

**APPENDIX C
NATURAL RESOURCES REPORT**

**Bill Sanderson Gas Processing Plant Project
Wildlife and Waters of the US
Field Assessment and Offsite Assessment Report**

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1.0 INTRODUCTION

1.1 Project Description

OE2 North LLC (OE2) is planning to develop the Bill Sanderson Gas Processing Plant Project (Bill Sanderson) facilities pad on private surface in Williams County, North Dakota. The Bill Sanderson project will be located somewhere in sections 27, 34, and/or 35 T154N-R104W. The Bill Sanderson facility will be approximately 40-50 acres and include gas processing and compression equipment. OE2 contracted Grouse Mountain Environmental Consultants (GMEC) to conduct desktop analyses for wildlife, cultural, and Waters of the United States (WOTUS) natural resources potentially impacted by the construction of the Bill Sanderson facility. GMEC previously submitted a resource desktop analysis summary report to Trent Taylor on January 31, 2020 (GMEC 2020). Preliminary findings were outlined where two (2) unknown tributaries within section 27 were identified as a potential jurisdictional concern. As construction is anticipated to occur prior to the growing season, not allowing for an official wetland delineation to be conducted, OE2 contracted GMEC to conduct an offsite wetland assessment using long-term aerial imagery, hydric soils information, and other hydrologic data to draw inference on jurisdictional water boundaries. GMEC also conducted an on-site field assessment on January 29, 2020 to supplement findings from the offsite wetland assessment. In concurrence with the on-site field visit, GMEC also completed an assessment of wildlife resources.

1.2 Jurisdictional Waters and Wetlands

Under section 404 of the Clean Water Act (CWA) of 1972, the U.S. Army Corps of Engineers (USACE) may issue permits for the discharge of dredge or fill material into WOTUS (Clean Water Act 2002). Following the repeal of the 2015 rule in October 2019, the Department of the Army and the Environmental Protection Agency finalized the Navigable Waters Protection Rule (Final Rule). The Final Rule was intended to clarify the pre-2015 regulatory language and definition of WOTUS. Under the Final Rule released within a pre-publication notice published January 23, 2020 (33 CFR Part 328), the term “waters of the United States” means: 1) Territorial seas, waters which are currently used, or were in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide; 2) Tributaries; 3) Lakes and ponds, and impoundments of jurisdictional waters; and 4) Adjacent wetlands. Within the Final Rule, the agencies clarify twelve (12) exclusions from the definition of WOTUS including ephemeral streams, swales, gillies, rills, and pools (see the pre-publication notice for full list of exclusions and additional detail regarding the Final Rule). The Final Rule is expected to take effect 60 days following the publication in the federal registry. Until then, the pre-2015 definition of WOTUS will still be in effect (40 CFR 230.3). In 2017, under section 404 of the CWA, the USACE issued general permits authorizing activities resulting in minimal impacts to WOTUS, known as Nationwide Permits (NWP). NWP 12 or NWP 39 may apply to this project given determination by USACE. General conditions still apply and a preconstruction notification (PCN) may be required (USACE 2017). Additionally, a 401 certification is required by the North Dakota Department of Health (NDDoH) for all NWP permits. Please see USACE (2017) and the NDDoH website for detailed guidelines regarding NWPs and section 401 certification.

1.3 Federally Protected Wildlife

Under the Endangered Species Act (ESA) of 1978, the U.S. Fish and Wildlife Service (USFWS) regulates all terrestrial and freshwater plant and animal species listed as threatened or endangered. Section 9 of the

ESA prohibits the “take”, export/import, possession, and other specified activities of any federally listed endangered or threatened species. The term “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”. Any company/person who violates provisions of the ESA are subject to penalties and enforcement outlined within section 11 of the ESA (United States Government 1988, USFWS 2013).

The USFWS also regulates the “take”, export/import, possession, and other specified activities of migratory bird species listed under the Migratory Bird Treaty Act (MBTA) of 1918 (United States Government 1918, USFWS 2017). According to the Solicitor’s Opinion M-37041 (United States Government 2017a), the MBTA prohibits “incidental take” of migratory birds, where “incidental take” is defined as “take that results from an activity but is not the purpose of that activity.” However, in accordance with the Solicitor’s Opinion M-37050 (United States Government 2017a), the MBTA’s prohibition of “take” applies only to “direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control.”

