ADDENDUM 2.8-J

LUDEMAN WETLAND DATA FORMS – GREAT PLAINS REGION

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/5/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury Section,Township,Range: Sec 14, T34N, R74W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.708 Long: 42.920 Datum: NAD-83
Soil Map Unit Name: 164-Haverdad Loam, 187-Kishona-Cambria loams, 189-Kishona-Cambria-Theedle loams
NWI classification na Sampling Point WL-1
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (17 wetlands, WL-1a through WL-1q) that are disconnected depressions along the same drainage. They range in size from 0.003 acres to 0.723 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	40	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:_____)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10YR 3 /1		7.5YR 4/6	<2%	C	M	Loam w/organics	Mottles: Fine, few, prominent
4-10"	2.5YR 5/1		7.5YR 4/6	15%	C	M	Clay loam	Mottles: Fine to medium, many, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- _X_Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____

Water Table Present? Yes____No__X__ Depth (inches)_____

Saturation Present? Yes ____ No__X__ Depth (inches)___ _____
(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/6/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair Section,Township,Range: Sec 14, T34N, R74W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.699 Long: 42.917 Datum: NAD-83
Soil Map Unit Name: 250-Theedle Kishona loams NWI classification na Sampling Point WL-2
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a depression in a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Juncus balticus*	20	Y	OBL
2 *Carex aquatilis*	20	Y	OBL
3 *Poa sp.*	2	N	
4			
5			
6			
7			
8			
9			
10			
	42	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 58

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	5Y 4/2		7.5YR 4/4	25 %	C	M	Clay loam	Mottles: Fine, many, distinct
4-10"	2.5Y 4/2		7.5YR 5/8	25%	C	M	Clay loam	Mottles: Fine to medium, many, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _X_Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No____ Depth (inches)__6 inches__

Water Table Present? Yes____ No__X__ Depth (inches)_____

Saturation Present? Yes_X_ No____ Depth (inches)__*_____

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/9/08
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 22, T34N, R74W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.715 Long: 42.903 Datum: NAD-83
Soil Map Unit Name: 164-Haverdad loam, 230-Shingle-Badland-Samday complex, 251-Theedle-Kishona-Shingle loams
NWI classification PEMC Sampling Point WL-3
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (WL-3a through WL-3c) that are disconnected depressions along Little Sand Creek. They range in size from 1.96 acres to 4.97 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Carex nebrascensis*	61	Y	OBL
2 *Hordeum jubatum*	5	N	FACW
3 *Juncus effusus*	5	N	OBL
4 *Calamagrostis neglecta*	4	N	OBL
5			
6			
7			
8			
9			
10			
	75%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 25%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-3"	10YR 4/2		7.5YR 5/6	<2%	C	M	Silty clay	Mottles: fine, few, prominent
3-12"	2.5Y 5/1		7.5YR 5/8	25%	C	M	Clay	Mottles: medium, many, prominent oxidized root channels in 3-12"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
_X_Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) ___ (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
_X_FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No_X__ Depth (inches) _____
Water Table Present? Yes_____No_X__ Depth (inches)_____
Saturation Present? Yes_____No_X__ Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/5/08
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 28, T34N, R73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.614 Long: 42.903 Datum: NAD-83
Soil Map Unit Name: 187-Kishona-Cambria loams NWI classification PEMC Sampling Point WL-4
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is wetland which has formed on the downstream side of a diked waterbody.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Hordeum Jubatum*	20	Y	FACW
2 *Scirpus americanus*	20	Y	OBL
3 *Rumex stenophyullus*	5	N	FACW+
4 *Agropyron spicatum*	2	N	FACU-
5 *Cirsium arvense*	2	N	FACU
6 Other	1	N	na
7			
8			
9			
10			
	50%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 50%

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-9"	2.5Y 5/2	60	7.5YR 4/6	20%	C	M	Silty loam	Mottles: medium to coarse, common, prominent
0-9"	5Y 2.5/1	40						Blended matrix with fine texture
9-14"	2.5Y 5/2	60	7.5YR 4/6	20%	C	M	Silty loam	Mottles: medium to coarse, common, prominent
9-14"	5Y 2.5/1	40						Blended matrix with medium texture

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _X_Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No____ Depth (inches)__6 inches__

Water Table Present? Yes____ No_X_ Depth (inches)_____

Saturation Present? Yes_X_ No____ Depth (inches)__*__

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/9/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury Section,Township,Range: Sec 35, T34N, R73W State: WY
Landform (hillslope, terrace, etc.): Depression in range land Local relief (concave, convex, none) concave Slope (%) NA
Subregion (LRR): LRR H Lat: -105.592 Long: 42.875 Datum: NAD-83
Soil Map Unit Name: 187-Kishona-Cambria loams NWI classification PEMA Sampling Point WL-5
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is an isolated depression in rolling rangeland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	50	Y	OBL
2 *Agropyron smithii*	10	N	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	60%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 40%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-6"	2.5Y 4/1		NA				Silty loam	Oxidized root channels
6-13"	2.5Y 5/2		2.5Y 5/6	15%	C	M	Sandy silt loam	Mottles: Fine to medium, common, distinct

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes X No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- X Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes X No____ Depth (inches) 10"

Water Table Present? Yes ___ No_____ Depth (inches)_____

Saturation Present? Yes X No_____ Depth (inches)_____

(includes capillary fringe)

Saturated to the surface.

Wetland Hydrology Present?

Yes X No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/6/08
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair & W. Stansbury Section,Township,Range: Sec 2, T33N, R73W State: WY
Landform (hillslope, terrace, etc.): Diked drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.591 Long: 42.866 Datum: NAD-83
Soil Map Unit Name: 244-Taluce-Turnercrest-Keeline fine sand loams NWI classification na Sampling Point WL-6
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a wetland which has formed behind a dike in a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Hordeum jubatum*	47	Y	FACW
2 *Eleocharis palustris*	1	N	OBL
3 *Bromus briziformis*	1	N	NL
4 *Grindelia squarrosa*	1	N	UPL
5			
6			
7			
8			
9			
10			
	50%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 50%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10YR 4/2		7.5YR 5/8	2%	C	M	Silty loam	Mottles: fine, few, prominent oxidized root channels in 0-4"
0-9"	10YR 4/2		7.5YR 5/8	30%	C	M	Silty loam	Mottles: fine, many, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Hydric Soil Present? Yes_X_ No_____

Depth (inches) : _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
_X_Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
_X_FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No_X_ Depth (inches) _____
Water Table Present? Yes_____No_X_ Depth (inches)_____
Saturation Present? Yes_____No_X_ Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present?

Yes_X_No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 8/7/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): W. Stansbury | Section,Township,Range: Sec 5, T34NR73W | State: WY
Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none) concave | Slope (%) <2%
Subregion (LRR): LRR H | Lat: -105.641 | Long: 42.953 | Datum: NAD-83
Soil Map Unit Name: 175-Hiland-Bowbac complex | NWI classification PEMA/PUSC | Sampling Point WL-7
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is an isolated depression in rolling rangeland with some areas of shallow open water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	23	Y	OBL
2 *Hordeum jubatum*	1	N	FACW
3 *Ambrosia tomentosa*	1	N	NL
4			
5			
6			
7			
8			
9			
10			
	25%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 75%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-16"	10YR 5/1		NA				Silty clay loam	Oydized root channels present. More roots in 0-10"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No__X__ Depth (inches)_____

Water Table Present? Yes_____No__X__ Depth (inches)_____

Saturation Present? Yes_____No__X__ Depth (inches)____*_____

(includes capillary fringe)

* Soil moist at depth of 10 inches.

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/7/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 5, T34NR73W State: WY
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.645 Long: 42.953 Datum: NAD-83
Soil Map Unit Name: 141-Dwyer-Orpha loamy sands NWI classification na Sampling Point WL-8
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is an isolated depression in rolling rangeland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	36	Y	OBL
2 *Agropyron smithii*	2	N	UPL
3 *Hordeum jubatum*	1	N	FACW
4 *Ambrosia tomentosa*	1	N	NL
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-16"	2.5Y 5/2		7.5YR 4/4	<2%			Silty clay loam	Oxidized root channels present. More roots in 0-8"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible on Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No__X__ Depth (inches)_____

Water Table Present? Yes_____No__X__ Depth (inches)_____

Saturation Present? Yes_____No__X__ Depth (inches)_____

(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/7&9/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair & W. Stansbury Section,Township,Range: Sec 5 & 6, T34NR73W State: WY
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.639 Long: 42.950 Datum: NAD-83
Soil Map Unit Name: 141-Dwyer-Orpha loamy sands, 175-Hiland-Bowbac complex, 258-Ulm-Forkwood loams
NWI classification PEMA Sampling Point WL-9
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (8 wetlands, WL-9a through WL-9h) that are disconnected depressions within the same drainage area. They range in size from 0.003 acres to 1.016 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	49	Y	OBL
2 *Agropyron smithii*	5	N	UPL
3 *Hordeum jubatum*	5	N	FACW
4 *Ambrosia tomentosa*	1	N	NL
5			
6			
7			
8			
9			
10			
	60%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 40%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-8"	2.5Y 3/1	50%	7.5YR 5/6	<2%			Loamy sand	Mottles: fine, few, prominent
	10YR 5/2	50%						Blended matrix. More roots in 0-2"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- _X_ Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- ___Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes_X_ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- _X_ Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible on Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- _X_ FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No_X_ Depth (inches)_____

Water Table Present? Yes_____No_X_ Depth (inches)_____

Saturation Present? Yes_____No_X_ Depth (inches)_____

(includes capillary fringe)

Wetland Hydrology Present?

Yes_X_No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/7/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 4, T34NR73W State: WY
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.627 Long: 42.948 Datum: NAD-83
Soil Map Unit Name: 257-Ulm-Bidman complex NWI classification PEMA Sampling Point WL-10
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is an isolated depression adjacent to a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	37	Y	OBL
2 *Agropyron smithii*	1	N	UPL
3 *Hordeum jubatum*	1	N	FACW
4 *Ambrosia tomentosa*	1	N	NL
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point **WL-10**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-8"	10YR 6/1		7.5YR 5/6	<2%			Silty loam	Mottles: fine, few, prominent oxidized root channels in 0-4"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No__X__ Depth (inches)_____

Water Table Present? Yes_____No__X__ Depth (inches)_____

Saturation Present? Yes_____No__X__ Depth (inches)_____
(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 8/7/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): W. Stansbury | Section,Township,Range: Sec 4, T34NR73W | State: WY
Landform (hillslope, terrace, etc.): Depression in drainage | Local relief (concave, convex, none) concave | Slope (%) <2%
Subregion (LRR): LRR H | Lat: -105.616 | Long: 42.943 | Datum: NAD-83
Soil Map Unit Name: 187-Kishona-Cambria loams, 269-Worf-Shingle-Taluce complex | NWI classification na | Sampling Point WL-11
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a series of two wetlands (WL-11a and b) that are disconnected depressions along the same drainage. They range in size from 0.002 acres to 0.011 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	15	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks: Area has been heavily grazed.

SOIL Sampling Point WL-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-8"	2.5Y 5/1		7.5YR 5/6	<2%			Silty loam	Mottles: fine, few, prominent oxidized root channels in 0-4"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes_X_ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No_X_ Depth (inches)_____
Water Table Present? Yes_____No_X_ Depth (inches)_____
Saturation Present? Yes_____No_X_ Depth (inches)_____
(includes capillary fringe)

Wetland Hydrology Present?

