



United States Environmental Protection Agency
Underground Injection Control
Permit Application for a Class II Well
(Collected under the authority of the Safe Drinking Water Act. Sections 1421, 1422, and 40 CFR Part 144)

For Official Use Only	
Date Received	<input type="text"/>
Permit Number	<input type="text"/>

Read Attached Instructions Before Starting

I. Owner Name, Address, Phone Number and/or Email	II. Operator Name, Address, Phone Number and/or Email
EOG Resources, Inc. PO Box 4362 Houston, TX 77210	EOG Resources, Inc. 600 17th Street, Suite 1000N Denver, CO 80202

III. Commercial Facility	IV. Ownership	V. Permit Action Requested	VI. SIC Code(s)	VII. Indian Country
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Private <input type="checkbox"/> Federal <input type="checkbox"/> State/Tribal/Municipal	<input checked="" type="checkbox"/> New Permit <input type="checkbox"/> Permit Renewal <input type="checkbox"/> Modification <input type="checkbox"/> Add Well to Area Permit <input type="checkbox"/> Other <input type="text"/>	1382 1389 1311	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

VIII. Type of Permit (For multiple wells, use additional page(s) to provide the information requested for each additional well)

<input checked="" type="checkbox"/> A. Individual <input type="checkbox"/> B. Area	Number of Wells 1	Well Field and/or Project Names Clarks Creek/ Clarks Creek 110-0719H
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IX. Class and Type of Well (see reverse)

A. Class	B. Type (enter code(s))	C. If type code is "X," explain.
II	R	

X. Well Status	XI. Well Information
<input type="checkbox"/> A. Operating <input checked="" type="checkbox"/> B. Conversion <input type="checkbox"/> C. Proposed Date Injection Started <input type="text"/> Date Well Constructed <input type="text"/>	API Number 33-053-07662 Permit (or EPA ID) Number <input type="text"/> Full Well Name Clarks Creek 110-0719H

XII. Location of Well or, for Multiple Wells, Approximate Center of Field or Project

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location SW <input type="text"/> 1/4 of SE <input type="text"/> 1/4 of Section <input type="text"/> 7 Township <input type="text"/> 151 Range <input type="text"/> 94 300 <input type="text"/> ft. from (N/S) S <input type="text"/> Line of quarter section 1736 <input type="text"/> ft. from (E/W) E <input type="text"/> Line of quarter section.	Latitude 47.906250 Longitude 102.757408
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XIII. Attachments

In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.

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)

Name and Official Title (Please Type or Print) Cally Wescoat Regulatory Administrator	Signature <i>Cally Wescoat</i>	Date Signed 11-2-2021
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EPA Permit

Well Name: Clarks Creek 110-0719H

Attachment A: Maps and Area of Review

- I. Well location:
 - a. Clarks Creek Township: T151N-R94W, Section 7
 - i. Proposing to convert Clarks Creek 110-0719H.
- II. Area of Review Size Determination – ¼-mile Area of Review
- III. Maps
 - a. Field View
 - b. Well Plat
 - c. Topographic – 1-mile extended view
 - d. Area of Review – ¼-mile
- IV. Area of Review Wells and Corrective Action
 - a. Tabulation of AOR wells
 - b. Wellbore diagrams – separate attachment
 - c. CBL & Completion reports – provided as separate attachments
- V. Landowner Information
 - a. Map of Area of Review Ownership
 - b. List of landowners and address within ¼-mile
 - c. Evidence of Mailers – provided as a separate attachment
 - d. Tribal Energy Committee Concurrence
 - e. Notice to other operator withing AOR ¼-mile

Attachment B

- I. Geological Data
 - a. Wellbore diagram with formation, USDW's, confining and injection zones
- II. Formation Testing Plan
 - a. Test 1
 - b. Test 2

Attachment C: Well Construction or Conversion Procedure

Attachment D: Injection Operation and Monitoring Program

1. Flow Diagram
2. Contingency response to well failure
3. Drawing of Facility
4. Location of monitoring ports
5. Description of Sampling and monitoring devices to monitor injected fluid, injection pressure, annular pressure, flowrate and cumulative volume
6. Operating Data
 - a. Max and average
 - b. Sources of injection fluids
 - c. Proposed annular fluid

- d. Gas Analysis – injection fluid

Attachment E: Plugging and Abandonment Plan

- a. Form 7520-19
- b. Diagram w/plugs, depth, cement grade,
- c. cost estimate from an independent firm

Attachment F: Financial Assurance

Attachment G: Not Commercial

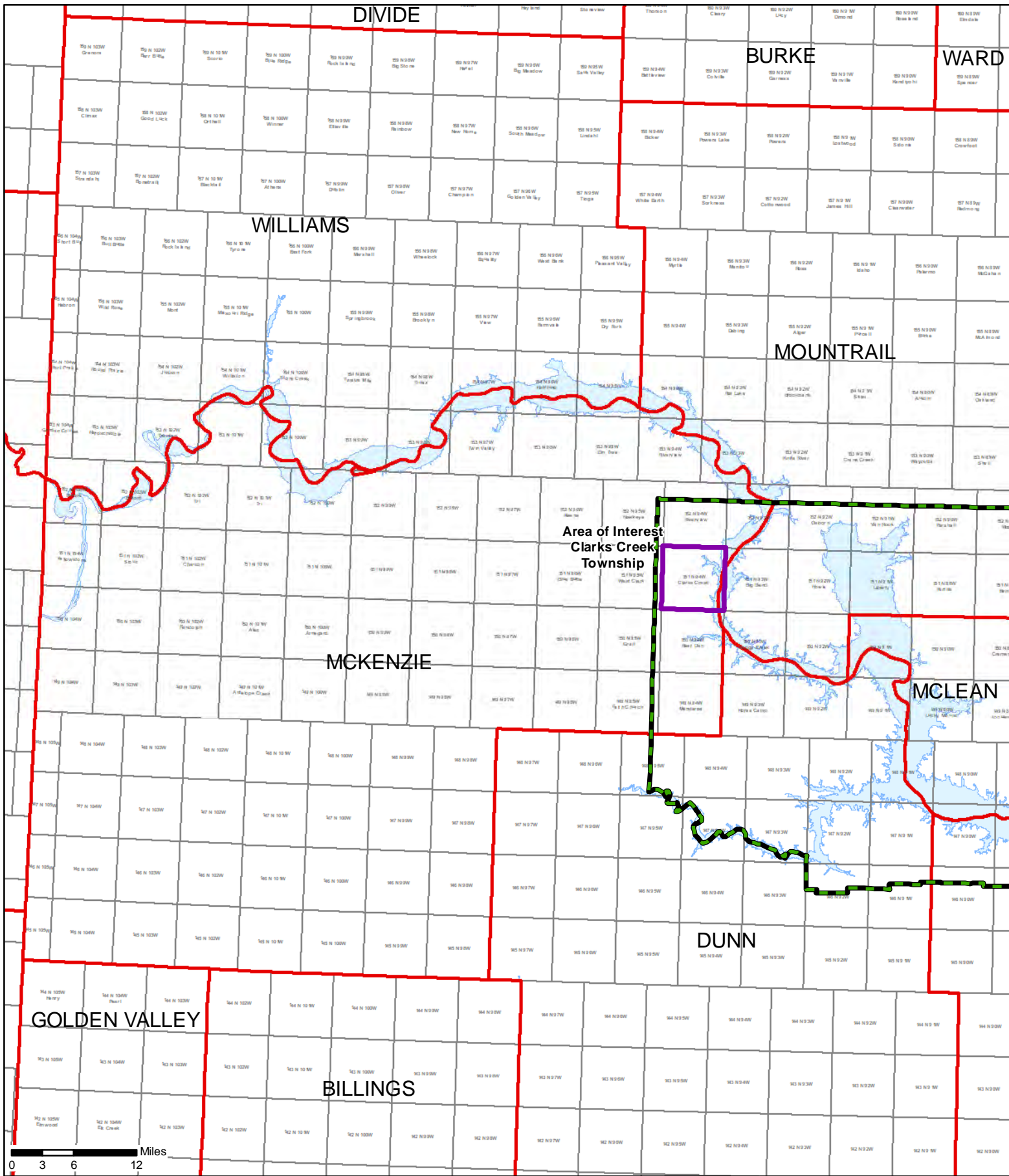
Attachment H: Aquifer Exemption

- a. Produced water samples from wells within ¼-mile AOR

Attachment I: Existing EPA Permits – Included in Financial Assurance

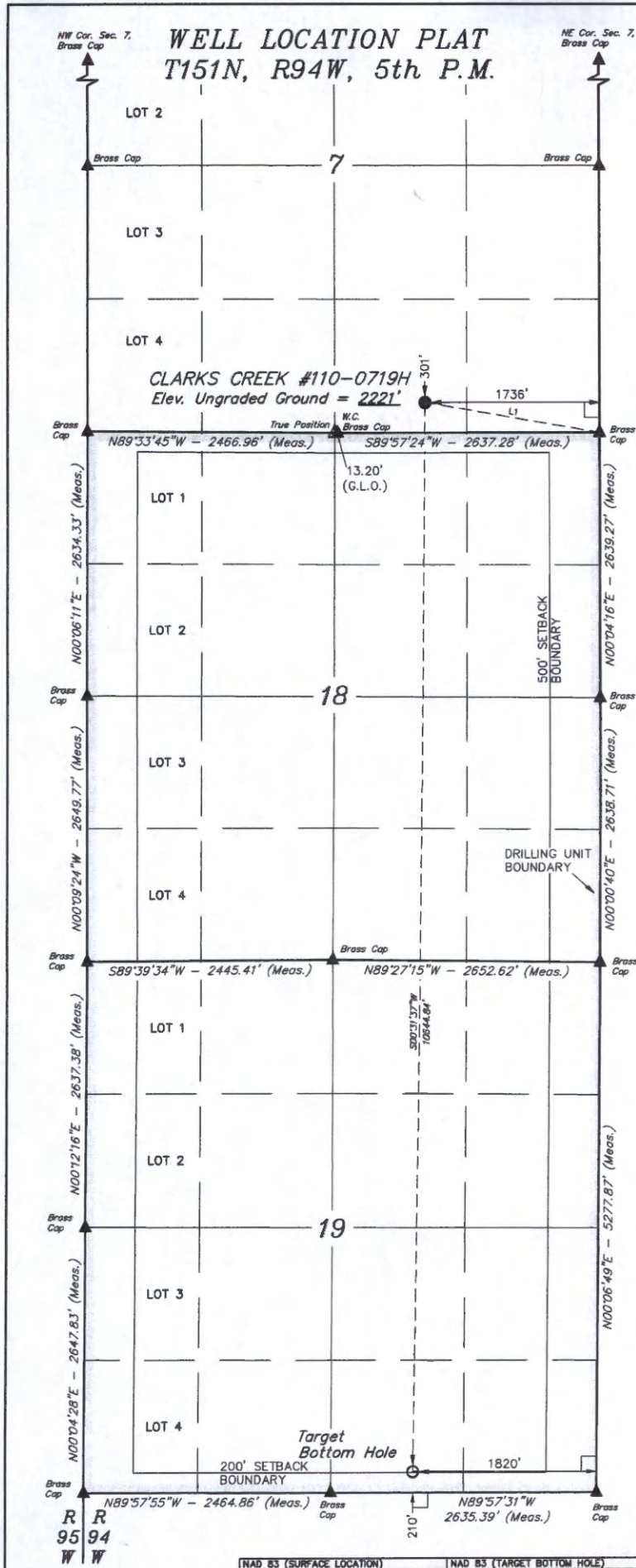
Attachment A: Maps and Area of Review

- VI. Well location:
 - a. Clarks Creek Township: T151N-R94W, Section 7
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- VIII. Maps
 - b. Field View
 - c. Well Plat
 - d. Topographic – 1-mile extended view
 - e. Area of Review – ¼-mile
- IX. Area of Review Wells and Corrective Action
 - f. Tabulation of AOR wells
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 - j. List of landowners and address within ¼-mile
 - k. Evidence of Mailers – provided as a separate attachment
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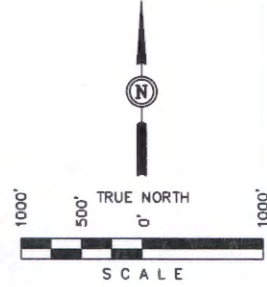


- Area of Interest
- Fort Berthold Reservation
- County
- Township
- Missouri River

Well location, CLARKS CREEK #110-0719H, located as shown in the SW 1/4 SE 1/4 of Section 7, T151N, R94W, 5th P.M., McKenzie County, North Dakota.



VERTICAL CONTROL DATUM: NAVD88



LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N80°11'58"W	1761.68'

LEGEND:

- └ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.
- △ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)

CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Troy Jensen
 REGISTERED LAND SURVEYOR
 REGISTRATION NO. 4654
 STATE OF NORTH DAKOTA

REV: 4 06-27-16 J.M.C. (BHL CHANGE)

UNTAH ENGINEERING & LAND SURVEYING
 85 SOUTH 200 EAST - VERNAL, UTAH 84078
 (435) 789-1017

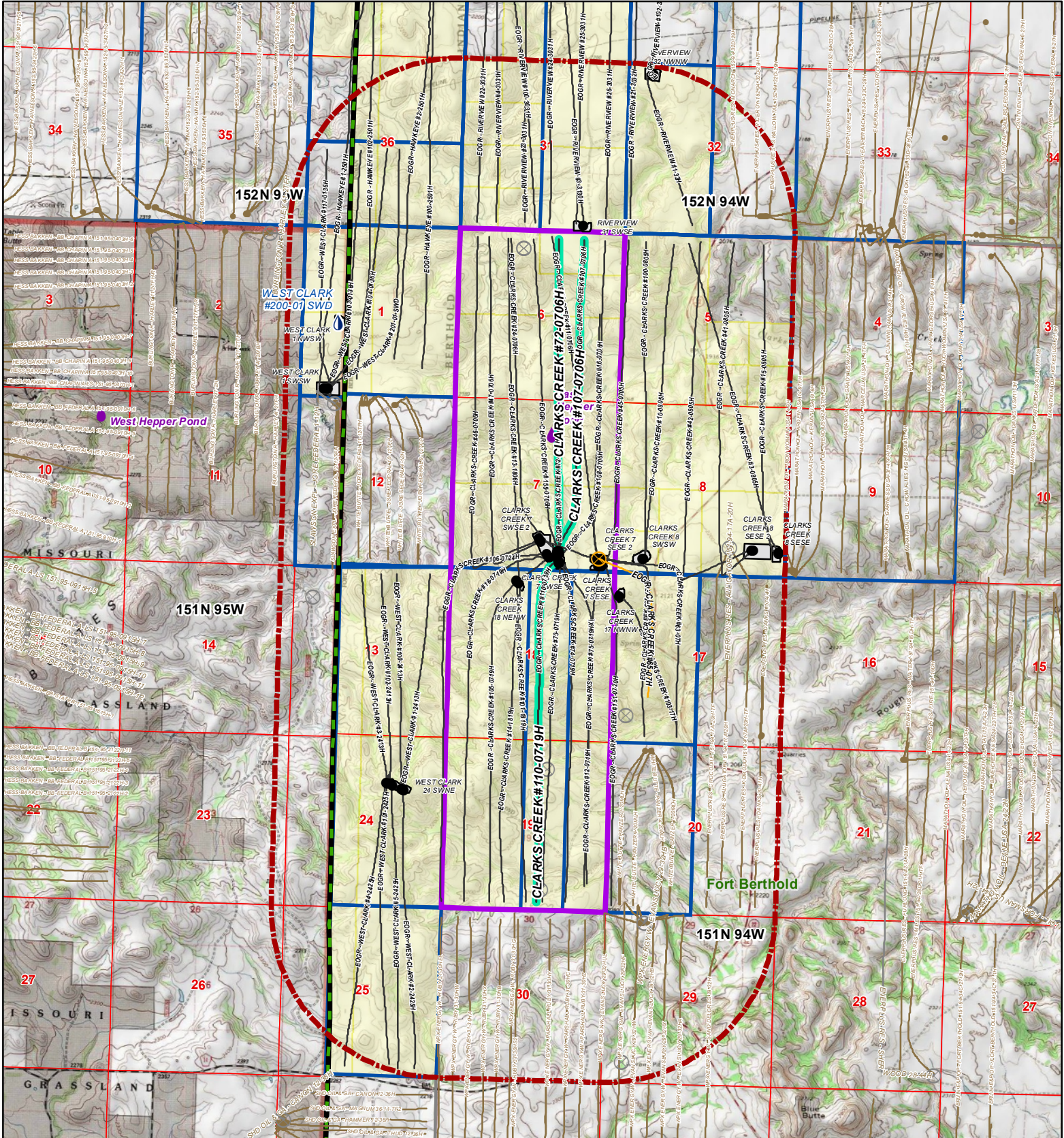
NAD 83 (SURFACE LOCATION)	NAD 83 (TARGET BOTTOM HOLE)
LATITUDE = 47°54'22.50" (47.906250)	LATITUDE = 47°52'37.45" (47.877072)
LONGITUDE = 102°45'26.68" (102.757408)	LONGITUDE = 102°45'27.70" (102.757894)
NAD 27 (SURFACE LOCATION)	NAD 27 (TARGET BOTTOM HOLE)
LATITUDE = 47°54'22.44" (47.906233)	LATITUDE = 47°52'37.40" (47.877056)
LONGITUDE = 102°45'24.98" (102.756939)	LONGITUDE = 102°45'26.01" (102.757225)
STATE PLANE NAD 83 NO NORTH	STATE PLANE NAD 83 NO NORTH
N: 338683.16 E: 1414923.64	N: 328047.00 E: 1414540.71
STATE PLANE NAD 27 NO NORTH	STATE PLANE NAD 27 NO NORTH
N: 338672.50 E: 1446520.55	N: 328038.65 E: 1446137.88

[derived from: N.G.S. O.P.U.S. Solution REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000)]

SCALE	DATE SURVEYED:	DATE DRAWN:
1" = 1000'	08-30-12	07-02-13
PARTY	REFERENCES	
S.A. S.S.	G.L.O. PLAT	
WEATHER	FILE	
HOT	EOG RESOURCES, INC.	

Clarks Creek EOR - 1-mile Unit Buffer

Township 151 North, Range 94W, 5th PM
Sections 6, 7, 18 & 19



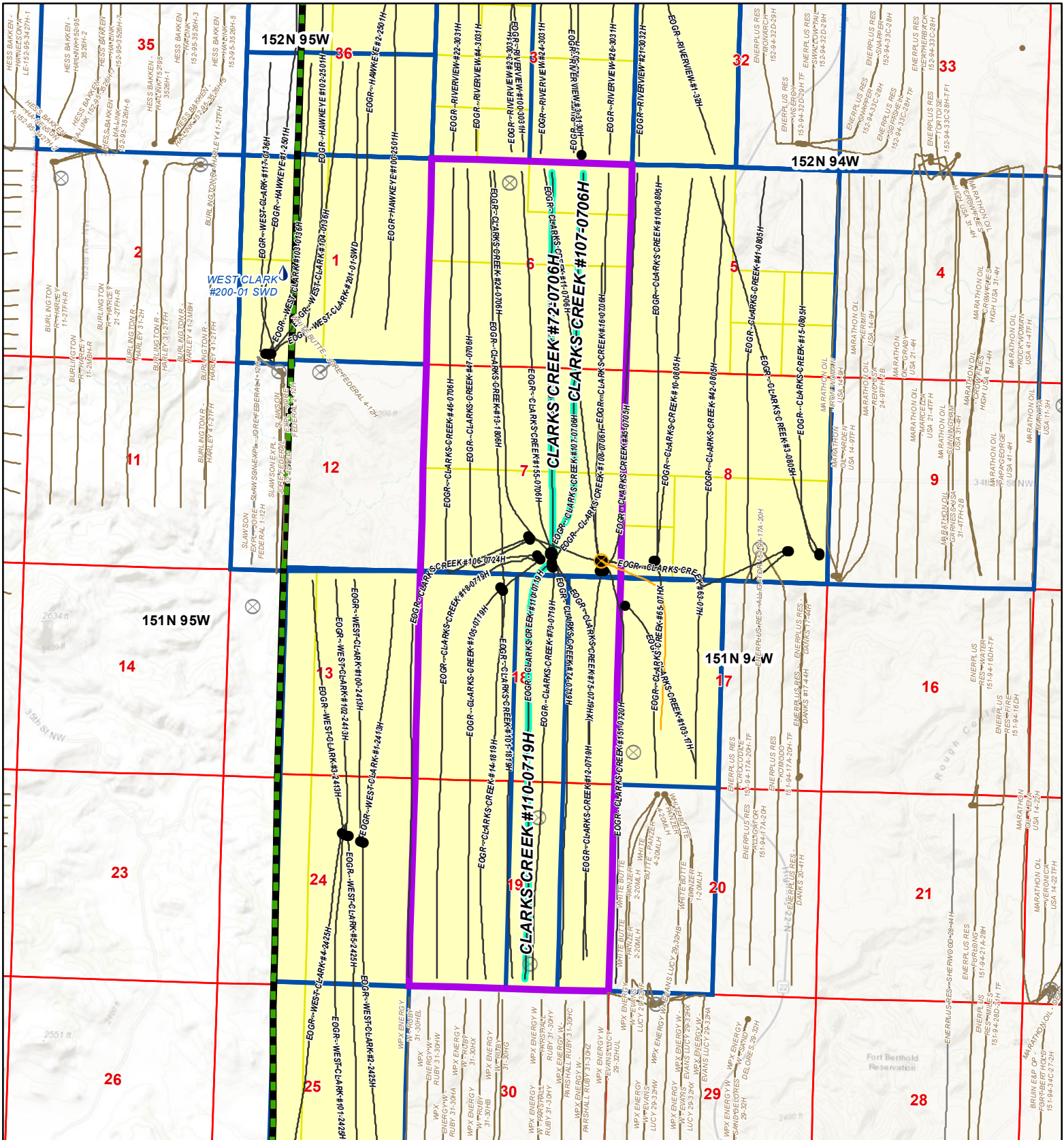
- Fort Berthold Indian Reservation
- EOG 2560 Spacing Unit
- EOG Spacing Unit
- EOG Lease
- 1 Mile Buffer from Unit
- Existing Well Pad
- EOG Wells of Interest
- EOG, Plugged, Abandoned & Dry Holes
- EOG, Plugged, Abandoned & Dry Holes
- EOG Saltwater Disposal Well
- EOG Water Source Well
- Water Site
- EOG Producing SHL
- EOG Producing Wells
- OBN/NonEOG, Plugged, Abandoned & Dry Holes
- OBN/NonEOG, Plugged, Abandoned & Dry Holes
- OBN/NonEOG Producing

