



May 1, 2020

Trent Taylor  
OE2 North LLC  
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**RE: Bill Sanderson Gas Processing Plant Field Summary – May 1, 2020**

Trent Taylor,

Grouse Mountain Environmental Consultants (Grouse Mountain) would like to report on results from a field visit conducted for OE2 North LLC's (OE2) Bill Sanderson Gas Processing Plant (Plant) project located within section 27 T154N-R104W in Williams County, North Dakota. OE2 requested that Grouse Mountain assess wetland indicators of the Unit 9 "unknown wetland" as well as conduct a passerine and raptor nest survey within the Plant footprint on April 28<sup>th</sup> and 29<sup>th</sup>, 2020. Please see summary findings for the proposed Bill Sanderson Gas Processing Plant below.

**WETLANDS**

Grouse Mountain previously conducted an offsite assessment of potential wetlands within the Plant project area on January 23<sup>rd</sup>, 2020. For the offsite assessment, we used spatial layers from applicable state and federal agencies to identify areas from aerial imagery that had the potential to be wetlands. One (1) site was identified as a potential wetland within the Plant footprint (Unit 9). During the first field visit on January 29<sup>th</sup>, 2020, the time of year and snow cover prevented any official wetland assessment from occurring. Follow-up visits on March 5<sup>th</sup> and 26<sup>th</sup>, 2020 provided opportunities to re-assess the potential wetland. However, field conditions due to the time of year still prevented a full wetland assessment. Frozen water filling the potential wetland, largely frozen soil conditions, and lack of growing conditions prevented an assessment of vegetation and hydric soil indicators.

On April 28<sup>th</sup> and 29<sup>th</sup>, 2020, the depression associated with Unit 9 no longer held standing water and Grouse Mountain was able to complete a wetland assessment for the site (Photo 1). The assessment of the Unit 9 site occurred at the very beginning of the potential growing season for this region, based on 28°F (-2.2°C) air temperature thresholds (USACE Growing Season Definition and Use in Wetland Delineation 2010) where there is a 70% chance the growing season occurs between April 27 and October 9. Some vegetation, including sedges within Unit 9, was beginning to grow. Two (2) dominant species of vegetation were identified within the potential wetland by assessing residual vegetative cover from the 2019 growing season. Both species are considered hydrophytic (Facultative Wetland status), indicating that the primary vegetative cover within Unit 9 meets the vegetation requirements of a wetland. Additional plant species



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may be observed later in the season. Grouse Mountain also assessed soil indicators for one (1) soils pit dug within the middle of the potential wetland boundary (Soils Pit A, Photos 2-5). Redox concentrations were observed only below 19 inches after long exposure to air. However, soil saturation was not present, iron-oxide was not observed along living roots, soil values and chromas were not indicative of depleted matrices, nor were any other hydric soils indicators present. Thus, these soils did not meet the indicator criteria for hydric soils as provided in the U.S. Army Corp of Engineers (USACE) Wetland Delineation Manual and USACE Great Plains Regional Supplement nor did they meet the definition of hydric soils set by the National Technical Committee for Hydric Soils definition “a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part” (USDA Soil Conservation Service 1994). Additionally, the site did not meet the wetland hydrology indicator criteria as provided in the USACE Wetland Delineation Manual and Great Plains Regional Supplement. Although hydrophytic vegetation is present, a wetland assessment must take into account all of the criteria of a wetland. As the soils and hydrology of the site do not show the indicators required, Unit 9 does not meet the criteria of a wetland.

## **PASSERINES AND RAPTORS**

During prior field surveys conducted on January 29<sup>th</sup> and March 5<sup>th</sup>, 2020, Grouse Mountain biologists surveyed the Plant footprint for eagle and non-eagle raptor nests. According to the North Dakota Game and Fish Department and Bureau of Land Management – North Dakota Field Office, no known raptor nests are located within the project area. Further, no nests were identified by Grouse Mountain within the Plant footprint during the field survey.

As project plans have extended into the breeding season, OE2 requested that Grouse Mountain conduct a search for raptor and passerine nests within the footprint. As the footprint consists primarily of grassland habitat, we conducted passerine nest searches using the rope-drag method where two (2) biologists walked transects dragging a twenty-foot (20-ft) rope across the grassland to flush any birds on nests. When a bird flushed from the rope, the biologists intensively searched the area around where the bird flushed to determine if a nest was present. The behavior of the bird was observed to help identify nest sites by noting if the bird showed defensive signs or reluctance to leave the area. Additionally, Grouse Mountain biologists searched for raptor nests in the survey area while conducting the passerine nest search.

Grouse Mountain conducted the passerine and raptor nest search on April 29<sup>th</sup>, 2020. No passerine or raptor nests were located during the survey. Passerines were observed by both visual and auditory observations, but no nesting behavior was identified in the survey area. Additionally, one (1) Cooper’s Hawk (*Accipiter cooperii*) and multiple Turkey Vultures (*Cathartes aura*) were observed flying over during wetland surveys, but no suitable nesting habitat is present within the project footprint.





Please let us know if you have any questions or concerns or would like to request additional information regarding the field surveys.