Yes_X_No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 6/10/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): W. Stansbury | Section, Township, Range: Sec 3, T34N, R73W | State: WY
Landform (hillslope, terrace, etc.): Depression in drainage | Local relief (concave, convex, none) concave | Slope (%) NA
Subregion (LRR): LRR H | Lat: -105.611 | Long: 42.950 | Datum: NAD-83
Soil Map Unit Name: 175-Hiland-Bowbac complex | NWI classification PABFh | Sampling Point WL-12
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a depression in a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	40	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10YR 3/2		7.5YR 5/8	<2%	C	M	silty loam w/organics	Mottles: Fine, few, prominent
								Oxidized root channels in 0-4"
4-12"	10YR 4/1		7.5YR 4/6	15%	C	M	silty loam	Mottles: Medium, common, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- _X_Sparsely Vegetated Concave Surface (B8)
- _X_Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- _X_FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____

Water Table Present? Yes ____ No__X__ Depth (inches)_____

Saturation Present? Yes____No__X__ Depth (inches)_____

(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/10/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 3, T34N, R73W State: WY
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none) concave Slope (%) NA
Subregion (LRR): LRR H Lat: -105.611 Long: 42.950 Datum: NAD-83
Soil Map Unit Name: 175-Hiland-Bowbac complex NWI classification na Sampling Point WL-13
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is an excavated depression adjacent to a windmill.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Scirpus validus*	35	Y	OBL
2 *Eleocharis palustris*	20	Y	OBL
3 *Typhus angustifolia*	5	N	OBL
4			
5			
6			
7			
8			
9			
10			
	60%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 40%

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-6"	7.5YR 4/1		10 YR 2/1	<2%	C	M	silty loam w/ some sand	Mottles: Medium, few, distinct
			10YR 4/6	<2%	C	PL		Oxidized root channels in 0-6"
6-12"	10YR 4/3	50%	NA				sandy/silty loam	Blended matrix.
	10YR 4/2	50%						

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____

Water Table Present? Yes____ No__X__ Depth (inches)_____

Saturation Present? Yes__X__ No____ Depth (inches)__*__

(includes capillary fringe)

Saturated to the surface.

Wetland Hydrology Present?

Yes__X__ No____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/9/08
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 2, T34N, R73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.590 Long: 42.953 Datum: NAD-83
Soil Map Unit Name: 129-Clarkelen-Haverdad-Bigwinder complex, 246-Tassel-Tullock-Vonalee association
NWI classification na Sampling Point WL-14
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a depression within Sage Creek.
Soil unit 129 is listed as a Hydric soil by the NRCS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Hordeum Jubatum*	40	Y	FACW
2 *Eleocharis palustris*	32	Y	OBL
3 *Scirpus validus*	5	N	OBL
4 *Spartina gracillis*	1	N	FACW
5 *Polypogon monspeliensis*	1	N	OBL
6 *Rumex stenophyllus*	1	N	FACW+
7			
8			
9			
10			
	80%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

% Bare Ground in Herb Stratum 20%

Remarks:

SOIL Sampling Point WL-14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-8"	5Y 5/1		7.5YR 4/4	15%	C	M	Silty loam	Mottles: medium to coarse, common, prominent oxidized root channels 0-8"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes X No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- X Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes X No_____ Depth (inches) 4 inches

Water Table Present? Yes_____ No X Depth (inches)_____

Saturation Present? Yes X No_____ Depth (inches) *

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes X No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/8/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair Section,Township,Range: Sec 8 & 9, T34NR73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.638 Long: 42.937 Datum: NAD-83
Soil Map Unit Name: 187-Kishona-Cambria loams, 189-Kishona-Cambria-Theedle loams, 263-Ustic Torriorthents, gullied.
NWI classification na Sampling Point WL-15
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (18 wetlands, WL-15a through WL-15q) that are disconnected depressions along the same channel. They range in size from 0.001 acres to 0.014 acres. Soil unit 263 is listed as a Hydric soil by the NRCS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	30	Y	OBL
2 *Carex aquatilis*	10	Y	OBL
3 *Agropyron repens*	5	N	FAC
4 *Taraxacum officinale*	1	N	FACU
5			
6			
7			
8			
9			
10			
	46%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 54%

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10YR 4/2		7.5YR 5/8	25%	C	M	Sandy silt loam	Mottles: Fine to large, many, prominent
4-7"	10YR 4/2		7.5YR 4/6	25%	C	M	Sandy loam	Mottles: Fine to medium, many, prominent
			10YR 2/1	25%	C	M		Organic mottles: Fine to medium, many, prominent
7-14"	10YR 4/3		7.5YR 4/6	25%	C	M	Loamy sand	Mottles: Fine, many, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _X_Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No____ Depth (inches)_6 inches_

Water Table Present? Yes____ No_X_ Depth (inches)_____

Saturation Present? Yes_X_ No____ Depth (inches)_*_

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes_X_ No____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/9/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 9, T34NR73W State: WY
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.638 Long: 42.937 Datum: NAD-83
Soil Map Unit Name: 187-Kishona-Cambria loams NWI classification PUSC/PEMA Sampling Point WL-16
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is an isolated depression in rolling rangeland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	50	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	50%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 50%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-12"	2.5Y 5/2		7.5YR 5/6	2%	C	M	Silty loam with clay	Mottles: Fine, few, prominent
								Oxidized root channels

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes X No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- X Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes X No____ Depth (inches) 4 "

Water Table Present? Yes ___ No X Depth (inches)_____

Saturation Present? Yes X No_____ Depth (inches) *

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes X No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/9/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 16, T34NR73W State: WY
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.638 Long: 42.937 Datum: NAD-83
Soil Map Unit Name: 187-Kishona-Cambria loams NWI classification na Sampling Point WL-17
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is a depression in a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Juncus balticus*	70	Y	OBL
2 *Taraxacum officinale*	5	N	FACU
3 *Equisetum laevigatum*	5	N	FAC
4 *Poa sp.*	5	N	
5			
6			
7			
8			
9			
10			
	85%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 15%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10 YR 4/1	50%	NA				sandy loam	Blended matrix
	10 YR 2/1	50%						
4-12"	10 YR 5/1		10 YR 6/8	<2%	C	M	sandy clay	Mottles: Coarse, few, prominent
			2.5 Y 2.5/1	15%	C	M		Mottles: Medium, common, prominent
								Oxidized root channels in 4-12"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
_X_Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____
Water Table Present? Yes____ No__X__ Depth (inches)_____
Saturation Present? Yes_X__ No_____ Depth (inches)___*_____
(includes capillary fringe)
* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/8/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury Section,Township,Range: Sec 16, 17, 20 & 21 T4NR73W State: WY
Landform (hillslope, terrace, etc.): Depression in channel Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.631 Long: 42.909 Datum: NAD-83
Soil Map Unit Name: 187-Kishona-Cambria loams, 189-Kishona-Cambria-Theedle loams, 251-Theedle-Kishona-Shingle loams
NWI classification na Sampling Point WL-18
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (20 wetlands, WL-18a through WL-18t) that are discontinuous depressions along the same channel. They range in size from 0.001 acres to 0.638 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Carex aquatilis*	65	Y	OBL
2 *Carex praegracilis*	5	N	FACW
3 *Juncus balticus*	5	N	OBL
4 *Equisetum arvense*	1	N	FAC
5 *Taraxacum officinale*	1	N	FACU
6			
7			
8			
9			
10			
	77%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 23%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	2.5Y 2.5/1		NA				Sandy silt loam w/ decomposing organics (black)	
4-8"	2.5Y 4/1		NA				Sandy silt loam w/ decomposing organics (black)	
8-16"	2.5Y 4/1		2.5Y 5/4	<2%	C	M	sandy loam	Mottles: Fine, few, distinct
			7.5YR 4/6	<2%	C	M		Mottles: Fine, few, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _X_Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes__X__ No_____ Depth (inches)____<1"____

Water Table Present? Yes__X__ No_____ Depth (inches)____14"____

Saturation Present? Yes__X__ No_____ Depth (inches)____*____

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/7/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury Section,Township,Range: Sec 12, T34N, R74W State: WY
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) concave Slope (%) 2%
Subregion (LRR): LRR H Lat: -105.64 Long: 42.935 Datum: NAD-83
Soil Map Unit Name: 189-Kishona-Cambria-Theedle loams NWI classification na Sampling Point WL-19
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No_____ (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No_____

Are Vegetation_____, Soil_____, or Hydology____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No_____
Hydric Soil Present? Yes X No_____ Is the Sampled Area
Wetland Hydrology Present? Yes X No_____ within a Wetland? Yes X No_____

Remarks:
This is a series of two wetlands (WL-19a and b) that are discontinuous depressions upgradient of a diked water body. They range in size from 0.03 acres to 0.07 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	15	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	15%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 85%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No_____

Remarks:

SOIL Sampling Point WL-19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-2"	2.5Y 3/2		7.5 YR 3/4	25%	C	M	sandy/silty loam	Mottles: Coarse, many, prominent Oxidized root channels in 0-2"
2-8"	5Y 2.5/1	50%	7.5YR 5/8	2%	C	M	sandy/silty loam	Mottles: Fine, few, prominent
	2.5Y 3/2	50%						Blended matrix. Oxidized root channels in 2-8"
8-16"	2.5Y 2.5/1	50%	10YR 4/6	15%	C	M	sandy/silty loam	Mottles: Fine, common, prominent
	2.5Y 4/1	50%						Blended matrix.

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____

Water Table Present? Yes_____ No__X__ Depth (inches)_____

Saturation Present? Yes__X__ No_____ Depth (inches)__*__

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 6/8/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury | Section,Township,Range: Sec 12, T34N, R74W | State: WY
Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none) concave | Slope (%) NA
Subregion (LRR): LRR H | Lat: -105.708 | Long: 42.935 | Datum: NAD-83
Soil Map Unit Name: 189-Kishona-Cambria-Theedle loams | NWI classification na | Sampling Point WL-20
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is an isolated, excavated depression adjacent to a windmill.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Typhus angustifolia*	50	Y	OBL
2 *Scirpus validus*	20	Y	OBL
3 *Eleocharis palustris*	3	N	OBL
4 *Alopecurus pratensis*	2	N	FACW
5			
6			
7			
8			
9			
10			
	75%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 25%

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	2.5Y 4 /1		10YR 4/6	2%	C	M	sandy/silty loam w/organics	Mottles: Fine, few, prominent Oxidized root channels in 0-4"
4-8"	10YR 3 /2		7.5YR 4/6	20%	C	M	sandy loam	Mottles: Fine to medium, many, prominent
8-16"	2.5Y 4 /2		10YR 4/6	20%	C	M	sandy loam	Mottles: Fine to medium, many, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No_____ Depth (inches)__4"_____

Water Table Present? Yes_____ No__X__ Depth (inches)_____

Saturation Present? Yes_X_ No_____ Depth (inches)__*_____

(includes capillary fringe)

Saturated to the surface.

Wetland Hydrology Present?

Yes__X__ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/7/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair Section,Township,Range: Sec 7, T34N, R73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.665 Long: 42.929 Datum: NAD-83
Soil Map Unit Name: 189-Kishona-Cambria-Theedle loams NWI classification na Sampling Point WL-21
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (10 wetlands, WL-21a through WL-21j) that are discontinuous depressions along the same channel. They range in size from 19 sf to 0.035 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	30	Y	OBL
2 *Agropyron smithii*	10	N	FACU
3 *Mustard sp.*	10	N	
4 *Unknown*	2	N	
5 *Thermopsis montana*	1	N	NL
6			
7			
8			
9			
10			
	53%	=Total Cover	
Woody Vine Stratum (Plot size:_____)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 47%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	2.5Y 4/1		7.5YR 4/6	25%	C	M	Sandy loam	Mottles: Fine, few, prominent
4-10"	10YR 4/2		7.5YR 4/6	25%	C	M	Sandy loam	Mottles: Fine to medium, many, prominent
10+"	10YR 4/3		7.5YR 4/6	25%	C	M	Sandy loam	Mottles: Fine to medium, many, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes_X_ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

_X_Surface Water (A1)
_X_Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No____ Depth (inches) 4 inches
Water Table Present? Yes____ No_X_ Depth (inches)_____
Saturation Present? Yes_X_ No____ Depth (inches)_*_
(includes capillary fringe)
* Saturated to the surface.