CLARKS CREEK 72-0706H
CLARKS CREEK 107-0706H
CLARKS CREEK 110-0719H
 September 29, 2021



Clarks Creek EOR - Review

Township 151 North, Range 94W, 5th PM
Sections 6, 7, 18 & 19



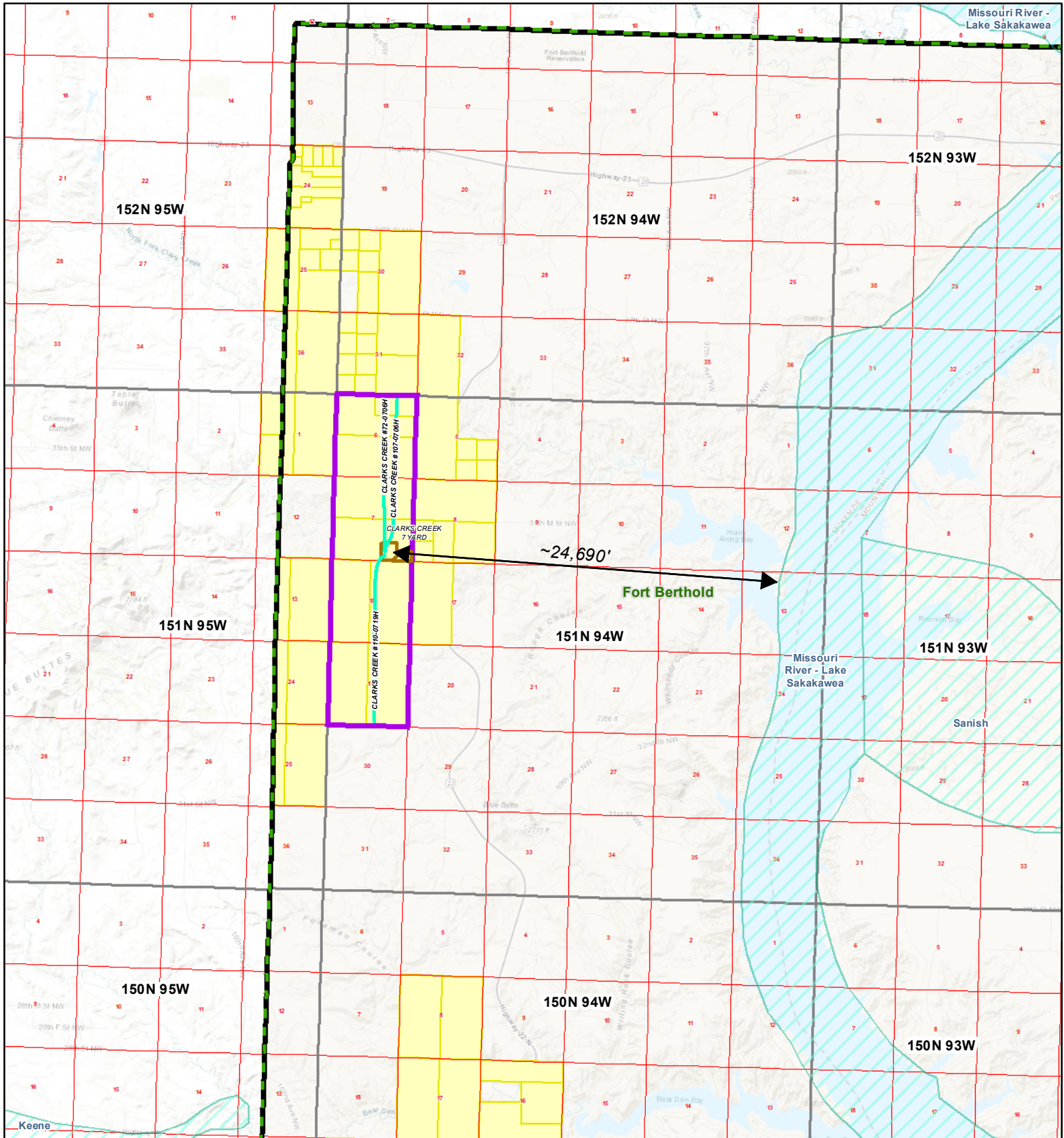
- Fort Berthold Indian Reservation
- EOG 2560 Spacing Unit
- EOG Spacing Unit
- EOG Lease (EOG W% summarized by Section)
- EOG, Plugged, Abandoned & Dry Holes
- OBO/NonEOG, Plugged, Abandoned & Dry Holes
- EOG Saltwater Disposal Well
- EOG Water Source Well
- EOG Wells of Interest
- EOG Producing SHL
- EOG Producing Wells
- OBO/NonEOG, Plugged, Abandoned & Dry Holes
- OBO/NonEOG, Plugged, Abandoned & Dry Holes
- OBO/NonEOG Producing

CLARKS CREEK 72-0706H
CLARKS CREEK 107-0706H
CLARKS CREEK 110-0719H
June 11, 2021



Clarks Creek EOR - Surficial Water Aquifers

Township 151 North, Range 94W, 5th PM
Sections 6, 7, 18 & 19



- Aquifer Surficial - ND GIS HUB
- Fort Berthold Indian Reservation
- EOG 2560 Spacing Unit
- EOG Lease
- Existing Well Pad
- Existing Facility Pad
- Planned Pad/Expansion
- Planned Facility Pad
- Proposed inject wells

CLARKS CREEK 72-0706H
CLARKS CREEK 107-0706H
CLARKS CREEK 110-0719H
 August 12, 2021





Clarks Creek 110-0719H

Corrective Action in Area of Review (AOR)

The wells listed on the following page penetrate the proposed injection zone and are located within ¼-mile of the Clarks Creek 110-0719H.

Bakken lateral(s); are adequately isolated above and below the formation. No need for corrective action.

APINo	FileNo	CurrentOperator	CurrentWellName	SpudDate	Top of Cement (20%)		CountyNa Towns				Footages	ProducedPo				
					Bond)	TD	me	hip	Range	Section		QQ	FieldName	ols	Wellbore	WellType
33053036120000	20886	EOG RESOURCES, INC.	CLARKS CREEK 101-1819H	7/8/2011	5120		20593	MCKENZIE 151 N	94 W	18	NENW	329 FNL 2074 FWL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053036130000	20887	EOG RESOURCES, INC.	CLARKS CREEK 13-1806H	7/11/2011	3800		21087	MCKENZIE 151 N	94 W	18	NENW	367 FNL 2106 FWL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053036140000	20888	EOG RESOURCES, INC.	CLARKS CREEK 14-1819H	10/8/2011	6324		20615	MCKENZIE 151 N	94 W	18	NENW	404 FNL 2139 FWL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053036150000	20890	EOG RESOURCES, INC.	CLARKS CREEK 11-0706H	9/9/2011	3708		20679	MCKENZIE 151 N	94 W	7	SESE	173 FSL 505 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053036160000	20891	EOG RESOURCES, INC.	CLARKS CREEK 12-0719H	6/16/2011	5350		20342	MCKENZIE 151 N	94 W	7	SESE	173 FSL 405 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053036170000	20892	EOG RESOURCES, INC.	CLARKS CREEK 16-0706H	9/6/2011			18748	MCKENZIE 151 N	94 W	7	SESE	173 FSL 455 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053042850000	23483	WPX ENERGY WILLISTON, LLC	RUBY 31-30HB	11/18/2012			20544	MCKENZIE 151 N	94 W	31	SESW	314 FSL 1723 FWL	ANTELOPE SANISH	HORIZONTAL	OG	A
33053075660000	32598	WPX ENERGY WILLISTON, LLC	RUBY PARSHALL 31-30HY	5/9/2017			20834	MCKENZIE 151 N	94 W	31	SWSE	535 FSL 2119 FEL	ANTELOPE SANISH	HORIZONTAL	OG	A
33053075670000	32599	WPX ENERGY WILLISTON, LLC	RUBY PARSHALL 31-30HC	5/8/2017			21040	MCKENZIE 151 N	94 W	31	SWSE	506 FSL 2110 FEL	ANTELOPE SANISH	HORIZONTAL	OG	A
33053076610000	32794	EOG RESOURCES, INC.	CLARKS CREEK 74-0719H	8/6/2016	2000		21004	MCKENZIE 151 N	94 W	7	SWSE	252 FSL 1727 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053076630000	32796	EOG RESOURCES, INC.	CLARKS CREEK 73-0719H	8/9/2016	2100			MCKENZIE 151 N	94 W	7	SWSE	350 FSL 1745 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053076640000	32797	EOG RESOURCES, INC.	CLARKS CREEK 72-0706H	1/6/2018	2852		20050	MCKENZIE 151 N	94 W	7	SWSE	615 FSL 1743 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053076650000	32798	EOG RESOURCES, INC.	CLARKS CREEK 107-0706H	1/10/2018	2770		20248	MCKENZIE 151 N	94 W	7	SWSE	566 FSL 1734 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053076660000	32799	EOG RESOURCES, INC.	CLARKS CREEK 24-0706H	1/4/2018	2764		20572	MCKENZIE 151 N	94 W	7	SWSE	547 FSL 1781 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053076670000	32800	EOG RESOURCES, INC.	CLARKS CREEK 155-0706H	1/1/2018	2492		20132	MCKENZIE 151 N	94 W	7	SWSE	596 FSL 1790 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053078090000	33050	EOG RESOURCES, INC.	CLARKS CREEK 75-0719HX	10/3/2016	2750		20769	MCKENZIE 151 N	94 W	7	SWSE	223 FSL 1722 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053083590000	34448	EOG RESOURCES, INC.	CLARKS CREEK 108-0706H	3/21/2018	3728		20752	MCKENZIE 151 N	94 W	7	SWSE	517 FSL 1725 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053090550000	36410	EOG RESOURCES, INC.	CLARKS CREEK 45-0705H	5/20/2019	2130		20841	MCKENZIE 151 N	94 W	7	SWSE	994 FSL 2367 FEL	ANTELOPE SANISH	HORIZONTAL	OG	A
33053090610000	36416	EOG RESOURCES, INC.	CLARKS CREEK 105-0719H	5/15/2019	2077		21878	MCKENZIE 151 N	94 W	7	SWSE	403 FSL 2026 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053083430000	34380	EOG RESOURCES, INC.	CLARKS CREEK 151-0720H	12/24/2019	2380		21076	MCKENZIE 151 N	94 W	7	SESE	427 FSL 531 FEL	ANTELOPE SANISH	HORIZONTAL	OG	A
33053093480000	37356	EOG RESOURCES, INC.	Clarks Creek 65-07HX	1/29/2020	3500		15833	MCKENZIE 151 N	94 W	7	SESE	427 FSL 471 FEL	ANTELOPE SANISH	HORIZONTAL	OG	A
33053084550000	34677	EOG RESOURCES, INC.	CLARKS CREEK 65-07H	12/24/2019	1980		14226	MCKENZIE 151 N	94 W	7	SESE	427 FSL 481 FEL	ANTELOPE	HORIZONTAL	OG	DRY
33053084560000	34678	EOG RESOURCES, INC.	CLARKS CREEK 63-07H	12/22/2019	3040		169058	MCKENZIE 151 N	94 W	7	SESE	427 FSL 431 FEL	ANTELOPE SANISH	HORIZONTAL	OG	A
33053090580000	36413	EOG RESOURCES, INC.	CLARKS CREEK 106-0724H	5/17/2019	2390		21428	MCKENZIE 151 N	94 W	7	SWSE	521 FSL 2119 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053090600000	36415	EOG RESOURCES, INC.	CLARKS CREEK 18-0719H	5/16/2019	2180		21855	MCKENZIE 151 N	94 W	7	SWSE	442 FSL 2057 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053090560000	36411	EOG RESOURCES, INC.	CLARKS CREEK 46-0706H	5/22/2019	3467		21113	MCKENZIE 151 N	94 W	7	SWSE	950 FSL 2342 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053090570000	36412	EOG RESOURCES, INC.	CLARKS CREEK 47-0706H	5/21/2019	2050		20880	MCKENZIE 151 N	94 W	7	SWSE	907 FSL 2317 FEL	CLARKS CREEK BAKKEN	HORIZONTAL	OG	A
33053004260000	2494	CARTER OIL CO.	THOMAS YELLOWFACE 1	10/27/1959			11405	MCKENZIE 151 N	94 W	19	SWSE	640 FSL 2080 FEL	WILDCAT	VERTICAL	OG	DRY

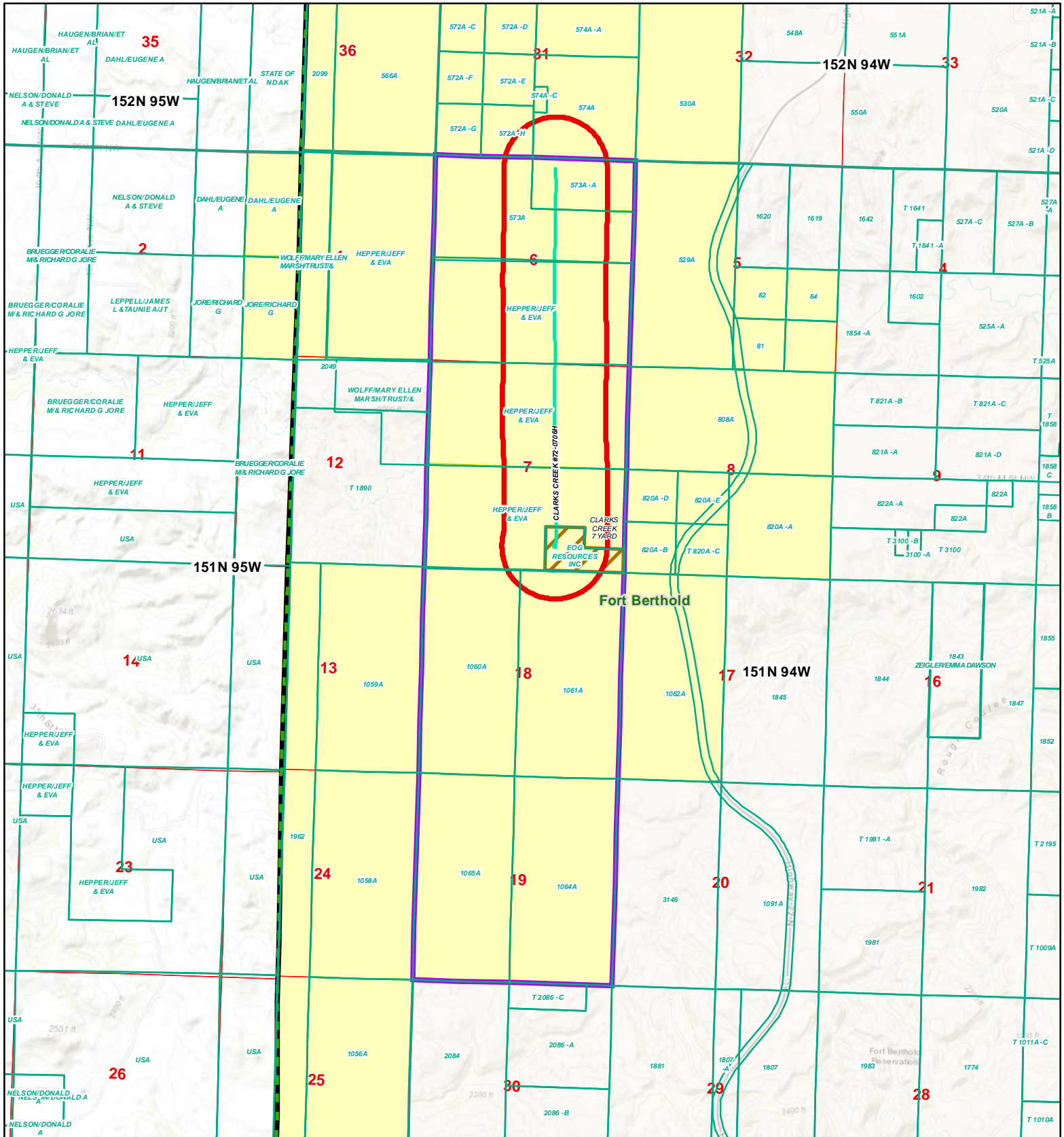
Clarks Creek 107-0706H



Wellbore Diagrams & Completion Reports are provided in a separate attachment for all EOG wells.

Clarks Creek EOR - Area of Review 1/4-mile

Township 151 North, Range 94W, 5th PM
Sections 6, 7, 18 & 19



- Surface Ownership
- Fort Berthold Indian Reservation
- EOG 2560 Spacing Unit
- EOG Lease
- Proposed inject wells
- Existing Well Pad
- Existing Facility Pad
- Planned Pad/Expansion
- Planned Facility Pad

CLARKS CREEK 72-0706H
September 9, 2021



Landownership within Area of Review (1/4-mile of injection zone)

