March 8, 2019

Via Priority Mail, Return Receipt Requested

Mr. Craig Boomgaard
UIC Program - Salt Water Disposal
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

RE: UIC Permit Application
WATER BUSTER SWD 1
NWSE Section 7, T147N R93W
Dunn County, North Dakota

Dear Mr. Boomgaard:

I hereby submit the enclosed Underground Injection Control (UIC) permit application for the WATER BUSTER SWD 1. This is a new well that Independence ND, LLC seeks to drill and operate as a Class II, Type D salt water disposal well.

Please review the enclosed application and accompanying attachments and notify me if you discover any deficiencies.

Sincerely,

/JC JOHNSON/

JC Johnson
President
Independence ND, LLC
~~701-627-4831~~
701-421-8407

Enclosures

UIC Class II Permit Application Completeness Review Checklist

Permit Writer:	Date Received:	Date Completed:
Permit Applicant: Independence ND, LLC	Prospective Permit #:	

✓	Description
X	**Has the Permit Application (7520-6) been completed and does it include a signature from an authorized company official?**
X	**Attachment A: AREA OF REVIEW METHODS** - Give the methods and, if appropriate, the calculations used to determine the size of the area of review (fixed radius or equation). The area of review shall be a fixed radius of 1/4 mile from the well bore unless the use of an equation is approved in advance by the Director.
X	**Attachment B: MAPS OF WELL/AREA AND AREA OF REVIEW** – Submit a topographic map extending one mile beyond the property boundaries, showing… ☒ the injection well(s) or project area for which a permit is sought and the applicable area of review. The map must show all… ☒ intake and discharge structures, ☒ hazardous waste treatment, storage, or disposal facilities and, ☒ (***For area permit application only)*** the distribution manifold applying injection fluid to all wells in the area, including all system monitoring points. Within the area of review, the map must show… ☒ the number, or name, and location of all producing wells, ☒ injection wells, ☒ abandoned wells, ☒ dry holes, ☒ surface bodies of water, ☒ springs, mines (surface and subsurface), ☒ quarries, and ☒ other pertinent surface features, including residences and roads, and faults, if known or suspected. In addition, the map must identify those… ☒ wells, springs, other surface water bodies, and drinking water wells located within one quarter mile of the facility property boundary. Only information of public record is required to be included in this map.
X	**Attachment C: CORRECTIVE ACTION PLAN AND WELL DATA**- Submit a tabulation of data reasonably available from public records or otherwise known to the applicant on…

✓	Description
	[X] all wells within the area of review, including those on the map required in B, which penetrate the proposed injection zone. **No wells penetrate injection zone within a half-mile AOR** Such data shall include a description of each well's… [ ] types, [ ] construction, [ ] date drilled, [ ] location, [ ] depth, [ ] well bore diagrams, CBL, completion records of AOR wells, *if available* [ ] record of plugging and/or completion, and [ ] AOR CAP, *if applicable*
	Attachment E: NAME AND DEPTHS OF FORMATION FROM SURFACE TO TOTAL DEPTH, INCLUDING USDW(S) AND CONFINING ZONE(S). – Submit the following information and identify if the formation is the injection zone, USDW, or confining. [X] formation name [X] depth [X] formation lithology and [X] formation TDS
	Attachment G: ADDITIONAL INJECTION ZONE INFORMATION [X] fracture pressure (known or estimated)
	Attachment H: OPERATING DATA - Submit the following proposed operating data for each well (including all those to be covered by area permits): [X] average and maximum daily rate and volume of the fluids to be injected [X] average and maximum injection pressure; [X] composition of annulus fluid; [X] source and analysis of the chemical, physical, radiological NA** and biological NA** characteristics, including density and corrosiveness, of injection fluids.
	Attachment I: FORMATION TESTING PROGRAM - Describe the proposed formation testing program. The program must be designed to obtain… NA**

** **H. OPERATING DATA - Submit the following proposed operating data for each well (including all those to be covered by area permits): (1) average and maximum daily rate and volume of the fluids to be injected; (2) average and maximum injection pressure; (3) nature of annulus fluid; (4) for Class I wells, source and analysis of the chemical, physical, radiological and biological characteristics, including density and corrosiveness, of injection fluids; (5) for Class II wells, source and analysis of the physical and chemical characteristics of the injection fluid; (6) for Class III wells, a qualitative analysis and ranges in concentrations of all constituents of injected fluids. If the information is proprietary, maximum concentrations only may be submitted, but all records must be retained.**

✓	Description
	[X] fluid pressure [X] injection formation fracture pressure [X] physical and chemical characteristics of the formation fluids.
X	**Attachment J: STIMULATION PROGRAM** - Describe any proposed stimulation program.
X	**Attachment K: INJECTION PROCEDURES** - Describe the proposed injection procedures including pump, surge, tank, etc.
X	**Attachment L: CONSTRUCTION PROCEDURES** – Describe the anticipated injection well construction (meeting regulations under 40 CFR §146.12). This should include… [X] details of the casing and cementing program [X] logging procedures [X] deviation checks [X] the drilling, testing and coring program, and [X] proposed annulus fluid. [X] if applicable, a request justifying the use of an alternative to a packer
X	**Attachment M: CONSTRUCTION DETAILS** - Submit schematic or other appropriate drawings of the surface and subsurface construction details of the well.
X	**Attachment O: PLANS FOR WELL FAILURES** - Outline contingency plans to cope with all shut-ins or wells failures, so as to prevent migration of fluids into any USDW.
X	**Attachment P: MONITORING PROGRAM** - Discuss the planned monitoring program. This should be thorough, including… [X] maps showing the number and location of monitoring wells as appropriate and discussion of monitoring devices, sampling frequency, and parameters measured. NA [ ] (If a manifold monitoring program is utilized, pursuant to §146.23(b)(5), describe the program and compare it to individual well monitoring.)
X	**Attachment Q: PLUGGING AND ABANDONMENT PLAN** - Submit a plan for plugging and abandonment of the well including… [X] the type, number, and placement (including the elevation of the top and bottom) of plugs to be used; [X] the type, grade, and quantity of cement to be used; and [X] the method to be used to place plugs, including the method used to place the wells in a state of static equilibrium prior to placement of the plugs. [X] Submit this information on EPA Form 7520-14, Plugging and Abandonment Plan.
X	**Attachment R: NECESSARY RESOURCES** - Submit evidence such as a surety bond or financial statement to verify that the resources necessary to close, plug or abandon the well are available.

✓	Description
X	**Attachment S: AQUIFER EXEMPTIONS** – **If an aquifer exemption is requested**, submit data necessary to demonstrate that the aquifer meets the following criteria… **To be submitted at a later date if required** ☐ it does not serve as a source of drinking water; ☐ cannot now and will not in the future serve as a source of drinking water; ☐ the TDS content of the ground water is more than 3,000 and less than 10,000 mg/l and ☐ is not reasonably expected to supply a public water system. ☐ Data to demonstrate that the aquifer is expected to be mineral or hydrocarbon producing. A timetable for proposed development must also be included. For additional information on aquifer exemptions, see 40 CFR §§ 144.7 and 146.04.
X	**Attachment T: EXISTING EPA PERMITS** - List any existing EPA permits including program name (e.g. SDWA, NPDES, PSD, RCRA, etc.) and permit number (e.g. AK1I001-A) associated with the facility.
X	**Attachment U: DESCRIPTION OF BUSINESS** - Give a brief description of the nature of the business.

Well Information

Well Name	WATER BUSTER SWD 1
Well Type/Class	Commercial Salt Water Disposal (2D)
Reservation Name	ND | Fort Berthold
N/E/C	New
Operation Date	ASAP
Oil Field Name	MOCCASIN CREEK
API # (xx-xxx-xxxxx)	TBD
SPUD Date	ASAP (mm/dd/yyyy)
Comments	Drop down does not offer ND | Moccasin Creek Field and not allowed to enter footage call of 2275 FNL.

Well Location

1/4 Sec	*Section*	*Township*	*N/S*	*Range*	*E/W*
NWSE	7	147	N	93	W

Latitude

47	*Deg*	33	*Min*	56	*Sec*	**OR**	*Decimal*

Longitude

-102	*Deg*	34	*Min*	30	*Sec*	**OR**	*Decimal*

Footage Calls

	N/S line		*E/W line*
2275 *feet from*	N	1911 *feet from*	E

State ND

County Dunn

Well Construction

Ground Elevation	2238	feet
Kelly Bushing	15	feet
Total Depth of Well (KB)	5715	feet
Plugged Back Total Depth (KB)	5675	feet
Packer Depth (KB)	5210	feet

All Depths Measured in KB

Casing Type	*Casing Description*	*Hole* Diameter (in.)	*Casing* Diameter (in.)	*Casing* Top (ft)	*Casing* Bottom(ft)	*Cement* Top (ft)	*Cement* Bottom(ft)
Surface	J-55 36 lb/ft	13.500	9.625	0	2215	0	2215
Production	J-55 36 lb/ft	8.750	7.000	0	5715	0	5715

Perforations

	Perf 1	*Perf 2*	*Perf 3*	*Perf 4*	*Perf 5*	*Perf 6*	*Perf 7*	*Perf 8*	*Perf 9*	*Perf 10*
Perf Status	Proposed									
Top Depth (ft KB)	5240									
Bot Depth (ft KB)	5525									

	Value		*Source of value*
Maximum Injection Pressure	1400	*psi*	Other
Specific Gravity	1.21		Water Sample
Fracture Gradient	0.80	*psi/ft*	Other
Depth	5155	*ft KB*	
Friction Loss	95	*psi*	
Comments	MAIP & friction calculated in Attach H; 0.80 accepted standard for Mowry Fm.		

Provide "Source of Value" if "Other" selected.

Geological Setting

Depths Measured in KB

Water Quality of Unit
(enter a value or range of values)

Unit Type	*Formation Name*	*Top (ft KB)*	*Bottom (ft KB)*	*Lithology*	*TDS*	*Value Range (mg/L)*	
						Lower	*Upper*
						(mean)	(mean)
Geologic Unit	Sentinel Butte	0	515	Clay, Shale, SS, lign	Value Range	1526	1742
Geologic Unit	Tongue River	515	915	Siltstone, Claystone	Single Value	2043	
Geologic Unit	Cannonball	915	1515	Sandstone, shale	Single Value	1855	
Geologic Unit	Hell Creek	1515	1715	Siltstone, shale	Single Value	1588	
Geologic Unit	Fox Hills	1715	1955	Sandstone, shale	Single Value	1486	
Geologic Unit	Pierre	1955	4365	Shale			
Geologic Unit	Greenhorn	4365	4800	Shale			
Geologic Unit	Mowry	4800	4915	Shale			
Geologic Unit	Skull Creek	4915	5155	Shale			
Geologic Unit	Inyan Kara	5155	5565	Sandstone, shale	Value Range	7000	14000
Geologic Unit	Swift	5565	5965	Shale			

Enter TOTAL number of AOR Wells

0 (none)

Well Information

	AOR Well #1	AOR Well #2
AOR (enter Well ID or leave blank)		
Well Name		
Type of Well		
Well Status		
Well Status Date		
API # (xx-xxx-xxxxx)		
SPUD Date		
Well Location	State / County	State

AOR Well #1 location

1/4 Sec	*Section*	*Township*	*N/S*	*Range*	*E/W*

Latitude	*Longitude*

AOR Well #2 location

1/4 Sec	*Section*	*Township*	*N/S*

Latitude	*Longitude*

Well Construction

	AOR Well #1	AOR Well #2
Total Depth of Well (KB)	feet	feet
Plugged Back Total Depth (KB)	feet	feet

Corrective Action

	AOR Well #1	AOR Well #2
Corrective Action		
Due Date		
Completion Date		
Additional Comments		

Casing

Depths measured in KB

AOR Well #1

Casing Type	*Casing Top (ft)*	*Casing Bottom (ft)*	*Cement Top (ft)*	*Cement Bottom (ft)*

Depths measured in KB

AOR Well #2

Casing Type	*Casing Top (ft)*	*Casing Bottom (ft)*	*Cement Top (ft)*

Perforations

AOR Well #1

	Perf 1	*Perf 2*	*Perf 3*	*Perf 4*	*Perf 5*	*Perf 6*
Perf Status						
Top Depth (ft KB)						
Bottom Depth (ft KB)						

AOR Well #2

	Perf 1	*Perf 2*	*Perf 3*	*Perf 4*
Perf Status				
Top Depth (ft KB)				
Bottom Depth (ft KB)				

Geological Setting

Formation	*Depth to Top (ft KB)* (Well #1)	*Depth to Bottom (ft KB)* (Well #1)	*Depth to Top (ft KB)* (Well #2)	*Depth to Bottom (ft KB)* (Well #2)
Sentinel Butte				
Tongue River				
Cannonball				
Hell Creek				
Fox Hills				
Pierre				
Greenhorn				
Mowry				
Skull Creek				
Swift				

OMB No. 2040-0042 Approval Expires 12/31/2018

United States Environmental Protection Agency

EPA

Underground Injection Control Permit Application

(Collected under the authority of the Safe Drinking Water Act. Sections 1421, 1422, 40 CFR 144)

I. EPA ID Number

		T/A	C
U			

Read Attached Instructions Before Starting

For Official Use Only

Application approved mo day year	Date received mo day year	Permit Number	Well ID	FINDS Number

II. Owner Name and Address

Owner Name: INDEPENDENCE ND, LLC

Street Address: 301 1ST AVE E BAKERSFIELD

Phone Number: (701) 627-4831

City: NEWTOWN State: ND ZIP CODE: 58763-4405

III. Operator Name and Address

Owner Name: INDEPENDENCE ND, LLC

Street Address: 301 1ST AVE E BAKERSFIELD

Phone Number: (701) 627-4831

City: NEWTOWN State: ND ZIP CODE: 58763-4405

IV. Commercial Facility

[x] Yes
[ ] No

V. Ownership

[x] Private
[ ] Federal
[ ] Other

VI. Legal Contact

[x] Owner
[ ] Operator

VII. SIC Codes

1311

VIII. Well Status *(Mark "x")*

[ ] A. Operating — Date Started mo day year:

[ ] B. Modification/Conversion [x] C. Proposed

IX. Type of Permit Requested *(Mark "x" and specify if required)*

[x] A. Individual [ ] B. Area

Number of Existing Wells	Number of Proposed Wells	Name(s) of field(s) or project(s)
	1	MOCCASIN CREEK

X. Class and Type of Well *(see reverse)*

A. Class(es) (enter code(s))	B. Type(s) (enter code(s))	C. If class is "other" or type is code 'x,' explain	D. Number of wells per type (if area permit)
II	D		

XI. Location of Well(s) or Approximate Center of Field or Project

XII. Indian Lands (Mark 'x')

[x] Yes
[ ] No

Latitude Deg	Min	Sec	Longitude Deg	Min	Sec	Township and Range Sec	Twp	Range	1/4 Sec	Feet From	Line	Feet From	Line
47	33	56.4	-102	34	29.7	7	147	93	SE	2275	S	1911	E

XIII. Attachments

(Complete the following questions on a separate sheet(s) and number accordingly; see instructions)

For Classes I, II, III, (and other classes) complete and submit on a separate sheet(s) Attachments A--U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application.

XIV. Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

A. Name and Title *(Type or Print)*	B. Phone No. *(Area Code and No.)*
JC JOHNSON PRESIDENT	(701) 627-4831
C. Signature /JC JOHNSON/	D. Date Signed 11-5-18

EPA Form 7520-6 (Rev. 12-11)

UIC PERMIT APPLICATION ATTACHMENTS
WATER BUSTER SWD 1 – Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field – Dunn County, ND

A. AREA OF REVIEW METHODS

Independence ND, LLC (Independence ND) used an estimated maximum rate of 21,500 bbls/day, a potential well life span of 10 years and the calculated average porosity and injection zone thickness of the offsetting PYGMY 147-93-18B-19H TF well (NDIC Well File No. 25143) well to calculate a 0.49-mile radius of influence. A safety margin of 500 bbls/day was then added to the calculation to arrive at a radius of influence of 0.50-mile. Independence is proposing that the Area of Review reflect this 0.50-mile fixed radius of influence from the well bore of the proposed WATER BUSTER SWD 1. Please note the supporting calculations in Attachment A1 and CND Log of the proposed injection zone in Attachment A2.

CALCULATION OF THE RADIUS OF INFLUENCE - WATER BUSTER SWD 1
10 Year Life Span @ 21,500 bbls/day - Attachment A1

Injection Zone	Inyan Kara	
Avg. Porosity of Injection Zone (Θ)	28.1%	
Thickness of Injection Zone (H)	82	Feet
Water Saturation of Injection Zone (Sw=1)	1.0	
Formation Volume Factor (FVF)	1.1	
Efficiency Factor (Ef=1)	1.0	
Bbls Per Acre-Ft	7,758	
Ft^2 PER ACRE	43,560	
Well Life Span	10	Years
Maximum Injection Rate	21,500	Bbls/day
End of Life Span Injection Volume	78,475,000	Bbls

$$\text{Area (Acres)} = \frac{\text{Bbls} * \text{FVF} * \text{Sw} * \text{Ef}}{7758 * \Theta * \text{H}}$$

$$\text{Radius of Influence(Feet)} = \left[43{,}560 * \text{Acres}/\pi \right]^{1/2}$$

Therfore;

$$\textit{Radius} = \left[\frac{\textit{Bbls} * \textit{FVF} * \textit{Sw} * \textit{Ef} * 43{,}560}{7758 * \Theta * \textit{H} * \pi} \right]^{1/2}$$

$$\textit{Radius} = \left[\frac{78{,}475{,}000 * 1.1 * 1.0 * 1.0 * 43560}{7758 * .281 * 82 * 3.14159} \right]^{1/2}$$

Radius = 2,588 feet

Radius of Influence at Given Rates		
Rates (Bbls/day)	21,500	22,000
10 Year Inj. (Bbls)	78,475,000	80,300,000
Radius (feet)	2,588	2,618
Radius (miles)	0.49	0.50

*** Safety Factor- Expanding the Area of Review to 0.50-mile represents a 500 Bbl/day increase over the proposed maximum rate throughout the expected 10 year life span.

Injection Formation Data **

Injection Formation	Zone	Top ft	Bottom ft	Interval ft	Porosity %	
Inyan Kara	Zone 1	5217	5232	15	25%	0.0457317
Inyan Kara	Zone 2	5235	5248	13	27%	0.0428049
Inyan Kara	Zone 3	5331	5361	30	26%	0.0951220
Inyan Kara	Zone 4	5447	5452	5	17%	0.0103659
Inyan Kara	Zone 5	5461	5480	19	20%	0.0463415
Inyan Kara	Zone 6	5487	5502	15	22%	0.0402439
			Total	**82**	**Avg Porosity**	28.1%

Perforation Interval 5217-5502'

**** Formation depths are referenced from the CND Log of the offsetting PYGMY 147-93-18B-19H TF well (NDIC Well File No. 25143) but **are not** corrected for the elevation changes at the proposed location.

Calculation of ROI
Attachment A1
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

Frac Gradient of Lower Confining Zone estimated to be 0.80

Upper Mowry/Skull Creek Confining Zone
4,780-5,132' ****

Gross Inyan Kara Injection Zone
5,132-5,542' ****

Zone 1- 15' @ 25%Φ

Zone 2- 13' @ 27%Φ

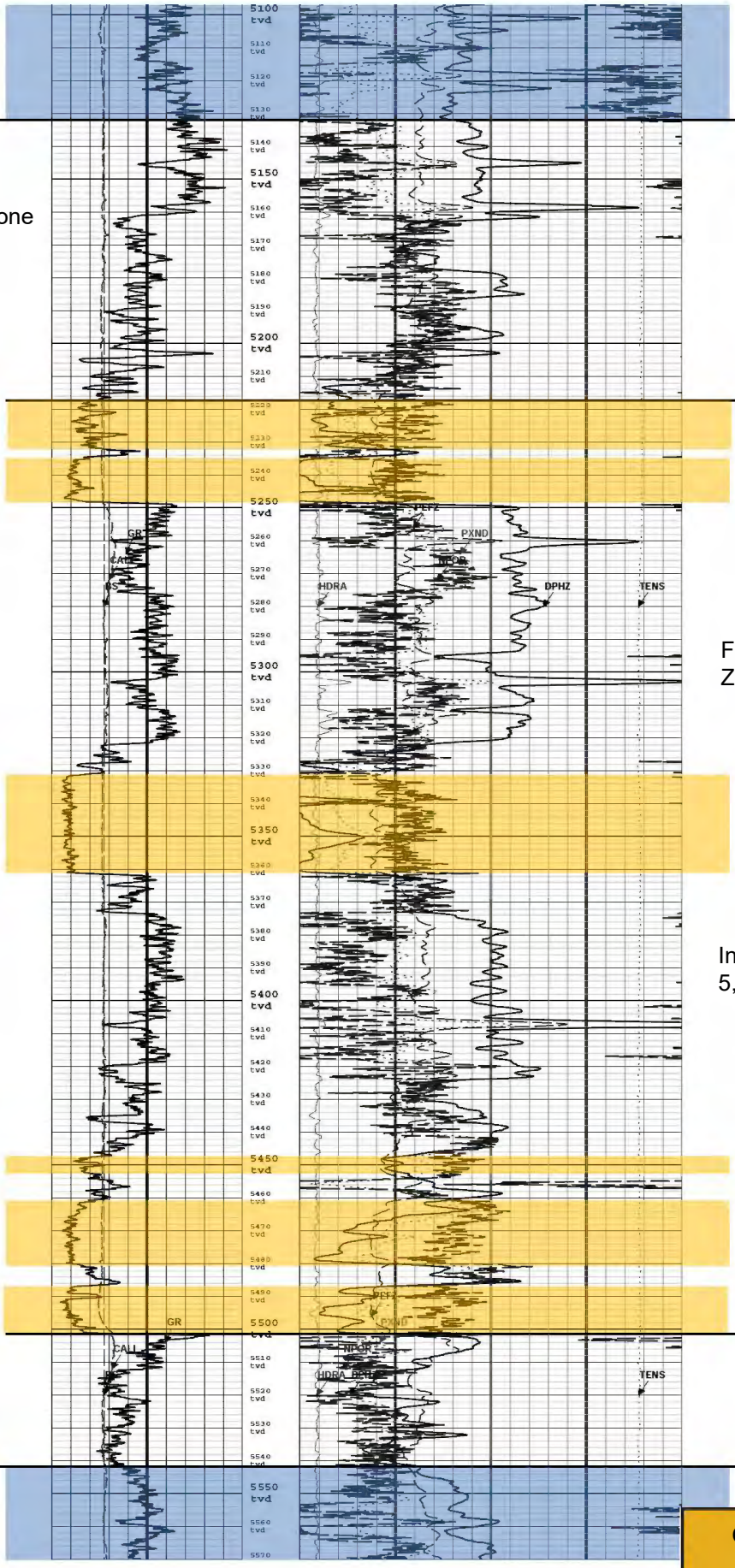
Zone 3- 30' @ 26%Φ

Zone 4- 5' @ 17%Φ

Zone 5- 19' @ 20%Φ

Zone 6- 15' @ 22%Φ

Lower Swift Confining Zone
5,542-5,943' ****



Frac Gradient of Upper Confining Zone estimated to be 0.80

Frac Gradient of Injection Zone estimated to be 0.67

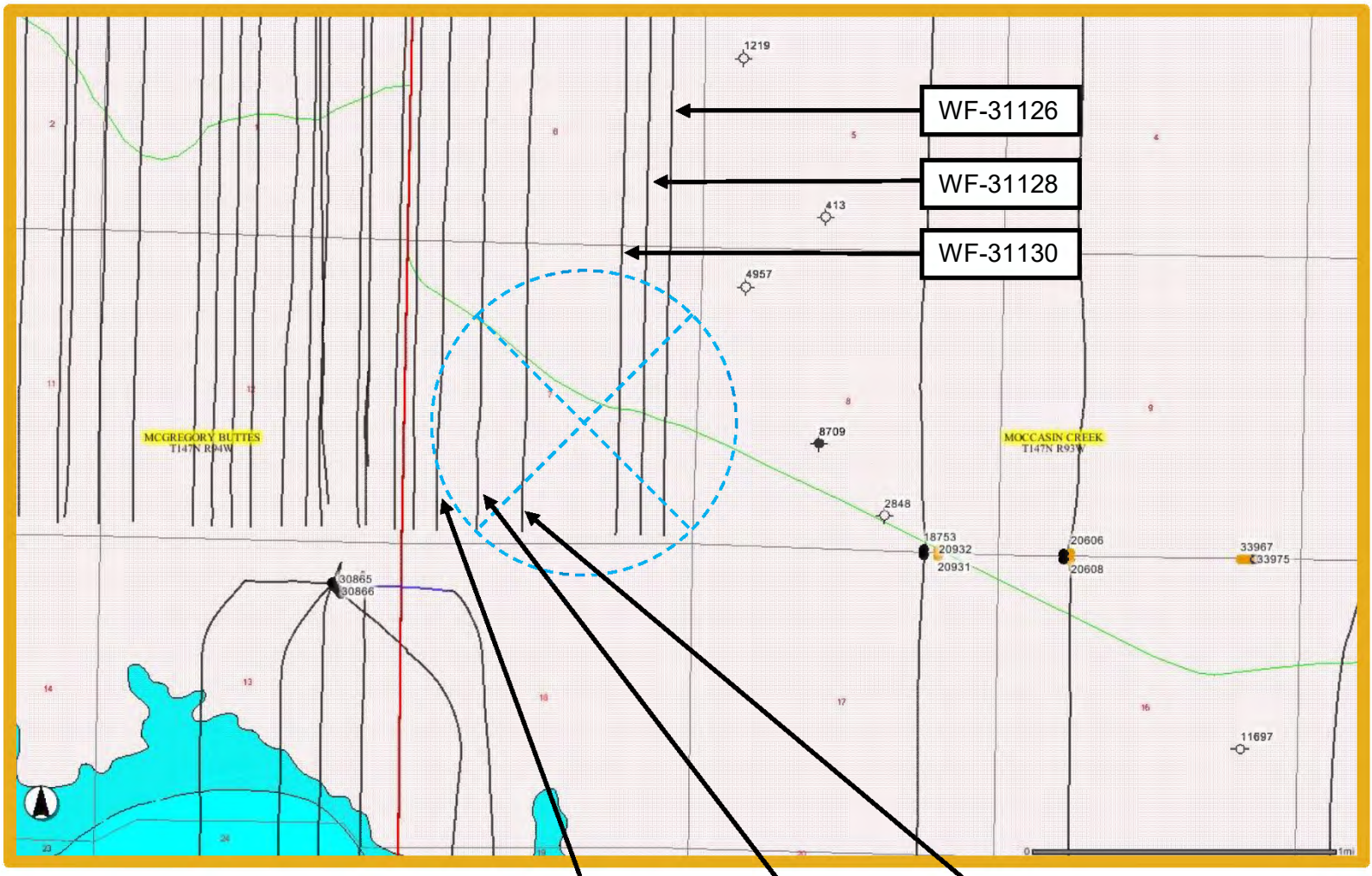
Inyan Kara Perforated Zone
5,217-5,502' ****

Frac Gradient of Lower Confining Zone estimated to be 0.80

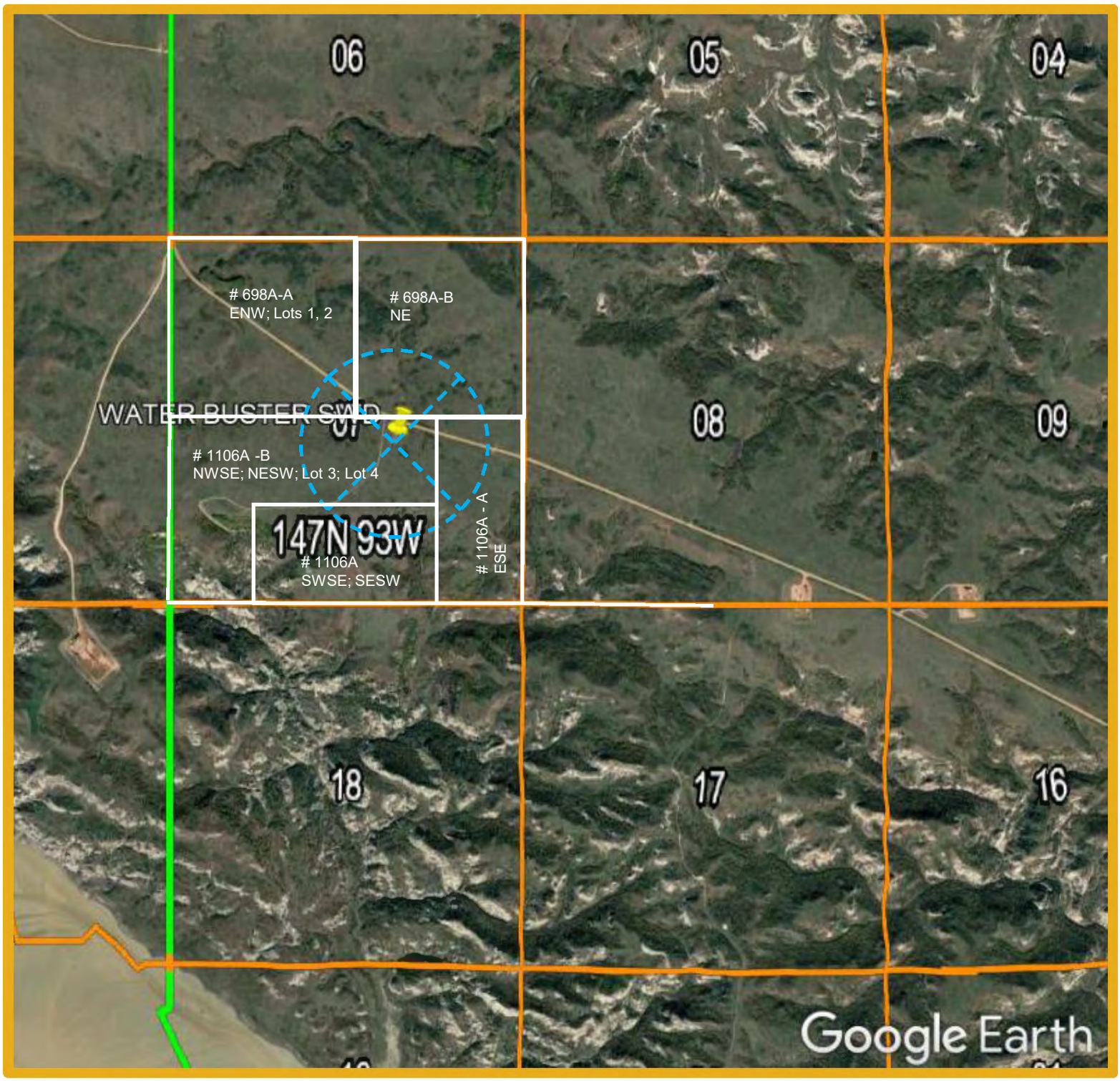
**** Formation depths are referenced from the CND Log of the offsetting PYGMY 147-93-18B-19H TF well (NDIC Well File No. 25143) but **are not** corrected for the elevation changes at the proposed location.

CND Log of Zones
Attachment A2
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

B. MAPS OF WELL/AREA AND AREA OF REVIEW (See Attachments B1-B7)



Map of the 0.50-Mile AOR
Attachment B1
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND



0.50-Mile Area of Review

Landowner Map
Attachment B2
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

Landowners Within 0.50-Miles of the Proposed WATER BUSTER SWD 1

Tract 301 698A- A is held by the United States of America in trust for individuals.

Tract 301 698A -B is held by the United States of America in trust for an individual.

Tract 301 1106A is held by the United States of America in trust for an individual.

Tract 301 1106A -A is held by the United States of America in trust for an individual.

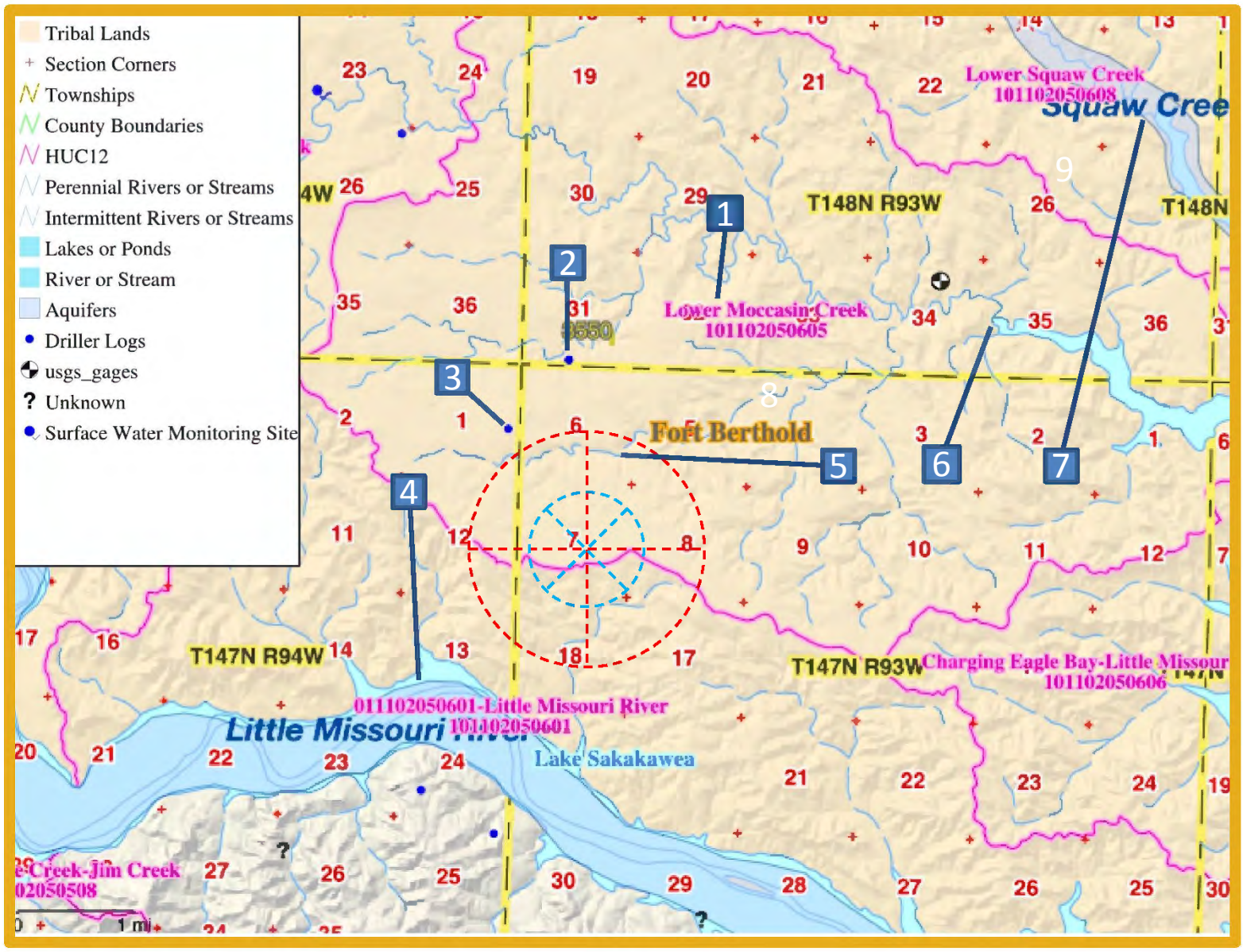
Tract 301 1106A -B is held by the United States of America in trust for individuals.

Proper notification for the above tracts should be addressed to:

US DEPARTMENT OF INTERIOR
BUREAU OF INDIAN AFFAIRS
PO BOX 370
NEW TOWN, ND 58763-0370

THREE AFFILIATED TRIBES
NATURAL RESOURCE DEPT
404 FRONTAGE ROAD
NEW TOWN, ND 58763-9402

Landowner Description
Attachment 2.1
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND



0.50-Mile Area of Review

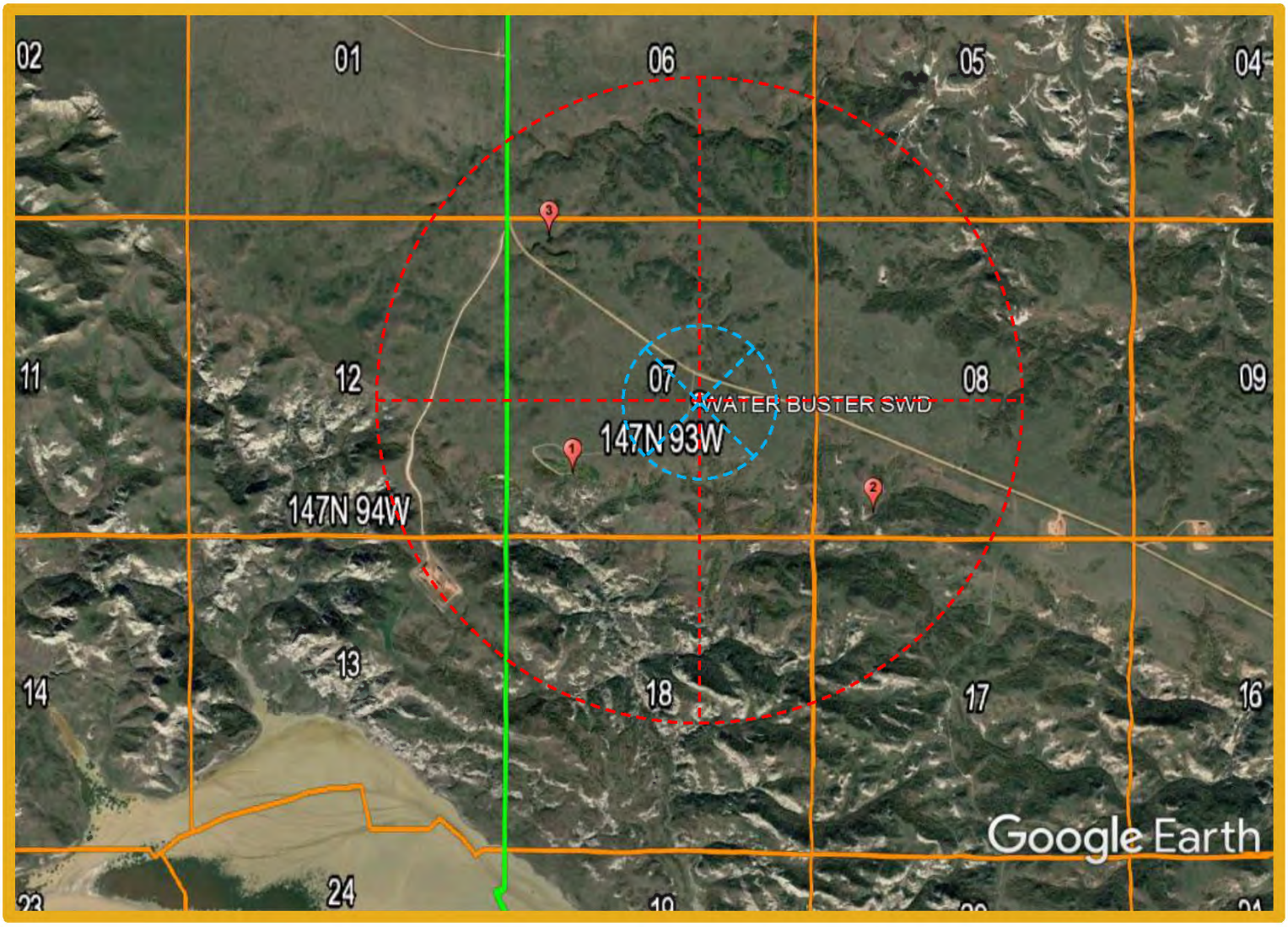
1-Mile Area of Review

Pertinent Surface Feature Discussion

1. Site is located within the Lower Moccasin Creek Sub-Watershed which is composed of 31.15 square miles or 19,933 acres.
2. NDSWC Test Hole Site 148-093-31 CDD. Reported coordinates of (47.589143, -102.578708). P&A 6/10/1998.
3. NDSWC Test Hole Site 147-094-01 DAA. Reported coordinates of (47.580144, -102.589104). P&A 6/22/1992. This is the nearest driller log to the proposed location.
4. Little Missouri River and aquifer system. Independence ND, LLC believes the proposed site poses little risk because of distance and the differing sub-watersheds.
5. An intermittent stream is located approximately one mile north of the proposed facility.
6. Precipitation near the site accumulates within intermittent streams and eventually discharges into the Moccasin Creek Bay of the Missouri River – Lake Sakakawea reservoir system over four miles east. Independence ND, LLC is confident that the proposed primary and secondary containments of 5,827 & 45,728 Bbls respectively, as well as distance to the reservoir will minimize any potential risk.
7. The Squaw Creek Aquifer is more than 5 miles northeast of the proposed site.

**** There are no known wellhead protection areas or faults near the proposed facility that would preclude this site from being an acceptable location for a saltwater disposal facility.

Pertinent Surface Features
Attachment B3
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND



0.50-Mile Area of Review

1-Mile Area of Review

Freshwater Investigation

A thorough investigation for freshwater features including review of the North Dakota State Water Commission GIS website, Google Earth mapping, scoping, driving and walking the area revealed a freshwater wellhead behind a trailer house in the SWSW of Section 7-147-93. However, a rural water curb-stop and other identifiers were also discovered nearby. The land is held in truss for an Antoinette J Brugh who is reportedly in a nursing home. Calls to Antoinette were unreturned. A water sample was drawn from a tap and analyzed but it cannot be confirmed if the sample is from a well or rural water system. The two nearest water sources discovered were this trailer house in the SWSW of Section 7-147-93 and a stock dam in the SWSW of Section 8-147-93.

1. Trailer house located in SWSW of Section 7-147-93 investigated 10/12/2018. Analysis included as Attachment B4.1
2. Stock dam located in SWSW of Section 8-147-93 investigated 10/11/2018. Analysis included as Attachment B4.2
3. Pond located in NWNW of Section 7-147-93 investigated 10/11/2018. Analysis included as Attachment B4.3

FW Investigation
Attachment B4
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

MINNESOTA VALLEY TESTING LABORATORIES, INC.

MVTL

1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER ACIL

Report Date: 1 Nov 18
Lab Number: 18-W3451
Work Order #:82-2719
Account #: 048755
Date Sampled: 12 Oct 18 13:56
Date Received: 15 Oct 18 8:00
Sampled By: Client

Independence ND LLC
301 1st Ave E Bakersfield
Newtown ND 58763-4405

Project Name: Independence
Sample Description: WB Section 7 Trailer
Sample Site: 47.56224, -102.58349
Sample Location: SWSW Sec 7 T147 R93

Temp at Receipt: 5.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	15 Oct 18	SVS
pH	* 8.0	units	N/A	SM4500 H+ B	15 Oct 18 17:00	SVS
Conductivity (EC)	695	umhos/cm	N/A	SM2510-B	15 Oct 18 17:00	SVS
Total Alkalinity	131	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Bicarbonate	131	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Carbonate	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Hydroxide	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Tot Dis Solids(Summation)	421	mg/l	12.5	SM1030-F	26 Oct 18 12:29	Calculated
Percent Sodium of Cations	39.1	%	NA	N/A	18 Oct 18 13:59	Calculated
Total Hardness as CaCO3	208	mg/l	NA	SM2340-B	18 Oct 18 13:59	Calculated
Hardness in grains/gallon	12.1	gr/gal	NA	SM2340-B	18 Oct 18 13:59	Calculated
Cation Summation	6.97	meq/L	NA	SM1030-F	26 Oct 18 12:59	Calculated
Anion Summation	7.04	meq/L	NA	SM1030-F	26 Oct 18 12:29	Calculated
Percent Error	-0.45	%	NA	SM1030-F	26 Oct 18 12:59	Calculated
Sodium Adsorption Ratio	1.89		NA	USDA 20b	18 Oct 18 13:59	Calculated
Specific Gravity	1.0029	at 60/60F	NA	ASTM D1298	16 Oct 18 13:14	RAG
Fluoride	0.41	mg/l	0.10	SM4500-F-C	15 Oct 18 17:00	SVS
Sulfate	194	mg/l	5.00	ASTM D516-07	26 Oct 18 12:29	EV
Chloride	12.4	mg/l	1.0	SM4500-Cl-E	25 Oct 18 15:42	EV
Nitrate-Nitrite as N	0.37	mg/l	0.10	EPA 353.2	17 Oct 18 15:37	RAG
Calcium - Total	49.2	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Magnesium - Total	20.6	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Sodium - Total	62.6	mg/l	1.0	6010D	18 Oct 18 13:59	BB

RL = Method Reporting Limit

The reporting limit was elevated for any analyte requiring a dilution as coded below:
@ = Due to sample matrix # = Due to concentration of other analyte
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: ND # ND-00016

Freshwater Analysis 1
Attachment B4.1 (2 pages)
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

MINNESOTA VALLEY TESTING LABORATORIES, INC.

