02

OS6273.085

NBU #6-W23

PERMIT APPLICATION PACKAGE

Rec'd
2/10/16
NR 6W9-PD

PASSED
Technical REVIEW
2-25-16 CET

SEAL OF OSAGE NATION ®

OSAGE NATION UIC

FIRST NATIONAL BANK BLDG.
100 W. MAIN ST., STE. 304
PAWHUSKA, OK 74056
Tel: 918/287.5333
Fax: 918/287.5581

Osage Nation
Environmental & Natural Resources Department

Underground Injection Control Program
100 W. Main.St. , Ste 304
Pawhuska, OK 74056
Office: 918-287-5333

November 17, 2014

Chaparral Energy
701 Cedar Lake Blvd.
Oklahoma City, OK 73114

Re: Mechanical Integrity Test & Inspection of Injection Well
Inventory No. : OS0148
Well Name/No.: NBU 6W23
Legal Description: SW 1-27N-5E

Dear Sir or Madam:

Enclosed, please find a report of the recently conducted mechanical integrity test for the above-referenced well. This report indicates that the well has passed and has mechanical integrity.

Also enclosed, is a report of the recent inspection of your injection wells, we identified no violations of the Osage Underground Injection Control Program. Upon review of the report by the EPA Enforcement Engineer, if any violations are identified, you will receive written notice of such violation(s).

Please contact me at 918-287-5333 if you have any questions.

Sincerely yours,

Larry Stephens

Larry Stephens
Osage UIC Office

Enclosure

To be completed by UIC Office

Well Name & No.: NBU #6-W23

Permit #: 056273.085
Date Rec'd: 2/10/16

PERMIT APPLICATION CHECKLIST

	Attached	Not Attached	
1.	✓		Osage Form 139, "Application for Operation or Report on Wells.
2.	✓		Osage Form 208 "Completion Report".
3.	✓		Copy of Plat Map showing wells within 1/4 mile radius of proposed well.
4.	✓		Tabulation of data on wells within 1/4 mile radius including well name, company name, date drilled, depth, exact location, status of well & record of pluggings/completions.
5.	✓		Injection well schematic showing total depth and plugback depth, depth from top & bottom of casing(s) & cemented intervals, cement amount, depth & size of casing & tubing, including depth of packer.
6.	✓		Operating data including: type of well; maximum and average injection rate; source and analysis of injected fluids including TDS, chlorides and additives; major geological formation with top bottoms.
7.	✓		Geological data of the injection zones including name(s), total thickness, porosity, lithologic description, permeability, injection depth, reservoir pressure/fluid level. Address the presence or absence of faults.
8.	✓		Public Notice verifications, consisting of a list showing names, addresses, and date that notice of permit application was given or sent to the surface land owner, tenants of land where the injection well will be located, each operator of a producing lease within ½ mile of the well location.
9.	✓		All available logging & testing data of the well attached.

	Attached	Not Attached	
10.	✓		Copy of surety bond filed with the BIA superintendent (25 CFR §266.6).
11.	✓		Certification form signed by the well owner/operator or authorized representative. (Authorization must be attached & in writing.)
12.	YES	NO	Has the applicant declared any part of his submission as confidential? {147.2907}
13.	YES	NO	Is the well currently Authorized by Rule? If yes, Inventory No. 050148.
14.	YES	NO	Was the applicant required by EPA to apply for a permit?
15.	YES	NO	Is the permit applicant the owner/operator. (Circle one or both.)
16.	YES	NO	Has the applicant requested emergency authorization to inject? If yes, attach emergency checklist.
17.	YES	NO	Berms and all facilities associated with saltwater system adequate? CO_2 injector

Pawhuska Technician/Administrative Review — Date

Chris Zingery — 2/11/16

6W-SE Reviewer — Date

o be completed by UIC Office

Owner/Operator: _____ Permit# _____

PERMIT TRACKING PROCEDURE CHECKLIST

Date	Initial	
2/10/16	DR	Application logged in; Number Assigned & Receipt Date Stamped on Application.
		Application reviewed for completeness.
		Surety bond attached.
		Operator notified of incompleteness.
		Application terminated due to no response within 30 days.
		Application determined complete & file started on well.
		Completion letter mailed to operator.
		Transmitted copy to BIA & EPA.
		RBDMS data entered & well schematic prepared.
		Date of 6-W Signature.
		Draft Permit, Statement of Basis, Public Notice & Letter of Intent signed & mailed to operator & BIA.
		Data Entry Accomplished.
		Public Notice submitted to newspaper.
		Public Notice publication verified.
		Comment Period Ends.
		Comments reviewed & 6W decided whether to hold public hearing. ☐YES ☐NO
		Permit Finalized & Response to Comments prepared. (IF REQUIRED)
		Final Permit Approved; Returned for concurrence if different from Draft Permit.
		Final Permit, Cover Letter to Operator; Responsiveness Summary, etc. sent to applicant, Osage UIC & BIA.
		Responsiveness Summary including Final
		Permit decision mailed to appropriate parties.
		Permit effective date:_____
		Complete inventory data sheet & complete data entry.
		Permit appealed to Administrator?☐YES☐NO
		Proof of MIT mailed to Dallas.
		Notice to operator authorizing injection.

