



**CERTIFIED/RETURN RECEIPT: 7011 0110 0000 4375 1700**

April 25, 2019

Jack Haworth  
910 JCR 34  
Walden, Colorado 80480

**RE: COGCC Rules 305.c., 306.: Completeness Determination, Consultation  
COGCC Rule 305.c.(1): Oil and Gas Location Assessment (OGLA) Notice to Surface Owner  
Willow View 0780 S32 Transfer Facility: SWNE Section 32, Township 7 North, Range 80 West  
Jackson County, Colorado**

Dear Surface Owner,

In accordance with the requirements of Rules 305.c.(1), and 306.a. of the Colorado Oil and Gas Conservation Commission (COGCC), this letter serves as OGLA Notice to Surface Owner for the Willow View 0780 S32 Transfer Facility by SandRidge Exploration & Production LLC (SandRidge), operator of this proposed oil and gas location.

Enclosed with this letter is a copy of the Form 2A for the Willow View 0780 S32 Transfer Facility per COGCC rules, which includes a list of all major components to be used in conjunction with drilling and operating the wells; a scaled drawing showing all visible improvements within 500 feet of the proposed oil and gas location (Location Drawing); an 8 ½" by 11" vicinity topographic map showing the access road from the highway or county road providing access to the proposed oil and gas location (Access Road Map); facility drawing; and a copy of the COGCC Information on Hydraulic Fracturing.

As Surface Owner, you are welcome to submit written comments to SandRidge, the Director of the COGCC, and/or your Local Government Designee (LGD); a Contact Information list is provided herein for your reference. Pursuant to COGCC Rule 306.a, you are entitled to a consultation with the operator; if you should have any questions or wish to meet with the operator before oil and gas operations commence on the proposed location, or if you do not require consultation, please return the enclosed Consultation Form with your election in the self-addressed stamped envelope provided. You may appoint an agent on your behalf for purposes of subsequent notice, consultation or meetings. Such appointment can be made via the Consultation Form enclosed; please provide the agent's name, address and telephone number.

Pursuant to COGCC Rules 305.c.(4) and 306.g., as Surface Owner it is your responsibility to give notice of the proposed operations to any tenant farmer, lessee or other party that may own or have an interest in any crops or surface improvements that could be affected by the proposed operations.

Jack Haworth  
April 25, 2019  
Page 2



Thank you for your consideration of this matter.

Respectfully,

A handwritten signature in black ink, appearing to be "Justin Garrett".

Justin Garrett  
Regulatory Analyst  
Agent for SandRidge Exploration & Production LLC

Enclosures: Willow View 0780 S32 Transfer Facility Form 2A Oil and Gas Location Assessment  
Location Drawing  
Access Road Map  
Facility Layout Drawing  
COGCC Informational Brochure on Hydraulic Fracturing  
Consultation Form  
Self-addressed Stamped Envelope  
Contact Information List



**CONSULTATION FORM**  
**COGCC Rules 305.c., 306.: Completeness Determination, Consultation**  
**COGCC Rule 305.c.(1): Oil and Gas Location Assessment (OGLA) Notice to Surface Owner**  
**Willow View 0780 S32 Transfer Facility: SWNE Section 32, Township 7 North, Range 80 West**  
**Jackson County, Colorado**

Date: \_\_\_\_\_

Please complete and return in the self-addressed stamped envelope.

**Client:** \_\_\_\_\_ **SandRidge Exploration & Production LLC**

**Oil & Gas Location:** \_\_\_\_\_ **Willow View 0780 S32 Transfer Facility**

Owner Name: \_\_\_\_\_

Owner Address: \_\_\_\_\_

City, State & Zip: \_\_\_\_\_

Phone #: \_\_\_\_\_

Check Appropriate Election(s):

\_\_\_ I do not require a consultation

\_\_\_ I want to be consulted concerning proposed operations

\_\_\_ I want to appoint an Agent to be consulted:

Agent Name: \_\_\_\_\_

Agent Address: \_\_\_\_\_

Agent City, State & Zip: \_\_\_\_\_

Agent Phone #: \_\_\_\_\_



**CONTACT INFORMATION**  
**COGCC Rules 305.c., 306.: Completeness Determination, Consultation**  
**COGCC Rule 305.c.(1): Oil and Gas Location Assessment (OGLA) Notice to Surface Owner**  
**Willow View 0780 S32 Transfer Facility: SWNE Section 32, Township 7 North, Range 80 West**  
**Jackson County, Colorado**

Operator  
Diane Overbey  
Regulatory Analyst  
123 Robert S. Kerr Avenue  
Oklahoma City, OK 73102  
405.429.5828  
doverbey@sandridgeenergy.com

Local Government Designee  
William Kent Crowder  
Jackson County Administrator  
P.O. Box 1019  
Walden, CO 80480  
970.723.4660  
[kentcrowder47@gmail.com](mailto:kentcrowder47@gmail.com)

Director of the COGCC  
Mr. Jeff Robbins  
Colorado Oil and Gas Conservation Commission  
1120 Lincoln Street, Suite 801  
Denver, Colorado 80203  
303.894.2100  
<http://cogcc.state.co.us>

FORM  
2A

Rev  
02/19

# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

402008978

Date Received:

04/17/2019

## Oil and Gas Location Assessment

New Location     Refile     Amend Existing Location    Location#: 324750

This Oil and Gas Location Assessment is to be submitted to the COGCC for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of this Oil and Gas Location Assessment will allow for the construction of the below specified Location; however, it does not supersede any land use rules applied by the local land use authority. Please see the COGCC website at <http://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

**324750**

Expiration Date:

This location assessment is included as part of a permit application.

