

November 1, 2024

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NOV 0 1 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue Billings, MT 59102

Attn: Mr. John Gizicki

UIC Program Manager

RE:

Application for UIC Permit and Authorization to Drill a Class II Injection Well

Location of proposed Disposal Well & Facility: Scadden 1 SWD

NE ¼ NW ¼, Section 21, Township 30N, Range 59E, P.M.M.

Roosevelt County, Montana

Dear Mr. Gizicki,

Phoenix Operating LLC (Phoenix) respectfully submits this application for an Underground Injection Control (UIC) permit for the referenced location and as described in the attached application. A check in the amount of \$150.00 is included in this application submittal, Check #27947.

Phoenix has provided notice to the appropriate parties within ¼ mile area of review of the proposed well location and requests that the application be placed on the docket for the MBOGC hearing scheduled December 5, 2024. A public legal notice will be published in the Helena Independent Record and the Northern Plains Independent upon confirmation of the scheduled docket date, and evidence and proof of publication will be supplemented to MBOGC upon receipt.

If you have any questions concerning the enclosed application, please contact myself at (435) 789-1017 or to Mark Johnson with Phoenix Operating LLC at (303) 548-1953.

Sincerely,

Mark Johnson

EVP Land/Regulatory/HSE

Phoenix Operating LLC

Amy Doche

Authorized Agent for Phoenix Operating LLC

UELS, LLC



October 30, 2024

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OCT 3 0 2024

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue Billings, MT 59102

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Sincerely

Authorized Agent for Phoenix Operating LLC

UELS, LLC

FORM NO. 22 R 10/0)9 aus	IN DIAMETER	ADM	36.22,307	11		OCT 3 0 2024
	SUBM	IT IN QUADRUPLICATE TO:	ARM	36.22.601	Codeo Man		
		OF OIL AND GAS CO			SCADDE		MONTANA BOARD OF O
2535 ST. JOHNS AVENUE, BILLINGS, MONTANA 59102 Application for Permit To:					PRIVATE		ederal) SERVATION - Bi
Dell C							
Drill ☑ Oil ☐	Deepen Gas	Re-enter	_	_	Well Numb	ег.	
		Other St	עעט	_ 🗸			
Operator: PHOI						or Wildcat:	
	S ULSTER ST	REET, SUITE 1510				T - ROOSEVE	LI COUNTY
City: DENVER		State: CO	Zip: 80237		Unit Name	(if applicable):	
Telephone Num				-,,			1
		and footage measurements):			Objective F	ormation(s):	
450' FNL, 2036'	FEL, NENW, 2	1, T30N, R59E			INYAN K	ARA	
mnosed Total Donth	and Dallam hale I a	cation(s) if directional or horiz			Township, I	Range, and Sect	ion:
5811' MD, TVD	and bottom-noie Lot	ation(s) if directional or horiz	ontal well:		T30N, R5	9E, SECTION	121
,,,,					County:		
					ROOSEV	ELT	
					Elevation (indicate GL or K	B):
					2460 GL		**
Size and descrip	tion of drilling/s	pacing unit and applica	ble order, if any:	Fo	mation at t	otal depth:	Anticipated Spud Date:
			7		INYAN K	ARA .	3/1/2025
Hole Size	Casing Size	I Weight (F.)					
13.5		Weight / Foot	Grade (API)	-	Depth	Sacks of Ceme	nt Type of Cement
10.0	9.625	36	J-55		2300	884	BJ CEM TYPE III
8.75	7	23	L-80		5332	462	BJ CEM TYPE III
6	4.5	11.6	L-80		5811	0	UNCEMENTED
escribe Proposed	d Operations:				0011		ONCEWENTED
Describe EE ATTACHME	or attach labeled	l diagram of blowout prev FAILS EQUESTS A VARIANG					1
			SE TO NON OF E	INTIOL	E LOGS OF	A THE SUBJEC	I WELL.
							1
	BOAR	D USE ONLY					
proved (date)		Permit Fee		The	undersigned	hereby certifies the application is true	at the information
		Check Number		- -	allieu Oli IIIIS	application	and correct:
				- Sign	ed (Agent)	South	Us l
le		Permit Expires	-	- Title	AUTHO	RIZED AGENT	
	r	Permit Numbe			-101110	HAZED (JOEH)	
HIS PERMIT IS SUBJECT TO THE ONDITIONS OF APPROVAL API Number: 25 -					10/28/2	024	
ATED ON THE BACK	K			Tele	phone Numbe	er 435-789-101	7
		***				-	
mples Required:	NONE _	ALL	FROM _			feet to	feet
owe unps 10	, address pelow, full		atory, Arvada, CO. Re card of Oil and Gas 2535 St. Johns Avel Billings, MT 5910	Conserv	iples must be v ation	vashed, dried and d	elivered prepaid to:



OCT 3 0 2024

SUPPLEMENTAL INFORMATION

MONTANA BOARD OF OIL &
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Note: Additional information or attachments may be required by Rule or by special request.

1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.

- Attach an 8 1/2 x 11" photocopy of that portion of a topographic map showing the well location, the access route
 from county or other established roads, residences, and water wells within a 1/2 mile radius of the well.
- 3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut/fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor). Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.
- 4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications.
- 5. Describe the proposed plan for the treatment and/or the disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.)

0	Joes Joes	construction of the	ne access road or location, or some other aspect of the drilling operation require additional
"	eue i	ai, state, or local	permits or authorizations? If yes, indicate the type of permit or authorization required:
	Ш	No additional pe	rmits needed
		310 Permit (app	ly through county conservation district)
		Air quality permi	t (apply through Montana Department of Environmental Quality)
		Water discharge	permit (apply through Montana Department of Environmental Quality)
		Water use perm	it (apply through Montana Department of Natural Resources and Conservation)
		Solid waste disp	osal permit (apply through Montana Department of Environmental Quality)
		State lands drilling	ng authorization (apply through Montana Department of Natural Resources and Conservation)
		Federal drilling p	ermit (specify agency)
		Other federal, st	ate, county, or local permit or authorization: (specify type)
NOTI	CES	:	
		and time of spudo encement of drill	ling must be reported to the Board verbally or in writing within 72 hours after the ing operations.
2. T	he o	perator must give the commencen	notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, nent of any surface activity.
		ISE ONLY	CONDITIONS OF APPROVAL
The ope	erato	must comply wit	h the following condition(s) of approval:

WARNING: Failure to comply with conditions of approval may void this permit.

\$150.00

MONTANA BOARD MONTANA BOARD OF OIL & GAS CON 0023785 10/28/2024 REFERENCE INVOICE NUMBER INV DATE INVOICE AMOUNT **ADJUSTMENT** WRITE OFF DISCOUNT **NET AMOUNT PAID** 0027779 PHOENIX-SCADDENISWD 10/28/2024 \$150.00 \$150.00 \$0.00 \$0.00 \$150.00

\$150.00

THIS OHEOKIS VOID WITHOUT A BLUE & HED BACKGROUND AND A

UELS, LLC 85 South 200 East Vernal, UT 84078

ZIONS FIRST NATIONAL BANK VERNAL OFFICE 3 WEST MAIN VERNAL, UT 84078

\$150.00

\$0.00

27947

31-5/1240

10/28/2024 DATE AMOUNT \$150.00

\$0.00

PAY One Hundred Fifty Dollars and 00 Cents

路雅 OF

MONTANA BOARD OF OIL & GAS CON 2535 ST. JOHNS AVENUE

BILLINGS MT 59102

CHECK IS PRINTED ON SECURITY PAPER WHICH INCLUDES A MICROPHINT BORDER & FEUORESCENT IDERS

#O27947# #124000054#002246551#

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MONTANA BOARD OF OIL & GAS CONSERVATION · BILLINGS

State of Montana Board of Oil & Gas



Docket No: _____
Underground Injection Control Application

Scadden 1 SWD Section 21, T30N, R59E

Phoenix Operating LLC December 5, 2024

OCT 3 0 2024

MONTANA BOARD OF OIL &

GAS CONSERVATION . BILLINGS

SCADDEN PAD SHL: 450' FNL & 2036' FEL **NENW, SECTION 21, T30N, R59E P.M.M.** ROOSEVELT COUNTY, MONTANA

Phoenix Operating LLC

The following is submitted in support of our application to permit the drilling and completion of the Scadden 1 SWD well for the purposes of water injection into the Dakota Group and related rocks within the proposed Wildcat field, Roosevelt County, as required by rule 36.22.1403 of the Rules and Regulations of the Montana Board of Oil & Gas Conservation.

UIC PERMIT APPLICATION

1(a) Location:

The Scadden 1 SWD well has been proposed for the drilling and completion of a water injection well within the Wildcat field in Roosevelt County, Montana as described below. Attachment I depicts the surface hole location and a quarter 4-mile radius representing the area of review (AOR) for this vertical well.

1(b) Well Location Description:

The Scadden 1 SWD well is a proposed disposal well located in Section 21, T30N, R59E, P.M.M. in Roosevelt County Montana. The surface ownership of this well site is located on Fee/Fee and is owned by Dale & Jodi & Dean Nelson.

Maps of Wells/Area of Review: 1(c)

There are currently no oil and gas wells within the ¼-mile AOR. Phoenix is currently drilling three (3) horizontal oil wells at this location with another three (3) to be drilled in the 3rd quarter of 2025

1(d) Location of all Pipelines:

The Scadden 1 SWD surface facilities will be constructed on the same pad as the injection well. Injection fluids will come from the oil wells both being currently drilled and proposed for this location. The Scadden 1 SWD may be tied into Phoenix's pending saltwater gathering system in the future.