Osage Form 139

Converted to CO2 INJ

United States
Department of the Interior
Osage Indian Agency

Pawhuska, Oklahoma

IND-256676 Date April 8, 2015

Application For the Operation or Report on Wells

North Burbank Unit Tract 6

Chaparral Energy Real Estate L.L.C. N/A N/A

(Commencement money paid to whom) (Date) (Amount)

Well No. W23 is located 890 Ft. from S line and 730 Ft. from E line

36.8427751 SW/4 Sec. 1 27N 05E Osage County, Oklahoma

-96.7184993 (¼ Sec. & Sec. No.) (Twp.) (Range)

The elevation of the ground level above sea level is 1104.3 Ft.

INVENTORY NO.

Use This Side to Request Authority for Work

(Three Copies Required)

Notice of Intention To:

- Drill ☐
- Plug ☐
- Deepen or plug back ☐
- Convert ☒
- Pull or alter casing ☐
- Formation Treatment ☐
- ☐

Details of Work

Bbls oil Bbls water in 24 hrs

Convert well to CO2 Injection

I understand that this plan of work must receive approval in writing of the Osage Indian Agency before operations may be commenced.

Lessee

Signature Allison Holman

Title Engineering Tech

Address 701 Cedar Lake Blvd. Oklahoma City, Oklahoma 73114

Use This Side To Report Completed Work

(One Copy Required)

Character of Well (oil, gas or dry)

Subsequent Report of

- Conversion ☐
- Formation Treatment ☐
- Altering casing ☐
- Plugging Back ☐
- Plugging ☐

Details of Work & Results Obtained

Work commenced

Work completed

(Continue on reverse if necessary)

This block for plugging information only

Casing Record

	Inches	Feet	Pull	Left

Lessee Chaparral Energy, L.L.C.

By

Subscribed and sworn to before me this day of 20

US ENVIRONMENTAL PROTECTION AGENCY
OSAGE UIC PROGRAM
100 W. MAIN ST, SUITE 304
PAWHUSKA, OK 74056

US ENVIRONMENTAL PROTECTION AGENCY
REGION VI - (6W-SE)
1445 ROSS AVE
DALLAS, TEXAS 75202-2733

NOTICE OF INSPECTION

DATE 11/5/14 HOUR 11:00 am

Firm Name: Chaparral Energy

Firm Address:

Inspector Name & Title: Larry Stephens - geol.

Inspector Signature: [illegible]

Notice of Inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300 f et seq.)

Reason for Inspection: Post Workover MIT

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to and applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable permit or rule.

NBU 6W23
SW 1-27N-5E
OS # 0148

Conn - NO
INJ - NO
OM Ann (OU)

11:10 @ 240#
11:25 @ 240#
11:40 @ 240#

Packer set @ 2888'
2 7/8" Fiberglass Lined tbg
3 1/2" Casing

Pull old tbg & Packer, Lay down
TIH & set Packer @ 2888; TOH & Pickup New string tbg & ON/OFF tool; TIH & hatch on to Packer.

240 - 100 = 1,200 ml
100 - 20 = 950 ml
20 - 0 = 200 ml
Total = 2,350 ml

Hold Pressure OK

Section 1445(b) of the SDWA (42 U.S.C. §300 j-4 (b)) is quoted on the reverse of this form

EPA Form
Receipt of this Notice of Inspection is hereby acknowledged.

R. Martin

Title:

Date:

Bureau of Indian Affairs, Osage Agency
Permit Conditions for Workover Operations
ATTACHMENT A - Osage Form No. 139

Date Prepared:	8/6/2015	**Type of Action:**	Convert		
Lessee:	Chaparral Energy, LLC	**Permit Number:**	15G06427066		
Well Number:	W23	**Lease Name:**	NBU 6		
Legal Description:	SW	1	27	5	
	Quarter	**Section**	**Township(N)**	**Range(E)**	

2. Avoid or minimize soil and vegetation disturbance. Avoid removal of or damage to trees, shrubs, and groundcover to the extent possible. Avoid or minimize alteration of the natural topography, and limit activities on steep slopes.

