk to any irrigated lands that may exist downstream of Outfall 13 of said permit.

FURTHER YOUR AFFIANT SAITH NOT.

Dated this _____ day of July, 2009.

_____
Jason Thomas

STATE OF WYOMING)
) ss
COUNTY OF _____)

I, Jason Thomas, being duly sworn, depose and say as follows: I have read the foregoing **Affidavit of Jason Thomas**, know the contents thereof, and that the facts set forth therein are true to the best of my knowledge, belief and information.

_____
Jason Thomas

SUBSCRIBED and sworn to before me, a Notary Public, by Jason Thomas, on this _____ day of July, 2009.

Witness my hand and official seal.

_____
Notary Public

My Commission Expires:

_____

PJC:pw

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BEFORE THE ENVIRONMENTAL QUALITY COUNCIL

STATE OF WYOMING

In the Matter of the Appeal of William P. Maycock from WYPDES Permit No. WY0053171	Docket No. 05-3803

DEPOSITION OF LARRY C. MUNN, Ph.D.
Taken in behalf of Respondent

8:00 a.m., Thursday
June 22, 2006

PURSUANT TO NOTICE, the deposition of LARRY C. MUNN, Ph.D. was taken in accordance with the applicable Wyoming Rules of Civil Procedure at the University of Wyoming, College of Agriculture, 1000 University Avenue, Room 123 1/2, Laramie, Wyoming, before Ashley Davis, Registered Professional Reporter and a Notary Public in and for the State of Wyoming.

APPEARANCES

For the Petitioner: MR. TOM C. TONER
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For the Respondent: MR. JACK D. PALMA II
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Cheyenne, Wyoming 82003-1347

MR. MICHAEL BARRASH
Senior Assistant Attorney General
WYOMING ATTORNEY GENERAL'S OFFICE
123 Capitol Building
Cheyenne, Wyoming 82002

For the Deponent: MR. RODNEY P. LANG
Attorney at Law
UNIVERSITY OF WYOMING
OFFICE OF GENERAL COUNCIL
1000 East University Avenue
Department 3434
Laramie, Wyoming 82071

Also Present: Ms. Nicol Thompson Kramer
Dr. Eric Kern
Mr. Jay Harris
Mr. Joseph Beecher

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EXHIBITS

PROCEEDINGS

(Deposition proceedings commenced 8:00 a.m., June 22, 2006.)

LARRY C. MUNN, Ph.D.,

called for examination by the Respondent, being first duly sworn, on his oath testified as follows:

DIRECT EXAMINATION

Q. (BY MR. PALMA) Good morning, Dr. Munn.

A. Good morning.

Q. My name is Jack Palma, and I'm here representing Williams in this matter.

I don't know how much -- have you ever had your deposition taken before?

A. Yes, I have.

Q. Okay. So you're familiar, at least, with the process?

A. Yes.

Q. That's great. I won't belabor the details, then.

You know you're under oath subject to penalties of perjury?

A. Yes.

Q. And my job today is really -- and the way I see it, just in case there are any misperceptions -- is really to just try to understand better the basis for your opinions, your positions in this case, and then to find out

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A. I have not.
Q. Okay. Have you looked at any water quality data with respect to the water flowing through the Maycock Ranch?
A. I have not.
Q. What can you tell me about Mr. Maycock's water management or irrigation practices?
A. I have no knowledge of that.
Q. You don't know what crops he grows?
A. I have seen on Ginger Paige's computer screen a picture of that Barber Creek drainage that -- she was relating to me that she had been up on the Maycock Ranch, and I'm sure she'll tell you all about that under your influence of your questions tomorrow.
And what I saw was not an alfalfa field. It looked like native vegetation in the view that I saw. But I certainly did not see pictures of the entire landscape.
So that's the only knowledge that I have directly of what would be on the Maycock Ranch.
Q. Okay. Now, has Dr. Paige told you or are you aware through any of your other communications of the fact that Mr. Maycock does not actively irrigate on his ranch?
A. I really haven't discussed this in detail, and so I don't recall a conversation where -- you know, I certainly haven't asked, you know, Are there irrigation