1(e) Area Producing Formations, Fresh Water Aquifers and Water Well information:

The Three Forks (Bakken) formation is not currently being produced within the quarter mile AOR of the proposed Scadden 1 SWD. Operator anticipates the Three Forks (Bakken) to produces between 10,200' and 10,287' when currently drilling wells on the Scadden pad are POL.

Fresh water well data was obtained from the Montanan Department of Natural Resources and Conservation, Water Resources, Division. There is one water well 1004 within the ¼-mile AOR of the proposed injector. The Picard Eldon (ID #42395) which MONTAÑA BOARD OF OIL & has a depth of 121'. GAS CONSERVATION . BILLINGS

Location	<u>S-T-R</u>	<u>Well ID</u>	<u>Well Name</u>	Depth
SENW	21-30N-59E	42395	Picard Eldon	121'

Any potential USWDs are protected from the proposed injection zone by surface casing set at 2,300' and cemented to the surface. A production tubing string and an injection packer will result in further isolation of fresh USWDs from injected fluids.

1(f) Name and Geological Description of Injection Zone: **Injection Zone:**

The Inyan Kara within the Lower Cretaceous Dakota Group is roughly 517' thick based on the Ronning 23-21 (25-085-21510). The Inyan Kara formation consists of alternating fluvial deltaic sandstones, siltstones and shales. There are several porosity intervals between 5,332' and 5,849' TVD with sandstone packages ranging in thickness from 4' to 40'.

Upper Confining Zone:

The Mowry formation within the lower Cretaceous Dakota Group is made up of shales and bentonitic claystone of offshore marine origin. The Mowry is expected between 4,896' TVD and 5,331' TVD and is approximately 435' thick and overlies the Inyan Kara. The Mowry confines the upper boundary for the Inyan Kara.

Lower Confining Zone:

The Jurassic Swift formation lies conformably below the Inyan Kara. The Swift is made up of shallow marine shale and siltstone and is approximately 482' thick in this area. The Swift is expected at a depth of 5,841' TVD through 6,323' TVD. The Swift confines the lower boundary for the Inyan Kara.

All TVD depths are based on a 15' KB rig.

The offset wells did not have porosity logs for the shallow section but clean GR and low resistivity equates to porosity in the Inyan Kara Formation.

1(g) Open Hole Logs:

The Scadden 1 SWD will be a new drill SWD. The logging program will consist of a CBL-VDL-GR-CCL log ran from TD to Surface, along with Triple Combo + MWD-GR log ran from the base of surface casing to surface. Any logs and test data run on the Scadden 1 SWD will be supplied to the MBOGC.

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1(h) Description of Wellbore Construction:

Attached to this document is the MBOGC's Form 2 and wellbore configuration, requesting drilling and completing of the subject well as an SWD. Appendix V shows the proposed wellbore deign. Perforations will be selected after logs are run. Section 6 of the Drilling Plan describes the plan for drilling and completion for the subject well. The Dakota Group perforations will be acidized with 15% HCl and rock salt or polymer diverter at the wellhead during stimulation.

1(i) Description of Injection Fluid:

The Scadden 1 SWD will be used to inject produced water from Phoenix operated wells producing from the Three Forks (Bakken) formation drilled on the well pad. See Appendix VIII, which represents a water analysis from a Bakken well in the area that will be injected at the Scadden 1 SWD. Due to limited Three Forks (Bakken) produced water availability within the area of review, Phoenix Operating LLC proposes to utilize produced water collected from a nearby producing well as the source water for injection. Samples were collected from the Milloy 10-3-24 #2H well, located NENE, Section 15, T155N, R104W, Williams County, North Dakota approximately 7 miles South.

Average and maximum daily volumes of injected water are expected to be 17,500 bbls per day and 20,000 bbls per day respectively, depending on production from wells, storage capabilities of the facility, and final maximum allowable injection pressure (MAIP).

Surface injection pressures will not be allowed to exceed a maximum based on the EPA accepted fracture grading of 0.733 psi/ft and the following equation:

$$MAIP = (FG)^*(D_{Top}) - (SG)^*(NPG)^*(D_{Top})$$

- MAIP = Maximum allowable injection pressure
- FG = Assumed fracture gradient in Confining Zone Shale = 0.8 psi/ft
- SG = Specific Gravity of injection fluid = 1.21
- NGP = Normal pressure gradient = 0.433 psi/ft
- D_{Top} = Depth to top of the injection zone = 5,332'

MAIP = (0.8 psi/ft *5,332 ft) - (1.21*0.433 psi/ft *5,332 ft) = 1,472 psi

1(j) Names of Owner of Record:

The surface owners and mineral owners are within the AOR are presented in Appendix IX. Phoenix Operating LLC has notified the current operators, surface owners and lease owners in accordance with 36.22.1410, notification requirements for an underground injection permit. Appendix X is an affidavit attesting to the fact that notices have been mailed.

List of Appendices/Attachments:

I 4 -Mile Area of Review Map

II Plat of SWD Location

III Representative Log

IV Sundry Notices

V Proposed Drilling & Completion Procedure

VI Proposed Wellbore Schematic/Directional Plan

VII SWD Layout Diagram

VIII Water Analysis - Source Waters

IX List of Surface Owners/Mineral Owners in ¼ -Mile AOR

X Affidavit of Notification to Landowners

XI Example of Landowner Notifications of Application for Injection

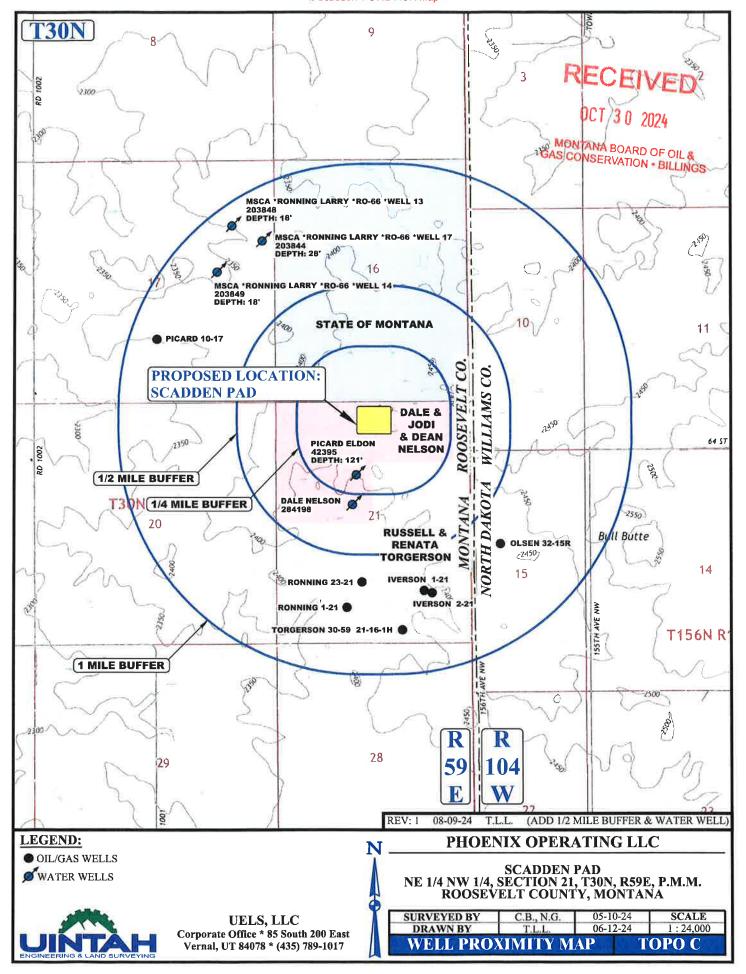
XII Notice of Intention to Apply for a Class II Well