3. Erosion control measures are required for the duration of all implementation phases of the proposed project. Erosion control measures must effectively minimize the movement of soil, debris or contaminants from the project site to adjacent lands and waterways.

4. All vehicles and equipment must utilize and stay confined to existing roads described in the approved EA. These roads must be maintained and upgraded as needed according to BIA direction and agreements between the operator and surface owners.

5. Tank batteries must have a Spill Prevention and Control and Countermeasure Plan (SPCC) in compliance with EPA Regulations under 40 CFR Part 112. A fluid impermeable secondary containment dike/berm must be constructed around any tank battery and facilities according to 40 CFR 112.7. The dike/berm and entire containment area must be graveled. No water collected within the secondary containment shall be discharged. In accordance with the SPCC plan and the BIA regulations, the Lessee will immediately notify the BIA of all spill incidents.

6. No venting or flaring of gas is allowed unless prior written approval of the BIA Osage Agency Superintendent has been obtained.

7. Store and label chemicals properly (including secondary containment). Do not store equipment or chemicals onsite if they are not being used on site. Do not leave open containers of chemicals or wastes on site.

8. Keep sites clean and free of any litter, trash, old equipment, contaminated soil or unused containers. Promptly dispose of any wastes at appropriate recycling facility, approved landfill or other approved location. Remove any unused equipment not necessary to the operation of the lease after drilling activities have been completed.

9. All production equipment, facilities and tanks including well-head and above-ground piping/equipment shall be properly enclosed to exclude livestock if present.

10. All pits (including tank batteries contained within a dike/berm) must be enclosed with a fence of at least four strands of barbed wire, or approved substitute. All earthen pits to be used for storage of salt water or other deleterious substances must be lined with an impermeable layer to prevent contamination of soils and groundwater. Temporary pits must be filled and leveled immediately upon completion of the activity.

11. To the extent possible, minimize disturbance to land owners, wildlife, and natural resources due to noise, excessive traffic, dust or other impacts associated with operations.

12. Do not conduct activities within stream channels or wetlands without proper authorization, and avoid any discharge of soil or contaminants or removal of stream water that could result in a violation of applicable federally-approved water quality standards.

13. Restore disturbed areas by re-establishing vegetation using seed, sod or other approved method, and add clean soil to disturbed areas if necessary. Restore with native species unless otherwise directed by the surface owner in writing and approved by the BIA. No noxious or invasive species may be used in revegetation and reclamation activities.

Bureau of Indian Affairs, Osage Agency
Permit Conditions for Workover Operations
ATTACHMENT A - Osage Form No. 139

Date Prepared:	8/6/2015	**Type of Action:**	Convert		
Lessee:	Chaparral Energy, LLC	**Permit Number:**	15G06427066		
Well Number:	W23	**Lease Name:**	NBU 6		
Legal Description:	SW	1	27	5	
	Quarter	**Section**	**Township(N)**	**Range(E)**	

14. Upon conclusion of workover operations all areas of the surface disturbance (i.e. well pad, access road, pipeline, etc.) shall be promptly reclaimed as described in the permit and approved Programmatic EA for workover operations. After a well is no longer in production, reclamation of the site will begin promptly. Reclamation shall be completed not later than ninety (90) days from rig removal, well abandonment, conclusion of workover operations or final plugging of a well, unless otherwise approved by the BIA.

15. The lessee shall conduct activities in a manner that avoids any potential incidental take or harm to federally-listed threatened and endangered species, or in a manner that complies with any permit or authorization issued by the U.S. Fish and Wildlife Service (USFWS).

    Lessee must follow guidance in the USFWS "Oklahoma Ecological Services Field Office Migratory Bird and Eagle Impact Avoidance Measures for Actions Associated with Oil and Gas Projects (April 2014), found at the following website:http://www.fws.gov/southwest/es/oklahoma/documents/abb/abb_icp/migbird%20and%20eagle%20avoidance%20measures%20april2014.pdf

16. Lessee must follow USFWS established protocol regarding areas where the American burying beetle (ABB) is known or suspected to exist. See http://www.fws.gov/ southwest/es/oklahoma/ABBICP.htm. If proposed operations require the construction of a drilling pit or other excavation activity by heavy equipment, then the lessee must ensure that suitable habitat for the ABB does not exist. If proposed operations will impact suitable habitat for the ABB, it will be the responsibility of the lessee to obtain authorization from the USFWS to proceed with that portion of the project.