### CONSULTATION

- This location is included in a Comprehensive Drilling Plan. CDP # \_\_\_\_\_
- This location is in a sensitive wildlife habitat area.
- This location is in a wildlife restricted surface occupancy area.
- This location includes a Rule 306.d.(1)A.ii. variance request.

### Operator

Operator Number: 10598  
 Name: SANDRIDGE EXPLORATION & PRODUCTION LLC  
 Address: 123 ROBERT S KERR AVE  
 City: OKLAHOMA CITY    State: OK    Zip: 73102

### Contact Information

Name: Diane Overbey  
 Phone: (405) 429 5828  
 Fax: ( )  
 email: doverbey@sandridgeenergy.com

### FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID (Rule 706): 20170015     Gas Facility Surety ID (Rule 711): \_\_\_\_\_
- Waste Management Surety ID (Rule 704): \_\_\_\_\_

### LOCATION IDENTIFICATION

Name: Willow View 0780 S32 Transfer    Number: Facility  
 County: JACKSON  
 Quarter: SWNE    Section: 32    Township: 7N    Range: 80W    Meridian: 6    Ground Elevation: 8204

Define a single point as a location reference for the facility location. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 2381 feet FNL from North or South section line  
1878 feet FEL from East or West section line

Latitude: 40.534578    Longitude: -106.394845

PDOP Reading: 1.6    Date of Measurement: 01/02/2018

Instrument Operator's Name: James Freshwater



## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: \_\_\_\_\_ Drilling Fluids Disposal Method: \_\_\_\_\_

Cutting Disposal: \_\_\_\_\_ Cuttings Disposal Method: \_\_\_\_\_

Other Disposal Description:

Beneficial reuse or land application plan submitted? \_\_\_\_\_

Reuse Facility ID: \_\_\_\_\_ or Document Number: \_\_\_\_\_

Centralized E&P Waste Management Facility ID, if applicable: \_\_\_\_\_

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Jack E Haworth Phone: \_\_\_\_\_

Address: 910 JCR 34 Fax: \_\_\_\_\_

Address: \_\_\_\_\_ Email: \_\_\_\_\_

City: Walden State: CO Zip: 80480

Surface Owner:  Fee  State  Federal  Indian

Check all that apply. The Surface Owner:  is the mineral owner

is committed to an oil and Gas Lease

has signed the Oil and Gas Lease

is the applicant

The Mineral Owner beneath this Oil and Gas Location is:  Fee  State  Federal  Indian

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: No

The right to construct this Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: \_\_\_\_\_ Surface Surety ID: \_\_\_\_\_

Date of Rule 306 surface owner consultation \_\_\_\_\_

## CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land:  Irrigated  Dry land  Improved Pasture  Hay Meadow  CRP

Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe): \_\_\_\_\_

Subdivided:  Industrial  Commercial  Residential

Future Land Use (Check all that apply):

Crop Land:  Irrigated  Dry land  Improved Pasture  Hay Meadow  CRP

Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe): \_\_\_\_\_

Subdivided:  Industrial  Commercial  Residential

## CULTURAL DISTANCE INFORMATION

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

	From WELL	From PRODUCTION FACILITY
Building:	_____ Feet	1644 Feet
Building Unit:	_____ Feet	5280 Feet
High Occupancy Building Unit:	_____ Feet	5280 Feet
Designated Outside Activity Area:	_____ Feet	5280 Feet
Public Road:	_____ Feet	1224 Feet
Above Ground Utility:	_____ Feet	72 Feet
Railroad:	_____ Feet	5280 Feet
Property Line:	_____ Feet	255 Feet
School Facility::	5280 Feet	5280 Feet
School Property Line:	5280 Feet	5280 Feet
Child Care Center:	5280 Feet	5280 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.  
 - Enter 5280 for distance greater than 1 mile.  
 - Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.  
 - Building Unit, High Occupancy Building Unit, Designated Outside Activity Area, School Facility, and Child Care Center – as defined in 100 Series Rules.  
 -For measurement purposes only, Production Facilities should only include those items with an asterisk(\*) on the Facilities Tab.

## SCHOOL SETBACK INFORMATION

Was Notice required under Rule 305.a.(4)?  Yes  No

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:

- Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit.  
 - Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
 - Urban Mitigation Area - as defined in 100-Series Rules.  
 - Large UMA Facility – as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: \_\_\_\_\_

## FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

- Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (on or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*
- By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

## SOIL

List all soil map units that occur within the proposed location. attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: Ca - Cabin sandy loam

NRCS Map Unit Name: \_\_\_\_\_

NRCS Map Unit Name: \_\_\_\_\_

**PLANT COMMUNITY:**

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes  No

Plant species from:  NRCS or,  field observation Date of observation: 10/02/2018

List individual species:

Check all plant communities that exist in the disturbed area.

- Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- Alpine (above timberline)
- Other (describe): \_\_\_\_\_

## WATER RESOURCES

Is this a sensitive area:  No  Yes

Distance to nearest

downgradient surface water feature: 0 Feet

water well: 1735 Feet

Estimated depth to ground water at Oil and Gas Location 40 Feet

Basis for depth to groundwater and sensitive area determination:

Location is sensitive due to proximity to existing drainage.  
Depth to groundwater taken from water well permit #273561 -

Is the location in a riparian area:  No  Yes

Was an Army Corps of Engineers Section 404 permit filed  No  Yes If yes attach permit.

Is the location within a Rule 317B Surface Water Supply Area buffer No zone:

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: \_\_\_\_\_

Is the Location within a Floodplain?  No  Yes Floodplain Data Sources Reviewed (check all that apply)

Federal (FEMA)

State

County

Local

Other \_\_\_\_\_

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

## WILDLIFE

This location is included in a Wildlife Mitigation Plan

This location was subject to a pre-consultation meeting with CPW held on \_\_\_\_\_

### Operator Proposed Wildlife BMPs

No BMP

### CPW Proposed Wildlife BMPs

No BMP

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

Rule 604.a.(1)A. Exception Zone (within 500' of a Building Unit) and is in an Urban Mitigation Area

Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)

Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)

Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)

Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number \_\_\_\_\_

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments	Buffalo Ditch 2-32H (API: 05-057-06464) to be plugged and abandoned.  The existing Buffalo Ditch 2-32H Location (Loc ID 324750) is being converted to the Willow View Transfer Facility. The Buffalo Ditch 2-32H well (API: 05-057-06464) is being abandoned. The Willow View Transfer Station will be used for trucks to on-load oil and/or water produced from oil and gas wells operated by SandRidge Energy at pads in the vicinity of HWY 14. The production from surrounding wells will be collected at the Willow View CTB (Loc ID 324749, Doc #401886061) and piped underground to this transfer station. This transfer station will allow easier access for trucks on and off HWY 14, and will decrease truck traffic, noise, dust and visual intrusion by eliminating trips to the remote locations where SandRidge operates. In turn, this will protect plants, wildlife and all else occupying said area. SandRidge respectfully chose this location due to its pre-disturbed nature and proximity to HWY 14, and with assistance of the land owner.  Map showing location in reference relative to Willow View CTB attached as Other.
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I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: \_\_\_\_\_ Date: 04/17/2019 Email: regulatory@ascentgeomatics.com

Print Name: Justin Garrett Title: Regulatory Analyst

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

## Conditions Of Approval

All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

<u>COA Type</u>	<u>Description</u>

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	General Housekeeping	Keep transfer station site location, road and pipeline easement free of noxious weeds, litter and debris.
2	Construction	No construction or routine maintenance activities will be performed during periods when the soil is too wet to adequately support construction equipment.
3	Construction	Light sources will be directed downwards and away from occupied structures.
4	Emissions mitigation	Operator shall comply with COGCC's current NOTICE TO OPERATORS: Rule 912. VENTING OR FLARING PRODUCED NATURAL GAS – STATEWIDE.

Total: 4 comment(s)

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
402008978	FORM 2A SUBMITTED
402009177	ACCESS ROAD MAP
402009187	HYDROLOGY MAP
402009194	FACILITY LAYOUT DRAWING
402009198	LOCATION DRAWING
402009200	CONST. LAYOUT DRAWINGS
402009204	REFERENCE AREA MAP
402009205	LOCATION PICTURES
402009207	NRCS MAP UNIT DESC
402009217	REFERENCE AREA PICTURES
402009233	SURFACE AGRMT/SURETY
402009319	OTHER