LastName	FirstName	Address	City	State	Zip	Comment 1	Comment 2	MAILED C/RR
BIRD BEAR	AMANDA	111191 Shore Crest Rd	Biloxi	MS	39532	1060A	CC 110-0719H	9/20/21
BIRD BEAR	AMANDA	111191 Shore Crest Rd	Biloxi	MS	39532	1061A	CC 110-0719H	9/20/21
BIRD BEAR	AMANDA	111191 Shore Crest Rd	Biloxi	MS	39532	2084	CC 110-0719H	9/20/21
COTTONWOOD	DARCY	PO Box 455	Magdalena	NM	87825	1060A	CC 110-0719H	9/20/21
COTTONWOOD	DARCY	PO Box 455	Magdalena	NM	87825	1061A	CC 110-0719H	9/20/21
COTTONWOOD	DARCY	PO Box 455	Magdalena	NM	87825	1065A	CC 110-0719H	9/20/21
	THREE AFFILIATED TRIBES	404 Frontage Road	New Town	ND	58763	2086 -C	CC 110-0719H	9/20/21
TEN BEARS	BRIDGETTE	1042 7th Ave	Brookings	SD	57006	2086 -A	CC 110-0719H	9/20/21
HEART	CLARICE	1112 6th St SW	Minot	ND	58701	1060A	CC 110-0719H	9/20/21
HEART	CLARICE	1112 6th St SW	Minot	ND	58701	1061A	CC 110-0719H	9/20/21
HEART	CLARICE	1112 6th St SW	Minot	ND	58701	1065A	CC 110-0719H	9/20/21
WOUNDED FACE	KENDALLYN	1322 Atlas St. Apt 304	Rapid City	SD	57701	2086 -A	CC 110-0719H	9/22/21
BELL	FLORINE	688 Bakersfield Drive	New Town	ND	58763	2086 -A	CC 110-0719H	9/22/21
BIRD	DONOVAN	PO Box 1066	New Town	ND	58763	2086 -A	CC 110-0719H	9/20/21
BIRD	GORDON	PO Box 487	Brookings	SD	57006	2086 -A	CC 110-0719H	9/22/21
BIRD	JOHNNIE L.	10431 40th St SW	Gladstone	ND	58630	2086 -A	CC 110-0719H	9/22/21
BIRD	LORRETTA J.	PO Box 15	New Town	ND	58763	2086 -A	CC 110-0719H	9/22/21
BIRD	ROYANN K.	PO Box 475	New Town	ND	58763	2086 -A	CC 110-0719H	9/22/21
BIRD	SANDRA D.	PO Box 475	New Town	ND	58763	2086 -A	CC 110-0719H	9/22/21
BIRD	SCOTTIE	PO Box 3546	Minot	ND	58702	2086 -A	CC 110-0719H	9/22/21
BIRD	SHAVONNE	PO Box 15	New Town	ND	58763	2086 -A	CC 110-0719H	9/22/21
BIRD	SHELBY J.	PO Box 475	New Town	ND	58763	2086 -A	CC 110-0719H	9/22/21
BIRD	TILDEN K.	4403 Cumberland Loop	Bismarck	ND	58503	2086 -A	CC 110-0719H	9/22/21
BIRD BEAR	ALAN	13812 Fidler Ave	Bellflower	CA	90706	1064A	CC 110-0719H	9/20/21
BIRD BEAR	ROGER	1221 S 20th St	Grand Forks	ND	58201	1060A	CC 110-0719H	9/20/21
BIRD BEAR	ROGER	1221 S 20th St	Grand Forks	ND	58201	1061A	CC 110-0719H	9/20/21
BIRD BEAR	ROGER	1221 S 20th St	Grand Forks	ND	58201	2084	CC 110-0719H	9/20/21
BIRD BEAR	THOMAS P.	8005 Fuji Ct NW	Albuquerque	NM	87120	1060A	CC 110-0719H	9/20/21
BIRD BEAR	THOMAS P.	8005 Fuji Ct NW	Albuquerque	NM	87120	1061A	CC 110-0719H	9/20/21
BIRD BEAR	THOMAS P.	8005 Fuji Ct NW	Albuquerque	NM	87120	2084	CC 110-0719H	9/20/21
BRAVE CROW	RUEBIN	907 3rd Ave E	West Fargo	ND	58078	1064A	CC 110-0719H	9/22/21
BRAVE CROW III #2	STEVEN	1101 Linden Lane	Faribault	MN	55021	1064A	CC 110-0719H	9/22/21
BROWN	ESTATE MARCIA G.	PO Box 370	New Town	ND	58767	1060A	CC 110-0719H	9/22/21
COMES OUT BIRD	VICTORIA	414 E 750 S	Orem	UT	84097	2086 -A	CC 110-0719H	9/22/21
GOHL	CLARINDA S.	13105 48th St SE	Fargo	ND	58103	1060A	CC 110-0719H	9/20/21
GOHL	CLARINDA S.	13105 48th St SE	Fargo	ND	58103	1061A	CC 110-0719H	9/20/21
GOODALL	JONATHAN	PO Box 97	Milton	WA	98354	1064A	CC 110-0719H	9/22/21
GOODALL	JOSEPH	PO Box 1192	New Town	ND	58763	1064A	CC 110-0719H	9/22/21
GOODALL	SUSAN	PO Box 649	El Dorado	KS	67042	1061A	CC 110-0719H	9/22/21
HEART	AVERY L.	513 11th Ave SE	Minot	ND	58701	1060A	CC 110-0719H	9/20/21
HEART	AVERY L.	513 11th Ave SE	Minot	ND	58701	1061A	CC 110-0719H	9/20/21
HEART	AVERY L.	513 11th Ave SE	Minot	ND	58701	1065A	CC 110-0719H	9/20/21
HEART	HAZEL A.	PO Box 956	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
HEART	HAZEL A.	PO Box 956	New Town	ND	58763	1061A	CC 110-0719H	9/22/21
HEART	HAZEL A.	PO Box 956	New Town	ND	58763	1065A	CC 110-0719H	9/22/21
HEART	HUBERT B.	3406 Highway 22	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
HEART	HUBERT B.	3406 Highway 22	New Town	ND	58763	1061A	CC 110-0719H	9/22/21
HEART	HUBERT B.	3406 Highway 22	New Town	ND	58763	1065A	CC 110-0719H	9/22/21
HEART	JOSEPHINE A.	PO Box 1256	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
HEART	JOSEPHINE A.	PO Box 1256	New Town	ND	58763	1061A	CC 110-0719H	9/22/21
HEART	JOSEPHINE A.	PO Box 1256	New Town	ND	58763	1065A	CC 110-0719H	9/22/21
HEART	KERMIT F.	PO Box 1129	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
HEART	KERMIT F.	PO Box 1129	New Town	ND	58763	1061A	CC 110-0719H	9/22/21
HEART	KERMIT F.	PO Box 1129	New Town	ND	58763	1065A	CC 110-0719H	9/22/21
HEART	MARVEL J.	PO Box 578	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
HEART	NELSON L.	PO Box 1282	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
HEART	NELSON L.	PO Box 1282	New Town	ND	58763	1061A	CC 110-0719H	9/22/21
HEART	NELSON L.	PO Box 1282	New Town	ND	58763	1065A	CC 110-0719H	9/22/21
HEART JR.	BENTLEY B.	PO Box 1595	New Town	ND	58763	1060A	CC 110-0719H	9/20/21
HEART JR.	BENTLEY B.	PO Box 1595	New Town	ND	58763	1061A	CC 110-0719H	9/20/21
HEART JR.	BENTLEY B.	PO Box 1595	New Town	ND	58763	1065A	CC 110-0719H	9/20/21
HUNTER	MARTHA E.	PO Box 476	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
HUNTER	MARTHA E.	PO Box 476	New Town	ND	58763	1061A	CC 110-0719H	9/22/21
HUNTER	MARTHA E.	PO Box 476	New Town	ND	58763	1065A	CC 110-0719H	9/22/21
HUNTER JR	CHARLES W.	PO Box 476	New Town	ND	58763	1061A	CC 110-0719H	9/20/21
HUNTER JR	CHARLES W.	PO Box 476	New Town	ND	58763	1065A	CC 110-0719H	9/20/21
JENSEN	REBECCA	1459 61st Ave NW	Garrison	ND	58540	2086 -A	CC 110-0719H	9/22/21
LAUER	LORINDA C.	PO Box 3846 Montreal St	Bismarck	ND	58503	1060A	CC 110-0719H	9/22/21
LAUER	LORINDA C.	PO Box 3846 Montreal St	Bismarck	ND	58503	1061A	CC 110-0719H	9/22/21
LAWRENCE	JAMIE	34836 245th Street	Chamberlain	SD	57325	1060A	CC 110-0719H	9/20/21
LAWRENCE	JAMIE	34836 245th Street	Chamberlain	SD	57325	1061A	CC 110-0719H	9/20/21
LAWRENCE	JAMIE	34836 245th Street	Chamberlain	SD	57325	2084	CC 110-0719H	9/20/21
LEE	ALEX R.	PO Box 1846	New Town	ND	58763	2086 -A	CC 110-0719H	9/20/21
LEE	ROBERT A.	PO Box 1846	New Town	ND	58763	2086 -A	CC 110-0719H	9/22/21
LUKE	WAYLYN	508 4th Ave	Havre	MT	59501	1064A	CC 110-0719H	9/22/21
MCKAY	DALINDA	3506 Chevelle Cir	Bismarck	ND	58503	1060A	CC 110-0719H	9/20/21
MCKAY	DALINDA	3506 Chevelle Cir	Bismarck	ND	58503	1061A	CC 110-0719H	9/20/21
PERKINS	KASANDRE	PO Box 1354	El Dorado	KS	67042	1064A	CC 110-0719H	9/22/21
PERKINS	LUANNE V.	3106 Bay Shore Bnd SE	Mandan	ND	58554	1060A	CC 110-0719H	9/22/21
PERKINS	LUANNE V.	3106 Bay Shore Bnd SE	Mandan	ND	58554	1061A	CC 110-0719H	9/22/21
PERKINS	LUANNE V.	3106 Bay Shore Bnd SE	Mandan	ND	58554	1064A	CC 110-0719H	9/22/21
PERKINS	RAYMOND	PO Box 337	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
PERKINS	RAYMOND	PO Box 337	New Town	ND	58763	1061A	CC 110-0719H	9/22/21
PERKINS	RAYMOND	PO Box 337	New Town	ND	58763	1064A	CC 110-0719H	9/22/21
TEN BEARS	AMANDA J.	PO Box 1113	New Town	ND	58764	2086 -A	CC 110-0719H	9/20/21
TEN BEARS	BRITTANY	PO Box 687	New Town	ND	58763	2086 -A	CC 110-0719H	9/20/21
TEN BEARS	ESTATE JORDAN D.	PO Box 370	New Town	ND	58778	2086 -A	CC 110-0719H	9/22/21
THOMAS	RAE ANN	PO Box 512	New Town	ND	58763	1060A	CC 110-0719H	9/20/21
THOMAS	RAE ANN	PO Box 512	New Town	ND	58763	1061A	CC 110-0719H	9/20/21
THOMAS	RAE ANN	PO Box 512	New Town	ND	58763	2084	CC 110-0719H	9/20/21
WHITE OWL	EDNA	2200 33rd St NW Apt 104	Minot	ND	58703	2086 -A	CC 110-0719H	9/20/21
WHITE TAIL	ANSON L.	PO Box 908	Garrison	ND	58540	1060A	CC 110-0719H	9/20/21
WHITE TAIL	ANSON L.	PO Box 908	Garrison	ND	58540	1061A	CC 110-0719H	9/20/21
WHITE TAIL	ANSON L.	PO Box 908	Garrison	ND	58540	1064A	CC 110-0719H	9/20/21
WHITE TAIL	ANSON L.	PO Box 908	Garrison	ND	58540	1065A	CC 110-0719H	9/20/21
WHITE TAIL	BRIAN A.	PO Box 377	Lame Deer	MT	59043	1060A	CC 110-0719H	9/20/21
WHITE TAIL	BRIAN A.	PO Box 377	Lame Deer	MT	59043	1061A	CC 110-0719H	9/20/21

Landownership within Area of Review (1/4-mile of injection zone)

WHITE TAIL	BRIAN A.	PO Box 377	Lame Deer	MT	59043	1064A	CC 110-0719H	9/20/21
WHITE TAIL	BRIAN A.	PO Box 377	Lame Deer	MT	59043	1065A	CC 110-0719H	9/20/21
WHITE TAIL	MACY	1608 Hampton St	Lexington	NE	68850	1060A	CC 110-0719H	9/22/21
WHITE TAIL	MACY	1608 Hampton St	Lexington	NE	68850	1061A	CC 110-0719H	9/22/21
WHITE TAIL	MACY	1608 Hampton St	Lexington	NE	68850	1065A	CC 110-0719H	9/22/21
WHITE TAIL	RICHARD	PO Box 51	New Town	ND	58763	1060A	CC 110-0719H	9/22/21
WHITE TAIL	RICHARD	PO Box 51	New Town	ND	58763	1061A	CC 110-0719H	9/22/21
WHITE TAIL	RICHARD	PO Box 51	New Town	ND	58763	1064A	CC 110-0719H	9/22/21
WHITE TAIL	RICHARD	PO Box 51	New Town	ND	58763	1065A	CC 110-0719H	9/22/21
WOUNDED FACE	EVELYN	PO Box 815	New Town	ND	58763	2086 -A	CC 110-0719H	9/20/21
WOUNDED FACE	JORDAN V. C/O THERESA MARKS	PO Box 128	Rapid City	SD	57709	2086 -A	CC 110-0719H	9/22/21
WOUNDED FACE	KAELIN	PO Box 3378	Indian Wells	AZ	86031	2086 -A	CC 110-0719H	9/22/21
HEPPER	JEFF & EVA	3522 105TH AVE NW	KEENE	ND	58847	S/T/R 7-151-94 LOTS 1-2, E1/2NW1/4, NE1/4, S/T/R 7-151-94 SE1/4 EX IT 2110 & IT 3095, E1/2SW1/4, S/T/R 6-151-94 LOTS 6-7, E1/2SW1/4, SE1/4		9/24/21
	TARGA BADLANDS LLC	1000 LOUISIANA SUITE 4300	HOUSTON	TX	77002	S/T/R 7-151-94 IT 3050 PT OF IT 2110		9/29/21

****Estate notification were mailed to Bureau of Indian Affairs (BIA)**



EOG Resources, Inc.
600 Seventeenth Street
Suite 1000N
Denver, CO 80202
Main: 303-572-9000
Fax: 303-824-5400

September 17, 2021

MHA Nation Energy Division
305 4th Avenue
New Town, ND 58763
Attn: Mr. Kenny Lyson

Re: **Letter of Concurrence**
Clarks Creek Closed-Loop Gas Capture
Section 7, T151N-R94W
McKenzie County, North Dakota

Dear Mr. Lyson,

As presented at the Energy Committee meeting on August 3, 2021, EOG Resources, Inc. (EOG) proposes to convert the Clarks Creek 72-0706H, 107-0706H and 110-0719H to gas injection wells located in Section 7, T151N-R94W, McKenzie County, North Dakota.

The project goal is to temporarily inject gas into well(s) during plant upsets and downtime to prevent flaring or shutting-in production. EOG would prove this concept by conducting a step rate test to determine the operating limits (rate and volume) for continued use. Gas would be recycled on location (prior to sales) and injected into an approved injection well. Once capacity is available, the injection well would return to production. All streams of production (oil, gas and water) are metered and monitored to protect correlative rights. Additionally, EOG will have designated monitoring wells to ensure that gas stays within the permitted unit. EOG is hopeful that this test will lead to reduced flaring and if successful, the concept could be implemented across the field.

If you concur with the Clarks Creek Closed-Loop Gas Capture Project, please sign and date this letter.

Agreed and accepted



Signature
MHA Nation Energy Division

9-20-21

Date

Enclosures:
Maps of proposed injection well locations.



EOG Resources, Inc.
600 Seventeenth Street
Suite 1000N
Denver, CO 80202
Main: 303-572-9000

September 20, 2021

Via FedEx Overnight Delivery

WPX Energy Williston, LLC
333 W. Sheridan Ave.
Oklahoma City, OK 73102
Attn: Geoff Pool, Landman

RE: Notice of Injection
Clarks Creek Closed Loop Gas Capture Project
McKenzie County, North Dakota

Dear Mr. Pool:

This letter will serve as notice that EOG Resources, Inc. (EOG) is preparing to propose the Clarks Creek Closed Loop Gas Capture project involving the wellbores of the following three (3) wells:

<u>Well Name</u>	<u>Location</u>
Clarks Creek 110-0719H	Surface Hole Location: 556' FSL & 1732' FEL, (SWSE) Bottom Hole Location: 250' FNL & 1224' FEL, (NENE) LOT 1 Section 7-T151N-R94W McKenzie County, ND
Clarks Creek 72-0706H	Surface Hole Location: 615' FSL & 1743' FEL, (SWSE) Bottom Hole Location: 253' FNL & 2021' FEL, (NENW) LOT 2 Section 7-T151N-R94W McKenzie County, ND
Clarks Creek 107-0706H	Surface Hole Location: 556' FSL & 1732' FEL, (SWSE) Bottom Hole Location: 250' FNL & 1224' FEL, (NENE) LOT 1 Section 7-T151N-R94W McKenzie County, ND

Our review of the offset information indicates that your company has at least one (1) wellbore within a one-fourth (1/4) mile radius of the injection zone (wellbore length) of the proposed project. Attached is a map of each proposed injection well for reference.

A hearing with the North Dakota Industrial Commission (NDIC) will be held later this year

at which time comments or objections may be directed to the commission. Written comments or objections to the application may be submitted prior to the hearing date and must be received by the commission no later than five p.m. (5:00pm CDT) on the last business day prior to the hearing date.

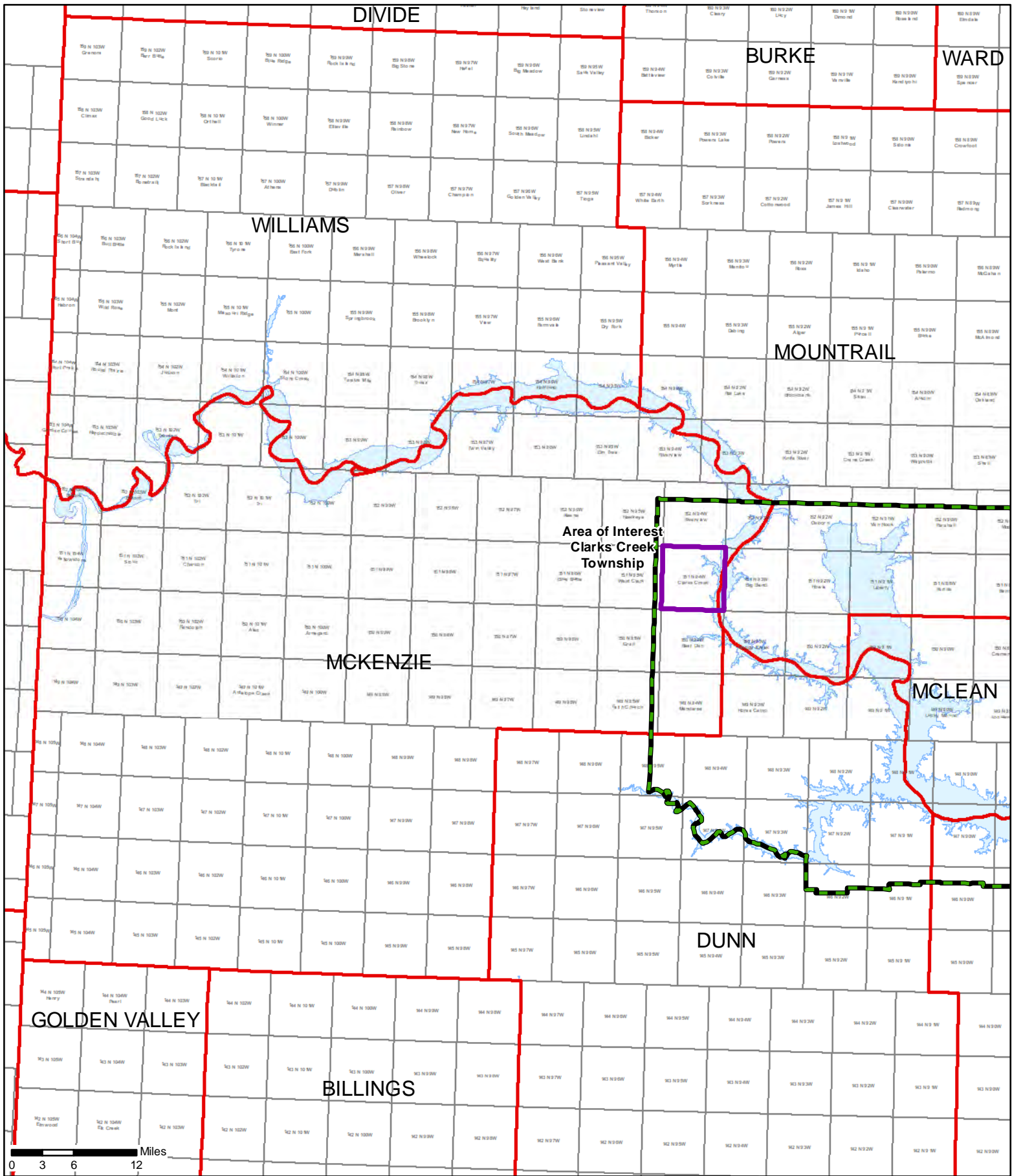
Should you have any questions, please don't hesitate to contact Anna Morgan, Land Advisor at EOG, at Anna.Morgan@eogresources.com or 303-824-5516, or Ashleigh Day, UIC Supervisor for the NDIC, at 701-328-8020.

Sincerely,

EOG RESOURCES, INC.

A handwritten signature in blue ink that reads "Liesel Dionisio". The signature is written in a cursive style with a horizontal line underneath the name.

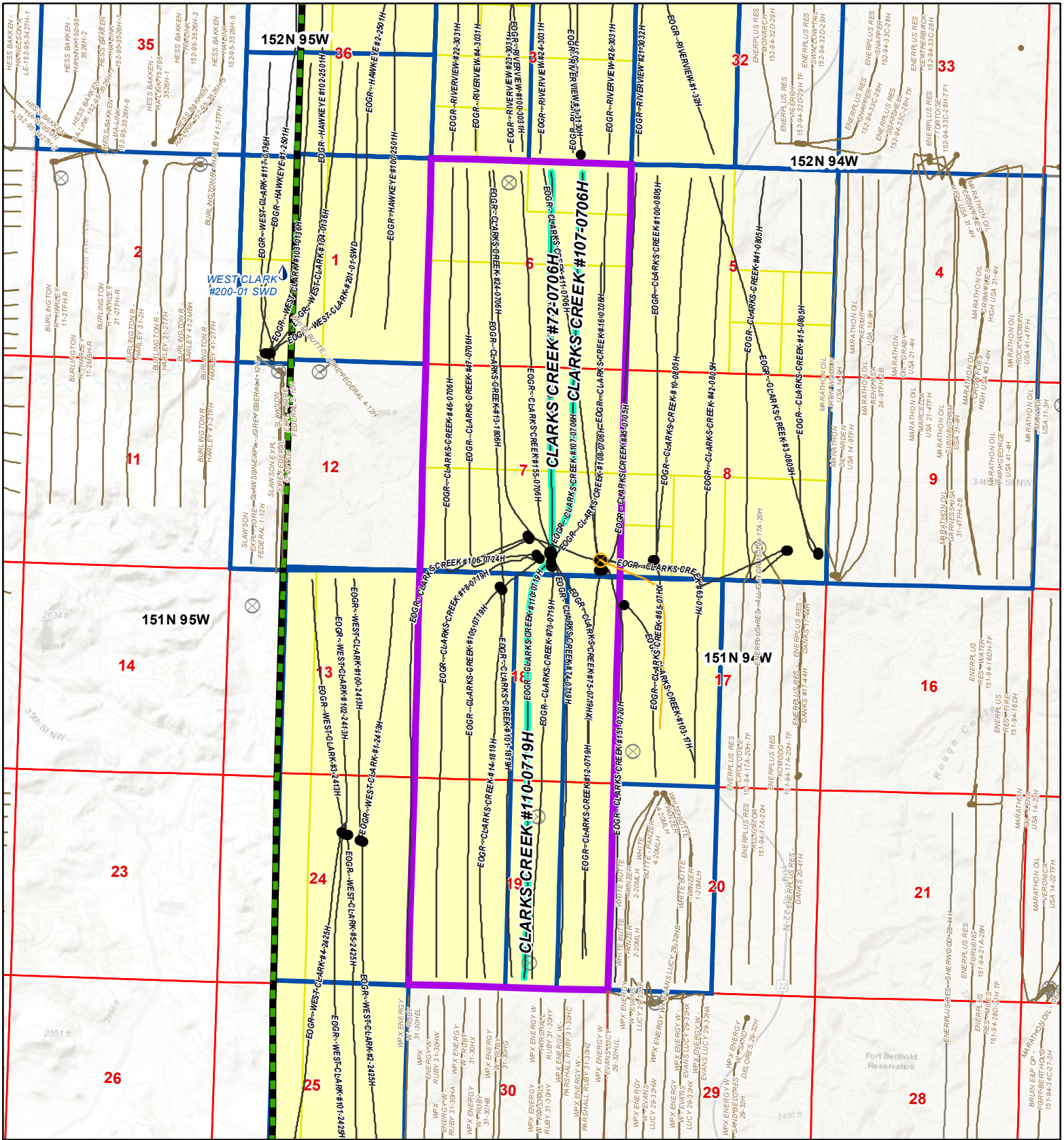
Liesel Dionisio, RPL
Land Associate



- Area of Interest
- Fort Berthold Reservation
- County
- Township
- Missouri River

Clarks Creek EOR - Review

Township 151 North, Range 94W, 5th PM
Sections 6, 7, 18 & 19



- Fort Berthold Indian Reservation
- EOG 2560 Spacing Unit
- EOG Spacing Unit
- EOG Lease (EOG W% summarized by Section)
- EOG, Plugged, Abandoned & Dry Holes
- EOG, Plugged, Abandoned & Dry Holes
- OBO/NonEOG, Plugged, Abandoned & Dry Holes
- OBO/NonEOG, Plugged, Abandoned & Dry Holes
- EOG Saltwater Disposal Well
- EOG Water Source Well
- EOG Wells of Interest
- EOG Producing SHL
- EOG Producing Wells
- OBO/NonEOG Producing

CLARKS CREEK 72-0706H
CLARKS CREEK 107-0706H
CLARKS CREEK 110-0719H
June 11, 2021



Attachment B: Geological and Geophysical Information

- III. Geological Data
 - a. Wellbore diagram with formation, USDW's, confining and injection zones
- IV. Formation Testing Plan
 - a. Test 1
 - b. Test 2

Lithological Description

EOG Resources proposes to inject formation gas into the EOG Clarks Creek 110-0719H. The well penetrates and was completed in the Mississippian/Devonian Bakken Formation. The perforated lateral length in the Middle Bakken is approximately **10,058'**. The approximate TVD of the top of the injection interval is estimated to be **10,665' (top Middle Bakken)**

The interpreted depositional environment for the Middle Bakken is a shelf ramp marine basin. The Upper and Lower Bakken shales represent a transgression period of higher sea levels that resulted in distal offshore shale deposition.