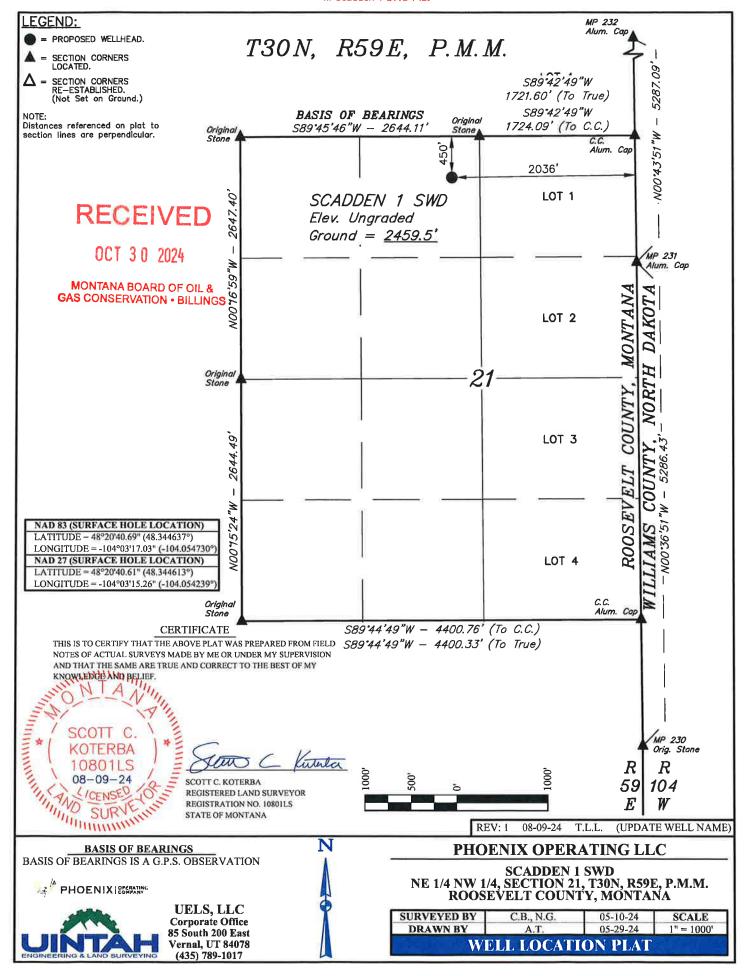
XIII Affidavits of Publication

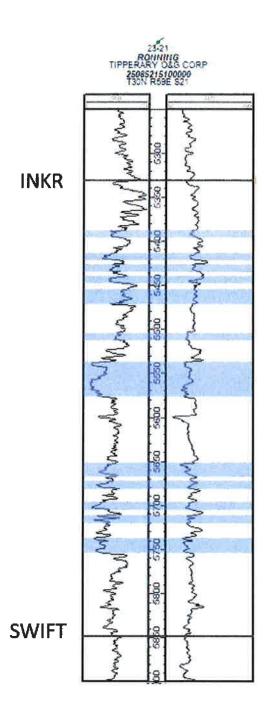
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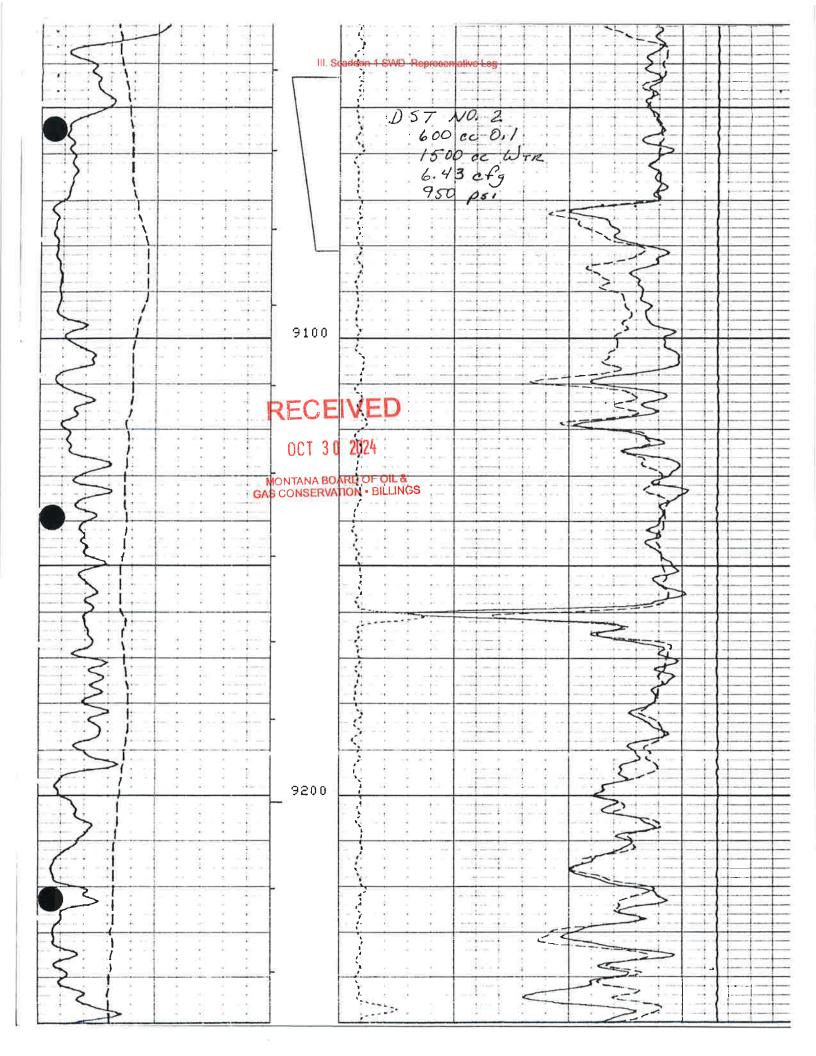


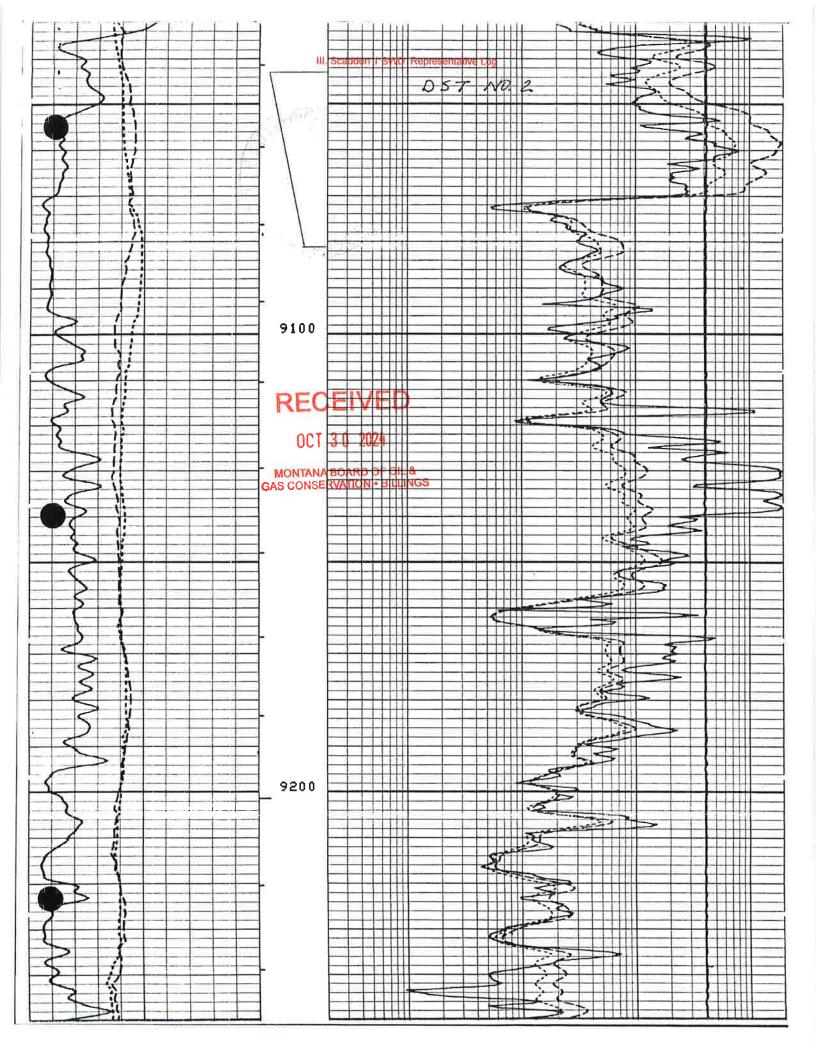


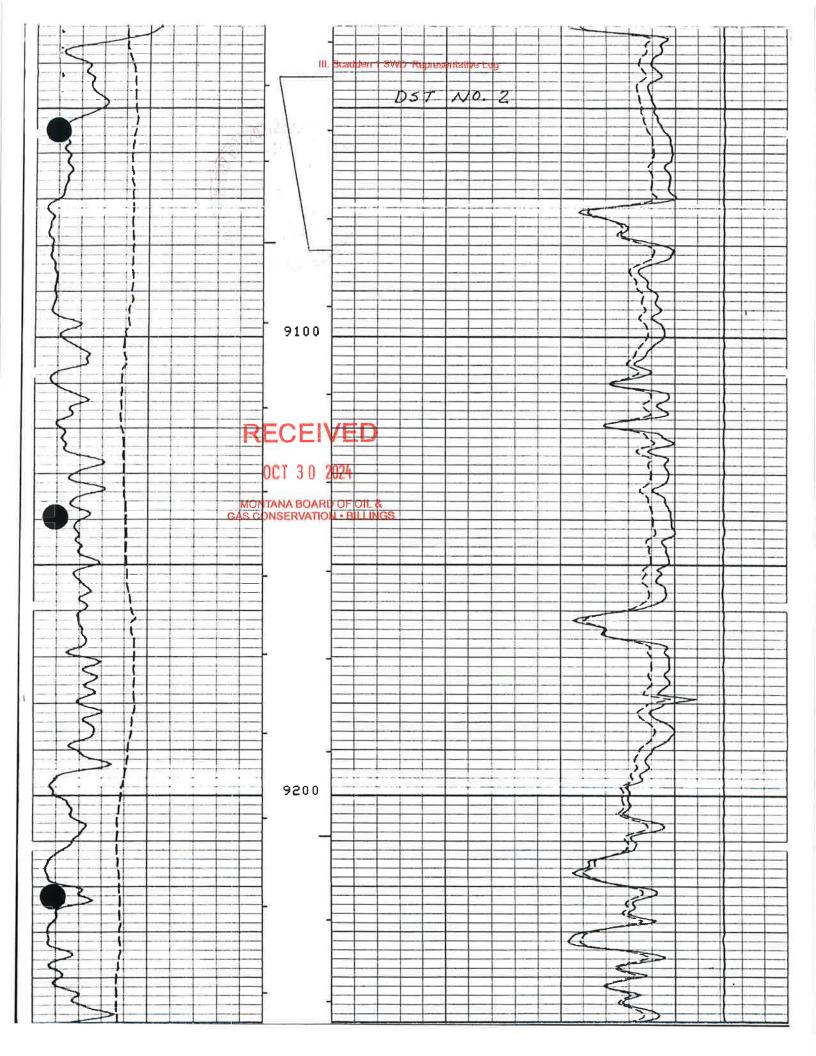


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FORM NO. 2.R 10/09 -

OCT 3 0 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Submit In Quadruplicate To:

ARM 36,22,307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

	SUNDRY NOTICES	AND REPO	ORT OF WELLS		
Operator PHOENIX OPERATIN	IG LLC		Lease Name: SCADDEN		
Address 4643 S ULSTER STR City DENVER State		227	Type (Private/State/Feder	ral/Tribal/Allotted):	
Telephone 855-868-4244	CO Zip Code 802 Fax	237	Well Number:		
			1 SWD		
Location of well (1/4-1/4 section an 450' FNL 2036' FEL NENW SECTION 24, T30N, R59E	d footage measurements).		Unit Agreement Name:		
, 1001, 100E			Field Name or Wildcat: WILDCAT, ROOSEVELT	Γ	
			Township, Range, and Se	ection:	
API Number:	Well Type (oil, gas, inje	ection, other):	24, 59N, 30E		
25 State County Well	INJECTIO	N	County: ROOSEVELT		
Indicate below with an X the nature	of this notice, report, or of	her data:			
Notice of Intention to Change Plans Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Co Notice of Intention to Change Well S Supplemental Well History Other (specify) INTENT TO DRILL CLASS II INJECTION WELL Describe planned or completed work in o necessary. Indicate the intended startin PHOENIX OPERATING LLC RESPECTE LOCATION FOR INJECTION OF CLASS OF THE PROPOSED LOCATION. AN AI HAS BEEN REQUESTED FOR DECEME PHOENIX OPERATING LLC REQUESTS	Subseque Subseque Subseque Subseque Subseque Subseque Subseque Subseque Subseque Cor Completed e configuration dia sor the completic ALTO DRILL & CO	agrams, analyses, or other infor on date for completed operation DMPLETE A DISPOSAL WELL IDED TO PARTIES WITHIN 1/4 NAA BOARD OF OIL & GAS CO	Treatment Cementing ment ed Casing Disposal ste Disposal li Status ARM 36.22.1222) mation as as. AT THE REFERENCED 4 MILE AREA OF REVIEW DNSERVATION DOCKET.		
BOARD USE Approved Date	ONLY —	The unders this applica	algned hereby certifies that the interest true and correct: 3. 2024	med (Agent)	
Name	Title	Telephone:	• • • • • • • • • • • • • • • • • • • •		

OCT 3 0 2024

MONTANA BOARD OF OIL &

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Phoenix Operating LLC Drilling Plan

Scadden 1 SWD

NENW Sec 21, T30N-R59E 450' FNL 2036' FEL Roosevelt County, MT

1. Estimated Formation Tops

Formation	MD	TVD	Comments
Pierre Shale	2165'	2165'	9-5/8" surface casing set at 2,300 & cemented
			to surface.
Greenhorn	4578'	4578'	
Mowry	4896'	4896'	
Inyan Kara	5332'	5332'	
Swift	5841'	5841'	
Planned TD	5811'	5811'	

Formation elevations are based on a finished pad elevation of 2,444' and a KB elevation of 2,459' (15' rig substructure height).

2. BOP and Pressure Containment Data

Depth Intervals	epth Intervals BOP Equipment					
0' to 2,300'	13-1/2" surface hole. No pressure control equipment utilized.					
2,300' to TD	11", 3,000 psi Hydraulic Double Ram Type BOP's					
	11", 3,000 psi Annular BOP					
Drilling spool to accommodate choke and kill lines.						
Ancillary equipment and choke manifold to be rated to 3,000 psi. All BOP tests will be performed in						
accordance with the requirements of onshore order No 2.						
BOP handwheels may be under and or within the substructure of the rig if the drilling used is set up to						
operate most efficiently in this	manner.					

Auxiliary equipment:

- a) Upper and lower Kelly cock will be installed while drilling.
- b) Inside BOP or stab-in valve will be available on rig floor.
- c) Safety valve(s) and subs to fit all string connections will be on floor during drilling operations.
- d) Mud monitoring will be visually observed.



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3. Casing & Cement Programs

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a) The proposed casing program is as follows:

	Casing Depth			Casing Details					Cmt
	Hole Size	From	То	OD	Weight	Grade	Cplg	Condition	Cmt Top
Conductor	24"	0'	80'	20"	106.5#	J-55		New	Surface
Surface	13-1/2"	0'	2300'	9-5/8"	36#	J-55	LTC	New	Surface
Intermediate	8-3/4"	0'	5332'	7"	23#	L-80	LTC	New	2,300'
Production	6"	5282'	5811'	4.5"	11.6#	L-80	BTC	New	Un-Cemented

b) Cementing Program:

9-5/8" Surface Casing	Cement Details
TOC at Surface – 55% excess.	Lead: 613 sx (226 bbls) of 12.5 lb/gall, 2.08 ft ³ /sx BJ CEM S100 Type III with 0.13 lb/sx Celloflake, 2.0 lbs/sx CaCl ₂ , 2.0 lbs/sx Sodium Metasilicate, 5% Gypsum and 0.3% Anti-foaming agent (FP-25).
TOC at 1,800'-55% excess.	Tail: 271 sx (71bbls) of 14.2 lb/gall, 1.99 ft ³ /sx BJ CEM S100 Type III with 0.13 lb/sx IntegraSeal, 2.0 lbs/sx Sodium Metasilicate, 5% Gypsum (BWOB) and 0.3% FP-25 (defoamer, BWOB).

7" Intermediate Casing	Cement Details
TOC at 2,300' (BSC) – 65% excess.	Lead: 295 sx (114.5 bbls) of 12.0 lb/gall, 1.46
	ft ³ /sx BJ CEM I100 Type III with 0.25 lb/sx
	IntegraSeal, 5 lb/sx BA-95 (bonding agent) 3%
	KCL (BWOW), 0.1% R-7C (retarder), 0.4%FL-66
	(fluid loss), 0.30% R-3 (retarder) and 0.1%
	IntegraGuard GW-86 (scavenger). Additives by
	BWOB.
TOC at 4,150' – 40% excess.	Tail: 167 sx (42.8 bbls) of 14.0 lb/fall, 1.44 ft ³ /sx
	BJ CEM I100, 20% Fly Ash, 80% Class G, 0.13
	lb/sx IntegraSeal Cellophane, 1.0 lb/sx
	IntegraSeal Pheno, 0.1% IntegraGuard GW-86
	(scavenger), and 0.4% FI-66 (fluid loss).
	Additives by BWOB

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4. Drilling Fluids Program

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From:		To:			
Spud (0')		2,300' 13 ½" Su	ırface Hole, Fresh Water, Gel & Lime Sweeps		
MW, ppg:	8.5 to 9.0	PV, cp:	0 to 25		
YP, lb/100 ft ²	0 to 8	pH:	7.0 to 8.5		
Funnel Vis, sec:	28 to 50	LGS:	LT 6%		

Note: If shallow surface sand or gravel is encountered, rig will mud-up with gel (increase viscosity).

From:		To:			
2,300'		5,332' 8-3/4" Product	5,332' 8-3/4" Production section – Oil Based Mud		
MW, ppg:	9.2 to 10.0	Elec Stability, v:	400 to 600		
YP, lb/100 ft ² :	4 to 12	PV, cp:	12 to 25		
Funnel Vis, sec:	40 to 50	HTHP WL, cc:	10 to 20		
Oil Water Ratio:	70/30 to 80/20	Chlorides, ppm:	30,000 to 50,000		
LGS:	LT 6%	NaCl, mg/l:	250,000 to 300,000		

Cuttings Plan: Closed loop system will be utilized during surface and production drilling operations. All drill cuttings will be disposed of at 13 Mile Landfill, Williston, ND.

5. Evaluation Program

Cores:	No Coring is planned.
Testing:	No DST's are planned.
Samples:	No cuttings are planned to be collected on this well.
Surveys:	MWD will be utilized from surface to TD. Surveys will be taken on a 30'
	survey interval after entering the Mowry.

The logging program will be as follows:

Depth Interval	Depth Interval
Base of surface casing to TD	Triple Combo + MWD-GR
7", Production casing (TD to surface)	CBL-VDL-GR-CCL

Directional Planning / Anit-Collision:

The Scadden 1 SWD well is planned as a vertical well with a 50 ft target radius from the wellhead. anti-collision avoidance modeling will be completed before spud. Anti-Collision reports will be based on known offset wells to Phoenix Operating LLC within the vicinity of the planned wellbore path.

6. Drilling/Completion Program:

- 1. Move in drilling rig (Notify State Inspector prior to spud).
- 2. Pick up BHA and drill the Surface interval as follows:
 - a. 13-1/2" Bit and MWD/Directional Tools.
 - b. Fresh water will be utilized.
 - c. Drill approx. 150' into the Pierre Shale formation.
- 3. At TD circulate to condition hole.
- 4. TOOH and lay down BHA
- 5. Run 9-5/8" J55-36# LTC casing.