Total Attach: 12 Files

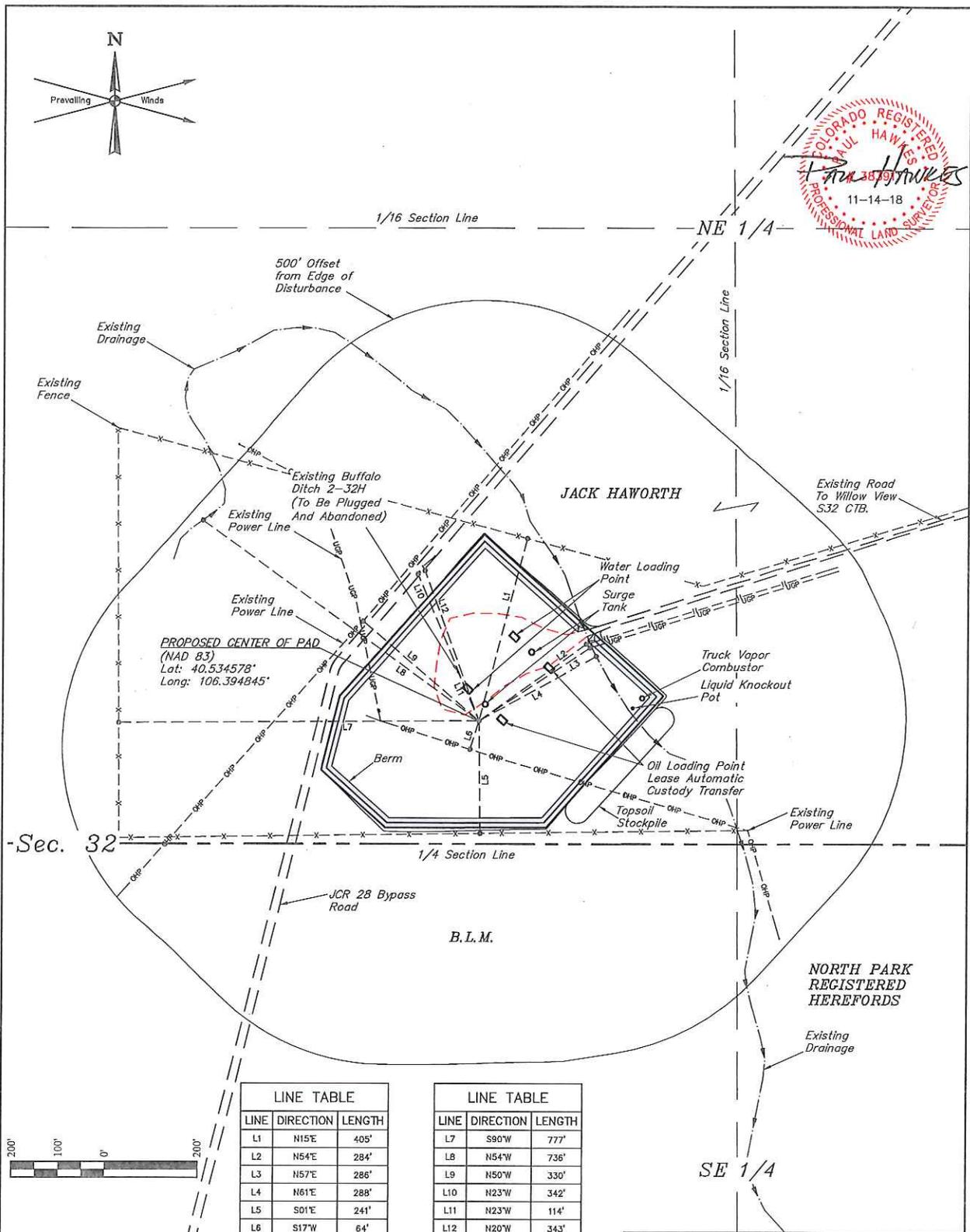
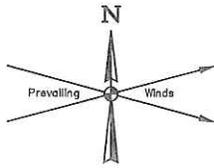
### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Passed Completeness.	04/23/2019

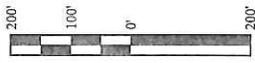
Total: 1 comment(s)

## **Public Comments**

No public comments were received on this application during the comment period.



PROPOSED CENTER OF PAD  
(NAD 83)  
Lat: 40.534578°  
Long: 106.394845°



LINE	DIRECTION	LENGTH
L1	N15°E	405'
L2	N54°E	284'
L3	N57°E	286'
L4	N61°E	288'
L5	S01°E	241'
L6	S17°W	64'

LINE	DIRECTION	LENGTH
L7	S90°W	777'
L8	N54°W	736'
L9	N50°W	330'
L10	N23°W	342'
L11	N23°W	114'
L12	N20°W	343'

REV: 1 11-14-18 M.D. (PAD & NAME CHANGE & ADD ROAD)

PLANT COMMUNITY	
<input type="checkbox"/>	DISTURBED GRASSLAND
<input checked="" type="checkbox"/>	NATIVE GRASSLAND
<input type="checkbox"/>	SHRUB LAND
<input type="checkbox"/>	PLAINS RIPARIAN
<input type="checkbox"/>	MOUNTAIN RIPARIAN
<input type="checkbox"/>	FOREST LAND
<input type="checkbox"/>	WETLANDS AQUATIC
<input type="checkbox"/>	ALPINE
<input type="checkbox"/>	OTHER (Describe):

CURRENT LAND USE					
<input type="checkbox"/>	CROP LAND:	<input type="checkbox"/>	IRRIGATED	<input type="checkbox"/>	DRY LAND
<input type="checkbox"/>	NON-CROP LAND:	<input checked="" type="checkbox"/>	RANGELAND	<input type="checkbox"/>	TIMBER
<input type="checkbox"/>	SUBDIVIDED:	<input type="checkbox"/>	INDUSTRIAL	<input type="checkbox"/>	COMMERCIAL
<input type="checkbox"/>		<input type="checkbox"/>	IMPROVED PASTURE	<input type="checkbox"/>	HAY MEADOW
<input type="checkbox"/>		<input type="checkbox"/>	RECREATIONAL	<input type="checkbox"/>	OTHER (Describe)
<input type="checkbox"/>		<input type="checkbox"/>	RESIDENTIAL		