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structures, does he have a well and a pivot or anything like that. I don't know. I don't know how or if he irrigates.
Q. Okay. Are you familiar with any testing that was done of any parameters on the Maycock Ranch?
A. I have not seen actual data from the Maycock Ranch.
Q. And you've told me, I think, before, but -- that you did not do any site-specific analysis of the impacts of Williams' discharge under Wyoming Discharge Permit 00053171 on the Maycock Ranch. Is that --
A. No.
Q. Okay. I asked about leaching, so I think we got through that. This may go fairly quickly because I think -- I want to talk about the permit itself, this WY00053171. But depending upon how much involvement you've had, this area could go fairly quickly.
Have you reviewed permit WY00053171?
A. Not that I recall.
Q. So you have no opinion with respect to whether or not this permit should issue or not at this point in time?
A. What I cannot say is whether anyone told me this is an EC number. This is an SAR number. Are these numbers high, low, medium, might have an impact on a landscape, might not. I may have discussed it in that term, but I

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have not reviewed the permit in detail.
Q. Let me ask it this way: Given the fact that you have done no site-specific analysis on the ranch, do you have a professional opinion at this point in time about whether or not the permit WY00053171 should or should not be issued?
A. I have no opinion on that.
MR. PALMA: And Counsel, you will provide us with a supplement of his testimony, if that changes?
MR. LANG: That's correct.
MR. PALMA: Thank you.
Q. (BY MR. PALMA) Now, have you reviewed any other permits that Williams holds in the Barber Creek drainage area?
A. Not in the Barber Creek drainage. And I don't -- I'll have to tell you, I do not really pay attention to the companies involved when I review a permit. I look at the salinity level. I look at the sodicity of the water. I look at the plans, are we talking direct discharge to a channel or whatever.
I mean, I don't view -- I view permits when asked to, and I don't pay particular attention to the companies.
Q. Uh-huh. That's fair enough.
I know you've been critical of the use of the USDA Bridger Plant materials, Technical Note Number 26.

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A. Yes, it's totally inappropriate to use as a basis for setting regulations for applied water because it was a dryland study in the first place.
There was no applied water. That one and a half conversion that they used between water and soil salinity is inappropriate because Majerus, the director of the center, only samples the upper 6 inches; and he actually has not measured productivity.
Because as he said in a letter to DEQ, the unplanned and unscheduled grazing by livestock prevented him from doing that; so there are no numbers from the plant material center study that would counter any other numbers that he said he relied on or the same numbers from California that everybody else relied on.
Q. Now, you don't know, do you, whether or not Bridger Plant materials, Technical Note 26 was utilized in the analysis and permitting of WY00053171?
A. What I do know is that --
Q. Would you answer that question, and then you can tell me what you do know.
A. I don't know specifically.
Q. Okay.
A. It would depend on the time frame that the permit was issued, because there was a period of time when Wyoming DEQ was using that Bridger Plant Material's note.

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USDA, George E. Brown, Jr. Salinity Laboratory salt tolerance database, the salinity threshold for these irrigated species ranges from 3000 to 5000 micromhos per centimeter.

And the DEQ selected the more conservative end of this threshold to establish the effluent limit for specific conductives in this permit.

Now, when I examined Mr. Thomas, he said that he understood that when he picked that number, that 3000 represents a value in the soil. So they did not -- and they did not account for the concentration factor of the EC in the water.

Is that your understanding of what they did?

A. Yes. And I have to say that Ginger Paige had an extensive discussion with them, which I am sure she will relate to you tomorrow about that. But that is one of the issues, and I mentioned it earlier, of the -- one of the issues we talked about with DEQ people was the difference between ECw, ECe; and again, they are saying that they regulate water.

And so what they were attempting to write in the permits would be a water EC and not -- because they don't have that much control over channel interaction and soil interaction, one thing or another. And so that was their intent was to come up with a protective limit in the water.

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Q. So did you feel they made a mistake when they adopted that methodology?

A. I feel they made a mistake in a number of cases on different permits and would indicate that here, too. If they didn't realize in the table -- and some of those tables go on for pages -- and so you have to look back in the caption and detail and pick out where it specifies whether it's ECw or ECe.