OCT 3 0 2024

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- a. Centralizers on bottom 3 joints minimum.
- b. Float shoe and float collar to be utilized.
- 6. Pump surface casing cement job per cementing program.
 - a. Spacer, Lead Slurry, Tail Slurry, Displace with fresh water.
- 7. Pressure test surface casing (Required pressure & time).
- 8. Install Wellhead and BOP.
 - a. Nipple up 3M BOP stack and test per BLM Onshore Order No. 2.
 - b. Install wear-bushing.
- 9. Pick up BHA and drill the Production interval as follows:
 - a. 8 3/4" bit and MWD/Directional tools.
 - b. MWD gamma every 30' after entering the Mowry.
 - c. Oil-based drilling fluid will be utilized.
 - d. Drill to the top of the Inyan Kara formation ~5332' TVD.
- 10. At TD circulate to condition hole and make a wiper trip to the surface shoe.
- 11. TOOH and lay down BHA.
- 12. Run 7" L80 23# LTC casing.
 - a. Casing will be centralized.
 - b. Float shoe and Float collar to be utilized.
- 13. Pump Intermediate cement per cementing program.
 - a. Spacer, Lead Slurry, Tail Slurry, Displace with salt water.
- 14. Wait on cement prior to drilling out 7" shoe and drilling 6" open hole section.
- 15. Run CBL on 7" casing, from PBTD to surface. CBL must be reviewed prior to drilling out the shoe.
 - a. If unable to get to the bottom with CBL tools a clean out will be required.
 - b. CBL on the Intermediate casing must be completed prior to starting drilling of the open hole and submitted to the State for review prior to running the $4 \frac{1}{2}$ " liner.
- 16. Pressure test production casing to 1500 psi.
- 17. Once CBL has been reviewed, pick up BHA and drill the Open-Hole interval as follows:
 - a. 6" bit and MWD/Directional tools.
 - b. MWD gamma every 30' after entering the Mowry formation.
 - c. A geologist must be onsite to catch samples every 30' once in the Inyan Kara formation.
 - d. Brine drilling fluid will be utilized.
 - e. Drill to a maximum of ~5,811' TVD. Approximately 30' above the top of the Swift formation.
 - f. If it is suspected that the Swift is encountered while drilling, there will be an all stop for evaluation.
- 18. At TD circulate to condition hole.
- 19. TOOH and lay down BHA.
- 20. Run 4 1/2" P-110-11.6# BTC pre-perforated liner.

	DESCRIPTION	00	ID					
	i" ID x 8' Polished Bore Receptacle (PBR)							
4 1/2"	x 7" OptiPak Liner Hanger Packer BTC pin	5.875	3.920					
1	Jts 4 1/2" 11 6# IPC Blank BTC Liner	5.000*	4 000"					
1	Jts 4 1/2" 11 6# Blank BTC Liner	5.000"	4.000"					
~ 7 - 8	Jts 4 1/2" 11.6# Pre-Perf BTC Liner	5.000"	4.000					
Guide	Shoe Joint w/ Aluminum Nose and Side Ports	5.000"	750"					

- a. 4 ½" nickel plated, Liner Hanger and packer will be set within 100' of the open hole in 7" casing with good cement bond.
- b. Run 4 1/2" Blank to below 7" shoe.
- 21. TOOH and lay down drill pipe and liner tools.
- 22. Secure well and release drilling rig.
- 23. Install $7 \frac{1}{16}$ " 5M tubing head and master valve.
- 24. MIRU service rig. Install and test BOPs.

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- 25. Recover Dakota water sample from formation.
 - a. Check pressure and attempt to establish flow from the Dakota.

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- b. If flow is established, flow fluid to surface and recover a fluid sample.
- c. If unable to recover fluid, RIH with 2 7/8" tubing and packer. Set packer above the liner top and attempt to swab the well to recover formation fluids to surface.
- d. If unable to recover fluid samples at surface, RIH with wireline and recover a downhole sample.
- e. Take samples to lab for full water analysis.
- 26. Run 3 1/2" L80-9.3# BTC Internally Plastic-Coated tubing.
 - a. Seal assembly ran and stung into PBR at liner top.
 - b. Land tubing hanger in wellhead with tubing in 45k compression.
- 27. Perform MIT on tubing annulus, seal assembly and packer.
 - a. Notify State inspector prior to performing MIT. Inspector must witness MIT.
 - b. MIT to 1000 psi for 15 minutes, or as directed by the State inspector.
- 28. RDMO rig and service equipment.
- 29. Install 4 1/16" 5M master valve.
- 30. Install flowlines from facility to wellhead.
 - a. Flowlines must be pressure tested to 100 psi above the permitted MASP from the Injection Pump to the Wellhead prior to injection.
 - b. Pressure test results must be reported to the NDIC via sundry.
- 31. Begin injection test.
- 32. Acidize well as needed to improve injection.
 - a. Acidize with 15% HCl and rock-salt or polymer diverter.

7. Abnormal Pressure and H2S Gas

No abnormal pressure, temperatures or other hazards are anticipated. H2S gas is not expected to be encountered in this wellbore. However, precautions will be taken to monitor for H2S while drilling the vertical section.

8. Hydraulic Fracturing Stimulation - N/A

No hydraulic fracturing will be attempted on this wellbore.

9. Contact Information:

Phoenix Operating LLC 4643 South Ulster Street, Suite 1510 Denver, CO 80237 Attn: Mark Johnson Email mjohnson@phxoperating.com 303.548.1953



OCT 2 0 2024



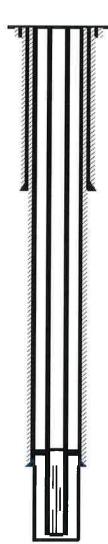
Scadden 1 SWD

Inyan Kara Injection

MONTANA BOARD OF OIL & GAS CONSERVATION • B LLINGS

Roosevelt County, Montana
SHL: 450ft FNL & 2036ft FEL of Sec 21-30N-59E

Proposed Vertical Wellbore



Wellhead Description

Cameron 7 1/16" - 5M

Casing Description

String	Size	Weight	Grade	Cplg	Тор	Bottom	Hole Size	Cement Top
Conductor	20"	106.5	J-55		0'	80'	24	Surface
Surface	9 5/8"	36#	J-55	LTC	0'	2100'	13 1/2"	Surface
Intermediate	7"	23#	L-80	LTC	0'	5332'	8 3/4"	2100'
Liner	4 1/2"	11.6#	L-80	BTC	5282	5811'	6ª	Un-Cemented

^{*7&}quot; Casing set and cemented at the top of the Dakota formation

Tubing Description (Est'd Depth - Top of Liner)

Size	Weight	Grade	Cplg	Тор	Bottom
3 1/2" IPC	9.3#	L-80	EUE	0,	5282'

^{*}Tubing ran with a seal assembly stung into PBR in liner top

6" OH - Perforated Liner

Formation Dakota Bottom 5811' Stimulation

15% HCl + Rock Salt or Polymer Diverter

TMD 5811' TVD 5811' *Above Depths are Measured depths

Top

5332'

*TD at least 30' above the top of the Swift formation

^{*}Shoe-Track consists of one 7" Single-Valve Float Shoe, one joint of 7"casing, and one 7" Single-Valve Float Collar. Shoe-Track will be cemented from the Float Shoe to the Float Collar (~40').

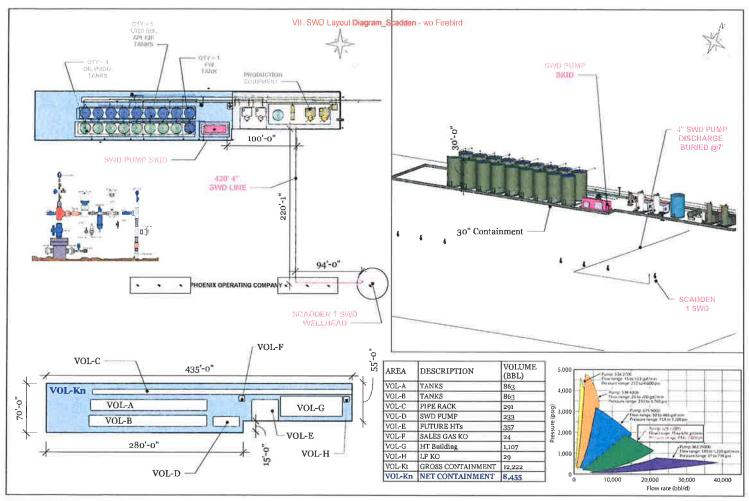
^{*4 1/2&}quot; liner will be ran with a liner hanger and liner-top packer

^{*4 1/2&}quot; liner-top packer will be set no greater than 100' above the 7" shoe in good cement verified by CBL

^{*}MIT performed to 1000 psi on tubing annulus, packer and seal assembly

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<u> </u>	SWD FACILITY LAYO	OUT DIAGRAM	REVISIONS MM/DD/YY REMARKS	
PHOENIX SPERATING SOMPANY	PHOENIX OPERATING COMPANY SCADDEN SOUTH PAD	SCADDEN 1 SWD	9	A 0

VIII. Water Analysis - Source Waters



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885 www.MVTL.com



Account #:

23037

Client:

Astro-Chem Laboratory, Inc.

Workorder:

Milloy 10-3-24 #2H Well Pad (65921)

Brenda Benth Astro-Chem 4102 2nd Ave W Williston, ND 58801 RECEIVED

OCT 3 0 2024

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Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

Stacy Zander

Stacy Zander, Bismarck Assistant Lab Manager Bismarck, ND

Analyses performed under Minnesota Department of Health Accreditation conforms to the current TNI standards.

NEW ULM LAB CERTIFICATIONS: MN LAB # 027-015-125 ND WW/DW # R-040

BISMARCK LAB CERTIFICATIONS: MN LAB # 038-999-267 ND W/DW # ND-016 SD SDWA

VIII. Water Analysis - Source Waters



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885 www.MVTL.com



Qual

Account #:

23037

Client:

Astro-Chem Laboratory, Inc.