MVTL

1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER ACIL

Report Date: 1 Nov 18
Lab Number: 18-W3451
Work Order #:82-2719
Account #: 048755
Date Sampled: 12 Oct 18 13:56
Date Received: 15 Oct 18 8:00
Sampled By: Client

Independence ND LLC
301 1st Ave E Bakersfield
Newtown ND 58763-4405

Project Name: Independence
Sample Description: WB Section 7 Trailer
Sample Site: 47.56224, -102.58349
Sample Location: SWSW Sec 7 T147 R93

Temp at Receipt: 5.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Potassium - Total	3.7	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Barium - Total	< 0.1	mg/l	0.10	6010D	26 Oct 18 12:59	BB
Iron - Total	0.13	mg/l	0.10	6010D	26 Oct 18 12:59	BB
Manganese - Total	< 0.05	mg/l	0.05	6010D	26 Oct 18 12:59	BB
Chromium - Total	< 0.002	mg/l	0.0020	6020B	30 Oct 18 19:00	CC

* Holding time exceeded

Approved by: Claudette K Carroll Stacy Zander

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

Stacy Zander, Energy Laboratory Supervisor, Bismarck, ND

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: ND # ND-00016

MVTL

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51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER ACIL

Report Date: 1 Nov 18
Lab Number: 18-W3446
Work Order #:82-2719
Account #: 048755
Date Sampled: 11 Oct 18 16:19
Date Received: 15 Oct 18 8:00
Sampled By: Client

Independence ND LLC
301 1st Ave E Bakersfield
Newtown ND 58763-4405

Project Name: Independence
Sample Description: WB Section 8 Stock Dam
Sample Site: 47.56048, -102.56322
Sample Location: SWSW Sec 8 T147 R93

Temp at Receipt: 5.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	15 Oct 18	SVS
pH	* 8.7	units	N/A	SM4500 H+ B	15 Oct 18 17:00	SVS
Conductivity (EC)	1924	umhos/cm	N/A	SM2510-B	15 Oct 18 17:00	SVS
Total Alkalinity	362	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Phenolphthalein Alk	23	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Bicarbonate	316	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Carbonate	46	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Hydroxide	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Tot Dis Solids(Summation)	1270	mg/l	12.5	SM1030-F	26 Oct 18 12:08	Calculated
Percent Sodium of Cations	59.0	%	NA	N/A	18 Oct 18 13:59	Calculated
Total Hardness as CaCO3	443	mg/l	NA	SM2340-B	18 Oct 18 13:59	Calculated
Hardness in grains/gallon	25.9	gr/gal	NA	SM2340-B	18 Oct 18 13:59	Calculated
Cation Summation	22.9	meq/L	NA	SM1030-F	26 Oct 18 11:59	Calculated
Anion Summation	19.6	meq/L	NA	SM1030-F	26 Oct 18 12:08	Calculated
Percent Error	7.88	%	NA	SM1030-F	26 Oct 18 12:08	Calculated
Sodium Adsorption Ratio	6.43		NA	USDA 20b	18 Oct 18 13:59	Calculated
Specific Gravity	1.0028	at 60/60F	NA	ASTM D1298	16 Oct 18 13:14	RAG
Fluoride	0.29	mg/l	0.10	SM4500-F-C	15 Oct 18 17:00	SVS
Sulfate	580	mg/l	5.00	ASTM D516-07	26 Oct 18 12:08	EV
Chloride	9.4	mg/l	1.0	SM4500-Cl-E	25 Oct 18 15:42	EV
Nitrate-Nitrite as N	< 0.1	mg/l	0.10	EPA 353.2	17 Oct 18 15:37	RAG
Calcium - Total	67.1	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Magnesium - Total	66.9	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Sodium - Total	311	mg/l	1.0	6010D	18 Oct 18 13:59	BB

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CERTIFICATION: ND # ND-00016

Freshwater Analysis 2
Attachment B4.2 (2 pages)
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

MINNESOTA VALLEY TESTING LABORATORIES, INC.

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2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER ACIL

Report Date: 1 Nov 18
Lab Number: 18-W3446
Work Order #:82-2719
Account #: 048755
Date Sampled: 11 Oct 18 16:19
Date Received: 15 Oct 18 8:00
Sampled By: Client

Independence ND LLC
301 1st Ave E Bakersfield
Newtown ND 58763-4405

Project Name: Independence
Sample Description: WB Section 8 Stock Dam
Sample Site: 47.56048, -102.56322
Sample Location: SWSW Sec 8 T147 R93

Temp at Receipt: 5.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Potassium - Total	20.9	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Barium - Total	< 0.1	mg/l	0.10	6010D	26 Oct 18 11:59	BB
Iron - Total	0.40	mg/l	0.10	6010D	26 Oct 18 11:59	BB
Manganese - Total	< 0.05	mg/l	0.05	6010D	26 Oct 18 11:59	BB
Chromium - Total	< 0.002	mg/l	0.0020	6020B	30 Oct 18 19:00	CC

* Holding time exceeded

Approved by: Claudette K Carroll Stacy Zander

Claudette K. Carroll, Laboratory Manager, Bismarck, ND Stacy Zander, Energy Laboratory Supervisor, Bismarck, ND

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CERTIFICATION: ND # ND-00016

MINNESOTA VALLEY TESTING LABORATORIES, INC.

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51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER ACIL

Report Date: 1 Nov 18
Lab Number: 18-W3445
Work Order #:82-2719
Account #: 048755
Date Sampled: 11 Oct 18 15:25
Date Received: 15 Oct 18 8:00
Sampled By: Client

Independence ND LLC
301 1st Ave E Bakersfield
Newtown ND 58763-4405

Project Name: Independence
Sample Description: WB Section 7 Pond
Sample Site: 47.57303, -102.58511
Sample Location: NWNW Sec 7 T147 R93

Temp at Receipt: 5.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	15 Oct 18	SVS
pH	* 8.1	units	N/A	SM4500 H+ B	15 Oct 18 17:00	SVS
Conductivity (EC)	1247	umhos/cm	N/A	SM2510-B	15 Oct 18 17:00	SVS
Total Alkalinity	357	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Bicarbonate	357	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Carbonate	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Hydroxide	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Tot Dis Solids(Summation)	845	mg/l	12.5	SM1030-F	26 Oct 18 12:08	Calculated
Percent Sodium of Cations	44.4	%	NA	N/A	18 Oct 18 13:59	Calculated
Total Hardness as CaCO3	401	mg/l	NA	SM2340-B	18 Oct 18 13:59	Calculated
Hardness in grains/gallon	23.4	gr/gal	NA	SM2340-B	18 Oct 18 13:59	Calculated
Cation Summation	14.8	meq/L	NA	SM1030-F	26 Oct 18 11:59	Calculated
Anion Summation	14.4	meq/L	NA	SM1030-F	26 Oct 18 12:08	Calculated
Percent Error	1.25	%	NA	SM1030-F	26 Oct 18 12:08	Calculated
Sodium Adsorption Ratio	3.26		NA	USDA 20b	18 Oct 18 13:59	Calculated
Specific Gravity	1.0032	at 60/60F	NA	ASTM D1298	16 Oct 18 13:14	RAG
Fluoride	0.69	mg/l	0.10	SM4500-F-C	15 Oct 18 17:00	SVS
Sulfate	341	mg/l	5.00	ASTM D516-07	26 Oct 18 12:08	EV
Chloride	5.4	mg/l	1.0	SM4500-Cl-E	25 Oct 18 15:42	EV
Nitrate-Nitrite as N	< 0.1	mg/l	0.10	EPA 353.2	17 Oct 18 14:51	RAG
Calcium - Total	75.3	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Magnesium - Total	51.6	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Sodium - Total	150	mg/l	1.0	6010D	18 Oct 18 13:59	BB

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CERTIFICATION: ND # ND-00016

Freshwater Analysis 3
Attachment B4.3 (2 pages)
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

MINNESOTA VALLEY TESTING LABORATORIES, INC.

MVTL

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51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER ACIL

Report Date: 1 Nov 18
Lab Number: 18-W3445
Work Order #:82-2719
Account #: 048755
Date Sampled: 11 Oct 18 15:25
Date Received: 15 Oct 18 8:00
Sampled By: Client

Independence ND LLC
301 1st Ave E Bakersfield
Newtown ND 58763-4405

Project Name: Independence
Sample Description: WB Section 7 Pond
Sample Site: 47.57303, -102.58511
Sample Location: NWNW Sec 7 T147 R93

Temp at Receipt: 5.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Potassium - Total	7.1	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Barium - Total	0.16	mg/l	0.10	6010D	26 Oct 18 11:59	BB
Iron - Total	1.00	mg/l	0.10	6010D	26 Oct 18 11:59	BB
Manganese - Total	0.25	mg/l	0.05	6010D	26 Oct 18 11:59	BB
Chromium - Total	< 0.002	mg/l	0.0020	6020B	30 Oct 18 19:00	CC

* Holding time exceeded

Approved by: Claudette K Carroll — Stacy Zander

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

Stacy Zander, Energy Laboratory Supervisor, Bismarck, ND

RL = Method Reporting Limit

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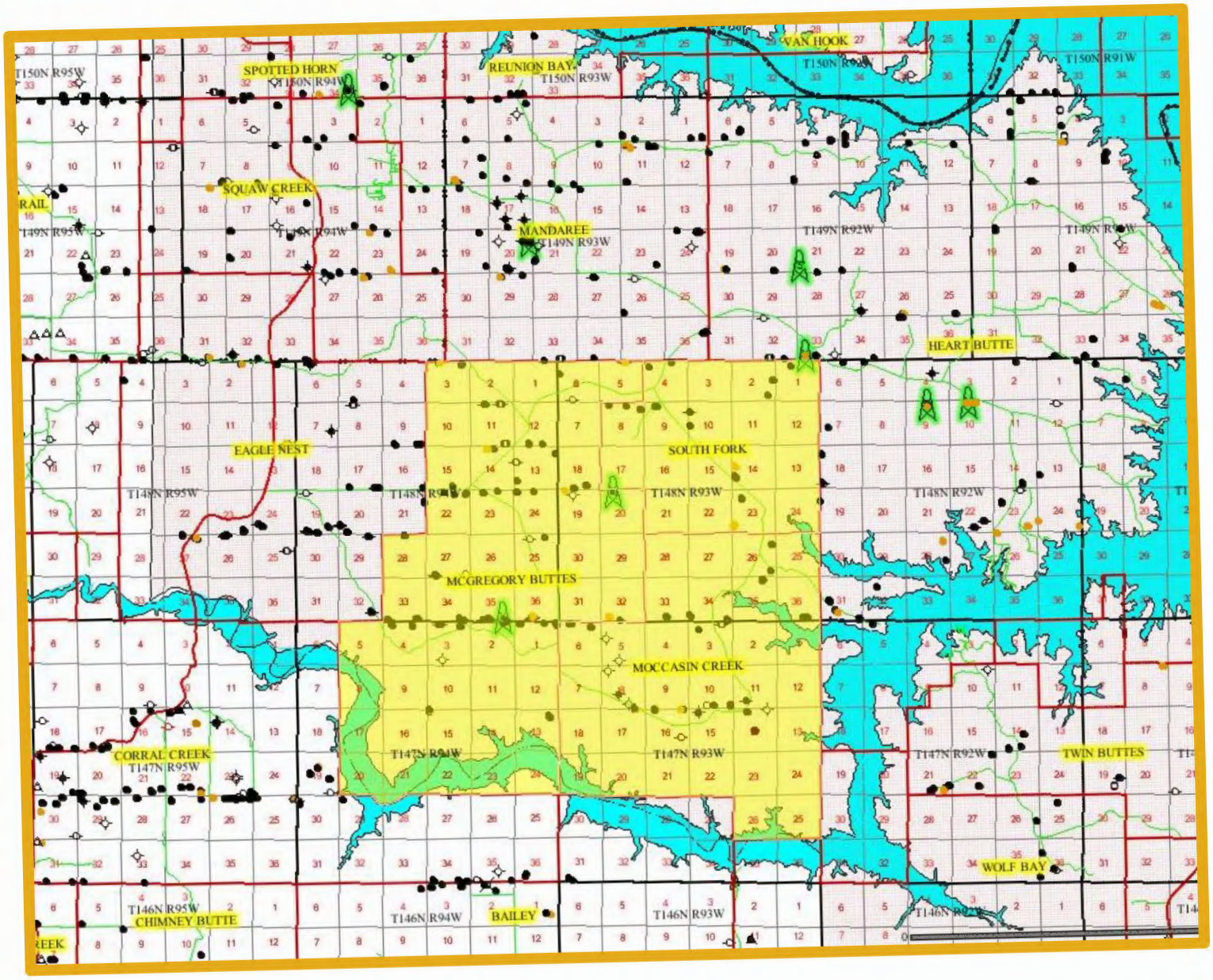
@ = Due to sample matrix
! = Due to sample quantity
= Due to concentration of other analytes
+ = Due to internal standard response

CERTIFICATION: ND # ND-00016



**** Generally, producing wells within the South Fork, McGregory Buttes, and Moccasin Creek Fields.

Potential Market Area
Attachment B5
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

Market Area Source Wells in the Area****								
Field	Well Name	File No.	API No.	Well Type	Well Status	Status Date	Location	Operator
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1A-12-10H	30679	33025028510000	OG	A	8/10/2015	NWNE 1-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1A-12-11H	32503	33025031150000	OG	A	11/18/2016	NENE 1-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1A-12-12H	32505	33025031170000	OG	A	11/21/2016	NENE 1-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1A-12-1H	18341	33025009760000	OG	A	10/26/2011	NWNE 1-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1A-12-2H	20879	33025013850000	OG	A	1/20/2014	NENE 1-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1A-12-9H	30680	33025028520000	OG	A	8/14/2015	NWNE 1-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1B-12-13H	33124	33025032400000	OG	NC	6/21/2018	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1B-12-3H	23382	33025018160000	OG	A	5/21/2013	NWNW 1-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1B-12-4H	26280	33025022440000	Confidential	Confidential	Confidential	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1B-12-5H	26282	33025022460000	Confidential	Confidential	Confidential	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1B-12-6H	29135	33025026420000	OG	NC	6/11/2018	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1B-12-7H	29136	33025026430000	OG	NC	6/4/2018	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-1B-12-8H	33125	33025032410000	OG	NC	5/28/2018	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2A-11-1H	18206	33025009470000	OG	A	5/15/2017	NWNE 2-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2A-11-2H	21900	33025015400000	OG	A	5/15/2017	NENE 2-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2B-11-3H	25598	33025021670000	OG	A	7/28/2014	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2B-11-4H	25597	33025021660000	OG	A	7/29/2014	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2B-11-5H	25596	33025021650000	OG	A	7/25/2014	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2B-11-6H	31076	33025029010000	OG	A	12/2/2015	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2B-11-7H	31077	33025029020000	OG	A	9/15/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2B-11-8H	31078	33025029030000	OG	A	9/15/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-2B-11-9H	31080	33025029050000	OG	A	11/29/2015	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3A-10-10H	29848	33025027230000	OG	A	3/15/2018	NENE 3-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3A-10-12H	29849	33025027240000	OG	A	6/2/2015	NENE 3-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3A-10-1H	18458	33025010020000	OG	A	10/4/2010	NENE 3-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3A-10-2H	23258	33025017880000	OG	A	3/25/2013	SESE 34-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3A-10-6H	29847	33025027220000	OG	A	6/5/2015	NENE 3-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3B-10-3H	24272	33025019640000	OG	A	4/28/2014	NENW 3-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3B-10-4H	24271	33025019630000	OG	A	4/25/2014	NENW 3-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3B-10-5H	24270	33025019620000	OG	A	4/25/2014	NENW 3-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 147-94-3B-10-7H	25801	33025021860000	OG	A	4/26/2014	NENW 3-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-22A-27-11H	31161	33025029260000	OG	A	9/4/2016	NENE 22-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-22A-27-12H	31697	33025029740000	OG	A	9/2/2016	NENE 22-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-22A-27-1H	18335	33025009750000	OG	A	6/17/2010	NWNE 22-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-22A-27-2H	23223	33025017810000	OG	A	3/3/2013	NENE 22-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-22B-27-5H	22878	33025017000000	OG	A	5/9/2013	NENW 22-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-25A-36-1H	18332	33025009730000	OG	A	8/15/2017	NWNE 25-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-27C-22-3H	24150	33025019380000	OG	A	5/25/2015	SWSW 27-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-27C-22-4H	27107	33025023690000	OG	A	5/23/2015	SWSW 27-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-27C-22-6H	27106	33025023680000	OG	A	5/21/2015	SWSW 27-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-27C-22-7H	27105	33025023670000	OG	A	2/15/2018	SWSW 27-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-27C-22-8H	27103	33025023660000	OG	A	5/18/2015	SWSW 27-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-28A-33-12H	28629	33025025840000	OG	NC	5/25/2018	NWNE 28-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-28A-33-13H	28628	33025025830000	Confidential	Confidential	Confidential	NWNE 28-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-28A-33-14H	34528	33025034400000	Confidential	Confidential	Confidential	NWNE 28-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-28A-33-15H	34529	33025034410000	Confidential	Confidential	Confidential	NWNE 28-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-28A-33-1H	22312	33025016050000	OG	IA	5/15/2018	NWNE 28-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-28A-33-2H	22313	33025016060000	OG	IA	5/15/2018	NWNE 28-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-33C-28-10H	26867	33025023390000	OG	A	9/6/2014	SWSW 33-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-33C-28-8H	26865	33025023370000	OG	A	9/10/2014	SWSW 33-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-33C-28-9H	26866	33025023380000	OG	A	9/6/2014	SWSW 33-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-33D-28-4H	24338	33025019830000	OG	IA	9/15/2018	SESE 33-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-33D-28-5H	24339	33025019840000	OG	IA	9/15/2018	SESE 33-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-33D-28-6H	29571	33025026810000	OG	IA	9/15/2018	SESE 33-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-33D-28-7H	29572	33025026820000	OG	IA	9/15/2018	SESE 33-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35C-26-10H	31081	33025029060000	OG	A	9/1/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35C-26-3H	26295	33025022560000	OG	A	9/15/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35C-26-4H	26294	33025022550000	OG	A	9/15/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35C-26-5H	26293	33025022540000	OG	A	9/15/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35C-26-6H	31085	33025029100000	OG	A	9/13/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35C-26-7H	31082	33025029070000	OG	A	8/17/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35C-26-8H	31084	33025029090000	OG	A	8/22/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35C-26-9H	31083	33025029080000	OG	A	8/12/2017	SESW 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35D-26-11H	32608	33025031320000	OG	A	6/19/2017	SESE 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35D-26-12H	32611	33025031350000	OG	A	6/16/2017	SESE 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35D-26-13H	32612	33025031360000	OG	A	6/21/2017	SESE 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35D-26-1H	18313	33025009700000	OG	A	5/15/2017	SWSE 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-35D-26-2H	21901	33025015410000	OG	A	5/15/2017	SESE 35-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36C-25-12H	29137	33025026440000	OG	A	5/17/2017	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36C-25-3H	23383	33025018170000	OG	A	7/15/2017	NWNW 1-147-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36C-25-4H	26279	33025022430000	OG	A	5/20/2017	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36C-25-5H	26281	33025022450000	OG	A	5/16/2017	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36C-25-6H	29134	33025026410000	OG	A	5/10/2017	SESW 36-148-94	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36C-25-7H	31462	33025029630000	OG	A	5/15/2017	SESW 36-14	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36C-25-8H	31464	33025029650000	OG	A	7/10/2017	SESW 36-14	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36C-25-9H	31463	33025029640000	OG	NC	12/2/2016	SESW 36-14	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36D-25-10H	32506	33025031180000	OG	A	11/8/2016	NENE 1-14	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36D-25-11H	32504	33025031160000	OG	A	6/15/2017	NENE 1-14	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	FORT BERTHOLD 148-94-36D-25-2H	20880	33025013860000	OG	A	6/15/2017	NENE 1-14	BRUIN E&P OPERATING, LLC
MCGREGORY BUTTES	ALUMINUM 148-93-32CH	33514	33025032870000	Confidential	Confidential	Confidential	SWSW 32-1	BRUIN E&P OPERATING, LLC

Market Area Source Wells
Attachment B5.1 (4pages)
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

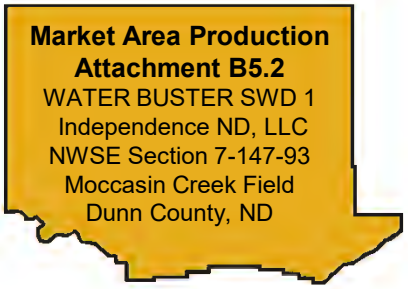
MCGREGORY BUTTES	ANCHO 148-94-11C-2H	34774	33025034710000	OG	LOC	4/12/2018	SESE 11-14B-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	ANDREW 24-11H	18260	33025009590000	OG	A	12/14/2009	NWNW 24-148-11	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	ANNA G. BAKER 6B-30-2H TF	19624	33025011720000	OG	A	5/15/2018	NENW 6-147-30	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	BARN 147-94-13A-24H	30866	33025028850000	OG	A	5/4/2016	NENE 13-147-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	BELUGA 148-93-06B-05-3H	21752	33025015100000	OG	A	1/28/2013	LOT5 6-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	BURROWING 147-94-13B-24H	30863	33025028820000	OG	A	5/4/2016	NENE 13-147-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	CALICO 148-93-31D-30H	31125	33025029130000	OG	A	4/22/2018	NENE 6-147-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	CEDAR 148-94 12D-01-4H	20782	33025013620000	OG	A	4/12/2012	SWSE 12-148-94 12D	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	CHIMAYO 148-94-11D-2H	34781	33025034780000	OG	LOC	4/12/2018	SESE 11-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	CHORD 148-93-18D-07-3H	21274	33025014320000	OG	A	6/28/2013	SWSE 18-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	DIABLO 148-94-11D-2H-TF	34782	33025034790000	OG	LOC	4/12/2018	SESE 11-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	DUET 148-93-18C-07-1H	21276	33025014340000	OG	A	8/13/2012	SESW 18-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	EAGLES NEST 34-44H	19477	33025011590000	OG	A	3/23/2011	SESE 34-148-44	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	ETHAN HALL 6B-31-30-1H	18546	33025010170000	OG	A	5/15/2018	NENW 6-147-31	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	FORGE 148-94 11B-3H	20851	33025013770000	OG	A	12/31/2011	NENW 11-148-94 11B	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	GIRAFFE 148-94-03B-10-2H TF	21756	33025015130000	Confidential	Confidential	Confidential	LOT3 3-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	HANS #20-21H	20883	33025013870000	OG	A	4/26/2012	NENW 20-148-21	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	HARMONY 148-93-18C-07-2H TF	21277	33025014350000	OG	A	8/13/2012	SESW 18-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	HATCH 148-94-11D-2H	34779	33025034760000	OG	LOC	4/12/2018	SESE 11-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	HAWAII 148-94 23A-1H	20985	33025014010000	OG	A	11/26/2011	NWNE 23-148-94 23A	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	HIDALGO 148-94-11C-2H-TF	34773	33025034700000	OG	LOC	4/12/2018	SESE 11-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	HILO 148-94 23B-2H TF	20983	33025013990000	OG	A	12/22/2011	NENW 23-148-94 23B	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	HIPPO 148-94-03A-10-4H TF	21782	33025015150000	OG	A	6/30/2012	LOT1 3-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	HUMPBACK 148-93-06B-05-4H TF	21751	33025015090000	OG	A	8/1/2012	LOT5 6-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	IMPALA 148-94-03B-10-1H	21757	33025015140000	OG	A	6/28/2012	LOT3 3-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	J.M. HALL 1-19H	18017	33025009100000	OG	A	4/23/2010	LOT 1 19-148-19	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	JALAPENO 148-94 02C-3H	20850	33025013760000	OG	A	12/24/2011	NENW 11-148-94 02C	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	JUPITER 148-93 19B-2H TF	20438	33025013070000	Confidential	Confidential	Confidential	LOT1 19-148-93 19B	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	KONA 148-94 23B-3H	20984	33025014000000	OG	A	12/26/2011	NENW 23-148-94 23B	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	MANX 148-93-31D-30H TF	31127	33025029150000	OG	A	4/22/2018	NENE 6-147-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	MAUI 148-94 23A-4H TF	20986	33025014020000	OG	A	11/26/2011	NWNE 23-148-94 23A	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	MUSIC 148-93-18D-07-4H TF	21275	33025014330000	OG	A	6/28/2013	SWSE 18-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	OAK 148-94 12C-01-1H	20785	33025013640000	OG	A	5/6/2012	SESW 12-148-94 12C	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	PAPRIKA 148-94-11D-2H-TF	34780	33025034770000	OG	LOC	4/12/2018	SESE 11-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	PINE 148-94 12D-01-3H	20781	33025013610000	OG	A	5/16/2012	SWSE 12-148-94 12D	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	PINTAIL 148-93-20A-29H	34434	33025034260000	OG	LOC	1/2/2018	NENW 20-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	RHINO 148-94-03A-10-3H	21783	33025015160000	OG	A	6/30/2012	LOT1 3-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	ROBERTS TRUST 1-13H	18355	33025009820000	OG	A	4/10/2010	SWSW 13-148-13	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	ROBERTS TRUST 13C-2H TF	19873	33025012080000	OG	A	4/23/2011	SWSW 13-148-2	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	SANTAKA 148-94-11C-2H-TF	34775	33025034720000	OG	LOC	4/12/2018	SESE 11-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	SCAUP 148-93-20A-29H-TF	34433	33025034250000	OG	LOC	1/2/2018	NENW 20-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	SCREECH 147-94-13B-24H	30864	33025028830000	OG	A	5/4/2016	NENE 13-147-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	SERRANO 148-94-11D-2H-TF	34778	33025034750000	OG	LOC	4/12/2018	SESE 11-14B-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	SIAMESE 148-93-31D-30H	31129	33025029170000	OG	A	4/17/2018	NWNE 6-147-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	SNOWY 147-94-13A-24H TF	30865	33025028840000	OG	A	5/4/2016	NENE 13-147-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	SPRUCE 148-94 12C-01-2H TF	20784	33025013630000	OG	A	2/2/2012	SESW 12-148-94 12C	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	TABICHE 148-94-11C-2H	34777	33025034740000	OG	LOC	4/12/2018	SESE 11-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	THAI 148-94-11C-2H-TF	34776	33025034730000	OG	LOC	4/12/2018	SESE 11-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	TOWN HALL 148-93-31C-30H	32052	33025030270000	OG	A	6/8/2016	NENW 6-147-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	TRUMPET 148-94-13AH	33419	33025032710000	OG	A	10/3/2017	NENE 13-148-94	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	VOIGT 24-11H	17203	33025007550000	OG	A	8/12/2008	NWNW 24-148-11	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	VOIGT 24-21H	17009	33025007140000	OG	A	6/28/2008	NENW 24-148-21	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	VOIGT 32-34H	17725	33025008480000	OG	A	10/10/2009	SESW 32-148-34	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	WIDGEON 148-93-20A-29H	34432	33025034240000	OG	LOC	1/2/2018	NENW 20-148-93	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	ZANE 32-24H	18221	33025009490000	OG	A	10/10/2009	SESW 32-148-24	ENERPLUS RESOURCES USA CORPORATION
MCGREGORY BUTTES	BEARS GHOST USA 11-4H	27838	33025024880000	OG	A	12/11/2014	NWNW 4-147-4	MARATHON OIL COMPANY
MCGREGORY BUTTES	BEARS GHOST USA 11-4TFH	27839	33025024890000	OG	A	4/15/2018	NWNW 4-147-4	MARATHON OIL COMPANY
MCGREGORY BUTTES	BEARS GHOST USA 21-4TFH	27837	33025024870000	OG	A	12/31/2014	NWNW 4-147-4	MARATHON OIL COMPANY
MCGREGORY BUTTES	BEARS GHOST USA 31-4H	20824	33025013710000	OG	A	1/3/2012	NWNE 4-147-4	MARATHON OIL COMPANY
MCGREGORY BUTTES	BEARS GHOST USA 31-4TFH	21349	33025014470000	OG	A	8/15/2018	NWNE 4-147-4	MARATHON OIL COMPANY
MCGREGORY BUTTES	EAGLE USA 41-5H	23802	33025018670000	OG	A	1/24/2013	SWSE 32-148-5	MARATHON OIL COMPANY
MCGREGORY BUTTES	HOPKINS USA 15-1TFH	24315	33025019810000	Confidential	Confidential	Confidential	SWSW 10-147-1	MARATHON OIL COMPANY
MCGREGORY BUTTES	HOPKINS USA 15-2H	24316	33025019820000	OG	A	3/18/2013	SWSW 10-147-2	MARATHON OIL COMPANY
MCGREGORY BUTTES	HOPKINS USA 15-4H	24314	33025019800000	Confidential	Confidential	Confidential	NWNW 15-147-4	MARATHON OIL COMPANY
MCGREGORY BUTTES	LINCOLN USA 16-1H	24648	33025020210000	OG	A	1/30/2013	NWNW 15-147-1	MARATHON OIL COMPANY
MCGREGORY BUTTES	RICHANDA USA 21-4H	27836	33025024860000	OG	A	12/19/2014	NWNW 4-147-4	MARATHON OIL COMPANY
MCGREGORY BUTTES	FANCY 14W-4H-BK	34299	33025033950000	Confidential	Confidential	Confidential	NENW 14-148-4H	MISSOURI RIVER RESOURCES ND, LLC
MCGREGORY BUTTES	GRASS 14W-1H-TF	34296	33025033920000	Confidential	Confidential	Confidential	NENW 14-148-1H	MISSOURI RIVER RESOURCES ND, LLC
MCGREGORY BUTTES	HOOP 14W-5H-TF	34300	33025033960000	Confidential	Confidential	Confidential	NENW 14-148-5H	MISSOURI RIVER RESOURCES ND, LLC
MCGREGORY BUTTES	JINGLE 14W-3H-TF	34298	33025033940000	Confidential	Confidential	Confidential	NENW 14-148-3H	MISSOURI RIVER RESOURCES ND, LLC
MCGREGORY BUTTES	TRADITIONAL 14W-2H-BK	34297	33025033930000	Confidential	Confidential	Confidential	NENW 14-148-2H	MISSOURI RIVER RESOURCES ND, LLC
MCGREGORY BUTTES	ETHAN HALL 14HC	18129	33025009380000	OG	A	11/28/2011		WPX ENERGY WILLISTON, LLC
MCGREGORY BUTTES	WOUNDED FACE #15HC	21215	33025014210000	OG	A	9/15/2012		WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	ANNA G. BAKER 6B-7-2H TF	21111	33025014150000	OG	A	5/15/2018	NENW 6-147-7	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	BENGAL 147-93-06A-07H	31126	33025029140000	OG	A	5/8/2018	NENE 6-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	CHROME 147-93-05B-08H	33515	33025032880000	Confidential	Confidential	Confidential	SWSW 32-148-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	COBALT 147-93-09D-04H	33967	33025033440000	Confidential	Confidential	Confidential	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	COPPER 147-93-17A-20-2H TF	20931	33025013920000	Confidential	Confidential	Confidential	NENE 17-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	DANCE HALL 147-93-06B-07H	32051	33025030260000	OG	A	6/8/2016	NENW 6-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	ETHAN HALL 6B-7-1H	18545	33025010160000	OG	IA	8/15/2018	NENW 6-147-7	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	GOLD 147-93-05B-08H-TF	33513	33025032860000	Confidential	Confidential	Confidential	SWSW 32-148-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	HENRY BAD GUN 16B-21-1H	18790	33025010630000	OG	IA	8/15/2018	NWNW 16-147-21	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	HENRY BAD GUN 17A-20-1H	18752	33025010570000	OG	A	7/23/2010	NENE 17-147-20	ENERPLUS RESOURCES USA CORPORATION

MOCCASIN CREEK	HENRY BAD GUN 8D-5-1H	18753	33025010580000	OG	A	7/23/2010	SESE 8-147-5	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	HENRY BAD GUN 9C-4-1H	18627	33025010300000	OG	IA	8/15/2018	SWSW 9-147-4	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	HORNED 147-93-18B-19H	25142	33025020850000	OG	A	11/28/2013	NENE 13-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	LEAD 147-93-16B-21H-TF	33972	33025033490000	Confidential	Confidential	Confidential	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	NICKEL 147-93-16B-21H-TF	33968	33025033450000	Confidential	Confidential	Confidential	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	PERSIAN 147-93-06A-07H	31130	33025029180000	OG	NC	4/18/2018	NWNE 6-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	PLATINUM 147-93-16A-21H	33975	33025033520000	OG	LOC	8/31/2018	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	PYGMY 147-93-18B-19H TF	25143	33025020860000	OG	A	11/28/2013	NENE 13-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	ROCKET 147-93-08D-05-2H TF	20932	33025013930000	Confidential	Confidential	Confidential	SESE 8-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	SATURN 147-93-09C-04-2H	20606	33025013430000	Confidential	Confidential	Confidential	SWSW 9-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	SILVER 147-93-09D-04H	33974	33025033510000	OG	LOC	8/31/2018	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	SODIUM 147-93-05B-08H-TF	33516	33025032890000	Confidential	Confidential	Confidential	SWSW 32-148-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	STEEL 147-93-09D-04H-TF	33969	33025033460000	Confidential	Confidential	Confidential	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	TABBY 147-93-06A-07H TF	31128	33025029160000	OG	A	5/5/2018	NENE 6-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	TITANIUM 147-93-16A-21H	33973	33025033500000	OG	LOC	8/31/2018	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	TUNGSTEN 147-93-16A-21H	33970	33025033470000	Confidential	Confidential	Confidential	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	VENUS 147-93-16B-21-2H TF	20608	33025013450000	Confidential	Confidential	Confidential	NWNW 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	ZINC 147-93-09D-04H	33971	33025033480000	Confidential	Confidential	Confidential	NENE 16-147-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	ZIRCONIUM 147-93-05B-08H	33512	33025032850000	Confidential	Confidential	Confidential	SWSW 32-148-93	ENERPLUS RESOURCES USA CORPORATION
MOCCASIN CREEK	ANTHONY USA 23-14H	28075	33025025070000	OG	A	2/1/2015	NESW 14-147-14	MARATHON OIL COMPANY
MOCCASIN CREEK	AZURE USA 31-15H	25898	33025021910000	OG	A	5/27/2014	SWSE 10-147-15	MARATHON OIL COMPANY
MOCCASIN CREEK	BOY CHIEF USA 11-15TFH	20974	33025013960000	OG	A	1/6/2012	NWNW 15-147-15	MARATHON OIL COMPANY
MOCCASIN CREEK	CHASE USA 21-15H	25897	33025021900000	OG	A	5/28/2014	SWSE 10-147-15	MARATHON OIL COMPANY
MOCCASIN CREEK	FOX USA 14-1H	24744	33025020350000	OG	A	1/14/2015	NWSE 14-147-1	MARATHON OIL COMPANY
MOCCASIN CREEK	GOOD BEAR USA 21-14H	20642	33025013490000	OG	A	10/3/2011	NENW 14-147-14	MARATHON OIL COMPANY
MOCCASIN CREEK	GOOD BEAR USA 31-14H	20644	33025013500000	OG	A	12/9/2011	NENW 14-147-14	MARATHON OIL COMPANY
MOCCASIN CREEK	HALE USA 23-14TFH	28076	33025025080000	OG	A	2/1/2015	NESW 14-147-14	MARATHON OIL COMPANY
MOCCASIN CREEK	MELVAIN FOX USA 14-4TFH	24745	33025020360000	OG	A	2/1/2015	NWSE 14-147-4	MARATHON OIL COMPANY
MOCCASIN CREEK	SWIFT EAGLE USA 31-15TFH	26063	33025022180000	OG	A	6/5/2014	SWSE 10-147-15	MARATHON OIL COMPANY
MOCCASIN CREEK	TWO CROW USA 21-15TFH	26062	33025022170000	OG	A	6/11/2014	SWSE 10-147-15	MARATHON OIL COMPANY
MOCCASIN CREEK	MC MHA 14-11-2H	33034	33025032190000	OG	NC	6/22/2018	SWSW 11-147-11	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MC MHA 14-11-2TFH	32856	33025031980000	OG	NC	5/30/2018	SWSW 11-147-11	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MC MHA 14-11-3TFH	33035	33025032200000	OG	NC	6/10/2018	SWSW 11-147-11	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MC MHA 14-11H	32855	33025031970000	OG	NC	6/4/2018	SWSW 11-147-11	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MC MHA 14-11TFH	32854	33025031960000	OG	NC	6/16/2018	SWSW 11-147-11	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MC MHA 24-10-2H	33423	33025032740000	OG	LOC	3/17/2018	SESW 10-147-10	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MC MHA 24-10H	33421	33025032720000	OG	LOC	3/17/2018	SESW 10-147-10	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MC MHA 24-10TFH	33422	33025032730000	OG	LOC	3/17/2018	SESW 10-147-10	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 13-34-28-1H	18707	33025010480000	OG	A	8/23/2010	SWSW 34-148-34	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 13-34-3H	18344	33025009780000	OG	A	6/5/2010	SWSW 34-148-34	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-34-2H	17706	33025008420000	OG	A	4/24/2009	SESE 34-148-34	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-34H	17847	33025008750000	OG	A	5/6/2009	SESE 34-148-34	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-3H	18261	33025009600000	OG	A	3/3/2010	SESE 3-147-3	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 13-34-28-2H	18656	33025010360000	OG	A	8/2/2010	SWSW 34-148-34	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 14-11-2-3H	24056	33025019040000	OG	IA	8/15/2018	SESW 11-147-11	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 14-11-2-3H3	24057	33025019050000	OG	IA	8/15/2018	SESW 11-147-11	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 14-33-28-2H3	25583	33025021590000	OG	A	1/19/2015	SWSE 33-148-33	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 14-33-28-3H	25585	33025021610000	OG	A	1/17/2015	SESW 33-148-33	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 14-33-28-3H3A	25586	33025021620000	OG	A	1/23/2015	SESW 33-148-33	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 14-33-28-3HS	25584	33025021600000	OG	A	6/18/2015	SWSE 33-148-33	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 14-33-28-4H	25587	33025021630000	OG	A	1/7/2015	SESW 33-148-33	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 14-33-28-4H3	25588	33025021640000	OG	A	1/7/2015	SESW 33-148-33	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-10-3-3H	23084	33025017480000	OG	A	1/12/2013	SESE 10-147-10	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-10-3-3H3	23085	33025017490000	OG	A	12/23/2012	SESE 10-147-10	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-10-34-1HU	33205	33025032540000	OG	LOC	11/29/2017	SESE 10-147-10	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-10-34-3H3	31436	33025029620000	OG	LOC	6/18/2018	SESE 10-147-10	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-26-27-12H	22462	33025016320000	OG	A	4/15/2018	SESE 26-148-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-26-27-12H3	31420	33025029610000	OG	NC	3/2/2018	SESE 26-148-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-26-27-13H	31419	33025029600000	OG	NC	4/12/2018	SESE 26-148-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-26-27-13H3	22465	33025016330000	OG	A	4/15/2018	SESE 26-148-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-26-27-13H3U	32630	33025031380000	OG	NC	3/29/2018	SESE 26-14B-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-3-11H	18295	33025009670000	OG	A	2/13/2010	SESE 3-147-3	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-3-34-1H3	33363	33025032660000	OG	LOC	2/23/2018	SESE 3-147-3	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 16-3-34-3H	33362	33025032650000	OG	LOC	2/23/2018	SESE 3-147-3	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 4-3-34-3H3	23225	33025017830000	OG	IA	8/15/2018	LOT4 3-147-3	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 4-3-34-4H	23224	33025017820000	OG	A	2/9/2013	LOT4 3-147-3	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 8-26-27-4H	29182	33025026500000	OG	A	12/15/2016	SENE 26-148-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 8-26-27-4H3	29183	33025026510000	OG	A	12/18/2016	SENE 26-148-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 8-26-27-5H	29180	33025026480000	OG	A	12/11/2016	SENE 26-148-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	MOCCASIN CREEK 8-26-27-5H3	29181	33025026490000	OG	A	12/13/2016	SENE 26-148-26	RIMROCK OIL & GAS WILLISTON LLC
MOCCASIN CREEK	BLACK HAWK 1-12H	21219	33025014230000	OG	A	6/4/2012	SWSE 36-148-12	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	BLACKHAWK 1-12HA	23303	33025017890000	OG	A	4/9/2013	SWSE 36-148-12	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	BLACKHAWK 1-12HB	23305	33025017910000	OG	A	4/29/2013	SWSE 36-148-12	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	BLACKHAWK 1-12HD	23308	33025017940000	OG	A	8/5/2013	SWSE 36-148-12	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	BLACKHAWK 1-12HW	23304	33025017900000	OG	A	7/4/2013	SWSE 36-148-12	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	BLACKHAWK 1-12HY	23306	33025017920000	OG	A	8/5/2013	SWSE 36-148-12	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	BLACKHAWK 1-12HZ	23307	33025017930000	OG	A	8/5/2013	SWSE 36-148-12	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	GOOD BIRD 36-25HC	21218	33025014220000	OG	A	7/4/2012	SWSE 36-148-25	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	GOOD BIRD 36-25HA	23314	33025018000000	OG	A	5/24/2013	SWSE 36-148-25	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	GOOD BIRD 36-25HB	23312	33025017980000	OG	A	6/9/2013	SWSE 36-148-25	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	GOOD BIRD 36-25HD	23309	33025017950000	OG	A	10/20/2013	SWSE 36-148-25	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	GOOD BIRD 36-25HW	23313	33025017990000	OG	A	5/23/2013	SWSE 36-148-25	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	GOOD BIRD 36-25HX	23311	33025017970000	OG	A	11/12/2013	SWSE 36-148-25	WPX ENERGY WILLISTON, LLC