Wetland Hydrology Present?
Yes_X_ No____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/7/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 17, T34N R73W State: WY
Landform (hillslope, terrace, etc.): Diked drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.650 Long: 42.922 Datum: NAD-83
Soil Map Unit Name: 189-Kishona-Cambria-Theedle loams NWI classification PEMAh Sampling Point WL-22
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a wetland that has formed behind a dike in a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Hordeum jubatum*	40	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

% Bare Ground in Herb Stratum 60%

Remarks:

SOIL Sampling Point WL-22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10YR 4/2						Silty loam	Oxidized root channels present
4-8"	10YR 4/2		7.5YR 4/4	5%	C	M	Silty loam	Mottles: medium to coarse, common, distinct

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes___X____ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible on Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No__X__ Depth (inches) _____

Water Table Present? Yes_____No__X__ Depth (inches)_____

Saturation Present? Yes_____No__X__ Depth (inches) _____

(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/9/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair Section,Township,Range: Sec 17, T34N R73W State: WY
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.642 Long: 42.921 Datum: NAD-83
Soil Map Unit Name: 189-Kishona-Cambria-Theedle loams NWI classification na Sampling Point WL-23
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a wetland that has formed behind a dike in a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	30	Y	OBL
2 *Carex praegracilis*	10	Y	FACW
3 *Rotala ramosior*	5	N	NI
4 *Poa sp.*	5	N	
5			
6			
7			
8			
9			
10			
	50%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 50%

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-5"	10YR 4/1		7.5YR 5/8	25%	C	M	Sandy Silt loam	Mottles: fine, many, prominent
								Oxidized root channels present 0-5"
5-14"	10YR 4/2		7.5YR 5/8	<2%	C	M	Sandy loam	Mottles: fine, few, prominent
								Decomposed organic matter throughout profile

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible on Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes __X__ No___ Depth (inches) __1 inch*_____
Water Table Present? Yes_____ No__X__ Depth (inches)_____
Saturation Present? Yes__X__ No___ Depth (inches) _____
(includes capillary fringe)
*Small amount of ponded water present

Wetland Hydrology Present?
Yes__X__ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/8/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair Section,Township,Range: Sec 8, T34N, R73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) 2%
Subregion (LRR): LRR H Lat: -105.644 Long: 42.931 Datum: NAD-83
Soil Map Unit Name: 233-Shingle-Taluce-Badland Complex NWI classification na Sampling Point WL-24
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a depression in a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Carex praegracilis*	50	Y	OBL
2 *Poa sp-1*	15	N	
3 *Rosa woodsii*	10	N	FACU
4 *Thermopsis montana*	5	N	NL
5 *Poa sp-2*	1	N	
6			
7			
8			
9			
10			
	81%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 19%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-3"	10YR 4/2		5YR 4/6	<2%	C	M	Sandy silt loam	Mottles: Fine, few, prominent
3-7"	2.5Y 4+/2		7.5YR 5/8	<2%	C	M	Sandy silt loam w/ organics	Mottles: Fine, few, prominent
								Oxidized root channels
7-14"	5Y 5/2		7.5YR 5/8	<2%	C	M	Sandy silt loam with minor organics.	
								Mottles: Fine, few, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No_X_ Depth (inches)_____
Water Table Present? Yes____No__X__ Depth (inches)_____
Saturation Present? Yes____No__X__ Depth (inches)__*_____
(includes capillary fringe)

* Soil was moist to the surface.

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 6/11/08
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): K. LaClair | Section,Township,Range: Sec 20, T34N R73W | State: WY
Landform (hillslope, terrace, etc.): Depression in drainage | Local relief (concave, convex, none) concave | Slope (%) <2%
Subregion (LRR): LRR H | Lat: -105.648 | Long: 42.906 | Datum: NAD-83
Soil Map Unit Name: 263-Ustic Torriorthents, gullied | NWI classification na | Sampling Point WL-25
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of two intermittent wetlands (WL-25a and b) that are disconnected depressions along the same drainage. They range in size from 0.002 acres to 0.012 acres. Soil Unit 263 is listed as hydric by the NRCS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Juncus balticus*	60	Y	OBL
2 *Typha angustifolia*	5	N	OBL
3 *Melilotus sp.*	5	N	FACU-
4 *Poa compressa*	5	N	OBL
5 *Carex praegracilis*	2	N	FACW
6 *Bromus inermis*	2	N	NL
7 Unknown	1	N	
8			
9			
10			
	80%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 20%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-25

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture
0-3"	5Y 5/2	80%					Mucky mineral/sand
0-3"	Gley 1 2.5/5GY	20%					Blended matrix with very black organics
3-6"	5Y 5/2		7.5YR 6/8	<2%	C	M	Sand Mottles: few, fine, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- _X_Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- ___Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _X_Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- _X_Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes__X*__No___ Depth (inches) _____

Water Table Present? Yes_____No_X__ Depth (inches)_____

Saturation Present? Yes_____No_X__ Depth (inches) _____

(includes capillary fringe)

*Ponded water at mid-point of wetland

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/11/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 21, T34NR73W State: WY
Landform (hillslope, terrace, etc.): Diked drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.623 Long: 42.905 Datum: NAD-83
Soil Map Unit Name: 189-Kishona-Cambria-Theedle loams, 230-Shingle-Badland-Samdaya Complex
NWI classification PUSAh Sampling Point WL-26
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of disconnected wetlands along the same diked drainage (9 wetlands, WL-26a through WL-26i). They range in size from 0.002 acres to 0.487 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	49	Y	OBL
2 *Lappula redowskii*	10	N	NL
3 *Poa sp.*	1	N	
4			
5			
6			
7			
8			
9			
10			
	60%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

% Bare Ground in Herb Stratum 40%

Remarks:

SOIL Sampling Point WL-26

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-2"	7.5YR 4/1		7.5YR 4/6	<2%	C	M	silty loam	Mottles: Fine, few, prominent Oxidized root channels in 0-2"
2-8"	7.5YR 4/1		7.5YR 4/6	15%	C	M	silty clay loam	Mottles: Medium, common, prominent Oxidized root channels in 2-8"
8-14"	7.5YR 4/1		7.5YR 4/6	25%	C	M	silty clay loam	Mottles: Medium to coarse, many, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____

Water Table Present? Yes____ No__X__ Depth (inches)_____

Saturation Present? Yes__X__ No____ Depth (inches)__*__

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__ No____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 6/11/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): W. Stansbury | Section,Township,Range: Sec 21, T34NR73W | State: WY
Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none) concave | Slope (%) NA
Subregion (LRR): LRR H | Lat: -105.616 | Long: 42.907 | Datum: NAD-83
Soil Map Unit Name: 189-Kishona-Cambria-Theedle loams | NWI classification na | Sampling Point WL-27
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a series of two intermittent wetlands (WL-27a and WL-27b) that are discontinuous depressions along the same channel. They range in size from 0.034 acres to 0.059 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	40	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____ Prevalence Index is ≤ 3.0[1]
_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

% Bare Ground in Herb Stratum 60%

Remarks:

SOIL Sampling Point WL-27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-2"	5Y 5/1		NA				Silty clay loam	
2-14"	2.5Y 5/2		5Y 4/1	2%	C	M	Silty clay loam	Mottles: Fine, few, faint

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No__X__ Depth (inches)_____

Water Table Present? Yes ____ No__X__ Depth (inches)_____

Saturation Present? Yes_X__No_____ Depth (inches)____*_____

(includes capillary fringe)

* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 6/10/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): K. LaClair | Section,Township,Range: Sec 15, T34N R73W | State: WY
Landform (hillslope, terrace, etc.): Depression in drainage | Local relief (concave, convex, none) concave | Slope (%) 2%
Subregion (LRR): LRR H | Lat: -105.596 | Long: 42.924 | Datum: NAD-83
Soil Map Unit Name: 263-Ustic Torriorthents, gullied | NWI classification na | Sampling Point WL-28
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a depression in a drainage. Soil Unit 263 is listed as hydric by the NRCS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	30	Y	OBL
2 *Agropyron smithii*	8	N	FACU
3 *Poa sp.*	2	N	
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10YR 4/2		10YR 5/8	<2%	C	M	Sandy loam	Mottles: Fine, few, prominent
3-14"	10YR 4/2		7.5YR 5/8	<2%	C	M	Sandy loam	Mottles: Fine, few, prominent
								Oxidized root channels 0-14"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____
Depth (inches) :_____

Hydric Soil Present? Yes_X_ No_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____ No_X_ Depth (inches)_____
Water Table Present? Yes_____ No_X_ Depth (inches)_____
Saturation Present? (includes capillary fringe) Yes_____ No_X_ Depth (inches)_*_____

* Soil was moist at 14".

Wetland Hydrology Present?

Yes_X_ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/12/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 22, T34NR73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.599 Long: 42.904 Datum: NAD-83
Soil Map Unit Name: 152-Forkwood-Cambria loams, 187-Kishona-Cambria loams, 189-Kishona-Cambria-Theedle loams,
NWI classification PUSAh Sampling Point WL-29
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (30 wetlands, WL-29a through WL-29dd) that are discontinuous depressions along the same channel. They range in size from 0.001acres to 0.127 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	40	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-29

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-14"	2.5Y 5/1		7.5YR 5/6	15%	C	M	Silty clay loam	Mottles: Fine, common, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

_X_Surface Water (A1)
_X_Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No____ Depth (inches)__6 inches__
Water Table Present? Yes____ No_X_ Depth (inches)_____
Saturation Present? Yes_X_ No____ Depth (inches)__*__
(includes capillary fringe)
* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 6/11/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): K. LaClair | Section,Township,Range: Sec 22, T34N R73W | State: WY
Landform (hillslope, terrace, etc.): Depression in drainage | Local relief (concave, convex, none) concave | Slope (%) <2%
Subregion (LRR): LRR H | Lat: -105.601 | Long: 42.900 | Datum: NAD-83
Soil Map Unit Name: 152-Forkwood-Cambria loams | NWI classification na | Sampling Point WL-30
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (4 wetlands, WL-30a through WL-30d) that are disconnected depressions along the same drainage. They range in size from 0.002 acres to 0.007 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	40	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-30

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	2.5Y 4/2		10YR 4/6	<2%	C	M	Loam	Mottles: Medium, few, prominent
4-14"	2.5Y 4/2						Sandy silt loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____
Depth (inches) :_____

Hydric Soil Present? Yes__X__ No_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
_X_Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
_X_FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____
Water Table Present? Yes_____No__X__ Depth (inches)_____
Saturation Present? Yes ____ No__X__ Depth (inches)___ _____
(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/11/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 22, T34NR73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.595 Long: 42.901 Datum: NAD-83
Soil Map Unit Name: 152-Forkwood-Cambria loams, 189-Kishona-Cambria-Theedle loams, 251-Theedle-Kishona-Shingle loams
NWI classification PEMA Sampling Point WL-31
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (25 wetlands, WL-31a through WL-31y) that are discontinuous depressions along the same channel. They range in size from 0.001acres to 0.289 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	40	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-31

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture
0-4"	2.5Y 4/1		2.5Y 5/3	<2%	C	M	Sandy loam Mottles: Fine, few, distinct
4-14"	2.5Y 5/2		7.5YR 5/6	<2%	C	M	Sandy loam Mottles: Fine, few, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

_X_Surface Water (A1)
_X_Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No_____ Depth (inches)__4 inches_
Water Table Present? Yes_____ No_X_ Depth (inches)_____
Saturation Present? Yes_X_ No_____ Depth (inches)__*_____
(includes capillary fringe)
* Saturated to the surface.