Bald and Golden Eagle Protection Act (BGEPA) of 1978 prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) or their body parts, nests, chicks or eggs, which includes collection, possession, molestation, disturbance, destruction, or killing, where “disturb” is defined as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.” (United States Government 1978, USFWS 2012a).

2.0 ENVIRONMENTAL SETTING

The Bill Sanderson facility is approximately 15 miles west of Williston, North Dakota and located along the North Dakota-Montana border. The local climate can be characterized by long cold winters and short hot summers. Average temperatures range from 1.7 °F to 21.3 °F in January and from 57.0 °F to 85.4 °F in July. Mean annual precipitation is 14.17 inches (WRCC 2016). Elevation of the project area ranges from 2,180 to 2,270 feet. The project area is dominated by loamy ecosites with minor components of limy and limy steep ecosites. Many other ecosites occur within the project area, but at very low occurrences. Horse Tied Creek lies 0.8 mile south of the project area. The majority of the project area falls within the Lower Little Muddy Creek (HUC-12 [100600050704]) subwatershed of the Missouri-Poplar basin (HUC-6[100600]); a small portion of the additional survey areas in the south lie in the Horse Tied Creek (HUC-12 [100600050703]; Table 1) subwatershed of the Missouri-Poplar basin. Livestock grazing and mineral development are the predominant land uses in the area.

Table 1. Hydrologic Unit Codes (HUC) for Bill Sanderson Location

Project Name	Basin (HUC-6)	Subbasin (HUC-8)	Watershed (HUC-10)	Subwatershed (HUC-12)
Bill Sanderson Gas Processing Plant	Missouri-Poplar (100600)	Charlie-Little Muddy (10060005)	Little Muddy Creek (1006000507)	Lower Little Muddy Creek (100600050704)
				Horse Tied Creek (100600050703)

3.0 METHODS AND RESULTS

3.1 Jurisdictional Waters and Wetlands

3.1.1 Methods

Prior to conducting field surveys, GMEC conducted an offsite wetland and hydrology assessment using spatial layers from applicable state and federal agencies. Hydrologic watershed data was acquired from the U.S. Geological Survey (USGS) Watershed Boundary Dataset (WBD). Wetland data was obtained from the USFWS National Wetlands Inventory (NWI; USFWS 2012b). Spatial data for rivers, streams, and tributaries were acquired from the USGS National Hydrologic Dataset (NHD). Soils data was acquired from the Natural Resources Conservation Service (NRCS) Web Soils Survey (WSS; SSS-NRCS-USDA 2020). NHD in combination with the WBD and NWI were overlaid with the provided parcel boundary and additional survey area in ArcGIS to assess potential areas of jurisdictional concern. However, as these datasets are based on aerial or satellite imagery and infrequently updated, they may not accurately represent resources on the ground. GMEC used the North Dakota NRCS's *State Guidance for Wetland Determinations Including State Offsite Methods* (NRCS 2017) and Minnesota's USACE *Guidance for Offsite Hydrology/Wetland Determinations* (USACE 2016) to delineate wetlands within these areas of concern. Imagery used for offsite assessments was acquired from the National Agriculture Imagery Program (NAIP) and representative of 2009-2010, 2012, and 2014-2019. WSS data was overlaid on these images to assess hydric soils. In areas where hydric soils were present, sample areas were delineated based on changes to vegetation greenness or inundation during years of normal climatic conditions. GMEC calculated the climatic conditions for the three (3) months prior to the month the imagery was taken for each year according to the procedure outlined in the NRCS *Hydrology Tools for Wetland Determination* (NRCS 1997) and using the NRCS WETS monthly precipitation data. GMEC determined wetland status of sample units by comparing hydric soils, whether the area had previously been classified as a wetland, and the percentage of images across years that had indicators of wetland hydrology (i.e. greener color tones in vegetation).

To supplement the offsite determination, GMEC conducted a field assessment on January 29, 2020. Due to the time of year and snow cover present, wetland delineation in accordance with the Great Plains Regional Supplement to the Corp of Engineers Wetland Delineation Manual protocols to assess jurisdictional boundaries (USACE 2010) and assessment of OHWM/bed and bank features were not possible in the field. However, GMEC biologists were able to identify major vegetation along the drainages and overall topography to assist in offsite assessments.