MOCCASIN CREEK	GOOD BIRD 36-25HZ	23310	33025017960000	OG	A	10/27/2013	SWSE 36-148-25	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	PAUL PETER COFFEE 35HA	22431	33025016160000	OG	A	10/31/2012	NWNE 35-148-PAUL	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	PAUL PETER COFFEE 35HC	22430	33025016150000	OG	A	4/15/2018	NWNE 35-148-PAUL	WPX ENERGY WILLISTON, LLC
MOCCASIN CREEK	PAUL PETER COFFEE 35HD	22432	3302S016170000	OG	A	10/31/2012	NWNE 35-148-PAUL	WPX ENERGY WILLISTON, LLC
SOUTH FORK	BEANS 148-93-14B-13H	22473	33025016380000	Confidential	Confidential	Confidential	SWNW 14-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	BENSON 3-9H	20044	33025012300000	OG	A	8/22/2011	NENW 9-148-9	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	BENSON 3-9HA	23202	33025017770000	OG	A	2/26/2013	NENW 9-148-9	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	BMX 148-93-23B-24H TF	21788	33025015200000	OG	A	3/24/2015	NWNW 23-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	BULLHEAD 148-93-15D-16H TF	23166	33025017750000	OG	A	11/16/2012	NWSW 14-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	CARP 148-93-15A-16H	22472	33025016370000	Confidential	Confidential	Confidential	SWNW 14-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	CATFISH 148-93-15D-16H	24763	33025020370000	OG	A	10/10/2013	NWSW 14-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	EARTH LODGE 148-93-22A-21H TF	21789	33025015210000	OG	A	8/6/2015	NWNW 23-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	HUFFY 148-93-23C-24H TF	21916	3302S015490000	Confidential	Confidential	Confidential	SWSW 23-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	LOG HOUSE 148-93-22D-21H TF	21915	33025015480000	Confidential	Confidential	Confidential	SWSW 23-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	LOOK OUT RIDGE 4-31H	18103	33025009320000	OG	A	4/20/2011	NWNE 4-148-31	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	PUMPKIN 148-93-14C-13H TF	24764	33025020380000	OG	A	10/10/2013	NWSW 14-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	ROUND HOUSE 148-93-22D-21H	21914	33025015470000	Confidential	Confidential	Confidential	SWSW 23-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	SCHWINN 148-93-23C-24H	21917	33025015500000	Confidential	Confidential	Confidential	SWSW 23-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	TANDEM 148-93-23B-24H	21787	33025015190000	OG	A	8/6/2015	NENW 23-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	TIPI 148-93-22A-21H	21790	33025015220000	OG	A	8/6/2015	NWNW 23-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	TOBACCO 148-93-14C-13H	24765	33025020390000	OG	A	10/10/2013	NWSW 14-148-93	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	WOMAN CREEK 4-11H	17667	33025008360000	OG	A	4/21/2009	NWNW 4-148-11	ENERPLUS RESOURCES USA CORPORATION
SOUTH FORK	SKUNK CREEK 12-10-11-9H	19587	33025011670000	OG	A	10/9/2011	NWSW 10-148-10	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 12-10-11-9H3	20926	33025013910000	OG	A	10/13/2011	NWSW 10-148-10	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 16-2-3-13H	22162	33025015730000	OG	A	12/1/2012	SESE 2-148-2	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 16-2-3-13H3	22163	33025015740000	OG	A	11/28/2012	SESE 2-148-2	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 1-8-17-15H	30599	33025028420000	OG	A	7/18/2015	NENE 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 1-8-17-15H3	30598	33025028410000	OG	A	7/18/2015	NENE 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 1-8-17-16H	26122	33025022290000	OG	A	7/30/2015	NENE 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 1-8-17-16H3	26121	33025022280000	OG	A	8/2/2015	NENE 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 2-8-17-14H3	21224	33025014240000	OG	IA	9/15/2018	NWNE 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 2-8-17-15H	19817	33025012000000	OG	A	1/15/2018	NWNE 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 4-10-11-1H	24110	33025019250000	OG	A	6/26/2017	NWNW 10-148-10	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 4-10-11-1H3	32089	33025030360000	OG	A	6/28/2017	NWNW 10-148-10	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 4-10-11-8H	32090	33025030370000	OG	A	6/23/2017	NWNW 10-148-10	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 4-10-11-8H3	19780	33025011920000	OG	A	6/24/2017	NWNW 10-148-10	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 4-8-17-13H	27326	33025024020000	OG	A	7/13/2014	NWNW 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 4-8-17-13H3	27325	33025024010000	OG	A	7/13/2014	NWNW 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 4-8-17-14H	19818	33025012010000	OG	A	7/18/2014	NWNW 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 4-8-17-14H3	27327	33025024030000	OG	A	7/16/2014	NWNW 8-148-8	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 9-2-3-12HS	21065	33025014100000	OG	A	4/18/2013	NESE 2-148-2	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	SKUNK CREEK 9-2-3-5H	21064	33025014090000	OG	A	3/15/2012	NESE 2-148-2	RIMROCK OIL & GAS WILLISTON LLC
SOUTH FORK	LAWRENCE BULL 1-12HC	34650	33025034490000	Confidential	Confidential	Confidential	SWSW 33-149-12	WPX ENERGY WILLISTON, LLC
SOUTH FORK	LAWRENCE BULL 1-12HD	34651	33025034500000	Confidential	Confidential	Confidential	SWSW 33-149-12	WPX ENERGY WILLISTON, LLC
SOUTH FORK	LAWRENCE BULL 1-12HY	34649	33025034480000	Confidential	Confidential	Confidential	SWSW 33-149-12	WPX ENERGY WILLISTON, LLC
SOUTH FORK	LAWRENCE BULL 1-12HZ	34652	33025034510000	Confidential	Confidential	Confidential	SWSW 33-149-12	WPX ENERGY WILLISTON, LLC
SOUTH FORK	SKUNK CREEK 1-12H	18922	33025010850000	OG	A	6/15/2011	LOT3 1-148-12	WPX ENERGY WILLISTON, LLC

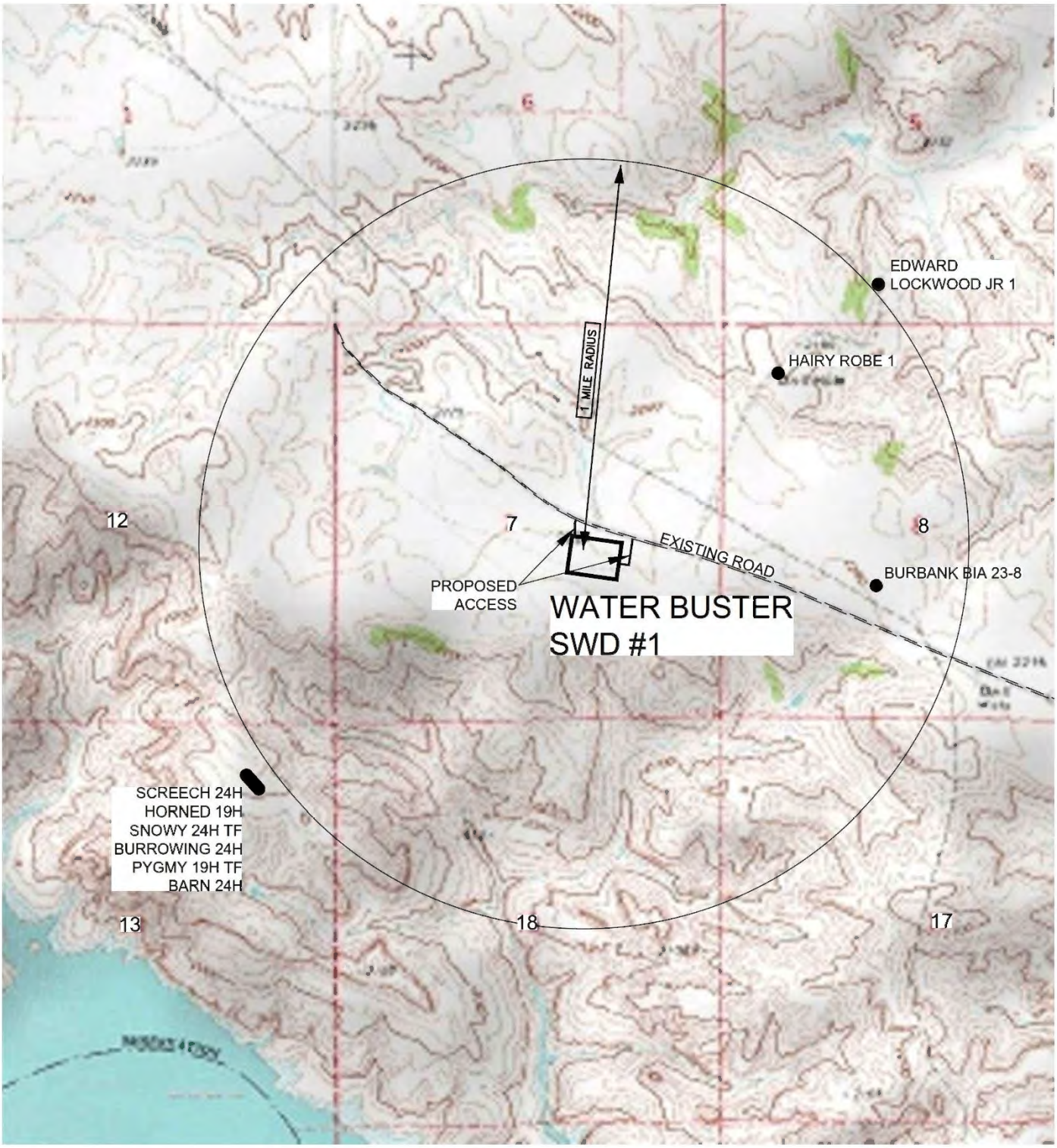
Last Reported Monthly Production Within the Market Area of the Proposed WATER BUSTER SWD 1****					
Field	Date	BBLS Oil	BBLS Water	MCF Gas	Wells Producing
McGregory Buttes-Bakken	Jun-18	427640	324945	528219	116
Moccasin Creek-Bakken	Jun-18	281384	362314	238911	62
South Fork-Bakken	Jun-18	80201	76059	98894	33
		789,225	**763,318**	**866,024**	**211**

**** Generally, producing wells within the South Fork, McGregory Buttes, and Moccasin Creek Fields.



QUAD MAP

INDEPENDENCE ND LLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA



5/10
SHEET NO.

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Belfield, North Dakota 58622
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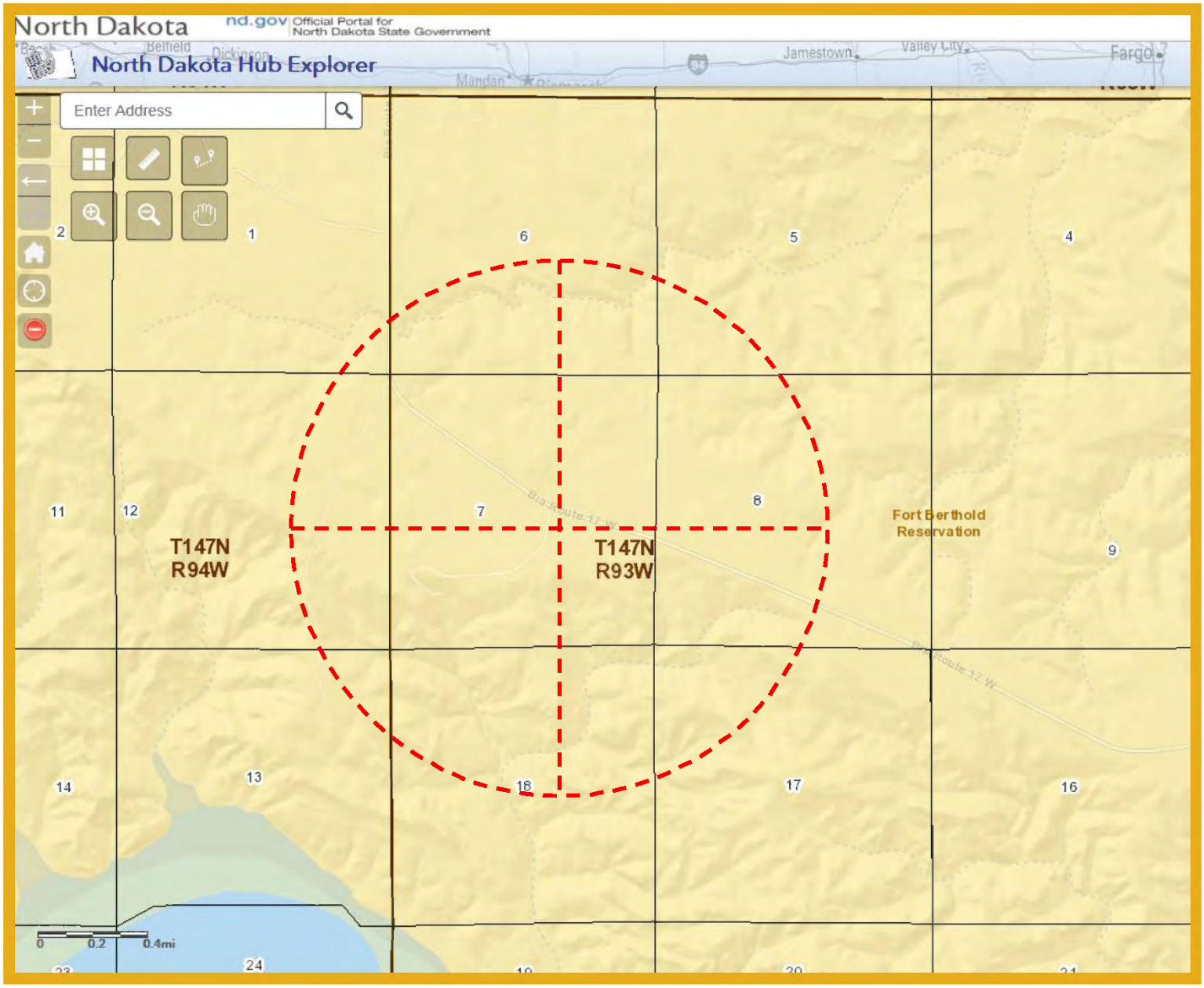
Fax (701) 575-2251
www.interstateeng.com
Other offices in Minnesota, Montana and South Dakota

INDEPENDENCE ND LLC
QUAD MAP
SECTION 7, T147N, R93W
DUNN COUNTY, NORTH DAKOT

Drawn By: J.D.M. | Project No.: E18-17-0
Checked By: R.L.P. | Date: JULY 201

Topographic Map Attachment B6
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND



1-Mile Area of Review

The North Dakota Hub Explorer information portal does not reveal a surficial or sensitive aquifer, abandoned mine, wind turbines, wellhead protection area, solid or special waste facility within a mile of the proposed WATER BUSTER SWD 1 disposal well. Additionally, during its freshwater investigation Independence ND, LLC found no evidence of a hazardous waste treatment, storage, or disposal facility or quarry in the 1-mile AOR.

ND HUB Explorer Map
Attachment B7
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

C. CORRECTIVE ACTION PLAN AND WELL DATA

There are no vertical wellbores within the 0.50-mile area of review. However, there are six completed wells that have horizontal laterals (not the vertical wellbore) that fall within the 0.50-mile area of review. The BENGAL 147-93-06A-07H (WF-31126); TABBY 147-93-06A-07H TF (WF-31128); PERSIAN 147-93-06A-07H(WF-31130); ETHAN HALL 6B-7-1H (WF-18545); ANNA G. BAKER 6B-7-2H TF (WF-21111); and DANCE HALL 147-93-06B-07H (WF-32051) are all completed within the Bakken Pool which is separated from the Dakota injection zone by multiple confining zones composed of shale or salt that eliminate any potential communication. The completion reports for these wells have been included in this application as Attachment C1-C6.

No corrective action is required.

WELL COMPLETION OR RECOMPLETION REPORT - FORM 6

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 2468 (04-2010)

Well File No.
18545

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Designate Type of Completion
☑ Oil Well ☐ EOR Well ☐ Recompletion ☐ Deepened Well ☐ Added Horizontal Leg ☐ Extended Horizontal Leg
☐ Gas Well ☐ SWD Well ☐ Water Supply Well ☐ Other:

Well Name and Number	Spacing Unit Description
ETHAN HALL 6B-7-1H	**Sec 6 T147N R93W & Sec 7 T147N R93W**

Operator	Telephone Number	Field
Enerplus Resources USA Corporation	**(720) 279-5500**	~~Wildcat~~ Moccasin Crk

Address	Pool
1700 Lincoln St., Suite 1300, Denver, CO 80203	**Bakken**

City	State	Zip Code	Permit Type
Denver	**CO**	**80203**	☐ Wildcat ☑ Development ☐ Extension

LOCATION OF WELL

At Surface	Qtr-Qtr	Section	Township	Range	County
200 F N L 1400 F WL	**NENW**	**6**	**147 N**	**93 W**	**Dunn**

Spud Date	Date TD Reached	Drilling Contractor and Rig Number	KB Elevation (Ft)	Graded Elevation (Ft)
October 6, 2010	**November 5, 2010**	**Precision 512**	**2186**	**2163**

Type of Electric and Other Logs Run (See Instructions)
CBL/GR/CCL surface to 8500'

CASING & TUBULARS RECORD (Report all strings set in well)

Well Bore	String Type	String Size (Inch)	Top Set (MD Ft)	Depth Set (MD Ft)	Hole Size (Inch)	Weight (Lbs/Ft)	Anchor Set (MD Ft)	Packer Set (MD Ft)	Sacks Cement	Top of Cement
Surface Hole	Conductor	16" J55	0	80		84			21	Surface
Vertical Hole	Surface	9-5/8" J55	0	2123		36			173	Surface
Vertical Hole	Intermediate	7" HCL80/110	0	10780		32			580	Surface
Lateral1	Liner	4-1/2" P110	0	19204		13.5			Liner	Liner

PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Drillers Depth (MD Ft)	Completion Type	Open Hole/Perforated Interval (MD,Ft) Top	Bottom	Kick-off Point (MD Ft)	Top of Casing Window (MD Ft)	Date Perf'd or Drilled	Date Isolated	Isolation Method	Sacks Cement
Lateral1	20605	Other	10524	20605	9993		11/05/2010			Liner

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft)	Name of Zone (If Different from Pool Name)
10524-19204' Liner (set prematurely - seal good)	**Bakken**

Date Well Completed (SEE INSTRUCTIONS)	Producing Method	Pumping-Size & Type of Pump	Well Status (Producing or Shut-In)
February 11, 2011	**Flowing**	**None**	**Producing**

Date of Test	Hours Tested	Choke Size	Production for Test	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Oil Gravity-API (Corr.)	Disposition of Gas
02/14/2011	**24**	**32 /64**		**1676**	**1038**	**1190**	**40.8 °**	**Flared**

Flowing Tubing Pressure (PSI)	Flowing Casing Pressure (PSI)	Calculated 24-Hour Rate	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Gas-Oil Ratio
1840			**1676**	**1038**	**1190**	**619**

Completion Report-18545
Attachment C1
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

GEOLOGICAL MARKERS

Formation	MD (Ft)	TVD (Ft)
Base Last Salt		8898
Mission Canyon		9076
Lodgepole		9650
Upper Bakken Shale		10471
Middle Bakken (Target)		10509

PLUG BACK INFORMATION

Well Bore	Type of Plug	Top (Ft)	Bottom (Ft)	Sacks Cement

CORES CUT

Top (Ft)	Bottom (Ft)	Formation	Top (Ft)	Bottom (Ft)	Formation

Drill Stem Test

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								
Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								
Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								
Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								
Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Well Specific Stimulations

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
01/31/2011	Bakken	11003	18840	21	2143566	Gallons

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)
Sand Frac	15	2132312	9630	40.1

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

Directional Survey
Geological Report
Logs as listed above

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address	Date
	roverbey@enerplus.com	03/24/2011

Signature	Printed Name	Title
Rachael Overbey	Rachael Overbey	Development Services Tech

WELL COMPLETION OR RECOMPLETION REPORT - FORM 6

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 2468 (04-2010)

Received
JUN 24 2016
ND Oil & Gas

Well File No. 21111

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
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Designate Type of Completion
☑ Oil Well ☐ EOR Well ☐ Recompletion ☐ Deepened Well ☐ Added Horizontal Leg ☐ Extended Horizontal Leg
☐ Gas Well ☐ SWD Well ☐ Water Supply Well ☐ Other:

Well Name and Number	Spacing Unit Description
Anna G. Baker 6B-7-2H TF	Sec 6+7

Operator	Telephone Number	Field
Enerplus Resources (USA) Corp	(720) 279-5500	Moccasin Creek

Address	Pool
950 17th Street suite 2200	Bakken

City	State	Zip Code	Permit Type
Denver	Co	80202	☐ Wildcat ☐ Development ☐ Extension

LOCATION OF WELL

At Surface	Qtr-Qtr	Section	Township	Range	County
230 F N L 1350 F W L	NENW	6	147 N	93 W	Dunn

Spud Date	Date TD Reached	Drilling Contractor and Rig Number	KB Elevation (Ft)	Graded Elevation (Ft)
October 24, 2015	January 31, 2016	Stoneham 18	2185	

Type of Electric and Other Logs Run (See Instructions)

CASING & TUBULARS RECORD (Report all strings set in well)

Well Bore	String Type	String Size (Inch)	Top Set (MD Ft)	Depth Set (MD Ft)	Hole Size (Inch)	Weight (Lbs/Ft)	Anchor Set (MD Ft)	Packer Set (MD Ft)	Sacks Cement	Top of Cement
Surface Hole	Conductor	16	0	80	24	65				Surface
Surface Hole	Surface	9.625	0	2456	13.5	36				Surface
Vertical Hole	Intermediate	7	0	11027	8.75	32			885	1523
Directional	Production	4.5	9984	20822	6	13.5			620	11026

PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Drillers Depth (MD Ft)	Completion Type	Open Hole/Perforated Interval (MD,Ft) Top	Bottom	Kick-off Point (MD Ft)	Top of Casing Window (MD Ft)	Date Perf'd or Drilled	Date Isolated	Isolation Method	Sacks Cement
Directional	20834	Perforations	11099	20675	10110		05/09/2016			

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft)	Name of Zone (If Different from Pool Name)
11,099' to 20,675'	Three forks

Date Well Completed (SEE INSTRUCTIONS)	Producing Method	Pumping-Size & Type of Pump	Well Status (Producing or Shut-In)
June 8, 2016	Flowing		Producing

Date of Test	Hours Tested	Choke Size	Production for Test	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Oil Gravity-API (Corr.)	Disposition of Gas
06/14/2016	24	26 /64		1427	1201	1590	39.4 °	Sold

Flowing Tubing Pressure (PSI)	Flowing Casing Pressure (PSI)	Calculated 24-Hour Rate	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Gas-Oil Ratio
	1675		1427	1201	1590	841

Completion Report-21111
Attachment C2
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

GEOLOGICAL MARKERS

Formation	MD (Ft)	TVD (Ft)
Base Last Salt		9805
Mission Canyon		9088
Lodgepoe		9617
False Bakken		10454
Scallion		10464
Upper Bakken Shale		10476
Mid Bakken "A"		10500
Mid Bakken "B"		10502
Mid Bakken "C"		10515
Mid Bakken "D"		10529
Mid Bakken "E"		10538
Lower Bakken Shale		10542

PLUG BACK INFORMATION

Well Bore	Type of Plug	Top (Ft)	Bottom (Ft)	Sacks Cement

CORES CUT

Top (Ft)	Bottom (Ft)	Formation	Top (Ft)	Bottom (Ft)	Formation

Drill Stem Test

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Well Specific Stimulations

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
06/08/2016	Three forks.	11099	20675	40	6438950	Gallons

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)
Other	15%	10677382	9257	70.0

Details
40 Stages 20/40 White sand -

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address: smckenzie@enerplus.com		Date: 06/22/2016
Signature	Printed Name: Susana Mckenzie	Title: Operations Technician	

WELL COMPLETION OR RECOMPLETION REPORT - FORM 6

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 2468 (04-2010)

RECEIVED
MAY 17 2018
ND OIL & GAS DIVISION

Well File No. **31126**

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
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Designate Type of Completion
☑ Oil Well ☐ EOR Well ☐ Recompletion ☐ Deepened Well ☐ Added Horizontal Leg ☐ Extended Horizontal Leg
☐ Gas Well ☐ SWD Well ☐ Water Supply Well ☐ Other:

Well Name and Number	Spacing Unit Description
BENGAL 147-93-06A-07H	Sections 6 & 7 T147N, R93W

Operator	Telephone Number	Field
Enerplus Resources USA Corporation	(720) 279-5500	MOCCASIN CREEK

Address	Pool
950 17th Street, Suite 2200	BAKKEN

City	State	Zip Code	Permit Type
Denver	CO	80202	☐ Wildcat ☑ Development ☐ Extension

LOCATION OF WELL

At Surface	Qtr-Qtr	Section	Township	Range	County
636 F N L 1172 F E L	NENE	6	147 N	93 W	DUNN

Spud Date	Date TD Reached	Drilling Contractor and Rig Number	KB Elevation (Ft)	Graded Elevation (Ft)
October 4, 2017	December 27, 2017	STONEHAM 18	2199	2173

Type of Electric and Other Logs Run (See Instructions)

CASING & TUBULARS RECORD (Report all strings set in well)

Well Bore	String Type	String Size (Inch)	Top Set (MD Ft)	Depth Set (MD Ft)	Hole Size (Inch)	Weight (Lbs/Ft)	Anchor Set (MD Ft)	Packer Set (MD Ft)	Sacks Cement	Top of Cement
Surface Hole	Conductor	16" J55	26	106	20	75			62	Surface
Vertical Hole	Surface	9-5/8" J55	26	2252	13.5	36			678	Surface
Vertical Hole	Intermediate	7" P-110	26	10880	8.75	32			900	618
Lateral1	Liner	4-1/2" P110	9946	20850	6	13.5			597	9946

PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Drillers Depth (MD Ft)	Completion Type	Open Hole/Perforated Interval (MD,Ft) Top	Bottom	Kick-off Point (MD Ft)	Top of Casing Window (MD Ft)	Date Perf'd or Drilled	Date Isolated	Isolation Method	Sacks Cement
Lateral1	20875	Perforations	11172	20794			05/08/2018			

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft)	Name of Zone (If Different from Pool Name)
11172 TO 20794	

Date Well Completed (SEE INSTRUCTIONS)	Producing Method	Pumping-Size & Type of Pump	Well Status (Producing or Shut-In)
May 8, 2018	Flowing		Producing

Date of Test	Hours Tested	Choke Size	Production for Test	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Oil Gravity-API (Corr.)	Disposition of Gas
05/10/2018	24	36 /64		817	418	2644	44.0 °	Sold

Flowing Tubing Pressure (PSI)	Flowing Casing Pressure (PSI)	Calculated 24-Hour Rate	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Gas-Oil Ratio
	1225		817	418	2644	511

Completion Report-31126
Attachment C3
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

GEOLOGICAL MARKERS

Formation	MD (Ft)	TVD (Ft)
Base Last Salt		**9489**
Mission Canyon		**9670**
Lodgepole		**10256**
False Bakken		**11128**
Bakken A		**11170**
Bakken B		**11176**
Bakken C		**11185**

PLUG BACK INFORMATION

Well Bore	Type of Plug	Top (Ft)	Bottom (Ft)	Sacks Cement

CORES CUT

Top (Ft)	Bottom (Ft)	Formation	Top (Ft)	Bottom (Ft)	Formation

Drill Stem Test

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Well Specific Stimulations

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
05/08/2018	BAKKEN	11172	20794	41	196625	Barrels

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)
Sand Frac	15	13734273	9825	82.6

Details
41 Stages; 13,734,273 lbs 20/40 white sand; 196,625 bbls fluid.

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

WBD

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address	Date
	Sbunten@enerplus.com	**05/10/2018**

Signature	Printed Name	Title
	Sean Bunten	**Completions Engineering Technician**

WELL COMPLETION OR RECOMPLETION REPORT - FORM 6

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 2468 (04-2010)

RECEIVED
MAY 17 2018
ND OIL & GAS DIVISION

Well File No
31128

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Designate Type of Completion
☑ Oil Well ☐ EOR Well ☐ Recompletion ☐ Deepened Well ☐ Added Horizontal Leg ☐ Extended Horizontal Leg
☐ Gas Well ☐ SWD Well ☐ Water Supply Well ☐ Other:

Well Name and Number		Spacing Unit Description
TABBY 147-93-06A-07H TF		Sections 6 & 7 T147N, R93W
Operator	**Telephone Number**	**Field**
Enerplus Resources USA Corporation	(720) 279-5500	MOCCASIN CREEK
Address		**Pool**
950 17th Street, Suite 2200		THREE FORKS
City	**State / Zip Code**	**Permit Type**
Denver	CO 80202	☐ Wildcat ☑ Development ☐ Extension

LOCATION OF WELL

At Surface	Qtr-Qtr	Section	Township	Range	County
661 F N L 1237 F E L	NWNE	6	147 N	93 W	DUNN

Spud Date	Date TD Reached	Drilling Contractor and Rig Number	KB Elevation (Ft)	Graded Elevation (Ft)
September 30, 2017	January 12, 2018	STONEHAM 18	2199	2173

Type of Electric and Other Logs Run (See Instructions)

CASING & TUBULARS RECORD (Report all strings set in well)

Well Bore	String Type	String Size (Inch)	Top Set (MD Ft)	Depth Set (MD Ft)	Hole Size (Inch)	Weight (Lbs/Ft)	Anchor Set (MD Ft)	Packer Set (MD Ft)	Sacks Cement	Top of Cement
Surface Hole	Conductor	16" J55	26	106	20	75			62	Surface
Vertical Hole	Surface	9-5/8" J55	26	2222	13.5	36			697	Surface
Vertical Hole	Intermediate	7" P-110	26	10949	8.75	32			912	550
Lateral1	Liner	4-1/2" P110	10075	20921	6	13.5			597	10075

PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Drillers Depth (MD Ft)	Completion Type	Open Hole/Perforated Interval (MD,Ft) Top	Bottom	Kick-off Point (MD Ft)	Top of Casing Window (MD Ft)	Date Perf'd or Drilled	Date Isolated	Isolation Method	Sacks Cement
Lateral1	20941	Perforations	11055	20839			05/05/2018			

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft)	Name of Zone (If Different from Pool Name)
11055 TO 20839	

Date Well Completed (SEE INSTRUCTIONS)	Producing Method	Pumping-Size & Type of Pump	Well Status (Producing or Shut-In)
May 5, 2018	Flowing		Producing

Date of Test	Hours Tested	Choke Size	Production for Test	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Oil Gravity-API (Corr.)	Disposition of Gas
05/10/2018	24	26 /64		1515	867	1876	45.0 °	Sold

Flowing Tubing Pressure (PSI)	Flowing Casing Pressure (PSI)	Calculated 24-Hour Rate	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Gas-Oil Ratio
	2140		1515	867	1876	572

Completion Report-31128
Attachment C4
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

GEOLOGICAL MARKERS

Formation	MD (Ft)	TVD (Ft)
Base Last Salt		**8906**
Mission Canyon		**9084**
Lodgepole		**9614**
False Bakken		**10453**
Bakken		**10474**
Three Forks		**10554**

PLUG BACK INFORMATION

Well Bore	Type of Plug	Top (Ft)	Bottom (Ft)	Sacks Cement

CORES CUT

Top (Ft)	Bottom (Ft)	Formation	Top (Ft)	Bottom (Ft)	Formation

Drill Stem Test

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (ºF)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (ºF)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (ºF)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (ºF)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (ºF)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Well Specific Stimulations

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
05/05/2018	THREE FORKS	11055	20839	41	224198	Barrels

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)
Sand Frac	15	13734077	9740	82.6

Details
41 Stages; 13,734,077 lbs 20/40 white sand; 224,198 bbls fluid.

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

WBD

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address: **Sbunten@enerplus.com**		Date: **05/10/2018**
Signature	Printed Name: **Sean Bunten**	Title: **Completions Engineering Technician**	

WELL COMPLETION OR RECOMPLETION REPORT - FORM 6

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 2468 (04-2010)

RECEIVED
MAY 17 2018
ND OIL & GAS DIVISION

Well File No. 31130

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Designate Type of Completion
☑ Oil Well ☐ EOR Well ☐ Recompletion ☐ Deepened Well ☐ Added Horizontal Leg ☐ Extended Horizontal Leg
☐ Gas Well ☐ SWD Well ☐ Water Supply Well ☐ Other:

Well Name and Number		Spacing Unit Description
PERSIAN 147-93-06A-07H		Sections 6 & 7 T147N, R93W
Operator: Enerplus Resources USA Corporation	Telephone Number: (720) 279-5500	Field: MOCCASIN CREEK
Address: 950 17th Street, Suite 2200		Pool: BAKKEN
City: Denver	State: CO / Zip Code: 80202	Permit Type: ☐ Wildcat ☑ Development ☐ Extension

LOCATION OF WELL

At Surface	Qtr-Qtr	Section	Township	Range	County
686 F N L 1302 F E L	NWNE	6	147 N	93 W	DUNN

Spud Date	Date TD Reached	Drilling Contractor and Rig Number	KB Elevation (Ft)	Graded Elevation (Ft)
September 24, 2017	January 31, 2018	STONEHAM 18	2199	2173

Type of Electric and Other Logs Run (See Instructions)

CASING & TUBULARS RECORD (Report all strings set in well)

Well Bore	String Type	String Size (Inch)	Top Set (MD Ft)	Depth Set (MD Ft)	Hole Size (Inch)	Weight (Lbs/Ft)	Anchor Set (MD Ft)	Packer Set (MD Ft)	Sacks Cement	Top of Cement
Surface Hole	Conductor	16" J55	26	106	20	75			62	Surface
Vertical Hole	Surface	9-5/8" J55	26	2221	13.5	36			689	Surface
Vertical Hole	Intermediate	7" P-110	26	10846	8.75	32			905	404
Lateral1	Liner	4-1/2" P110	9976	20881	6	13.5			600	9976

PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Drillers Depth (MD Ft)	Completion Type	Open Hole/Perforated Interval (MD,Ft) Top	Bottom	Kick-off Point (MD Ft)	Top of Casing Window (MD Ft)	Date Perf'd or Drilled	Date Isolated	Isolation Method	Sacks Cement
Lateral1	20897	Perforations	10888	20835			04/18/2018			

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft)	Name of Zone (If Different from Pool Name)
10888 TO 20835	

Date Well Completed (SEE INSTRUCTIONS)	Producing Method	Pumping-Size & Type of Pump	Well Status (Producing or Shut-In)
April 18, 2018	Flowing		Producing

Date of Test	Hours Tested	Choke Size	Production for Test	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Oil Gravity-API (Corr.)	Disposition of Gas
04/25/2018	24	26 /64		2184	1339	2226	43.7 °	Sold

Flowing Tubing Pressure (PSI)	Flowing Casing Pressure (PSI)	Calculated 24-Hour Rate	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Gas-Oil Ratio
	3050		2184	1339	2226	613

Completion Report-31130
Attachment C5
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

GEOLOGICAL MARKERS

Formation	MD (Ft)	TVD (Ft)
Base Last Salt		**8910**
Mission Canyon		**9096**
Lodgepole		**9614**
False Bakken		**10451**
Bakken A		**10496**
Bakken B		**10504**
Bakken C		**10513**

PLUG BACK INFORMATION

Well Bore	Type of Plug	Top (Ft)	Bottom (Ft)	Sacks Cement

CORES CUT

Top (Ft)	Bottom (Ft)	Formation	Top (Ft)	Bottom (Ft)	Formation

Drill Stem Test

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Well Specific Stimulations

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
04/18/2018	Bakken	10888	20835	42	206665	Barrels

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)
Sand Frac	15	14377033	9440	82.0

Details
42 Stages; 14,377,033 lbs 20/40 white sand; 206,665 bbls fluid.

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

WBD

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address **Sbunten@enerplus.com**		Date **05/08/2018**
Signature	Printed Name **Sean Bunten**	Title **Completions Engineering Technician**	

WELL COMPLETION OR RECOMPLETION REPORT - FORM 6

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 2468 (04-2010)

Received
JUN 24 2016
ND Oil & Gas Division

Well File No. 32051

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Designate Type of Completion
☑ Oil Well ☐ EOR Well ☐ Recompletion ☐ Deepened Well ☐ Added Horizontal Leg ☐ Extended Horizontal Leg
☐ Gas Well ☐ SWD Well ☐ Water Supply Well ☐ Other:

Well Name and Number	Spacing Unit Description
Dance Hall 147-93-06B-07H	Sec 6&7 - 147-93

Operator	Telephone Number	Field
Enerplus Resources (USA) Corp	(720) 279-5500	Moccasin Creek

Address	Pool
950 17th Street suite 2200	Bakken

City	State	Zip Code	Permit Type
Denver	Co	80202	☐ Wildcat ☐ Development ☐ Extension

LOCATION OF WELL

At Surface	Qtr-Qtr	Section	Township	Range	County
230 F N L 1280 F E L	NENW	6	147 N	93 W	Dunn

Spud Date	Date TD Reached	Drilling Contractor and Rig Number	KB Elevation (Ft)	Graded Elevation (Ft)
October 20, 2015	January 4, 2016	Stoneham 18	2185	

Type of Electric and Other Logs Run (See Instructions)

CASING & TUBULARS RECORD (Report all strings set in well)

Well Bore	String Type	String Size (Inch)	Top Set (MD Ft)	Depth Set (MD Ft)	Hole Size (Inch)	Weight (Lbs/Ft)	Anchor Set (MD Ft)	Packer Set (MD Ft)	Sacks Cement	Top of Cement
Surface Hole	Conductor	16	0	80	24	65				Surface
Surface Hole	Surface	9.625	0	2445	13.5	36			160	Surface
Vertical Hole	Intermediate	7	0	10874	8	32			874	1759
Directional	Production	4.5	9994	20765	6	13.5			611	9998

PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Drillers Depth (MD Ft)	Completion Type	Open Hole/Perforated Interval (MD,Ft) Top	Bottom	Kick-off Point (MD Ft)	Top of Casing Window (MD Ft)	Date Perf'd or Drilled	Date Isolated	Isolation Method	Sacks Cement
Directional	20812	Perforations	10925	20694	10063		05/08/2016			

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft)	Name of Zone (If Different from Pool Name)
10925' to 20694'	Bakken

Date Well Completed (SEE INSTRUCTIONS)	Producing Method	Pumping-Size & Type of Pump	Well Status (Producing or Shut-In)
June 8, 2016	Flowing		producing

Date of Test	Hours Tested	Choke Size	Production for Test	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Oil Gravity-API (Corr.)	Disposition of Gas
06/18/2016	24	26 /64		2066	1978	1307	39.9 °	Sold

Flowing Tubing Pressure (PSI)	Flowing Casing Pressure (PSI)	Calculated 24-Hour Rate	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Gas-Oil Ratio
	1750		2066	1978	1307	957

Completion Report-32051
Attachment C6
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

GEOLOGICAL MARKERS

Formation	MD (Ft)	TVD (Ft)
Base Last Salt		8911
Mission Canyon		9096
Lodgepoe		9618
False Bakken		10458
Scallion		10472
Upper Bakken Shale		10482
Mid Bakken "A"		10504
Mid Bakken "B"		10511
Mid Bakken "C"		10521

PLUG BACK INFORMATION

Well Bore	Type of Plug	Top (Ft)	Bottom (Ft)	Sacks Cement

CORES CUT

Top (Ft)	Bottom (Ft)	Formation	Top (Ft)	Bottom (Ft)	Formation

Drill Stem Test

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)

Drill Pipe Recovery

Sample Chamber Recovery

Well Specific Stimulations

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
05/08/2016	Bakken	10925	20694	41	6860484	Gallons

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)
Other	15%	11686227	9912	80.0

Details
41 Stages of 20/40 White sand

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)

Details

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address smckenzie@enerplus.com		Date 06/22/2016
Signature	Printed Name Susana Mckenzie	Title Operations Technician	

D. MAPS AND CROSS SECTION OF USDWs (N/A to Class II wells)

E. NAME AND DEPTH OF USDWs (CLASS II)

Underground Sources of Drinking Water in Dunn County, ND can be found in both preglacial rocks and glacial drift. Glacial drift in Dunn County consists of till and glaciofluvial sand and gravel deposits. The major glacial drift aquifers in Dunn County are the Killdeer, Horse Nose Butte, Knife River, and Goodman Creek aquifers. However, these aquifers are not located near the proposed WATER BUSTER SWD 1 (Site). According to information available from the North Dakota State Water Commission MapServices web site, the nearest shallow aquifer to the proposed Site is the Squaw Creek Aquifer at approximately 5 miles northeast. Little public data is available for this aquifer but it is potentially composed of glaciofluvial sand and gravel. Independence ND, LLC believes the proposed site poses no risk to this aquifer because of distance and the differing sub-watersheds.

Preglacial sedimentary rocks in Dunn county were deposited in intermittently subsiding Williston basin. The preglacial aquifers found in these sedimentary rocks near the proposed Site occur in the Upper Cretaceous Fox Hills and Hell Creek Formations and in the Tertiary Cannonball, Ludlow, Tongue River, and Sentinel Butte Formations.

Sentinel Butte Formation

The Sentinel Butte Formation consists of interbedded clay, shale, claystone, siltstone, poorly consolidated sandstone, and lignite. It is continental in origin and occurs throughout Dunn County except in a few areas where it has been eroded. It is exposed in the area of the proposed Site and is approximately 500 feet thick.

The aquifers within the Sentinel Butte Formation consist of poorly consolidated sandstone and fractured lignite. Most of the freshwater wells in Dunn County tap sandstone or lignite aquifers in the upper part of the Sentinel Butte Formation.

> **Sandstone aquifers** — The sandstone aquifers within the Sentinel Butte Formation are composed largely of fine sand enclosed in a matrix of clay and silt. They range in thickness from a few feet to a maximum of about 119 feet and occur at depths throughout the formation. Water from the sandstone aquifers is typically a hard to very hard, sodium bicarbonate type that has a mean dissolved solids concentration of 1,742 mg/L.
>
> **Lignite aquifers** – Lignite beds can be found randomly spaced throughout the entire thickness of the Sentinel Butte Formation. They range in thickness from 1 to about 20 feet and occur at depths ranging from about 15 to 600 feet. Water from the lignite aquifers is typically a hard to very hard, sodium bicarbonate or sodium bicarbonate-sulfate type that has a mean dissolved solids concentration of 1,526 mg/L.

The sandstone and lignite aquifers in the Sentinel Butte Formation are recharged by infiltration of precipitation.

Tongue River Formation (Currently recognized as the Bullion Creek Formation)

The Tongue River Formation consists of interbedded siltstone, claystone or shale, poorly consolidated sandstone, lignite, and occasional limestone lenses or concretions. It is continental in origin and

underlies all of Dunn County. The formation underlies the Site at an estimated 500 feet and is approximately 400 feet thick.

Aquifers in the Tongue River Formation consist of very fine to fine-grained sandstone beds that range in thickness from 10 to 100 feet. These sandstone beds frequently pinch out or grade laterally into siltstone or sandy clay. Aquifers in the Tongue River Formation are recharged by leakage from aquifers in the overlying Sentinel Butte Formation. Water from the aquifers is typically a soft, sodium bicarbonate type that has a mean dissolved solids concentration of 2,043 mg/L.

Undifferentiated Cannonball-Ludlow Formation

The Cannonball Formation, which is marine in origin, and the Ludlow Formation, which is continental in origin, are interfingered throughout Dunn County. The undifferentiated Cannonball-Ludlow Formations consist of interbedded siltstone, poorly consolidated sandstone, shale or clay, and lignite. The formation underlies the Site at an estimated 900 feet and is approximately 600 feet thick.

The aquifers in the undifferentiated Cannonball-Ludlow Formations consist mostly of fine to very fine silty sandstone beds that range in thickness from about 10 to 125 feet. There is no evidence of a hydraulic connection between the beds. Therefore, each bed is considered to be a separate aquifer. Lower aquifers in the formation are recharged beyond Dunn County while aquifers in the upper section are likely recharged by downward movement of water from the Tongue River Formation. Water from the aquifers is typically a soft, sodium bicarbonate type with a mean dissolved solids concentration of 1,855 mg/L.

Hell Creek Formation

The Hell Creek Formation is composed of interbedded siltstone, shale or claystone, poorly consolidated sandstone, and a few thin lignite beds. It is continental in origin and underlies all of Dunn County. The formation underlies the Site at an estimated 1,500 feet and it is approximately 200 feet thick.

The aquifers within the Hell Creek Formation consist of fine-grained sandstone beds that range in thickness from about 10 to 60 feet and have a maximum aggregate thickness of about 106 feet. Because there is no evidence of a hydraulic connection between the beds, each of the sandstone beds is considered to be a separate aquifer. Recharge to the aquifers in the Hell Creek Formation occurs outside of Dunn County. Water from the aquifers is a soft, sodium bicarbonate type with a mean dissolved solids concentration of 1,588 mg/L.