Wetland Hydrology Present?
Yes__X__ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/12/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 22 & 23, T34N R73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) 2%
Subregion (LRR): LRR H Lat: -105.594 Long: 42.902 Datum: NAD-83
Soil Map Unit Name: 251-Theedle-Kishona-Shingle loams NWI classification na Sampling Point WL-32
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (WL-32a through WL-32d) that are discontinuous depressions along the same channel. They range in size from 0.002 acres to 0.053 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	40	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-32

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-1"	2.5Y 6/1		10YR 5/4	<2%	C	M	Silty loam	Mottles: Medium, few, prominent
1-6"	2.5Y 6/1		10YR 5/4	15%	C	M	Silty clay loam w/sand	Mottles: Medium, common, prominent
6-14"	2.5Y 5/1	50%	10YR 5/4	<2%	C	M	Silty loam w/sand	Mottles: Medium, few, faint
	2.5Y 5/2	50%						Blended Matrix

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

_X_Surface Water (A1)
_X_Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No_____ Depth (inches)__6 inches__
Water Table Present? Yes_____ No_X_ Depth (inches)_____
Saturation Present? Yes_X_ No_____ Depth (inches)__*__
(includes capillary fringe)
* Saturated to the surface.

Wetland Hydrology Present?
Yes_X_ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/8/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair Section,Township,Range: Sec 23, T34N R73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.592 Long: 42.902 Datum: NAD-83
Soil Map Unit Name: 152-Forkwood-Cambria loams, 189-Kishona-Cambria-Theedle loams, 251-Theedle-Kishona-Shingle loams
NWI classification na Sampling Point WL-33
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (5 wetlands, WL-33a through WL-33e) that are disconnected depressions along the same drainage. They range in size from 0.002 acres to 0.185 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Juncus effusus*	20	Y	OBL
2 *Carex praegracilis*	20	Y	FACW
3 *Distichlis stricta* (syn. *D. spicata*)*	20	Y	FAC+
4 *Hordeum jubatum*	5	N	FACW
5 *Poa sp.*	5	N	
6 *Triglochin concinnum*	1	N	OBL
7 *Equisetum laevigatum*	1	N	FAC
8 *Sporobolis airoides*	1	N	FAC
9 *Plantago maritima*	1	N	NL
10 *Muhlenbergia asperifolia*	1	N	FACW
	75%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 25%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 % (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present ? **Yes**

Remarks:
* Distichlis spicata has an indicator status of NI in Region 4 therefore the indicator status of FAC+ in adjacent Region 9 was used.

(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	Gley 1 2.5/10Y		5Y4/4	<2%	C	M	Loam with inclusions of black organic matter, peat, sand, & small calcareous concretions inconsistently within 0-4".	
4-8"	2.5Y 3/2		5YR 4/6	5%	C	M	Silt loam	Mottles: fine, common, prominent
			5YR 4/8	5%	C	M		Mottles: fine, common, prominent
				5%	C	M		fine calcium concretions
8-12"	2.5Y 5/2		5YR 3/4	<2%	C	M	Sandy loam	Mottles: coarse, few, distinct
	Gley 1 6/10Y			2%	D	M		
	Gley 1 5/10Y			2%	D	M		
	Gley 1 2.5/N			2%	C	M		large manganese concretions

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
___Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
_X_Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____
Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____No__X Depth (inches) _____
Water Table Present? Yes_____No__X_ Depth (inches)_____
Saturation Present? Yes_____No__X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present?
Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 8/8/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): W. Stansbury | Section,Township,Range: Sec 23, T34N, R73W | State: WY
Landform (hillslope, terrace, etc.): Depression in drainage | Local relief (concave, convex, none) concave | Slope (%) <2%
Subregion (LRR): LRR H | Lat: -105.578 | Long: 42.898 | Datum: NAD-83
Soil Map Unit Name: 251-Theedle-Kishona-Shingle loams, 263-Ustic Torriorthents, gullied
NWI classification na | Sampling Point WL-34
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (WL-34a through WL-34d) that are disconnected depressions along the same drainage. They range in size from 0.006 acres to 0.612 acres. Soil Unit 263 is listed as hydric by the NRCS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Scirpus americanus*	40	Y	OBL
2 *Hordeum jubatum*	5	N	FACW
3 *Carex nebrascensis*	5	N	OBL
4			
5			
6			
7			
8			
9			
10			
	50%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

% Bare Ground in Herb Stratum 50%

Remarks:

SOIL Sampling Point WL-34

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10YR 5/1						Sand	Many roots
4-12"	10YR 4/1		7.5Y 5/6	15%	C	M	Sandy loam	Mottles: medium, common, prominent
								Oxidized root channels in 4-12"
								Black organic material streaked through 4-12"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
____Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____
Water Table Present? Yes_____No__X__ Depth (inches)_____
Saturation Present? Yes ____ No__X__ Depth (inches)_____
(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 6/4/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury | Section,Township,Range: Sec 14, T34NR73W | State: WY
Landform (hillslope, terrace, etc.): Depression in drainage | Local relief (concave, convex, none) concave | Slope (%) 5%
Subregion (LRR): LRR H | Lat: -105.579 | Long: 42.923 | Datum: NAD-83
Soil Map Unit Name: 187-Kishona-Cambria loams | NWI classification na | Sampling Point WL-35
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (5 wetlands, WL-35a through WL-35e) that are discontinuous depressions along the same channel. They range in size from 0.001 acres to 0.042 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	10	Y	OBL
2 *Lappula redowskii*	5	Y	NL
3			
4			
5			
6			
7			
8			
9			
10			
	15%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 85%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL Sampling Point WL-35

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-12"	10YR 4 /2		5YR 4/4	2%	C	M	Sandy clay	Mottles: Fine, few, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _X_Surface Water (A1)
- _X_Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes__X__ No_____ Depth (inches)___8_____

Water Table Present? Yes_____No__X__ Depth (inches)_____

Saturation Present? (includes capillary fringe) Yes____No__X__ Depth (inches)_____

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area | Sampling Date: 6/10/2008
Applicant/Owner: Uranium One | City/County: Converse County
Investigator(s): W. Stansbury | Section,Township,Range: Sec 14, T34N R73W | State: WY
Landform (hillslope, terrace, etc.): Depression in drainage | Local relief (concave, convex, none) concave | Slope (%) NA
Subregion (LRR): LRR H | Lat: -105.584 | Long: 42.912 | Datum: NAD-83
Soil Map Unit Name: 263-Ustic Torriorthents, gullied | NWI classification na | Sampling Point WL-36
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No_____ (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No_____

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No_____
Hydric Soil Present? Yes X No_____ Is the Sampled Area
Wetland Hydrology Present? Yes X No_____ within a Wetland? Yes X No_____

Remarks:
This is a series of two intermittent wetlands (WL-36a and WL-36b) that are discontinuous depressions along the same channel. They range in size from 0.002 acres to 0.005 acres. Soil Unit 263 is listed as hydric by the NRCS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	25	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	25%	=Total Cover	
Woody Vine Stratum (Plot size:_____)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 75%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No_____

Remarks:

SOIL Sampling Point WL-36

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-12"	2.5Y 5/2		7.5YR 5/6	25%	C	M	silty loam	Mottles: Fine, many, prominent
			10YR 2/1	<2%	C	M		Mottles: Medium, few, prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

_X_Surface Water (A1)
_X_Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes __X__ No___ Depth (inches)__<1 inch__
Water Table Present? Yes ___ No___ Depth (inches)_____
Saturation Present? Yes_X_ No___ Depth (inches)___*_____
(includes capillary fringe)
* Saturated to the surface.

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/7/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 14, 23, 25, 26, 36, T34N, R73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.579 Long: 42.911 Datum: NAD-83
Soil Map Unit Name: 127-Clarkelen-Draknab complex, 129-Clarkelen-Haverdad-Bigwinder complex, 172-Hiland-Bowbac fine sandy loams, 187-Kishona-Cambria loams, 189-Kishona-Cambria-Theedle loams, 251-Theedle-Kishona-Shingle loams, 263-Ustic Torriorthents, gullied
NWI classification PEMF/PEMC Sampling Point WL-37
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (30 wetlands, WL-37a through WL-37dd) that are disconnected depressions along Sage Creek. They range in size from 0.001 acres to 6.532 acres. Soil Units 129 and 263 are listed as hydric by the NRCS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Hordeum jubatum*	19	Y	FACW
2 *Scirpus americanus*	2	N	OBL
3 *Eleocharis palustris*	2	N	OBL
4 *Muhlenbergia asperifolia*	1	N	FACW
5 *Taraxacum officinale*	1	N	FACU
6			
7			
8			
9			
10			
	25%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 75%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____ Prevalence Index is ≤ 3.0[1]
_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-37

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-4"	10YR 2/1	70%	7.5YR 5/6	<2%	C	M	Silty clay	Mottles: fine, few, prominent
0-4"	5Y 5/1	30%					Blended matrix. Oxidized root channels in 0-4"	
4-16"	5Y 4/1		7.5YR 5/8	15%	C	M	Sandy loam	Mottles: coarse, common, prominent
								Oxidized root channels in 4-12"
								Black steaks of organics in 4-12"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
_X_Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No__X__ Depth (inches)_____
Water Table Present? Yes_____No__X__ Depth (inches)_____
Saturation Present? (includes capillary fringe) Yes ____ No__X__ Depth (inches)_____

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/3/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury Section,Township,Range: Sec 36, T34N R73W State: WY
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none) concave Slope (%) 17%
Subregion (LRR): LRR H Lat: -105.562 Long: 42.876 Datum: NAD-83
Soil Map Unit Name: 127-Clarkelen-Draknab complex NWI classification PEMC Sampling Point WL-38
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a slope wetland with a depressional component.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Carex aquatilis*	45	Y	OBL
2 *Eleocharis palustris*	20	Y	OBL
3 *Equisetum arvense*	4	N	FAC
4 *Potentilla anserina*	4	N	OBL
5 *Mentha arvensis*	2	N	FACW
6 *Scirpus americanus*	1	N	OBL
7			
8			
9			
10			
	76%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 24%

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-38

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-5"	10YR 2 /1		5YR 4/6	<2%	C	M	Mucky Peat	Mottles: Fine to medium, few, prominent
5-13"	2.5YR 4/1		NA				Mucky Sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
_X_Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
_X_5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (s6)
___Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes_X_ No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

_X_Surface Water (A1)
_X_Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
_X_Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_X_ No_____ Depth (inches)_<1"_____
Water Table Present? Yes_X_ No_____ Depth (inches)_13"_____
Saturation Present? Yes_X_ No_____ Depth (inches)_*_____
(includes capillary fringe)

* Saturated to the surface with some areas of surface water. Standing water in pit at depth of 13".

Wetland Hydrology Present?

Yes_X_ No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/3/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury Section,Township,Range: Sec 36, T34N R73W State: WY
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none) concave Slope (%) 17%
Subregion (LRR): LRR H Lat: -105.563 Long: 42.876 Datum: NAD-83
Soil Map Unit Name: 127-Clarkelen Draknab complex , 251-Theedle-Kishona-Shingle loams
NWI classification na Sampling Point WL-39
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a slope wetland with a depressional component.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Scirpus validus*	40	Y	OBL
2 *Eleocharis palustris*	40	Y	OBL
3 *Carex lanuginosa*	5	N	OBL
4 *Potentilla anserina*	3	N	OBL
5 *Carex acuatilis*	1	N	OBL
6 *Mentha arvensis*	1	N	FACW
7			
8			
9			
10			
	90%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 10%

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-39

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture
0-6"	10YR 2 /1		NA				Peat
6-20"	2.5Y 3/2		NA				Mucky Peat
20+"	2.5Y 4/2		NA				Peaty clay

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- X Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (s6)
- ___Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____

Depth (inches) :_____

Hydric Soil Present? Yes X No_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes X No_____ Depth (inches) <1"

Water Table Present? Yes X No_____ Depth (inches) 8"

Saturation Present? Yes X No_____ Depth (inches) *

(includes capillary fringe)

* Saturated to the surface with some areas of surface water. Standing water in pit at depth of 8".

Wetland Hydrology Present?