Thank you,

***Katie Taylor***

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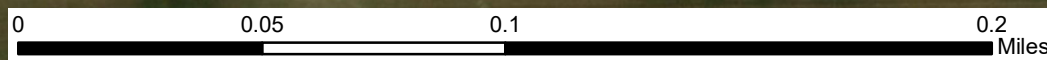
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# ATTACHMENT A

**Figure 1. OE2 North LLC: Bill Sanderson Gas Processing Plant Summary Report Map**

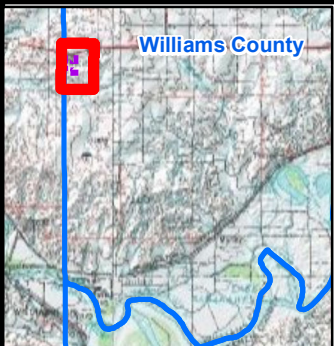


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**Figure 1. OE2 North LLC: Bill Sanderson Gas Processing Plant Summary Report Map**

- Plant Boundary (fence line)
- Plant Site Features
- Offsite Assessment**
- Unit 9 Potential Wetland
- ▨ National Wetlands Inventory Wetland
- Intermittent Stream
- Soils (per Web Soils Survey)**
- Not Hydric
- 0-5% Hydric



Coordinate System: NAD 1983 UTM Zone 13N  
Projection: Transverse Mercator  
Datum: North American 1983  
Units: Meter  
Scale: 1:2,500  
Date: 4/30/2020  
Created by: klawson  
File Name: OUT-004\_SummaryReport\_Map\_043020



**ATTACHMENT B**

**Site Visit Photographs**



*Photo 1. Overview of Unit 9 potential wetland site. Photo taken on April 28<sup>th</sup>, 2020.*



*Photo 2. Soils Pit A taken within potential wetland boundary. Photo taken on April 29<sup>th</sup>, 2020.*



*Photo 3. Soils Pit A taken within potential wetland boundary. Photo taken on April 29<sup>th</sup>, 2020.*



*Photo 4. Top section of soil removed from Soil Pit A. Photo taken on April 29<sup>th</sup>, 2020.*



*Photo 5. Soils removed from Soil Pit A, with soils from the lower section of the pit on the shovel. Photo taken on April 29<sup>th</sup>, 2020.*

**ATTACHMENT C**

**Wetland Delineation Data Forms**

**WETLAND DETERMINATION DATA FORM - Great Plains Region**

Project/Site: Bill Sanderson Gas Processing Plant City/County: Williston Sampling Date: 04/29/20  
 Applicant/Owner: OE2 North LLC State: ND Sampling Point: Soil Pit A  
 Investigator(s): Greg Shedd Section, Township, Range: T154N R104W S27  
 Landform (hillslope, terrace, etc.): Draw Local relief (concave, convex, none): Concave Slope (%): 5  
 Subregion (LRR): Northern Great Plains Lat: 48°7'38.808"N Long: 104°2'22.789"W Datum: NAD83  
 Soil Map Unit Name: 2176—Zahill loam, 15 to 60 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Investigation occurred during an early time of year for field verification of wetland vegetation. Investigation occurred during normal conditions for the time of year, but not necessarily representative of conditions during the growing season.	

**VEGETATION - Use scientific names of plants.**

Tree Stratum (Plot size: <u>15 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rosa arkansana</u>	1	Yes	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
1 = Total Cover				
Herb Stratum (Plot size: <u>15 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Deschampsia cespitosa</u>	80	Yes	FACW	
2. <u>Carex spp.</u>	80	Yes	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
160 = Total Cover				
Woody Vine Stratum (Plot size: <u>15</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 2 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 0 x 1 = 0  
 FACW species 2 x 2 = 4  
 FAC species 0 x 3 = 0  
 FACU species 1 x 4 = 4  
 UPL species 0 x 5 = 0  
 Column Totals: 3 (A) 8 (B)  
 Prevalence Index = B/A = 2.67

**Hydrophytic Vegetation Indicators:**  
1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sub>1</sub>  
4 - Morphological Adaptations<sub>1</sub> (Provide supporting data in Remarks or on a separate sheet)  
   Problematic Hydrophytic Vegetation<sub>1</sub> (Explain)

<sub>1</sub>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 Absolute Vegetative Cover determined by residual vegetation from positively identified species. Additional plant species may be present during the growing season

**SOIL**

Sampling Point: \_\_\_\_\_

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sub>1</sub>	Loc <sub>2</sub>		
0-2	2.5YR 2.5/1	100					CL	Primary root layer
2-19	2.5YR 2.5/1	100					C	
19-22	2.5YR 2.5/1	98	7.5YR 5/8	2	C	M	CS	Change between layers is gradual

<sub>1</sub>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.     
 <sub>2</sub>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	<sub>3</sub> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____    No <input checked="" type="checkbox"/>
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Remarks:  
Clay layer beginning at 2" appears to have the potential to be restrictive, few roots penetrated beyond initial 2" surface layer.

**HYDROLOGY**

Wetland Hydrology Indicators:	
<b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Drift Deposits (B3)      (where not tilled) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Water-Stained Leaves (B9)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<b>Field Observations:</b> Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes _____    No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial imagery showed increase in green vegetation when compared to other portions of the draw, across multiple years, leading to the investigation as a potential wetland.	
Remarks: Investigation initiated by increase of green vegetation observed on aerial imagery across multiple years. Although the location does appear to hold water slightly longer than the overall drainage, artificial inundation from uphill agricultural field appears to be the primary cause for increased green vegetation. Field verification occurred slightly earlier than the normal growing season.	