Analytical Results

Lab ID: Sample ID:

Parameter

Specific Gravity

65921001

Water)

Date Collected: **Date Received:**

09/21/2024 10:30 09/27/2024 10:55 Matrix:

Groundwater

Collector:

Client

Temp @ Receipt (C):

21.0

Treater (Production

Received on Ice:

1.210 @ 65.0

No

Results Units **RDL** DF Prepared Analyzed

1

Method: ASTM D1298

1.210 @ 65.0 Density

g/cm3

at 60/60F

10/01/2024 11:30 10/01/2024 12:24

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VIII, Water Analysis - Source Waters



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885 www.MVTL.com



Account #: 23037

Client: Astro-Chem Laboratory, Inc.

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OCT 30 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

ASTRO-CIRBULLAR PO Box 972 Williston, ND 56802-0972 Account Information (stilling information) Company/Mane Astro-Chem Lab, Inc.	Report Informati	on prettiener	Astro – Chem Laboratory, WO: 65921	ents	Page _1 of _1
	Company/Name Phoer	nlx Operatin _s	11		1
Contact Christina Jungels Phone 701-572-7355	Contact				i
Mailing Address PO Box 972	Phone				1
	Mailing Address				1
City, State, Zip Williston, ND 58802-0972	City, State, Zip				A .
Emell astrochem@mldconetwork.com	-	chem@midco	onetwork.com		1
Receive Invoice	Receive Report DHard (Copy MEmail			
Project Information	Matrix Codes		Analysis Requested		
Project Name, PWSID, Permit, etc. Milloy 10-3-24 #2H Well Pad	A - Alr				All lumaround (limes are
Sampler Name Dave Scadden Sampler Phone 303-548-1953 Sempler Origin State ND EPA/State Compliance @ Yes	W- Water S - Solial Solida				slandard unless marked as RUSH Astro-Chern Lab MUST be
Union deliver	B - Bloassay O - Oil DW - Dinhing Walter	Specific Gravity Density			contacted prior to RUSH sample submittal for charges and scheduling)
Sample Identification Collection (Name, Location Interval, etc.) Date	Number of Malrix Containers Marrix	Specific		8	LAB ID
Treater (Production Water) 09/21/2024 10	30 am 1 W	11			
(03616)					
1					
5				+	
				-	
,		-		+	
				+	
				+	
Custody Record MUST Non-page Scadden - Left in Vestibule Discrime 08/24/2024	Signature Signature		Christina Jungels Datarino	9/24/2024 - 240/05	Mysterie Fry
	eist Yemp Temp Blank	On lon	Payment Type Amoun		Receipt Number (cash-kheck only)

In certain circumstances, samples submitted to Astro-Chem Lab, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ELI-COC-01/21 v.4

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.





OCT 3 0 2024

MONTANA BOARD OF OIL & GAS CONSERVATION . BILLINGS

October 10, 2024

Christina Jungels Astro-Chem Lab, Inc. 4102 2nd Ave. W. Williston, ND 58801

RE:

Project:

Phoenix Operating, LLC

Pace Project No.: 10709475

Dear Christina Jungels:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

· Pace Analytical Services - Minneapolis

· Pace Analytical Services - Ormond Beach

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

anchea Rihardson

Andrea Richardson andrea.richardson@pacelabs.com (218)341-6080 **Project Manager**

Enclosures

cc: Accounts Payable, Astro-Chem Lab, Inc.





Project:

Pace Project No.:

Pace Analytical Services, LLC 1700 Elm Street Minneapolis, MN 55414 (612)607-1700

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CERTIFICATIONS

OCT 3 0 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Pace Analytical Services, LLC - Minneapolis MN

10709475

Phoenix Operating, LLC

1700 Elm Street SE, Minneapolis, MN 55414

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680

California Certification #: 2929 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 DoD Certification via A2LA #: 2926.01

EPA Region 8 Tribal Water Systems+Wyoming DW

Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 GMP+ Certification #: GMP050884 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011

Indiana Certification #: C-MN-01 lowa Certification #: 368

ISO/IEC 17025 Certification via A2LA #: 2926.01

Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: AI-03086 Louisiana DW Certification #: MN00064

Maine Certification #: MN00064 Maryland Certification #: 322 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240

Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647

North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification (A2LA) #: R-036 North Dakota Certification (MN) #: R-036

Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101

Oklahoma Certification #: 9507

Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puoto Rico Certification #: MN00064

Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064

Vermont Certification #: VT-027053137 Virginia Certification #: 460163

Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970

Wyoming UST Certification via A2LA #: 2926.01

USDA Permit #: P330-19-00208

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320 California Certification# 3096

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

DoD-ANAB #:ADE-3199 Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050 Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264 Maryland Certification: #346

Massachusetts Certification #: M-FL1264

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



Pace

Pace Analytical Services, LLC 1700 Elm Street Minneapolis, MN 55414 (612)607-1700

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CERTIFICATIONS

OCT 3 0 2024

Project:

Phoenix Operating, LLC

Pace Project No.: 10709475

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Pace Analytical Services Ormond Beach

North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Utah FL NELAC Reciprocity

Utah

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity



Pace

Pace Analytical Services, LLC 1700 Elm Street Minneapolis, MN 55414

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OCT 3 0 2024

SAMPLE SUMMARY

Project:

Phoenix Operating, LLC

Pace Project No.:

10709475

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10709475001	Milloy 10-3-24 #2H Well Pad	Water	09/21/24 10:30	09/26/24 08:50



Pace Analytical Services, LLC 1700 Elm Street Minneapolis, MN 55414 (612)607-1700

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SAMPLE ANALYTE COUNT

OCT 3 0 2024

Project:

Phoenix Operating, LLC

Pace Project No.: 10709475

riceriix operating, Et

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10709475001	Milloy 10-3-24 #2H Well Pad	EPA 6010D	 DM	9	PASI-M
		SM 2320B	KEO	3	PASI-M
		SM 2540C	JKH	1	PASI-M
		SM 4500-H+B	KEO	1	PASI-M
		EPA 120.1 Resistivity	SWB	1	PASI-O
		SM 2510	KEO	1	PASI-M
		ASTM D5057	JKH	1	PASI-M
		EPA 300.0	JFP	2	PASI-M
		EPA 353.2	JFP	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis PASI-O = Pace Analytical Services - Ormond Beach





ANALYTICAL RESULTS

OCT 3 0 2024

Project:

Phoenix Operating, LLC

Pace Project No.: 10709475

Date: 10/10/2024 02:12 PM

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Sample: Milloy 10-3-24 #2H Well Pad	Lab ID: 107	709475001	Collected: 09/21/	24 10:30	Received: 09	0/26/24 08:50 N	Aatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010D MET ICP	Analytical Met	hod: EPA 60	010D Preparation M	ethod: E	PA 3010A	201	3.0	
	Pace Analytica	al Services -	Minneapolis					
Barium	24000	ug/L	500	10	09/30/24 13:03	10/01/24 12:05	7440-39-3	
Calcium	16200000	ug/L	25000	10	09/30/24 13:03	10/01/24 12:05	7440-70-2	
Chromium	ND	ug/L	500	10	09/30/24 13:03	10/01/24 12:05	7440-47-3	D3
Iron	127000	ug/L	2500	10	09/30/24 13:03	10/01/24 12:05	7439-89-6	
Magnesium	1250000	ug/L	25000	10	09/30/24 13:03	10/01/24 12:05	7439-95-4	
Potassium	8070000	ug/L	125000	10	09/30/24 13:03	10/01/24 12:05	7440-09-7	
Sodium	89500000	ug/L	500000	100		10/01/24 12:10		
Strontium	1310000	ug/L	2500	100		10/01/24 12:10		
Zinc	17800	ug/L	1000	10	09/30/24 13:03	10/01/24 12:05	7440-66-6	
2320B Alkalinity	Analytical Met	hod: SM 232	20B					
	Pace Analytica	al Services -	Minneapolis					
Alkalinity, Total as CaCO3	58.4	mg/L	5.0	1		10/03/24 12:08		
Alkalinity, lotal as oacos Alkalinity,Bicarbonate (CaCO3)	58.4	mg/L	5.0	1		10/03/24 12:08		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	1		10/03/24 12:08		
						10/00/24 12:00		
2540C Total Dissolved Solids	Analytical Met	hod: SM 254	40C					
	Pace Analytica	al Services -	Minneapolis					
Total Dissolved Solids	295000	mg/L	250	1		09/27/24 18:38		MW,PP
4500H+ pH, Electrometric	Analytical Met	hod: SM 450	00-H+B					
	Pace Analytica	al Services -	Minneapolis					
pH at 25 Degrees C	5.5	Std. Units	0.10	3		10/08/24 12:45		H6
Resistivity	Analytical Met	hod: FPA 12	n 1 Resistivity					
1. Colourney	•		Ormond Beach					
Resistivity	1.9	ohms-cm		1		10/02/24 14:00		N2
toolouvity	1.0	011110-0111	0.50			10/02/24 14:00		NZ
SM2510 Specific Conductance	Analytical Met	hod: SM 25 ²	10					
	Pace Analytica	al Services -	Minneapolis					
Specific Conductance	209000	umhos/cm	5.0	1		10/01/24 14:36		
Specific Gravity	Analytical Met	hod: ASTM I	D5057					
production Gravity	Pace Analytica							
Specific Gravity	1.22	ii OCI VICCS -	Minicapons	1		10/09/24 22:12		N2
•				ैं		10/00/27 22.12		142
300.0 IC Anions	Analytical Met Pace Analytica							
Chloride	167000	mg/L	6000	5000		10/07/24 10:02	16887-00-6	
Sulfate	256	mg/L	120	100		10/05/24 03:08		
353.2 Nitrate + Nitrite	Analytical Met	hod: EDA 35	3 2					
Hiller . Hilling	Pace Analytica							
			-					
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		10/06/24 11:45		