Fox Hills Formation

The Fox Hills Formation is composed of interbedded sandstone, shale, and siltstone. It is marine in origin and underlies all of Dunn County. The formation underlies the Site at an estimated 1,700 feet and is approximately 240 feet thick. It is underlain by the Pierre Formation.

The aquifers within the Fox Hills Formation are generally composed of very fine to medium-grained sandstone beds that range in thickness from about *6* to *92* feet and have a maximum aggregate thickness of about 158 feet. Recharge to the Fox Hills aquifer likely occurs where the formation crops out in the extreme southwestern part of North Dakota and in eastern Montana. Water from the aquifer is generally a soft, sodium bicarbonate type with a mean dissolved solids concentration of 1,486 mg/L.

Klausing, R. 1979. Ground-Water Resources of Dunn County, North Dakota. U.S. Geological Survey.

F. MAPS AND CROSS SECTIONS OF GEOLOGIC STRUCTURE OF AREA (N/A to Class II wells)

G. GEOLOGIC DATA ON INJECTION AND CONFINING ZONES

Upper Confining Zones:

Name: *Cretaceous Mowry Formation*

Lithologic Description: Shale; medium to dark gray; soft; flaky; traces of bluish gray bentonitic claystone; top is marked by a persistent bentonite that has a strong response on a gamma-ray log. Offshore marine deposits.

Estimated thickness: 110'

Estimated top: 4,785'

Industry accepted standard shale frac gradient = approximately 0.80

Estimated fracture pressure at bottom of zone: 4,895'*0.80=3,916 psi

&

Name: *Cretaceous Skull Creek Formation*

Lithologic description: Shale; medium to dark gray; micaceous; soft, flaky to lumpy and sandstone; light gray; glauconitic, calcareous; fine-grained; friable.

Estimated thickness: 245'

Estimated top: 4,895'

Industry accepted standard shale frac gradient = approximately 0.80

Estimated fracture pressure at bottom of zone: 5,140'*0.80=4,112 psi

Injection Zone:

Name: *Cretaceous Inyan Kara Formation*

Lithologic Description

- Upper part: Sandstone; light gray; quartzose; fine-grained to course-grained. Shale: gray; silty; lumpy. Marine to nonmarine.
- Lower part: Sandstone; gray; quartzose; medium-grained to course-grained; angular to subrounded; occasional lenses of shale; gray; bentonitic; contains manganese and siderite spheres. Most oilfield brine injection occurs in this unit. Primarily nonmarine.

Estimated thickness of gross zone: 410'

Estimated gross zone: 5,140'-5,550'

Estimated perforated interval: 5,225-5,510'

Industry accepted standard Inyan Kara frac gradient = approximately 0.67

Estimated fracture pressure at top of zone: 5,140'*0.67=3,444 psi

Lower Confining Zone:

Name: *Jurassic Swift Formation*

Lithologic description: Shale; dark gray to greenish gray; interbedded with siltstone and sandstone; calcareous; fissile; waxy and grayish green, glauconitic sandstone. Shallow marine deposit

Estimated thickness: 400'

Estimated top: 5,550'

Industry accepted standard shale frac gradient = approximately 0.80

Estimated fracture pressure at top of zone: 5,550'*0.80=4,440 psi

Lithologic Description: Shale; dark gray to greenish gray; interbedded with siltstone and sandstone; calcareous; fissile; waxy and grayish green, glauconitic sandstone. Shallow marine deposit.

**** Lithology Reference: North Dakota Stratigraphic Column.

Depths calculated from the NDIC's call of geologic tops in the offsetting PYGMY 147-93-18B-19H TF well (NDIC Well File No. 25143) and the estimated finished pad elevation of 2,238'. KB Elevation estimated to be 2,253'(add 15' to depths above).

H. OPERATING DATA

1. Average and maximum daily injection: Average of 10,000 bbl/day, maximum of 21,500 bbl/day
2. Average and maximum injection pressure: Average 600 psi, maximum 1400 psi

Maximum injection pressure was determined utilizing the following formula in accordance with § 146.23:

$$FP = [fg - (0.433 * sg)] * d$$

Where:

- FP = formation fracture pressure (measured at surface)
- fg = fracture gradient of confining zone (**** § 146.23) = 0.8 psi/ft
- sg = specific gravity (of injected fluid- See Attachment H1) = 1.21
- d = depth to top of injection zone = 5,140 ft

Therefore:

$$FP = [0.8 \text{ psi/ft} - (0.433*1.21)] * 5140\text{ft}$$
$$FP = 1418 \text{ psi}$$
$$FP \sim 1400 \text{ psi}$$

3. Annulus Fluid: A mixture of fresh water and corrosion/scale inhibitors
4. Injection Water Analysis: (See Attachment H1)
5. Hazen-Williams calculation of friction loss at average and maximum rates

$$P_d = \frac{4.52 * Q^{1.85} * L}{C^{1.85} * d^{4.8655}}$$

Where:

- P_d = pressure drop over the length of pipe in psig due to friction
- L = length of pipe in feet (estimated top perf @ 5,225')
- $Q_{(avg)}$ = flow, gpm (average rate of 10,000 bbls/day or 292 gallons/minute)
- $Q_{(max)}$ = flow, gpm (maximum rate of 21,500 bbls/day or 627 gallons/minute)
- C = pipe roughness coefficient (150 – thin coating over steel pipe)
- d = inside pipe diameter, in (4"-conservative value does not include drift dia. or coating thickness)

$$P_{friction(avg)} = \frac{4.52 * 292^{1.85} * 5,225}{150^{1.85} * 4^{4.8655}} \qquad P_{friction(max)} = \frac{4.52 * 627^{1.85} * 5,225}{150^{1.85} * 4^{4.8655}}$$

$$P_{friction(avg)} = \frac{4.52 * 36388 * 5,225}{10611 * 849} \qquad P_{friction(max)} = \frac{4.52 * 149605 * 5,225}{10611 * 849}$$

$P_{friction(avg)} = 95$ psi $\qquad P_{friction(max)} = 392$ psi

****§ 146.23 Operating, monitoring, and reporting requirements.**

(a) Operating requirements. Operating requirements shall, at a minimum, specify that:

(1) Injection pressure at the wellhead shall not exceed a maximum which shall be calculated so as to assure that the pressure during injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to the USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into an underground source of drinking water.

MVTL

MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER ACIL

Amended 5Nov18 (Specific Gravity)

Independence ND LLC
301 1st Ave E Bakersfield
Newtown ND 58763-4405

Report Date: 1 Nov 18
Lab Number: 18-W3447
Work Order #:82-2719
Account #: 048755
Date Sampled: 12 Oct 18 10:00
Date Received: 15 Oct 18 8:00
Sampled By: Client

Project Name: Independence
Sample Description: FBIR Black Medicine 24X-21A
Sample Site: 47.70397, -102.336100
Sample Location: SESW Sec 21 T149 R91

Temp at Receipt: 5.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	16 Oct 18	SVS
pH	* 6.0	units	N/A	SM4500 H+ B	15 Oct 18 17:00	SVS
Conductivity (EC)	216210	umhos/cm	N/A	SM2510-B	15 Oct 18 17:00	SVS
Total Alkalinity	91	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Bicarbonate	91	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Carbonate	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Hydroxide	< 20	mg/l CaCO3	20	SM2320-B	15 Oct 18 17:00	SVS
Tot Dis Solids(Summation)	289000	mg/l	12.5	SM1030-F	26 Oct 18 12:08	Calculated
Percent Sodium of Cations	78.7	%	NA	N/A	18 Oct 18 13:59	Calculated
Total Hardness as CaCO3	42000	mg/l	NA	SM2340-B	18 Oct 18 13:59	Calculated
Hardness in grains/gallon	2450	gr/gal	NA	SM2340-B	18 Oct 18 13:59	Calculated
Cation Summation	4440	meq/L	NA	SM1030-F	26 Oct 18 11:59	Calculated
Anion Summation	5240	meq/L	NA	SM1030-F	26 Oct 18 12:08	Calculated
Percent Error	-8.27	%	NA	SM1030-F	26 Oct 18 12:08	Calculated
Sodium Adsorption Ratio	170		NA	USDA 20b	18 Oct 18 13:59	Calculated
Specific Gravity	1.210 @ 65F		NA	ASTM D1298	16 Oct 18 13:14	RAG
Fluoride	1.01	mg/l	0.10	SM4500-F-C	15 Oct 18 17:00	SVS
Sulfate	11600	mg/l	5.00	ASTM D516-07	26 Oct 18 12:08	EV
Chloride	177000	mg/l	1.0	SM4500-Cl-E	25 Oct 18 15:42	EV
Nitrate-Nitrite as N	< 0.5 @	mg/l	0.10	EPA 353.2	17 Oct 18 15:37	RAG
Calcium - Total	14500	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Magnesium - Total	1400	mg/l	1.0	6010D	18 Oct 18 13:59	BB

RL = Method Reporting Limit

The reporting limit was elevated for any analyte requiring a dilution as coded below:
@ = Due to sample matrix # = Due to concentration of other analyte
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: ND # ND-00016

Injection Fluid Analysis
Attachment H1 (2 pages)
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

MVTL

MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER ACIL

Amended 5Nov18 (Specific Gravity)

Independence ND LLC
301 1st Ave E Bakersfield
Newtown ND 58763-4405

Report Date: 1 Nov 18
Lab Number: 18-W3447
Work Order #:82-2719
Account #: 048755
Date Sampled: 12 Oct 18 10:00
Date Received: 15 Oct 18 8:00
Sampled By: Client

Project Name: Independence
Sample Description: FBIR Black Medicine 24X-21A
Sample Site: 47.70397, -102.336100
Sample Location: SESW Sec 21 T149 R91

Temp at Receipt: 5.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Sodium - Total	80200	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Potassium - Total	4160	mg/l	1.0	6010D	18 Oct 18 13:59	BB
Barium - Total	6.05	mg/l	0.10	6010D	26 Oct 18 11:59	BB
Iron - Total	63.0	mg/l	0.10	6010D	26 Oct 18 11:59	BB
Manganese - Total	6.10	mg/l	0.05	6010D	26 Oct 18 11:59	BB
Chromium - Total	< 0.08 @	mg/l	0.0020	6020B	31 Oct 18 12:19	CC

* Holding time exceeded

Approved by: Claudette K Carroll — Stacy Zander

Claudette K. Carroll, Laboratory Manager, Bismarck, ND — Stacy Zander, Energy Laboratory Supervisor, Bismarck, ND

RL = Method Reporting Limit

The reporting limit was elevated for any analyte requiring a dilution as coded below:
@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: ND # ND-00016

I. FORMATION TESTING PROGRAM

Independence ND plans on testing the formation in accordance with the requirements of the final EPA permit. The testing program may include the following:

FORMATION TESTING PROGRAM	
TYPE OF TEST	DATE DUE
Injection Zone Water Sample	Required prior to receiving authorization to inject. A representative water sample (determined by stabilized specific conductivity from three consecutive swab runs) from the injection zone shall be analyzed for TDS, pH, specific gravity and specific conductivity. Analysis will determine whether an aquifer exemption is required.
Fluid Level	Record fluid level while swabbing well. This measurement will be utilized along with the specific gravity to perform the pore pressure test below.
Pore Pressure	May be required in the final permit prior to receiving authorization to inject.
Standard Annulus Pressure	Required prior to receiving authorization to inject and at least every five (5) years after the last successful test to demonstrate mechanical integrity.
Radioactive Tracer Survey	May be required prior to receiving authorization to inject if CBL does not show adequate cement. Also required every five (5) years after the last successful test.
Temperature Log	May be required prior to receiving authorization to inject if radioactive tracer survey is inconclusive. Also, required every five (5) years after the last sucessful test.
Step Rate Test	May be required to be completed within a limited 180-day authorization to inject. Step rate test must be as prescribed in final permit or pre-approved by EPA.
Pressure Fall-Off Test	May be required to be completed within a limited 180-day authorization to inject. Fall-off test must be as prescribed in final permit or pre-approved by EPA.

J. STIMULATION PROGRAM (Optional for Class II wells)

Independence ND is not proposing a stimulation program at this point in time. If, after receiving final approval to inject, Independence ND determines that a stimulation program is needed, they will work diligently with authorities at the EPA Region 8 and the NDIC to draft an acceptable stimulation program and submit a request for approval. Independence ND will not commence with a stimulation program until they have received written approval from all regulating agencies.

K. INJECTION PROCEDURES (See Attachment K1 – Operations Manual)

Independence ND, LLC

Operations Manual – Version 1.0

- Health, Safety, and Environmental Guidelines
- Facility Layout and Process Flow
- Daily Operations
- Inspection and Maintenance Schedule

Health, Safety, and Environmental Guidelines

- Safety Culture
  - Independence ND facility operators are responsible for the safe operation of the disposal facility and for the safety of all personnel on location

- Personal Protective Equipment (PPE) Requirements
  - OSHA PPE requirements (29 CFR 1926) will always be followed
  - Safety glasses and Face Protection (when job requires)
  - Hard hat
  - Hearing protection
  - Reflective safety vest
  - Steel-toe boots
  - FR clothing (29 CFR 1910 standard)

- Hazardous Atmospheres
  - A four-gas monitor must always be worn
  - Special care must be taken when gauging tanks; always review tank-gauging guidelines carefully prior to taking measurements

- Daily Pre-Job Safety Analysis
  - At each shift change, a handover meeting must take place between operators
  - Review current operating conditions, forecasted weather, and any unusual conditions
  - Review any maintenance required, what tools and PPE will be required, and any additional precautions needed

- Stop-Job Authority
  - All operators have authority to shutdown injection and/or trucking operations if any conditions are observed that pose a threat to the safety of personnel, equipment, or the environment

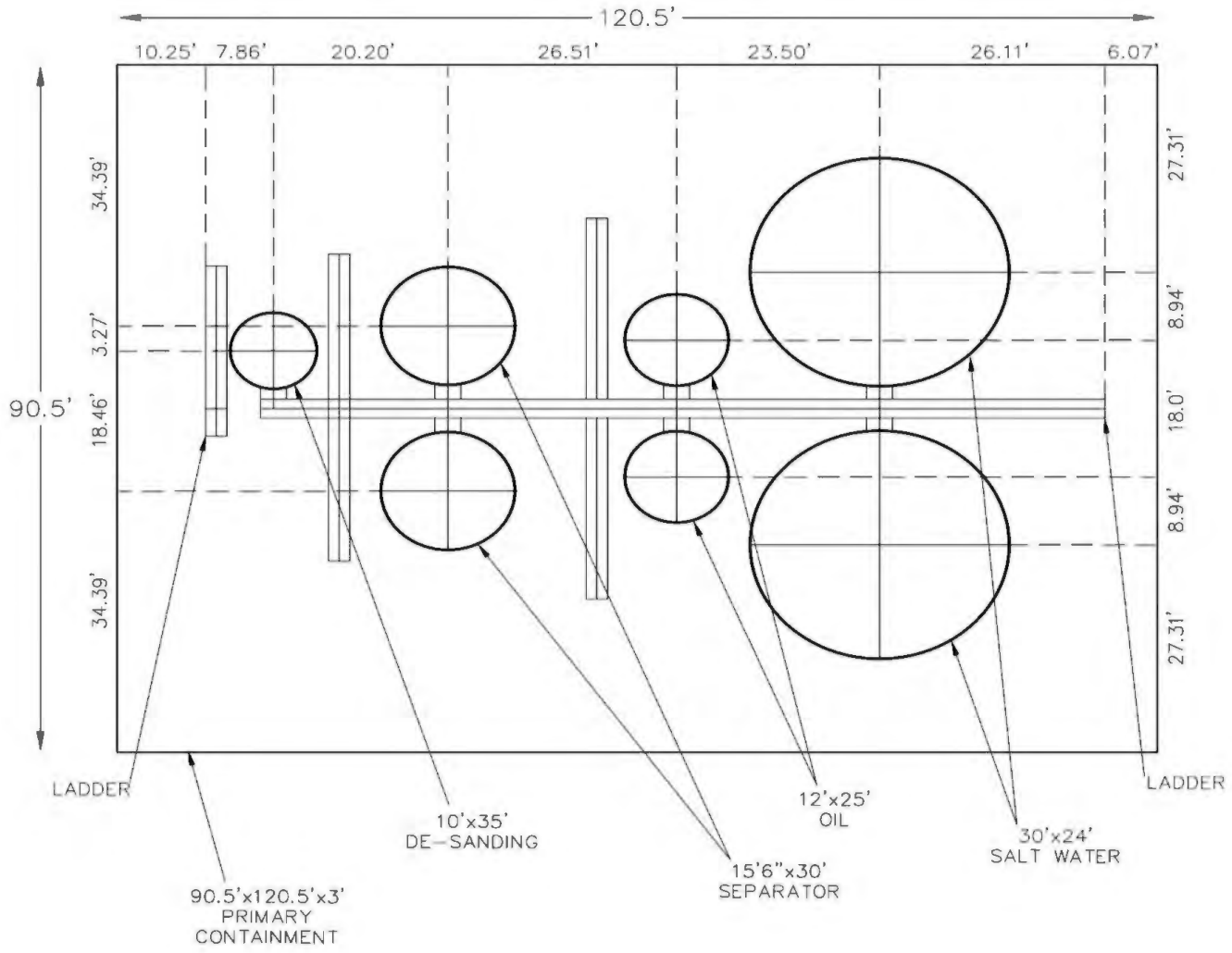
- Facility Design and Safety Controls
    - Following permit approval, the disposal facility will be designed and signed off by a Professional Engineer using "API Recommended Practice 14" standards

- Spill Prevention
    - All primary, secondary, and tertiary containment systems must be maintained in good working condition
    - Continuous monitoring with the aide of automated shut downs and alarms will be employed to safeguard the facility
        - Tubing and casing pressures
        - Pump intake and discharge pressures
        - Tank Levels
    - In the unlikely event of a spill, all Tribal, state, and federal requirements will be followed with respect to cleanup and notifications
    - Reference SPCC Plan

- Hazardous Materials Disposal
    - Filter socks and tank bottom solids will be hauled to approved disposal facilities

Facility Layout and Process Flow

- Trucked production water is offloaded at the facility where it is first sent through a solids strainer and then metered
- Water is piped through a de-sander to settle out solids
- Water then is piped into the HWSB skim tanks where oil/water separation occurs
    - Oil can be recycled back through the HWSB tanks and is sent to the oil tanks for sale
    - Water is sent to the water tanks prior to injection into the well
- Water is gravity fed from the water storage tanks through piping to charge pumps
- Water is then piped through filter pots that remove fine particulates before reaching the primary injection pump (horizontal pump)
- Water is pumped from the horizontal pump through a meter and then to the injection tubing head



Daily Operations

- Follow Independence ND's HSE guidelines
- Monitor SCADA system pressures and watch for alarms
- Follow facility inspection/maintenance-frequency guidelines listed below in Table 1
- Assist truck operators in offloading water
    - Check and clean offload water strainers
    - Sample truck loads to confirm quality is acceptable
    - Collect a completed water ticket that clearly states the operator name, trucking company name, driver name, well name and location, quantity delivered, date and time, and any pertinent notes
    - If delivered water plugs the offload screens or remains cloudy, refuse to accept the delivery
    - Only accept produced water that originated from Bakken- or Three Forks-producing wells

- Monitor truck hookup and offload process to ensure no shortcuts are taken
- Walk the entire location and facility looking for leaks and any maintenance needs
- Gauge all water and oil storage tanks
    - Sample and test oil prior to scheduling pickup
    - Recycle oil through HWSB tanks to meet BS&W requirements
- Inspect filter socks and change out when needed
- Check solids levels in de-sander and storage tanks

Inspection and Maintenance Schedule

Equipment Inspection/Monitoring Frequency			
	Continuous	**Daily**	**Weekly**
Wellhead Tubing Pressure	■		
H Pump: Flowrate and Pressure	■		
SCADA System	■		
Wellhead Casing Pressure	■		
Location Perimeter Containment		■	
Facility Visual Check for Leaks		■	
Surface Flowlines		■	
Horizontal Pump		■	
Charge Pumps		■	
Offload Strainers		■	
Sample Truck Loads		■	
Storage Tanks: Check Fluid Levels and Visual Inspection		■	
Inspect Pump Seals		■	
Wellhead Casing Valves			■
Offload/Recycle Pumps			■
Storage Tanks: Thorough Visual Check (Valves, Fittings, Lines)			■

Table 1

L. CONSTRUCTION PROCEDURES

Ground Elevation	2,240.6'
Estimated Finished Pad Elevation	2,238'
Estimated KB Elevation	2,253' (add 15' to depths below)
Deviation Program	Tests (i.e. Totco drop surveys) to determine the deviation from the vertical shall be taken at least every 1000'
Mud Program	
Surface	Fresh Water
Production	Salt Water Gel System
Casing Program	
Surface	9-5/8", J-55, 36ppf set at least 50' into the Pierre Shale to ~2,200'
Production	7", J-55, 26ppf set to ~ 5,700'
Cementing Program	
Surface	Cemented to surface with an estimated 800 sacks ****
Production	Cemented to surface with an estimated 650 sacks ****
Logging Program	(*Minimum-others as required by EPA permit letter)
Cement Bond Log	Run from TD to at least 100' above TOC
Gamma Ray	Run from TD to surface
Perforating Program	Anticipated to be 5,225' to 5,510' confirmed with GR ****

Anticipated Formation Tops (Estimated) ****

Pierre	1,940' GL
Greenhorn	4,350' GL
Mowry	4,785' GL
Skull Creek Formation	4,895' GL
Inyan Kara (Gross Inj. Zone)	5,140' GL
Swift	5,550' GL
PBD	5,660' GL
TD	5,700' GL

Drilling Plan Summary

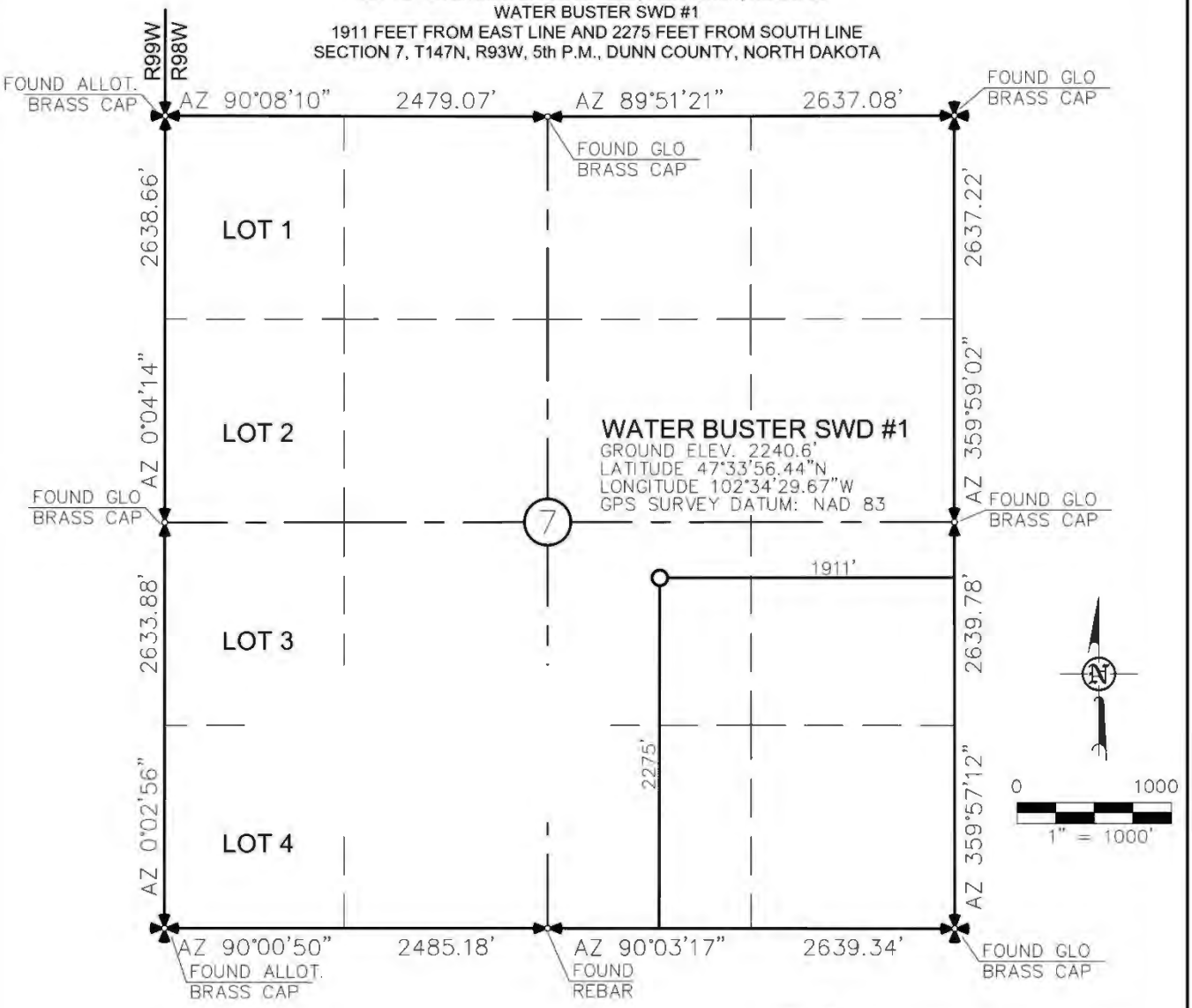
Independence ND, LLC plans to drill an Inyan Kara Formation (Dakota Group) salt water disposal well to 5,700' with rotary tools. This will be a new well in the Moccasin Creek Field. A 13-1/2" surface hole will be drilled with fresh water mud to a depth of at least 50' below the base of the Fox Hills Formation. 9-5/8", J-55 36ppf surface casing will be set and cemented to surface with approximately 800 sacks of cement. A 8-3/4" bit will be used to drill out of the surface casing with a salt water gel system to an anticipated TD of 5,700'. 7", J-55 26ppf production casing will be set and cemented to surface with approximately 650 sacks. **A closed loop system will be utilized during the drilling of this well. Drilling fluids will be recirculated through a series of steel open-top storage tanks instead of an earthen pit. Cuttings will be captured and dried through the use of a shale shaker, mud cleaner, and decanter centrifuge and deposited in a 3-sided steel tank. Amendments may be added to help solidify the cuttings if necessary. All cuttings will be hauled off the site to the Indian Hills Waste Disposal located at 14070 43rd St NW, Alexander ND 58831.**

**** Depth to base of lowest freshwater zone was calculated from the Pierre Shale Top MM 23 map.–drilling oversight will be required to ensure that surface casing is set at least 50' into the Pierre Formation. Cement volumes are estimates for ideal conditions–actual cement volumes will be adjusted accordingly by operator/cement contractor to compensate for deviations in drilling plan, wellbore, cement type, formation influences, etc. and achieve the required isolation under existing regulations for both surface and production strings. Injection Interval is also estimated–actual Injection Interval will be determined from logs performed on the well during completion. All depths referenced from the proposed finished pad elevation of 2,238' (add 15' to depths above for KB reference).

M. CONSTRUCTION DETAILS (See Attachment M1.1-M4)

WELL LOCATION PLAT

INDEPENDENCE ND LLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA



VICINITY MAP

– MONUMENT – RECOVERED

– MONUMENT – NOT RECOVERED

STAKED ON 7/24/18
VERTICAL CONTROL DATUM WAS BASED UPON CONTROL POINT 3 WITH AN ELEVATION OF 2354.1'

THIS SURVEY AND PLAT IS BEING PROVIDED AT THE REQUEST OF CHRIS DANEILSON OF NESET CONSULTING SERVICES. I CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS WORK PERFORMED BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

ROBERT L. PROCIVE, LS-2884

1/10
SHEET NO.

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Other offices in Minnesota, Montana and South Dakota

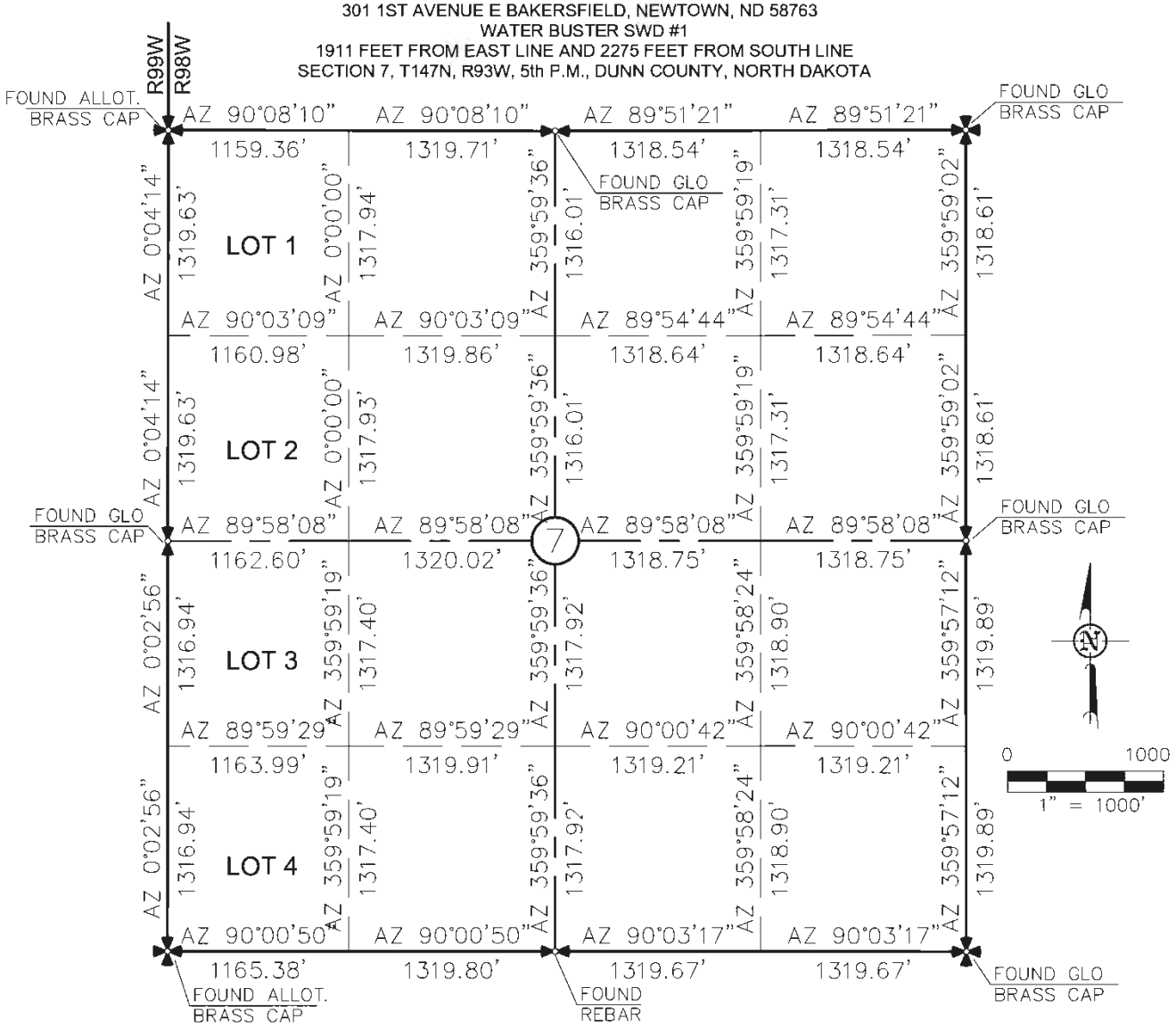
INDEPENDENCE ND LLC
WELL LOCATION PLAT
SECTION 7, T149N, R93W
DUNN COUNTY, NORTH DAKOTA

Drawn By:	J.D.M.	Project No.:	E18-17-032
Checked By:	R.L.P.	Date:	JULY 2018

Well Location Plat
Attachment M1.1
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

SECTION BREAKDOWN

INDEPENDENCE ND LLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA



VICINITY MAP

– MONUMENT – RECOVERED

– MONUMENT – NOT RECOVERED

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ALL AZIMUTHS ARE BASED ON G.P.S. OBSERVATIONS. THE ORIGINAL SURVEY OF THIS AREA FOR THE GENERAL LAND OFFICE (G.L.O.) WAS 1901. THE CORNERS FOUND ARE AS INDICATED AND ALL OTHERS ARE COMPUTED FROM THOSE CORNERS FOUND AND BASED ON G.L.O. DATA. NORTH DAKOTA STATE PLANE NORTH ZONE.

REGISTERED LAND SURVEYOR
ROBERT L. PROCIVE
LS-2884
DATE: 10/15/18
NORTH DAKOTA

2/10
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INDEPENDENCE ND LLC
SECTION BREAKDOWN
SECTION 7, T147N, R93W
DUNN COUNTY, NORTH DAKOTA
Drawn By: J.D.M. Project No.: E18-17-032
Checked By: R.L.P. Date: JULY 2018

Section Breakdown
Attachment M1.2
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

Drill Pad Layout
Attachment M1.3
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

PAD LAYOUT

INDEPENDENCE ND LLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA

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LS-2884
DATE: 10/15/18
NORTH DAKOTA

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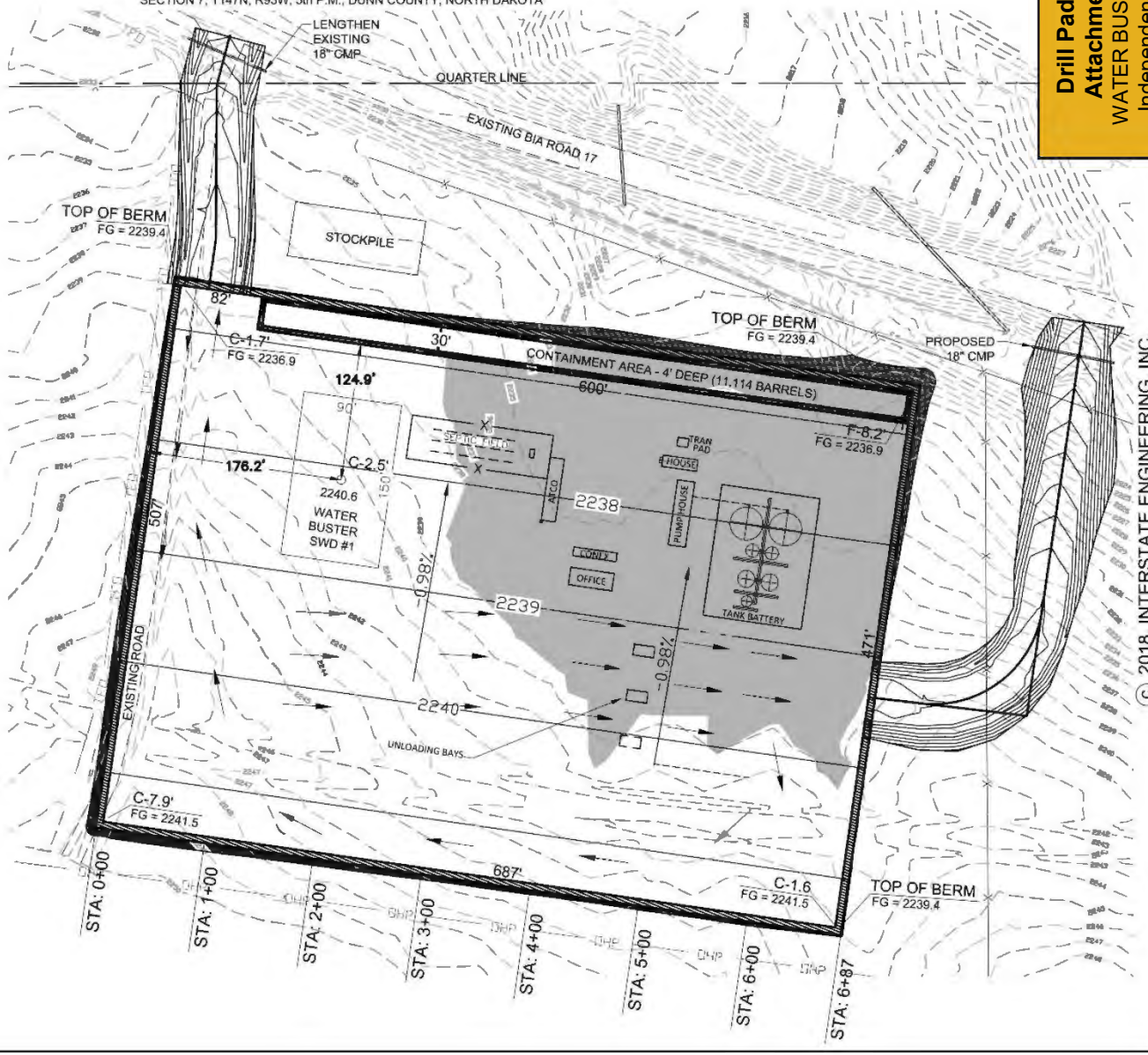
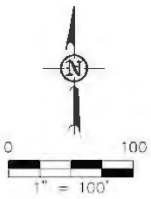
CATASTROPHIC CONTAINMENT
ASSUMING 0.5 FOOT FREE BOARD ON THE BERM AROUND THE CONTAINMENT POND AND CONTAINMENT WATER IS ALLOWED TO BACK UP ONTO THE PAD, THE TOTAL DESIGNED OVERALL CONTAINMENT VOLUME WILL BE 45,728 BARRELS



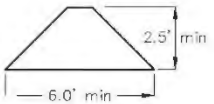
– BERM

——— Proposed Contours

– – – – – – Original Contours



BERM DETAIL



NOTE: All utilities shown are preliminary only, a complete utilities location is recommended before construction.

INDEPENDENCE ND LLC
PAD LAYOUT
SECTION 7, T147N, R93W
DUNN COUNTY, NORTH DAKOTA
Drawn By: JD.M | Project No: E-18-17402
Checked By: R.L.P | Date: JULY 2018

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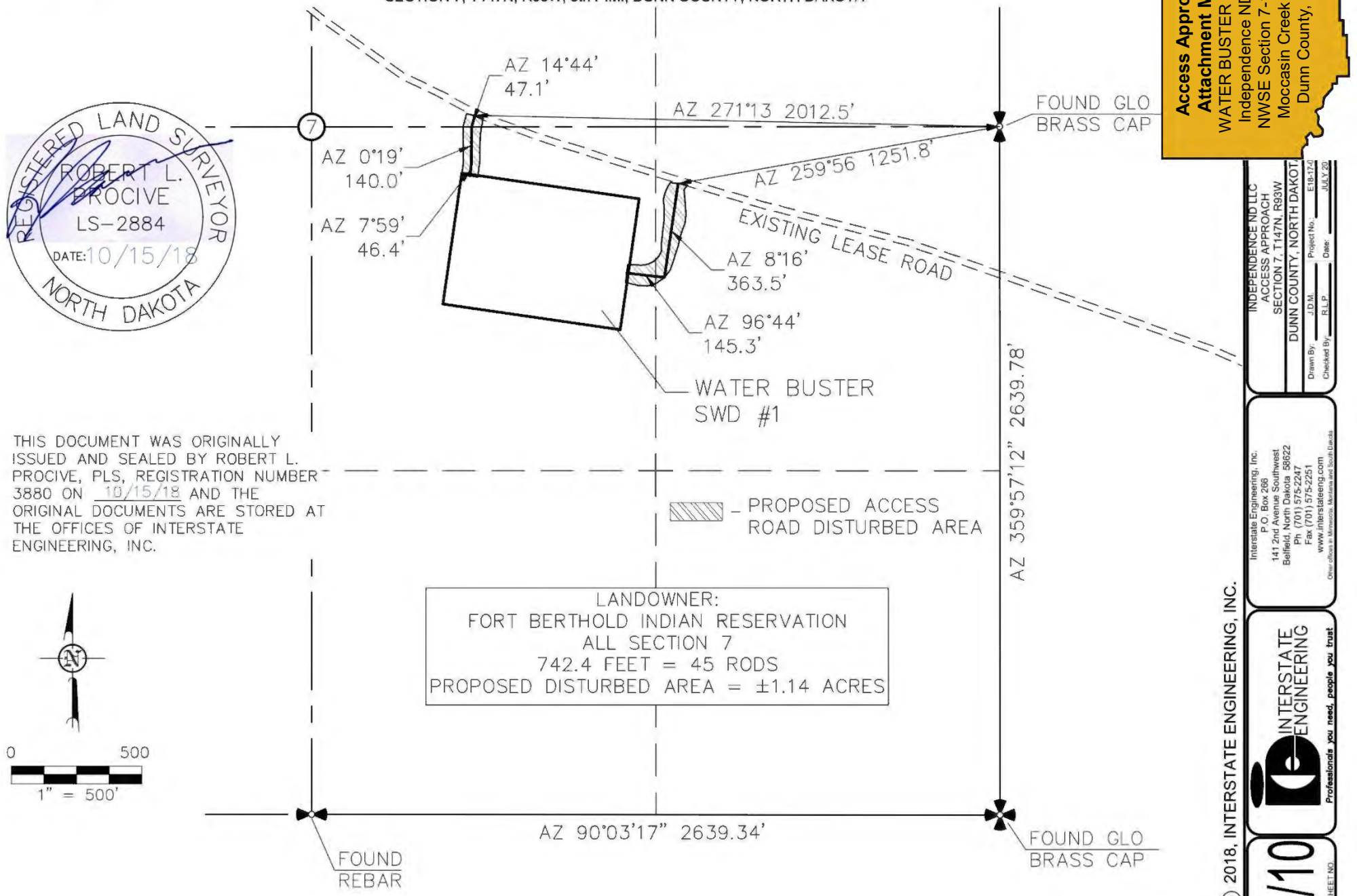
SHEET NO. 3/10

ACCESS APPROACH

INDEPENDENCE ND LLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA

NOTE: All utilities shown are preliminary only, a complete utilities location is recommended before construction.