Yes X No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 6/3/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair, W. Stansbury Section,Township,Range: Sec 36, T34N R73W State: WY
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none) concave Slope (%) 17%
Subregion (LRR): LRR H Lat: -105.561 Long: 42.873 Datum: NAD-83
Soil Map Unit Name: 127-Clarkelen Draknab complex NWI classification PEMF Sampling Point WL-40
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is a slope wetland with a depressional component.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Potentilla anserina*	40	Y	OBL
2 *Carex aquatilis*	40	Y	OBL
3 *Eleocharis palustris*	5	N	OBL
4 *Scirpus americanus*	1	N	OBL
5 *Equisetum laevigatum*	1	N	FAC
6			
7			
8			
9			
10			
	87%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 13%

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks: *Typhus angustifolia* is present in adjacent ponded area.

SOIL Sampling Point WL-40

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-2"	7.5YR 2.5/1		7.5YR 4/6	<2%	C	M	Mucky Mineral	Mottles: fine, common & prominent
2-10"	7.5YR 3/1						Silt Loam with decomposing organics	
2-10"			2.5YR 4/6	10%	C	M		Mottles: fine to med., common & prominent
10+"	5Y 5/1		7.5YR 4/6	10%	C	M	Sand	Mottles: fine to med., common & prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (s6)
- X Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes X No_____

Depth (inches) :_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes X No_____ Depth (inches) <1"

Water Table Present? Yes X No_____ Depth (inches) 10"

Saturation Present? Yes X No_____ Depth (inches) *

(includes capillary fringe)

* Saturated to the surface with some areas of surface water. Standing water in pit at depth of 10".

Wetland Hydrology Present?

Yes X No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/6/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 19 & 30, T34N, R72W State: WY
Landform (hillslope, terrace, etc.): diked drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.552 Long: 42.895 Datum: NAD-83
Soil Map Unit Name: 172-Hiland-Bowbac fine sandy loams, 258-Ulm-Forkwood loams
NWI classification L2ABFh Sampling Point WL-41
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (WL-41a through WL-41f) that are disconnected depressions along the same drainage that lead to Gilbert Lake (WL-41f). Gilbert Lake is a diked drainage. They range in size from 0.001 acres to 16.011 acres.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	44	Y	OBL
2 *Lappula redowskii*	5	N	NL
3 *Hordeum jubatum*	1	N	FACW
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiple by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL Sampling Point WL-41

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-5"	2.5Y 5/1		7.5YR 5/8	2%	C	M	Sandy loam	Mottles: fine, common, prominent
5-12"	2.5Y 5/2		7.5YR 5/8	40%	C	M	Sandy loam	Mottles: medium to coarse, many, prominent
								Oxidized root channels in 0-5"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5) (LRR F)
___1 cm Muck (A9) (LRR F, G, H)
___Depleted Below Dark Surface (A12)
___Thick Dark Surface (A12)
_X_Sandy Mucky Mineral (S1)
___2.5 Mucky Peat or Peat (S2) (LRR G,H)
___5 cm Mucky Peat or Peat (S3) (LRR F)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Striped Matrix (S6)
___Loamy Mucky Mineral (F1)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

___1 cm Muck (A9) (LRR I, J)
___Coast Prairie Redox (A16) (LRR F, G, H)
___Dark Surface (S7) (LRR G)
___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
___Reduced Vertic (F18)
___Red Parent Material (TF2)
___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes_X_ No_____

Depth (inches):_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___Surface Water (A1)
___Saturation (A3)
___Water Marks (B1)
___Sediment Deposits (B2)
___Drift Deposits (B3)
___Algal Mat or Crust (B4)
___Iron Deposits (B5)
___Inundation Visible on Aerial Imagery (B7)
___Water-Stained Leave (B9)
___Salt Crust (B11)
___Hydrogen Sulfide Odor (C1)
___Dry Season Water Table (C2)
_X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
___Presence of Reduced Iron (C4)
___Thin Muck Surface (C7)
___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___Sparsely Vegetated Concave Surface (B8)
___Drainage Patterns (B10)
___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
___Crayfish Burrows (C8)
___Saturation Visible of Aerial Imagery (C9)
___Geomorphic Position (D2)
___FAC-Neutral Test (D5)
___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _X_ No_____ Depth (inches)__4 inches__
Water Table Present? Yes_____No_X_ Depth (inches)_____
Saturation Present? Yes _____ No_X_ Depth (inches)_____
(includes capillary fringe)

Wetland Hydrology Present?

Yes_X_No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/6/2008
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): W. Stansbury Section,Township,Range: Sec 19, T34N, R72W State: WY
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.555 Long: 42.899 Datum: NAD-83
Soil Map Unit Name: 258-Ulm-Forkwood loams NWI classification PUSC Sampling Point WL-42
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation_____, Soil_____, or Hydology_____ significantly disturbed? Yes_____ No X
Are Vegetation_____, Soil_____, or Hydrology_____naturally problematic? Yes_____ No X
(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 X No
Hydric Soil Present? Yes X No Is the Sampled Area
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No

Remarks:
This is an isolated depression in rolling rangeland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	34	Y	OBL
2 *Ambrosia tomentosa*	5	N	NL
3 *Hordeum jubatum*	1	N	FACW
4			
5			
6			
7			
8			
9			
10			
	40%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

% Bare Ground in Herb Stratum 60%

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
_____Prevalence Index is ≤ 3.0[1]
_____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
_____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

Remarks:

SOIL

Sampling Point WL-42

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture
0-8"	2.5Y 5/1						Clay loam

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____

Depth (inches) :_____

Hydric Soil Present? Yes__X__ No_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- ___Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- _X_Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible of Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____No__X__Depth (inches)__ _____

Water Table Present? Yes_____No__X__ Depth (inches)_____

Saturation Present? Yes _____ No__X__ Depth (inches)___ _____

(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Ludeman License Area Sampling Date: 8/7/08
Applicant/Owner: Uranium One City/County: Converse County
Investigator(s): K. LaClair Section,Township,Range: Sec 23 & 26, T34N, R73W State: WY
Landform (hillslope, terrace, etc.): Depression in drainage Local relief (concave, convex, none) concave Slope (%) <2%
Subregion (LRR): LRR H Lat: -105.592 Long: 42.888 Datum: NAD-83
Soil Map Unit Name: 251-Theedle-Kishona-Shingle loams, 263-Ustic Torriorthents, gullied
NWI classification PUSCh Sampling Point WL-43
Are climate/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are "Normal Circumstances" present? Yes X No

Are Vegetation____, Soil____, or Hydology____ significantly disturbed? Yes____ No X
Are Vegetation____, Soil____, or Hydrology____naturally problematic? Yes____ No X
(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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
This is a string of intermittent wetlands (WL-43a through WL-43d) that are disconnected depressions within the same drainage. They range in size from 0.001 acres to 0.125 acres. Soil Unit 263 is listed as hydric by the NRCS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute %Cover	Dominate Species?	Indicator Status
1			
2			
3			
4			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1			
2			
3			
4			
5			
		=Total Cover	
Herb Stratum (Plot size: 20sf)			
1 *Eleocharis palustris*	13	Y	OBL
1 *Ambrosia tomentosa*	10	Y	NL
2 *Hordeum jubatum*	10	Y	FACW
4 *Agropyron smithii*	1	N	FACU
5 *Poa compressa*	1	N	FACU
6			
7			
8			
9			
10			
	35%	=Total Cover	
Woody Vine Stratum (Plot size:)			
1			
2			
		=Total Cover	

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: 2 (B)

Percent of Dominant Species That are OBL,FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
____Prevalence Index is ≤ 3.0[1]
____Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?
Yes X No

% Bare Ground in Herb Stratum 65%

Remarks:

SOIL Sampling Point WL-43

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	
0-6"	10YR 4/2		7.5YR 5/8	<2%	C	M	Silty loam	Mottles: fine, few, prominent oXidized root channels in 0-6"

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___Histosol (A1)
- ___Histic Epipedon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5) (LRR F)
- ___1 cm Muck (A9) (LRR F, G, H)
- ___Depleted Below Dark Surface (A12)
- ___Thick Dark Surface (A12)
- ___Sandy Mucky Mineral (S1)
- ___2.5 Mucky Peat or Peat (S2) (LRR G,H)
- ___5 cm Mucky Peat or Peat (S3) (LRR F)
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Striped Matrix (S6)
- _X_Loamy Mucky Mineral (F1)
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___1 cm Muck (A9) (LRR I, J)
- ___Coast Prairie Redox (A16) (LRR F, G, H)
- ___Dark Surface (S7) (LRR G)
- ___High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___Reduced Vertic (F18)
- ___Red Parent Material (TF2)
- ___Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type:_____ Hydric Soil Present? Yes__X__ No_____

Depth (inches) :_____

Remarks:

Soils were dry and hard; unable to dig past 6 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___Surface Water (A1)
- ___Saturation (A3)
- ___Water Marks (B1)
- ___Sediment Deposits (B2)
- ___Drift Deposits (B3)
- ___Algal Mat or Crust (B4)
- ___Iron Deposits (B5)
- ___Inundation Visible on Aerial Imagery (B7)
- ___Water-Stained Leave (B9)
- ___Salt Crust (B11)
- ___Hydrogen Sulfide Odor (C1)
- ___Dry Season Water Table (C2)
- _X_Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___Presence of Reduced Iron (C4)
- ___Thin Muck Surface (C7)
- ___Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___Sparsely Vegetated Concave Surface (B8)
- ___Drainage Patterns (B10)
- ___Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___Crayfish Burrows (C8)
- ___Saturation Visible on Aerial Imagery (C9)
- ___Geomorphic Position (D2)
- ___FAC-Neutral Test (D5)
- ___Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes_____No__X__ Depth (inches) _____

Water Table Present? Yes_____No__X__ Depth (inches)_____

Saturation Present? Yes_____No__X__ Depth (inches) _____

(includes capillary fringe)

Wetland Hydrology Present?

Yes__X__No_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ADDENDUM 2.8-K

WILDLIFE SPECIES LIST

Table 2.8-20: BLM Vertebrate Sensitive Species List[1] for the Ludeman Uranium Project

Common Name *(scientific name)*	Primary Nesting Habitat(s)	Observed in Ludeman Permit Area	Observed in Ludeman Survey Area[2]
Mammals			
Long-eared Myotis *(Myotis evotis)*	Conifer and deciduous forest, caves and mines	No	No
Fringed Myotis *(Myotis thysanodes)*	Conifer forests, woodland chaparral, caves and mines	No	No
Spotted Bat *(Euderma maculatum)*	Cliffs over perennial water, basin-prairie shrub	No	No
Townsend's Big-eared Bat *(Corynorhinus townsendii)*	Forests, basin-prairie shrub, caves and mines	No	No
White-tailed Prairie Dog *(Cynomys leucurus)*	Basin-prairie shrub, grasslands	No	No
Black-tailed Prairie Dog *(Cynomys ludovicianus)*	Short-grass/mid-grass grasslands	Yes	Yes
Swift Fox *(Vulpes velox)*	Grasslands	No	Yes (road mortality)
Birds			
White-faced Ibis *(Plegadis chihi)*	Marshes, wet meadows	No	No
Trumpeter Swan *(Cygnus buccinator)*	Lakes, ponds, rivers	No	No
Bald Eagle *(Haliaeetus leucocephalus)*	Riparian	No	Yes
Northern Goshawk *(Accipiter gentilis)*	Conifer and deciduous forests	No	No
Ferruginous Hawk *(Buteo regalis)*	Basin-prairie shrub, grasslands, rock outcrops	Yes	Yes
Peregrine falcon *(Falco peregrinus)*	Tall cliffs	No	No
Greater Sage-grouse *(Centrocercus urophasianus)*	Basin-prairie shrub, mountain-foothill shrub	Yes	No
Long-billed Curlew *(Numenius americanus)*	Grasslands, plains, foothills, wet meadows	No	No
Mountain Plover *(Charadrius montanus)*	Short-grass/mid-grass grasslands, basin-prairie shrubs	No	No

Table 2.8-20: Continued

Common Name *(scientific name)*	Primary Nesting Habitat(s)	Observed in Ludeman Permit Area	Observed in Ludeman Survey Area
Birds - Continued			
Yellow-billed Cuckoo *(Coccyzus americanus)*	Open woodlands, streamside willow and alder groves	No	No
Sage Thrasher *(Oreoscoptes montanus)*	Basin-prairie shrub, mountain-foothill shrub	No	No
Loggerhead Shrike *(Lanius ludovicianus)*	Basin-prairie shrub, mountain-foothill shrub	Yes	Yes
Brewer's Sparrow *(Spizella breweri)*	Basin-prairie shrub	No	No
Sage Sparrow *(Amphispiza billneata)*	Basin-prairie shrub, mountain-foothill shrub	No	No
Baird's Sparrow *(Ammodramus bairdii)*	Grasslands, weedy fields	No	No
Amphibians			
Northern Leopard Frog *(Rana pipiens)*	Beaver ponds, permanent water in plains and foothills	No	No

[1] List for Casper Field Office obtained from BLM website (September 2002) with update from BLM biologists (June 2008).
[2] Survey Area = 1 mile beyond the Permit Area for raptors and grouse; ½-mile for other species.
* Observations during wildlife surveys conducted between February and September 2008.