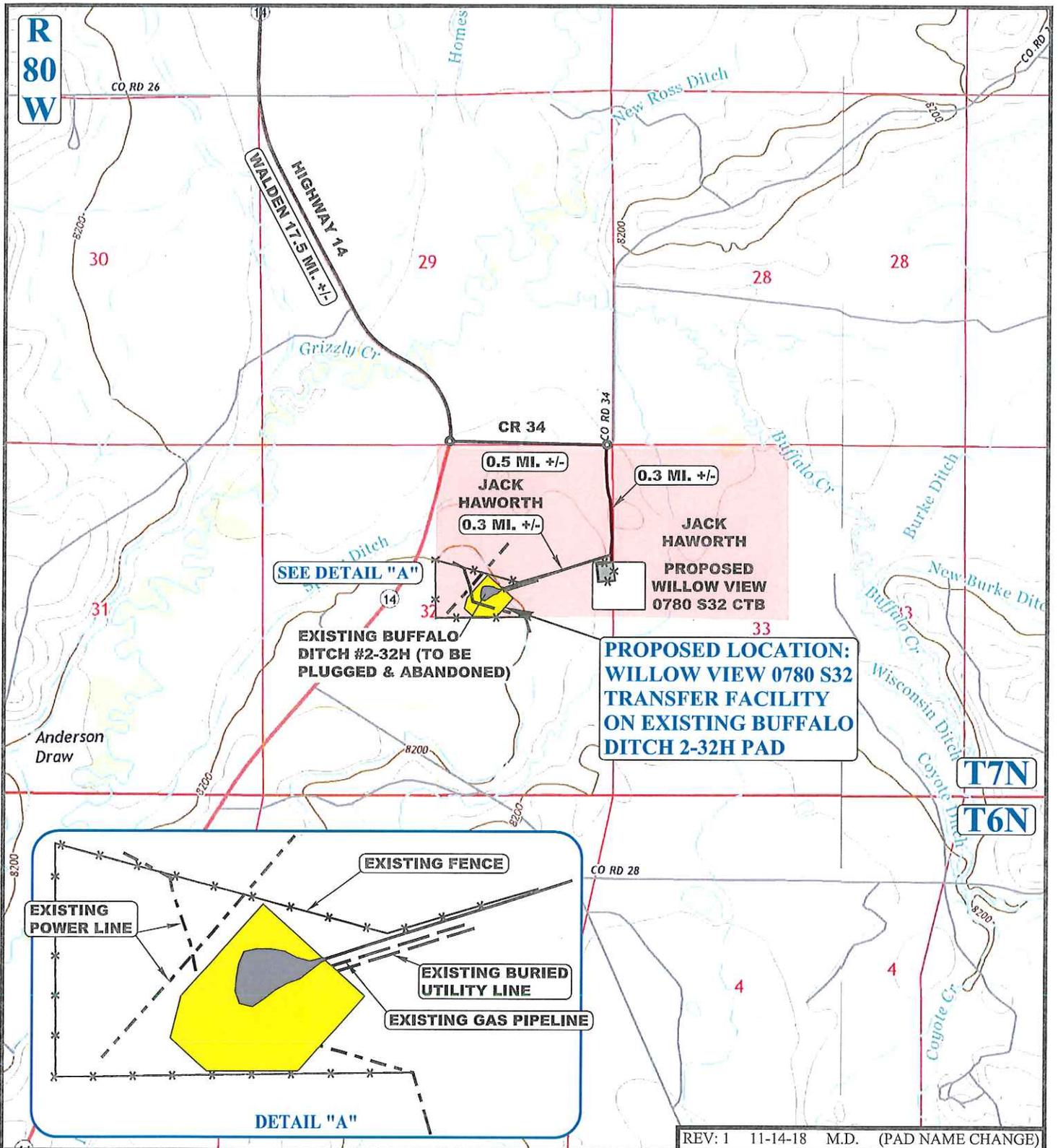
FUTURE LAND USE					
<input type="checkbox"/>	CROP LAND:	<input type="checkbox"/>	IRRIGATED	<input type="checkbox"/>	DRY LAND
<input type="checkbox"/>	NON-CROP LAND:	<input checked="" type="checkbox"/>	RANGELAND	<input type="checkbox"/>	TIMBER
<input type="checkbox"/>	SUBDIVIDED:	<input type="checkbox"/>	INDUSTRIAL	<input type="checkbox"/>	COMMERCIAL
<input type="checkbox"/>		<input type="checkbox"/>	IMPROVED PASTURE	<input type="checkbox"/>	HAY MEADOW
<input type="checkbox"/>		<input type="checkbox"/>	RECREATIONAL	<input type="checkbox"/>	OTHER (Describe)
<input type="checkbox"/>		<input type="checkbox"/>	RESIDENTIAL		



UELS, LLC  
Corporate Office # 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017

SandRidge Exploration & Production, LLC  
WILLOW VIEW 0780 S32 TRANSFER FACILITY  
ON EXISTING BUFFALO DITCH 2-32H PAD  
SW 1/4 NE 1/4, SECTION 32, T7N, R80W, 6th P.M.  
JACKSON COUNTY, COLORADO

SURVEYED BY	JAMES FRESHWATER, N.W.	10-02-18	SCALE
DRAWN BY	M.D.	11-07-18	1" = 200'
<b>LOCATION DRAWING</b>		<b>FIGURE #4</b>	