Q. And this particular case, this table for irrigated species at 3000, 5000 was an ECe, correct?

A. Yes.

Q. And so what the mistake was that they set the value of ECe and they should have set it at ECw?

A. Yes, if you were setting an ECw of 3000, you would expect that to produce an ECe of 4,500, give or take, depending on the leaching fraction.

Q. And if you wanted an ECe of 3000, then you would set an ECw of approximately 2000 depending on the leaching factor, correct?

A. Yes.

Q. Now, one of the areas that Mr. Thomas did address that had not been addressed earlier was the use of this Bridger Plant study to set a salt tolerance for ECe, correct?

A. Uh-huh.

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Q. Was that a yes?

A. Yes. Sorry.

Q. That's all right. And Mr. Thomas did not use that particular study in setting the salinity threshold value in this case, did he?

A. No.

Q. And Mr. Harvey, who was one of the hired experts for Williams in this case, has filed a report claiming that some of his values are supported by the Bridger Plant study. And you started to explain what you thought was wrong with the Bridger Plant study.

Could you give me a list of what's wrong with that study?

A. Well, before mentioning, again, the fact that the cows actually ate the plants so that they were not able to measure yield from the study plot, the core problem is that it's set up in the dryland and saline seep situation rather than in an irrigation or a situation where you're applying water. That's one problem.

The other problem is that Mr. Majerus, who runs the station there and was the author of that, recommends specifically measuring salinity in the upper 6 inches, upper 15 centimeters of the soil. And that's volatile. That will change reflecting an irrigation, a wet snow in the spring.

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You can move a considerable quantity of salt from that surface layer back into the subsoil, and then it will migrate back towards the surface if water moves in that direction and responds to evaporation.

And that's why all of the literature that is based from the national soil salinity lab -- when they specify an EC for the extract, they are talking about that being representative of the entire root zone. So that's an issue.

Beyond that, the project was not well replicated. In fact, you can do something 20 times at the same site, and that's called pseudoreplication. He -- you know, he had a couple rows of plants growing from the dry part on the hill down into a saline seep, and so you have -- you don't have good control over salt that's added to the system.

You are taking an inappropriate zone as your measure of salinity in the system, again, because of what Mr. Majerus called unplanned and unscheduled grazing. There was no measurement of yield.

And I personally, professionally, don't see how you can determine a yield threshold value if you're not measuring yield at some point, and he didn't. And so those are the big concerns.

If you're going to set up this kind of study, you

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want to have good control over the water you're adding. You want to do it in numerous locations so that you would know there was not something you hadn't thought of in the planning or the layout that was affecting your supposed replication.

You would want to have an experimental design that allows statistical evaluation and would present that data in a range of statistical probability of a certainty of results and so on.

That was, I think, probably a valid demonstration project where people could walk in the backyard of a station, see that some plants are being affected in a different way and that when you get out into the middle of a seep, there's nothing growing that anybody would want.

It certainly was simply not designed to be a proper quantitative research.

Q. Now, did you talk to the author of that study?

A. Yes, I did.

One of the problems with that study is it was so sketchily written that -- I read it three or four times, and I really didn't understand what he did because he doesn't say what he did.

A good scientific article will have a sufficient description of methodology so that anyone who reads it can duplicate the experiment if they want. And it was unclear

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to me. I had to look at that table in the back about four times before I read the little word "dry" to realize, you know, dry land, What are we talking about?

And then when I called the station is when I found out they were not applying water here, that this was a very different type of experiment.

Q. Okay. I'll show you a document that was marked as Exhibit 33 on Mr. DiRienzo's deposition in this case. And it's a copy of a letter that Ginger Paige wrote to Bill DiRienzo and she copied to you.

I'd like to ask you some questions about the second page of that.

Where it says "My colleague, Dr. Munn, recently spoke to Mark Majerus."

A. Uh-huh.

Q. Could you read that paragraph and see if that paragraph accurately represents the conversation that you had with the author of this plant materials center study?