Table 2.8-21: USFWS Migratory Bird Species of Management Concern (Non-coal) for the Ludeman Uranium Project

Common Name[1] *(scientific name)*	Primary Nesting Habitat(s)	Occurrence[2] in Ludeman Permit Area	Occurrence in Ludeman Survey Area[3]
Level I Species – Conservation Action Needed			
Mountain Plover *(Charadrius montanus)*	Short-grass prairie, shrub-steppe	Not observed	Not observed
Trumpeter Swan *(Cygnus buccinator)*	Wetlands	Not observed	Not observed
Greater Sage-grouse *(Centrocercus urophasianus)*	Shrub-steppe	Observed[4]	Not observed
McCown's Longspur *(Calcarius mccownii)*	Short-grass prairie, shrub-steppe	Not observed	Not observed
Baird's Sparrow *(Ammodramus bairdii)*	Short-grass prairie	Not observed	Not observed
Ferruginous Hawk *(Buteo regalis)*	Shrub-steppe, grasslands	Observed, breeder	Observed
Brewer's Sparrow *(Spizella breweri)*	Shrub-steppe, montane shrublands	Not observed	Not observed
Wilson's Phalarope *(Phalaropus tricolor)*	Wetlands	Not observed	Not observed
Franklin's Gull *(Larus pipixcan)*	Wetlands	Not observed	Not observed
Sage Sparrow *(Amphispiza belli)*	Shrub-steppe, montane shrublands	Not observed	Not observed
Swainson's Hawk *(Buteo swainsoni)*	Plains/Basin riparian, grasslands	Observed	Not observed
Long-billed Curlew *(Numenius americanus)*	Short-grass prairie	Not observed	Not observed
Short-eared Owl *(Asio flammeus)*	Short-grass prairie, shrub-steppe	Observed	Not observed
Northern Goshawk *(Accipiter gentiles)*	Conifer, aspen	Not observed	Not observed
Peregrine Falcon *(Falco peregrinus)*	Cliffs	Not observed	Not observed
Burrowing Owl *(Athene cunicularia)*	Grasslands, shrub-steppe	Observed	Not observed
Forster's Tern *(Sterna forsteri)*	Wetlands	Not observed	Not observed
Bald Eagle *(Haliaeetus leucocephalus)*	Riparian	Not observed	Observed
Upland Sandpiper *(Bartramia longicauda)*	Short-grass prairie, shrub-steppe	Not observed	Not observed

Table 2.8-21: Continued

Common Name[1] *(scientific name)*	Primary Nesting Habitat(s)	Occurrence[2] in Ludeman Permit Area	Occurrence in Ludeman Survey Area[3]
Level I Species – Continued			
Black Tern *(Chlidonia niger)*	Wetlands	Not observed	Not observed
Whooping Crane *(Grus americana)*	Wetlands	Not observed	Not observed
Piping Plover *(Charadrius melodus)*	Wetlands, aquatic	Not observed	Not observed
Level II Species – Continued Monitoring Recommended			
Calliope Humming bird *(Stellula calliope)*	Mid-elevation conifers, montane riparian	Not observed	Not observed
Lewis Woodpecker *(Melanerpes lewis)*	Low elevation conifer, plains/basin riparian	Not observed	Not observed
Cassin's Kingbird *(Tyrannus vociferans)*	Juniper Woodland Plain/basin riparian	Not observed	Not observed
Lark Bunting *(Calamospiza melanocorys)*	Shortgrass prairie, shrub steppe	Observed, presumed breeder	Observed
American White Pelican *(Pelecanus erythrorhynchos)*	Aquatic-rivers, lakes, ponds	Not observed	Not observed
William's Sapsucker *(Sphyrapicus thyroideus)*	Mid-elevation conifer	Not observed	Not observed
Black-backed Woodpecker *(Picoides arcticus)*	Mid-elevation conifer, High elevation conifer	Not observed	Not observed
Gray Flycatcher *(Empidonax wrightii)*	Juniper woodland, mountain-foothills shrub	Not observed	Not observed
Juniper Titmouse *(Baeolophus ridgwayi)*	Juniper woodlands	Not observed	Not observed
Dickcissel *(Spiza americana)*	Shortgrass prairie	Not observed	Not observed
Chestnut-collared Longspur *(Calcarius ornatus)*	Shortgrass prairie	Not observed	Not observed
Harlequin Duck *(Histrionicus histrionicus)*	Montane riparian	Not observed	Not observed
Snowy Plover *(Charadrius alexandrinus)*	Wetlands	Not observed	Not observed
Black-chinned Hummingbird *(Archilochus alexandri)*	Plains/basin riparian, shrub-steppe	Not observed	Not observed
Rufous Hummingbird *(Selasphorus rufus)*	Mid-elevation conifer	Not observed	Not observed

Table 2.8-21: Continued

Common Name[1] *(scientific name)*	Primary Nesting Habitat(s)	Occurrence[2] in Ludeman Permit Area	Occurrence in Ludeman Survey Area[3]
Level II Species – Continued			
Red-naped Sapsucker *(Sphyrapicus nuchalis)*	Aspen	Not observed	Not observed
American Three-toed Woodpecker *(Picoides dorsalis)*	Mid-elevation conifer, high elevation conifer	Not observed	Not observed
Willow Flycatcher *(Empidonax traillii)*	Montane riparian Plains/basin riparian	Not observed	Not observed
Hammond's Flycatcher *(Epidonax hammondii)*	Higher-elevation confer with aspen, montane riparian	Not observed	Not observed
Codilleran Flycatcher *(Empidonax occidentalis)*	Montane riparian, mid-elevation conifer	Not observed	Not observed
Pygmy Nuthatch *(Sitta pygmaea)*	Low-elevation conifer	Not observed	Not observed
Marsh Wren *(Cistothorus palustris)*	Wetlands	Not observed	Not observed
American Dipper *(Cinclus mexicanus)*	Montane riparian	Not observed	Not observed
Plumbeous Vireo *(Vireo plumbeus)*	Mid-elevation conifer, low-elevation conifer	Not observed	Not observed
Townsend's Warbler *(Dendroica townsendii)*	High-elevation conifer, mid-elevation conifer	Not observed	Not observed
Dusky Flycatcher *(Empidonax oberholseri)*	Low-elevation conifer, aspen, mountain-foothills shrub	Not observed	Not observed
Western Bluebird *(Sialia mexicana)*	Juniper woodlands, low-elevation conifer	Not observed	Not observed
Sage Thrasher *(Oreoscoptes montanus)*	Shrub-steppe	Not observed	Not observed
Grasshopper Sparrow *(Ammodramus savannarum)*	Short-grass prairie, shrub-steppe	Not observed	Observed
Bobolink *(Dolichonyx oryzivorus)*	Short-grass prairie, shrub-steppe	Not observed	Not observed
Common Loon *(Gavia immer)*	Lakes, wetlands	Not observed	Not observed
Black-billed Cuckoo *(Coccyzus erythropthalmus)*	Plains/basin riparian	Not observed	Not observed

Table 2.8-21: Continued

Common Name[1] *(scientific name)*	Primary Nesting Habitat(s)	Occurrence[2] in Ludeman Permit Area	Occurrence in Ludeman Survey Area[3]
Level II Species – Continued			
Red-headed Woodpecker *(Melanerpes erythrocephalus)*	Plains/basin riparian, low-elevation conifer	Not observed	Not observed
Yellow-billed Cuckoo *(Coccyzus americanus)*	Plains/basin riparian	Not observed	Not observed
Eastern Screech Owl *(Megascops asio)*	Plains/basin riparian	Not observed	Not observed
Western Screech Owl *(Megascops kennicottii)*	Plains/basin riparian	Not observed	Not observed
Great Gray Owl *(Strix nebulosa)*	Mid-elevation conifer, High-elevation conifer	Not observed	Not observed
Boreal Owl *(Aegolius funereus)*	High elevation conifer	Not observed	Not observed
Broad-tailed Hummingbird *(Selasphorus platycercus)*	Montane riparian, Plains/basin riparian mid-elevation conifer	Not observed	Not observed
Western Scrub-Jay *(Aphelocoma californica)*	Juniper woodlands	Not observed	Not observed
Loggerhead shrike *(Lanius ludovicianus)*	Shrub-steppe	Observed	Observed
Vesper Sparrow *(Pooecetes gramineus)*	Shrub-steppe	Observed, presumed breeder	Observed
Lark Sparrow *(Chondestes grammacus)*	Shrub-steppe	Observed	Not observed
Golden-crowned Kinglet *(Regulus satrapa)*	High-elevation conifer	Not observed	Not observed
McGillivray's Warbler *(Oporornis tolmiei)*	Montane riparian, Plains/basin riparian	Not observed	Not observed
Ash-throated Flycatcher *(Myiarchus cinerascens)*	Juniper woodlands	Not observed	Not observed
Bushtit *(Psaltriparus minimus)*	Juniper woodlands	Not observed	Not observed
Brown Creeper *(Certhia americana)*	Mid-elevation conifer, high-elevation conifer	Not observed	Not observed
Merlin *(Falco columbarius)*	Low-elevation conifer	Not observed	Not observed
Sprague's Pipit *(Anthus spragueii)*	Grassland, Plains/Basin riparian, short-grass prairie	Not observed	Not observed

Table 2.8-21: Continued

Common Name[1] *(scientific name)*	Primary Nesting Habitat(s)	Occurrence[2] in Ludeman Permit Area	Occurrence in Ludeman Survey Area[3]
Level II Species – Continued			
Barn Owl *(Tyto alba)*	Short-grass prairie, urban	Not observed	Not observed
White-faced Ibis *(Plegadis chihi)*	Wetland, aquatic	Not observed	Not observed
American Bittern *(Botaurus lentiginosus)*	Wetland, aquatic	Not observed	Not observed
Common Tern *(Sterna hirundo)*	Wetland, aquatic	Not observed	Not observed
Purple Martin *(Progne subis)*	Wetland, aquatic/Basin riparian, montane riparian	Not observed	Not observed

[1] Species are arranged in descending priority within each level, as assigned in the Wyoming Bird Conservation Plan (Cerovski et al. 2001). Level I species require "conservation action". Level II species require only monitoring.
[2] Observations during baseline wildlife surveys conducted between early February and early September 2008.
[3] Survey Area = 1 mile beyond the Permit Area for raptors and grouse; ½-mile for all other species.
[4] No sage-grouse leks were found within the survey area (historically or during 2008 surveys). A few grouse were observed during summer and late autumn, but no breeding activity was documented in the area.