3.1.2 Results

During the initial desktop analysis (GMEC 2020), NWI-designated wetlands were identified within the northern half of the parcel boundary (Lot 3 and NESE, Section 27, T154N-R104W). These wetlands are classified as intermittent riverine wetlands and are associated with an intermittent tributary of Little Muddy Creek. Additionally, one (1) NWI wetland extends into the additional survey area to the south (NWNW Section 35, T154N-R104W). No NWI or NHD data was present within the southern portion of the parcel boundary in Section 27; however, two (2) distinct channels running south to north are visible on aerial imagery (Section 27, T154N-R104W). These channels will be referred to throughout as the western drainage (Lots 3 and 4, Section 27, T154N-R104W) and the eastern drainage (NESE and SESE,

Section 27, T154N-R104W). Although these drainages are not identified within the NHD or NWI datasets, spatial data shows evidence of a high water table and potential water pooling.

Table 2. Bill Sanderson Gas Processing Plant - Antecedent Precipitation

Imagery	Imagery Date ¹	Climatic Condition
2019 NAIP	7/25/2019	Normal
2018 NAIP	July 15 – Oct. 23, 2018	Normal
2017 NAIP	10/4/2017	Wet
2016 NAIP	7/25/2016	Normal
2015 NAIP	9/14/2015	Normal
2014 NAIP	8/19/2014	Dry
2012 NAIP	6/27/2012	Wet
2010 NAIP	6/29/2010	Normal
2009 NAIP	June – Sept. 2009	Normal

¹For years where no imagery date was found, climatic conditions were calculated for all possible three-month prior time periods. All calculations gave the same result, so the data was included.

Analysis of antecedent precipitation for each year of NAIP imagery showed six (6) years of normal climatic conditions, two (2) years that were wetter than normal, and one (1) year that was drier than normal (Table 2). According to WSS data, hydric soils were not present within the corresponding Map Unit for the western drainage within the southern portion of the parcel boundary (Lots 3 and 4, Section 27, T154N-R104W). The ground assessment of the drainage in question indicated steep slopes were present along the extent of the reach and would likely not allow for significant water accumulation and associated wetland formation before draining directly into the intermittent drainage downstream. Additionally, the majority of vegetation present within the drainage was woody upland vegetation visible above the snow cover, a strong indication that no wetlands were associated with this drainage. As such, an offsite wetland assessment was not conducted for the western most drainage of concern.

WSS data identified the Map Unit encompassing the eastern drainage as having potential for hydric soils. GMEC identified sixteen (16) sampling units using wetland indicators on aerial imagery during years of normal circumstances (Table 3; Figure 1). During initial analysis, four (4) units were determined not to be wetlands, as they showed indications of wet signatures in less than half of the images from “normal” years (Sampling Units 12 and 14-16; Table 3). Ground surveys indicated that the wet signatures in eleven (11) units were an artefact of patches of western snowberry (*Symphoricarpos occidentalis*; an upland shrub) producing deep color tone differences in the imagery (Sampling Units 1-11; Table 3). Based on the vegetation that was identified during the onsite field assessment, it is likely that western snowberry and other upland plants comprise the majority of the vegetative cover within this eastern drainage (Appendix A), eliminating the potential for classification as wetland sites. However, at one (1) of these sites (Sampling Unit 9), the snowberry was located on the edge of a potential depression with facultative vegetation (*Rosa* spp., *Deschampsia caespitosa*) present. One (1) other site lacked western snowberry but still showed indicators of wet signatures in >80% of the imagery from “normal” years (Sampling Unit 13). The same facultative plants were identified in this sampling unit, suggesting some level of water

tolerance. Due to snow cover and frozen ground conditions, GMEC biologists were unable to dig soil pits to assess the presence of hydric soils at this site. Based on this analysis, fourteen (14) sampling units have been classified as not a wetland and two (2) units (Sampling Units 9 and 13) have been classified as “unknown” features due to the presence of facultative vegetation. However, a complete inventory of vegetation and analysis of hydric soils and hydrology indicators during the growing season may verify that these areas are not wetlands.