A. Yes. And it was interesting to me that during my conversation with him he did not mention that the cows had precluded any yield measurements. That came out in a later letter that he wrote. And it may be that I just didn't ask the right question like did you actually harvest plants and how did you do that, but in the detail -- this is the detail of the direct conversation that I had with

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Mr. Majerus. This is a good description of that.

Q. So Mr. Majerus even said he wouldn't recommend using his study?

A. Yes, I asked him specifically about it's -- you know, I said it was proposed for use for setting regulations, and at that time he told me he did not think that it would be suitable. He would use -- he would recommend using the values from the source.

Q. Another point that you stressed is that you ought to be concerned about the quality of the water that comes into contact with the fields, right?

A. Yes.

Q. And DEQ has told you, well, they only regulate end of pipe values?

A. Yes.

Q. But are you aware of permits that have been granted by the DEQ that have what they call ICPs or irrigation compliance points?

A. I have heard those mentioned. I have not looked in detail at how well that has worked.

Q. Now, an irrigation compliance point -- I'll tell you my understanding and see if you agree with that -- does, in fact, measure the quality of the water at the point in which it's going to be used for irrigation --

A. In the field, yes.

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Q. So if I understand what you said correctly, that would be your preference for where the quality of water would be measured?

A. Yes, you could start with good quality water at the pipe or up in the watershed and have it have a deterioration in quality by the time it's at the point of diversion.

Q. Were you aware that the DEQ had actually imposed an irrigation compliance point on another irrigator into the Barber Creek drainage?

A. We've already seen how poor my memory is, but actually, I can't say that I have.

Q. Now, this particular permit, the Barber Creek permit, when you looked at it, did you see anything in the permit that required Williams to mix and reduce the SAR that was set in the effluent limits?

A. This has been a concern of mine about the number of permits is that there is -- as I read them -- simply the potential for when the gas company feels that it's, you know, in their interest to discharge the water directly, that it will be simply directly discharged into the channel, without any mixing, without any, you know, treatment, modification, management or whatever, that the permit would, in fact, require -- or allow direct discharge of a fairly large volume of water.

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BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
OF THE STATE OF WYOMING

IN THE MATTER OF THE APPEAL	)	
OF WILLIAM P. MAYCOCK	)	
FROM WYPDES PERMIT NO. WY0050857	)	Docket No. 06-3818

WILLIAM P. MAYCOCK'S MOTION FOR EXPEDITED HEARING

William P. Maycock moves the Environmental Quality Council for an expedited hearing in this matter. The grounds for this motion are as follows:

1. Because of the hearing held in Docket No. 05-3803 concerning WYPDES Permit No. WY0053171 issued to Williams Production RMT Company to discharge coalbed effluent into Barber Creek ("Barber Creek Permit"), the council knows that William P. Maycock is a rancher who owns a ranch in Campbell County, Wyoming. The Barber Creek drainage crosses Mr. Maycock's ranch about 8 1/2 to 9 stream miles from his east boundary to his west boundary. The South Prong of Barber Creek enters Mr. Maycock's property from the south and has its confluence with Barber Creek on the Maycock Ranch about 4 miles from Mr. Maycock's west boundary and about 1 1/4 miles from his south boundary.

2. Williams condemned an easement for a ditch across Mr. Maycock's ranch. This easement was limited to 20 feet in width. Williams has entered the South Prong and Barber Creek drainages and dug this ditch. A photograph of part of the ditch was an exhibit in Docket No. 05-3803.

3. During the hearing on the Barber Creek permit, this council heard testimony from Williams' expert Hugh Lowham that he had designed these ditches to have a capacity of 20 cubic feet per second, that there was no significant risk of erosion of the channel

during even significant storm events, that in the areas where Williams was going to construct the ditches, the soils were "very plastic" and would cling together to compact tightly, that a flow of 300 cubic feet per second would not cause significant erosion of the ditch, and that even a flow of 1,000 cubic feet per second would not cause significant erosion to the ditch. (Transcript pages 644, 646, 650, 684).

4. Of course, this council decided in November of 2006 in Docket No. 05-3803 to revoke Williams' Barber Creek Permit because the permit limits (EC of 1800 and SAR of 3000) were not protective of downstream water uses.