REGISTERED LAND SURVEYOR
ROBERT L. PROCIVE
LS-2884
DATE: 10/15/18
NORTH DAKOTA

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LANDOWNER:
FORT BERTHOLD INDIAN RESERVATION
ALL SECTION 7
742.4 FEET = 45 RODS
PROPOSED DISTURBED AREA = ±1.14 ACRES

0 500
1" = 500'

Access Approach Attachment M1.4
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

INDEPENDENCE ND LLC
ACCESS APPROACH
SECTION 7, T147N, R93W
DUNN COUNTY, NORTH DAKOTA
Drawn By: J.D.M. Project No: E18-174
Checked By: R.L.P Date: JULY 20

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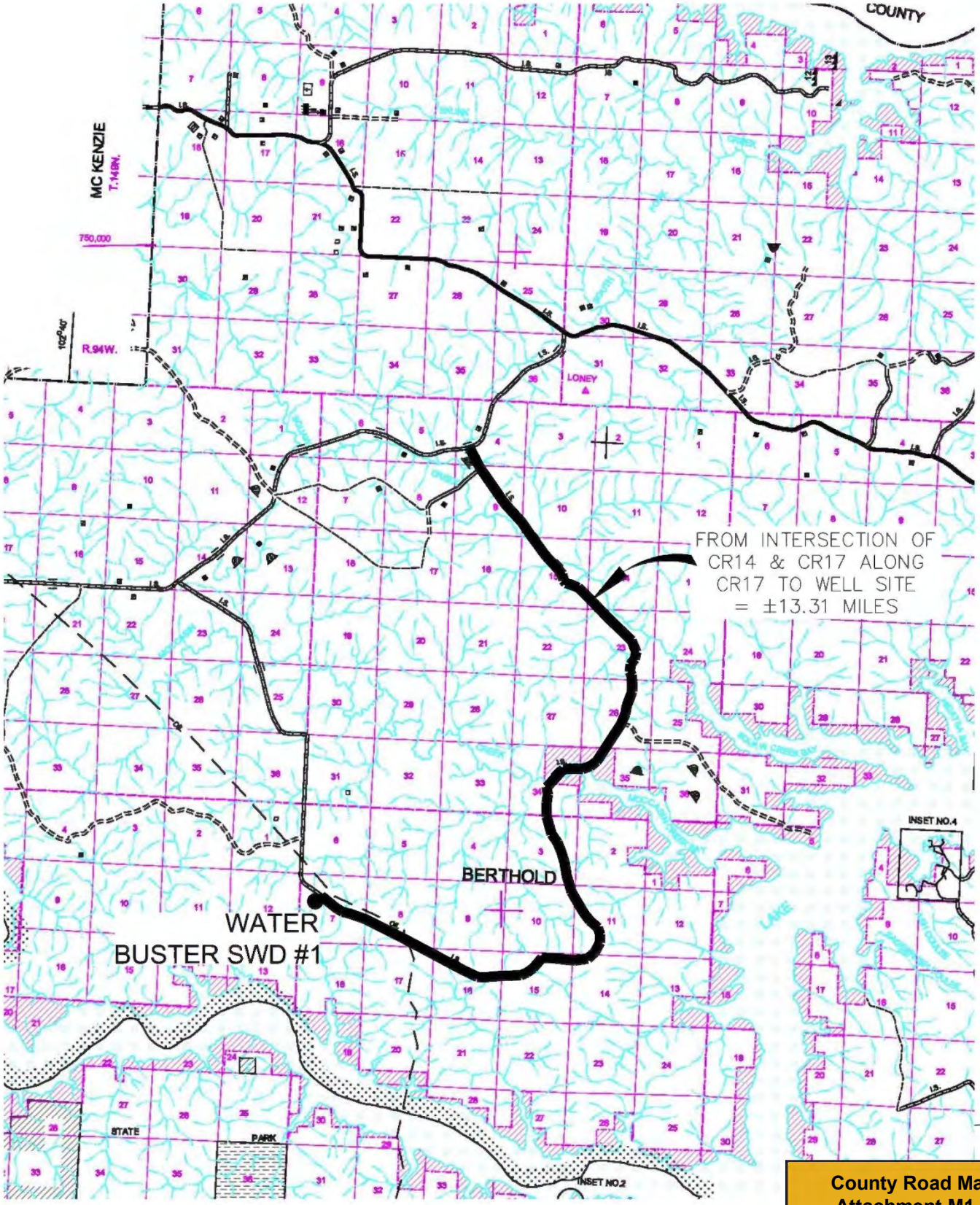
SHEET NO. 4/10

COUNTY ROAD MAP

INDEPENDENCE ND LLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA



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Other offices in Minnesota, Montana and South Dakota

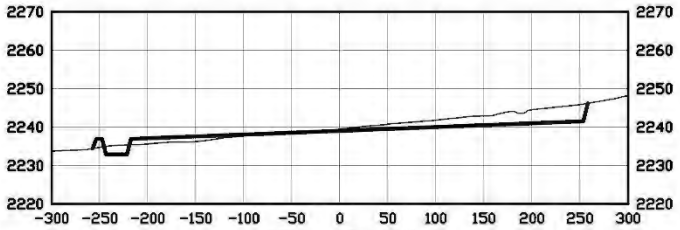
INDEPENDENCE ND LLC
COUNTY ROAD MAP
SECTION 7, T147N, R93W
DUNN COUNTY, NORTH DAKOT

Drawn By: J.D.M. | Project No.: E18-17-0
Checked By: R.L.P. | Date: JULY 201

County Road Map
Attachment M1.6
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

CROSS SECTIONS

INDEPENDENCE NDLLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA



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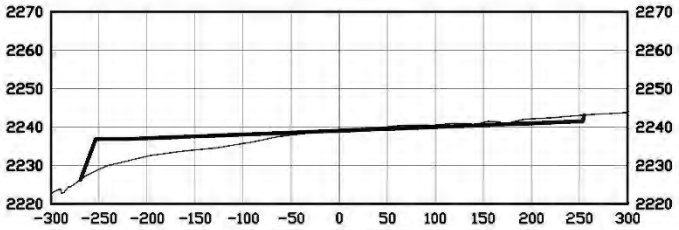

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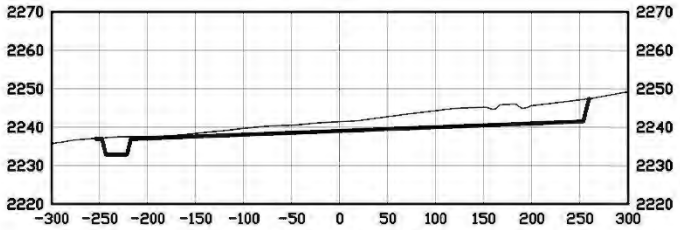

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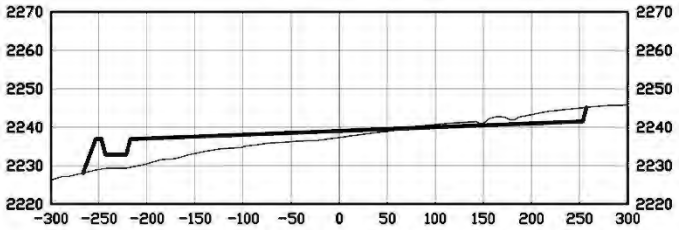

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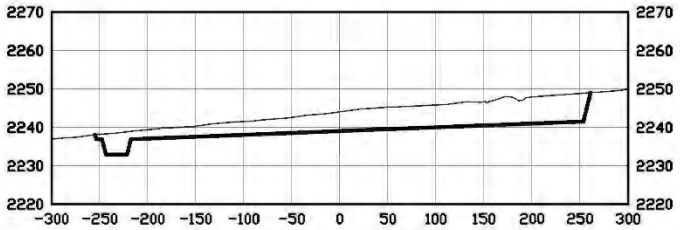

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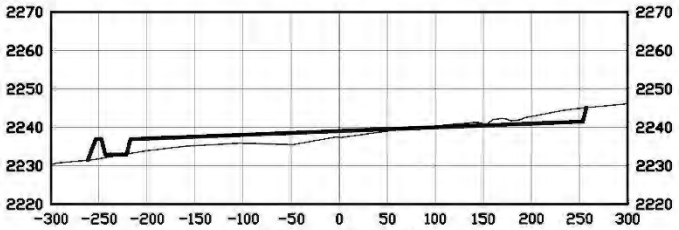

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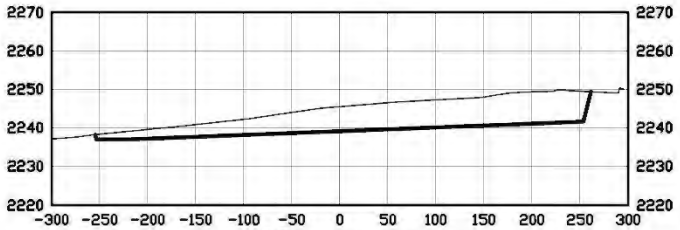

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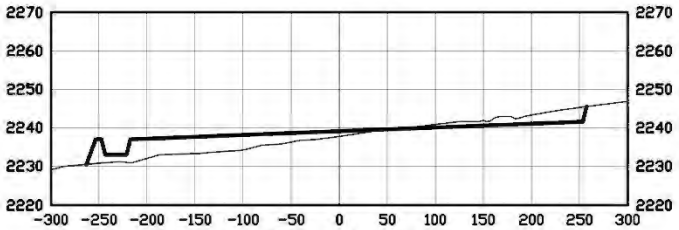

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THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY ROBERT L. PROCIVE, PLS, REGISTRATION NUMBER 3880 ON 10/15/18 AND THE ORIGINAL DOCUMENTS ARE STORED AT THE OFFICES OF INTERSTATE ENGINEERING, INC.

SCALE
HORIZ 1"=200'
VERT 1"=50'

7/10
SHEET NO.

INTERSTATE ENGINEERING
Professionals you need, people you trust

Interstate Engineering, Inc.
P.O. Box 266
141 2nd Avenue Southwest
Belfield, North Dakota 58622
Ph (701) 575-2247
Fax (701) 575-2251
www.interstateeng.com
Other offices in Minnesota, Montana and South Dakota

INDEPENDENCE ND LLC
CROSS SECTIONS
SECTION 7, T147N, R93W
DUNN COUNTY, NORTH DAKOT

Drawn By: J.D.M. Project No.: E18-17-03
Checked By: R.L.P. Date: JULY 201

Cross Sections
Attachment M1.7
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

SITE QUANTITIES

INDEPENDENCE ND LLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2240.6
WELL PAD ELEVATION	2238.1

PAD EXCAVATION (INCLUDES CONTAINMENT)	(27,013)
ROAD EXCAVATION	(1,757)
	(28,770)
PAD EMBANKMENT	11,798
ROAD EMBANKMENT	3,953
PLUS SHRINKAGE (30%)	4,725
TOTAL	20,476
STOCKPILE TOP SOIL (6")	6,671
BERM	766
STOCKPILE MATERIAL	856
DISTURBED AREA FROM PAD	8.27 ACRES

NOTE: ALL QUANTITIES ARE IN CUBIC YARDS (UNLESS NOTED)
CUT END SLOPES AT 1:1
FILL END SLOPES AT 1.5:1

WELL SITE LOCATION
1911' FEL
2275' FSL

8/10
SHEET NO.

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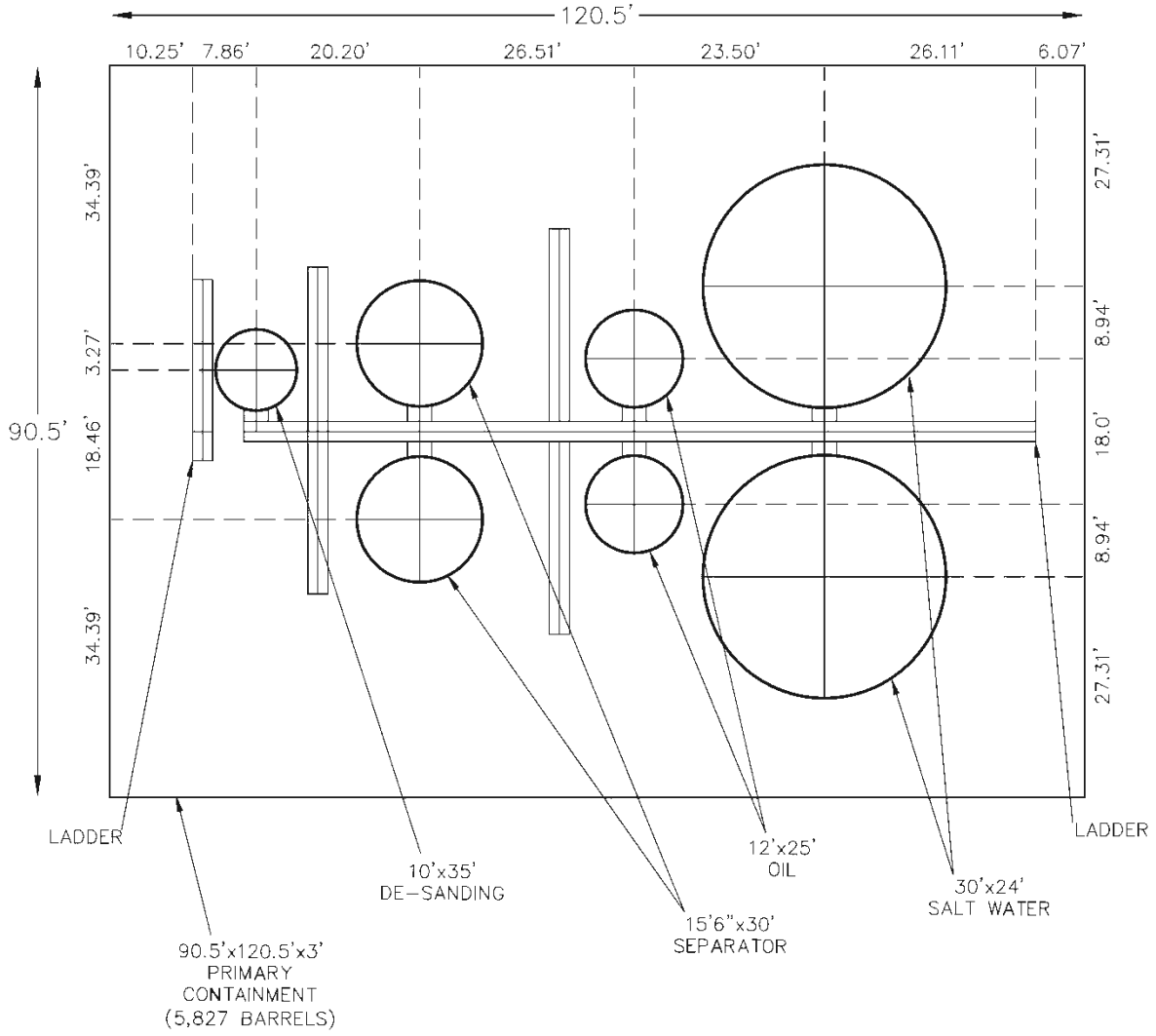
INDEPENDENCE ND LLC
SITE QUANTITIES
SECTION 7, T147N, R93W
DUNN COUNTY, NORTH DAKOTA
Drawn By: J.D.M. Project No.: E18-17-0
Checked By: R.L.P. Date: JULY 201

Site Quantities
Attachment M1.8
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

TANK DETAIL

INDEPENDENCE ND LLC
301 1ST AVENUE E BAKERSFIELD, NEWTOWN, ND 58763
WATER BUSTER SWD #1
1911 FEET FROM EAST LINE AND 2275 FEET FROM SOUTH LINE
SECTION 7, T147N, R93W, 5th P.M., DUNN COUNTY, NORTH DAKOTA



NOTE: HDPE LINER TO ENCOMPASS BASE OF TANK CONTAINMENT

SCALE: 1" =20'

10/10
SHEET NO

INTERSTATE ENGINEERING
Professionals you need, people you trust

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141 2nd Avenue Southwest
Belfield, North Dakota 58622
Ph (701) 575-2247
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Other offices in Minnesota, Montana and South Dakota

INDEPENDENCE ND LLC
TANK DETAIL
SECTION 7, T147N, R93W
DUNN COUNTY, NORTH DAKOTA
Drawn By: J.D.M. Project No. E18-17-032
Checked By: R.L.P. Date: JULY 2018

Revision No	Date	By	Description
REV 1	7/26/18	JDM	REVISED NAME OF COMPANY PER CLIENT
REV 2	7/26/18	JDM	REVISED NAME OF WELL

Tank Size & Purpose
Attachment M2
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

PRODUCT DATA SHEET

GSE HD Smooth Geomembrane

GSE HD is a smooth high density polyethylene (HDPE) geomembrane manufactured with the highest quality resin specifically formulated for flexible geomembranes. This product is used in applications that require excellent chemical resistance and endurance properties.

[*]

AT THE CORE:
An HDPE geomembrane used in applications that require excellent chemical resistance and endurance properties.

Product Specifications

These product specifications meet GRI GM 13

Tested Property	Test Method	Frequency	Minimum Average Value				
			30 mil	40 mil	60 mil	80 mil	100 mil
Thickness, mil Lowest individual reading	ASTM D 5199	every roll	30 27	40 36	60 54	80 72	100 90
Density, g/cm³	ASTM D 1505	200,000 lb	0.940	0.940	0.940	0.940	0.94
Tensile Properties (each direction) Strength at Break, lb/in-width Strength at Yield, lb/in-width Elongation at Break, % Elongation at Yield, %	ASTM D 6693, Type IV Dumbbell, 2 ipm G.L. 2.0 in G.L. 1.3 in	20,000 lb	 114 63 700 12	 152 84 700 12	 228 126 700 12	 304 168 700 12	 380 210 700 12
Tear Resistance, lb	ASTM D 1004	45,000 lb	21	28	42	56	70
Puncture Resistance, lb	ASTM D 4833	45,000 lb	54	72	108	144	180
Carbon Black Content, % (Range)	ASTM D 1603*/4218	20,000 lb	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D 5596	45,000 lb	Note(1)	Note(1)	Note(1)	Note(1)	Note(1)
Notched Constant Tensile Load, hr	ASTM D 5397, Appendix	200,000 lb	500	500	500	500	500
Oxidative Induction Time, mins	ASTM D 3895, 200°C; O_2, 1 atm	200,000 lb	>100	>100	>100	>100	>100
TYPICAL ROLL DIMENSIONS							
Roll Length(2), ft			1,120	870	560	430	340
Roll Width(2), ft			22.5	22.5	22.5	22.5	22.5
Roll Area, ft²			25,200	19,575	12,600	9,675	7,650

NOTES:
- (1) Dispersion only applies to mear spherical agglomerates. 9 of 10 views shall be Category 1 or 2. No more than 1 view from Category 3.
- (2) Roll lengths and widths have a tolerance of ±1%.
- GSE HD is available in rolls weighing approximately 3,900 lb.
- All GSE geomembranes have dimensional stability of ±2% when tested according to ASTM D 1204 and LTB of <-77°C when tested according to ASTM D 746.
- *Modified.

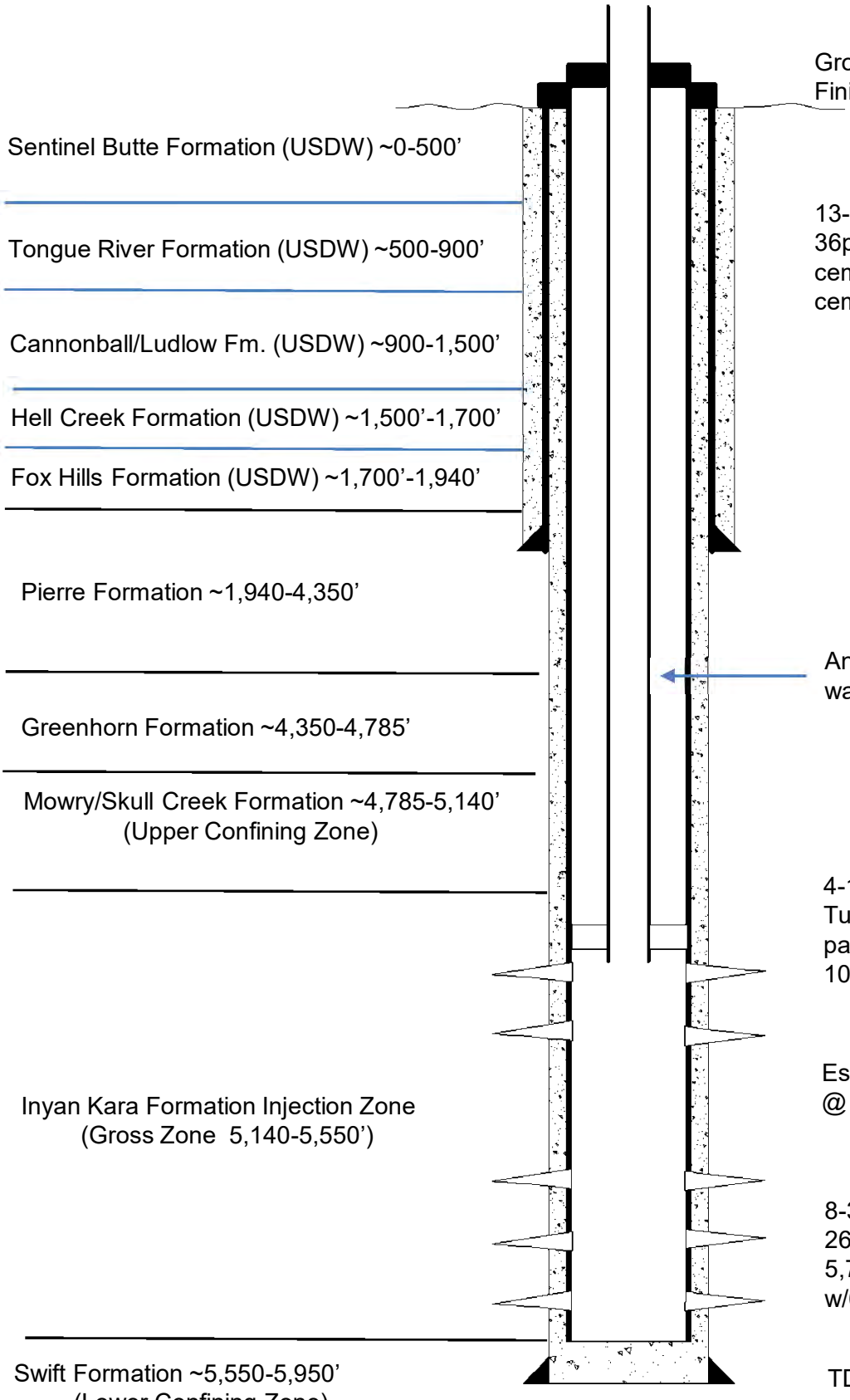
**** The WATER BUSTER SWD 1 primary tank containment will be lined with a 30mil geomembrane with similar specifications.

GSE is a leading manufacturer and marketer of geosynthetic lining products and services. We've built a reputation of reliability through our dedication to providing consistency of product, price and protection to our global customers.

Our commitment to innovation, our focus on quality and our industry expertise allow us the flexibility to collaborate with our clients to develop a custom, purpose-fit solution.

[DURABILITY RUNS DEEP] For more information on this product and others, please visit us at GSEworld.com, call 800.435.2008 or contact your local sales office.

Liner Specification Sheet
Attachment M2.1
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND



Ground Elevation: 2,240.6’
Finished Pad Elevation: ~2238.1’

Sentinel Butte Formation (USDW) ~0-500’

Tongue River Formation (USDW) ~500-900’

Cannonball/Ludlow Fm. (USDW) ~900-1,500’

Hell Creek Formation (USDW) ~1,500’-1,700’

Fox Hills Formation (USDW) ~1,700’-1,940’

Pierre Formation ~1,940-4,350’

Greenhorn Formation ~4,350-4,785’

Mowry/Skull Creek Formation ~4,785-5,140’
(Upper Confining Zone)

Inyan Kara Formation Injection Zone
(Gross Zone 5,140-5,550’)

Swift Formation ~5,550-5,950’
(Lower Confining Zone)

13-1/2” surface hole. 9-5/8” J-55 36ppf surface casing set to 2,200’ and cemented to surface w/800 sacks of cement

Annulus Fluid will be a mixture of fresh water and corrosion/scale inhibitors

4-1/2” J-55 8rd EUE 12.75ppf IPC Tubing w/Arrowset 1-X nickel-plated packer @ 5,195’ (packer must be within 100’ of top perforation)

Estimated Dakota perforations @ 5,225’-5,510’ GL

8-3/4” production hole. 7” J-55 26ppf production casing set to 5,700’ and cemented to surface w/650 sacks of cement

TD @ 5,700’, PBD ~ 5,660’

**** Not to Scale. All depth referenced from proposed 2,238’ finished pad elevation. KB Elevation estimated to be 2,253’ (add 15’ to depths above).

Proposed Wellbore
Attachment M3
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

WATER BUSTER SWD 1 - Cement Volume Calculator									
		Cement	Cement		Volume	Excess	Volume w/Excess	Yield	Cement
Casing Description	Cement Description	Interval	Length	CUFT/FT	CUFT	Factor	CUFT	CUFT/Sack	Sacks
9-5/8" Casing in 13-1/2" Hole	Surface Lead Set C	0-1950'	1950	0.4887	953.0	1.5	1429.4	2.45	585
9-5/8" Casing in 13-1/2" Hole	Surface Tail G (250')	1950-2200'	250	0.4887	122.2	2	244.4	1.15	215
							Total Cement Sacks for Surface>>		800
7" Casing in 9-5/8" 36# Casing	Production Lead Lite	0-2200'	2200	0.1668	367.0	1.35	495.4	2.17	230
7" Casing in 8-3/4" Hole	Production Lead Lite	2200-4600'	2400	0.1503	360.7	1.35	487.0	2.17	225
7" Casing in 8-3/4" Hole	Production Tail 1000' G (500' above IK)	4600-5700'	1100	0.1503	165.3	1.35	223.2	1.15	195
							Total Cement Sacks for Production>		650

Cement Detail
Attachment M4
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

N. CHANGES IN INJECTED FLUID (N/A to Class II wells)

O. PLANS FOR WELL FAILURES

Independence ND does not anticipate any well failures, but if a scheduled Mechanical Integrity Test (MIT) or our monitoring program reveals a loss of mechanical integrity, the well would immediately be shut in for repairs and the EPA and NDIC would be notified within 24 hours. Independence ND would work diligently with the EPA and NDIC to diagnose and repair the well. Following the repairs, Independence ND would perform a subsequent MIT in the presence of a regulatory authority and results would be submitted to the EPA and the NDIC prior to returning to injection operations.

P. MONITORING PROGRAM

Independence ND plans to install a SCADA system that would constantly monitor all aspects of the operation including injection rate, receipt rate, tank levels, pressures, spill detection, and other sensors that would prevent the receipt of additional fluids and shut the system in if any anomaly occurred. Additionally, Independence ND will physically monitor the system in accordance with the details of the final permit. This monitoring program will likely include the following:

OBSERVE WEEKLY AND RECORD AT LEAST ONCE EVERY THIRTY DAYS	
OBSERVE AND RECORD	Injection pressure (psig)
	Annulus pressure(s) (psig)
	Injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbls)

ANNUALLY	
ANALYZE	Injected fluid total dissolved solids (mg/l)
	Injected fluid specific gravity
	Injected fluid specific conductivity
	Injected fluid pH

ANNUALLY	
REPORT	Each month's maximum and averaged injection pressures (psig)
	Each month's maximum and minimum annulus pressures(s) (psig)
	Each month's injected volume (bbl)
	Fluid volume injected since the well began injecting (bbls)
	Written results of annual injeced fluid analysis
	Sources of all fluids injected during the year

Q. PLUGGING AND ABANDONMENT PLAN (Also note Attachments Q1-Q3)

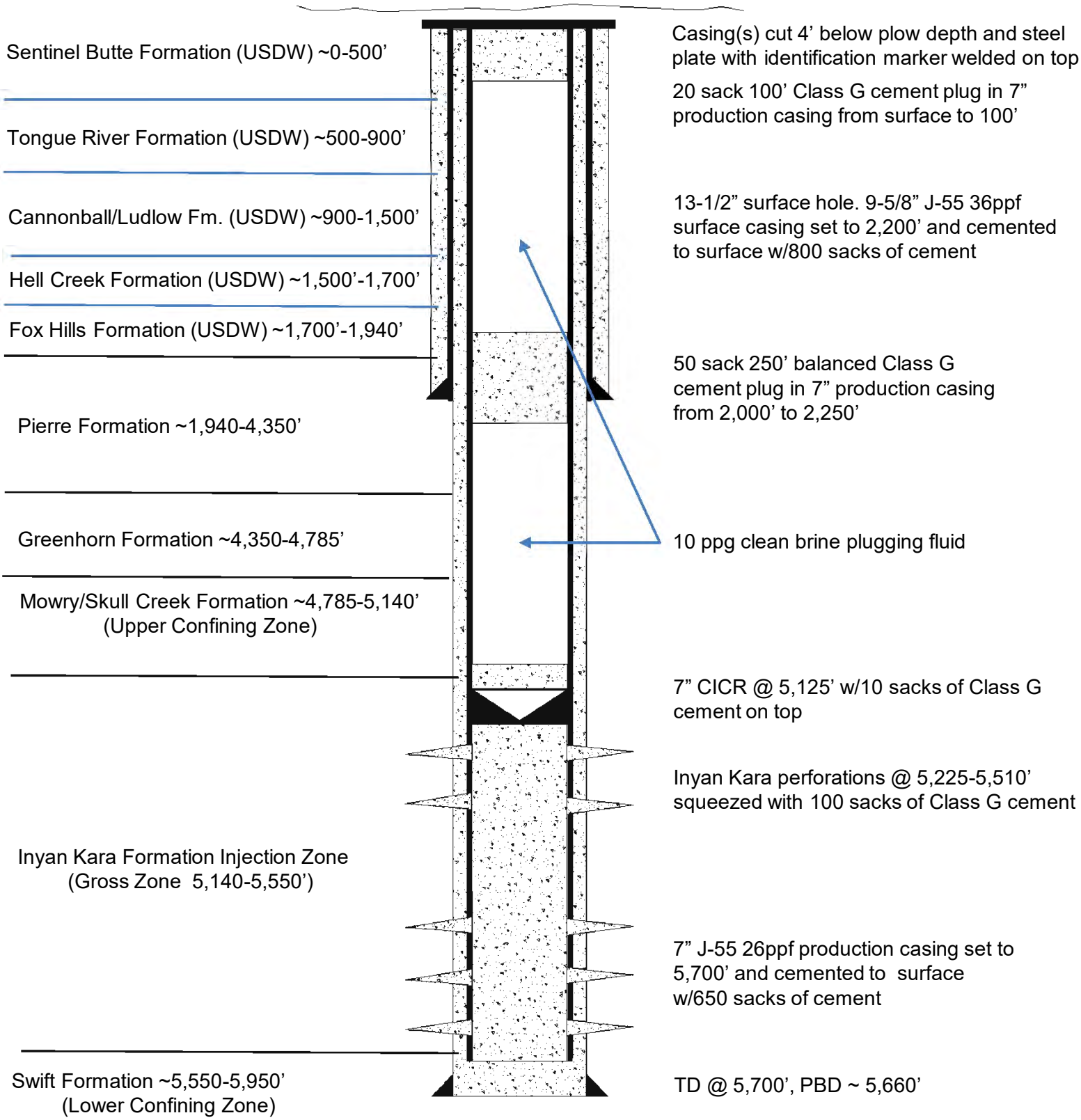
Well Information as Proposed

Ground Elevation: 2,240.6'
Estimated Finished Pad Elevation: ~ 2,238'
Estimated KB: ~2,253'
Estimated PBD: ~5,660'
Surface Casing: 9-5/8" J-55 36ppf set to 2,200' and cemented to surface w/800 sacks of cement
Production Casing: 7" J-55 26ppf set to 5,700' and cemented to surface w/650 sacks of cement
Tubing: 4-1/2" J-55 8rd EUE 12.75ppf Internally Plastic Coated set to 5,205'
Packer: Arrowset 1-X set at 5,195'

**** Note: A squeeze of the surface casing will NOT be required if surface/production casing annulus is isolated as proposed. All plugs will be placed in 7" 26ppf J-55 production casing. All depths referenced from the estimated finished pad elevation of 2,238'. KB Elevation estimated to be 2,253'(add 15' to depths below).

Plug and Abandonment Procedure

1. Review CBL to ensure production string is adequately isolated to surface.
2. Notify EPA Director of proposed plugging at least 45 days prior and submit changes to previously approved plugging and abandonment plan on new EPA Form 7520-14. Await approval.
3. Submit plugging and abandonment plan on sundry request to NDIC and await approval.
4. Notify NDIC field inspector, EPA, and BLM at least 48 hours prior to commencing with operations.
5. MIRU workover rig. Pressure test annulus to 500 psi for 15 minutes. LD surface equipment. ND injection wellhead, NU BOP.
6. Release 1-X packer and TOH w/injection string and packer, inspect, and lay down.
7. PU CICR, RIH and set at 5,125' (~100' above top perforation). Pressure test tubing. Roll hole with clean 10 PPG brine. Establish injection rate into Dakota perforations.
8. Spot cement at end of tubing, sting into retainer and squeeze 100 sacks of Class G cement below CICR and into perforations.
   - If no pump pressure is observed during cement placement, the perforations will be cleared and a second attempt with an additional 100 sacks of Class G cement will be made to isolate the Dakota injection zone.
   - If the second attempt is unsuccessful, a 30 sack/150' Class G cement plug will be set on top of the retainer.
9. If pump pressure is observed during squeeze, sting out and spot 10 sacks of Class G cement on top of retainer. Estimated TOC at 5,075'.
10. Trip out of hole to 2,250' (50' below surface casing shoe). Spot 50 sack, 250' Class G plug in 7", 26ppf production casing to 2,000'.
11. Pull up and circulate tubing clean. Wait on cement. Tag plug and record.
12. Trip out of hole to 100'. Pump 20 sacks Class G plug to surface.
13. Wait on cement. Cut well head 4' below plow level and weld on marker plate.
14. Complete Form 7 Plug & Abandonment report and submit to NDIC.
15. Complete and submit EPA Form 7520-13 to Director within 60 days of plugging.
16. Notify NDIC Field Inspector, EPA, and BLM prior to restoring location.



Proposed P&A'd Wellbore
Attachment Q1
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

**** Not to Scale. All depths referenced from proposed 2,238' finished pad elevation. KB Elevation estimated to be 2,253' (add 15' to depths above).

OMB No. 2040-0042 Approval Expires 12/31/2018

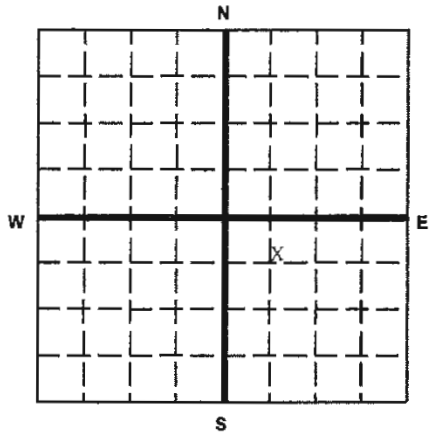
United States Environmental Protection Agency
Washington, DC 20460

PLUGGING AND ABANDONMENT PLAN

Name and Address of Facility
WATER BUSTER SWD 1
(Mailing address to be determined)

Name and Address of Owner/Operator
INDEPENDENCE ND, LLC
301 1ST AVE E BAKERESFIELD | NEWTOWN ND | 58763-4405

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
ND	DUNN	

Surface Location Description
sw 1/4 of ne 1/4 of nw 1/4 of se 1/4 of Section 7 Township 147 Range 93

Locate well in two directions from nearest lines of quarter section and drilling unit
Surface
Location 2275 ft. frm (N/S) S Line of quarter section
and 1911 ft. from (E/W) E Line of quarter section.

TYPE OF AUTHORIZATION
- [x] Individual Permit
- [ ] Area Permit
- [ ] Rule

Number of Wells 1

WELL ACTIVITY
- [ ] CLASS I
- [x] CLASS II
  - [x] Brine Disposal
  - [ ] Enhanced Recovery
  - [ ] Hydrocarbon Storage
- [ ] CLASS III

Lease Name: Water Buster SWD
Well Number: 1

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
9-5/8"	36	2200	2200	13-1/2"
7"	26	5700	5700	8-3/4"

METHOD OF EMPLACEMENT OF CEMENT PLUGS
- [x] The Balance Method
- [ ] The Dump Bailer Method
- [ ] The Two-Plug Method
- [x] Other

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inche	7"	7"	7"				
Depth to Bottom of Tubing or Drill Pipe (ft	5125	2250	100				
Sacks of Cement To Be Used (each plug)	110	50	20				
Slurry Volume To Be Pumped (cu. ft.)	126.5	57.5	23				
Calculated Top of Plug (ft.)	5075	2000	0				
Measured Top of Plug (if tagged ft.)		TBD					
Slurry Wt. (Lb./Gal.)	15.8	15.8	15.8				
Type Cement or Other Material (Class III)	Class G	Class G	Class G				

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
5225	5510		

Estimated Cost to Plug Wells

EPA 7520-14
Attachment Q2
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
JC JOHNSON PRESIDENT	J.C. Johnson	11-5-18

EPA Form 7520-14 (Rev. 12-11)

Attachment Q3 - Plugging Estimates

Independence ND, LLC

Plug & Abandonment - Estimate #1

Category	Vendor	Amount	Description
Service Rig	Baker Consulting	$ 19,000.00	Rig Estimate w/BOP & Tools
Cement	BJ Services	$ 17,771.44	P&A Cement Bid
Tools	Baker Hughes	$ 3,500.00	CICR for 7" 26 lb/ft Casing
Site Supervision	Elk River Consulting	$ 5,950.00	Jobsite Coordinator
Total Bid		**$ 46,221.44**	

Plug & Abandonment - Estimate #2

Category	Vendor	Amount	Description
Service Rig	Neptune Operating	$ 27,900.00	Rig Estimate w/BOP & Tools
Cement	Schlumberger	$ 21,281.48	P&A Cement Bid
Tools	Halliburton	$ 6,438.85	CICR for 7" 26 lb/ft Casing
Site Supervision	Elk River Consulting	$ 5,950.00	Jobsite Coordinator
Total Bid		**$ 61,570.33**	

Plug & Abandonment - Estimate #3

Category	Vendor	Amount	Description
Turnkey P&A	Triple C	$ 100,000.00	All-In Bid for Entire P&A
Site Supervision	Elk River Consulting	$ 5,950.00	Jobsite Coordinator
Total Bid		**$ 105,950.00**	

Baker Consulting, LLC
2820 102nd Ave NW
Mandaree, ND 58757
701.759.3292
www.jpbakerconsulting.com

Monday, November 05, 2018
Independence ND, LLC
ATTN: James Owen
jowen@independence-llc.com

Proposal for Prairie Chicken SWD 1 P & A project on Fort Berthold Indian Reservation (FBIR).

Dear Mr. Owen,

Thank you for the opportunity to provide P&A services to Independence. We are pleased to submit this bid for our services per your RFP to service Independence on FBIR.

Baker Consulting has been in business since 2010, and has steadily built a reputation of integrity, professionalism, and safety. We are an established oilfield service company, and have successfully completed projects in all aspects of our operations (upstream, midstream, and downstream) across western North Dakota and eastern Montana.

In response to this RFP, we have prepared a proposal outlining all of the services and supporting roles we are able to provide to you at this time to complete your project. Baker Consulting is a TERO approved Tier One Certified Indian Contractor approved to provide this, and many other services, on FBIR. We have maintained a satisfactory grade in ISNet, (account #400-196952 to support our operations. We have the resources and experience to handle many job designs and tasks. Our maintenance and safety programs are comprehensive and create highly efficient operations. We have completed all types of unique and challenging jobs in this basin with continued success. I have no doubt the Baker team will exceed your expectations.

Per your request, we have completed pricing for this with the following items included to complete the SOW in your RFP package. This is to include one of our service rigs, tool pusher, crew, pump, mobilization, demobilization, and capping of well. We will work with your concrete vendor to circulate and pump in the desired zones and cut and cap the well per the NDIC regulations. “Tier 1 fees” are not broken out in our bids or invoicing as separate lines items as we ensure pricing submitted is the total amount, no extra fees. We have direct involvement within this service offering and have all of the necessary equipment, labor force, certifications, and knowledge to complete this project successfully.
Thank you again for this opportunity to work with you on this project. Please contact me with any questions about the proposal package.

Total Price: $19,000.00

M. Ryan Buday

M. Ryan Buday
307-413-6536
Chief Operating Officer
ryan@jpbakerconsulting.com

BJ Cementing Services | Quotation

Independence ND, LLC | Prairie Chicken SWD 1 |

7.000 (in)| **Plug & Abandon**

| Dickinson, ND | Nov 07,2018

PREPARED FOR		PREPARED BY		SERVICE REPRESENTATIVES	
CLIENT CONTACT	James Owen	**QUOTE WRITER**	Devon Hanson	**ACCOUNT REP**	Thomas Irwin
TITLE		**TITLE**	Field Engineer I, Cement	**TITLE**	Driver Trainer
COMPANY	Independence ND, LLC	**OFFICE PHONE**		**OFFICE PHONE**	701-290-9129
OFFICE PHONE		**EMAIL**	Devon.Hanson@bjservices.com	**MOBILE**	
MOBILE	720-530-3198	**MOBILE**	701-590-5946	**EMAIL**	Thomas.Irwin@BJSERVICES.COM
EMAIL	jowen@independence-llc.com				

Operator Name: Independence ND, LLC **Well:** Prairie Chicken SWD 1 **Service:**

Date: Nov 7, 2018 **Quote#:** QUO-22417-P8W4B1 **Job Category:** Plug & Abandon

Job at a Glance

P&A

Job Code	Plug & Abandon
Depth (TVD) (ft)	6,050.000
Depth (MD) (ft)	6,050.000
Hole Size (in)	
Casing Size (in)/Weight (lb/ft)	
Pump Via	Tubing
Total Mix Water Required (gals)	896.000

CEMENTING FLUIDS

FLUID	VOL (bbls)	DEN (ppg)	YIELD (Cu Ft/sk)
SQUEEZE SLURRY : CICR @ 5,555	22.40	15.8000	1.1510
DISPLACEMENT : Displacement 1	31.80	8.3400	
PLUG SLURRY : Balance Plug 2,100'-2,350'	10.20	15.8000	1.1480
DISPLACEMENT : Displacement 2	12.00	8.3400	
PLUG SLURRY : Surface Plug	4.10	15.8000	1.1645

Well Data

INNER / OUTER GEOMETRY

TYPE	OD (in)	ID (in)	WEIGHT (lbs/ft)	MD (ft)	TVD (ft)	EXCESS (%)	GRADE
Previous Casing	7.000	6.276	26.000	6,050.000	6,050.000		J-55
Tubing	2.875	2.441	6.400	5,555.000	5,555.000		

PARAMETERS

Landing Collar Depth (ft)	6,050.00
Mud Density (ppg)	
Mud Type	
Estimated Static Temp (°F)	
Estimated Circulating Temp (°F)	

VOLUME CALCULATIONS

0 ft x 0.03250 cf/ft with 0 % excess = 0.000 cf

Fluid Specifications

	DEN (ppg)	YIELD (Cu Ft/sk)	PLN TOP OF FLUID (Ft)	LG (Ft)	VOL (Cu Ft)	VOL (sks)	VOL (bbls)
SQUEEZE SLURRY : CICR @ 5,555	15.8000	1.1510	5,505.00	0.00	126.00	110	22.40
CEMENT, CLASS G, 100.0000 PCT							
DISPERSANT, CD-32, 0.3000 BWOB							
FLUID LOSS, FL-52, 0.4000 BWOB							
DISPLACEMENT : Displacement 1	8.3400		0.00		0.00		31.80
PLUG SLURRY : Balance Plug 2,100'-2,350'	15.8000	1.1480	2,100.00	0.00	57.00	50	10.20
CEMENT, CLASS G, 100.0000 PCT							
DISPLACEMENT : Displacement 2	8.3400		0.00		0.00		12.00
PLUG SLURRY : Surface Plug	15.8000	1.1645	0.00	0.00	23.00	20	4.10
CEMENT, CLASS G, 100.0000 PCT							
ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS, 2.0000 BWOB							

Cement Properties

	MIX WATER (gals/sk)	MIX FLUID (gals/sk)
SQUEEZE SLURRY : CICR @ 5,555	4.96	4.96
PLUG SLURRY : Balance Plug 2,100'-2,350'	5.00	5.00
PLUG SLURRY : Surface Plug	5.00	5.00

Notes

Customer will be charged for any additional hours, 6 hours after requested time of service.