Table 2.8-22: Ludeman Uranium Project Wildlife Baseline Report - General Species Lists

POTENTIAL[1] AND OBSERVED MAMMALIAN SPECIES LIST

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
INSECTIVORES			
Masked shrew	*Sorex cinereus*	---	---
Merriam's shrew	*Sorex merriami*	---	---
Vagrant shrew	*Sorex vagrans*	---	---
BATS			
Small-footed myotis	*Myotis ciliolabrum*	---	---
Long-eared myotis	*Myotis evotis*	---	---
Northern myotis	*Myotis septentrionalis*	---	---
Little brown myotis	*Myotis lucifugus*	---	---
Long-legged myotis	*Myotis volans*	---	---
Hoary bat	*Lasiurus cinereus*	---	---
Silver-haired bat	*Lasionycteris noctivagans*	---	---
Big brown bat	*Eptesicus fuscus*	---	---
Townsend's big-eared bat	*Plecotus townsendii*	---	---
HARES AND RABBITS			
Desert cottontail	*Sylvilagus audubonii*	---	---
Mountain cottontail	*Sylvilagus nuttallii*	---	---
Cottontail species	*Sylvilagus* spp.	X	X
Black-tailed jackrabbit	*Lepus californicus*	---	---
White-tailed jackrabbit	*Lepus townsendii*	X	X
RODENTS			
Least chipmunk	*Tamias minimus*	---	---
Thirteen-lined ground squirrel	*Spermophilus tridecemlineatus*	X	X
Black-tailed prairie dog	*Cynomys ludovicianus*	X	X
Northern pocket gopher	*Thomomys talpoides*	---	---
Plains pocket gopher	*Geomys bursarius*	---	---
Olive-backed pocket mouse	*Perognathus fasciatus*	---	---
Silky pocket mouse	*Perognathus flavus*	---	---
Hispid pocket mouse	*Perognathus hispidus*	---	---
Ord's kangaroo rat	*Dipodomys ordii*	---	---
Beaver	*Castor canadensis*	---	---
Western harvest mouse	*Reithrodontomys megalotis*	---	---
Plains harvest mouse	*Reithrodontomys montanus*	---	---
White-footed mouse	*Peromyscus leucopus*	---	---
Deer mouse	*Peromyscus maniculatus*	X	---
Northern grasshopper mouse	*Onychomys leucogaster*	---	---
Bushy-tailed woodrat	*Neotoma cinerea*	---	---

Table 2.8-22: Continued

Long-tailed vole	*Microtus longicaudus*	---	---

Prairie vole	*Microtus ochrogaster*	---	---
Meadow vole	*Microtus pennsylvanicus*	---	---
Sagebrush vole	*Lemmiscus curtatus*	---	---

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED MAMMALIAN SPECIES LIST (continued)

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
RODENTS, cont.			
Muskrat	*Ondatra zibethicus*	---	---
Norway rat	*Rattus norvegicus*	---	---
House mouse	*Mus musculus*	---	---
Meadow jumping mouse	*Zapus hudsonius*	---	---
Porcupine	*Erethizon dorsatum*	---	---
CARNIVORES			
Coyote	*Canis latrans*	X	---
Swift fox	*Vulpes velox*	---	X
Red fox	*Vulpes vulpes*	---	---
Gray fox	*Urocyon cinereoargenteus*	---	---
Raccoon	*Procyon lotor*	---	---
Ermine	*Mustela erminea*	---	---
Long-tailed weasel	*Mustela frenata*	---	---
Black-footed ferret	*Mustela nigripes*	---	---
Least weasel	*Mustela nivalis*	---	---
Weasel species	*Mustela spp.*	---	---
Mink	*Mustela vison*	---	---
Badger	*Taxidea taxus*	---	X
Eastern spotted skunk	*Spilogale putorius*	---	---
Striped skunk	*Mephitis mephitis*	---	---
Mountain lion	*Felis concolor*	---	---
Bobcat	*Felis rufus*	---	---
UNGULATES			
Mule deer	*Odocoileus hemionus*	X	X
White-tailed deer	*Odocoileus virginianus*	---	---
Pronghorn	*Antilocapra americana*	X	X

[1] POTENTIAL OCCURRENCE--List derived from range and habitat information in Jones et al. (1983), Clark and Stromberg (1987), and Cerovski et al. (2004).

[2] OBSERVED IN LUDEMAN PERMIT--Species recorded during wildlife baseline studies in 2008.

[3] RECORDED IN SURVEY AREA-- Species recorded in one-half mile survey perimeter in 2008.

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED AVIAN SPECIES LIST

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
LOONS			
Common loon	*Gavia immer*	---	---
GREBES			
Horned grebe	*Podiceps auritus*	---	---
Eared grebe	*Podiceps nigricollis*	---	---
Western grebe	*Aechmorphorus occidentalis*	---	---
Pied-billed grebe	*Podilymbus podiceps*	---	---
PELICANS			
White pelican	*Pelecanus erythrorhynchos*	---	---
CORMORANTS			
Double-crested cormorant	*Phalacrocorax auritus*	---	---
HERONS			
American bittern	*Botaurus lentiginosus*	---	---
Great blue heron	*Ardea herodias*	X	---
Black-crowned night heron	*Nycticorax nycticorax*	---	---
White-faced ibis	*Plegadis chihi*	---	---
SWANS, GEESE, AND DUCKS			
Tundra swan	*Cygnus columbianus*	---	---
Trumpeter swan	*Cygnus buccinator*	---	---
Canada goose	*Branta canadensis*	---	---
White-fronted goose	*Anser albifrons*	---	---
Snow goose	*Chen caerulescens*	---	---
Mallard	*Anas platyrhynchos*	X	---
Gadwall	*Anas strepera*	X	---
Pintail	*Anas acuta*	---	---
Green-winged teal	*Anas crecca*	X	---
Blue-winged teal	*Anas discors*	---	---
Cinnamon teal	*Anas cyanoptera*	---	---
American wigeon	*Anas americana*	X	---
Northern shoveler	*Anas clypeata*	---	X
Wood duck	*Aix sponsa*	---	---
Redhead	*Aythya americana*	---	---
Ring-necked duck	*Aythya collaris*	---	---
Canvasback	*Aythya valisineria*	---	---
Greater scaup	*Aythya marila*	---	---
Lesser scaup	*Aythya affinis*	---	---
Common goldeneye	*Bucephala clangula*	---	---
Barrow's goldeneye	*Bucephala islandica*	---	---
Bufflehead	*Bucephala albeola*	---	---
Ruddy duck	*Oxyura jamaicensis*	---	---

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED AVIAN SPECIES LIST (continued)

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
SWANS, GEESE, AND DUCKS, cont.			
Hooded merganser	*Lophodytes cucullatus*	---	---
Common merganser	*Mergus merganser*	---	---
Red-breasted merganser	*Mergus serrator*	---	---
DIURNAL RAPTORS			
Turkey vulture	*Cathartes aura*	X	---
Osprey	*Pandion haliaetus*	---	---
Bald eagle	*Haliaeetus leucocephalus*	---	X
Northern harrier	*Circus cyaneus*	X	X
Sharp-shinned hawk	*Accipiter striatus*	---	---
Cooper's hawk	*Accipiter cooperii*	---	---
Northern goshawk	*Accipiter gentilis*	---	---
Red-tailed hawk	*Buteo jamaicensis*	X	X
Swainson's hawk	*Buteo swainsoni*	X	---
Ferruginous hawk	*Buteo regalis*	X	X
Rough-legged hawk	*Buteo lagopus*	---	X
Golden eagle	*Aquila chrysaetos*	X	X
American kestrel	*Falco sparverius*	---	X
Merlin	*Falco columbarius*	---	---
Peregrine falcon	*Falco peregrinus*	---	---
Gyrfalcon	*Falco rusticolus*	---	---
Prairie falcon	*Falco mexicanus*	---	---
GALLINACEOUS BIRDS			
Sharp-tailed grouse	*Pedioecetus phasianellus*	---	---
Sage-grouse	*Centrocercus urophasianus*	X	---
Ring-necked pheasant	*Phasianus colchicus*	---	---
Gray partridge	*Perdix perdix*	---	---
Wild turkey	*Meleagris gallopavo*	---	---
CRANES, RAILS, AND COOTS			
Sandhill crane	*Grus canadensis*	---	---
Virginia rail	*Rallus limicola*	---	---
Sora	*Porzana carolina*	---	---
Yellow rail	*Coturnicops noveboracensis*	---	---
American coot	*Fulica americana*	---	X
SHOREBIRDS, GULLS, AND TERNS			
American avocet	*Recurvirostra americana*	---	---
Semipalmated plover	*Charadrius semipalmatus*	---	---
Killdeer	*Charadrius vociferus*	X	X

Table 2.8-22 Continued

Mountain plover	*Charadrius montanus*	---	---
Lesser golden plover	*Pluvalis dominica*	---	---
Black-bellied plover	*Pluvalis squatarola*	---	---

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED AVIAN SPECIES LIST (continued)

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
SHOREBIRDS, GULLS, AND TERNS, cont.			
Hudsonian godwit	*Limosa haemastica*	---	---
Marbled godwit	*Limosa fedoa*	---	---
Whimbrel	*Numenius phaeopus*	---	---
Long-billed curlew	*Numenius americanus*	---	---
Upland sandpiper	*Bartramia longicauda*	---	---
Greater yellowlegs	*Tringa melanoleuca*	---	---
Lesser yellowlegs	*Tringa flavipes*	---	---
Solitary sandpiper	*Tringa solitaria*	---	---
Willet	*Catoptrophorus semipalmatus*	---	---
Spotted sandpiper	*Actitis macularia*	---	---
Wilson's phalarope	*Steganopus tricolor*	X	---
Northern phalarope	*Lobipes lobatus*	---	---
Common snipe	*Gallinago gallinago*	---	---
Short-billed dowitcher	*Limnodromus griseus*	---	---
Long-billed dowitcher	*Limnodromus scolopaceus*	---	---
Red knot	*Calidris canutus*	---	---
Sanderling	*Calidris alba*	---	---
Semipalmated sandpiper	*Calidris pusilla*	---	---
Western sandpiper	*Calidris mauri*	---	---
Least sandpiper	*Calidris minutilla*	---	---
White-rumped sandpiper	*Calidris fuscicollis*	---	---
Baird's sandpiper	*Calidris bairdii*	---	---
Pectoral sandpiper	*Calidris melanotos*	---	---
Stilt sandpiper	*Micropalama himantopus*	---	---
Buff-breasted sandpiper	*Tryngites subruficollis*	---	---
Herring gull	*Larus argentatus*	---	---
California gull	*Larus californicus*	---	---
Ring-billed gull	*Larus delawarensis*	---	---
Franklin's gull	*Larus pipixcan*	---	---
Bonaparte's gull	*Larus philadelphia*	---	---
Forster's tern	*Sterna forsteri*	---	---
Caspian tern	*Sterna caspia*	---	---
Black tern	*Childonias niger*	---	---
PIGEONS AND DOVES			
Rock dove	*Columba livia*	---	---
Mourning dove	*Zenaida macroura*	X	X
CUCKOOS			
Black-billed cuckoo	*Coccyzus erythropthalmus*	---	---
Yellow-billed cuckoo	*Coccyzus americanus*	---	---

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED AVIAN SPECIES LIST (continued)

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
OWLS			
Barn owl	*Tyto alba*	---	---
Eastern screech owl	*Otus asio*	---	---
Long-eared owl	*Asio otus*	---	---
Short-eared owl	*Asio flammeus*	X	---
Great horned owl	*Bubo virginianus*	X	---
Snowy owl	*Nyctea scandiaca*	---	---
Burrowing owl	*Athene cunicularia*	X	---
Barred owl	*Strix varia*	---	---
Northern saw-whet owl	*Aegolius acadicus*	---	---
GOATSUCKERS			
Common nighthawk	*Chordeiles minor*	X	X
Common poorwill	*Phalaenoptilus nuttallii*	---	---
SWIFTS			
Chimney swift	*Chaetura pelagica*	---	---
White-throated swift	*Aeronautes saxatalis*	---	---
HUMMINGBIRDS			
Broad-tailed hummingbird	*Selasphorus platycercus*	---	---
Rufous hummingbird	*Selasphorus rufus*	---	---
KINGFISHERS			
Belted kingfisher	*Megaceryle alcyon*	---	---
WOODPECKERS			
Lewis' woodpecker	*Melanerpes lewis*	---	---
Red-headed woodpecker	*Melanerpes erythrocephalus*	---	---
Yellow-bellied sapsucker	*Sphyripicus varius*	---	---
Williamson's sapsucker	*Sphyripicus thyroideus*	---	---
Hairy woodpecker	*Picoides villosus*	---	---
Downy woodpecker	*Picoides pubescens*	---	---
Black-backed woodpecker	*Picoides arcticus*	---	---
Northern flicker	*Colaptes auratus*	---	X
Three-toed woodpecker	*Picoides tridactylus*	---	---
FLYCATCHERS			
Western wood pewee	*Contopus sordidulus*	---	---
Willow flycatcher	*Empidonax traillii*	---	---