5. The permit which is the subject of this appeal is Williams' WYPDES Permit No. WY0050857 ("South Prong Permit") that allows Williams to discharge coalbed methane effluent into the South Prong of Barber Creek. The South Prong Permit sets effluent limits of 7500 for EC and no limits at all for SAR. Williams intends to run the effluent discharged under this permit into the Lowham designed serpentine ditch on Mr. Maycock's property.

6. A recent event occurring in the first week of March of this year shows how great the risk is to Mr. Maycock's property if Williams is allowed to discharge water onto the Maycock property while waiting for a hearing.

7. Williams made an illegal discharge of effluent into Barber Creek. This occurred about March 4, 2007. It appears that a water line carrying Williams' coalbed methane effluent broke on property above Mr. Maycock's ranch on the Barber Creek drainage. There was no flow in Barber Creek above the point of this break, and there was water in the drainage below the point of the break. Mr. Maycock has photographs documenting this situation. The water in the drainage was clearly coming from Williams'

pipeline. This effluent ran down Barber Creek toward the ditch designed by Mr. Lowham, the ditch that Lowham said would carry up to 20 c.f.s. The flow from this broken pipeline was far less than 20 c.f.s, yet this undiluted effluent flowed out of and around the ditch and spread out on Mr. Maycock's bottom land. Erosion was significant and obvious at the point the natural channel ended and Williams started its ditch. The effluent simply ran around the areas that Williams claimed it had designed to reduce headcuts and cut new channels. The ditch has filled with the highly erodible soil in several areas. The existence of the ditch is also causing small natural drainages that would normally just flow into the bottomlands to be intercepted by this ditch. As a result these small drainages are starting to erode back up the drainage. By cutting this ditch into this erodible soil, Williams has not only allowed undiluted effluent to run over the Maycock bottom lands but has also disturbed the natural balance in this area and created enormous erosion problems.

8. Attached to this motion are photographs showing the effects on the Maycock ranch of the flow from just this one pipeline break in the Barber Creek drainage.

Exhibit 1 shows the effluent flowing out of the ditch. The ditch is in the lower portion of the photograph. The pole is approximately 10 feet long. The water is flowing out of the ditch toward the top of the photograph. This photograph was taken on March 4, 2007 in the NW¼NE¼ of Section 25 of Township 50 North, Range 76 West, 6th P.M.

Exhibit 2 shows another area in the ditch where the effluent is flowing out of the ditch. The same pole is pictured in the photograph. The effluent is escaping from the ditch and flowing toward the bottom of the picture.

Exhibit 3 shows the effluent spreading out on Mr. Maycock's bottom lands. The serpentine ditch that was supposed to contain the effluent is visible in the upper right hand

corner of the photograph immediately below the bluffs.

Exhibit 4 shows the point where the natural channel ends and the Williams ditch begins on the Maycock property. This photograph was taken on March 8, 2007 after the effluent flow stopped.

Exhibit 5 shows the structure Williams constructed to prevent head cutting. The photograph shows that the water just flowed around the structure and cut a channel that is eroding. This photograph was also taken on March 8, 2007.

Exhibit 6 shows the sediment that has already filled the ditch Williams cut in the Maycock Ranch. This photograph was also taken on March 8, 2007 after the flood event.

Exhibit 7 shows the small natural drainages that have been intercepted by the ditch and now starting to erode out of the ditch back up the small drainages.

9. These photographs of this event show the great risk that the Maycock property is subjected to by allowing Williams to discharge water with an EC limit of 7500 and no SAR limit into a drainage with a ditch which not only has been shown not to protect the Maycock property from undiluted effluent but also to increase the erosion occurring on the property. When the Environmental Quality Council has already determined that an EC limit of 1800 and an SAR limit of 3000 on the Barber Creek drainage is not protective, it is irresponsible for the DEQ to claim that a permit with an EC limit of 7500 and no SAR limit is protective.

10. It is critical that this matter be promptly set for hearing so that Williams cannot do any more damage to the Maycock property by discharging water into the South Prong of Barber Creek.

Dated this 2d day of April, 2007.