Operator Name: Independence ND, LLC **Well:** Prairie Chicken SWD 1 **Service:**

Date: Nov 7, 2018 **Quote#:** QUO-22417-P8W4B1 **Job Category:** Plug & Abandon

Price Estimates

PRODUCT CHARGES

PRODUCT	QUANTITY	UOM	UNIT PRICE	GROSS AMOUNT	DISC. %	NET UNIT PRICE	NET AMOUNT
CEMENT, CLASS G	180.0000	SK	$47.08	$8,474.40	40.000	$28.25	$5,084.64
DISPERSANT, CD-32	32.0000	LB	$8.32	$266.24	40.000	$4.99	$159.74
FLUID LOSS, FL-52	42.0000	LB	$23.28	$977.76	40.000	$13.97	$586.66
ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	38.0000	LB	$2.40	$91.20	40.000	$1.44	$54.72
FOAM PREVENTER, FP-6L	10.0000	GAL	$131.36	$1,313.60	40.000	$78.82	$788.16
RETARDER, R-8L	10.0000	GAL	$44.72	$447.20	40.000	$26.83	$268.32
			PRODUCT SUBTOTAL:	$11,570.40			$6,942.24

SERVICE CHARGES

SERVICE	QUANTITY	UOM	UNIT PRICE	GROSS AMOUNT	DISC. %	NET UNIT PRICE	NET AMOUNT
Bulk delivery Charges	536.5080	TMI	$5.20	$2,789.84	50.000	$2.60	$1,394.92
Bulk materials Blending Charge	182.8982	CU FT	$5.23	$956.56	50.000	$2.62	$478.28
Cement Crew Mobilization-Demobilization Fee	1.0000	EA	$10,880.00	$10,880.00	50.000	$5,440.00	$5,440.00
Cement pump charge, 5,001-6,000 feet/1,501 -1,800 m	1.0000	6/HR	$7,032.00	$7,032.00	50.000	$3,516.00	$3,516.00
Cement pump charge, Additional Hours	0.0000	HR	$2,720.00	$0.00	50.000	$0.00	$0.00
			SERVICE SUBTOTAL:	$21,658.40			$10,829.20
			TOTALS:	$33,228.80	46.52		$17,771.44

Client will be charged for all 'SPECIAL PROPPANTS' delivered to location, whether they are pumped or not. All proppants other than standard grade frac. Sand are considered 'SPECIAL PROPPANTS'.
The technical data contained in this proposal is based on the best information available at the time of writing and is subject to further analysis and testing. The pricing data contained in this proposal are estimates only and may vary depending on the work actually performed. Pricing does not include federal, state and local taxes or royalties.
This quotation is based on BJ Services being awarded the work on a first call basis and within thirty (30) days of the proposal date. These prices will be subject to review if the work is done after thirty (30) days from the proposal date, or on a second or third call basis.

Operator Name: Independence ND, LLC **Well:** Prairie Chicken SWD 1 **Service:**

Date: Nov 7, 2018 **Quote#:** QUO-22417-P8W4B1 **Job Category:** Plug & Abandon

BJ Services Terms and Conditions

ALL WORK ORDERS FOR SERVICES ("SERVICES" OR "WORK") AND PURCHASE ORDERS FOR THE SUPPLY OF PRODUCTS OR CHEMICALS ("PRODUCTS") (COLLECTIVELY, "WORK ORDERS") TO BE PROVIDED IN THE UNITED STATES AND/OR CANADA BY BJ SERVICES, LLC OR ITS SUBSIDIARIES OR AFFILIATES (COLLECTIVELY "BJ") TO ITS CUSTOMERS (EACH A "CUSTOMER") ARE SUBJECT TO ACCEPTANCE BY BJ, AND ANY WORK ORDERS SO ACCEPTED WILL BE GOVERNED BY THE PRICING PROPOSAL, THE WORK ORDER, AND THESE TERMS AND CONDITIONS, UNLESS THE CUSTOMER AND BJ (COLLECTIVELY THE "PARTIES") HAVE EXECUTED A MASTER SERVICE AGREEMENT, WHICH TERMS SHALL CONTROL.

1. PAYMENT TERMS

UNLESS ALTERNATE PAYMENT TERMS ARE SPECIFIED OR APPROVED BY THE BJ CREDIT DEPARTMENT, ALL CHARGES BILLED BY BJ MUST BE PAID WITHIN THIRTY (30) DAYS OF THE DATE OF INVOICE. FOR INVOICES, UNPAID AFTER THIRTY (30) DAYS, DISCOUNTS FROM LIST PRICE MAY BE REVOKED. INTEREST MAY BE CHARGED AT THE RATE OF TEN PERCENT (10%) PER ANNUM OR THE MAXIMUM LEGAL RATE. LIENS AND SECURITY INTERESTS MAY BE FILED AND REGISTERED, AND CUSTOMER SHALL PAY BJ ALL COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEYS' FEES AND COURT COSTS, IN ADDITION TO OTHER AMOUNTS DUE. OPERATING, PRODUCTION OR WELL CONDITIONS THAT PREVENT SATISFACTORY OPERATION OF SERVICES OR PRODUCTS DO NOT RELIEVE CUSTOMER OF ITS PAYMENT RESPONSIBILITY. BJ RESERVES THE RIGHT TO REQUIRE PAYMENT COD BASED ON CREDIT REVIEW AT TIME OF WORK.

2. CANCELLATION AND RETURNS

A. PRODUCTS: PRODUCT ORDERS MAY ONLY BE CANCELED WITH WRITTEN AUTHORIZATION FROM BJ. CUSTOMER MAY BE CHARGED A RESTOCKING CHARGE OF TWENTY-FIVE PERCENT (25%), PLUS ANY PACKING AND TRANSPORTATION COSTS INCURRED. PRODUCTS SPECIALLY MANUFACTURED TO CUSTOMER SPECIFICATIONS, OR ORDERS FOR SUBSTANTIAL QUANTITIES MAY NOT BE CANCELED. DELIVERED PRODUCTS MAY ONLY BE RETURNED FOR CREDIT (LESS THE RESTOCKING FEE AND TRANSPORT COSTS) IN UNUSED, REUSABLE CONDITION, IN ORIGINAL UNOPENED CONTAINERS.

B. SERVICES: IN THE EVENT CUSTOMER CANCELS AN ORDER FOR SERVICES WITHOUT CAUSE, CUSTOMER SHALL BE LIABLE FOR ALL REASONABLE COSTS INCURRED BY BJ INCLUDING MOBILIZATION/DEMOBILIZATION.

3. THIRD-PARTY CHARGES, TAXES

CUSTOMER SHALL PAY ALL THIRD-PARTY CHARGES, IN COMPLIANCE WITH BJ'S CURRENT PRICE LIST, AND ANY SALES, USE, RENTAL OR OTHER TAXES THAT MAY BE APPLICABLE. CUSTOMER SHALL PAY ALL APPLICABLE CUSTOMS, EXCISE, IMPORT AND OTHER DUTIES UNLESS OTHERWISE AGREED IN WRITING BY BJ. CUSTOMER SHALL PROVIDE NECESSARY IMPORT LICENSES AND EXTENSIONS.

4. INDEPENDENT CONTRACTOR

IT IS EXPRESSLY UNDERSTOOD THAT BJ IS AN INDEPENDENT CONTRACTOR, AND THAT NEITHER BJ NOR ITS PRINCIPALS, PARTNERS, SHAREHOLDERS, MEMBERS, DIRECTORS, OFFICERS, EMPLOYEES OR SUBCONTRACTORS ARE SERVANTS, AGENTS OR EMPLOYEES OF CUSTOMER. WHERE BJ PROVIDES SERVICES IN LOUISIANA, THE SERVICES PROVIDED BY BJ AND ITS SUBCONTRACTORS ARE AN INTEGRAL PART OF, AND ARE ESSENTIAL TO THE ABILITY OF CUSTOMER TO GENERATE CUSTOMER'S GOODS, PRODUCTS, AND SERVICES, AND THEREFORE BJ AND CUSTOMER AGREE THAT CUSTOMER IS THE STATUTORY EMPLOYER OF BJ'S EMPLOYEES AND ITS SUBCONTRACTOR'S EMPLOYEES UNDER LA. R.S. 23:1061 (A) (3).

5. LIABILITIES, RELEASES AND INDEMNIFICATION:

A. IN THESE TERMS AND CONDITIONS (I) "BJ GROUP" MEANS BJ, ITS SUBSIDIARY AND AFFILIATED COMPANIES; ITS SUBCONTRACTORS AT ANY TIER; AND THE OFFICERS, DIRECTORS, EMPLOYEES, CONSULTANTS, AND AGENTS OF ALL OF THE FOREGOING; (II) "CLAIMS" MEANS ALL CLAIMS, DEMANDS, CAUSES OF ACTION, LIABILITIES, DAMAGES, JUDGMENTS, FINES, PENALTIES, AWARDS, LOSSES, COSTS, EXPENSES (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES AND COSTS OF LITIGATION) OF ANY KIND OR CHARACTER ARISING OUT OF, OR RELATED TO, THE PERFORMANCE OF THE SERVICES OR PRODUCTS PROVIDED; (III) "CONSEQUENTIAL DAMAGES" MEANS ANY INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR LOSSES UNDER APPLICABLE LAW; (IV) "CUSTOMER GROUP" MEANS CUSTOMER, ITS PARENT, SUBSIDIARY AND AFFILIATED OR RELATED COMPANIES; ITS CO-LESSEES, CO-OWNERS, PARTNERS, JOINT OPERATORS AND JOINT VENTURES; ITS CLIENT OR CUSTOMER IF IT IS NOT THE END USER OF THE SERVICES OR PRODUCTS; ITS OTHER CONTRACTORS AT ANY TIER; AND THE OFFICERS, DIRECTORS, EMPLOYEES, CONSULTANTS, AND AGENTS OF ALL OF THE FOREGOING; (V) "POLLUTION CLAIMS" MEANS ALL CLAIMS RELATING TO POLLUTION OR CONTAMINATION OF WATER, LAND, OR AIR, INCLUDING WITHOUT LIMITATION, ADVERSE EFFECTS ON THE ENVIRONMENT OR ANY FORM OF PROPERTY, OR ANY VIOLATION OR ALLEGED VIOLATION OF ENVIRONMENTAL STATUTES, ORDINANCES, LAWS, ORDERS, RULES AND REGULATIONS; (VI) "TOOLS" MEANS ANY OF BJ GROUP'S INSTRUMENTS, EQUIPMENT, OR TOOLS, AND (VII) "WASTE" MEANS ANY CUTTINGS, MUDS, WASTE, WATER, OR MATERIALS FROM THE WELL THAT WHERE SERVICES ARE PERFORMED BY BJ.

B. BJ SHALL RELEASE, INDEMNIFY, DEFEND AND HOLD CUSTOMER GROUP HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS ARISING OUT OF OR RELATED TO (I) PERSONAL OR BODILY INJURY, ILLNESS, SICKNESS, DISEASE OR DEATH OF ANY MEMBER OF BJ GROUP, AND (II) LOSS, DAMAGE OR DESTRUCTION OF REAL OR PERSONAL PROPERTY, WHETHER OWNED, LEASED, OR CHARTERED, OF ANY MEMBER OF BJ GROUP.

C. CUSTOMER SHALL RELEASE, INDEMNIFY, DEFEND AND HOLD BJ GROUP HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS ARISING OUT OF OR RELATED TO (I) PERSONAL OR BODILY INJURY, ILLNESS, SICKNESS, DISEASE OR DEATH OF ANY MEMBER OF CUSTOMER GROUP, AND (II) LOSS, DAMAGE OR DESTRUCTION OF REAL OR PERSONAL PROPERTY WHETHER OWNED, LEASED, OR CHARTERED, OF ANY MEMBER OF CUSTOMER GROUP.

D SUBJECT TO THE PERSONAL INJURY PROVISIONS OF ARTICLE 5(B) ABOVE, BJ SHALL PROTECT, DEFEND AND INDEMNIFY CUSTOMER GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS AND CAUSES OF ACTION, INCLUDING POLLUTION CLAIMS, ARISING FROM POLLUTION OR CONTAMINATION WHICH ORIGINATES ABOVE THE SURFACE OF THE LAND OR WATER AND IS DIRECTLY ASSOCIATED WITH BJ GROUP'S EQUIPMENT OR OTHER EQUIPMENT IN ITS CONTROL, AND SHALL ASSUME ALL RESPONSIBILITY FOR CONTROL AND REMOVAL OF SAME.

E SUBJECT TO THE PERSONAL INJURY PROVISIONS OF 5(C) ABOVE, CUSTOMER SHALL PROTECT, DEFEND AND INDEMNIFY BJ GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION ARISING DIRECTLY OR INDIRECTLY FROM ANY EXISTING POLLUTION AT THE SITE AND FROM ALL OTHER POLLUTION OR CONTAMINATION, INCLUDING BUT NOT LIMITED TO POLLUTION RESULTING FROM FIRE, BLOWOUT, CRATERING, SEEPAGE OR OTHER UNCONTROLLED FLOW OF OIL, GAS, OR OTHER SUBSTANCE; OR RELATED TO THE TRANSPORTATION, STORAGE, TREATMENT, DISPOSAL OR HANDLING OF WASTE, AND SHALL ASSUME ALL RESPONSIBILITY FOR CONTROL AND REMOVAL OF SAME.

F NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, CUSTOMER SHALL RELEASE, PROTECT, DEFEND, AND INDEMNIFY BJ GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER, IN THE EVENT OF CATASTROPHIC LOSSES INCLUDING BUT NOT LIMITED TO: (I) LOSS OR DAMAGE TO A HOLE(S) OR WELL(S), INCLUDING ITS CASING, (II) LOSS OR DAMAGE TO ANY GEOLOGICAL FORMATION, STRATA OR OIL OR GAS RESERVOIR OR MINERAL OR WATER RESOURCE, (III) IMPAIRMENT OF PROPERTY RIGHTS OR OTHER INTERESTS IN OR TO LAND, OIL, GAS, MINERAL, OR WATER RESOURCES, OR THE QUIET ENJOYMENT THEREOF, (IV) SUBSURFACE TRESPASS, (V) DAMAGE FROM ANY RADIOACTIVE SOURCES AND (VI) REGAINING CONTROL OF ANY WILD WELL OR OUT OF CONTROL WELL, UNDERGROUND OR ABOVE THE SURFACE, INCLUDING REMOVAL OF WRECK AND DEBRIS, MEDIATING ENVIRONMENTAL DAMAGE AND ALL COSTS RELATED THERETO.

G CUSTOMER SHALL RELEASE, DEFEND, INDEMNIFY AND HOLD BJ GROUP HARMLESS FROM AND AGAINST ANY CLAIMS FOR CONSEQUENTIAL DAMAGES ASSERTED BY OR IN FAVOR OF ANY MEMBER OF CUSTOMER GROUP. BJ SHALL RELEASE, DEFEND, INDEMNIFY AND HOLD CUSTOMER GROUP HARMLESS FROM AND AGAINST ANY CLAIMS FOR CONSEQUENTIAL DAMAGES ASSERTED BY OR IN FAVOR OF ANY MEMBER OF BJ GROUP.

H THE EXCLUSIONS OF LIABILITY, RELEASES AND INDEMNITIES SET FORTH IN THIS ARTICLE 5 APPLY TO ANY CLAIM(S) WITHOUT REGARD TO THE CAUSE(S) THEREOF, INCLUDING BUT NOT LIMITED TO PRE-EXISTING CONDITIONS, WHETHER SUCH CONDITIONS BE PATENT OR LATENT, THE UNSEAWORTHINESS OF ANY VESSEL OR VESSELS, IMPERFECTION OF MATERIAL, DEFECT OR FAILURE OF PRODUCTS OR EQUIPMENT, BREACH OF REPRESENTATION OR WARRANTY (EXPRESS OR IMPLIED), ULTRA-HAZARDOUS ACTIVITY, STRICT LIABILITY, TORT, BREACH OF CONTRACT, BREACH OF DUTY (STATUTORY OR OTHERWISE), BREACH OF ANY SAFETY REQUIREMENT OR REGULATION, OR THE NEGLIGENCE, GROSS NEGLIGENCE, OR OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY PERSON, PARTY, OR ENTITY (INCLUDING THE INDEMNIFIED OR RELEAS

PERSON, PARTY, OR ENTITY (INCLUDING THE INDEMNIFIED OR RELEASED PARTY), WHETHER SUCH FORM OF NEGLIGENCE BE SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE.

6. INSURANCE

EACH PARTY AGREES TO SUPPORT THE INDEMNITY OBLIGATIONS CONTAINED IN ARTICLE 5 BY CARRYING INSURANCE (OR QUALIFIED SELF-INSURANCE) WITH REPUTABLE INSURANCE COMPANIES IN THE FOLLOWING MINIMUM AMOUNTS:

A. WORKERS' COMPENSATION INSURANCE COMPLYING WITH APPLICABLE STATE, PROVINCIAL AND FEDERAL LAWS, AND EMPLOYERS' LIABILITY INSURANCE IN THE AMOUNT OF $1,000,000 EACH ACCIDENT FOR BODILY INJURY BY ACCIDENT/$1,000,000 EACH EMPLOYEE FOR BODILY INJURY BY DISEASE/ $1,000,000 POLICY LIMIT.

B. COMMERCIAL GENERAL LIABILITY INSURANCE, INCLUDING PRODUCTS AND COMPLETED OPERATIONS AGGREGATE, SUDDEN AND ACCIDENTAL POLLUTION (WHICH MAY BE PROVIDED FOR IN A SEPARATE POLICY), IN THE AMOUNT OF $1,000,000 COMBINED SINGLE LIMIT PER OCCURRENCE/$2,000,000 IN THE AGGREGATE.

C. AUTOMOBILE LIABILITY INSURANCE IN THE AMOUNT OF $1,000,000 COMBINED SINGLE LIMIT FOR BODILY INJURY AND PROPERTY DAMAGE, INCLUDING COVERAGE FOR ALL OWNED, HIRED, AND NON-OWNED VEHICLES.

D. EXCESS LIABILITY INSURANCE OVER THAT REQUIRED IN A (FOR EMPLOYER'S LIABILITY ONLY), B AND C IN THE *MINIMUM* AMOUNT OF $5,000,000 EACH OCCURRENCE AND IN THE AGGREGATE, SPECIFICALLY INCLUDING CONTRACTUAL LIABILITY COVERAGE. UPON WRITTEN REQUEST, EACH PARTY SHALL FURNISH TO THE OTHER PARTY CERTIFICATES OF INSURANCE EVIDENCING THAT ADEQUATE INSURANCE TO SUPPORT EACH PARTY'S OBLIGATIONS HAS BEEN SECURED. TO THE EXTENT OF EACH PARTY'S RELEASE AND INDEMNITY OBLIGATIONS, EACH PARTY AGREES THAT ALL SUCH INSURANCE POLICIES SHALL (I) BE PRIMARY TO THE OTHER PARTY'S INSURANCE, (II) INCLUDE THE OTHER PARTY, ITS PARENT, SUBSIDIARY AND AFFILIATED OR RELATED COMPANIES, ITS SUBCONTRACTORS AND OTHER CONTRACTORS, AND ITS AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, CONSULTANTS AND AGENTS AS ADDITIONAL INSURED, AND (III) BE ENDORSED TO WAIVE SUBROGATION AGAINST THE OTHER PARTY, ITS PARENT, SUBSIDIARY AND AFFILIATED OR RELATED COMPANIES, ITS SUBCONTRACTORS AND OTHER CONTRACTORS, AND ITS AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, CONSULTANTS AND AGENTS.

7. CONFIDENTIALITY

EACH PARTY SHALL MAINTAIN ALL DATA AND INFORMATION OBTAINED FROM THE OTHER PARTY IN STRICT CONFIDENCE, SUBJECT ONLY TO DISCLOSURE REQUIRED BY LAW OR LEGAL PROCESS. THE DESIGN, CONSTRUCTION, APPLICATION AND OPERATION OF BJ'S SERVICES AND PRODUCTS EMBODY PROPRIETARY AND CONFIDENTIAL INFORMATON. CUSTOMER SHALL MAINTAIN THIS INFORMATION IN STRICT CONFIDENCE AND SHALL NOT DISCLOSE IT TO OTHERS, SUBJECT ONLY TO DISCLOSURE REQUIRED BY LAW OR LEGAL PROCESS.

8. ACCESS TO WELL AND WELL SITE STORAGE

CUSTOMER SHALL PROVIDE AT ITS EXPENSE ADEQUATE ACCESS TO AND FROM THE WELL SITE, AND SHALL OBTAIN ALL PERMITS, LICENSES OR OTHER AUTHORIZATION REQUIRED FOR BJ TO ENTER UPON WORK AREAS FOR THE PURPOSES CONTEMPLATED. CUSTOMER SHALL PROVIDE PROPER STORAGE SPACE AT THE WELL SITE, MEETING ALL APPLICABLE SAFETY AND SECURITY REQUIREMENTS AND CONSISTENT WITH GOOD INDUSTRY PRACTICES, FOR THE TOOLS AND PRODUCTS, INCLUDING, WITHOUT LIMITATION, ALL RADIOACTIVE MATERIALS. BJ RESERVES THE RIGHT NOT TO PERFORM WORK IF THE JOB OR CONDITIONS OF THE LOCATION RENDER SUCH PERFORMANCE INADVISABLE.

9. STANDARD OF PERFORMANCE

A. SERVICES: BJ WARRANTS (I) THAT ALL SERVICES SHALL BE PERFORMED IN COMPLIANCE WITH ALL LAWS, RULES AND REGULATIONS (INCLUDING ALL SAFETY CODES, STATUTES, REGULATIONS, PRECAUTIONS, AND PROCEDURES) AND UTILIZING ALL NECESSARY ACCORDANCE WITH THE TERMS HEREOF, THE SPECIFICATIONS SET FORTH IN THE APPLICABLE ORDER, AND GOOD INDUSTRY STANDARDS OF PERFORMANCE AND IN A TIMELY MANNER; AND (III) THAT BJ, ITS SUBCONTRACTORS AND THEIR EMPLOYEES ARE SUFFICIENTLY EXPERIENCED AND SUITABLY TRAINED TO PERFORM THE SERVICES. IN THE EVENT THAT THE SERVICES FAIL TO CONFORM TO SUCH SPECIFICATIONS, BJ SHALL RE-PERFORM THAT PART OF THE NON-CONFORMING SERVICES, PROVIDED BJ IS NOTIFIED IN WRITING BY CUSTOMER PRIOR TO DEMOBILIZATION

B. PRODUCTS: BJ WARRANTS THAT THE PRODUCTS SHALL CONFORM TO BJ'S PUBLISHED SPECIFICATIONS OR THE SPECIFICATIONS AGREED TO IN WRITING. IF ANY OF THE PRODUCTS FAIL TO CONFORM, BJ SHALL REPAIR OR REPLACE THE *NON-CONFORMING* PRODUCTS, OR ESUE CREDIT TO THE CUSTOMER. IN THE EVENT BJ IS REQUESTED TO DEVELOP, MANUFACTURE, TEST OR USE PRODUCTS THAT ARE INTENDED TO SATISFY A UNIQUE NEED IDENTIFIED BY CUSTOMER AND ARE NOT "STANDARD" PRODUCTS OF BJ ("SPECIALTY PRODUCTS"), CUSTOMER RECOGNIZES AND AGREES THAT SPECIALTY PRODUCTS MAY NOT HAVE OR CONTAIN THE SAME OR SIMILAR CHARACTERISTICS AS BJ'S STANDARD PRODUCTS, INCLUDING HISTORICAL PERFORMANCE AGAINST WHICH FUTURE PERFORMANCE CAN BE MEASURED. IN DEVELOPING, MANUFACTURING, TESTING AND USING ANY SPECIALTY PRODUCT, BJ WILL BE RELYING UPON INFORMATION AND SPECIFICATIONS PROVIDED BY CUSTOMER REGARDING ITS UNIQUE NEEDS, AND WILL HAVE NO RESPONSIBILITY FOR THE DESIGN, MANUFACTURE OR ENGINEERING OF ANY SUCH SPECIALTY PRODUCT. UPON INSPECTION, IF THE SPECIALTY PRODUCT FAILS TO MEET THE SPECIFICATIONS AGREED TO IN WRITING BY CUSTOMER, THEN BJ SHALL, AT ITS OPTION, REPAIR OR REPLACE THE NON-CONFORMING SPECIALTY PRODUCTS WITH THE TYPE ORIGINALLY FURNISHED TO CUSTOMER OR SUBSTITUTE WITH STANDARD PRODUCTS. BJ'S WARRANTY OBLIGATIONS ARE NON-TRANSFERABLE AND VOID IF THE NON-CONFORMITY WERE CAUSED BY (I) CUSTOMER'S FAILURE TO PROPERLY STORE OR MAINTAIN THE PRODUCTS, (II) ABNORMAL WELL CONDITIONS, ABRASIVE MATERIALS, CORROSION DUE TO AGGRESSIVE FLUIDS OR INCORRECT SPECIFICATIONS PROVIDED BY CUSTOMER, (III) UNAUTHORIZED ALTERATION OF THE PRODUCTS, (IV) LOSS OR DAMAGE WHILE ON CUSTOMER'S SITE DUE TO ANY NEGLIGENCE, VANDALISM OR FORCE MAJEURE, OR (V) USE OR HANDLING BY CUSTOMER IN A MANNER INCONSISTENT WITH BJ'S RECOMMENDATIONS. FURTHER, BJ'S WARRANTY OBLIGATIONS SHALL TERMINATE IF CUSTOMER FAILS TO PERFORM ITS OBLIGATIONS UNDER THESE TERMS AND CONDITIONS. ALL TRANSPORTATION CHARGES AND REMOVAL AND REINSTALLATION CHARGES RELATED TO THE REPAIR OR REPLACEMENT OF NON-CONFORMING PRODUCTS SHALL BE BORNE BY CUSTOMER, INCLUDING SHIPMENT TO BJ'S FACILITY.

C. GOODS: BJ SHALL ASSIGN ANY VENDOR OR SUPPLIER'S WARRANTY TO CUSTOMER FOR ANY PRODUCTS OR GOODS PURCHASED, TO THE EXTENT SUCH WARRANTIES ARE ASSIGNABLE.

D. RECOMMENDATIONS: INTERPRETATIONS, RESEARCH, ANALYSIS, RECOMMENDATIONS, ADVICE OR INTERPRETATIONAL DATA (SPECIFICALLY INCLUDING, WITHOUT LIMITATION, ANY ENGINEERING DESIGNS, GEOLOGICAL STUDIES OR ANALYSES, WELL PROGRAMS, RESERVOIR MODELS, PRODUCTION OPTIMIZATION OR MANAGEMENT PROGRAMS) ("RECOMMENDATIONS") FURNISHED BY BJ ARE OPINIONS BASED UPON MODELS, PRODUCTION OPTIMIZATION OR MANAGEMENT PROGRAMS) ("RECOMMENDATIONS") FURNISHED BY BJ ARE OPINIONS BASED UPON INFERENCES FROM MEASUREMENTS, EMPIRICAL RELATIONSHIPS AND ASSUMPTIONS, AND INDUSTRY PRACTICE. THE INFERENCES, ASSUMPTIONS AND PRACTICES ARE NOT INFALLIBLE, AND WITH RESPECT TO WHICH PROFESSIONAL GEOLOGISTS, ENGINEERS, DRILLING CONSULTANTS, AND ANALYSTS MAY DIFFER. ACCORDINGLY, BJ DOES NOT WARRANT THE ACCURACY, CORRECTNESS, OR COMPLETENESS OF ANY INTERPRETATIONS OR RECOMMENDATIONS, OR THAT RELIANCE ON ITS INTERPRETATIONS AND/OR RECOMMENDATIONS WILL ACCOMPLISH ANY PARTICULAR RESULTS. CUSTOMER ASSUMES FULL RESPONSIBILITY FOR THE USE OF SUCH RECOMMENDATIONS AND FOR ITS DECISIONS. OTHER THAN THE PROVISIONS IN THIS ARTICLE 9, BJ MAKES NO WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING ANY SERVICES, EQUIPMENT OR PRODUCTS. IN NO EVENT SHALL BJ BE LIABLE FOR CONSEQUENTIAL DAMAGES INCURRED BY CUSTOMER GROUP AS A RESULT OF DEFECTIVE OR NON-CONFORMING SERVICES, EQUIPMENT OR PRODUCTS.

BJ Services Terms and Conditions

10. INTELLECTUAL PROPERTY

A. BJ INTENDS TO PROTECT ITS INTELLECTUAL PROPERTY. CUSTOMER SHALL NOT RESELL THE PRODUCTS (OR DRAWINGS RELATED THERETO) TO OTHERS OR REVERSE ENGINEER OR PERMIT OTHERS TO REVERSE ENGINEER FOR THE PURPOSE OF MANUFACTURING SIMILAR PRODUCTS. BJ OWNS AND HAS LEGAL RIGHTS TO PRACTICE CERTAIN COPYRIGHTS, TRADEMARKS, INDUSTRIAL DESIGNS, PATENTS OR PENDING APPLICATIONS ON CERTAIN TECHNOLOGY AND ITEMS RELATED TO THE SERVICES OR PRODUCTS FURNISHED. IN THE VENT THAT BJ MAKES ANY IMPROVEMENTS ON SUCH TECHNOLOGY, THEN BJ SHALL OWN ALL SUCH IMPROVEMENTS, INCLUDING DRAWINGS, SPECIFICATIONS, CALCULATIONS AND OTHER DOCUMENTS.

B. BJ WARRANTS THAT THE USE OR SALE OF PRODUCTS WILL NOT INFRINGE VALID PATENTS OF OTHERS BY REASON OF THE USE OR SALE OF SUCH PRODUCTS, AND HEREBY AGREES TO RELEASE, DEFEND, INDEMNIFY AND HOLD CUSTOMER GROUP HARMLESS FROM AND AGAINST ALL CLAIMS FOR INFRINGEMENT OF ANY SUCH PATENT, PROVIDED THAT CUSTOMER SHALL PROMPTLY NOTIFY BJ IN WRITING UPON RECEIPT OF ANY CLAIM FOR INFRINGEMENT, OR UPON THE FILING OF ANY SUCH SUIT FOR INFRINGEMENT, WHICHEVER FIRST OCCURS, AND SHALL AFFORD BJ FULL OPPORTUNITY, AT BJ'S OPTION AND EXPENSE, TO ANSWER SUCH CLAIM OR THREAT OF SUIT, ASSUME THE CONTROL OF THE DEFENSE OF SUCH SUIT, AND SETTLE OR COMPROMISE SAME IN ANY WAY BJ SEES FIT. BJ DOES NOT WARRANT THAT SUCH PRODUCTS: (I) WILL NOT INFRINGE ANY SUCH PATENT WHEN NOT OF BJ'S MANUFACTURE, OR SPECIALLY MADE, IN WHOLE OR IN PART TO THE CUSTOMER'S DESIGN CERTIFICATIONS; OR (II) IF USED OR SOLD IN COMBINATION WITH OTHER MATERIALS OR APPARATUS OR USED IN THE PRACTICE OF PROCESSES, WILL NOT, AS A RESULT OF SUCH COMBINATION OR USE, INFRINGE ANY SUCH PATENT, AND BJ SHALL NOT BE LIABLE; AND CUSTOMER SHALL RELEASE, DEFEND, INDEMNIFY AND HOLD BJ HARMLESS FOR DAMAGES OR LOSSES OF ANY NATURE WHATSOEVER RESULTING FROM ALLEGED PATENT INFRINGEMENT ARISING PURSUANT TO (I) AND (II) ABOVE.

11. FORCE MAJEURE

IF EITHER PARTY IS UNABLE BECAUSE OF FORCE MAJEURE TO CARRY OUT ANY OF ITS OBLIGATIONS UNDER THESE TERMS AND CONDITIONS, OTHER THAN OBLIGATIONS TO PAY MONEY, THEN ON SUCH PARTY GIVING NOTICE AND PARTICULARS IN WRITING TO THE OTHER PARTY WITHIN A REASONABLE TIME AFTER THE OCCURRENCE OF THE CAUSE RELIED UPON, SUCH OBLIGATIONS SHALL BE SUSPENDED. "FORCE MAJEURE" SHALL INCLUDE ANY EVENT THAT IS BEYOND THE REASONABLE CONTROL OF THE PARTY SO AFFECTED INCLUDING, WITHOUT LIMITATION, ACTS OF GOD, LAWS AND REGULATIONS, GOVERNMENT ACTION, WAR, CIVIL DISTURBANCES, HIJACK, PIRACY, CRIMINAL ACTION BY A THIRD PARTY, THREATS OR ACTS OF TERRORISM, STRIKES AND LABOR PROBLEMS, DELAYS OF VENDORS OR CARRIERS, LIGHTENING, FIRE, FLOOD, WASHOUT, STORM, BREAKAGE OR ACCIDENT TO EQUIPMENT OR MACHINERY, AND SHORTAGE OF RAW MATERIALS. IF ANY SUSPENSION DUE TO FORCE MAJEURE EXCEEDS TEN (10) CONSECUTIVE DAYS, EITHER PARTY MAY TERMINATE THESE TERMS AND CONDITIONS BY WRITTEN NOTICE TO THE OTHER PARTY AND CUSTOMER SHALL BE LIABLE FOR DEMOBILIZATION AND ANY OTHER REASONABLE COSTS INCURRED BY BJ INCIDENTAL TO SUCH TERMINATION.

12. LAWS, RULES, REGULATIONS, AND EXPORT CONTROL

BJ AND CUSTOMER AGREE TO COMPLY WITH ALL LAWS, RULES, REGULATIONS AND DECREES OF ANY GOVERNMENTAL OR REGULATORY BODY HAVING JURISDICTION OVER THE SERVICES OR PRODUCTS TO BE PROVIDED BY BJ OR THE WORK SITE OR THAT MAY OTHERWISE BE APPLICABLE TO BJ'S OR CUSTOMER'S PERFORMANCE UNDER THESE TERMS AND CONDITIONS SERVICES AND PRODUCTS AND/OR RELATED TECHNICAL DATA COVERED BY THESE TERMS AND CONDITIONS MAY BE SUBJECT TO U.S., CANADIAN AND/OR FOREIGN TRADE CONTROLS. CUSTOMER AGREES THAT IT WILL NOT SELL, RE-EXPORT OR TRANSFER PRODUCTS AND/OR RELATED TECHNICAL DATA EXCEPT IN FULL COMPLIANCE WITH ALL GOVERNMENTAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO ECONOMIC SANCTIONS AND EXPORT CONTROLS ADMINISTERED BY THE U.S. DEPARTMENT OF TREASURY, U.S. DEPARTMENT OF COMMERCE AND U.S. DEPARTMENT OF STATE.

CUSTOMER AGREES TO COMPLY WITH ALL BJ REQUESTS FOR TRADE COMPLIANCE INFORMATION, STATEMENTS, AND OTHER ASSURANCES INCLUDING, WITHOUT LIMITATION, REQUESTS FOR END USER AND ROUTED TRANSACTION CERTIFICATIONS. BJ RESERVES THE RIGHT TO REFUSE TO FULFILL ANY WORK ORDER OR OTHERWISE PERFORM UNDER THESE TERMS AND CONDITIONS IF BJ IN ITS SOLE DISCRETION DETERMINES THAT SUCH ACTION MAY VIOLATE ANY LAW OR REGULATION.

13. GOVERNING LAW, JURY WAIVER, AND VENUE

FOR ALL WORK PERFORMED ON A WORKSITE WITHIN THE UNITED STATES OF AMERICA, THIS MSA SHALL BE EXCLUSIVELY GOVERNED BY THE LAWS OF THE STATE OF TEXAS, WITHOUT REGARD TO ANY CHOICE OF LAWS OR CONFLICTS OF LAW PROVISIONS. VENUE SHALL LIE EXCLUSIVELY IN THE STATE OR FEDERAL COURTS OF HARRIS COUNTY, TEXAS AND CUSTOMER CONSENTS TO PERSONAL JURISDICTION THEREIN. IN THE EVENT TEXAS LAW CANNOT BE APPLIED TO SUCH WORK, THE LAW OF THE STATE WHERE THE WORK WAS PERFORMED WILL GOVERN.

FOR ALL WORK PERFORMED ON A WORKSITE WITHIN CANADA, THIS MSA SHALL BE CONSTRUED AND THE LEGAL RELATIONS DETERMINED IN ACCORDANCE WITH THE LAWS OF THE PROVINCE OF ALBERTA. THE PARTIES AGREE TO SUBMIT TO BINDING ARBITRATION IN CALGARY, ALBERTA, CANADA. EACH PARTY WAIVES ANY OBJECTION THAT THE DESIGNED COURTS ABOVE ARE AN INCONVENIENT FORUM OR VENUE. REFERENCES IN THESE TERMS AND CONDITIONS TO ANY ACT, LAW, STATUTE, RULE OR REGULATION SHALL BE DEEMED TO INCLUDE REFERENCES TO SUCH AS THE SAME MAY BE AMENDED, REPLACED, OR REENACTED FROM TIME TO TIME.

EACH PARTY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT TO ANY ACTION, CLAIM, SUIT OR PROCEEDING ARISING OUT OF OR RELATING TO THESE TERMS AND CONDITIONS.

14. ASSIGNMENT

BJ SHALL HAVE THE RIGHT TO ASSIGN THESE TERMS AND CONDITIONS TO ANY OF ITS AFFILIATED COMPANIES WITHOUT THE CONSENT OF CUSTOMER.

15. GENERAL

FAILURE OF EITHER PARTY TO ENFORCE ANY OF THESE TERMS AND CONDITIONS SHALL NOT BE A WAIVER OF THE RIGHT TO ENFORCE. THESE TERMS AND CONDITIONS CONTAIN ALL REPRESENTATIONS OF THE PARTIES AND SUPERSEDES ALL PRIOR ORAL OR WRITTEN AGREEMENTS OR REPRESENTATIONS AND MAY ONLY BE AMENDED BY AN AGREEMENT EXECUTED BY BOTH PARTIES. IN THE EVENT OF CONFLICT BETWEEN THE PROVISIONS OF THESE TERMS AND CONDITIONS AND ANY OTHER TERMS IN CUSTOMER'S PURCHASE ORDERS, FIELD WORK ORDERS, WORK TICKETS, INVOICES, STATEMENTS, OR ANY OTHER TYPE OF MEMORANDA OR OTHER DOCUMENTS USED BY CUSTOMER, WHETHER ORAL OR WRITTEN, THE PROVISIONS OF THESE TERMS AND CONDITIONS SHALL GOVERN.

BAKER HUGHES a GE company

Customer: James Owens
Field:
Well:
Lease:

Proposal : James Owens
Revision :
Date Prepared: 11/13/2018
District: Dickinson, ND

Item	Size	Weight	Thread	Grade	Depth
Casing	**7**	**26-lb/ft**		**L-80**	**10,000'**
Tie Back					
Liner					
Workstring				**L-80**	

Item	Qty	Material	Description of Equipment and Services	Unit Amount	Discount	Net Amount
			Saleables			
1	1	H400213BB70STD	**3BB Cement Retainer**	$2,080.00		$2,080.00
2	1					
3	1					
4	1					
			Saleables Total:			**$2,080.00**
			Rental & Service			
5	1	H400603500RT	**K-1 Runing Tool - Per Run**	$ 300.00		$300.00
6						
			Rentals Total:			**$300.00**
			Personnel & Mileage			
7	1	10001347	**Tool Supervisor First 8 Hrs** **Tool Supervisor Additional Hrs**	$1,120.00 $140.00		$1,120.00
8	0	10005155	**Round trip Mileage from Williston, ND (per mile)**	$3.75		
9	0	10073025	**Environmental Waste Charge**	$247.50		
			Personnel & Mileage Total:			**$1,120.00**
			Estimated Job Total less Tax:			**$3,500.00**

Elk River Consulting, LLC

532 S Clarkson St.

Denver, CO 80209

720-530-3198

Cost Estimate Description

Plug and Abandonment Cost Estimate Provided for Independence ND, LLC

- Jobsite supervision for the plugging and abandonment of a 6,000 ft. deep SWD
- Ensure job meets or exceeds all Tribal, state, and federal regulations and requirements
- Oversee jobsite safety and environmental compliance
- Supervise simultaneous operations with workover rig, cement team and all supporting equipment and personnel

Job Duration Estimate

3 Days

Costs

Consulting & Supervision, per day	$1,300.00
Per Diem	$100.00
Travel (1 Day)	$1,300.00
Vehicle Mileage @ $1.50/mile	$450.00
Estimated Total	**$5,950.00**

Neptune Operating Company
4402 13th St NW Lot 28
Garrison, ND 58540

January 19, 2019

Independence ND, LLC
301 1ST AVE E Bakersfield
New Town, ND 58763

Dear Mr. Johnson,

Please see below for details on Neptune Operating Company's estimate to provide service rig, BOP, and support equipment for the plug and abandonment of Independence ND's Prairie Chicken SWD #1. Our estimate is based on an estimated job duration of three days, but we've included our hourly and day rates for additional time and add-on services. Please contact me with any questions.

Sincerely,

Kelsey Mitchell

Equipment Description:

- Rig Details:
  - 250 Horsepower
  - Max pull rating: 250,000 lbs
  - Derrick Height: 104 ft
  - Base Beam
  - Hydraulic Catwalk
  - Triplex Mud Pump
  - Power Swivel
- Well Control:
  - 5,000 psi BOP
  - Accumulator
  - Choke manifold

Cost Detail:

- Rig Rate $ 500/hr
- Toolpusher: $750/day
- Additional Crew Member: $75/hr
- Crew Travel: $250/hr
- Circulating Equipment (5,000 psi pump, flat tank, and iron): $1,000/day
- Rig Standby Rate $3,000/day
- Pipe Wrangler, Racks: $800/day
- Front End Loader, w/Attachments: $275/day
- Power Swivel: $750/day
- Rig Heater: $275/day
- Light Plant: $150/day

Cost Estimate Summary:

Rig Rate (500/hr for 3 days)	$18,000
Toolpusher ($750/day for 3 days)	$2,250
Crew Travel (3 hrs/day for 3 days)	$2,250
Rig Pump ($1,000/day for 3 days)	$3,000
Pipe Handling Equipment ($800/day for 3 days)	$2,400
3 – Day Estimated Total	**$27,900**

Schlumberger Cementing

Company	Independence ND, LLC
Prepared For	James Owen
Well Name	Prairie Chicken SWD 1
Surface Location	47.6813469, -102.7603438
UWI Number	TBD
Well Master Number	TBD
Service from District	Williston
District Phone	720-255-1637
Proposal Number	v0
Date	11/13/2018
Primary Contact	Matthew Cleveland
Objective	Plug and Abandon Treatment: Squeezes and Plugs

Schlumberger

Executive Summary – P&A

This proposal is in response to your inquiry to secure cementing services for Stab In.

The estimated total cost of our services is $21,281.48. This proposal/agreement is only a summary of Schlumberger's offerings and any prices provided are for illustrative purposes only. Actual cost will be dependent on time, material and equipment used during the project and any costs associated with unanticipated circumstances. Taxes are not included and all dates and services are dependent on the availability of cementing services and credit approval from Schlumberger's credit department. Attached for your convenience is Schlumberger's Commercial and General Terms and Conditions for your consideration, the final version of which is subject to mutual agreement and management approval before execution.

This proposal shall remain valid for sixty (60) days from the submission date provided above and a minimum notice of twenty four (24) hours prior to a job is required to deliver quoted price(s).

Thank you for considering Schlumberger. Please do not hesitate to contact me with any questions or concerns.

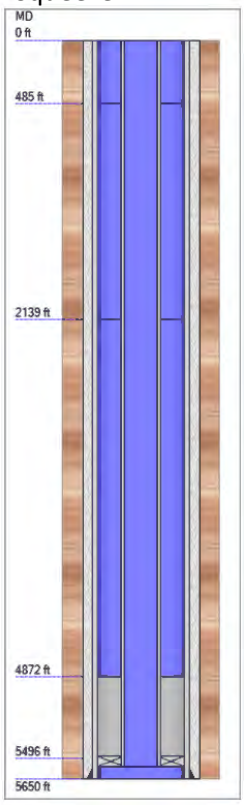
Sincerely,

Matthew Cleveland
WIT Sales Engineer
MCleveland@exchange.slb.com
Office: +1 303 352 1225
Cell: +1 701 509 4409

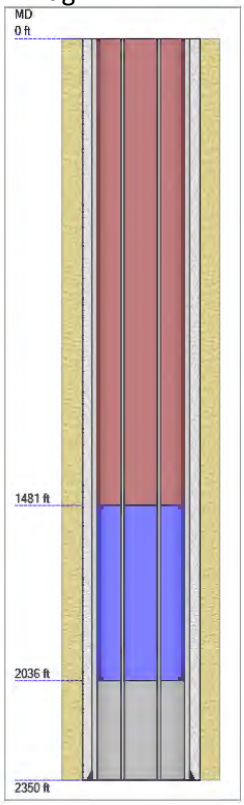
Well Data – P&A

IMPORTANT
The well data shown on this page is based on information available when this treatment program was prepared. This data must be confirmed on location with the customer representative prior to the treatment. Any changes in the well design need to be reviewed for their impact on the treatment design.