17. Approval must be obtained from the Environmental Protection Agency prior to the commencement of workover operations related to underground injection, construction or conversion of saltwater injection/disposal wells.

Site-Specific BMPs and Special Instructions

The following BMPs shall be followed by lessees, their agents, operators, and contractors:

1. None.

BIA Osage Agency Form (2015)

Bureau of Indian Affairs
Workover Review

Date Prepared:	8/6/2015	**Type of Action:**	Convert		
Lessee:	Chaparral Energy, LLC	**Permit Number:**	15G06427066		
Well Number:	W23	**Lease Name:**	NBU 6		
Legal Description:	SW	1	27	5	
	Quarter	**Section**	**Township(N)**	**Range(E)**	

I have reviewed attached Osage Form No. 139, notifying the Agency of the intention to commence work on the well identified above. The workover operation detailed in the attached Osage Form No. 139 is consistent with applicable regulations and is within the scope of the Decision Record (DR) dated April 28, 2015 approving workovers, which adopted the Proposed Action alternative identified in the Programmatic Environmental Assessment (PEA) for Approving Workover Operations, Bureau of Indian Affairs, Osage Agency, Finding of No Significant Impact (FONSI) Determination made on April 28, 2015.

The DR approved all workover operations falling within the specified parameters of the above referenced PEA/FONSI subject to the Lessee/Operator submitting Osage Form 139 to BIA and the operator's compliance with the conditions listed in the DR, PEA and in Attachment A to Osage Form No. 139.

Receipt of the attached Osage Form 139 provides the requisite notice and operator's acceptance of the conditions listed in the DR and PEA/FONSI and Attachment A. I therefore acknowledge the Superintendent's approval provided in the Decision Record dated April 28, 2015 and that the workover operation described herein requires no separate approval before proceeding.

Acknowledged by: Byron Edwards

Environmental Protection Specialist
Osage Agency
Eastern Oklahoma Region
Bureau of Indian Affairs
U.S. Department of the Interior

Bureau of Indian Affairs, Osage Agency
Permit Conditions for Workover Operations
ATTACHMENT A - Osage Form No. 139

Date Prepared:	8/6/2015	**Type of Action:**	Convert
Lessee:	Chaparral Energy, LLC	**Permit Number:**	15G06427066
Well Number:	W23	**Lease Name:**	NBU 6

Legal Description:	SW	1	27	5
	Quarter	**Section**	**Township(N)**	**Range(E)**

The following forms must be kept at the project site at all times during the workover operation(s): (1) the Osage Agency Form No. 139, (2) Attachment A for Osage Form No. 139 which identifies all of the conditions of approval of workover operations in Osage County (listed below), and (3) the Workover Review form which will be provided to the Lessee/Operator upon confirmation of approval by the Agency.

General Requirements

All lessees must comply with the requirements of 25 CFR 226, including but not limited to:

- § 226.22 Prohibition of Pollution.
- § 226.19 Use of Surface Lands – Lessee must conduct operations in a workmanlike manner, commit no waste and not create any unavoidable nuisance on the premises under his/her control.

Workover operations must be contained to the historic well pad in order to minimize impacts to the affected environment. This must be documented through the submission to the Osage Agency of photographs taken before the proposed activities commence and after activities have ceased.

For each workover operation a minimum of seven (7) dated photographs must be submitted as supporting documentation with the Form 139 in order to depict the existing condition of the well pad and existing facilities as described below.

- 1 photo of the well sign
- 1 photo of the well head (well bore/pumping unit location
- 1 photo of the lease road, showing ingress and egress to the proposed workover location
- 4 photos taken in the following manner: stand at the center of the well pad and take 1 photo facing each direction (North, East, South and West)

All lessees must comply with, and obtain any necessary permits or authorizations required under the federal Clean Water Act, Clean Air Act, Safe Drinking Water Act, Endangered Species Act and other applicable federal laws.

In addition, the following standard BIA Osage Agency Best Management Practices (BMPs), known as "Attachment A", shall apply, unless the Superintendent has given prior written approval of either 1) an exemption to a specific standard BIA Osage Agency BMP, and 2) an equivalent set of BMPs developed by the Lessee and incorporated as conditions of approval for the workover operation.

Standard BMPs

The following BMPs shall be followed by lessees, their agents, operators, and contractors:

1. Avoid impacts to National Register-eligible or unevaluated cultural resources on well sites and access roads. If cultural resources are discovered during construction or operation, stop work immediately, secure the affected site, and notify the BIA and Tribal Historic Preservation Officer. In the event of a discovery, work in that area shall halt and not resume until written authorization to proceed has been received from the BIA. All surface disturbances must be kept within the confines of the historic well pad described in the permit application package. Expansion or relocation of the well pads, access roads, or other implementation of additional activities outside of the permitted area is prohibited unless an appropriate cultural resources survey has been submitted and determined adequate, approved by the BIA Osage Agency and all appropriate permits have been obtained.