Yonkee & Toner, LLP

By: Tom C. Toner

Tom C. Toner
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P. O. Box 6288
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Telephone No. (307) 674-7451
Facsimile No. (307) 672-6250

Certificate of Service

I hereby certify that on the 2d day of April, 2007, I caused the foregoing to be served on the other parties by depositing a copy of the same in the United States mail, postage prepaid, at Sheridan, Wyoming, and duly addressed to:

Mark Ruppert
Holland & Hart, LLP
P.O. Box 1347
Cheyenne, WY 82003-1347

Mike Barrash
Senior Assistant Attorney General
Wyoming Attorney General's Office
2424 Pioneer Building
Cheyenne, WY 82002

Tom C Toner

of Yonkee & Toner, LLP

Exhibit 1

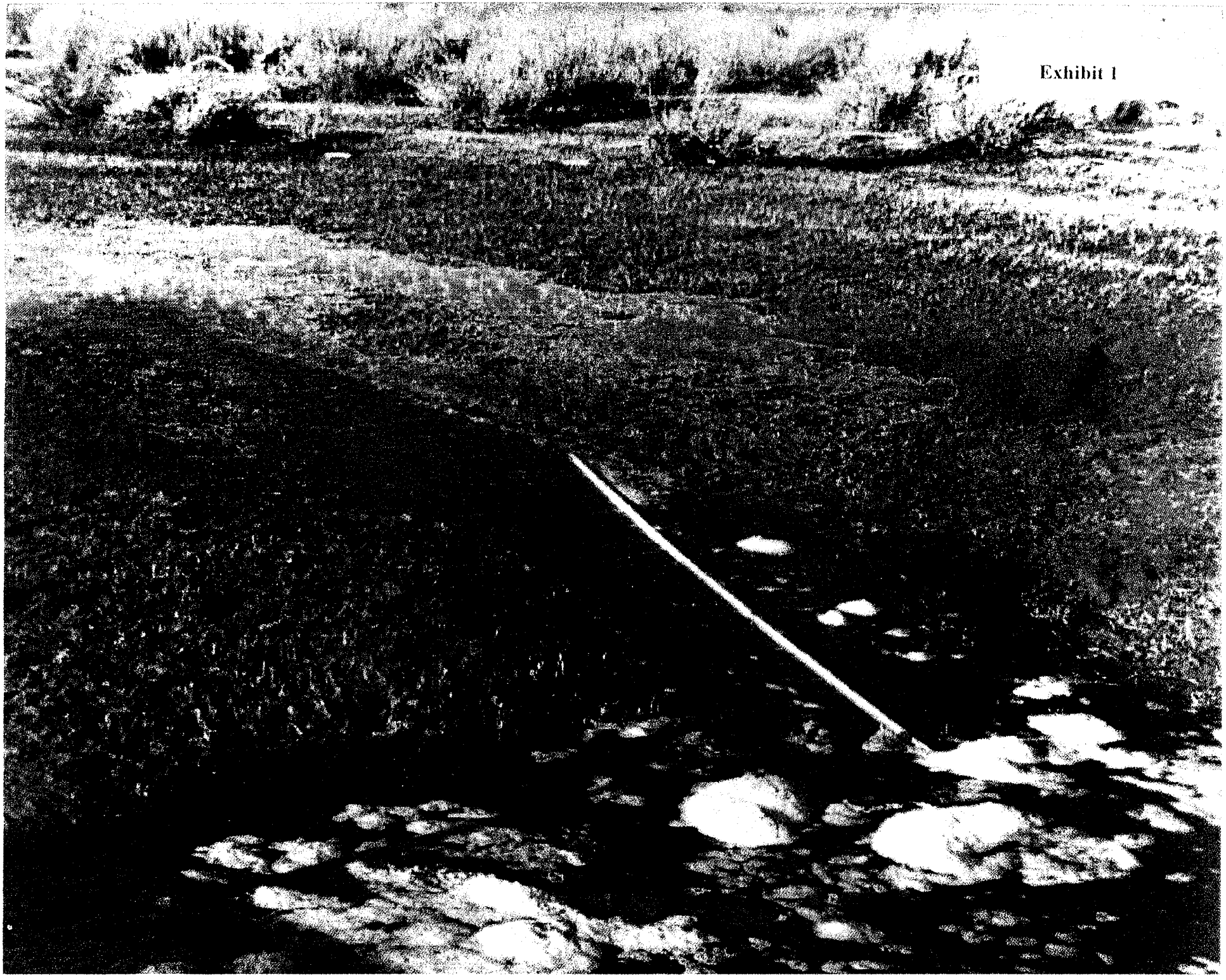

Exhibit 2

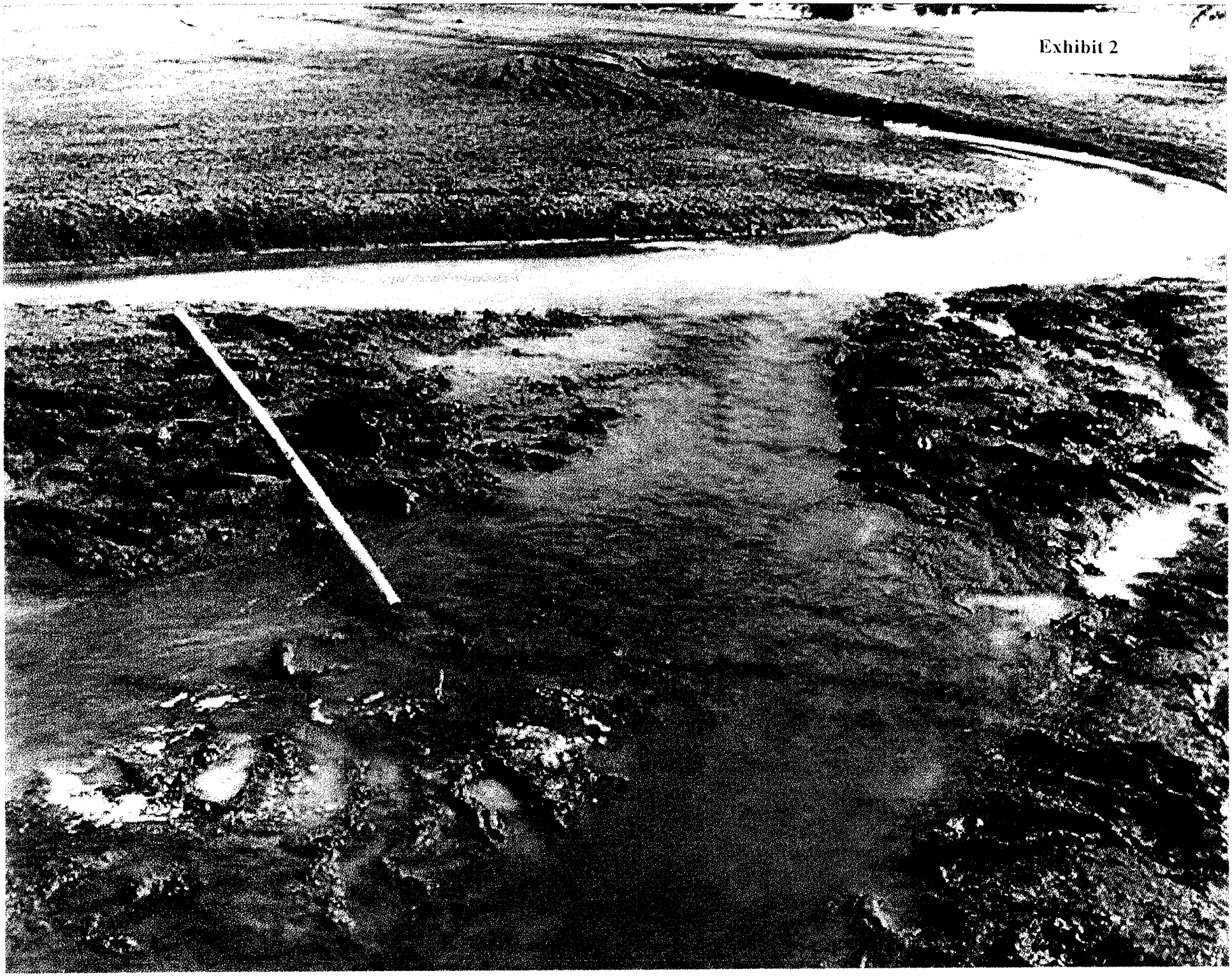

Exhibit 3

Exhibit 4

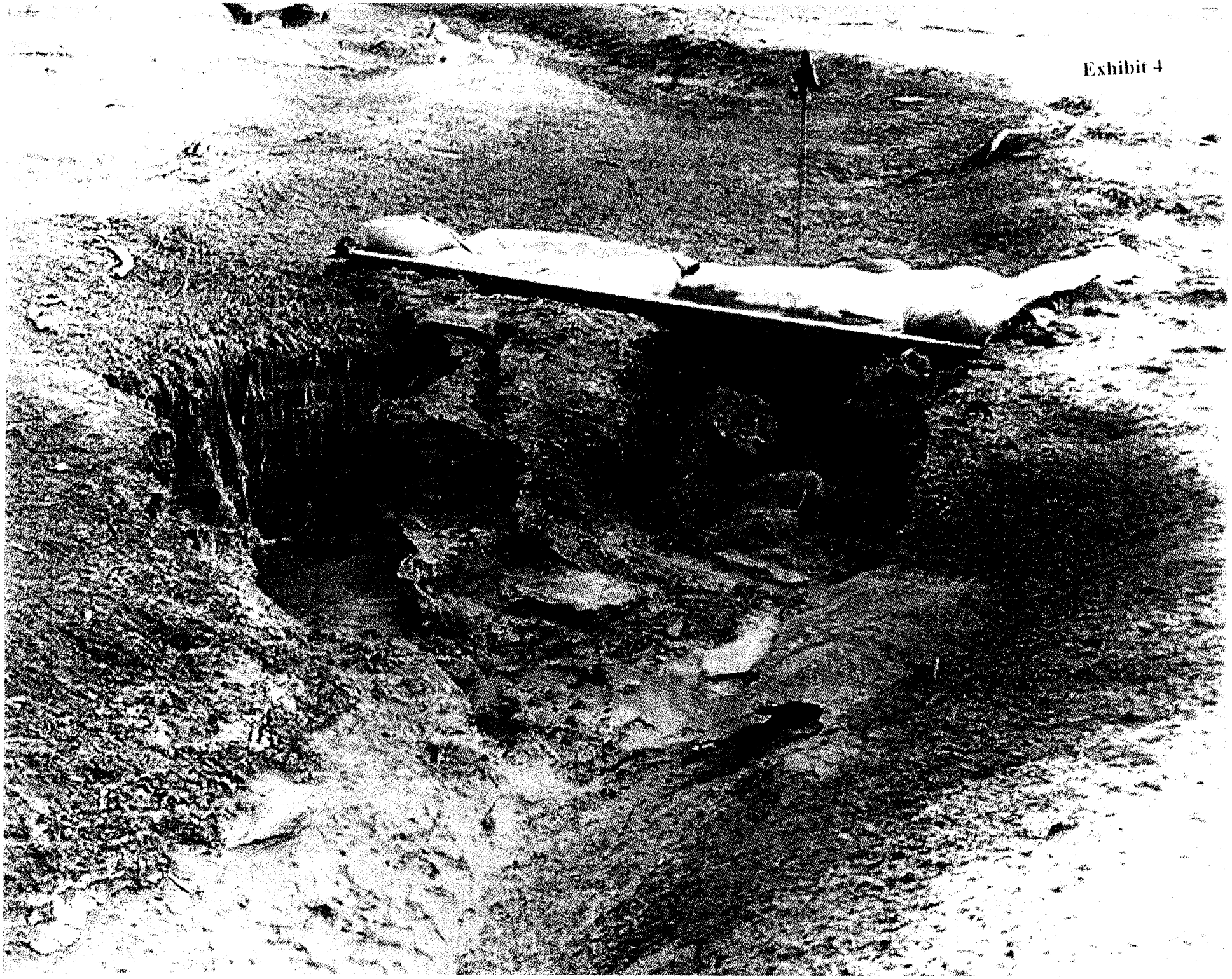

Exhibit 5

Exhibit 6

Exhibit 7