Squeeze 1



Plug 2



Well Data	
Job Type:	Stab In
Total Depth (Measured):	5,650.0 ft
TVD:	5,650.0 ft
BHST (Tubular Bottom Static Temperature):	150.0 degF
BHCT (Tubular Bottom Circulating Temperature):	150.0 degF
Drilling Fluid:	-

Open Hole

Excess Type	OH Diameter	MD	Annular Excess	Equiv. OH Diameter	Annular Capacity
Annular	8.750 in	5,650.0 ft	0.0 %	8.750 in	0.055 bbl/ft

Previous Casing

OD, in	Weight, lbm/ft	Grade	Inner Capacity, bbl/ft	Bottom Depth, ft	Casing Capacity, bbl/ft
7	26.0	P-110	0.038	5,650.0	0.03826

Drill Pipe

OD, in	Weight, lbm/ft	Grade	Inner Capacity, bbl/ft	Bottom Depth, ft	Casing Capacity, bbl/ft
2 7/8	6.8				

Fluid Systems – P&A

Fresh Water			
System		Wash	
Density		8.32 lb/gal	
Total Volume		217.2 bbl	
Additives	Code	Description	Concentration

15.8 ppg Squeeze Slurry (110 sacks, 94.0 lbm per sack of Blend) – Squeeze 1			
System		Conventional	
Density		15.80 lb/gal	
Yield		1.16 ft3/sk	
Mix Water		5.10 gal/sk	
Mix Fluid		5.10 gal/sk	
Total Volume		22.7 bbl	
Additives	Code	Description	Concentration
	D907	Cement	94.00 lb/sk BWOB
	D013	Retarder	0.30 % BWOB
	D065	Dispersant	0.30 % BWOB

Contingency Additional Cement for Squeeze 1 (100 sacks, 94.0 lbm per sack of Blend)			
System		Conventional	
Density		15.80 lb/gal	
Yield		1.16 ft3/sk	
Mix Water		5.10 gal/sk	
Mix Fluid		5.10 gal/sk	
Total Volume		20.6 bbl	
Additives	Code	Description	Concentration
	D907	Cement	94.00 lb/sk BWOB
	D013	Retarder	0.30 % BWOB
	D065	Dispersant	0.30 % BWOB

15.8 Neat G (50 sacks, 94.0 lbm per sack of Blend) – Plug 2			
System		Conventional	
Density		15.80 lb/gal	
Yield		1.16 ft3/sk	
Mix Water		5.13 gal/sk	
Mix Fluid		5.13 gal/sk	
Total Volume		10.2 bbl	
Additives	Code	Description	Concentration
	D907	Cement	94.00 lb/sk BWOB

15.8 Neat G (20 sacks, 94.0 lbm per sack of Blend) – Top Out			
System		Conventional	
Density		15.80 lb/gal	
Yield		1.16 ft3/sk	
Mix Water		5.13 gal/sk	
Additives	Code	Description	Concentration
	D907	Cement	94.00 lb/sk BWOB

Some of the chemicals specified in this program may have toxic properties. All personnel should be familiar with the inherent dangers and appropriate safeguards to prevent accidental injury. Use of these chemicals may be governed by certain laws and regulations and should only be used in accordance with such. Please refer to the MSDS for the recommended safety precautions and required minimum personal protective equipment.

Price Estimate – P&A

Primary Pricebook Code: BBVI

Equipment and Services						
Code	Standard Description	Quantity	Unit List Price	Total List Price $	Discount Rate %	Discounted Price $
48019100	Cement Bulk Unit	1 EA	1,380.00	1,380.00	12.00	1,214.40
49100000	Cement Service Charge	283 CF	2.80	792.40	12.00	697.31
49102000	Cement Transport	791 MI	2.50	1,977.50	12.00	1,740.20
58498001-JOB	Remedial Cementing Day Rate	1 JOB	9,500.00	9,500.00	12.00	8,360.00
59200002	Equipment Mileage	120 MI	5.91	709.20	12.00	624.10
59200005	Car/PU Mileage	120 MI	3.47	416.40	12.00	366.43
59697004	Job Monitoring	1 JOB	880.00	880.00	12.00	774.40
		Subtotals:	USD	15,655.50	USD	13,776.84

Materials						
Code	Standard Description	Quantity	Unit List Price	Total List Price $	Discount Rate %	Discounted Price $
D013	Retarder	60 LB	3.30	198.00	12.00	174.24
D065	TIC Dispersant	60 LB	9.10	546.00	12.00	480.48
D907	Cement, Class G	280 CF	27.80	7,784.00	12.00	6,849.92
		Subtotals:	USD	8,528.00	USD	7,504.64

Total List Price:	USD	24,183.50
Applied Discount:	USD	2,902.02
Job Price Estimate:	USD	21,281.48

From: John Isom <john@cachetrucking.com>

Sent: Thursday, December 6, 2018 8:02 AM

To: James Owen

Subject: Re: Independence ND, LLC: P&A Estimate

Hi James

We bid on severeal PA jobs and we partnered with CnJ to do the cement

A rough all in cost was 100,000

Call me with any questions

John Isom

7016091442

R. NECESSARY RESOURCES

Independence ND will submit evidence such as a surety bond or financial statement to verify that the resources necessary to close, plug and abandon the well are available in the final draft of the application.

S. AQUIFER EXEMPTIONS

Independence ND has been unable to locate an analysis of a nearby Inyan Kara source well which would confirm the need for an aquifer exemption. Therefore, Independence ND seeks to proceed with the permit application contingent on the requirement to sample and analyze the water from the well and receiving full EPA authorization prior to proceeding with an injection or a stimulation program.

T. EXISTING EPA PERMITS

Under 40 C.F.R. Section 124.3(a)(2), which incorporates by reference the application requirements of 40 CFR Section 144.31, this application is required to provide a listing of all permits or construction approvals received or applied for under any of the following programs:

(i)§ 144.31(e)(6)(i) Hazardous Waste Management program under RCRA.

(ii)§ 144.31(e)(6)(ii) UIC program under SDWA.

(iii)§ 144.31(e)(6)(iii) NPDES program under CWA.

(iv)§ 144.31(e)(6)(iv) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(v)§ 144.31(e)(6)(v) Nonattainment program under the Clean Air Act.

(vi)§ 144.31(e)(6)(vi) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.

(vii)§ 144.31(e)(6)(vii) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.

(viii)§ 144.31(e)(6)(viii) Dredge and fill permits under section 404 of CWA.

(ix)§ 144.31(e)(6)(ix) Other relevant environmental permits, including State permits.

Hazardous Waste Management: The WATER BUSTER SWD 1 will be a Class II Disposal well and not a treatment, storage or disposal facility requiring a TSDF permit. Solid waste (including filter socks or oily waste from tank bottoms or filters) will be disposed of by contractors, currently including Clean Harbors and OWL.

UIC Permit: A permit application under the North Dakota UIC program will be submitted to the North Dakota Industrial Commission (NDIC).

NPDES Permit Program: The construction will involve more than one acre on the Fort Berthold Indian Reservation and will be managed in accordance with EPA's 2017 Construction and Development General Permit. Stormwater discharges during the operation of the installation will be managed in accord with EPA's multi-sector general permit (MSGP). An appropriate Stormwater Pollution Prevention Plan (SWP3) will be developed in accord with that permit. Additionally, the installation will not have a process wastewater discharge to surface waters.

Clean Air Act Permits: North Dakota is in attainment for criteria pollutants. https://www.epa.gov/green-book/green-book-national-area-and-county-level-multi-pollutant-information Additionally, the proposed installation will be powered electrically and will emit far less emissions needed to trigger the application for the PSD and NESHAPS programs.

Ocean Dumping Permits: Not applicable.

Dredge-fill permits: The proposed facility does not include jurisdictional wetlands and does not trigger the application of section 404 of the Clean Water Act.

Other permits: Biological & Cultural Resource Investigations have been performed and are detailed in Attachments T1and T2.

BIOLOGICAL ASSESSMENT

WATER BUSTER SWD

Prepared for

Juniper, LLC
315 East Broadway Avenue
Bismarck, ND 58501

On behalf of
Independence ND, LLC, New Town, ND

Prepared by

Sedivec Natural Resource Consultation
Kevin K. Sedivec, Ph.D., Range Scientist/Botanist/Wildlife Biologist
373 – 160th Ave NE
Cummings, ND 58223

Date: October 1, 2018

Biological Assessment Attachment T1 (45 pages)
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

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Executive Summary

Juniper Environmental Consulting is submitting this Biological Assessment (BA) to the Environmental Protection Agency, as part of a consultation process pursuant to Section 7(a)(2) of the Endangered Species Act (ESA). This BA was prepared by Sedivec Natural Resource Consultation in accordance with legal requirements set forth in Section 7 of the ESA (16 U.S.C. 1536; see also 50 CFR Part 402). This BA defines and evaluates the potential effects of constructing a new well pad on Section 7, Township 147N, R93W 5th P.M. in Dunn County, North Dakota.

This specific activity constitutes of the Proposed Action for purposes of this consultation and evaluated for potential effects to listed and candidate species, or designated critical habitat found in Dunn County. This activity on the site for pad development and associated land impacted by this project relates to: building a new well pad on land currently in a rangeland directly south of a maintained gravel road. This BA defines the Proposed Action on the land, and evaluates potential effects on listed and candidate species and their designated critical habitats attributed to the Proposed Action.

The land proposed for construction has had energy development in the past and within 1 to 1.5 miles away, depending on direction. This is grazed by livestock. The area is rangeland classified as a Kentucky bluegrass (*Poa pratensis*)/needlegrass/wheatgrass plant community. The Proposed Action area lies directly south of BIA Road 17, 1.5 miles north of the Little Missouri River and 13.9 miles from Lake Sakakawea and Missouri River. The native upland prairie would be classified as poor to fair Dakota skipper (*Hesperia dacotae*; USDI Fish and Wildlife Service 2016).

The Proposed Area does lie within the piping plover and least tern breeding range (USDI Fish and Wildlife Service 2011); however, it doesn't lie within designated critical habitat (USDI Fish and Wildlife Service 2002). The Missouri River is designated critical habitat for piping plover (*Charadrius melodus*), a bird classified as a threatened species by the US Department of Interior Fish and Wildlife Service (1985). Piping plover and least tern may be found along the shores of Missouri River and Lake Sakakawea. The Action Area is 13.4 miles from the shoreline of Lake

Sakakawea, thus a “no impact” on these two birds was designated as no breeding or foraging habitat is found within the Action Area or 0.5 miles from Action Area.

Piping plover designated critical habitat is 13.9 miles from the Project Area and 13.4 miles from the Action Area, thus “no impact” on designated critical habitat. The nearest Dakota skipper designated critical habitat is ND Unit 12 in McKenzie County and found 37 miles from the Project Area. The nearest location of a historic Dakota skipper record is 15.7 miles northwest in east-central McKenzie County (USDI Fish and Wildlife Service 2016).

This project has “no effect” on all threatened and endangered species, candidate species, and designated critical habitat, except Dakota skipper, gray wolf (*Canis lupus*) and northern long-eared bat (*Myotis septentrionalis*). Low quality habitat for the Dakota skipper was present in the Action Area. Suitable habitat for the gray wolf and northern long-eared bat was not present within the Proposed Action area; however, habitat for these two species was found within the Action Area (0.5 mile radius of the Proposed Area), thus a “may impact, not likely to adversely affect” status was determined for these three species.

Introduction

This biological assessment (BA) analyzes the potential effects of the proposed construction of a well pad in southeastern Dunn County. The Endangered Species Act (ESA) of 1973 (16 U.S.C. 153 et seq.), as amended (ESA or Act) requires the need for a permit from a federal agency under federal jurisdiction to conserve and recover listed species and use their authorities to further the purposes of the Act by carrying out programs for the conservation of threatened and endangered species, candidate species, and critical habitat, and determine impacts (50 CFR § 402). The ESA directs all federal agencies to consult (referred to as section 7 consultation) with the US Fish and Wildlife Service (USFWS) when activities “may affect” a listed species or designated critical habitat (USDI US Fish and Wildlife Service 2018b). The Act also mandates that federal agencies contribute to the conservation of federally listed species by utilizing their authorities to conserve (recover) federally listed species so that listing is no longer necessary. Federally, state, or locally listed threatened and

endangered, candidate animal and plant species, and designated critical habitat meeting the following criteria are addressed in this assessment:

1. Known to occur in the Dunn County, based on confirmed sightings;
2. May occur in Dunn County, based on unconfirmed sightings;
3. Potential habitat exists for the species in Dunn County; or
4. Potential effects may occur to these species.

Consultation History

This section presents a brief summary of consultation history with a description of proposed actions identified. Consultation between Kevin Sedivec, Range Scientist/Wildlife Biologist and US Fish and Wildlife Service staff include the following correspondences, **Table 1**.

Table 1. Consultation History of Sedivec with agencies.

DATE	MEETING ATTENDEES	DISCUSSION
August 28, 29 2018	Kevin Shelley (USFWS, Region Director)	Discussions regarding biological assessments and threatened and endangered species.

Project Location

The proposed construction (Project Area) includes the development of a new well pad disturbing approximately 7.23 acres, with the pad 1.22 acres in size when completed, **Table 2**. The project is located in Township 147N, Range 93W, Section 7 (general latitude: 47˚33’51” N, longitude: 102˚34’28” W). The Project Area is in southeastern Dunn County, ND, and borders BIA Road 17 to the north. The area surveyed consisted of 40 acres from which the Project Area is located within, **Figure 1**.

Table 2. Project proposer and location information of Project and Action Area.

ITEM	DETAIL
Project proposer	Independence ND, LLC.
Project name	Water Buster SWD
Project implementation/timeline	Construction commencing in Spring 2019, pending final approvals
Project duration	Contractor Dependent
Project type	Survey of Proposed Project Area, Analysis Area (0.5 mile radius of Project Area)
County/State	McKenzie County, North Dakota
Survey location	S31, T149N, R94W 25 acres for Project Area, 500 acres Analysis Area

Figure 1. Area surveyed that included proposed Project Area in southeastern Dunn County, ND (Google Earth 2018).

Project Description

This is standard well construction using standard construction equipment. The plat has the metric details as far as cut fill and disturbances. Anticipated spring 2019 construction with 30 day construction period. All work will be confined to the pad area not additional staging or equipment areas. The project is related to the overall development in the area and is not dependent upon certain project. It's interrelated too many different project because it is a disposal well location.

Impact Avoidance and Minimization Measures

Impact avoidance and minimization measures are discussed for threatened and endangered species, and candidate species that may be impacted during the construction phase of this project, and designated critical habitat impacted by the project. Although three species may occur (Dakota skipper, gray wolf, and northern long-eared bat) within the Action Area (Proposed Area and Analysis Area), no species would use the Proposed Area except the Dakota skipper. The impact would be "no effect" for all species; except Dakota skipper, northern long-eared bat and gray wolf.

Loafing and breeding habitat for Dakota skipper (upland prairie containing little bluestem (*Schizachryium scoparium*), prairie sandreed (*Calamovilfa longifolia*), flowering forbs) is present within the Action Area (Analysis and Project Area). Avoidance and minimization measures should be incorporated to eliminate or reduce the impact on the Dakota skipper habitat and include:

1) Avoid disturbance of native rangeland found within the Action Area.
2) If disturbing native rangeland containing little bluestem, black samson, tiger lily and prairie sandreed, disturb after September 1 when no adults will be present. Larvae would be still be present, but no "take" of a live individual will occur.

The northern long-eared bat may use the green ash (*Fraxinus pennsylvanica*) draws (green ash trees with cavities may be used for roosting and nursey habitat) found within the Analysis Area (no green ash draws occurred in the Project Area; however, seven green ash trees were found on the southern edge of the survey area). Avoidance and minimization measures should be incorporated to eliminate or reduce the impact on the northern long-eared bat and include:

1) Avoid removal of trees within the Analysis Area.
2) If trees need to be removed, they should be harvested between October 1 and April 1 when no adult northern long-eared bats are found in North Dakota.

Noise and human activity is high in this area and will deter most gray wolf. However, the woodland community that lies to the south of the Analysis Area and north of Little Missouri River (**Figure 2**) is excellent gray wolf habitat due to low human disturbance and development, thus precluding the "may affect, not likely to adversely affect" status.

An active oil well pad lies directly to the east and a gravel road to the north, so human activity and noise is constant at this time. It will be impossible to reduce noise and human activity (minimization measure) associated with these features, as well as the construction of this project. Impact avoidance would also be impossible during the construction phase of the project if a gray wolf migrated through. However, preferred habitat is plentiful away from the construction site to the south.

A resource protection area should be created within the Project Area and directly off the gravel road and could be used for large equipment, fuel, oil and storage tanks. This area shall be kept clean and free from discarded material. A closed loop fuel delivery system and dual-walled fuel storage tanks should prevent the spread of liquids in case of leaking in the tanks or piping. Such dike, curbed area or device shall have a capacity at least equal in volume to that of the tanks plus 10 percent.

After the project is completed, disturbed areas should be restored to pre-project conditions. Reclamation following the completion of the project should include trees planted to replace removed trees (if occur) and grasslands planted to match pre-project plant community. Consult the local NDSU County Extension office or USDA Natural Resource Conservation Service for recommended tree species and native plants to reclaim the disturbed area.

Action Area

The proposed location of the project occurs on rangelands with a reclaimed pipeline found in the center of the Project Area located west to east. The Action Area includes all areas directly or indirectly impacted by the proposed project. The Action Area includes the Project Area and Analysis Area, **Figure 2**. The Project Area refers to the vicinity of the proposed project disturbances. The

Project Area includes the locations of the expected construction activities (~ 8 acres) and a reasonable buffer (~ 10 acres).

The Analysis Area (0.5-mile radius of the proposed project) for conducting this BA encompassed a larger area and was reviewed to provide documentation of the existing conditions to aid in the evaluation of cumulative effects. The Analysis Area includes native upland prairie, green ash draws, gravel road (1), and reclaimed pipeline. **Figure 2** shows the Action Area which includes the Project Area (yellow boundary) and added Analysis Area (red boundary).

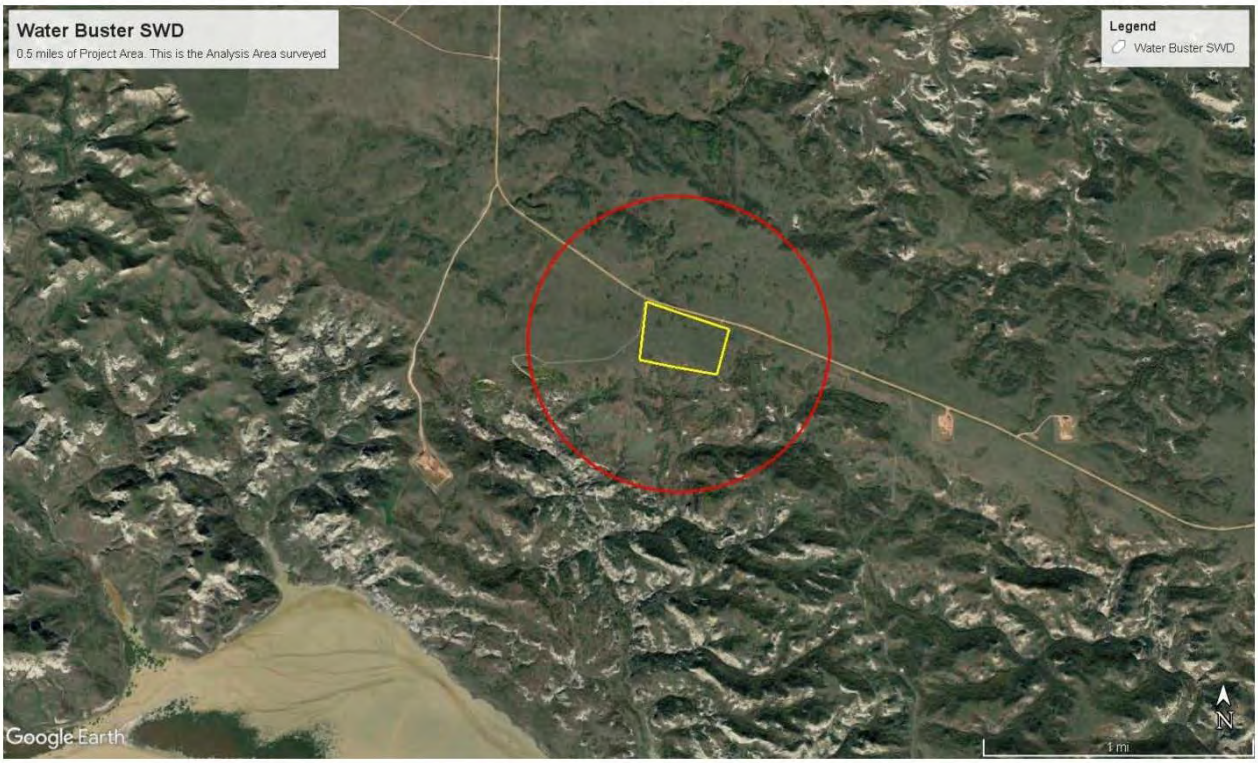

Figure 2. Location of Project Area and Analysis Area (Action Area) for the project Water Buster SWD found in southeastern Dunn County, ND.

The native rangeland found within the Action Area was surveyed for Dakota skipper habitat and tree area found within the Analysis Area surveyed for northern long-eared bat habitat. Land uses, habitat, weeds, wildlife, and wildlife locations were identified and described. Structural features were

identified with aerial photography and existing GIS data (GIS Hub, 2017). Their existence was verified in the field when reasonably accessible.

The vegetation in the Project Area was classified as native rangeland (see **Appendix A** for list of plant species found during the survey) with oil and gas development disturbance, **Figure 3**. The rangeland is predominantly a claypan ecological site and comprised approximately 90 percent of the area. This claypan prairie was classified as a Kentucky bluegrass/western wheatgrass/blue grama plant community and considered poor Dakota skipper habitat (due to lack of desirable plant species).

Green ash draws were common outside the Project Area and within the Analysis Area. Two drainages are found south of the Analysis Area and contain numerous secondary drainages that are green ash draws, **Figure 2**. Other tree species found in the draws include box elder (*Acer negundo*) and bur oak (*Quercus macrocarpa*). This area would be classified as northern long-eared bat habitat, and could be used by a northern long-eared bat due to the close proximity to the Missouri River and Lake Sakakawea.

Figure 3. View of the Project Area that will be used for construction of the well pad showing the old reclaimed pipeline and east view of site containing claypan rangelands. Picture was taken September 7, 2018.

Species and Habitat Information

Species and Critical Habitat Addressed in BA

Federally Listed and Proposed Threatened and Endangered Species

Assessments for federally listed Threatened and Endangered Species were conducted by evaluating historic and current occurrences and determining if potential habitat exists within the Project and Analysis Area. A determination was made concerning direct, indirect, and cumulative effects of the proposed activities on each species and designated critical habitat. Determinations made for federally listed species and critical habitat are:

"No effect"

"May affect, not likely to adversely affect"

"Beneficial impact"

"May affect, likely to adversely affect"

"Likely to jeopardize/adversely modify proposed species/critical habitat"

"Not likely to jeopardize the continued existence or adversely modify proposed critical habitat"

Potential impacts, avoidance, and mitigation practices are provided under the species discussion unless a ***"no effect"*** determination is made. If a determination of ***"no effect"*** is made, avoidance or mitigation practices are not necessary.

Excluded Species: "No Effect"

Species were excluded from further evaluation and discussion if habitat requirements and known range do not exist within the Project or Analysis Areas (Action Area), and lack of confirmed sightings of the species have been made within the designated area or near vicinity. Species excluded from further evaluation are listed in **Table 3**.

The black-footed ferret (*Mustela nigripes*), until recently, has been extirpated from North Dakota for decades. Although two individuals have been recently (2014) found along the North and South Dakota border near McLaughlin, South Dakota; no occurrences have been found in Dunn County for

decades. The black-footed ferret also depends exclusively on prairie dog burrows for shelter (Black-footed Ferret Recovery Team, 2009; USDI Fish and Wildlife Service 2015a), with no known prairie dog colonies found within 0.5 miles of Action Area.

Historically, the rusty patched bumble bee (*Bombus affinis*) was broadly distributed across the eastern United States and Upper Midwest, from Maine in the U.S. and southern Quebec and Ontario in Canada, south to the northeast corner of Georgia, reaching west to the eastern edges of North and South Dakota. Since 2000, this bumble bee has been reported from only 13 states and 1 Canadian province: Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Minnesota, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, Wisconsin – and Ontario, Canada. Based on this bumble bees most westerly historic range being Stutsman County, ND, this bee has never been recorded as far west as Stutsman County (US Fish and Wildlife Service 2018b).

The western prairie fringed orchid (*Platanthera praeclara*) and Poweshiek skipperling (*Oarisma Poweshiek*) are not found in Dunn County (USDI Fish and Wildlife Service, 2018b). The Poweshiek skipperling is classified as extirpated from North Dakota. No preferred habitat exists for either species within the Action Area.

Approximately 100 pairs of interior least tern (*Sternula antillarum*) breed and nest on sandbars along the Yellowstone and Missouri River systems in North Dakota (USDI Fish and Wildlife Service 2015b). The interior least tern nest is a small, bowl-shaped depression on barren sands. They nest in colonies, with nesting period between mid-May and mid-August. Least terns nest on barren to sparsely vegetated sandbars along rivers, sand and gravel pits, lake and reservoir shorelines, and occasionally gravel rooftops (USDI Fish and Wildlife Service 2015b). There were 706 least tern adults counted on the Missouri River in 2009, dropping below the threshold recognized as the recovery goal for the first time in four years (800 adults, as set in the 1990 Interior Least Tern Recovery Plan). Much of the "drop-in" populations may be attributable to higher storage levels in the reservoirs, particularly Lake Oahe and Lake Sakakawea (US Army Corps of Engineers, 2010). No preferred habitat exists within the Action Area for the least tern.

The pallid sturgeon is found in the Mississippi, Missouri, and Yellowstone River systems. Although the pallid sturgeon (*Scaphirhynchus albus*) has been historically found in the Missouri

River, the current recovery plan shows present day range from the confluence of the Yellowstone and Missouri River as the eastern most range in North Dakota, with the exception of the tailrace below the Garrison dam (Dryer and Sandvol 1993, USDI Fish and Wildlife Service 2014a). Secondly, preferred habitat is the bottom of large, turbid, relatively warm, free-flowing rivers (Dryer and Sandvol 1993, Montana Fish, Wildlife and Parks 2014). No preferred habitat exists within the Action Area for the pallid sturgeon.

At one time during the 19th century, whooping cranes (*Grus americana*) nested in North Dakota. Currently, whooping cranes only migrate through North Dakota in the spring and fall. Along their migration route, whooping crane use large, shallow marshes for roosting and loafing while feeding in harvested grain fields. Pearse et al. (2015) identified 1,095 20-square-kilometer grid cells that contained stopover sites for whooping cranes and categorized occupied grid cells based on density of stopover sites and the amount of time cranes spent in the area. This assessment resulted in four categories of stopover site use: unoccupied, low intensity, core intensity, and extended-use core intensity. The Action Areas lie within the migration corridor of Aransas-Wood Buffalo whooping cranes (Esri, U.S. Fish and Wildlife Service, and U.S. Geological Survey digital data, various resolutions – taken from Pearse et al. 2015); however, the cells that this proposed project lies within are classified as unoccupied cells for whooping crane stopover use (Pearse et al. 2015), thus preferred habitat exists within the Action Area.

North Dakota's piping plover population was 496 breeding pairs in 1991, reducing to 399 breeding pairs by 1996; and 897 adults on Missouri River in 2009 (US Army Corps of Engineers, 2010). The USDI Fish and Wildlife Service (2011) reported approximately 75% of piping plovers in North Dakota nest on prairie alkali lakes and 25% use the Missouri River. However, Wiltermuth et al. (2015) showed piping plovers also use mainland and island shorelines of reservoirs that were created when large hydroelectric dams were constructed between 1940 and 1964. By 2005, 64 % of plovers counted along Missouri River used reservoir habitat, while 43 % of Missouri River plovers were observed at Lake Sakakawea (Wiltermuth et al 2015). No preferred habitat exists within the Action Area for the piping plover.

Red knot rufas (*Calidris canutrus*) winter and migrate in large flocks containing hundreds of birds. While we can guess at some of the benefits of traveling in large flocks, such as protection from predators, we can also see the downside - susceptibility to habitat change and loss, oil spills, diseases, collisions with wind turbines, storms, and hunting. The red knot's life history depends on suitable habitat, food, and weather conditions from across the Western Hemisphere, from the extreme south of Tierra del Fuego to the far north of the central Canadian Arctic. Further, red knots need to encounter these favorable habitats, food, and weather conditions within narrow seasonal windows as the birds hopscotch along migration stopovers between wintering and breeding areas. For example, the red knot population decline that occurred in the 2000s was caused primarily by reduced food availability from increased harvests of horseshoe crabs, exacerbated by small changes in the timing that red knots arrived at the Delaware Bay. Red knots may also be particularly vulnerable to global climate change, which is likely to affect the arctic tundra ecosystem where the knots breed; the quality and quantity of coastal habitats due to rising sea levels; the quantity and timing of invertebrate food resources throughout the bird's range; and the severity, timing, and location of storm and weather patterns (USDI Fish and Wildlife Service 2013). Although recognized as a coastal bird, the red knot rufa has been sighted at four locations in North Dakota (NatureServe 2016). The closest location would be south of Bismarck along the Missouri River. Since the red knot rufa breeds in the tundra and the Arctic Cordillera in the far north of Canada, Europe, and Russia (Baker et al. 2013); these sightings would be classified as migratory sightings. No preferred habitat exists within the Action Area for the red knot rufas.

Impacted Species

Dakota skipper *(Hesperia dacotae)*

The Dakota skipper recently became protected under the ESA, listed threatened (final rule effective November 23, 2014; Federal Register Vol. 79, No. 206 (Oct. 24, 2014) with the closest proposed designated (Federal Register Vol. 78, No. 206, Oct. 24, 2013) critical habitat in McKenzie County. The Dakota skipper is a thick bodied, small butterfly with a one (1) inch wingspan. This small butterfly undergoes four stages of life; egg, larvae, pupa, and adult.

Adults emerge for an approximate three (3) week lifespan in June through July. During this time, females lay eggs on the understory of leaves, whereby eggs hatch into larvae (caterpillars) approximately ten (10) days later. Larvae inhabit at or below ground, feeding at night, summer through autumn, and are dormant through the winter, residing at the bases of native bunchgrasses.

Habitat requirements for the Dakota skipper include upland prairie environments that are dominated with bluestem grasses and diverse native flowering forb. High quality habitat is characterized by black samson (*Echinacea angustifolia*) along with abundant bluestem grasses and needlegrass. Dakota skippers are also found in moist bluestem prairie environments with wood lily (*Lilium philadelphicum*), harebell (*Campanula rotundifolia*), and smooth camas (*Zygadenus elegans*).

Royer (1988) described Dakota skipper preferred habitat as lightly grazed grasslands, favoring little bluestem (*Schizachyrium scoparium*) with diverse flowering native forb. Royer (1988) described critical habitat as rangeland or grassland containing diverse native forb plant species. Key forb species include black samson, tiger lily (*Lilium lancifolium*), and smooth camas. Upland preferred sites include a diverse plant community with a high concentration of black samson, as well as the presence of tiger lilys. Lowland preferred habitats almost always contain smooth camas (Royer 2014), as well as the presence of tiger lily. The dominate vegetation associated with this project was rangeland with a Kentucky bluegrass/western wheatgrass/blue grama plant community. These rangelands contain only few black Samson and no tiger lilies or smooth camas. This habitat type, although poor, could be classified as Dakota skipper habitat.

Gray Wolf *(Canis lupus)*

Gray wolves historically ranged throughout North America. With the exception of Minnesota, Wisconsin, Michigan, Montana, Idaho, and Washington, the gray wolf is absent from the lower 48 states. Although the gray wolf has been documented in North Dakota since 1990, their presence is sporadic and consisted of occasional dispersing animals from Minnesota and Manitoba, Canada (USDI Fish and Wildlife Service 2008). The gray wolf's habitat varies from woodland to grasslands,

but they generally avoid populated areas and areas with high road densities (Johnson 1999). The Project Area that would be impacted by the proposed project is rangeland; however, low human disturbed woodlands occur on the southern edge of the Analysis Area and expand the entire area to the Little Missouri River. Since gray wolves prefer wooded habitat, the woodlands between the Project Area and Little Missouri River would be classified as preferred habitat.

Table 3. Threatened, endangered, candidate/proposed species with the potential to occur within the Action and Analysis area. The USDI Fish and Wildlife Service (2018b) species list was obtained and reviewed, and species not having the potential to occur were excluded from further review with no effect determination.

SPECIES COMMON AND SCIENTIFIC NAME	STATUS[1]	POTENTIAL TO OCCUR	RATIONALE FOR EXCLUSION[2]	HABITAT DESCRIPTION AND RANGE IN NORTH DAKOTA
ENDANGERED SPECIES				
Black-footed ferret (*Mustela nigripes*)	E	No	(HAB)	Requires expansive black-tailed prairie dog (*Cynomys ludovicianus*) colonies for food and habitat. 80 acres is the typical minimum black-tailed prairie dog colony size that can support the black-footed ferret. Black-footed ferrets were historically found in SW North Dakota; current occurrence is unlikely to questionable and no reintroduction sites have occurred in ND at this time.
Gray wolf (*Canis lupus*)	E	Yes	--	Has been documented in North Dakota since 1990s. Habitat varies from woodland to grassland, typically avoiding populated areas with high road densities.
Interior least tern (*Sterna antillarum*)	E	No	(HAB)	Sandbars along Yellowstone and Missouri River systems; nest in barren sands, in colonies.
Pallid sturgeon (*Scaphirhynchus albus*)	E	No	(HAB)	The Missouri River does support pallid sturgeon. Current range is from the confluence of the Yellowstone and Missouri River as the eastern most range in North Dakota with the exception of the tailrace below the Garrison dam. Preferred habitat is at the bottom of large, turbid, relatively warm, free-flowing rivers.
Poweshiek skipperling (*Oarisma poweshiek*)	E	No	(ODR/HAB)	Adult butterflies feed on nectar from prairie flowers; purple coneflower (*Echinacea angustifolia*), blackeyed susan (*Rudbeckia hirta*), and lobelia (*Lobelia spicata*). For larvae, native, fine-stemmed grasses and sedges (little bluestem (*Schizachyrium scoparium*) and prairie dropseed (*Sporobolus heterolepis*).
Whooping crane (*Grus Americana*)	E	No	(HAB)	Only migrate through North Dakota in spring and fall, using large, shallow marshes for roosting and loafing while feeding on harvested grain fields.

SPECIES COMMON AND SCIENTIFIC NAME	STATUS[1]	POTENTIAL TO OCCUR	RATIONALE FOR EXCLUSION[2]	HABITAT DESCRIPTION AND RANGE IN NORTH DAKOTA
Rusty patched bumble bee (*Bombus affinis*)	E	No	(ODR/HAB)	Rusty patched bumble bees once occupied grasslands and tallgrass prairies of the Upper Midwest and Northeast, but most grasslands and prairies have been lost, degraded, or fragmented by conversion to other uses. Bumble bees need areas that provide nectar and pollen from flowers, nesting sites (underground and abandoned rodent cavities or clumps of grasses), and overwintering sites for hibernating queens (undisturbed soil).
THREATENED SPECIES				
Western fringed prairie orchid (*Platanthera praeclara*)	T	No	(ODR/HAB)	Mesic to wet unplowed tallgrass prairies and meadows; also found in old fields and road-ditches. This plant is known not to be found in North Dakota outside the southeast corner of the state.
Piping plover (*Charadrius melodus*)	T	No	(HAB)	Prefer sparsely vegetated sandbars and shorelines and large alkaline wetlands with shoreline. Breeding pairs exist; though have slightly decreased in past decades.
Dakota skipper (*Hesperia dacotae*)	T	Yes	-	Preferred habitat includes moist bluestem prairie with blooming wildflower species (wood lily (*Lilium philadelphicum*), harebell (*Campanula rotundifolia*) and smooth camas (*Zygadenus elegans*)); other preferred habitat is relatively dry upland prairie found on ridges and hillsides. In North Dakota, Dakota skippers are found in scattered, mostly isolated sites that are lightly grazed, favoring little bluestem with flowering native forbs.
Northern long-eared bat (*Myotis septentrionalis*)	T	Yes	-	Habitat varies by season; winter habitat requires caves or mines, summer habitat requires large trees for roosting, occasionally roost in barns or structures. This bat occurs in North Dakota from May through September. Green ash trees are found in the Analysis Area. These trees may provide suitable roosting and nursery habitat as some of these large trees contain holes and caverns. This project is found adjacent to their summer territory and the Missouri River is considered primary habitat in North Dakota.
Red knot rufa (*Calidris canutrus*)	T	No	(HAB)	Shorelines during migration with a few occasional inland migrants. Four known locations with sightings found in North Dakota (NatureServe, 2016).

SPECIES COMMON AND SCIENTIFIC NAME	STATUS[1]	POTENTIAL TO OCCUR	RATIONALE FOR EXCLUSION[2]	HABITAT DESCRIPTION AND RANGE IN NORTH DAKOTA
CRITICAL HABITAT				
Piping plover (*Charadrius melodus*) Unit 11 North Dakota Missouri River and Reservoirs	T	No	(HAB)-	Designated riverine and reservoir habitat in North Dakota includes Burleigh, Dunn, Emmons, McKenzie, McLean, Mercer, Morton, Mountrail, Oliver, Sioux, and Williams counties (USDI Fish and Wildlife Service, 2002).
Dakota skipper (*Hesperia dacotae*)	T	No	(HAB)	Prefer lightly grazed grasslands with little bluestem (*Schizachyrium scoparium*) with diverse flowering forbs. Flowering forb species include purple prairie coneflower (*Echinacea angustifolia*), tiger lily (*Lilium lancifolium*), and death camas (*Toxicoscordion venenosum*). There are 14 proposed designated critical habitat units within Ransom (2 units) Richland (1), Rolette (1), McHenry (6), McKenzie (3), and Wells (1) counties in North Dakota. None in Dunn County.
Poweshiek skipperling (*Oarisma poweshiek*)	T	No	(ODR/HAB)	Classified as extirpated from North Dakota.

[1]**STATUS CODES**: **E**= federal listed endangered; **T**= federally listed threatened; **P**= federally proposed for listing; **C**= federal candidate for listing; **CH**= designated critical habitat

[2]**EXCLUSION RATIONALE CODES**: **ODR**= outside known distributional range of the species; **HAB**= no habitat present in analysis area; **ELE**= outside of elevational range of species; and **SEA**= species not expected to occur during the season of use/impact

Northern Long-eared Bat (*Myotis septentrionalis*)

During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on suitability to retain bark or provide cavities or crevices. It has also been found, rarely, roosting in structures like barns, sheds, and bridge decks (USDI Fish and Wildlife Service 2014b). The Missouri River lies within this bat's primary range in North Dakota (USDI Fish and Wildlife Service 2014b). Green ash and bur oak trees found in the Analysis Area (not found on proposed disturbed area, but a few trees on the southern edge of the Project Area) will provide roosting and nursery habitat for the northern long-eared bat.

Critical Habitat

Piping Plover (*Charadrius melodus)* Designated Critical Habitat

The USDI Fish and Wildlife Service (2002) proposed areas of critical habitat to include prairie alkali wetlands and surrounding shoreline; river channels and associated sandbars and islands; and reservoirs and inland lakes and their sparsely vegetated shorelines, peninsulas, and islands. These areas provide primary courtship, nesting, foraging, sheltering, and brood-rearing and dispersal habitat for piping plovers. McKenzie County does have designated critical habitat associated with the Missouri River.

Nest locations on barren river sandbars are most likely selected due to their sparse vegetation and relatively narrow beaches (100 – 400 m wide). Adults and juveniles will head for the wintering grounds after fledging (when chicks learn to fly), with most piping plovers departing by the end of August.

Anteau et al. (2014a) summarized the literature on a priori predicted relationship with relative abundance of piping plover and showed piping plover prefer nesting on islands (Powell and Cuthbert, 1992; Anteau et al., 2012) and avoid nesting near high bluffs (> 25 m rise in elevation within 250 m of the shore). The Project Area contains a narrow beach (0.3 – 1 m) with a high bank (~ 3 m) directly adjacent to shoreline. Anteau et al. (2014b) also showed plovers almost completely avoided segments with high bluffs. Shaffer et al. (2013) also concluded plovers breeding on sandbars on the Missouri

River avoid bluffs features. The Action Area does not contain designated critical habitat for piping plover.

As defined under the ESA, the environmental baseline includes past and present impacts of all federal, state, and private actions in the Action Area; the anticipated impacts of all proposed federal actions in the area that have undergone formal or early section 7 consultation; and the impact of state and private actions which are contemporaneous with the section 7 consultation process. Future actions and their potential effects are not included in the environmental baseline. This section in combination with the previous section defines the current status of the species and its habitat in the action area and provides a platform to assess the effects of the proposed action under consultation with the USDI Fish and Wildlife Service.

General Setting

A species list from the USDI Fish and Wildlife Service (2018b) with all federally listed and candidate species within McKenzie County, North Dakota was reviewed for this analysis. Using this list, we determined which of those species had a potential to occur within the Action Area. Species not known or with no potential of occurring in the Action Area are documented with rationale in **Table 3** and excluded. Excluded species have been dropped from further analysis by meeting one or more of the following conditions:

1. Species does not occur nor is expected in the Action Area during the time period activities would occur;
2. Occurs in habitats that are not present; and/or
3. Is outside of the geographical or elevation range of the species.

Work within the Action Area included an intensive survey for all Threatened and Endangered Species (TES), an evaluation of habitat components necessary to support these species, and documentation of land uses. Dr. Kevin Sedivec conducted a floristic- and faunal based complete search using a belt type transect survey (150 foot belt) and systematic survey of known habitat types. Search efforts were

intensified in areas where threatened and endangered species were likely to occur. Intuitive directed searches were conducted in areas with homogenous habitats and vegetation. A complete observed species list of the surveyed areas was compiled during the field survey as required by the survey protocol (**Appendix A**). Plant and wildlife species were identified in the field. Any unknown species were collected and later identified in the laboratory. Since rangeland was the dominant plant community within the Project Area, a similarity index to classify plant community type(s) was conducted using the USDA Natural Resource Conservation Service technical guideline (USDA Natural Resource Conservation Service (2018b).

Environmental Baseline

The discussion of environmental baseline conditions will focus on habitat elements that are biological requirements of the species under consultation. Only those subsections that relate to this proposed project will be included. In general, the Environmental Baseline section of the BA should include:

State, tribal, local, and private actions already affecting the species or that will occur contemporaneously with the consultation. Unrelated federal actions affecting the same species or critical habitat that have completed formal or informal consultation are also part of the environmental baseline, as are federal and other actions within the action area that may benefit listed species or critical habitat. We provide:

1. A description of habitat for listed or proposed species in the Action Area and the amount of degradation that has occurred to date.
2. As much specific data as are reasonably available. This includes information from habitat inventories and surveys completed in the action area and the methods used.
3. A description of critical habitat and its condition if the action area includes designated or proposed critical habitat.
4. Maps and figures of specific relevant biological features relative to the proposed action (i.e., Permit and Action Areas).

5. Photographs when they can aid in describing environmental baseline conditions within the Permit and Action Areas.

Terrestrial Species and Habitat

The Project and Analysis Area has been impacted by human activity and disturbance for at least two decades. Since the proposed project area lies on previously disturbed land (cropped) and an active well pad and pad used for storage tanks lie within the Analysis Area – a high volume of disturbance has occurred.