The Middle Bakken member is a **45'** thick zone consisting of dolomite and minor limestone interbedded with shaley siltstone. The Middle Bakken is underlain by **23'** of Lower Bakken shale and then nearly **150'** of interbedded siltstone and shale of the Three Forks Formation. The Three Forks formation is a "dolostone and limestone: grayish brown to olive-gray interbedded with greenish blue, yellowish brown, and purplish gray lenses; argillaceous; silty; cross-laminated, mottled, mud cracks; anhydritic; pyritic; fossiliferous zones with interbedded shale; dark gray to dark brown and nearshore marine deposits." The Middle Bakken is overlain by 15-20' of Upper Bakken shale and then nearly 705' of limestone and interbedded shale of the Lodgepole Formation. The Lodgepole formation consist of "limestone; dark gray to brown, light orange or pinkish; dolomitic to cherty to argillaceous; fragmental; finely crystalline to granular; oolitic; dense" and the Scallion subinterval "consists of dark gray to red with green mottling, clayey, conglacareous shale." The proposed injection into the Middle Bakken should be confined by these formations.

The Fox Hills Formation is the regional fresh water aquifer and its base is approximately **1700'** TVD, well above the point of injection. The EOG Clarks Creek 110-0719H well completion deployed a staged cement program and the top of cement is **2000 (20% bond threshold)** TVD based on the cement bond log.

Top Confining Zone: Lodgepole

Thickness: 843'

Depths: Top @ 9,822' TVD & Bottom @ 10,655' TVD

Bottom Confining Zone: Three Forks

Thickness: 190'

Depths: Top @ 10,710' TVD & Bottom @ 10,900' TVD

Injection Zone: Middle Bakken

Thickness: 45'

Depths: Top @ 10,665' TVD & Bottom @ 10,710' TVD

Lithological descriptions were pulled from:

North Dakota Stratigraphic Column, North Dakota Geological Survey, Miscellaneous Series 91 2009. Edward C. Murphy, Stephan H. Nordeng, Bruce J. Juenker, and John W. Hoganson

Proposed Injection Step Rate Test:

Description

Test the Clarks Creek 107-0706H, Clarks Creek 72-0706H and the Clarks Creek 110-0719H for gas capture feasibility. During the test a total of 6MMSCF gas per well utilizing the existing compressor station for artificial lift (gas lift). Clarks Creek Section 7 has four established monitor wells along the section lines. These wells will be used to detect any gas break out, changes in GOR or GLR during testing. If Gas break out is seen, the tests will be stopped immediately.

Test No. 1:

High-Rate Ramp Up Test

1. Ensure the tubing is closed and gas cannot leave the wellbore.
2. Begin injection from the high-pressure gas lift lines down the casing of the three Clarks Creek wells at a rate
of 1000mmscfd
 - a. Ensure surface pressure never exceeds 5,186psi
3. Begin Monitoring Offset wells (see map) for entire testing period
 - a. Review gas production rate every hour in Cygnet
 - b. Pull well head gas samples daily
 - c. Review daily oil production and GOR
 - d. Stop the test immediately if signs of breakout are observed**
4. After an hour increase injection rate to 2MMSCFD
5. After an hour increase injection rate to 3MMSCFD
6. After an hour increase injection rate to 4MMSCFD
7. After an hour increase injection rate to 5MMSCFD
8. After an hour increase injection rate to 6MMSCFD and hold for an hour
9. Stop injection. Begin flowing the wells back at a rate that doesn't not cause flaring

Clarks Creek 72-0706H



Test No. 2

24 Hour Moderate Rate Test

1. Ensure the tubing is closed and gas cannot leave the wellbore.
2. Begin injection from the high-pressure gas lift lines down the casing of the three Clarks Creek wells at a rate of 5000mmscfd
 - a. Ensure surface pressure never exceeds 5,186psi
3. Begin Monitoring Offset wells (see map) for entire testing period
 - a. Review gas production rate every hour in Cygnet
 - b. Pull well head gas samples daily
 - c. Review daily oil production and GOR
 - d. Stop the test immediately if signs of breakout are observed**
4. Continue injecting for 24hours.
5. Stop injection. Begin flowing the wells back at a rate that doesn't not cause flaring.

Attachment C: Well Construction or Conversion Procedure

Clarks Creek 110-0719H

SHL: 301' FSL & 1736' FEL (SW/SE)
 Sec. 7, T151N, R91W
 Clarks Creek Field; McKenzie Co., ND
 PAD Graded Elevation: 2219'

Potential Disposal Zones (CO2 or SWD)

Inyan Kara (Dakota)
 3000-6500'/14-25% porosity depending on locations and depth
 TDS ranges <1000 to 10,000+
 Estimated 25% of area extent has acceptable TDS for CO2

- Lakota – marine sandstone
- Fuson – shales
- Dakota – also known as fall river sandstone, both shallow marine and fluvio-deltaic sandstone (depending on location)
- No major petroleum fields

Lower Swift
 Coarser grained reservoir for CO2
 3000-7000'/13-21% porosity depending on locations and depth
 TDS ranges 1000 to 10,000+
 Estimated 30% of area extent has acceptable TDS for CO2

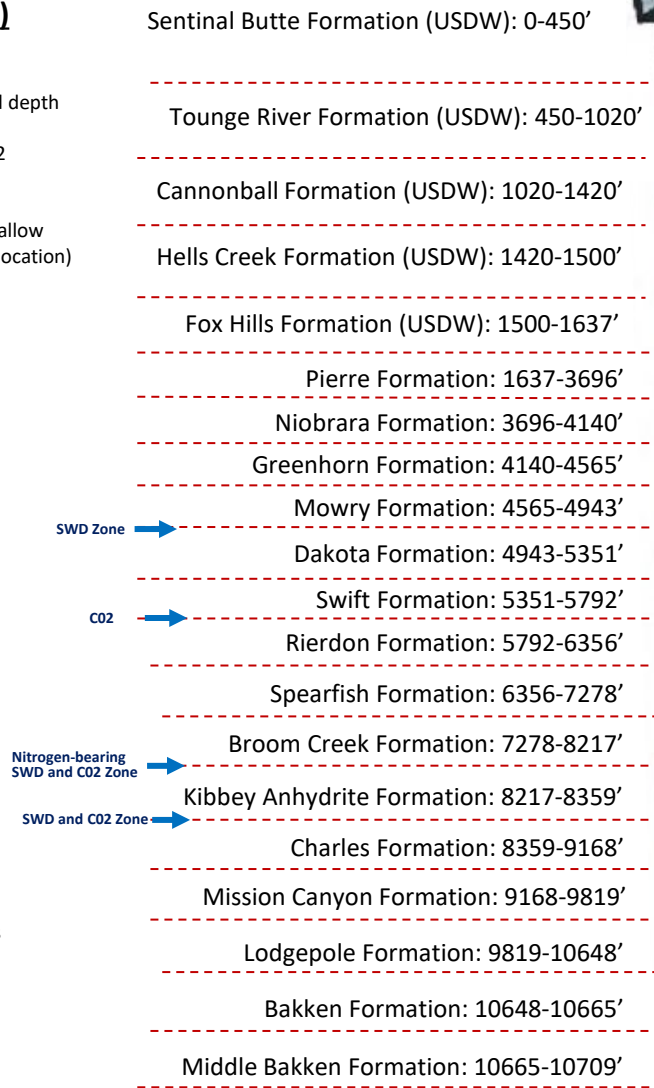
- Swift – sandstone with some shale members
- No major petroleum fields

Minnelusa Group (Broom Creek –Tyler)
 3950-8400'/(average 10% porosity depending on rock type)
 TDS values (all but one >10,000)

- Tyler – mixed sandstone/evaporate/dolomite
- Amsden – predominantly dolomite
- Broom Creek – predominantly sandstone, interbedded dolomite

Kibbey Formation and Madison Group
 CO2 storage reservoir (carbonate/evaporate sequences)
 3000-1300ft/7-16% porosity (average 10%)
 Shallow TDS 3200, deeper TDS 300,000 +

- Lodgepole – cherty argillaceous limestone
- Mission Canyon – predominantly limestone, units with dolomitization have higher porosity (*hydrocarbon reservoir*)
- Charles – basal porous limestone overlain by anhydrite
- Kibbey – lenticular sands, some carbonates and evaporites



9-5/8" 36#

0' – 1,978'

7" 26#

0' – 6,071'

7" 32#

6,071' – 10,924'

4-1/2" 13.5#

10,153'-21,293'

PBR @ 10,153'

TTS @ 21,232'

LC @ 21,283'

FS @ 21,291'

TOC @ 4,140'

Salts

6,405'-8,781'

15° @ 10,353'

30° @ 10,477'

60° @ 10,677'

90° @ 11,076'

Perforated Interval:

11,150'- 21,208'

Tubing

2 3/8" 4.7# L-80

0-10,100'

8 3/4" Hole

****NOTE: Not to Scale. All Depths Referenced from 2219' Graded Ground Elevation and Tops are approximate****

Clarks Creek 110-0719H



Brief Description of Proposed Injection Program

No workover required for injection. The well is currently on gas lift. (An MIT would be performed following approval of application and prior to injection.) The plan is to inject gas down the annulus while the tubing is shut.

Description

Mechanical integrity test for the Clarks Creek 110-0719H.

Procedure

1. MIRU. NU BOP and ND wellhead
2. TOOH with tubing.
3. RU wireline and TIH with 7" RBP and set @ 10,100.
4. Pressure up casing to 1000psi and hold for 15 min. Chart and record results.
5. POOH with RBP.
6. Run in hole with existing tbg and land @ 10,100'. (see tbg detail)
7. RDMO

TBG STRING (BTM UP)		
DESCRIPTION	LENGTH	DEPTH
2-3/8" Notched Collar - Not Barred	0.41	10100.22
1 - 2-3/8" 4.7 lb/ft L-80 Tbg Jt	32	10099.81
2-3/8" XN	1.00	10067.61
2-3/8" 4.7 lb/ft L-80 Tbg	10036	10066.61
2-3/8" x 7-1/16" Tubing Hanger	1	30.61
KB	30.00	30.00
LANDED @		10,100

Clarks Creek 110-0719H Wellbore Diagram

API: 33-053-07662

GL: 2,219'

KB: 2,245' (26')

9-5/8" 36#

0' - 1,978'

7" 26#

0' - 6,071'

7" 32#

6,071' - 10,924'

4-1/2" 13.5#

10,153' - 21,293'

PBR @ 10,153'

TTS @ 21,232'

LC @ 21,283'

FS @ 21,291'

TOC @ 4,140'

Salts

6,405' - 8,781'

15° @ 10,353'

30° @ 10,477'

60° @ 10,677'

90° @ 11,076'

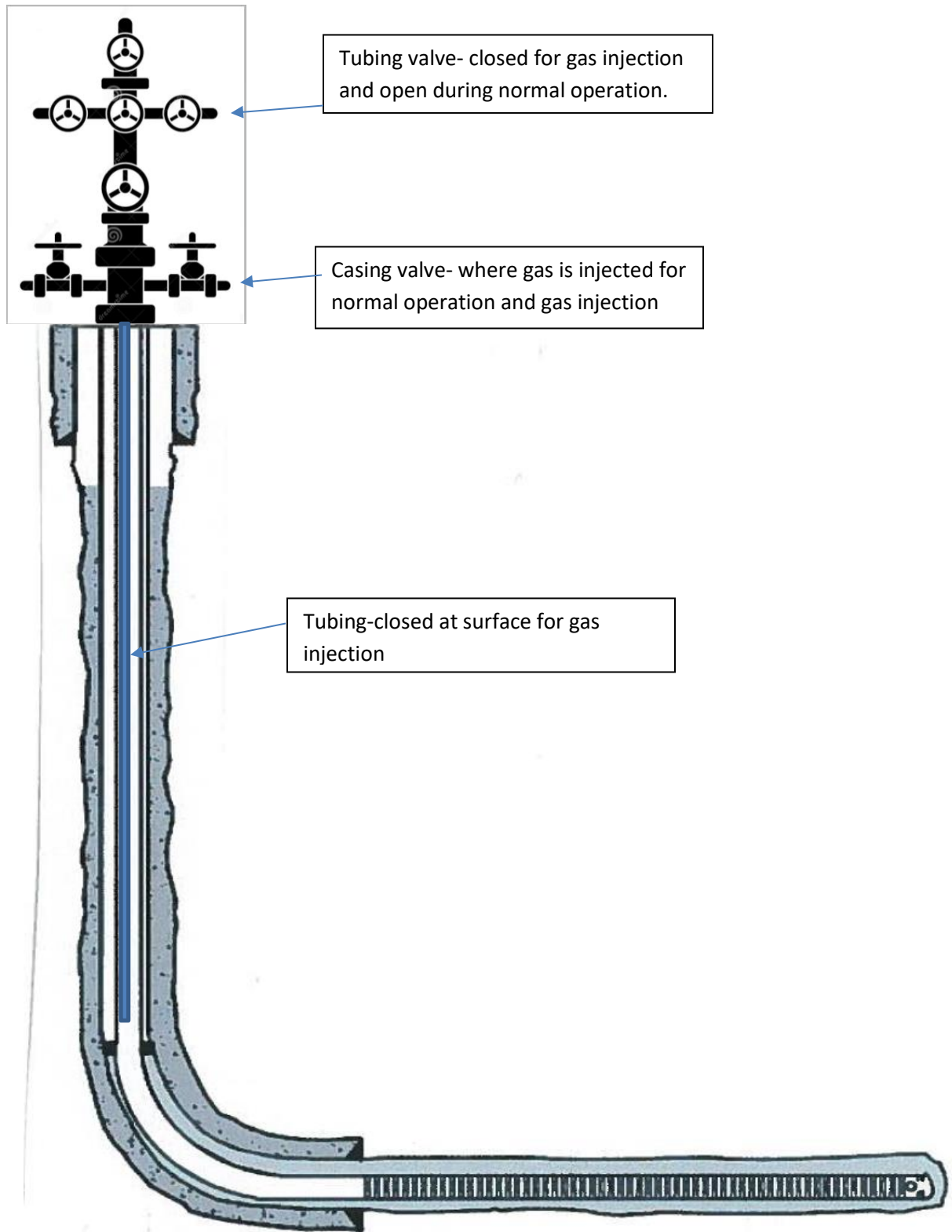
Perforated Interval:

11,150' - 21,208'

Tubing

2 3/8" 4.7# L-80

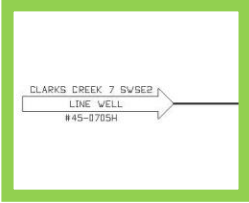
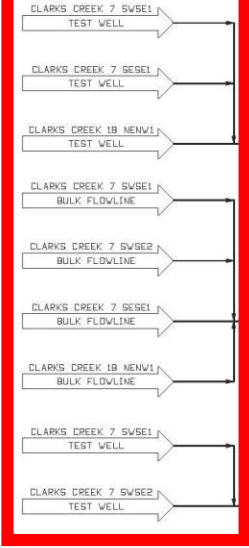
0-10,100'



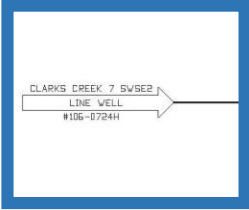
Attachment D: Injection Operation and Monitoring Program

7. Flow Diagram
8. Contingency response to well failure - Drawing of Facility
9. Location of monitoring ports
10. Description of Sampling and monitoring devices to monitor injected fluid, injection pressure, annular pressure, flowrate and cumulative volume
11. Operating Data
 - a. Maximum and average
 - i. AVG Rate – 2000MSCFD (total rate divided between 3 wells)
 - ii. MAX Rate– 8500MSCFD (total rate divided between 3 wells)
 - iii. AVG Pressure– 1100PSI
 - iv. MAX Pressure – 1150PSI
 - b. Sources of injection fluids
 - c. Proposed annular fluid – Raw produced gas
 - d. Gas Analysis – injection fluid

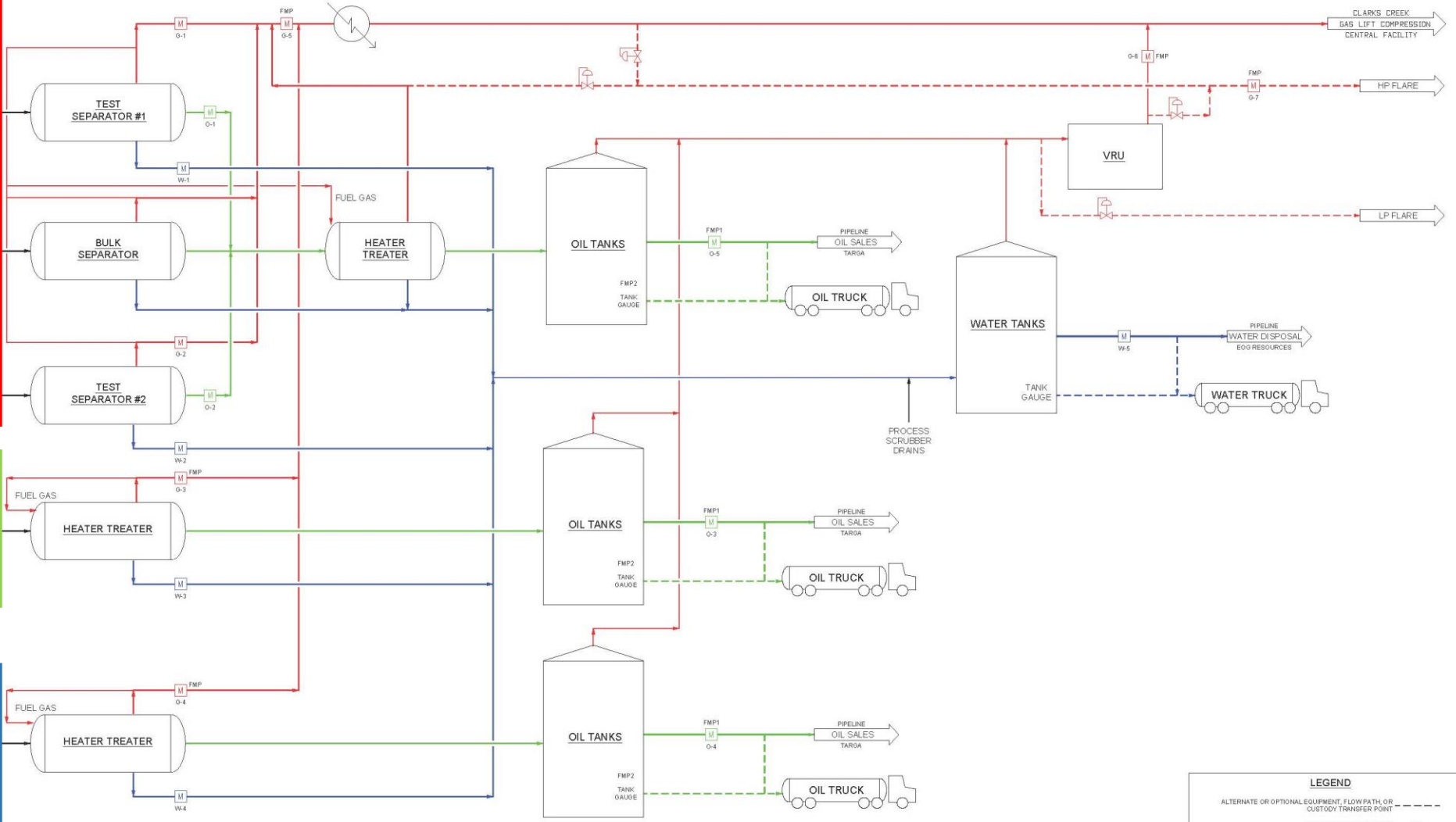
NDM:102328



CA:PENDING



CA:PENDING



LEGEND

ALTERNATE OR OPTIONAL EQUIPMENT, FLOW PATH, OR CUSTODY TRANSFER POINT - - - - -

FINAL MEASUREMENT POINT FMP

APPROVED GAS MEASUREMENT TECHNIQUE [M]

APPROVED OIL MEASUREMENT TECHNIQUE [M]

APPROVED COMBINED LIQUID ALLOCATION METER [M]

APPROVED WATER MEASUREMENT TECHNIQUE [M]

NOTES:

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		0	FOR PERMIT	CC	5/1/19				
DWG. NO.	TITLE	NO.	DESCRIPTION	BY	DATE	CHK.	DATE	APPR.	DATE