**R  
80  
W**

**T7N  
T6N**

**PROPOSED LOCATION:  
WILLOW VIEW 0780 S32  
TRANSFER FACILITY  
ON EXISTING BUFFALO  
DITCH 2-32H PAD**

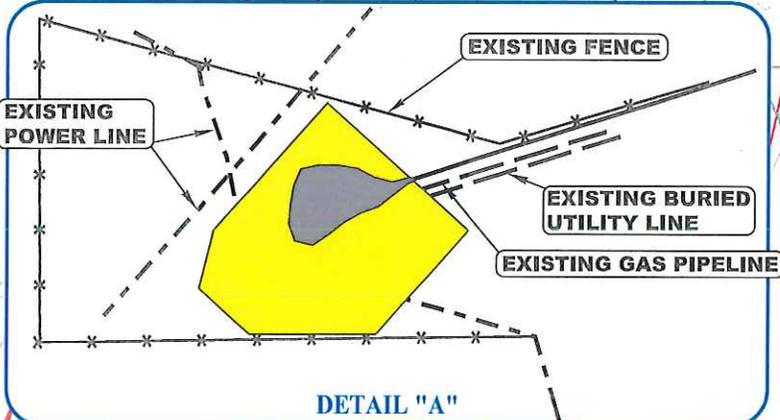
**SEE DETAIL "A"**

**EXISTING BUFFALO  
DITCH #2-32H (TO BE  
PLUGGED & ABANDONED)**

**0.5 MI. +/-  
JACK  
HAWORTH  
0.3 MI. +/-**

**0.3 MI. +/-  
JACK  
HAWORTH  
PROPOSED  
WILLOW VIEW  
0780 S32 CTB**

Anderson Draw



REV: 1 11-14-18 M.D. (PAD NAME CHANGE)

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

**LEGEND:**  
 ——— EXISTING ROAD  
 \* \* \* EXISTING FENCE



**SandRidge Exploration & Production, LLC**

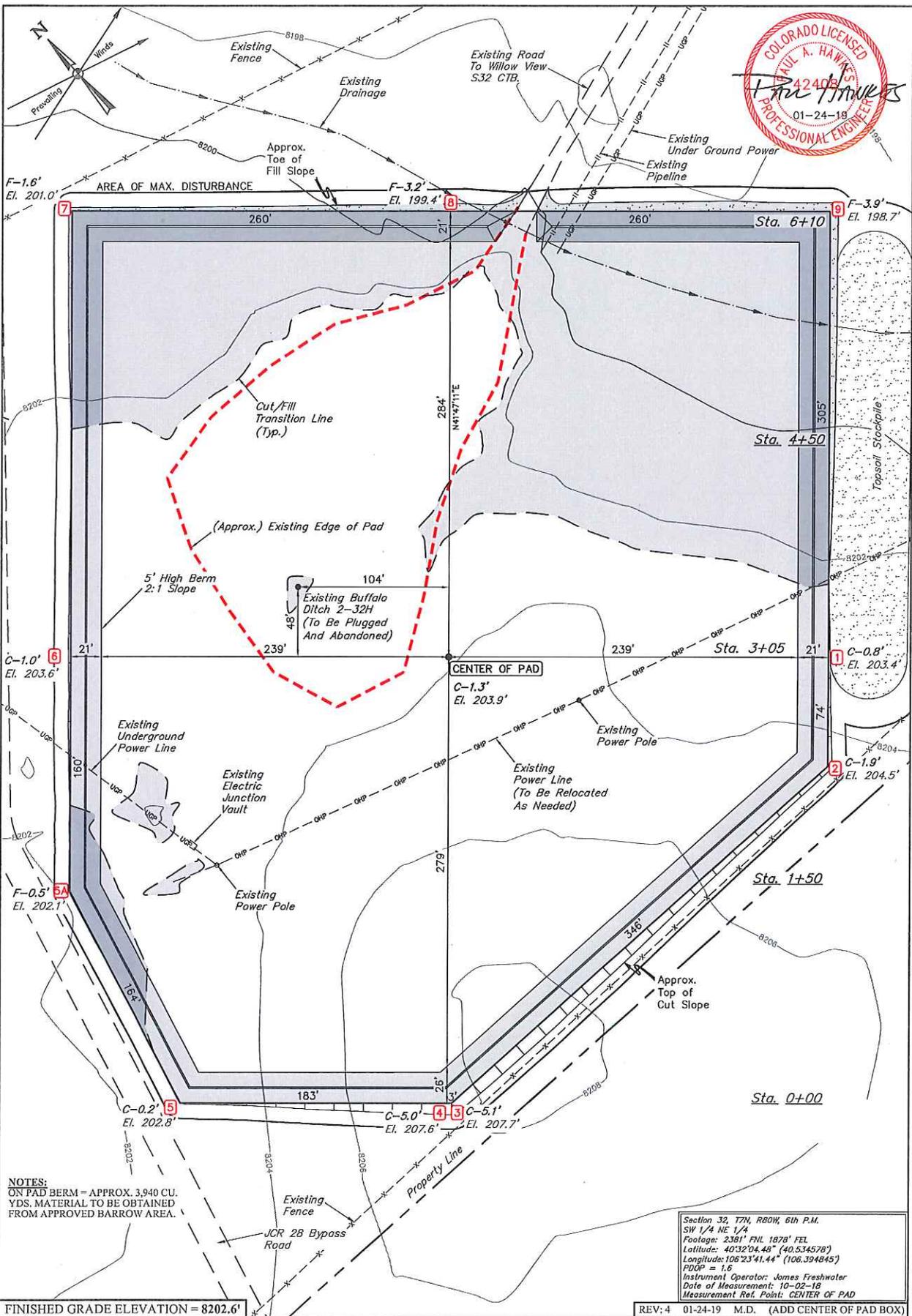
**WILLOW VIEW 0780 S32 TRANSFER FACILITY  
ON EXISTING BUFFALO DITCH 2-32H PAD  
SW 1/4 NE 1/4, SECTION 32 T7N, R80W, 6th P.M.  
JACKSON COUNTY, COLORADO**