Table 2.8-22 Continued

Least flycatcher	*Empidonax minimus*	---	---
Dusky flycatcher	*Empidonax oberholseri*	---	---

Cordilleran flycatcher	*Empidonax occidentalis*	---	---
Eastern phoebe	*Sayornis phoebe*	---	---
Say's phoebe	*Sayornis saya*	X	---

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED AVIAN SPECIES LIST (continued)

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
FLYCATCHERS, cont.			
Cassin's kingbird	*Tyrannus vociferans*	---	---
Western kingbird	*Tyrannus verticalis*	X	---
Eastern kingbird	*Tyrannus tyrannus*	---	X
LARKS			
Horned lark	*Eremophila alpestris*	X	X
SWALLOWS			
Tree swallow	*Tachycineta bicolor*	---	---
Violet-green swallow	*Tachycineta thalassina*	---	---
Bank swallow	*Riparia riparia*	---	---
Rough-winged swallow	*Stelgidopteryx ruficollis*	---	---
Cliff swallow	*Hirundo pyrrhonota*	---	---
Barn swallow	*Hirundo rustica*	X	---
Purple martin	*Progne subis*	---	---
JAYS, MAGPIES, AND CROWS			
Gray jay	*Perisoreus canadensis*	---	---
Blue jay	*Cyanocitta cristata*	---	---
Pinyon jay	*Gymnorhinus cyanocephalus*	---	---
Clark's nutcracker	*Nucifraga columbiana*	---	---
Black-billed magpie	*Pica pica*	---	---
Common raven	*Corvus corax*	---	---
American crow	*Corvus brachyrhynchos*	---	X
CHICKADEE			
Black-capped chickadee	*Parus atricapillus*	---	---
Mountain chickadee	*Parus gambeli*	---	---
NUTHATCHES			
Red-breasted nuthatch	*Sitta canadensis*	---	---
White-breasted nuthatch	*Sitta carolinensis*	---	---
Pygmy nuthatch	*Sitta pygmaea*	---	---
Brown creeper	*Certhia americana*	---	---
WRENS			
Rock wren	*Salpinctes obsoletus*	X	---
House wren	*Troglodytes aedon*	---	---
GNATCHATERS AND KINGLETS			
Golden-crowned kinglet	*Regulus satrapa*	---	---
Ruby-crowned kinglet	*Regulus calendula*	---	---

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED AVIAN SPECIES LIST (continued)

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
THRUSHES			
Eastern bluebird	*Sialia sialis*	---	---
Western bluebird	*Sialia mexicana*	---	---
Mountain bluebird	*Sialia currucoides*	---	---
Townsend's solitaire	*Myadestes townsendi*	---	---
Veery	*Catharus fuscescens*	---	---
Swainson's thrush	*Catharus ustulatus*	---	---
Hermit thrush	*Catharus guttatus*	---	---
American robin	*Turdus migratorius*	---	---
MIMIC THRUSHES			
Mockingbird	*Mimus polyglottos*	---	---
Gray catbird	*Dumetella carolinensis*	---	---
Brown thrasher	*Toxostoma rufum*	---	---
Sage thrasher	*Oreoscoptes montanus*	---	---
PIPITS			
Water pipit	*Anthus spinoletta*	---	---
Sprague's pipit	*Anthus spragueii*	---	---
WAXWINGS			
Bohemian waxwing	*Bombycilla garrulus*	---	---
Cedar waxwing	*Bombycilla cedrorum*	---	---
SHRIKES			
Northern shrike	*Lanius excubitor*	---	---
Loggerhead shrike	*Lanius ludovicianus*	X	X
STARLINGS			
European starling	*Sturnus vulgaris*	---	---
VIREOS			
Solitary vireo	*Vireo solitarius*	---	---
Warbling vireo	*Vireo gilvus*	---	---
Red-eyed vireo	*Vireo olivaceus*	---	---
WARBLERS			
Tennessee warbler	*Vermivora peregrina*	---	---
Orange-crowned warbler	*Vermivora celata*	---	---
Nashville warbler	*Vermivora ruficapilla*	---	---
Yellow warbler	*Dendroica petechia*	---	---
Magnolia warbler	*Dendroica magnolia*	---	---
Black-throated blue	*Dendroica caerulescens*	---	---
Yellow-rumped warbler	*Dendroica coronata*	---	---
Townsend's warbler	*Dendroica townsendi*	---	---

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED AVIAN SPECIES LIST (continued)

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
WARBLERS, cont.			
Chestnut-sided warbler	*Dendroica pensylvanica*	---	---
Black-and-white warbler	*Mniotilta varia*	---	---
American redstart	*Setophaga ruticilla*	---	---
Ovenbird	*Seiurus aurocapillus*	---	---
Northern waterthrush	*Seiurus noveboracensis*	---	---
MacGillivray's warbler	*Oporornis tolmiei*	---	---
Common yellowthroat	*Geothlypis trichas*	---	---
Hooded warbler	*Wilsonia citrina*	---	---
Wilson's warbler	*Wilsonia pusilla*	---	---
Yellow-breasted chat	*Icteria virens*	---	---
TANAGERS			
Western Tanager	*Piranga ludoviciana*	---	---
GROSBEAKS AND BUNTINGS			
Rose-breasted grosbeak	*Pheucticus ludovicianus*	---	---
Black-headed grosbeak	*Pheucticus melanocephalus*	---	---
Lazuli bunting	*Passerina amoena*	---	---
Indigo bunting	*Passerina cyanea*	---	---
Dickcissel	*Spiza americana*	---	---
Evening grosbeak	*Hesperiphona vespertina*	---	---
TOWHEES, SPARROWS, JUNCOS, AND LONGSPURS			
Green-tailed towhee	*Papilo chlorurus*	---	---
Rufous-sided towhee	*Pipilo erythrophthalmus*	---	---
American tree sparrow	*Spizella arborea*	---	---
Chipping sparrow	*Spizella passerina*	---	---
Clay-colored sparrow	*Spizella pallida*	---	---
Brewer's sparrow	*Spizella breweri*	---	---
Field sparrow	*Spizella pusilla*	---	---
Vesper sparrow	*Pooecetes gramineus*	X	X
Lark sparrow	*Chondestes grammacus*	X	---
Sage sparrow	*Amphispiza belli*	---	---
Lark bunting	*Calamospiza melanocorys*	X	X
Savannah sparrow	*Passerculus sandwichensis*	---	---
Baird's sparrow	*Ammodramus bairdii*	---	---
Grasshopper sparrow	*Ammodramus savannarum*	---	X
Fox sparrow	*Passerela iliaca*	---	---
Song sparrow	*Melospiza melodia*	---	---
Lincoln's sparrow	*Melospiza lincolnii*	---	---
White-throated sparrow	*Zonotrichia albicollis*	---	---
White-crowned sparrow	*Zonotrichia leucophrys*	---	---
Harris' sparrow	*Zonotrichia querula*	---	---
Dark-eyed junco	*Junco hyemalis*	---	---

Table 2.8-22: Continued

POTENTIAL[1] AND OBSERVED AVIAN SPECIES LIST (continued)

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
TOWHEES, SPARROWS, JUNCOS, AND LONGSPURS, cont.			
McCown's longspur	*Calcarius mccownii*	---	---
Lapland longspur	*Calcarius lapponicus*	---	---
Chestnut-collared longspur	*Calcarius ornatus*	---	---
Snow bunting	*Plectrophenax nivalis*	---	---
BLACKBIRDS, MEADOWLARKS, AND ORIOLES			
Bobolink	*Dolichonyx oryzivorus*	---	---
Red-winged blackbird	*Agelaius phoeniceus*	X	X
Western meadowlark	*Sturnella neglecta*	X	X
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	---	---
Rusty blackbird	*Euphagus carolinus*	---	---
Brewer's blackbird	*Euphagus cyanocephalus*	---	---
Common grackle	*Quiscalus quiscula*	---	---
Brown-headed cowbird	*Molothrus ater*	---	---
Northern oriole	*Icterus galbula*	---	---
FINCHES			
Rosy finch	*Leucosticte arctoa*	---	---
Pine grosbeak	*Pinicola enucleator*	---	---
Purple finch	*Carpodacus purpureus*	---	---
Cassin's finch	*Carpodacus cassinii*	---	---
House finch	*Carpodacus cassinii*	---	---
Red crossbill	*Loxia curvirostra*	---	---
White-winged crossbill	*Loxia leucoptera*	---	---
Common redpoll	*Carduelis flammea*	---	---
Pine siskin	*Carduelis pinus*	---	---
American goldfinch	*Carduelis tristis*	---	---
WEAVER FINCHES			
House sparrow	*Passer domesticus*	---	---

[1] POTENTIAL OCCURRENCE--List derived from range and habitat information in Petersen (1990), Stokes and Stokes (1996), and Cerovski et al. (2004). The species listed include those that might pass through the Ludeman Permit Area or Survey Area during migration.

[2] OBSERVED IN LUDEMAN PERMIT--Species recorded during wildlife baseline studies in 2008.

[3] RECORDED IN SURVEY AREA-- Species recorded in one-half or one-mile (raptors, grouse) survey perimeter in 2008.

Table 2.8-22 Continued

POTENTIAL[1] AND OBSERVED AMPHIBIAN AND REPTILE SPECIES LIST

Common Name	Scientific Name	Observed In Ludeman Permit[2]	Recorded In Survey Area[3]
SALAMANDERS			
Tiger salamander	*Ambystoma tigrinum*	---	---
FROGS AND TOADS			
Northern leopard frog	*Rana pipiens*	---	---
Boreal chorus frog	*Pseudacris triseriata*	X	X
Plains spadefoot	*Scaphiopus bombifrons*	---	---
Woodhouse's toad	*Bufo woodhousei*	---	---
Great plains toad	*Bufo cognatus*	---	---
TURTLES			
Common snapping turtle	*Chelydra serpentina*	---	---
Western painted turtle	*Chrysemys picta*	---	---
Western spiny softshell	*Trionyx spiniferus*	---	---
LIZARDS			
Northern sagebrush lizard	*Sceloporus graciosus*	---	---
Shorthorned lizard	*Phrymsoma douglassi*	---	---
SNAKES			
Plains hognose snake	*Heterodon nasicus*	---	---
Eastern yellowbelly racer	*Coluber constrictor*	---	---
Smooth green snake	*Opheodrys vernalis*	---	---
Pale milk snake	*Lampropeltis triangulum*	---	---
Bullsnake	*Pituophis melanoleucas*	---	X
Wandering garter snake	*Thamnophis elegans*	---	---
Western plains garter snake	*Thamnophis radix*	---	---
Common garter snake	*Thamnophis sirtalis*	---	---
Prairie rattlesnake	*Crotalus viridis*	---	---

[1] POTENTIAL OCCURRENCE--List derived from range and habitat information in Stebbins (1966) and Baxter and Stone (1980).

[2] OBSERVED IN LUDEMAN PERMIT--Species recorded during wildlife baseline studies in 2008.

[3] RECORDED IN SURVEY AREA-- Species recorded in one-half mile survey perimeter in 2008.