CLARKS CREEK 7 CTB

COMINGLING DIAGRAM
 CLARKS CREEK 7 CENTRAL TANK BATTERY
 PERMIT DRAWING

DRWN BY: CC
 CREATION DATE: 4/25/19
 Proj. No.: -
 SCALE: NTS

CHECKED: -
 CHECK DATE: -
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APPROVED: -
 APPR. DATE: -

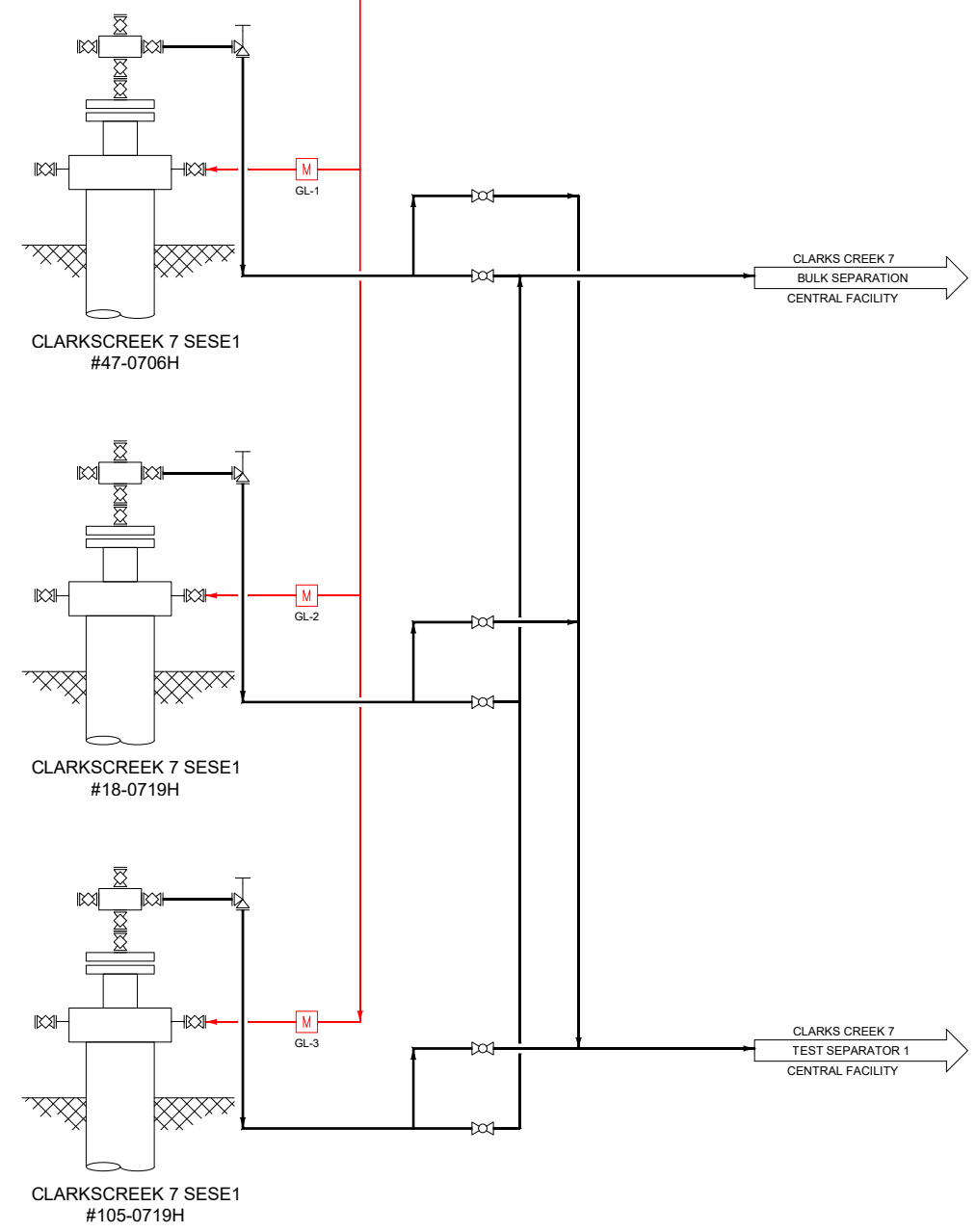
CLARKSCREEK-7-CTB

SHEET No. 1 OF 1

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FILE LOCATION: \\VBR\CA\CD\DOCUMENTS\CTB PROJECTS\CA\PERMITTING PLANS\BANKEN - CLARKS CREEK 7 CTB\CLARKSCREEK-7-CTB-04.DWG LAST REVISED: 07/27/19 9:01 AM PLOT TIME: 07/27/19 9:01 AM

CLARKS CREEK 7 AREA
GAS
CENTRALIZED COMPRESSION



LEGEND	
ALTERNATE OR OPTIONAL EQUIPMENT, FLOW PATH, OR CUSTODY TRANSFER POINT	---
FINAL MEASUREMENT POINT	FMP
APPROVED GAS MEASUREMENT TECHNIQUE	M
APPROVED OIL MEASUREMENT TECHNIQUE	M
APPROVED COMBINED LIQUID ACCLOCATION METER	M
APPROVED WATER MEASUREMENT TECHNIQUE	M

NOTES:

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CLARKS CREEK 7 SESE 1

COMINGLING DIAGRAM
CLARKS CREEK 7 SESE 1
PERMIT DRAWING

DRAWN BY: MDC	CHECKED: -	APPROVED: -
CREATION DATE: 4/24/19	CHECK DATE: -	APPR. DATE: -
Proj. No.: -	CLARKSCR-7-SESE1-CM	
SCALE: NTS	SHEET No. 1 OF 1	

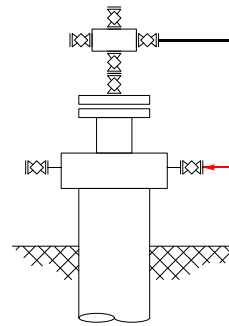
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FILE LOCATION: C:\USERS\CARLE\DOCUMENTS\CTC\PROJECTS\EOG\PERMITTING PLANS\BAKKEN - CLARKS CREEK 7 SESE\CLARKSCREEK-7-SESE1-CM.DWG LAST SAVED: 07/17/19 BY: carl PLOT TIME/DATE: July 17, 2019

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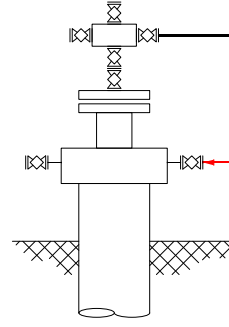
CLARKS CREEK 7 AREA
GAS
CENTRALIZED COMPRESSION

CLARKSCREEK 7 SWSE1
#73-0719HST



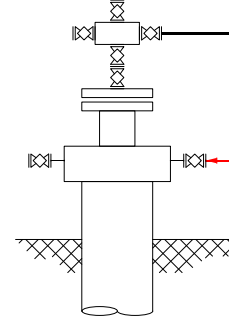
M
GL-4

CLARKSCREEK 7 SWSE1
#74-0719H



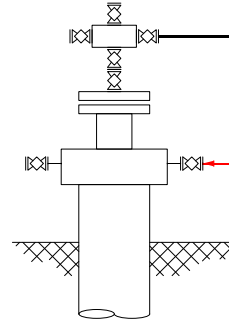
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GL-5

CLARKSCREEK 7 SWSE1
#72-0706H



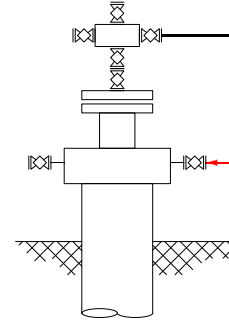
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GL-9

CLARKSCREEK 7 SWSE1
#75-0719HX



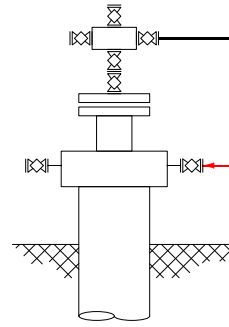
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GL-6

CLARKSCREEK 7 SWSE1
#107-0706H



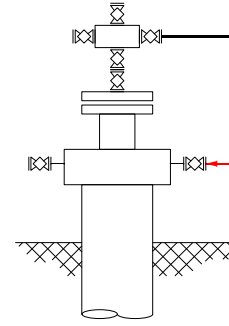
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GL-10

CLARKSCREEK 7 SWSE1
#110-0719H



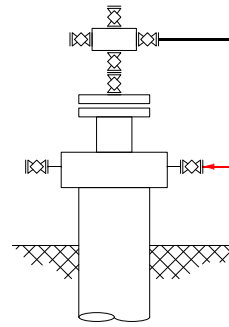
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GL-7

CLARKSCREEK 7 SWSE1
#108-0706H



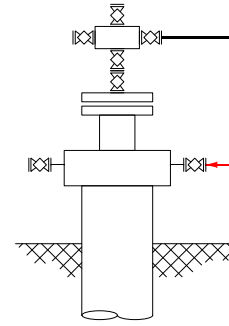
M
GL-11

CLARKSCREEK 7 SWSE1
#155-0706H



M
GL-8

CLARKSCREEK 7 SWSE1
#24-0706H



M
GL-12

CLARKS CREEK 7
TEST SEPARATOR 1
CENTRAL FACILITY

CLARKS CREEK 7
BULK SEPARATION
CENTRAL FACILITY

CLARKS CREEK 7
TEST SEPARATOR 2
CENTRAL FACILITY

LEGEND	
ALTERNATE OR OPTIONAL EQUIPMENT, FLOW PATH, OR CUSTODY TRANSFER POINT	---
FINAL MEASUREMENT POINT	FMP
APPROVED GAS MEASUREMENT TECHNIQUE	M
APPROVED OIL MEASUREMENT TECHNIQUE	G
APPROVED COMBINED LIQUID ACCLOCATION METER	M
APPROVED WATER MEASUREMENT TECHNIQUE	M

NOTES:

DWG. NO.	TITLE

REVISIONS	
NO.	DESCRIPTION
1	FORMAT UPDATE
2	UPDATE
3	UPDATE
4	FOR PERMIT

BY	CHK.	DATE	APPR.	DATE

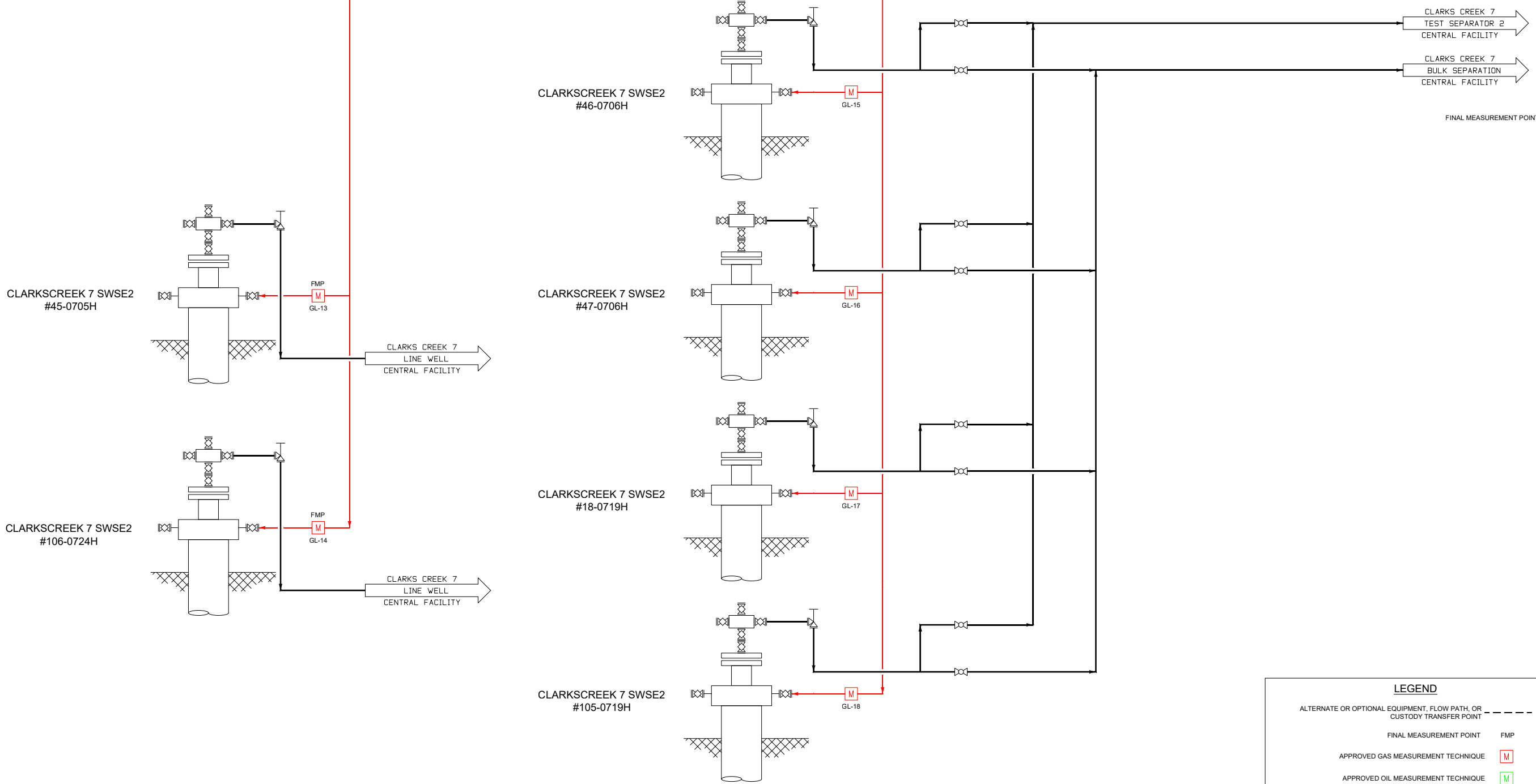
CLARKS CREEK 7 SWSE 1

COMINGLING DIAGRAM			
CLARKS CREEK 7 SWSE 1			
PERMIT DRAWING			
DRAWN BY: MDC	CHECKED: -	APPROVED: -	
CREATION DATE: 4/25/19	CHECK DATE: -	APPR. DATE: -	
Proj. No.: -	DWG. No.: -	CLARKSCR-7-SWSE1-CM	
SCALE: NTS		SHEET No.	1 OF 1

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CLARKS CREEK 7 AREA
GAS
CENTRALIZED COMPRESSION



FINAL MEASUREMENT POINT FMP

LEGEND	
ALTERNATE OR OPTIONAL EQUIPMENT, FLOW PATH, OR CUSTODY TRANSFER POINT	---
FINAL MEASUREMENT POINT	FMP
APPROVED GAS MEASUREMENT TECHNIQUE	M
APPROVED OIL MEASUREMENT TECHNIQUE	M
APPROVED COMBINED LIQUID ACCLOCATION METER	M
APPROVED WATER MEASUREMENT TECHNIQUE	M

NOTES:

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CLARKS CREEK 7 SWSE 2

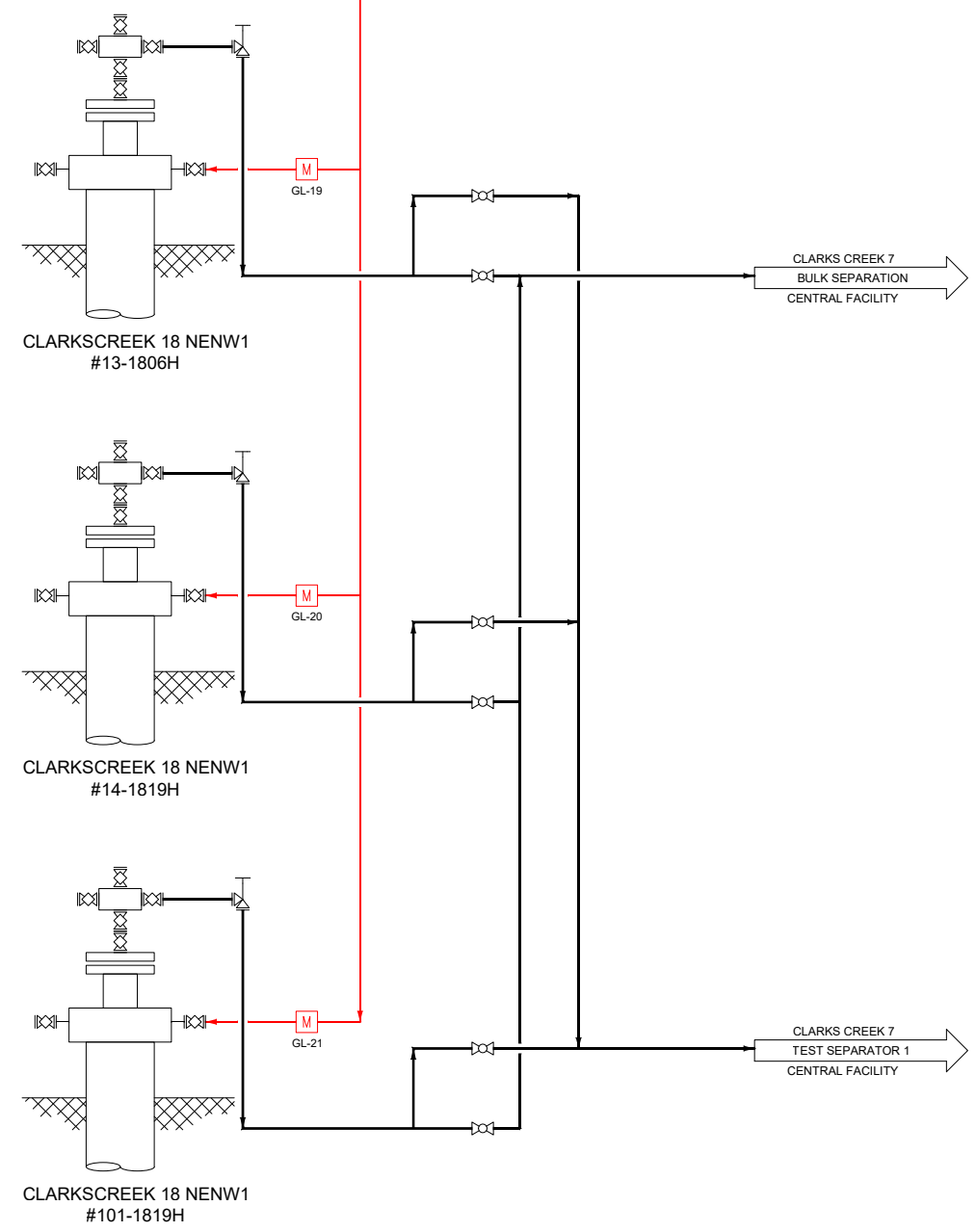


COMINGLING DIAGRAM
CLARKS CREEK 7 SWSE 2
PERMIT DRAWING

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Proj. No.: -	DWG. No.: CLARKSCR-7-SWSE2-CM	
SCALE: NTS	SHEET No. 1 OF 1	5

FILE LOCATION: C:\USERS\CARL\DOCUMENTS\CTC PROJECTS\EOG\PERMITTING PLANS\BANKEN - CLARKS CREEK 7 SWSE 2\CLARKSCREEK-7-SWSE2-CM.DWG LAST SAVED: 07/17/19 BY: Carl PLOT TIME/DATE: July 17, 2019

CLARKS CREEK 7 AREA
GAS
CENTRALIZED COMPRESSION



LEGEND	
ALTERNATE OR OPTIONAL EQUIPMENT, FLOW PATH, OR CUSTODY TRANSFER POINT	---
FINAL MEASUREMENT POINT	FMP
APPROVED GAS MEASUREMENT TECHNIQUE	M
APPROVED OIL MEASUREMENT TECHNIQUE	M
APPROVED COMBINED LIQUID ACCLOCATION METER	M
APPROVED WATER MEASUREMENT TECHNIQUE	M

NOTES:

REFERENCE DRAWINGS		REVISIONS			
DWG. NO.	TITLE	NO.	DESCRIPTION	CHK. DATE	APPR. DATE
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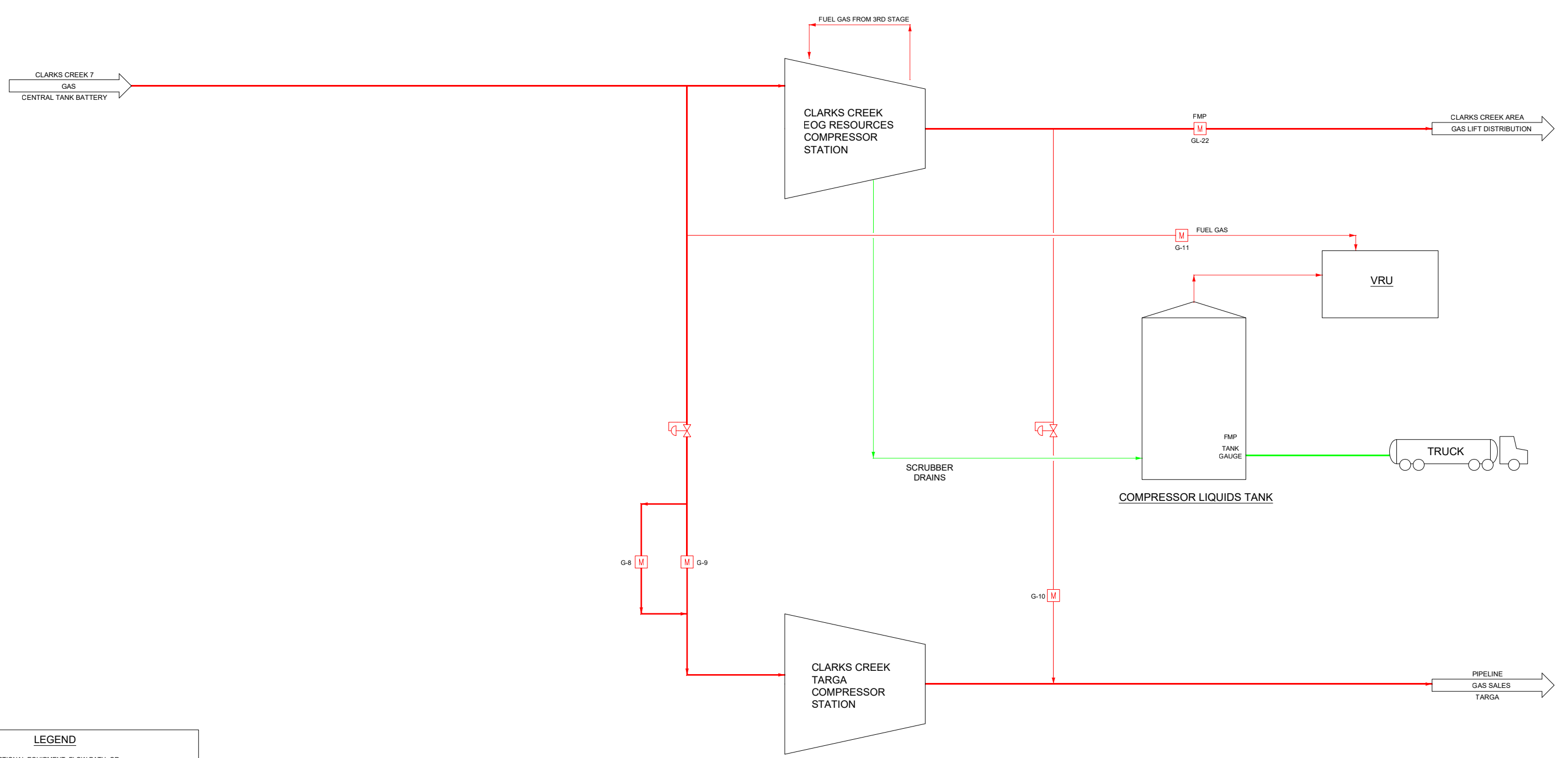
CLARKS CREEK 18 NENW 1

COMMINGLING DIAGRAM			
CLARKS CREEK 18 NENW 1			
PERMIT DRAWING			
DRAWN BY: MDC	CHECKED: -	APPROVED: -	
CREATION DATE: 4/24/19	CHECK DATE: -	APPR. DATE: -	
Proj. No.: -	DWG. No.: CLARKSCR-18-NENW1-CM	SHEET No. 1 OF 1	3
SCALE: NTS			

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LEGEND	
ALTERNATE OR OPTIONAL EQUIPMENT, FLOW PATH, OR CUSTODY TRANSFER POINT	---
FINAL MEASUREMENT POINT	FMP
APPROVED GAS MEASUREMENT TECHNIQUE	M
APPROVED OIL MEASUREMENT TECHNIQUE	M
APPROVED COMBINED LIQUID ACCLOCATION METER	M
APPROVED WATER MEASUREMENT TECHNIQUE	M

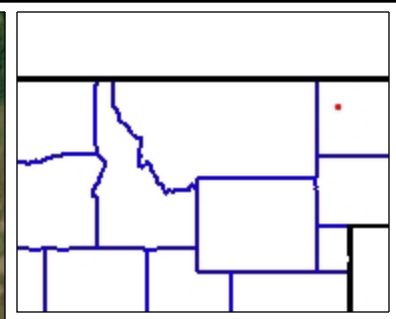
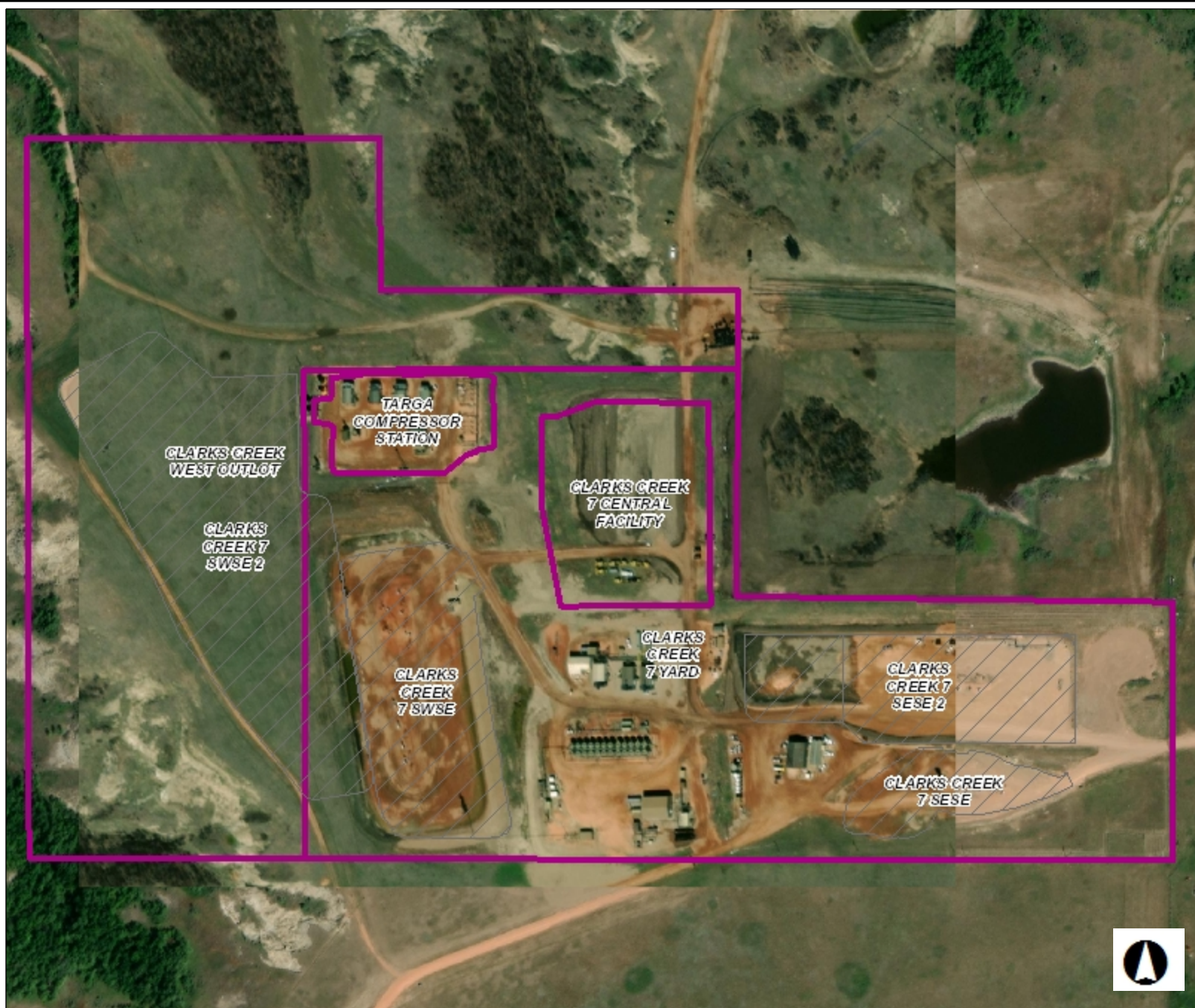
NOTES:



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		△	UPDATE	CTC	5/24/19		
		△	FOR PERMIT	MDC	4/24/19		
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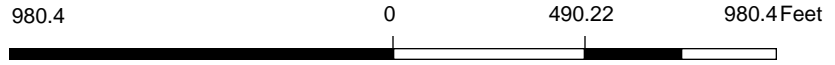
CLARKS CREEK STATION

COMINGLING DIAGRAM		
CLARKS CREEK LIFT STATION PERMIT DRAWING		
DRAWN BY: MDC	CHECKED: --	APPROVED: --
CREATION DATE: 4/24/19	CHECK DATE: --	APPR. DATE: --
Proj. No.: --	DWG. No.:	SHEET No. 3
SCALE: NTS	CLARKSCR-LIFT STATION-CM 1	

FILE LOCATION: C:\USERS\CARL\DOCUMENTS\CTC\PROJECTS\EOG\PERMITTING PLANS\BAKKEN - CLARKS CREEK 7 CTB\BAKKEN - CLARKS CREEK 7 STATION\CLARKSCREEK-STATION-01.DWG PLOT TIME/DATE: July 31, 2019 LAST SAVED: 07/31/19 BY: Carl



- Legend**
- Well Pad Areas
 -  WELL PAD
 -  FACILITY PAD



1: 5,883
 Projection: WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

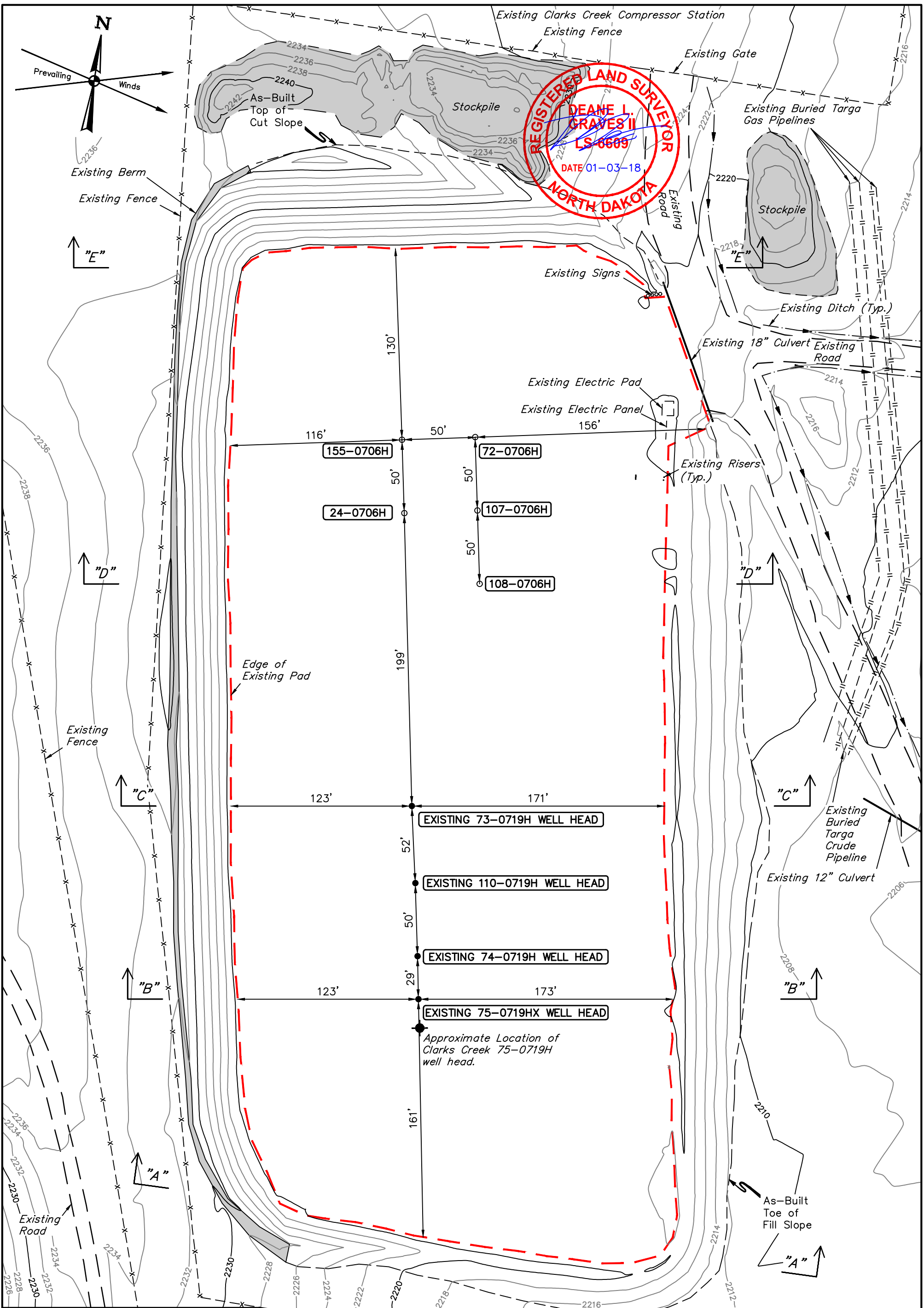
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Date: 9/29/2021



Clarks Creek Yard - Facility Overview

Author: CW



AS-BUILT GRADED ELEVATION = 2219.0' REV: 4 01-02-18 B.R. (SHL MOVE)

- NOTES:**
- Contours shown at 2' intervals.
 - Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.

EOG RESOURCES, INC.

CLARKS CREEK 7 SWSE 1
 SW 1/4 SE 1/4, SECTION 7, T151N, R94W, 5th P.M.
 MCKENZIE COUNTY, NORTH DAKOTA

SURVEYED BY	J.C., K.W.	05-23-17	SCALE
DRAWN BY	T.L.L.	07-05-17	1" = 60'

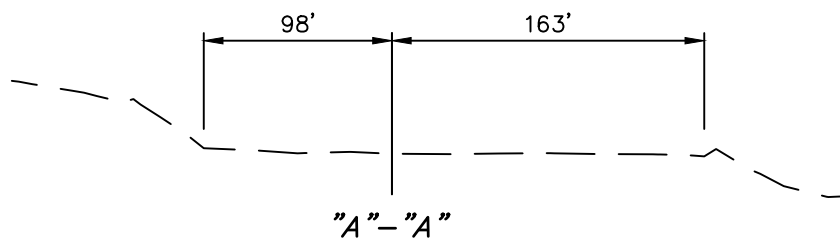
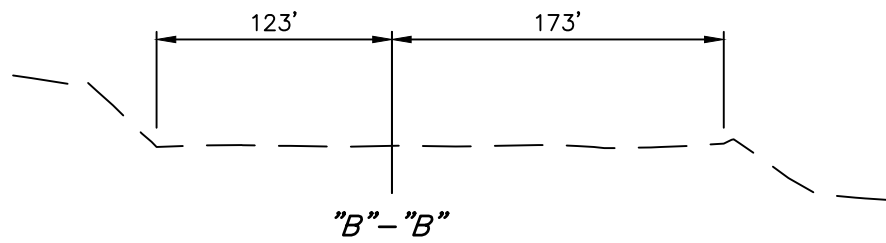
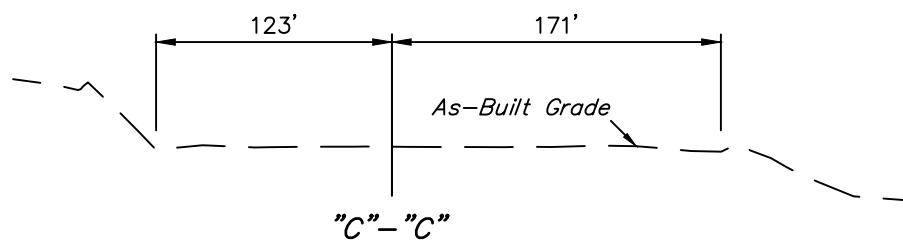
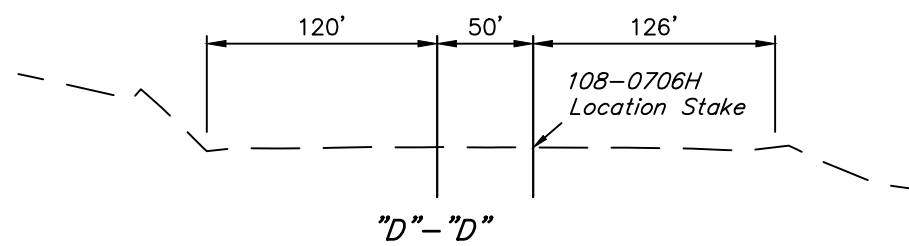
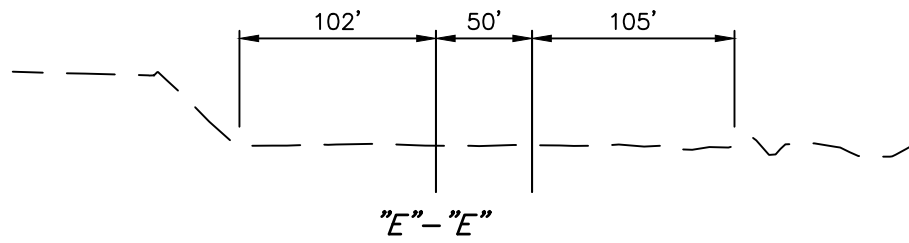
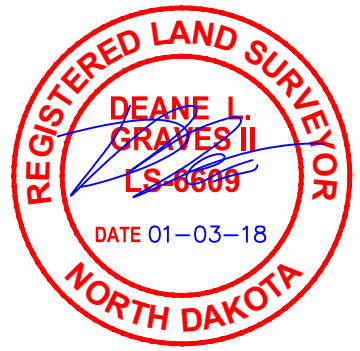
PAD LAYOUT

FIGURE #1



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

1" = 40'
 X-Section
 Scale
 1" = 100'



REV: 2 01-02-18 B.R. (SHL MOVE)

EOG RESOURCES, INC.

CLARKS CREEK 7 SWSE 1
 SW 1/4 SE 1/4, SECTION 7, T151N, R94W, 5th P.M.
 MCKENZIE COUNTY, NORTH DAKOTA

SURVEYED BY	J.C., K.W.	05-23-17	SCALE
DRAWN BY	T.L.L.	07-05-17	AS SHOWN

TYPICAL CROSS SECTIONS **FIGURE #2**



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

Spill Prevention and Monitoring Controls for Gas Injection

The maximum allowable working pressure of the compressed gas injection system is 1440 psig (ASME pressure class 600). Ultimate overpressure protection of the compressors and discharge piping is provided by pressure safety valves (PSV's) having a 1440 psig set point and located on each compressor's final stage discharge bottle. To prevent approaching relief setpoints during operation, a compressor discharge pressure transmitter is used to shut down the compressor bank at 1380 psig (95% of MAWP). These two over pressure protection measures ensure the pressure ratings of the compressed gas system components and piping systems are not exceeded.

A flow meter and control valve installed in the injection line at the wellhead of the test well provides for flow rate control and monitoring capability. There are multiple wells at the Clarks Creek 7 facility that receive compressed gas for artificial lift from the same compressed gas system. Each of these wells also has its own flow meter and control valve installed at the wellhead. A total system flow meter is installed in the main discharge header of the compressor bank. Comparing the sum of injection gas received at each well against the total gas delivery from the compressor bank allows for gas accounting and leak detection. In the extremely unlikely event of a major injection line breach, a compressor bank shutdown will be triggered due to compressor over speed monitoring and protection.

Clarks Creek 110-0719H

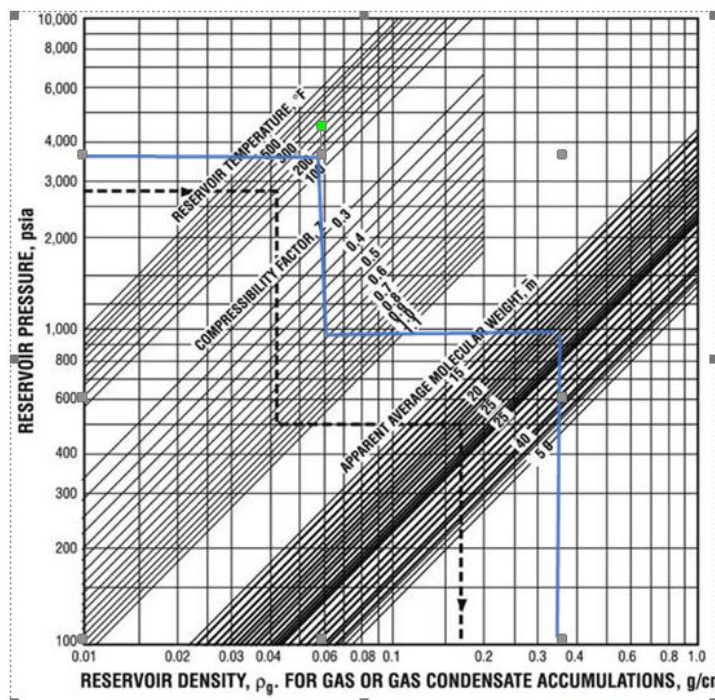
Brief Description of the Proposed Injection Program.

The project goal is to capture gas during plant and pipeline upsets/downtime that occur intermittently throughout the year.

EOG Resources, Inc. (EOG) proposes to inject raw gas into the Clarks Creek 72-0706H, Clarks Creek 107-0706H and the Clarks Creek 110-0719H, Middle Bakken formation. The raw gas will be pulled from the Clarks Creek Central Gas Compression Facility (CCGCF), prior to gas sales (Targa Badlands LLC.). Clarks Creek wells currently operate on gas lift as a form of artificial lift (recycled gas). Produced gas from the source wells will be metered at the well then flow to the CCGCF, metered/sampled and injected into the wells down the annular space between the 7" casing and 2.375" tubing. The max gas compression for the Clarks Creek Central Gas Compression Facility is 2500psi, which does not exceed the frac gradient. The perforation intervals for the Clarks Creek 110-0719H is 11,150- 21,208' MD. The average injection rate is anticipated to be on average 2000 MSCFD (total rate divided between three permitted injection wells) at a pressure of 1100psi. The planned max injection rate is 8500MSCFD (total rate divided between 3 wells) at a pressure of 1150 psi. These rates and pressures should be below the bottom hole fracture pressure of the confining zone, 7,785 psi with a gradient of 0.83 psi/ft. If gas breakthrough is seen during the injection rate test, the rate will be decreased until breakout stops. If breakout continues to be seen with a reduced rate, the test will stop.