SURVEYED BY	JAMES FRESHWATER, N.W.	10-02-18	SCALE
DRAWN BY	J.L.G.	10-10-18	1 : 24,000

**ACCESS ROAD MAP TOPO B**



**UELS, LLC**  
 Corporate Office \* 85 South 200 East  
 Vernal, UT 84078 \* (435) 789-1017



FINISHED GRADE ELEVATION = 8202.6'

NOTES:  
 • Contours shown at 2' intervals.  
 • Cut/Fill slopes 1 1/2:1 (Typ.).

Section 32, T7N, R80W, 6th P.M.  
 SW 1/4 NE 1/4  
 Footage: 2391' FNL 1878' FEL  
 Latitude: 40°32'04.48" (40.534578°)  
 Longitude: 106°23'41.44" (106.394845°)  
 PDOP = 1.6  
 Instrument Operator: James Freshwater  
 Date of Measurement: 10-02-18  
 Measurement Ref. Point: CENTER OF PAD

REV: 4 01-24-19 M.D. (ADD CENTER OF PAD BOX)

**SandRidge Exploration & Production, LLC**

WILLOW VIEW 0780 S32 TRANSFER FACILITY  
 ON EXISTING BUFFALO DITCH 2-32H PAD  
 SW 1/4 NE 1/4, SECTION 32, T7N, R80W, 6th P.M.  
 JACKSON COUNTY, COLORADO

SURVEYED BY	JAMES FRESHWATER, N.W.	10-02-18	SCALE
DRAWN BY	M.D.	09-13-18	1" = 60'

**CONSTRUCTION LAYOUT FIGURE #1**



**UELS, LLC**  
 Corporate Office \* 85 South 200 East  
 Vernal, UT 84078 \* (435) 789-1017



## Information on Hydraulic Fracturing

### What is hydraulic fracturing?

Hydraulic fracturing is the process of creating small cracks, or fractures, in deep, underground geological formations to liberate oil or natural gas and allow it to flow up the well for capture and use in heating our homes, fueling our cars and providing the electricity we all use for our televisions, computers and other devices.

To fracture the formation, fracturing fluids – mostly water and sand, with a small percentage of chemical additives – are injected down the well bore into the formation. The fluid, injected under pressure, causes the rock to fracture along weak areas.

The fluids that create the initial fractures are then mixed with thicker fluids that include sand and gelatin. These thicker fluids lengthen the openings in the rock. When the fractures are complete, and pressure is relieved, the fluids flow back up the well where they are captured and stored for later treatment or disposal.

As the fluids flow back up, sand remains in the fractures and props the rock open, maintaining

an open pathway to the well. This allows the oil and gas to seep from the rock into the pathway, up the well and to the surface for collection. In Colorado, the targeted formations for hydraulic fracturing are often more than 7,000 feet underground, and some 5,000 feet below any drinking water aquifers.

The process of hydraulic fracturing has been used for decades in Colorado, dating to the 1970s. Hydraulic fracturing continues to be refined and improved and is now standard for virtually all oil and gas wells in our state, and across much of the country. Hydraulic fracturing has made it possible to get the oil and gas out of rocks that were not previously considered as likely sources for fossil fuels.

### Common questions and answers about hydraulic fracturing.

**Q: Can hydraulic fracturing open up pathways for oil and gas to reach ground water zones where water wells are producing?**

**A:** The distance between the oil and gas formation and the water formations is substantial. In the case of the Niobrara and the Fox Hills Aquifer in northeast Colorado, for example, the separation is about 5,000 feet – or roughly a mile – of bedrock.

**Q: How do you ensure the fracturing fluid, including the chemical additives, don't escape the oil and gas wellbore and impact nearby water wells?**

**A:** The COGCC requires all wells to be cased with multiple layers of steel and cement to isolate fresh water aquifers from the hydrocarbon zone. The steel casing and surrounding layers of cement protect the drinking water aquifers that the wellbore penetrates. Surface casing is required to extend 50 feet below the base of the deepest freshwater aquifer to seal it off from any possible

migration of fluids associated with oil and gas development. After it is determined that the well is capable of producing oil or natural gas, a production casing is set to provide an added layer of separation between the oil or natural gas stream and freshwater aquifer. A well survey called a cement bond log is performed to ensure the cement is properly sealed around the casing. Additionally, the COGCC requires that prior to hydraulic fracturing, the casing be pressure tested with fluid to the maximum pressure that will ever be applied to the casing. The well's construction design is reviewed by the professional engineering staff at the COGCC. Any flaw in the design will be corrected prior to issuing the required drilling permit.