Table 3. Bill Sanderson Gas Processing Plant - Offsite Assessment Results

Sampling Unit	Hydric Soils Present	Identified NWI	% Wet Signatures	Key Vegetative Characteristics	Wetland?
1	Possible	No	100	Snowberry	No
2	Possible	No	83.3	Snowberry	No
3	Possible	No	66.6	Snowberry	No
4	Possible	No	100	Snowberry	No
5	Possible	No	100	Snowberry	No
6	Possible	No	50	Snowberry, <i>Deschampsia</i>	No
7	Possible	No	100	Snowberry	No
8	Possible	No	100	Snowberry	No
9	Possible	No	100	Snowberry, <i>Deschampsia</i>	Unknown
10	Possible	No	66.6	Snowberry	No
11	Possible	No	83.3	Snowberry	No
12	Possible	No	0		No
13	Possible	No	83.3	<i>Deschampsia</i>	Unknown
14	Possible	No	33.3		No
15	Possible	No	33.3		No
16	Possible	No	33.3		No

3.2 Threatened and Endangered Species

3.2.1 Methods

GMEC used the USFWS’s IPaC: Information for Planning and Consultation to assess potential impacts to threatened and endangered (T&E) species within the project area. IPaC identifies any designated critical habitat within the area as well as any species potentially affected based on the location of their historical ranges and Areas of Influence (AOI). If a species is identified as potentially affected but no critical habitat is present, it does not necessarily imply suitable habitats associated with that species are present within the project area. IPaC lists six (6) species as potentially affected by activities within the project area: Northern long-eared bat (*Myotis septentrionalis*), Least Tern (*Sterna antillarum*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Whooping Crane (*Grus americana*), and Pallid sturgeon (*Scaphirhynchus albus*). The Northern long-eared bat is primarily associated with mature forests with large decaying or partially dead trees during the breeding season and caves or mines during winter hibernation. The Least Tern nests near water, using primarily riverine sandbars or salt flats from low tide during the breeding season in the interior U.S. The majority of Piping Plovers in the Great Plains use shorelines along small, alkaline lakes. Suitable habitat includes large beaches with highly clumped vegetation that provides low overall cover. Red Knots require elevated ridges and slopes near wetlands and lakes where food is abundant during the breeding season and winter in coastal areas, such as tidal flats, estuaries, or bays.

Pallid sturgeon are large river obligates that require year-round water flows. Whooping Cranes nest in dense emergent vegetation around shallow ponds, wet prairies, or freshwater marshes. During spring and fall migration, the Aransas/Wood Buffalo population of Whooping Cranes use marshes, salt flats, lagoons, barrier islands, palustrine wetlands as well as stubble/grain fields and cropland adjacent to or near wetland features. During the field survey conducted January 29, 2020, GMEC biologists assessed potential suitable habitat for relevant T&E species within the project area.

3.2.2 Results

No currently defined critical habitats are located within the Bill Sanderson project area and no birds of conservation concern are expected. Further, no suitable habitats for Northern long-eared bat, Least Tern, Piping Plover, Red Knot, or Pallid sturgeon were identified within the project area. The project is currently located within the area in which 85% of migratory sightings of Whooping Crane are recorded for the Aransas/Wood Buffalo population; however, the Bill Sanderson project area is located outside of the central flyway and in an area where no e-bird sightings of Whooping Cranes have been reported during migration. While the additional parcels of interest located within sections 34 and 35 T154N-R104W currently encompass cropland, no critical stopover habitats are designated nearby. Field surveys indicated that small wetlands may be present in the northern portion of the parcel boundary, within 1km of the cropland. However, the use of the Bill Sanderson project area by Whooping Cranes as a stopover during migration is unlikely.

4.0 SUMMARY AND RECOMMENDATIONS

4.1 Jurisdictional Waters and Wetlands

Offsite assessments were conducted by GMEC using available data and supplemental data retrieved during an onsite field assessment conducted outside of the growing season. Data not otherwise specified within the outlined methods above may not have been made available to GMEC and, thus, not considered in the overall evaluation of WOTUS presented in this report. Results and recommendations outlined within this report are provided based on GMEC's best assessment of hydrologic resources from aerial imagery and an onsite field visit; however, field conditions did not allow for all wetland indicators nor other features associated with WOTUS to be assessed.

The western drainage (Lots 3 and 4, Section 27, T154N-R104W) is characterized by steep slopes and woody upland vegetation, likely not allowing for significant water accumulation and wetland formation before reaching the intermittent drainage downstream. This drainage is likely ephemeral. Under the new Navigable Waters Protection Rule (which will likely go into effect sometime in April), ephemeral drainages will be considered non-jurisdictional. The upstream drainages that extend into the southern crop fields within sections 34 and 35 were characterized by little to no visibly distinct channel (Appendix B), indications that the function of these portions of the drainage may have been altered by previous cultivation of croplands. Additionally, these sections appear to have been developed for agricultural production prior to December 1985 (according to aerial imagery), potentially resulting in a designation as non-jurisdictional waters according to the Final Rule (33 CRF Part 328- pg. 324).