The results of the injection test will determine the operating limits (rate and volume) for continued gas injection which would allow for gas to be captured during plant and pipeline upsets/downtime in lieu of flaring or shutting in production across the field. The duration of the project will be for the life of the well or upon written notice to the NDIC, if the project is discontinued.

The subject well will be shut-in during injection. The well will be returned to production as capacity in the Targa Gas Gathering pipeline becomes available.



$$\text{Pressure Gradient} = 0.433 * \text{SG (gas)}$$

$$0.16 = 0.433 * 0.37$$

SG = Reservoir pressure & temperature.

https://wiki.aapg.org/File:Formation-fluid-pressure-and-its-application_fig5-10.png

Clarks Creek 110-0719H



Monitor well(s) Production:

CLARKS CREEK 45-0705H					
	GAS	OIL	WATER	GOR	GLR
AVG	1357	191	167	8101	4026
MAX	2059	535	335	18725	9719
MIN	160	17	18	2692	1804

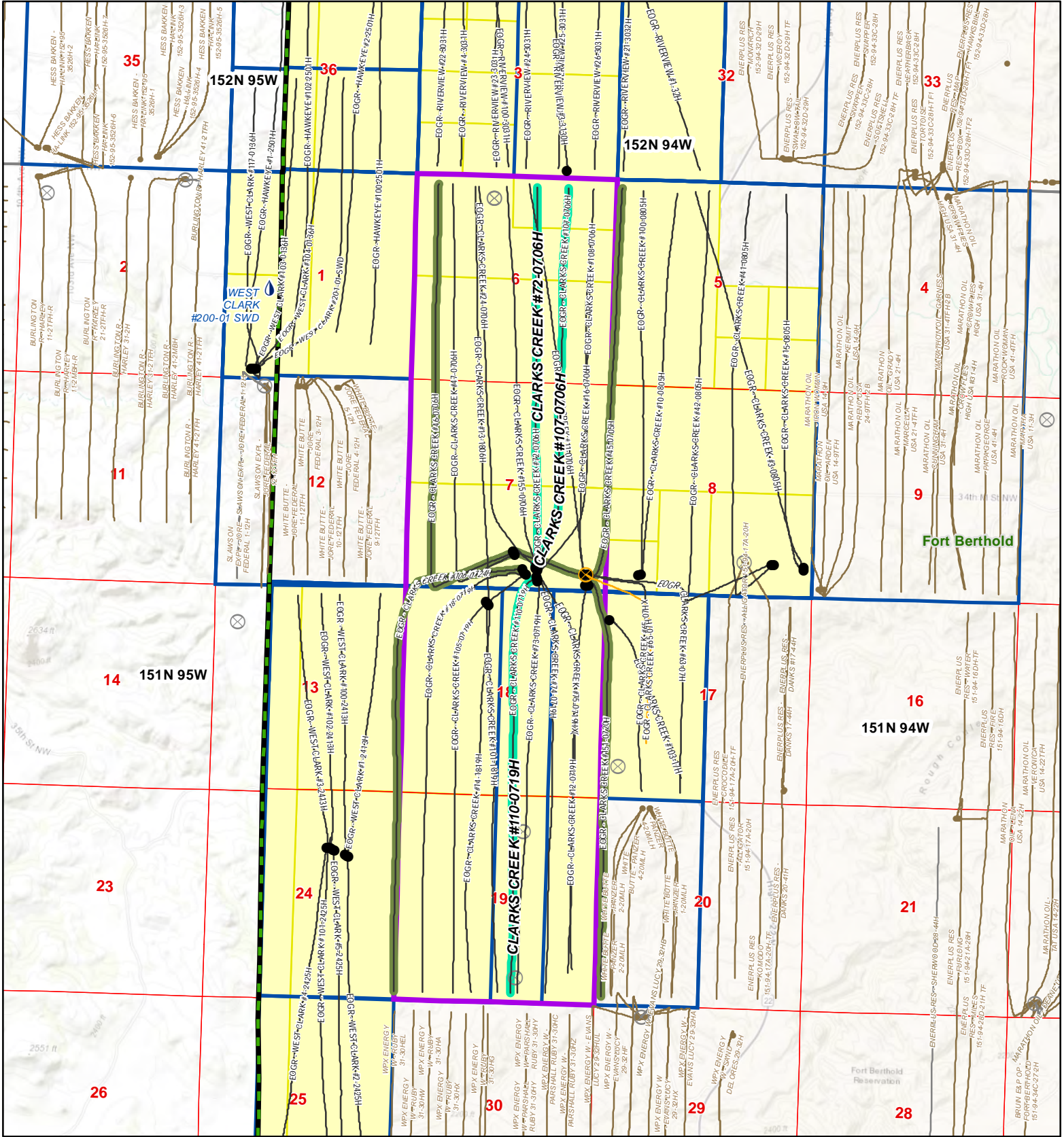
CLARKS CREEK 46-0706H					
	GAS	OIL	WATER	GOR	GLR
AVG	701	270	248	2641	1421
MAX	1409	452	741	7852	4277
MIN	7	64	32	43	27

CLARKS CREEK 106-0724H					
	GAS	OIL	WATER	GOR	GLR
AVG	1458	318	250	4747	2626
MAX	2,508	557	397	30,260	12,828
MIN	69	29	28	2,165	1,090

CLARKS CREEK 151-0720H					
	GAS	OIL	WATER	GOR	GLR
AVG	2678	608	735	5731	2285
MAX	4,836	1,563	1,418	11,013	4,018
MIN	97	108	169	397	209

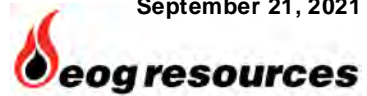
Clarks Creek EOR - Review

Township 151 North, Range 94W, 5th PM
Sections 6, 7, 18 & 19



- Fort Berthold Indian Reservation
- EOG 2560 Spacing Unit
- EOG Spacing Unit
- EOG Lease
- EOG, Plugged, Abandoned & Dry Holes
- EOG, Plugged, Abandoned & Dry Holes
- EOG Saltwater Disposal Well
- EOG Water Source Well
- EOG Producing SHL
- EOG Producing Wells
- EOG Wells of Interest
- Monitoring Wells
- OBO/NonEOG, Plugged, Abandoned & Dry Holes
- OBO/NonEOG, Plugged, Abandoned & Dry Holes
- OBO/NonEOG Producing

CLARKS CREEK 72-0706H
CLARKS CREEK 107-0706H
CLARKS CREEK 110-0719H
 September 21, 2021





Clarks Creek 72-0706H

Source Well List

CA Number	API Number	Well Name	Num	Stat	St	County	TWP/LAT	RGE/LON	SEC	QTR	Lease	Comments
NDM102328	330530361200S1	CLARKS CREEK	101-1819H	PRODUCING	ND	MCKENZIE	151N	94W	18	NENW	1420A049412	
NDM102328	330530361500S1	CLARKS CREEK	11-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SESE	1420A048320	
NDM102328	330530361600S1	CLARKS CREEK	12-0719H	PRODUCING	ND	MCKENZIE	151N	94W	7	SESE	1420A049414	
NDM102328	330530361300S1	CLARKS CREEK	13-1806H	PRODUCING	ND	MCKENZIE	151N	94W	18	NENW	1420A049412	
NDM102328	330530361400S1	CLARKS CREEK	14-1819H	PRODUCING	ND	MCKENZIE	151N	94W	18	NENW	1420A049412	
NDM102328	330530361700S1	CLARKS CREEK	16-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SESE	1420A048320	
NDM102328	3305307663	CLARKS CREEK	73-0719H	PRODUCING	ND	MCKENZIE	151N	94W	7	SESW	1420A049414	
NDM102328	3305307661	CLARKS CREEK	74-0719H	PRODUCING	ND	MCKENZIE	151N	94W	7	SESW	1420A049414	
NDM102328	3305307809	CLARKS CREEK	75-0719HX	PRODUCING	ND	MCKENZIE	151N	94W	7	SESW	1420A049414	
NDM102328	3305307662	CLARKS CREEK	110-0719H	PRODUCING	ND	MCKENZIE	151N	94W	7	SESW	1420A049414	
NDM102328	3305307666	CLARKS CREEK	24-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A048320	
NDM102328	3305307664	CLARKS CREEK	72-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A048320	
NDM102328	3305307665	CLARKS CREEK	107-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A048320	
NDM102328	3305308359	CLARKS CREEK	108-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A048320	
NDM102328	3305307667	CLARKS CREEK	155-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A048320	
NDM102328	33-053-09056	CLARKS CREEK	46-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A049412	
NDM102328	33-053-09057	CLARKS CREEK	47-0706H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A048320	
NDM102328	33-053-09061	CLARKS CREEK	105-0719H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A049412	
NDM102328	33-053-09060	CLARKS CREEK	18-0719H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A049412	
Pending	33-053-09055	CLARKS CREEK	45-0705H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A048320	Line Well
Pending	33-053-09058	CLARKS CREEK	106-0724H	PRODUCING	ND	MCKENZIE	151N	94W	7	SWSE	1420A049412	Line Well
Pending	3305308343	CLARKS CREEK	151-0720H	PRODUCING	ND	MCKENZIE	151N	94W	7	SESE	1420A049414	Line Well
N/A	3305308456	CLARKS CREEK	63-07H	PRODUCING	ND	MCKENZIE	151N	94W	7	SESE	1420A049645	
N/A	3305309348	CLARKS CREEK	65-07HX	PRODUCING	ND	MCKENZIE	151N	94W	7	SESE	1420A049645	



Natural Gas Analysis Report

GPA 2172-14/API 14.5 Report with GPA 2145-16 Physical Properties

Sample Information

Sample Information	
Sample Name	STNG0346
Atmospheric Pressure	13.70
Laboratory	Trk 1174
Analyzer Type	Gas Chromatograph
Analyzer Make & Model	ABB Ngc 8209 SN T190655962
Last Calibration/Validation Date	8/16/21
Sampling Flow Rate	21041 MCF
Air Temperature	61 F
Heat Tracing	Yes
Type of Sample	spot-portable GC
Company Collecting Sample	EOG Resources
Operator	Kevin Olsen
Sample Notes	CLARKS CREEK 7 SWSE GAS LIFT SUPPLY
Injection Date	2021-08-20 12:47:00
Report Date	2021-08-20 12:54:59

Component Results

Component Name	Raw Amount	Norm Mole%	Liq. Volume% (Dry)	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)
Nitrogen	2.6648	2.6452	1.4542	0.0000	0.02558
Carbon Dioxide	0.9907	0.9834	0.8386	0.0000	0.01494
Methane	67.0774	66.5836	56.4058	674.0502	0.36881
Ethane	18.7657	18.6276	24.8934	330.4153	0.19339
Propane	7.6959	7.6393	10.5168	192.6571	0.11631
i-Butane	0.6812	0.6762	1.1057	22.0402	0.01357
n-Butane	1.7926	1.7794	2.8032	58.1837	0.03571
i-Pentane	0.2238	0.2222	0.4060	8.9106	0.00554
n-Pentane	0.7218	0.7165	1.2978	28.7888	0.01785
n-hexane	0.0741	0.0736	0.1513	3.5084	0.00219
n-heptane	0.0359	0.0356	0.0821	1.9635	0.00123
n-octane	0.0154	0.0153	0.0392	0.9583	0.00060
Nonane Plus	0.0021	0.0021	0.0059	0.1473	0.00009
Total:	100.7414	100.0000	100.0000	1321.6234	0.79581

Results Summary

Result	Dry
Total Un-Normalized Mole%	100.7414
Temperature Base (Deg. F)	60.00
Flowing Temperature (Deg. F)	109.0
Flowing Pressure (psia)	1164.0
Gross Heating Value (BTU / Ideal cu.ft.)	1321.6234
Gross Heating Value (BTU / Real cu.ft.)	1327.2231
Relative Density (G), Real	0.7988

Attachment E: Plugging and Abandonment Plan

- e. Form 7520-19
- f. Diagram w/plugs, depth, cement grade,
- g. cost estimate from an independent firm

United States Environmental Protection Agency



WELL REWORK RECORD, PLUGGING AND ABANDONMENT PLAN, OR PLUGGING AND ABANDONMENT AFFIDAVIT

Name and Address, Phone Number and/or Email of Permittee

EOG Resources, Inc.
600 17th Street, Suite 1000N
Denver, CO 80202
(303) 262-9973

Permit or EPA ID Number

API Number

Full Well Name

3305307662

Clarks Creek 110-0719H

State

North Dakota

County

McKenzie

Locate well in two directions from nearest lines of quarter section and drilling unit

Latitude 47.906250

Surface Location

SW 1/4 of SE 1/4 of Section 7 Township 151 Range 94

Longitude 102.757408

300 ft. from (N/S) S Line of quarter section

1736 ft. from (E/W) E Line of quarter section.

Well Class

Timing of Action (pick one)

Type of Action (pick one)

- Class I
- Class II
- Class III
- Class V

- Notice Prior to Work
Date Expected to Commence
- Report After Work
Date Work Ended

- Well Rework
- Plugging and Abandonment
- Conversion to a Non-Injection Well

Provide a narrative description of the work planned to be performed, or that was performed. Use additional pages as necessary. See instructions.

EOG Resources, Inc. respectfully provides the attached plan to plug and abandonment the subject well.

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)

Cally Wescoat
Regulatory Administrator

Signature

Date Signed

11-2-2021



Description

P&A well. Plan to place CIBP above liner top and set several balanced plugs up the vertical.

Procedure

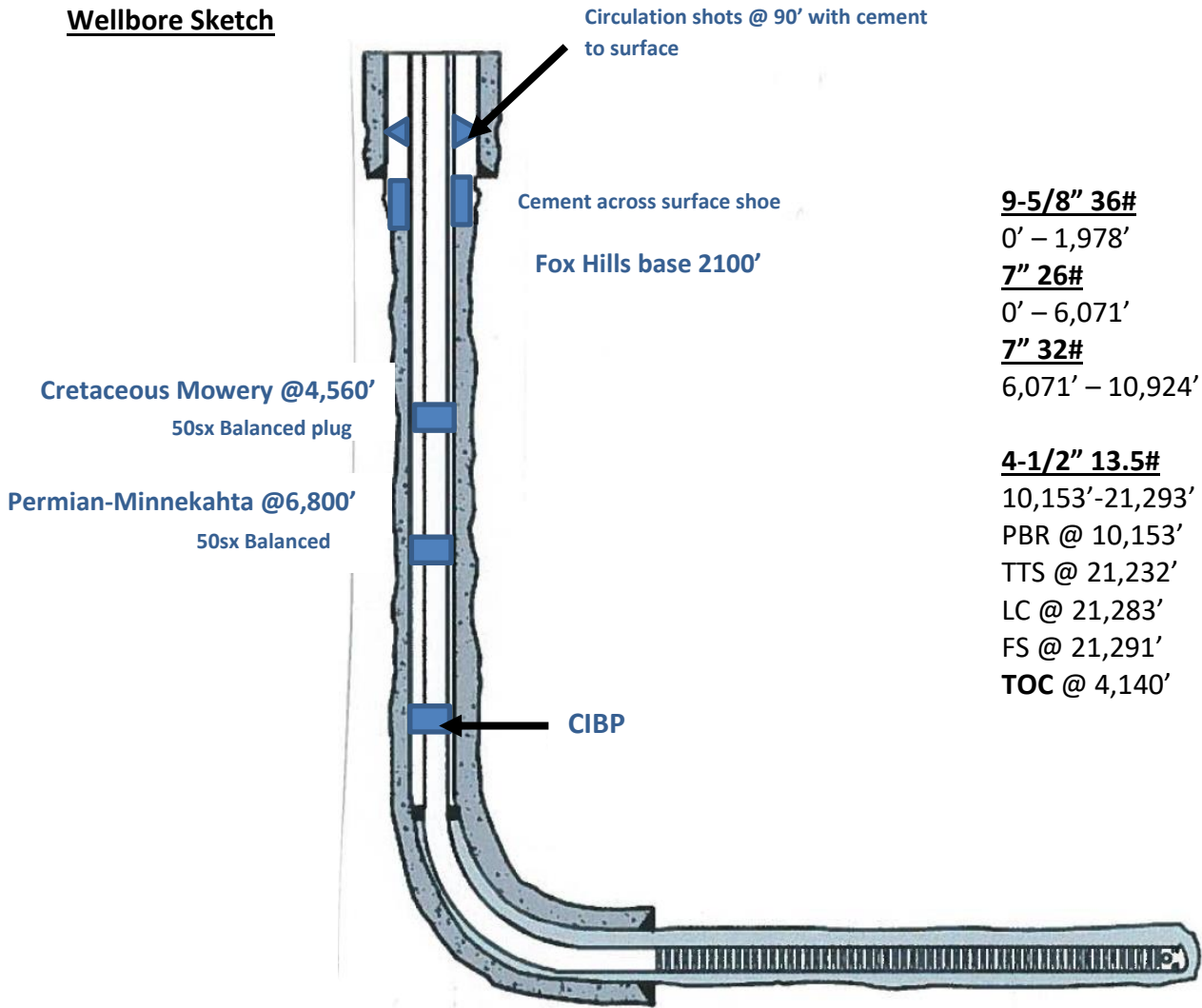
****Notify NDIC, BLM & EPA of intent to P&A well 48 Hrs in advance to rigging up.****

1. MIRU Workover Rig. NU/test BOP's.
2. Set a CIBP directly above the liner top, PU and run scraper to retainer/set CIBP @ 10,140.
3. Test CIBP to 1,000 PSI for 15 mins.
4. RU cement crew, tag plug and set 50 sk balanced plugs across the tops of the following formation tops:
 - a. 10,140' (just above CIBP)
 - b. 6,675'-6,925' (P-M)
 - c. 4,435'-4685' (C-M)
5. Perforate the casing below the surface shoe @ 1,990' and establish circulation to surface. Set CICR @ 1890' and squeez 100sxs of class G cement.
6. MIRU WLU and perforate the 7" at 90' with CSG punch charges/circulation shots. Circulat cement to surface.
7. Cut off and weld a steel cap on stub at least 4-6' below plow depth.

****Notify agencies P&A complete**



Wellbore Sketch





April 27th, 2021

EOG Resources

Regarding your request for pricing for plug & abandonment services on the above wells, Dakota Deadman & Anchor Services, LLC can provide most of the necessary cementing materials, cementing equipment and service crews to perform these services in accordance with a North Dakota State approved abandonment procedure.

In the event of unforeseen problems or difficulties such as stuck rods or tubing, inadvertent setting of retainers or plugs, collapsed or parted casing, water flows, blow outs, etc., or any procedural changes requested by EOG Resources or the NDIC Oil & Gas Division will result in additional charges. These charges will be billed to EOG Resources in accordance with our most current pricing & rate schedule.

Dakota Deadman completed billable amount, at a minimum, will be based off the pricing below and shall remain effective for a period of no less than 90 days from the date of this proposal. All incurred charges must be remitted to Dakota Deadman, in US Funds, upon completion of service.

Complete Turnkey pricing-----\$67,500.00

This above estimated pricing DOES NOT include any clean up or restoration of the location. All surface equipment on location and tubulars utilized in the wells will be left on location and in the control of EOG Resources.

Your consideration of Dakota Deadman services is always appreciated. Please contact us with any questions, comments or concerns.

Sincerely,

Darius Ost

Mario Ost

Darius Ost

Mario Ost

Dakota Deadman & Anchor Services, LLC

Dakota Deadman & Anchor Services, LLC / 1 167th St SE Norwich, ND 58768
Darius: 701-720-1041 / Mario: 701-818-8459 / dakotadeadman@outlook.com

Attachment F: Financial Assurance

LETTER FROM CHIEF FINANCIAL OFFICER

U.S. Environmental Protection Agency, Region 8
 Attn: UIC Financial Assurance
 Mail Code: ENF-W-SWD
 1595 Wynkoop Street
 Denver, CO 80202-1129

I am the Chief Financial Officer of EOG Resources, Inc. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in subpart F of 40 CFR part 144.

- I. This firm is the owner or operator of the following injection wells for which financial assurance for plugging and abandonment is demonstrated through the financial test specified in subpart F of 40 CFR part 144. The current plugging and abandonment cost estimate covered by the test is shown for each injection well:

<u>Well:</u>	<u>Estimated P&A Costs (in whole dollars):</u>
COYOTE 1-16 SWD	\$207,500
CWU 2-29 SWD	\$103,000
HOSS 901-36 SWD	\$123,000
HOSS 903-36 SWD	\$123,000
HOSS 904-36 SWD	\$123,000
HOSS 905-31 SWD	\$123,000
HOSS 906-31 SWD	\$123,000
HOSS 907-31 SWD	\$123,000
NBU 21-20B SWD	\$98,000
CWU 550-30N	\$103,000
TOTAL	\$1,249,500

- II. This firm guarantees, through the corporate guarantee specified in subpart F of 40 CFR part 144, the plugging and abandonment of the following injection wells owned or operated by subsidiaries of this firm. The current cost estimate for plugging and abandonment so guaranteed is shown for each injection well:

<u>Subsidiary Name:</u>	<u>Well:</u>	<u>Estimated P&A Costs (in whole dollars):</u>
N/A	N/A	N/A

- III. In States where EPA is not administering the financial requirements of subpart F of 40 CFR part 144, this firm, as owner or operator of guarantor, is demonstrating financial assurance for the plugging and abandonment of the following injection wells through the use of a test equivalent to the financial test specified in subpart F of 40 CFR part 144. The current plugging and abandonment cost estimate covered by such a test is shown for each injection well:

<u>Well:</u>	<u>Estimated P&A Costs (in whole dollars):</u>
CLEARWATER 200-06 SWD	\$248,500

FERTILE 1-12H SWD	\$248,500
GRAIL 200-02 SWD	\$248,500
KANDIYOHI 200-33 SWD FACILITY	\$248,500
MONT 11-28M SWD	\$248,500
SHELL CREEK 1-01H SWD	\$248,500
SHORT PRAIRIE 200-13 SWD	\$248,500
SIDONIA 100-06H SWD	\$248,500
WAYZETTA 100-26 SWD	\$248,500
WEST CLARK 200-01 SWD	\$248,500
SIMBA SWD	\$208,500
GROVES SWD #5	\$439,000
BNG 3 SWD	\$53,500
GROVES SWD #42	\$439,000
ROUTER DEEP FEDERAL SWD #21/MA	\$10,000
POLE CREEK 175-34 SWD	<u>\$208,500</u>
TOTAL	\$3,843,500

IV. This firm is the owner or operator of the following injection wells for which financial assurance for plugging and abandonment is not demonstrated to EPA of a State through the financial test or any other financial assurance mechanism specified in subpart F of 40 CFR part 144 or equivalent of substantially equivalent State mechanisms. The current plugging and abandonment cost estimate not covered by such financial assurance is shown for each injection well:

<u>Well:</u>	<u>Estimated P&A Costs (in whole dollars):</u>
N/A	N/A

This firm is required to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on December 31. The figures for the following items marked with an asterisk are derived from the firm's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 2020.