REPORT OF LABORATORY ANALYSIS





QUALITY CONTROL DATA

OCT 3 0 2024

Project:

Phoenix Operating, LLC

Pace Project No.: 107

10709475

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

QC Batch:

Barium
Calcium
Chromium
Iron
Magnesium
Potassium
Sodium
Strontium

Zinc

970670

Analysis Method:

EPA 6010D

QC Batch Method:

EPA 3010A

Analysis Description:

EPA 60 10D

6010D Water

5.0 10/01/24 11:18

20.0 10/01/24 11:18

Laboratory:

Pace Analytical Services - Minneapolis

Associated Lab Samples:

10709475001

Matrix: Water

METHOD BLANK: 5072402 Associated Lab Samples: 1

Date: 10/10/2024 02:12 PM

Parameter

10709475001

ug/L

ug/L

Blank Result	Reporting Limit	Analyzed	Qualifiers
ND	10.0	10/01/24 11:18	
ND	500	10/01/24 11:18	
ND	10.0	10/01/24 11:18	
ND	50.0	10/01/24 11:18	
ND	500	10/01/24 11:18	
ND	2500	10/01/24 11:18	
ND	1000	10/01/24 11:18	
	Result ND ND ND ND ND ND ND ND	Result Limit ND 10.0 ND 500 ND 10.0 ND 50.0 ND 500 ND 2500	Result Limit Analyzed ND 10.0 10/01/24 11:18 ND 500 10/01/24 11:18 ND 10.0 10/01/24 11:18 ND 50.0 10/01/24 11:18 ND 500 10/01/24 11:18 ND 2500 10/01/24 11:18

LABORATORY CONTROL SAMPLE:	5072403					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Barium	ug/L	1000	993	99	80-120	
Calcium	ug/L	20000	19600	98	80-120	
Chromium	ug/L	1000	977	98	80-120	
Iron	ug/L	20000	20000	100	80-120	
Magnesium	ug/L	20000	19800	99	80-120	
Potassium	ug/L	20000	19900	100	80-120	
Sodium	ug/L	20000	20300	102	80-120	
Strontium	ug/L	1000	1020	102	80-120	
Zinc	ug/L	1000	1040	104	80-120	

ND

ND

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 5072	404		5072405							
			MS	MSD								
	•	10708927001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	18.0	1000	1000	1000	990	98	97	75-125	1	20	
Calcium	ug/L	85.3 mg/L	20000	20000	101000	97900	81	63	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	964	955	96	95	75-125	1	20	
Iron	ug/L	3480	20000	20000	22900	22600	97	96	75-125	1	20	
Magnesium	ug/L	125 mg/L	20000	20000	141000	136000	80	55	75-125	4	20	P6
Potassium	ug/L	14.1 mg/L	20000	20000	34600	33800	103	99	75-125	2	20	
Sodium	ug/L	56.1 mg/L	20000	20000	73300	70900	86	74	75-125	3	20	M1
Strontium	ug/L	559	1000	1000	1540	1510	98	96	75-125	2	20	
Zinc	ug/L	ND	1000	1000	1000	995	100	99	75-125	1	20	

Results presented on this page are in the units Indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Pace Analytical Services, LLC 1700 Elm Street Minneapolis, MN 55414 (612)607-1700

RECEIVED

QUALITY CONTROL DATA

OCT 30 2024

MONTANA BOARD OF OIL & CONSERVATION - BILLING

Project:

Phoenix Operating, LLC

Pace Project No.:

10709475

QC Batch:

971542

Analysis Method:

SM 2320B

QC Batch Method:

SM 2320B

Analysis Description:

2320B Alkalinity

Laboratory:

Blank

Result

Spike

Conc.

40

Pace Analytical Services - Minneapolis

Associated Lab Samples:

10709475001

METHOD BLANK: 5076911

Matrix: Water

Associated Lab Samples:

10709475001

Reporting Limit Analyzed Qualifiers 5.0 10/03/24 08:46

Alkalinity, Total as CaCO3 Alkalinity, Bicarbonate (CaCO3) Alkalinity, Carbonate (CaCO3)

Parameter

Parameter

mg/L mg/L mg/L

Units

Units

mg/L

10709079009

10709141012

Result

Result

93.6

170

Units

mg/L

Units

mg/L

ND ND ND

5.0 10/03/24 08:46 5.0 10/03/24 08:46

110

LABORATORY CONTROL SAMPLE & LCSD:

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

5076912

5076913 LCS LCSD Result Result

LCS LCSD % Rec % Rec

106

% Rec **RPD** Limits

90-110

Max **RPD** Qualifiers

20

Alkalinity, Total as CaCO3

Parameter

Parameter

Alkalinity, Total as CaCO3

Alkalinity, Total as CaCO3

5076914 MS

Spike

Conc.

40

40

MSD

40

44.0

MSD

Result

Result

202

135

42.6

5076915

MS

Result

Result

MS % Rec MSD

80

% Rec

% Rec Limits

3

Max **RPD**

Qual

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

5076916

40

5076917

134

100

103 80-120

RPD

20

MS

Spike

Conc.

MSD Spike

Conc.

Spike

Conc.

MS MSD

201

MS MSD % Rec % Rec

76

% Rec Limits

80-120

Max RPD RPD

Qual 20 P6

Date: 10/10/2024 02:12 PM

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



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RECEIVED

QUALITY CONTROL DATA

OCT 3 0 2024

MONTANA BOARD OF OIL &

GAS CONSERVATION . BILLINGS

Project:

QC Batch:

Phoenix Operating, LLC

Pace Project No.:

10709475

Analysis Method:

SM 2540C

QC Batch Method:

970573 SM 2540C

Analysis Description:

Laboratory:

2540C Total Dissolved Solids

Pace Analytical Services - Minneapolis

Associated Lab Samples:

10709475001

Matrix: Water

LCS

METHOD BLANK: 5072111

Parameter

Parameter

10709475001

Associated Lab Samples:

Blank Result

Reporting Limit

Analyzed

Qualifiers

Total Dissolved Solids

Units mg/L

ND

09/27/24 18:37 25.0

LABORATORY CONTROL SAMPLE: 5072112

Units

Units

mg/L

Units

Spike Result LCS

% Rec

Total Dissolved Solids

Conc.

% Rec

Limits

99

Qualifiers

10

10

1000 mg/L

196

80-120

SAMPLE DUPLICATE: 5072113

Parameter

10709141012 Result

Dup Result

992

RPD

Max RPD

Max

RPD

Qualifiers

SAMPLE DUPLICATE: 5072114

Total Dissolved Solids

Parameter

10709194003 Result

Dup Result

Total Dissolved Solids

Date: 10/10/2024 02:12 PM

mg/L

157

206

151

RPD 4

5

Qualifiers

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

OCT 3 0 2024

Project:

Phoenix Operating, LLC

Pace Project No.:

10709475

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

QC Batch:

972286

Analysis Method:

SM 4500-H+B

QC Batch Method:

SM 4500-H+B

Analysis Description: Laboratory:

4500H+B pH

Associated Lab Samples:

10709475001

Pace Analytical Services - Minneapolis

LABORATORY CONTROL SAMPLE:

5081033

LCS

LCS % Rec

Parameter pH at 25 Degrees C

Parameter

Units

Units

Std. Units

Result

% Rec

Limits

Std. Units

4.3

100

98-102 H6

SAMPLE DUPLICATE: 5081034

10709552003 Result

5

Spike

Conc.

Dup Result

4.2

5.0

RPD

1

Max **RPD**

Qualifiers

3 H6

Qualifiers

SAMPLE DUPLICATE: 5081035

Date: 10/10/2024 02:12 PM

pH at 25 Degrees C

Parameter

10710487004 Result

Dup Result

RPD

Max RPD

Qualifiers

Units pH at 25 Degrees C 7.2 Std. Units 7.2 0 3 H6



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QUALITY CONTROL DATA

OCT 3 0 2024

MONTANA BOARD OF OIL &

GAS CONSERVATION • BILLINGS

Project:

Phoenix Operating, LLC

Pace Project No.:

10709475

SM 2510

QC Batch: QC Batch Method: 971086 SM 2510

Analysis Method: Analysis Description:

SM2510 Specific Conductance

Laboratory:

Pace Analytical Services - Minneapolis

Associated Lab Samples:

10709475001

METHOD BLANK: 5074750

Matrix: Water

Associated Lab Samples:

Specific Conductance

10709475001

Parameter

Units

Blank Result Reporting

Limit

Analyzed Qualifiers

ND

5.0 10/01/24 13:16

LABORATORY CONTROL SAMPLE:

Parameter

5074751

umhos/cm

Spike

LCS

LCS % Rec % Rec

Qualifiers

Specific Conductance

Units umhos/cm

Units

umhos/cm

umhos/cm

Conc. 1000 Result 933

Limits 90-110

8

1

SAMPLE DUPLICATE:

5074752

Parameter

10708260023 Result

Dup Result

RPD

93

Max RPD

20

20

Qualifiers

SAMPLE DUPLICATE:

Specific Conductance

Date: 10/10/2024 02:12 PM

Specific Conductance

5074753

Parameter

10708260024 Units Result

1170

882

Dup Result 1170

817

RPD

Max RPD

Qualifiers



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QUALITY CONTROL DATA

OCT 3 0 2024

MONTANA BOARD OF OIL &

GAS CONSERVATION • BILLINGS

Project:

QC Batch:

Phoenix Operating, LLC

Pace Project No.:

QC Batch Method:

10709475 972576

ASTM D5057

Analysis Method:

ASTM D5057

Analysis Description:

Spec.Gravity/ASTM D5057

Laboratory:

Pace Analytical Services - Minneapolis

Associated Lab Samples:

10709475001

SAMPLE DUPLICATE: 5082528

10709912001

Dup

Max RPD

Parameter

Parameter

Units

Units

Result

Result

Qualifiers

Specific Gravity

1.22

1.22

0

20 N2

SAMPLE DUPLICATE: 5082529

Date: 10/10/2024 02:12 PM

10709914001 Result

Dup Result

RPD

RPD

Max **RPD**

Qualifiers

Specific Gravity

1.22

1.22

0

20 N2



QUALITY CONTROL DATA

OCT 3 0 2024

MONTANA BOARD OF OIL &

GAS CONSERVATION • BILLINGS

Project:

QC Batch:

Phoenix Operating, LLC

Pace Project No.:

QC Batch Method:

10709475

971880 EPA 300.0

Analysis Method:

Analysis Description:

EPA 300.0 300.0 IC Anions

Laboratory:

Pace Analytical Services - Minneapolis

Associated Lab Samples:

10709475001

METHOD BLANK: 5078609

Matrix: Water

Associated Lab Samples:

10709475001

Blank Result

Reporting Limit

Qualifiers Analyzed

Conc.