Based on offsite analysis of the eastern drainage (NESE and SESE, Section 27, T154N-R104W), several sampling units showed consistent soil saturation, indicated by an increase in the greenness of vegetation across all years of NAIP imagery. However, field surveys indicated that much of this increased greenness

is likely due to the presence of western snowberry, an upland shrub. Some remnants of wetland vegetation were identified beneath the snow in certain areas, though it did not appear to make up a dominant proportion of vegetation. Specifically, fourteen (14) of the sampling units within the eastern drainage were characterized by a predominance of snowberry and classified as not a wetland. Two (2) of the total sampling units were classified as wetland status “unknown” due to consistent wetland signatures present in over half of the imagery years assessed as well as a high prevalence of facultative vegetation and lack of upland shrubs. Although, there is the potential for wetland vegetation indicators to be present within these two sampling units, hydric soils and hydrology indicators were unable to be properly assessed in the field. Additionally, assessing ordinary high-water marks was not possible given the amount of the snow cover present; thus, hydrological connection of these “unknown” features to the downstream drainage was unable to be assessed. According to available data acquired during the offsite aerial wetland assessment and the onsite field visit, it is GMEC’s opinion that the eastern and western drainages may not be of jurisdictional concern. However, given the onsite assessment was conducted outside of the growing season with 100% snow cover, all hydrologic indicators for determining WOTUS were not considered. Further, determinations of jurisdictional waters are subject to the USACE.

4.2 Threatened and Endangered Species

IPaC indicated six (6) species may be potentially affected by the Bill Sanderson project. However, no critical habitats are currently designated within the project area. Further analysis of habitat requirements for the six (6) listed species suggest no suitable habitats are located within the project boundary and GMEC does not anticipate any issues with T&E species. However, if construction is anticipated to take place from January 15 – September 15, during the raptor breeding season, GMEC recommends a search for raptor nesting activity be conducted. Additionally, if construction is anticipated to take place from April 1 – August 15, GMEC recommends surveys be conducted for ground-nesting passerine birds within the proposed construction footprint.

5.0 References

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6.0 Qualifications

Katie Taylor holds a B.S. degree in Biology (2009) from Seattle Pacific University and a M.S. degree in Rangeland Ecology (2014) from the University of Wyoming. She is currently Lead Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Ms. Taylor has 9 years of experience working in the wildlife field. Her direct work experience includes applied field work and research for universities, private industry, and federal and state agencies. Ms. Taylor has worked on research projects involving raptors, grouse species, songbirds, wolves, and various species of ungulates throughout the continental U.S. More specifically, she has 5 years of experience conducting surveys in accordance with BLM wildlife survey protocols for nesting raptors, sage-grouse and sharp-tailed grouse leks, mountain plover, and other sensitive species in Wyoming. In addition, Ms. Taylor has experience in wildlife data management and GIS support for the Bureau of Land Management – Buffalo Field Office. Ms. Taylor has also completed wetland delineation training and has experience with wetland determinations and working with the USACE for hydrology determinations.

Kirstie Lawson holds a B.S. degree in Wildlife Biology (2012) from the University of Montana and a M. S. degree in Biology (2018) from the University of British Columbia Okanagan. She is currently a Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Ms. Lawson has over 6 years of experience working in the wildlife field. With a focus on grouse research, Ms. Lawson's background also includes conducting research and surveys for mesocarnivores, songbirds, and raptors in the U.S. and Canada. Her previous work has required interacting with various stakeholders, including private landowners, government agencies, and industry.

Gregory Shedd holds a B.S. in Wildlife Biology (2002) from Unity College. He is currently a Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Mr. Shedd has over 15 years of combined experience in the wildlife field. His primary experience is private consulting in Wyoming and surrounding states performing surveys, monitoring and applied research for various stakeholders including private landowners, government agencies, and industry. Mr. Shedd has completed wetland delineation training and has conducted wetland determinations for over 10 years.