**Q: What kinds of fluids do operators use to hydraulically fracture wells?**

**A:** Approximately 99.5% of the fracturing fluid volume is water and sand. The remaining portion is made up of a variety of chemicals. There are chemical additives used to reduce friction during pumping and prevent corrosion of the steel, biocide to kill bacteria in the water and surfactant to promote water flowback. The exact formulation may vary depending on the well and the objectives of the specific fracturing treatment. Fracturing chemicals are similar to other industrial chemicals which must be handled properly. For certain chemicals, safe work practices, proper site preparation, and attentive handling are required to ensure that employees, the public, and the environment are protected.

COGCC rules require that operators publicly disclose the ingredients and concentrations of fracturing chemicals for each well within 60 days of completion. That information is required to be posted on the website [www.fractfocus.org](http://www.fractfocus.org), which is searchable by county, operator and well. The website also provides information on chemicals used and their purpose.

**Q:** How are these fluids managed on the surface?

**A:** Large volumes of fluids are maintained on the drill site during the drilling and hydraulic fracturing process. Operators must take great care to prevent spills; operators are charged with protecting environmental resources and spills violate state law. The fluids are blended on site in equipment that adjusts the mix of sand, water and chemicals at different stages of the operation. The blended mix is sent to pumping units to raise the pressure and send the fluid down the well. Like spills, operators must prevent leaks. In addition to complying with state regulations, leaks and spills would create costly delays, providing additional incentive for operators to ensure all fittings and connections are pressure tested with clean water before any operations begin.

After the fracturing is completed, fluids return to the surface as "flowback." These fluids are now considered exploration and production waste and must be treated accordingly in compliance with state regulations. Production fluids, including oil and related substances, also rise to the surface. All of these fluids must be separated and contained in impervious vessels and waste fluids must either be recycled or properly disposed of under regulatory oversight.

**Q:** What can neighbors expect to experience during the fracture stimulation work?

**A:** After the drilling rig is moved off site, water tanks are brought to the site and water-hauling trucks arrive. The day the operation is to begin, the sand haulers, pump truck, blender and the control van arrive. The equipment will all be connected together and then connected to the well head with high pressure hoses. After testing the equipment, the actual fracture stimulation will begin. The operation may take several hours

to several days depending on the number of fracture zones. You will not feel the fracture of the rock because of its very low energy and depth of the formation. The equipment noise is the most noticeable occurrence during the operations.

**The COGCC has rules that are specific to hydraulic fracturing.** For more information on these rules, visit: <http://cogcc.state.co.us>

- [Rule 205](#) Inventory chemicals
- [Rule 205A](#) Chemical disclosure
- [Rule 317](#) Well casing and cementing; Cement bond logs
- [Rule 317B](#) Setbacks and precautions near surface waters and tributaries that are sources of public drinking water
- [Rule 341](#) Monitoring pressures during stimulation
- [Rule 608](#) Special requirements for coal-bed methane wells
- [Rules 903 & 904](#) Pit permitting, lining, monitoring, & secondary containment
- [Rule 906](#) Requires COGCC notify [CDPHE](#) and the landowner of any spill that threatens to impact any water of the state

*Where can I get further information?*

The FracFocus website – [www.fracfocus.org](http://www.fracfocus.org) – contains detailed explanations on how hydraulic fracturing works, how groundwater is protected, what chemicals are used, and how to find a well near you. The COGCC has additional information on its hydraulic fracturing information page at its website: <http://cogcc.state.co.us>

*What is the purpose of baseline water sampling?*

The purpose of baseline water sampling is to collect data before any drilling operations at individual well sites to demonstrate the pre-drilling conditions of a water well. This provides a reference point for future evaluations of any

suspected impacts by the drilling or hydraulic fracturing of oil and gas wells.

*How do I obtain baseline water samples?*

The COGCC provides baseline sampling on a case-by-case basis based on proximity to new or existing drilling activity. Please contact the COGCC at 303-894-2100.

The Colorado Oil & Gas Association (COGA), an industry trade group, has a voluntary baseline ground water quality sampling program <http://www.coga.org/index.php/BaselineWaterSampling>.

Under the COGA program, samples are collected from two existing groundwater features, such as wells or springs, within one-half mile of the surface location of new oil and gas well pads, or new wells on existing pads. These samples require landowner consent and will be collected before drilling begins. A second round of sampling will be collected from each feature within one to three years after drilling is completed. Results of all samples will be provided to landowners within three months of collecting the sample. The laboratory results will also be submitted to the COGCC for inclusion in a water quality database that will be available to the public through the COGCC website.

Water well owners can also either sample their own water wells or contract a qualified individual to collect samples for baseline testing. Most analytical laboratories can provide sampling along with analytical services. A list of laboratories offering these services can be found under Laboratories-Analytical or Laboratories-Testing in the phone directory.

The Colorado Department of Public Health and Environment also offers analytical laboratory services. Call 303-692-3090 for additional information. <http://www.cdphe.state.co.us/lr/water.htm>