Osage Form No. 208

N

W E

S

UNITED STATES

DEPARTMENT OF THE INTERIOR

INDIAN FIELD SERVICE

OSAGE AGENCY

FINAL REPORT OF COMPLETED OR DEEPENED WELLS

FOR LANDS COVERED BY DEPARTMENTAL LEASES

14

8-6-64

Specify Oil, Gas or Dry: Water Input

This Report must be typewritten and filed within ten days after well is treated or producing natural.

Company Operating: Phillips Petroleum Company Address: Bartlesville, Oklahoma

Lessee: PPCo. - North Burbank Unit Lessor: OSAGE TRIBE

Well No. NBU 6-W23 SW/4 ¼ Sec. 1 T. 27N R. 5E K.B. 1137.76'

Well located 890 Ft. From {XX S} Line and 730 Ft. From {E XW} Line Elevation, D.F. 1136.46'

All meas f/RKB. GL. 1130.26'

Well drilled by: Phillips Petroleum Co. Superintendent: R. W. O'Neill

Date commenced drilling: 5-18-64, 19.. Finished: 6-21-64, 19..

Date commenced deepening: ..., 19.. Finished: ..., 19..

Casing Used in Drilling				Casing Left in Hole				Casing Perforations		
Length	Size	Wt. per ft.	Thread	Length	Landed at	Cement	Shots	Interval		
111 Ft.	8-5/8 Ins.	32 Lbs.	8V Per in.	R-1 Ft.	120 Ft.	95 Sks.		Holes, From	To	
2944 Ft.	4-1/2 Ins.	9.5 Lbs.	8R Per in.	R-3 Ft.	2954 Ft.	75 Sks.	w/30% Diacel D & 2% CC	Holes, From	To	
Ft.	Ins.	Lbs.	Per in.	Ft.	Ft.	Sks.		Holes, From	To	
Ft.	Ins.	Lbs.	Per in.	Ft.	Ft.	Sks.		Holes, From	To	
Ft.	Ins.	Lbs.	Per in.	Ft.	Ft.	Sks.		Holes, From	To	
Ft.	Ins.	Lbs.	Per in.	Ft.	Ft.	Sks.		Holes, From	To	

Amount of cement used. Verified by invoice.

What was done to protect sands when outside casing was pulled? Not pulled

Company: Halliburton

Inspector: Dalbf

Date: 5-5-64

Formation Treatment (Hydrafrac, Sandfrac, etc.)

Gal. Oil Lbs. Sd. 125 Gal. Acid, From 2954' To 3001'

Gal. Oil Lbs. Sd. Gal. Acid, From To

Gal. Oil Lbs. Sd. Gal. Acid, From To

Shot Qts., From To

Is water completely shut off? Yes Amount water with oil per cent. Is oil cut Gravity ° Baume

Oil Initial (Natural) Bbls. Hrs. Choke

Oil Initial (After Treatment)* Bbls. Hrs. Choke

*After Total Load Has Been Recovered

Tubing

Gas—Initial open flow sand from ft. to ft. Cu. ft. rock pressure lbs. per sq. in.

Initial open flow sand from ft. to ft. Cu. ft. rock pressure lbs. per sq. in.

Location fee paid: Fee Land Date: - Amount, $: -

(Sign here) R. W. O'Neill Your position with the lessee: Area Supt.

WATER INPUT

TD 3001

SW/4 ¼ Sec. 1 T. 27N R. 5E

Well Number NBU 6-W23

FORMATION RECORD

FROM	TO	FEET	Note each change in formation, *i. e.*, sand, lime, shale, sandy shale, etc. Note character of each formation, *i. e.*, color, hard, soft, caving, etc. Underreamed? Note contents of each formation, *i. e.*, oil, gas, water, and kind of water—salty, etc.
Surface	118	118	Lime & shale
118	772	654	Shale & lime strks
772	1633	861	Lime & shale
1633	1843	210	Shale & lime strks
1843	2153	310	Sand & shale
2153	2479	326	Shale & lime
2479	2632	153	Shale & lime strks
2632	2898	266	Shale & lime
2898	3001	103	Sand & shale
	3001'		Total Depth
			Top Burbank Sand 2942'
			Bottom Burbank Sand 2998'