Grasslands

The grassland portions of the Action Area comprise all of the Project Area and 70 percent of Analysis Area. Approximately 10 percent of this area was disturbed through oil and gas development and gravel road construction. The grasslands are classified as native rangelands that were historically inhabited by the Dakota skipper. With the past actions of the federal, state, local government, and the private sector, and soil types found in this area, very little to no preferred habitat exists for the Dakota skipper in the Action Area.

A visual estimate of species composition, by weight, was conducted on the plant community which could be used by the Dakota skipper. Approximately 90 percent of the rangeland is the claypan ecological site and 10 percent loamy (USDA Natural Resource Conservation Service 2018c). No thin loamy or limy backslope ecological sites were found in the Action Area. These two ecological sites are often classified as the best sites to have preferred Dakota skipper habitat, as these site contain the highest levels of little bluestem (the preferred native grass for egg deposits, Royer 1988), contain needlegrasses, and have a diverse suit of native flowering forb – especially black Samson - which is the preferred plant for adults to rest on.

The claypan ecological site scored a similar index of 49 percent (on a scale of 0 – 100 percent) and classified as high fair condition. Native plants comprised 55 percent of the plant community, Kentucky bluegrass and smooth brome grass (exotic grasses) comprised 45 percent. Needlegrasses [green needlegrass (*Nassella viridula*)] comprised 5 percent of the plant community and little bluestem comprised only a trace. The shrub community was a five percent

and within the normal range. Flowering native forbs were scattered and not very diverse, comprising approximately eight percent of the community – which is classified as below the normal range (USDA Natural Resource Conservation Service 2018b). Black samson was less than one percent of the plant community, while the other preferred forbs – tiger lily and smooth camas were absent. Noxious weeds were present (absinth wormwood and Canada thistle), but only 1-2 percent of the plant community.

Forest Community

The forested community is found within the large drainages that flow into the Little Missouri River, containing numerous green ash draws that start in the southern region of the Analysis Area. The green ash draws are intact forest region and has been disturbed the least by human development, especially to the south (Google Earth, 2018). The forested area would provide habitat for the gray wolf and northern long-eared bat.

The woodland area comprised approximately 30 percent of the Analysis Area. These woodland areas would provide preferred habitat for the gray wolf. However, heavy vehicle traffic occurs on the gravel roads that lie adjacent (north) to the Project Area and an active oil well east of the Analysis Area. The noise associated with these actives will likely deter a gray wolf from using this area. Also, the North Dakota Game and Fish Department has stated gray wolf sightings in North Dakota are rare with breeding populations known not to occur in North Dakota (North Dakota Game and Fish Department 2016), the likelihood of this area being used by a gray wolf is extremely low – especially with more contiguous woodlands found to the south that has less human impact or presence.

The forest community found within the Analysis Area can provide habitat for the northern long-eared bat. Habitat varies by season; but the summer habitat – when this species is found in North Dakota - requires large trees for roosting, occasionally roost in barns or structures, including bridges. Large trees (green ash and bur oak) are found in the Analysis Area.

Shoreline

No shoreline is found within the Action Area or within 0.5 miles of the Action Area.

Aquatic Species and Habitat

No aquatic habitat is found within the Action Area or within 0.5 miles of the Action Area.

Analysis of Effects

In this section, a review of the impacts to species that have the potential to occur within the permit area is provided. Effect determinations will be given for the federally listed species and critical habitat. This project may affect (directly or indirectly) Dakota skipper, gray wolf and northern long-eared bat.

Direct Effects

Dakota skipper, gray wolf, northern long-eared bat

Construction activities should have no direct effect on any threatened and endangered species or candidate species based on either no habitat or poor habitat found in the Project Area. Habitat does exist within the Project Area for Dakota skipper, but of very low value due to lack of desirable plants species. Habitat exists within the Analysis Area for the northern long-eared bat and gray wolf. The Dakota skipper habitat was classified as poor, and with the closest known population 37 miles to north, with the likely of a direct effect is low. Since no trees occur within the Project Area, no trees will be removed from the forested region (green ash draws used by northern long-eared bat and gray wolf).

The construction activity will increase noise and human activities which may deter adults from these three species from temporarily using the Action Area temporarily. These direct effects will only deter adults from using the adjacent habitat with risk of an actual "take" none.

There really are no measures within the scope of this project to minimize these direct effects of noise and human activities, as noise and human activity is already high in this area due to farming and ranching practices, and pumping and hauling oil from adjacent pads. Because this project involves building of a new well pad, the construction activities will not have any long-term impacts. There is sufficient habitat for foraging, resting and breeding directly south for

northern long-eared bats to use when disturbed by noise and human activities. No preferred habitat is close to the Action Area, as much of the soils in this region are claypan, clayey or loamy.

When considering the recovery and management plans that are currently in place by the US Fish and Wildlife Service for the Dakota skipper and northern long-eared bats, this project will have no direct impact on these plans. These plans are designed to protect and enhance nesting and brood-rearing habitat for these species. Since required preferred habitat is known not to occur within the Project Area, this project should not impact these recovery and management plans.

Designated Critical Habitat

No designated critical habitat is found within the Action Area or within 0.5 miles of the Action Area.

Indirect effects

The indirect effects will be addressed by first answering the ten indirect effect questions in the guidance document. If any question results in a "yes" for a threatened and endangered species, we will follow the same exposure/response framework as the direct effects.

1. Will the project create a new facility? "Yes". A new well pad will be installed near a current well pad. The well pad will be located on unsuitable habitat for all threatened and endangers species, including candidate species; thus this new facility will have no indirect effects.
2. Will the project improve a level of service of an existing facility as established in local GMA plans? "No" The project will not enhance new services as an access road and electrical power already exists near the site.
3. Determine if the transportation project has a causal relationship to a land use change by answering the following questions.

a. Is there a building moratorium in place that is contingent on the proposed improvement? “No”

b. Are there any land use changes tied by permit condition to the proposed improvement? “No”

c. Do the project’s NEPA documents identify other actions or land use changes caused by or resulting from the project that are reasonably certain to occur? I would assume “No”. I am not privy to the NEPA document if one was written.

d. Do development plans include scenarios for the planning area where land use differs based on a “build” and “no build” outcome related to the proposed project? “No”

e. Is there land use change that is likely to occur at a different rate as a result of the project? “No”

Cumulative Effects

Cumulative effects are effects resulting from state and private activities that are reasonably certain to occur within the Action Area. This section is necessary only if listed resources will be adversely affected. Based on the baseline evaluation and determined effects, we do not see any resources adversely affected.

Conclusions and Effect Determinations

Dakota skipper (*Hesperia dacotae*)

The project will have ***“may effect, not likely to adversely affect”*** on the Dakota skipper. No Dakota skippers, as expected due to timing of survey, where observed during the field survey. Poor habitat exists due to lack of preferred plant species composition. The claypan plant community comprised only a trace of little bluestem in the plant community and native flowering forbs lacking diversity. Less than one percent of the plant community was black samsom – a

desired forb for suitable habitat. The nearest Dakota skipper designated habitat area was 37 miles to the north and the nearest historical record 15.7 miles west. The likelihood of this area being used by adult Dakota skippers is very low, but could occur. This project is expected to disturb the rangeland plant community, but due to poor quality habitat, a "*not likely to adversely affect*" was determined.

Gray Wolf *(Canis lupus)*

The project will have ***"may effect, not likely to adversely affect"*** on the gray wolf. No gray wolves were observed during the field survey. Although suitable habitat occurs within the southern region of the Analysis Area, no known population exist in North Dakota. Due to the close vicinity to well-traveled graveled roads and an active well pad, if a transient gray wolf appears, they will likely be diverted away from this area.

Northern Long-eared Bat *(Myotis septentrionalis)*

The project will have a ***"may affect, not likely to adversely affect"*** determination on the northern long-eared bat. No northern long-eared bats were found during the survey period. However, the Missouri River, located 13.4 miles from proposed project area, is classified by the US Fish and Wildlife Service as primary range for this bat, specifically forested areas along the river. Suitable habitat in the form of large green ash trees were found within the Analysis Area based on this classification. The live and dead trees would provide primary roosting and nursery habitat for the northern long-eared bat.

The project proposal states no trees will be removed during the construction of this project. This will eliminate any chances of destroying an individual bat, thus this project is ***"not likely to adversely affect"*** the northern long-eared bat.

Interior Least Tern *(Sterna antillarum)*

The project will have ***"no effect"*** on the interior least tern. No interior least terns were observed during the field survey. No suitable habitat occurs in the Action Area.

Whooping Crane *(Grus Americana)*

The project will have ***"no effect"*** on the whooping crane. No whooping cranes were observed during the field survey; however, this was expected due to timing of survey. No suitable roosting habitat exists within the Action Area, and no small fields of harvested grain occur within Analysis Area. Although the whooping crane may fly over due to proximity of migration route, they will not land due to lack of foraging or loafing habitat.

Red knot rufa (*Calidris canutrus*)

The project will have ***"no effect"*** on the red knot rufa. No red knot rufa were found during the survey period. This area is not within the breeding range of this species or migratory route. Only one sighting of a red knot rufa has occurred along the Missouri River south of Bismarck, ND.

Piping Plover *(Charadrius melodus)*

The project will have ***"no affect"*** to the piping plover. No piping plovers or nests were found within the Action Area and no designated critical habitat occurs within the Action Area.

Pallid Sturgeon (*Scaphirhynchus albus*)

The project will have ***"no effect"*** to the pallid sturgeon. No pallid sturgeon habitat occurs within the Analysis Area.

Piping Plover Critical Habitat

Since no piping plover critical habitat occurs within the Analysis Area, this project will ***"not likely to jeopardize the continued existence or adversely modify proposed critical habitat"*** for piping plover.

Dakota skipper Critical Habitat

Since no Dakota skipper critical habitat occurs within the Analysis Area, this project will ***"not likely to jeopardize the continued existence or adversely modify proposed critical habitat"*** for Dakota skipper.

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Appendices

Appendix A. Official Species List

FLORAL SURVEY FORM	
Area Surveyed (acres): 500 acres within Analysis Area.	Survey Type: Belt transect and full area; systematic and focused

Scientific Name[1]	Common Name	Date	Project Site
		5-Sept. 2018	WATER BUSTER SWD
ASCLEPIADACEAE- Milkweed Family			
Asclepias viridiflora	Green comet milkweed		
ASTERACEAE - Sunflower Family			
Achillea millefolium	Common yarrow		
Ambrosia artemisiifolia	Annual ragweed		
Ambrosia psilostachya	Western ragweed		
Antennaria neglecta	Field pussytoes		
Artemisia dracunculus	Silky wormwood		
Artemisia frigida	Prairie sagewort		
Artemisia ludoviciana	Cudweed sagewort		
Cirsium arvense	Canada thistle		
Cirsium flodmanii	Flodmans thistle		
Cirsium undulatum	Wavyleaf thistle		
Conyza canadensis	Canadian horseweed		
Echinacea angustifolia	Black samson		
Erigeron strigosus	Prairie fleabane		
Grindelia squarrosa	Curlycup gumweed		
Helianthus parciflorus	Stiff sunflower		
Heterotheca villosa	Hairy false goldenaster		
Lactuca serriola	Prickly lettuce		
Lactuca tatarica	Blue lettuce		
Liatris punctata	Dotted gayfeather		
Lygodesmia juncea	Rush skeletonplant		
Machaeranthera pinnatifida	Lacy tansyaster		
Oligoneuron rigidum	Stiff goldenrod		
Ratibida columnifera	Upright prairie coneflower		
Solidago missouriensis	Missouri goldenrod		
Solidago mollis	Soft goldenrod		
Symphyotrichum ericoides	White heath aster		
Symphyotrichum lanceolatum	White panicle aster		

Symphyotrichum oblongifolium	Aromatic aster
Taraxacum officinale	Dandelion
Tragopogon dubius	Goatsbeard
BORAGINACEAE - Borage Family	
Lappula occidentalis	Flatspine stickseed
Onosmodium bejariense	Western marbleseed
BRASSICACEAE - Mustard Family	
Arabis holboellii	Rockcress
Lepidium densiflorum	Peppergrass
CACTACEAE - Cactus Family	
Opuntia fragilis	Brittle pricklypear
CAPRIFOLIACEAE - Honeysuckle Family	
Symphoricarpos occidentalis	Western snowberry
CARYOPHYLLACEAE – Carnation Family	
Silene antirrhina	Sleepy silene
CHENOPODIACEAE - Goosefoot Family	
Bassia scoparia	Burningbush
Chenopodium album	Lamb's quarters
Atriplex nuttallii	Nuttall’s saltbush
CUPRESSACEAE – Conifer Family	
Juniperus communis	Common juniper
Juniperus scopulorum	Rocky Mountain juniper
CYPERACEAE – Sedge Family	
Carex brevior	Shortbeak sedge
Carex duriuscula	Needleleaf sedge
Carex inops	Sun sedge
Carex praegracilis	Clustered field sedge
ELAEGANACEAE – Oleaster Family	
Shepherdia argentea	Silver buffaloberry
FABACEAE - Legume Family	
Amorpha nana	Dwarf false indigo

Glycyrrhiza lepidota	Wild licorice
Melilotus officinalis	Yellow sweet clover
Pediomelum argophyllum	Silver-leaf scurfpea
Thermopsis rhombifolia	Prairie thermopsis
Vicia americana	American vetch
LAMIACEAE - Mint Family	
Nepeta cataria	Catnip
Monarda fistulosa	Wild bergamot
MALVACEAE - Mallow Family	
Sphaeralcea coccinea	Scarlet globemallow
OLEACEAE - Olive Family	
Fraxinus pennsylvanica	Green ash
ONAGRACEAE - Evening Primrose Family	
Calylophus serrulatus	Yellow sundrops
Gaura coccinea	Scarlet gaura
Oenothera biennis	Common evening primrose
PLANTAGINACEAE - Plantain Family	
Plantago erect	Dotseed plantain
POACEAE - Grass Family	
Agropyron critsatum	Crested wheatgrass
Agrostis scabra	Rough bentgrass
Aristida purpurea	Purple threeawn
Andropogon gerardii	Big bluestem
Bouteloua curtipendula	Sideoats grama
Bouteloua gracilis	Blue grama
Bromus inermis	Smooth brome
Calamovilfa longifolia	Prairie sandreed
Distichlis spicata	Saltgrass
Elymus caninus	Bearded wheatgrass
Elymus lanceolatus	Thickspike wheatgrass
Elymus repens	Quackgrass
Hesperostipa comata	Needle-and-thread
Hesperostipa spartea	Porcupinegrass
Koeleria macrantha	Prairie junegrass
Muhlenbergia cuspidata	Plains muhly
Nassella viridula	Green needlegrass

Pascopyron smithii	Western wheatgrass
Poa compressa	Canada bluegrass
Poa pratensis	Kentucky bluegrass
Poa secunda	Sandberg bluegrass
Schizachyrium scoparium	Little bluestem
Sporobolus compositus	Composite dropseed
Sporobolus heterolepis	Prairie dropseed
POLYGONACEAE – Knotweed Family	
Polygonum achoreum	Leathery knotweed
RANUNCULACEAE – Buttercup Family	
Anemone cylindrica	Candle anemone
ROSACEAE - Rose Family	
Prunus americana	American plum
Potentilla arguta	Tall cinquefoil
Prunus virginiana	Chokecherry
Rosa arkansana	Prairie rose
Rosa woodsii	Wood's rose
Rubus idaeus	American red raspberry
RUBIACEAEA – Coffee Family	
Galium boreale	Northern bedstraw
SCROPHULARIACEAE – Figwort Family	
Penstemon gracilis	Lilac penstemon

[1] Plant nomenclature was determined using the USDA Plants Database (USDA Natural Resources Conservation Service 2018a).

BIRD SURVEY FORM		
Area Surveyed (acres): 500 acres within Analysis Area.		Survey Type: Belt transect and full area; systematic and focused
Scientific Name[1]	Common Name	
Ammodramus leconteii	LaConte sparow	
Ammodramus savannarum	Grasshopper sparrow	
Sturnella neglecta	Meadow lark	
Zenaida macroupa	Mourning dove	

[1] Bird species nomenclature was determined using The Auk: Ornithological Advances (2016).

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WATER BUSTER SWD:
A CLASS III CULTURAL RESOURCE INVENTORY, DUNN COUNTY, NORTH DAKOTA

Prepared For:
Independence ND, LLC
New Town, North Dakota

Principal Investigator:

John G. Morrison

Prepared By:
John G. Morrison
Juniper, LLC
Bismarck, North Dakota

Class III Cultural Inventory
Attachment T2 (14 pages)
WATER BUSTER SWD 1
Independence ND, LLC
NWSE Section 7-147-93
Moccasin Creek Field
Dunn County, ND

Report of Investigation: 519 **October 2018**

315 East Broadway Ave., Bismarck, ND 58501 | O: (701) 223-6306 | C: (701) 400-3575 | Juniper, LLC

MANUSCRIPT DATA RECORD FORM

1. Manuscript Number:
2. SHPO Reference #:
3. Author(s): John G. Morrison
4. Title: Water Buster SWD: A Class III Cultural Resource Inventory, Dunn County, North Dakota
5. Report Date: October 2018
6. Number of Pages: 13
7. Type I, T, E, O: I
8. Acres: 20
9. Legal Location(s) with Historic Context Study Unit(s):

COUNTY	TWP	R	SEC	SU
DU	147	93	7	LM

Small Survey Report
Submitted by Juniper, LLC
315 East Broadway Ave., Bismarck, ND 58501
Phone: (701) 400-3575, Email: j.morrison@juniperenvironmental.com

Report Title:	Water Buster SWD: A Class III Cultural Resource Inventory, Dunn County, North Dakota
Author:	John G. Morrison
Report Date:	October 2018
Acres	20 acres
Survey Date:	September 12, 2018
Project Sponsor:	Independence ND, LLC, New Town, North Dakota
Historic Context:	Little Missouri River Study Unit (#1)

Legal Description/Location of Project Area: This project consists of the development of a salt water disposal well and two access roads in Section 7, Township (T.) 147 North (N.), Range (R.) 93 West (W.), Dunn County, North Dakota (Figure 1 - Figure 3). The project area lies approximately 12 miles south of Mandaree in a privately owned agricultural field within the Ft. Berthold Indian Reservation.

Description of Proposed Project: The proposed undertaking is the development of a well location in the NW/SE of Section 7, T. 147 N., R. 93 W., with access to and from an existing county road which runs along the northern side of the well location (Figure 1 - Figure 3). The intensive pedestrian inventory covered a 20 acre block centered on the proposed well pad. Both access roads entering and leaving the well location are contained within the 20 acre block. The inventory was conducted to Class III Intensive Pedestrian Inventory standards of the State Historical Society of North Dakota (SHSND 2018).

Results of File Search: A Class I Literature Review of the State Historical Society of North Dakota's site and manuscript files was conducted for the project area by William Christensen on September 4, 2018, for a one-mile radius around the proposed development (Table 1 and 2). There are 33 previously recorded cultural resources and 53 previous cultural resource investigations within a mile of the proposed development. The closest resource is 32DU1700, a prehistoric cairn, approximately 600' west of the well location on the opposite side of the county road. None of the previously recorded cultural resources will be impacted by the proposed undertaking.

Field Personnel: John G. Morrison (Principal Investigator). Juniper notified and informed the Mandan, Hidatsa, and Arikara Nation Tribal Historic Preservation Office (MHA THPO) of the proposed inventory. The MHA THPO declined to participate with the inventory. Juniper contacts and informs the MHA THPO if prehistoric cultural resources are found during the inventory.

Field Methods and Conditions: The Juniper archaeologist inventoried the 20 acre block using parallel pedestrian transects spaced no more than 15 meters apart. The inventory block lies within pasture lands that appear to have been disturbed in the past by pipeline construction and several dirt roads. BIA Road 17 and its right-of-way ditches runs east to west through the northern edge of the inventory block. Another unnamed dirt road with ditches runs north to south along the western edge of inventory block (Figure 5). Another road is completely overgrown but the road bed and ditches are still visible (Figure 6). This road runs roughly east to west through the southern

half of the block. This road corresponds to a trail symbol on the USGS 7.5' quadrangle map and is visible on the aerial photo as well (Figure 2 and Figure 3).

Ground surface visibility (GSV) within the project corridor averaged 40%. Rodent burrows, road cutbanks, and any other areas of increased visibility were intensively investigated for evidence of buried cultural material that may not have a surface expression.

Results and Recommendations: No new or previously recorded cultural resources were encountered during the inventory effort. Because no new or previously recorded resources lie within the inventory block and because the MHA THPO did not express any concerns with the project when notified of the project, Juniper recommends a finding of *No Historic Properties Affected* for the proposed undertaking as described in this document.

References Cited:

State Historical Society of North Dakota (SHSND)
2018 *NDSHPO Manual for Cultural Resource Investigations Revised Edition.* Produced by and available at the Division of Archaeology and Historic Preservation, State Historical Society of North Dakota, Bismarck.

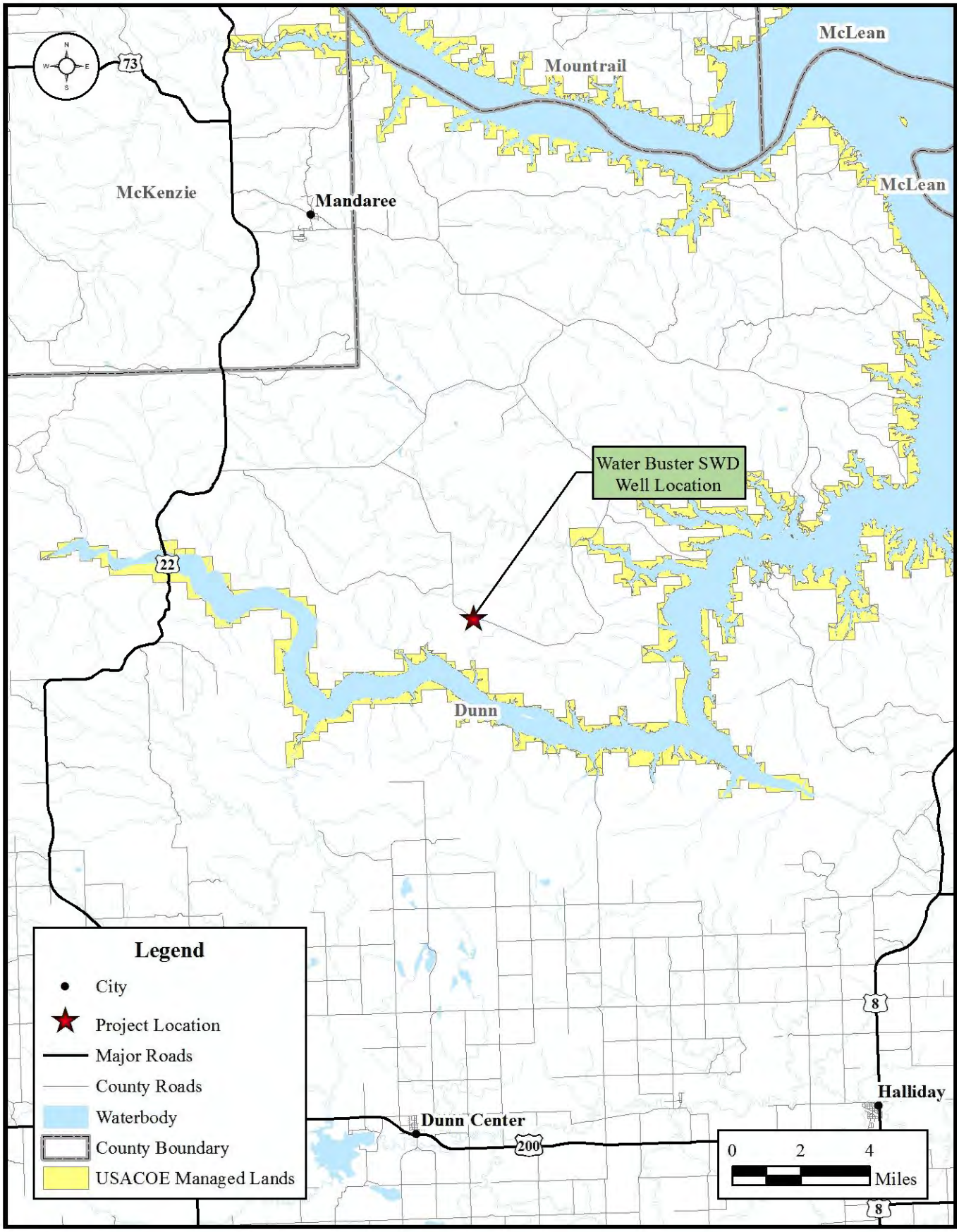

Figure 1: Regional location of the Water Buster SWD Well Location.

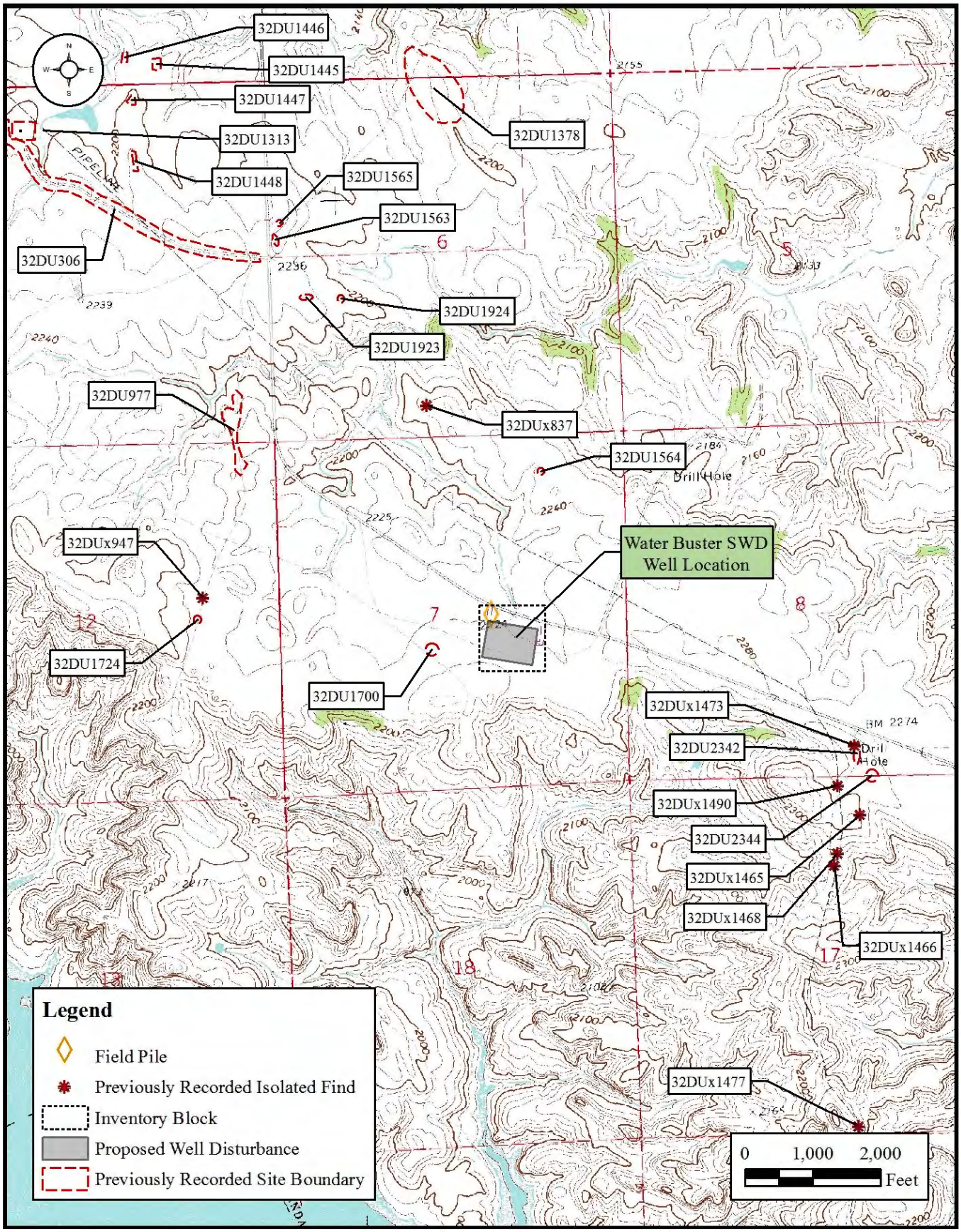

Figure 2: Location of the proposed well disturbance, the inventory block, and previously recorded cultural resources as depicted on the USGS 7.5′ Mandaree SE (1970) quadrangle map.

Figure 3: Location of the proposed well disturbance, the inventory block, and previously recorded cultural resources as depicted on the 2017 NAIP Dunn County aerial photograph.

Figure 4: Overview from near the western edge of the inventory block, view across the block to the east.

Figure 5: Overview from near the southwestern corner of the inventory block on the existing dirt road, view to the north.

Figure 6: Overview from near the western edge of the inventory block, view across the block to the east along abandoned road.

Figure 7: Overview from near the southwestern corner of the inventory block, view to the northeast.

Table 1: Results of the Site, Site Lead, and Isolated Find Files Search					
Sec-Twp/Rng	**SITS#**	**Type**	**Recorder Date**	**NRHP Status**	**MS #**
5-147/93	No Historic Properties Recorded.				17259
6-147/93	32DU1378	Archaeological - CMS	Harty 2008	UN	5157, 5216, 10685, 11937, 12587, 12594, 12633, 13952, 14950, 17488.
	32DU1563	Archaeological - Cairn, Chipped Stone	Smith/Mclaughlin 2010	UN	
	32DU1565	Archaeological - Stone Circle	Smith/McLaughlin 2010	UN	
	32DU1923	Archaeological - Stone Circles, Cairn	McCarty/Picka 2013	UN	
	32DU1924	Archaeological - Stone Circle	McCarty/Picka 2013	UN	
	32DUx837	Isolated Find - Chipped Stone	Smith/McLaughlin 2010	NE	
7-147/93	32DU1564	Archaeological - Stone Circles	Smith/McLaughlin 2010	UN	11937, 12633, 12978, 13400, 14950, 17488, 17509, 17655
	32DU1700	Archaeological - Cairn	Hutchinson/Clark 2011	UN	
8-147/93	32DU2342	Archaeological - CMS	Eiceman/McCarthy 2016, Leroy 2016	UN	2232, 12633, 13033, 13391, 17488, 17627, 17655
	32DU2344	Archaeological - Chipped Stone	Eiceman 2016	UN	
	32DUx1473	Isolated Find - Metal Pole	Eiceman/McCarthy 2016	NE	
17-147/93	32DU2344	Archaeological - Chipped Stone	Eiceman 2016	UN	13033, 17488, 17626, 17627
	32DUx1465	Isolated Find - Chipped Stone	Leroy 2016	NE	
	32DUx1466	Isolated Find - Chipped Stone	Leroy 2016	NE	
	32DUx1468	Isolated Find - Chipped Stone	Leroy 2016	NE	
	32DUx1477	Isolated Find - Chipped Stone	McCarthy/Eiceman 2017	NE	
	32DUx1490	Isolated Find - Chipped Stone	Tinti/Wilcox 2017	NE	
18-147/93	32DU670	Archaeological - CMS	Lippincott 1986	UN	4293, 12978, 15540
1-147/94	32DU1313	Historical - Foundation	Springer, 2006	NE	3555, 3648, 3864, 5157, 5216, 9949, 11937, 12319, 12368, 12442, 12587, 12594, 12627, 12687, 13171, 13426, 14950, 17265, 17412, 17488
	32DU1447	Archaeological - Stone Circle	Markman/McLaughlin, 2009	UN	
	32DU1448	Archaeological - Stone Circle	Markman/McLaughlin, 2009	UN	
	32DU306	Archaeological - CMS	Cox/Kilcullin 2014, Springer 2006, Borchert 1985	UN	
	32DU977	Archaeological - Stone Circle CMS	Olson 1990	UN	
	32DUx477	Isolated Find - Chipped Stone	Borchert/Loendorf 1985	NE	
	32DUx478	Isolated Find - Chipped Stone	Borchert/Loendorf 1985	NE	
	32DUx479	Isolated Find - Chipped Stone	Borchert/Loendorf 1985	NE	
	32DUx665	Isolated Find - Chipped Stone	Springer 2006	NE	
12-147/94	32DU1724	Historic - Trail	Schleicher/Alitzer 2012	UN	

Maps and Photos Sections

Table 1: Results of the Site, Site Lead, and Isolated Find Files Search					
Sec-Twp/Rng	**SITS#**	**Type**	**Recorder Date**	**NRHP Status**	**MS #**
	32DU977	Archaeological - Stone Circle, CMS	Olson 1990	UN	9949, 13400, 14950
	32DUx947	Isolated Find - Chipped Stone	Schleicher/Alitzer 2012	NE	
13-147/94	32DU1	Archaeological - Earthlodge Village, CMS	Robson 1979	E	80, 94, 111, 4293, 4294, 15540
	32DU669	Archaeological - CMS	Lippincott 1986	UN	
	32DUx338	Isolated Find - Chipped Stone	Dill 1982	NE	

CMS=Cultural Material Scatter

Table 2: Results of the Manuscript Review	
MS #	**Reference**
80	Adamczyk, Ted J. 1975 *Archaeological Inventory Missouri River Reach Between Fort Benton, Montana, and Sioux City, Iowa.*
94	Hecker, Thad C. nd. *List of Known Earth Lodge Village Sites Above the Grand River.*
111	Kivett, Marvin F. 1948 *Preliminary Appraisal of the Archeological and Paleontological Resources of the Garrison Reservoir, ND.*
2232	Sheldon, Carmen 1981 *A Class III Intensive Inventory of a Proposed Drill Site and Access Road in the NE1/4SW1/4 of Sec. 8, T147N. R93W, Dunn County, North Dakota.*
2740	Borchert, Jeani L. 1982 *Gulf Moccasin 1-14-2B Survey Report, Dunn Co., ND.*
2743	Borchert, Jeani L. 1982 *Gulf Moccasin 1-11-3D Survey Report, Dunn Co., ND.*
3292	Borchert, Jeani L. 1983 *Shovel Probe Excavations at the Proposed Gulf Moccasin 1-14-2B Location, Dunn Co., ND.*
3555	Borchert, Jeani L. 1985 *Letter Report: Pennzoil Moccasin #3-24 BIA Location., Dunn Co., ND.*
3648	Borchert, Jeani L. 1985 *Cultural Resource Survey, Pennzoil Moccasin #3-24 BIA Location and Access, Dunn County, North Dakota (UW# 818).*
3697	Floodman, Mervin G. 1985 *Arco Oil and Gas Company Arco #1 Red Hawk, Dunn County, North Dakota.*
3864	Blikre, Lowell R. 1985 *Final Report on Archaeological Evaluative Testing at Sites 32DU304, 305 and 306, Fort Berthold Indian Reservation, Dunn County, North Dakota (UW# 850).*
4293	Winham, R. Peter 1987 *Cultural Resource Reconnaissance of U.S. Army Corps of Engineers Land Alongside Lake Sakakawea in Dunn County, North Dakota. Vol. 1 and Vol. 2 and Appendixes.*
4645	Banks, Kimball M. 1988 *A Room With A View: A Cultural Resources Inventory of the Ira Bird Bear Homesite Lease Ft. Berthold Agency, Dunn County, North Dakota.*
4924	Sanders, Paul H. 1989 *Archeological Evaluation of Fifteen Sites Located Along Lake Sakakawea, Dunn County, North Dakota.*
5157	Olson, Byron L. 1990 *McKenzie Electric Cooperative, Inc. Alternate Route for Single Phase Overhead Powerline to Amoco Pipeline, Cultural Resource Inventory Dunn County, North Dakota.*

Table 2: Results of the Manuscript Review	
MS #	**Reference**
5216	Olson, Byron L. 1990 *McKenzie Electric Cooperative, Inc. Single Phase Overhead Powerline to Amoco Pipeline Cultural Resources Inventory Dunn County, North Dakota*.
9949	Springer, Karri L. 2007 *04-025-214 to -217 Pipeline System and Spring Development Project Cultural Resources Inventory Dunn Co., ND.*
10584	Hiemstra, Damita J. 2008 *Moccasin Creek 16-3H/16-3-11H: A Class III Cultural Resource Inventory for a Proposed Dual Well Head on the Fort Berthold Reservation in Dunn Co., ND.*
10685	Barth, Aaron L. 2008 *Voigt 32-24H Well Pad and Access Road Survey: A Class III Cultural Resource Inventory, Dunn Co., ND.*
11937	O'Donnchada, Brian *2010 Ft Berthold Rural Water Mandaree 3 & 4 Pipeline: A Class III Cultural Resource Inventory in McKenzie & Dunn Counties, ND.*
12319	Baer, Sarah *2009 A Class III Cultural Resource Inventory of Petro-Hunts Fort Berthold 147-94-1A-12-1H Well Pad and Access Road, Dunn Co. ND.*
12368	Lechert, Stephanie *2011 A Class I and Class III Cultural Resource Inventory of the Petro-Hunt Fort Berthold #148-94-36D-25-2H & Fort Berthold #147-94-1A-10-2H Dual Well Pad and Access Road, Fort Berthold Indian Reservation, Dunn Co., ND.*
12442	Schleicher, Jolene *2011 A Class I and Class III Cultural Resource Inventory of the Arrow Fort Berthold 147-94-1A-12-1H Gathering Pipeline, Fort Berthold Indian Reservation, Dunn Co., ND.*
12587	Macy, Jennifer N. *2011 Moccasin Creek Gathering Line: A Class III Cultural Resource Inventory, Dunn Co., ND.*
12589	Mitchell, Mary R. *2011 Bad Gun - Moccasin Creek Gathering Line: A Class III Cultural Resource Inventory, Dunn Co., ND.*
12590	Macy, Jennifer N. *2011 Badgun-Moccasin Creek Extension: A Class III Cultural Resource Inventory, Dunn Co., ND.*
12594	Mitchell, Mary R. *2011 Eagles Nest Natural Gas Gathering Line: A Class III Cultural Resource Inventory in Dunn Co., ND.*
12627	Schleicher, Jolene *2011 A Class I and Class III Cultural Resource Inventory of the Arrow Fort Berthold Gathering Pipeline, Fort Berthold Indian Reservation, Dunn Co., ND.*
12633	Smith, Nicholas *2011 A Class I and Class III Cultural Resource Inventory of the Arrow Phase 3SW Pipeline, Fort Berthold Indian Reservation, Dunn and McKenzie Co., ND.*
12687	Schleicher, Jolene *2011 A Class I and Class III Cultural Resources Inventory of the Arrow Fort Berthold 148-94-36D-25-2H Gathering Pipeline, Fort Berthold Indian Reservation, Dunn County, North Dakota*.
12978	Baer, Sarah *2011 A Class I and Class III Cultural Resource Inventory of the London #147-93-18A-19H, Paris #147-93-18A-19H TF, Madrid #147-93-18B-19H, and Rome #147-93-18B-19H TF Well Pad, Access Road, and Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota*.

Table 2: Results of the Manuscript Review	
MS #	**Reference**
13033	Kohler, Todd *2011 A Class I and Class III Cultural Resources Inventory of the Enerplus Resources Henry Bad Gun 8D-5-1H/17A-20-1H, Copper and Rocket Well Pad Expansion, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
13153	Baer, Sarah *2012 A Class I and Class III Cultural Resources Inventory of the Enerplus Resources Nickel, #147-93-16A-21H, Lead #147-93-16A-21H TF, Zinc #147-93-09D-04H, and Silver #147-93-09D-04H TF Well Pad and Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
13171	Wandler, Cole B. *2012 A Class I and Class III Cultural Resource Inventory of the Petro-Hunt Fort Berthold #147-94-1B-12-3H and #148-94-36C-25-3H Well Pad and Access Road, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
13391	Wandler, Cole B. *2012 A Class I and Class III Cultural Resource Inventory of the Enerplus Resources Tin #147-93-17B-20H, Neon #147-93-17B-20H TF Well Pad and Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota*
13400	Zietz, Vanessa *2012 A Class I and Class III Cultural Resource Inventory of the Burrowing #147-94-13B-24H TF, Screech #147-94-13B-24H TF, Snowy #147-94-13A-24H TF, and Barn #147-94-13A-24H Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
13426	Schleicher, Jolene *2012 A Class I and Class III Cultural Resource Inventory of the Arrow Fort Berthold #148-94-36C-25-3H & #147-94-1B-12-3H and Fort Berthold #148-94-36C-25-4H, -5H & #147-94-1B-12-4H, -5H Pipeline Systems, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
13952	Leroy, Adam *2013 Zane SWD #1 Pad and Access Road: A Class III Cultural Resource Investigation in Dunn County, North Dakota.*
14307	Cox, Matthew A. *2013 A Class I and Class III Cultural Resource Inventory of the McKenzie Electric Underground Distribution Line, Phases 1, 2, 3, 4, 5, and 6, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
14950	Wandler, Cole B. *2013 A Class I and Class III Cultural Resource Inventory of the Targa Owls Gathering Pipeline, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
15540	Schleicher, Jolene *2011 A Cultural Resources Inventory of U. S. Army Corps of Engineers Managed Lands on Lake Sakakawea, Dunn County, North Dakota Volume 1: Report.*
17259	Wandler, Cole B. *2012 A Class I and Class III Cultural Resource Inventory of Enerplus Resources Iron #148-93-32CH TF, Chrome #147-93-05B-08H, and Gold #147-93-05B-08H TF Well Pad and Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota*
17412	Brooks, Brittany *2017 A Class III Cultural Resource Inventory of the Halcon Marathon Tie West Underground Power Line on the Fort Berthold Indian Reservation in Dunn County, North Dakota.*
17488	Swader, Paul *2017 A Class I and Class III Cultural Resource Inventory of the McKenzie Electric BIA 17 Loop Electrical Distribution Line on the Fort Berthold Indian Reservation, Dunn County, North Dakota.*
17509	Schleicher, Jolene *2017 A Class I and Class III Cultural Resources Inventory of the Enerplus European Cities Mid Well Pad and Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota.*

Table 2: Results of the Manuscript Review	
MS #	**Reference**
17625	Schleicher, Jolene *2017 Cultural Resources Monitoring of Construction Activities for the Fort Berthold #147-94-1A-12-2H and #148-94-36D-25-2H (Oklahoma) Well Pad Expansion, Fort Bethold Indian Reservation, Dunn County, North Dakota.*
17626	Schleicher, Jolene *2017 A Class I and Class III Cultural Resource Inventory of the Enerplus Igneous Well Pad and Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
17627	Schleicher, Jolene *2017 A Class I and Class III Cultural Resource Inventory of the Enerplus Metamorphic Well Pad and Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
17651	Schleicher, Jolene *2017 A Class I and Class III Cultural Resource Inventory of the Moccasin Creek 14-11 Pipeline, Fort Berthold Indian Reservation, Dunn County, North Dakota.*
17655	Schleicher, Jolene *2017 Addendum to A Class I and Class III Cultural Resources Inventory of the Enerplus European Cities Mid Well Pad and Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota, for the European Cities Tie-in to Targa Pipeline.*
17658	Schleicher, Jolene *2017 Addendum to A Class I and Class III Cultural Resource Inventory of the Enerplus Igneous Well Pad and Access Road/Utility Corridor, Fort Berthold Indian Reservation, Dunn County, North Dakota, for the Igneous and Metamorphic Tie-in to Targa Pipeline.*

U. DESCRIPTION OF BUSINESS

Independence ND, LLC is a 100% Indian-owned business established on June 21, 2018 for the sole purpose of safely disposing Class II fluids on the Fort Berthold Indian Reservation. Independence ND's headquarters are located at 301 1st Ave. E Bakersfield, New Town, ND 58763-4405.