Alternative I (all numbers reported in thousands)

1.

(a) Current plugging and abandonment cost.	\$5,093
(b) Sum of the company's financial responsibilities under 40 CFR Parts 264 and 265, Subpart H, currently met using the financial test or corporate guarantee.	\$5,809
(c) Total of lines a and b.	\$10,902

*2. Total Liabilities..... \$15,502,714

*3. Tangible Net Worth..... \$20,301,887

*4. Net Worth..... \$20,301,887

*5. Current Assets..... \$5,862,168

*6. Current Liabilities..... \$3,460,104

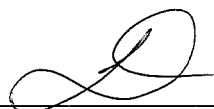
*7. Net Working Capital (Line 5 – Line 6).... \$2,402,064

*8. Sum of Net Income plus DD&A..... \$2,795,781

*9. Total assets in U.S..... \$35,047,485

	Yes	No
10. Is line 3 at least \$10 million?	X	
11. Is line 3 at least 6 times line 1(c)?	X	
12. Is line 7 at least 6 times line 1(c)?	X	
*13. Are at least 90% of the firm's assets located in the U.S.? If not, complete line 14.	X	
14. Is line 9 at least 6 times line 1(c)		
15. Is line 2 divided by line 4 less than 2.0?	X	
16. Is line 8 divided by line 2 greater than 0.1?	X	
17. Is line 5 divided by line 6 greater than 1.5?	X	

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 144.70(f) as such regulations were constituted on the date shown immediately below.



 Timothy K. Driggers
 Executive Vice President & Chief Financial Officer

MARCH 31, 2021
 (Date)

Independent Accountants' Report on Applying Agreed-Upon Procedures

To the Board of Directors of
EOG Resources, Inc.
Houston, Texas

We have performed the procedures included in the Code of Federal Regulations (“CFR”) Title 40, Chapter I, Subchapter D, *Water Programs*, Part 144, *Underground Injection Control Program*, Subpart F, *Financial Responsibility: Class I Hazardous Waste Injection Wells*, Section 144.70, *Wording of the instruments*, paragraph (f), Alternative I, which were agreed to by the Environmental Protection Agency (the “EPA”) and EOG Resources, Inc. (the “Company”) related to the Company’s compliance with the financial test option as of December 31, 2020, included in the accompanying letter dated March 31, 2021, from Timothy K. Driggers of EOG Resources, Inc (the “CFO Letter”). The Company’s management is responsible for its compliance with those requirements. The sufficiency of these procedures is solely the responsibility of those parties specified in this report. Consequently, we make no representations regarding the sufficiency of the procedures enumerated below either for the purpose for which this report has been requested or for any other purpose.

The procedures that we performed and the related findings are as follows:

1. We compared the amounts included in items 4-6 and item 9 (as defined in CFR Title 40, Chapter I, Subchapter D, *Water Programs*, Part 144, *Underground Injection Control Program*, Subpart F, *Financial Responsibility: Class I Hazardous Waste Injection Wells*, Section 144.61 (“Section 144.61”) under the caption Alternative I in the CFO Letter with the corresponding amounts in the audited financial statements of the Company as of and for the year ended December 31, 2020, on which we have issued our report dated February 25, 2021, and noted that such amounts were in agreement.
2. We recomputed from, or reconciled to, the financial statements referred to in procedure 1 the information included in items 2, 3, 7 and 8 under the caption Alternative I in the CFO Letter and noted no differences.
3. For item 10 under the caption Alternative I in the CFO Letter, we compared the Tangible Net Worth (as defined in Section 144.61 and set forth in the CFO Letter) to \$10 million and noted the Tangible Net Worth (as defined in Section 144.61) amount is greater than \$10 million.
4. For item 11 under the caption Alternative I in the CFO Letter, we compared the Tangible Net Worth (as defined in Section 144.61 and set forth in the CFO Letter) to the product of six times the amount included in item 1(c) of the CFO Letter and noted the Tangible Net Worth (as defined in Section 144.61) is greater than six times item 1(c).
5. For item 12 under the caption Alternative I in the CFO Letter, we compared the Net Working Capital (as defined in Section 144.61 and set forth in the CFO Letter) to the product of six times the amount included in item 1(c) of the CFO Letter and noted the Net Working Capital (as defined in Section 144.61) is greater than six times item 1(c).

6. For item 13 under the caption Alternative I in the CFO Letter, we calculated the percentage of the Company's assets located in the United States as a percentage of the Company's total assets (the "percentage of total assets in the U.S.") using amounts from the financial statements referred to in procedure 1. We compared this percentage to 90% and noted this percentage is greater than 90%.
7. For item 15 under the caption Alternative I in the CFO Letter, we compared the quotient of Total Liabilities (as set forth in the CFO Letter) divided by Net Worth (as defined in Section 144.61 and set forth in the CFO Letter) and noted the quotient is less than 2.0.
8. For item 16 under the caption Alternative I in the CFO Letter, we compared the quotient of the Sum of Net Income plus DD&A (as set forth in the CFO Letter) divided by Total Liabilities (as set forth in the CFO Letter) and noted the quotient is greater than 0.1.
9. For item 17 under the caption Alternative I in the CFO Letter, we compared the quotient of Current Assets (as set forth in the CFO Letter) divided by Current Liabilities (as set forth in the CFO Letter) and noted the quotient is not greater than 1.5.

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an examination or review, the objective of which would be the expression of an opinion or conclusion, respectively, on compliance with the financial test option in the accompanying CFO Letter dated March 31, 2021. Accordingly, we do not express such an opinion or conclusion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of the Board of Directors and management of the Company and the EPA and is not intended to be, and should not be, used by anyone other than the specified parties.

Deloitte & Touche LLP

Houston, Texas
March 31, 2021

Attachment H: Aquifer Exemption

- h. Produced water samples from wells within ¼-mile AOR



Oilfield Labs of America
 1100 Dillon Ave.
 Cheyenne, Wyoming 82007
 307-316-2820

Report Date: 12/19/2019

Complete Water Analysis

Customer:	EOG Resources	Account Rep:	Michael Hickman
Operator:	EOG Resources	Sample ID:	03191217180
Lease:	CLARKS CREEK 108-0706H 92555	Sample Date:	12/12/2019
Sample Point:	WELLHEAD	Received Date:	12/17/2019
Region:	Bakken	Log Out Date:	12/19/2019

EOG Resources, EOG Resources, CLARKS CREEK 108-0706H 92555,WELLHEAD

Field Data		Analysis of Sample											
		Anions:		mg/L		meq/L		Cations:		mg/L		meq/L	
Initial Temperature (°F):	190	Chloride (Cl ⁻):	148000	4174.9	Sodium (Na ⁺):	63578	2766.7						
Final Temperature (°F):	80	Sulfate (SO ₄ ²⁻):	130	2.7	Potassium (K ⁺):	5971	152.7						
Initial Pressure (psi):	1250	Bicarbonate (HCO ₃ ⁻):	281	4.6	Magnesium (Mg ²⁺):	902	74.2						
Final Pressure (psi):	15	Carbonate (CO ₃ ²⁻):	ND		Calcium (Ca ²⁺):	14662	731.6						
Dissolved Gases		Hydroxide (OH ⁻):	ND		Strontium (Sr ²⁺):	1288	29.4						
Dissolved CO ₂ (ppm):	990	Phosphate (PO ₄ ³⁻):	0.5	0.0	Barium (Ba ²⁺):	17.0	0.2						
Dissolved H ₂ S (ppm):	ND	Borate (H ₃ BO ₃):	2028	32.8	Iron (Fe, Total):	112	4.0						
Sample Parameters		Silica (SiO ₂):	53.7	0.9	Manganese (Mn ²⁺):	9.6	0.3						
pH:	6.3				Lead (Pb ²⁺):	0.1	0.0						
Calculated TDS (mg/L):	237964				Zinc (Zn ²⁺):	20.2	0.6						
Calculated Density (g/cm ³):	1.1551				Lithium (Li ⁺):	46.9	6.8						
Total Hardness (mg/L CaCO ₃):	41841				Aluminum (Al ³⁺):	0.1	0.0						
Total Alkalinity (mg/L CaCO ₃):	230												
		Anion EPM Total:	4216		Cation EPM Total:	3767							
N/A - Not Analyzed		% RPD of Cations/Anions:		11.3%		ND = Not Detected							

Conditions		Barite (BaSO ₄)		Calcite (CaCO ₃)		Gypsum (CaSO ₄ ·2H ₂ O)		Anhydrite (CaSO ₄)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi	0.84	8.508	1.46	59.065	-0.67	0.000	-0.88	0.000
92°F	152 psi	0.71	7.961	1.45	58.824	-0.70	0.000	-0.83	0.000
104°F	289 psi	0.59	7.313	1.44	58.523	-0.73	0.000	-0.78	0.000
117°F	427 psi	0.48	6.569	1.42	58.217	-0.76	0.000	-0.73	0.000
129°F	564 psi	0.39	5.735	1.41	57.957	-0.78	0.000	-0.68	0.000
141°F	701 psi	0.30	4.821	1.40	57.780	-0.80	0.000	-0.64	0.000
153°F	838 psi	0.22	3.839	1.39	57.711	-0.82	0.000	-0.59	0.000
166°F	976 psi	0.15	2.800	1.39	57.768	-0.84	0.000	-0.55	0.000
178°F	1113 psi	0.09	1.716	1.39	57.959	-0.86	0.000	-0.51	0.000
190°F	1250 psi	0.03	0.597	1.40	58.289	-0.89	0.000	-0.47	0.000

Conditions		Celestite (SrSO ₄)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate (FeCO ₃)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi	0.11	18.352	-0.59	0.000	-8.07	0.000	0.96	39.686
92°F	152 psi	0.07	11.371	-0.60	0.000	-8.18	0.000	0.98	40.522
104°F	289 psi	0.03	4.513	-0.60	0.000	-8.28	0.000	1.00	41.135
117°F	427 psi	-0.01	0.000	-0.61	0.000	-8.37	0.000	1.01	41.572
129°F	564 psi	-0.04	0.000	-0.62	0.000	-8.45	0.000	1.02	41.883
141°F	701 psi	-0.07	0.000	-0.63	0.000	-8.52	0.000	1.03	42.105
153°F	838 psi	-0.10	0.000	-0.64	0.000	-8.58	0.000	1.03	42.270
166°F	976 psi	-0.12	0.000	-0.65	0.000	-8.63	0.000	1.03	42.399
178°F	1113 psi	-0.14	0.000	-0.65	0.000	-8.67	0.000	1.03	42.509
190°F	1250 psi	-0.16	0.000	-0.66	0.000	-8.71	0.000	1.03	42.612

- Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered
- Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the eight (8) scales.
- Note 3: Saturation Index predictions on this sheet use pH and alkalinity; %CO₂ is not included in the calculations.

Comments: _____



OLA
 1100 Dillon Ave.
 Cheyenne, Wyoming 82007
 307-316-2820

Report Date: 7/28/2021

Complete Water Analysis

OLA Customer:	EOG Resources	Account Rep:	Michael Hickman
Operator:	EOG Resources	Sample ID:	03210722186
Location:	CLARKS CREEK 74-0719H 97733	Sample Date:	7/16/2021
Sample Point:	WELLHEAD	Received Date:	7/22/2021
Region:	Bakken	Log Out Date:	7/28/2021

EOG Resources, EOG Resources, CLARKS CREEK 74-0719H 97733, WELLHEAD

Field Data		Analysis of Sample											
		Anions:		mg/L		meq/L		Cations:		mg/L		meq/L	
Initial Temperature (°F):	190	Chloride (Cl ⁻):	149000	4203.1	Sodium (Na ⁺):	76946	3348.4						
Final Temperature (°F):	80	Sulfate (SO ₄ ²⁻):	205	4.3	Potassium (K ⁺):	5343	136.6						
Initial Pressure (psi):	1250	Bicarbonate (HCO ₃ ⁻):	232	3.8	Magnesium (Mg ²⁺):	1087	89.5						
Final Pressure (psi):	15	Carbonate (CO ₃ ²⁻):	ND		Calcium (Ca ²⁺):	16808	838.7						
Dissolved Gases		Hydroxide (OH ⁻):	ND		Strontium (Sr ²⁺):	1513	34.5						
Dissolved CO ₂ (ppm):	1220	Phosphate (PO ₄ ³⁻):	14.3	0.5	Barium (Ba ²⁺):	25.9	0.4						
Dissolved H ₂ S (ppm):	ND	Borate (H ₃ BO ₃):	2609	42.2	Iron (Fe, Total):	125	4.5						
Sample Parameters		Silica (SiO ₂):	53.1	0.9	Manganese (Mn ²⁺):	12.5	0.5						
pH:	5.9				Lead (Pb ²⁺):	2.1	0.0						
Calculated TDS (mg/L):	255136				Zinc (Zn ²⁺):	23.9	0.7						
Calculated Density (g/cm ³):	1.1662				Lithium (Li ⁺):	54.2	7.8						
Total Hardness (mg/L CaCO ₃):	48232				Aluminum (Al ³⁺):	ND							
Total Alkalinity (mg/L CaCO ₃):	190				Chromium (Cr ²⁺):	ND							
		Anion EPM Total:		4255	Cation EPM Total:		4462						
N/A - Not Analyzed		% RPD of Cations/Anions:		4.7%			ND = Not Detected						

Conditions		Barite (BaSO ₄)		Calcite (CaCO ₃)		Gypsum (CaSO ₄ ·2H ₂ O)		Anhydrite (CaSO ₄)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi	1.21	14.377	1.04	41.561	-0.42	0.000	-0.61	0.000
92°F	152 psi	1.07	14.002	1.03	41.102	-0.46	0.000	-0.56	0.000
104°F	289 psi	0.95	13.548	1.00	40.530	-0.49	0.000	-0.51	0.000
117°F	427 psi	0.84	13.017	0.98	39.919	-0.51	0.000	-0.47	0.000
129°F	564 psi	0.74	12.408	0.96	39.338	-0.54	0.000	-0.42	0.000
141°F	701 psi	0.65	11.727	0.94	38.842	-0.56	0.000	-0.38	0.000
153°F	838 psi	0.57	10.979	0.93	38.470	-0.59	0.000	-0.34	0.000
166°F	976 psi	0.49	10.170	0.92	38.254	-0.61	0.000	-0.30	0.000
178°F	1113 psi	0.43	9.308	0.91	38.213	-0.64	0.000	-0.26	0.000
190°F	1250 psi	0.36	8.399	0.92	38.360	-0.67	0.000	-0.22	0.000

Conditions		Celestite (SrSO ₄)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate (FeCO ₃)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi	0.37	74.019	-0.45	0.000	-8.63	0.000	0.49	21.616
92°F	152 psi	0.32	67.163	-0.46	0.000	-8.73	0.000	0.52	22.433
104°F	289 psi	0.28	60.389	-0.47	0.000	-8.83	0.000	0.53	22.931
117°F	427 psi	0.24	53.794	-0.48	0.000	-8.92	0.000	0.54	23.189
129°F	564 psi	0.20	47.465	-0.49	0.000	-9.00	0.000	0.54	23.277
141°F	701 psi	0.17	41.483	-0.49	0.000	-9.07	0.000	0.54	23.253
153°F	838 psi	0.15	35.917	-0.50	0.000	-9.13	0.000	0.53	23.163
166°F	976 psi	0.12	30.828	-0.51	0.000	-9.18	0.000	0.53	23.043
178°F	1113 psi	0.10	26.260	-0.52	0.000	-9.22	0.000	0.53	22.918
190°F	1250 psi	0.09	22.246	-0.53	0.000	-9.25	0.000	0.52	22.810

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the eight (8) scales.

Note 3: Saturation Index predictions on this sheet use pH and alkalinity. %CO₂ is not included in the calculations.

Comments: _____



Oilfield Labs of America
 1100 Dillon Ave.
 Cheyenne, Wyoming 82007
 307-316-2820

Report Date: 12/19/2019

Complete Water Analysis

Customer:	EOG Resources	Account Rep:	Michael Hickman
Operator:	EOG Resources	Sample ID:	03191217178
Lease:	CLARKS CREEK 101-1819H 70420	Sample Date:	12/12/2019
Sample Point:	WELLHEAD	Received Date:	12/17/2019
Region:	Bakken	Log Out Date:	12/19/2019

EOG Resources, EOG Resources, CLARKS CREEK 101-1819H 70420,WELLHEAD

Field Data		Analysis of Sample											
		Anions:		mg/L		meq/L		Cations:		mg/L		meq/L	
Initial Temperature (°F):	190	Chloride (Cl ⁻):	127000	3582.5	Sodium (Na ⁺):	53993	2349.6						
Final Temperature (°F):	80	Sulfate (SO ₄ ²⁻):	110	2.3	Potassium (K ⁺):	4668	119.4						
Initial Pressure (psi):	1250	Bicarbonate (HCO ₃ ⁻):	183	3.0	Magnesium (Mg ²⁺):	901	74.1						
Final Pressure (psi):	15	Carbonate (CO ₃ ²⁻):	ND		Calcium (Ca ²⁺):	11980	597.8						
		Hydroxide (OH ⁻):	ND		Strontium (Sr ²⁺):	1003	22.9						
Dissolved Gases		Phosphate (PO ₄ ³⁻):	1.9	0.1	Barium (Ba ²⁺):	10.6	0.2						
Dissolved CO ₂ (ppm):	940	Borate (H ₃ BO ₃):	1777	28.7	Iron (Fe, Total):	153	5.5						
Dissolved H ₂ S (ppm):	ND	Silica (SiO ₂):	57.9	1.0	Manganese (Mn ²⁺):	6.7	0.2						
Sample Parameters					Lead (Pb ²⁺):	0.1	0.0						
pH:	6.5				Zinc (Zn ²⁺):	3.3	0.1						
Calculated TDS (mg/L):	202724				Lithium (Li ⁺):	36.7	5.3						
Calculated Density (g/cm ³):	1.1323				Aluminum (Al ³⁺):	0.4	0.0						
Total Hardness (mg/L CaCO ₃):	34804												
Total Alkalinity (mg/L CaCO ₃):	150												
		Anion EPM Total:		3618	Cation EPM Total:		3175						
N/A - Not Analyzed		% RPD of Cations/Anions:		13.0%	ND = Not Detected								

Conditions		Barite (BaSO ₄)		Calcite (CaCO ₃)		Gypsum (CaSO ₄ ·2H ₂ O)		Anhydrite (CaSO ₄)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi	0.48	4.134	1.16	34.265	-0.93	0.000	-1.17	0.000
92°F	152 psi	0.36	3.444	1.15	34.260	-0.95	0.000	-1.11	0.000
104°F	289 psi	0.25	2.651	1.15	34.224	-0.97	0.000	-1.05	0.000
117°F	427 psi	0.15	1.764	1.14	34.197	-0.99	0.000	-0.99	0.000
129°F	564 psi	0.06	0.796	1.14	34.210	-1.00	0.000	-0.94	0.000
141°F	701 psi	-0.02	0.000	1.14	34.282	-1.02	0.000	-0.88	0.000
153°F	838 psi	-0.09	0.000	1.14	34.425	-1.03	0.000	-0.83	0.000
166°F	976 psi	-0.15	0.000	1.15	34.646	-1.05	0.000	-0.78	0.000
178°F	1113 psi	-0.21	0.000	1.16	34.949	-1.06	0.000	-0.74	0.000
190°F	1250 psi	-0.26	0.000	1.17	35.332	-1.08	0.000	-0.69	0.000

Conditions		Celestite (SrSO ₄)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate (FeCO ₃)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi	-0.19	0.000	-0.81	0.000	-7.83	0.000	0.88	29.753
92°F	152 psi	-0.23	0.000	-0.82	0.000	-7.94	0.000	0.92	30.621
104°F	289 psi	-0.27	0.000	-0.82	0.000	-8.03	0.000	0.94	31.324
117°F	427 psi	-0.30	0.000	-0.83	0.000	-8.12	0.000	0.97	31.898
129°F	564 psi	-0.32	0.000	-0.84	0.000	-8.19	0.000	0.98	32.373
141°F	701 psi	-0.35	0.000	-0.85	0.000	-8.26	0.000	1.00	32.771
153°F	838 psi	-0.37	0.000	-0.85	0.000	-8.31	0.000	1.01	33.111
166°F	976 psi	-0.38	0.000	-0.86	0.000	-8.36	0.000	1.01	33.406
178°F	1113 psi	-0.40	0.000	-0.87	0.000	-8.40	0.000	1.02	33.665
190°F	1250 psi	-0.41	0.000	-0.87	0.000	-8.44	0.000	1.02	33.895

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered
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Note 3: Saturation Index predictions on this sheet use pH and alkalinity; %CO₂ is not included in the calculations.

Comments: _____