FIGURES

Figure 1. OE2: Bill Sanderson Gas Processing Plant Offsite Wetland Assessment Report Map



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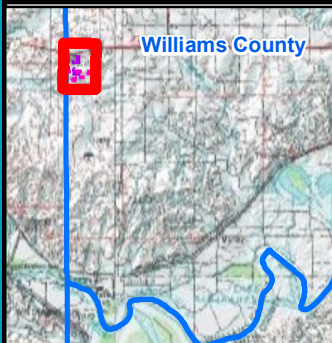
**Figure 1. OE2 North LLC: Bill Sanderson Gas Processing Plant
Offsite Wetland Assessment Report Map**

- Facility Boundary
- Site Features
- - - Parcel Boundary
- - - Additional Survey Area
- Northern Extent

- Offsite Assessment**
- Unknown
 - Not Wetland
 - National Wetlands Inventory Wetland

- Soils**
- Not Hydric
 - 0-5% Hydric
 - Intermittent Stream

Coordinate System: NAD 1983 UTM Zone 13N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter
Scale: 1:6,000
Date: 2/17/2020
Created by: KLawson
File Name: OUT-004_WetlandDelineation_Map_020320



APPENDICES

Appendix A. Bill Sanderson Gas Processing Plant Field Survey Plant List

Common Name	Scientific Name	Indicator Status	Comment(s)
Western snowberry	<i>Symphoricarpos occidentalis</i>	UPL	
Crested wheatgrass	<i>Agropyron cristatum</i>	UPL	
Silver buffaloberry	<i>Shepherdia argentea</i>	UPL	
Tufted hair grass	<i>Deschampsia caespitosa</i>	FACW	
Big bluestem	<i>Andropogon gerardii</i>	FACU	
Prairie sandreed	<i>Calmovilfa longifolia</i>	UPL	
Common Yarrow	<i>Achillea milleflium</i>	UPL	
Tall hedgemustard	<i>Sisymbrium altissimum</i>	FACU	
Stiff goldenrod	<i>Oligoneuron rigidum</i>	FACU	
Spotted Knapweed	<i>Cenaurea stoebe</i>	UPL	
Rose	<i>Rosa</i> spp.	FACU	
Needlegrass	<i>Nassella</i> spp.	UPL	
Coneflower	<i>Echinecea</i> or <i>Rudbeckia</i> spp.	Unknown	Unable to identify to species at this time.
Unknown Sedge	<i>Carex</i> spp.	Unknown	Possibly threadleaf sedge, but unable to identify at this time.

Appendix B. Bill Sanderson Field Survey Drainage Photographs



Bill Sanderson: Facing north toward Unit 16 at the fence line



Bill Sanderson: Facing south from Unit 16 at the fence line



Bill Sanderson: Facing south toward Unit 11



Bill Sanderson: Facing north from Unit 11



Bill Sanderson: Facing north toward Unit 15 from fence line



Bill Sanderson: Facing south from Unit 15 at the fence line



Bill Sanderson: Facing northeast in Unit 15



Bill Sanderson: Facing north in Unit 14



Bill Sanderson: Facing north in Unit 14



Bill Sanderson: Facing north in Unit 10



Bill Sanderson: Facing north in Unit 9



Bill Sanderson: Facing south towards Unit 8



Bill Sanderson: Facing northeast in Unit 7



Bill Sanderson: Facing northeast in Unit 6



Bill Sanderson: Facing east in Unit 6



Bill Sanderson: Facing north in Unit 13



Bill Sanderson: Facing north in Unit 2



Bill Sanderson: Facing south in Unit 12



Bill Sanderson: Facing north to Unit 1



**Bill Sanderson: Western drainage facing northwest toward main drainage
Easting: 571199; Northing: 5331120**



**Bill Sanderson: Western drainage facing southeast away from main drainage
Easting: 571199; Northing: 5331120**



**Bill Sanderson: Western drainage facing south halfway up drainage
Easting: 571212; Northing: 5330982**



**Bill Sanderson: Western drainage facing south
Easting: 571183; Northing: 5330888**



**Bill Sanderson: Western drainage facing north from fence line
Easting: 571109; Northing: 5330724**



**Bill Sanderson: Western drainage facing south from fence line
Easting: 571109; Northing: 5330724**



**Bill Sanderson: Facing south from road at existing well pad
Easting: 571740; Northing: 5330728**



**Bill Sanderson: Facing south from road at the eastern crop field
Easting: 572033; Northing: 5330729**