50

ND ND

1.2 10/04/24 23:06 1.2 10/04/24 23:06

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

5078610

Units

mg/L

mg/L

Units

Spike

LCS Result

LCS % Rec

Result

84.4

72.9

% Rec Limits

Qualifiers

Chloride Sulfate

Sulfate

Date: 10/10/2024 02:12 PM

Chloride

Sulfate

mg/L mg/L 50 50.2 50 50.4

50

50

100 101 90-110

84

89

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

5078612

Result

79.6

68.7

MS MSD 50383317002 Spike Parameter Units Result Conc.

Spike Conc. Chloride 42600 mg/L 50 ug/L

mg/L

MS MSD

MS MSD % Rec % Rec

74

81

90-110

% Rec Max Limits RPD **RPD**

80-120

Qual 80-120 20 M1 6

> 6 20

ug/L

28200



QUALITY CONTROL DATA

OCT 3 0 2024

MONTANA BOARD OF OIL &

GAS CONSERVATION - BILLINGS

Project:

QC Batch:

Phoenix Operating, LLC

Pace Project No.:

QC Batch Method:

10709475 971645

EPA 353.2

Analysis Method:

EPA 353.2

Analysis Description:

Laboratory:

353.2 Nitrate + Nitrite, preserved

Associated Lab Samples: 10709475001

Pace Analytical Services - Minneapolis

Matrix: Water

METHOD BLANK: 5077223 Associated Lab Samples:

10709475001

Parameter

Units

mg/L

Units

mg/L

Blank Result Reporting Limit

Analyzed

Qualifiers

Nitrogen, NO2 plus NO3

Units mg/L

ND

0.10 10/06/24 11:11

LABORATORY CONTROL SAMPLE: Parameter

5077224

Spike Conc.

LCS Result

LCS % Rec

MSD

% Rec Limits

Qualifiers

Nitrogen, NO2 plus NO3

Parameter

Nitrogen, NO2 plus NO3

Units mg/L

10709141012

10709145001

Result

Result

1

1.1

109

90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

MS

Spike

Conc.

1

1

5077226

MSD Spike

Conc.

MS Result

1.1

Result

1.1

1.1

MS MSD % Rec % Rec

108

% Rec Limits

90-110

Max **RPD RPD**

5077227

ND

5077228

MSD

106

MSD

% Rec

106

2

Qual 20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

ND

MS Spike

Conc.

MSD Spike

1

Conc.

1

MS Result Result

1.1

MS % Rec

107

% Rec Limits

90-110

Max **RPD**

RPD Qual 20

Date: 10/10/2024 02:12 PM

Parameter

Nitrogen, NO2 plus NO3



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QUALIFIERS

OCT 3 0 2024

Project:

Phoenix Operating, LLC

10709475 Pace Project No.:

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit,

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 10/10/2024 02:12 PM

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MW	Due to matrix interference, achieving a constant weight is not possible.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
PP	The mass of dried residue obtained did not meet the test method requirements based on volume used.





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

Phoenix Operating, LLC

Pace Project No.:

Date: 10/10/2024 02:12 PM

10709475

10709475001 10709475001			QC Batch	Analytical Method	Batch
	Milloy 10-3-24 #2H Well Pad	EPA 3010A	970670	EPA 6010D	971065
	Milloy 10-3-24 #2H Well Pad	SM 2320B	971542		
10709475001	Milloy 10-3-24 #2H Well Pad	SM 2540C	970573		
10709475001	Milloy 10-3-24 #2H Well Pad	SM 4500-H+B	972286		
10709475001	Milloy 10-3-24 #2H Well Pad	EPA 120.1 Resistivity	1045614		
10709475001	Milloy 10-3-24 #2H Well Pad	SM 2510	971086		
10709475001	Milloy 10-3-24 #2H Well Pad	ASTM D5057	972576		
10709475001	Milloy 10-3-24 #2H Well Pad	EPA 300.0	971880		
10709475001	Milloy 10-3-24 #2H Well Pad	EPA 353.2	971645		

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OCT 3 0 2024

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OCT 3 0 2024

	,																		
AS	STRQ-CHEM LAB, INC.	Client:	17)hr	e	nix O	perating	م سد		С	HAI	N o	f C	UST	ГО	DY			Page 1 of 1
1	4102 2nd Ave. W. P.O. Box 972	Project	v	10-	3-	24 #21	well Pa	d	Telepho	ne No.					Fax No	o.		Method of	Shipment
1	Williston, ND 58801	Project	1	M	10	Joh	กรอก					Containe	0				151	FEDEX ON	/ERNIGHT
ı	701-572-7356 www.astrochemlab.com	Manager		170			11/2011		1	U	U	2	Preserv	T	T	TT	П	Special Del	tection
				_	A	CL "Olffield	Water*		hydro	tide (5) zinc	pes: (1) nih acelate (6) pic acid (8)	vnethanol munonius	(7) sodiu n swifate (rvad (0) (m bişulfa (C) ammo Other:	ate (8) a	sodium th	niosulfate	(9)	rono
	Semple I.D.	(36)5	No. of Containers	Soil	Water	Alr Other	Sempling Date	Sampling Time	Ce, Mg, Na, Fe, Cr, Ba, K, Sr, Zn	Chioride, Sulfate, pH, Conductivity, Resistivity, Total Dissolved Solids	Specific Gravity, Alkalinity (Carbonate & Bicarbonate)	Nitrate+Nitrite					Turn Arvind Time function desert		
mil	loy 10-3-24+2H Well reater)	land	4	Π	X		19/21/24	10:39	X	X	X	X				T		REMARKS	
1-	100 100 100 100	-	†	\vdash		H	1 (21)	Nº AM			-	1			$^{+}$	11	+		astrochem@midconetwork.com www.astrochemlab.com
	reaser)		-	╁	-	$\vdash\vdash\vdash$	H			-		-	1	+	+	+	+	-	X 본
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_			-		Н			10709475		100	911				+	+	++	-	₹ Sc.
			_		L	+1					1 1		-		4	44	44	_	- St
	1			1 8															w
Sample	Received Intact: Yes No						Temperature a	received:	19			Ice		ı	No ice	•			
Reling. b	by sampled				Date	24/24	0	Received by (S	Signature)	•	0.00	9		7		1202		Lab Work	No.
Ľ	1.5. (Yest ibute)		_		1/	24/24		Bus	da	Ben	the	Bro	nda	1	en	th			
B1	.5. (Vestibute) unda Benth?	Brenda I	Ben	机	9	75/24	2:00 pm	Aura III	04	laste	= 17		5/	the	×	9/2	ubs	530	
21	hed by				Date	Tim		Seceived by		7,7	1						-		
Relinguli	hed by	SHIRE TO SHIRE THE SHIP SHIP SHIP SHIP SHIP SHIP SHIP SHIP			Date) Tim	. //	Received by la	boratory					1	Date	Time			

Methods for Analysis (ACL OIL WATER GUIDELINES)

Alkalinity (2320B)

Alkalinity, Bicarbonate (CaCO3)

Alkalinity, Carbonate (CaCO3)

Alkalinity, Total as CaCO3

Nitrate + Nitrite (353.2)

Nitrogen, NO2 plus NO3

pH, Electrometric (4500H+B)

8 Metals-Barium, Chromium, Iron, Zinc, Calcium, Magnesium, Sodium, Potassium (6010D MET ICP)

Chloride & Sulfate (300.0 IC Anions)

Resistivity (D1125-14)

Specific Conductance (SM2510)

Specific Gravity (ASTM D5057)

Strontium (6020B MET ICPMS)

Total Dissolved Solids (2540C)

RECEIVED

OCT 3 0 2024

	Pace			0#:10709475
☐ SpeeDee ☐ UPS ☐ USPS				IENT: 11 Astro Che
TRACKING NUMBER: 7788 1970 3365 See Exception ENV-FRM-N				LLINY. AD THE STATE OF THE STAT
Custody Seal on Cooler/Box Present: 🗆 YES 📈 NO Seals Intact: 🗆	YES Z	NO	Biologi	cal Tissue Frozen: YES NO N/A
Packing Material: Bubble Bags Bubble Wrap None Other	r Tem	p Blan	nk: 📈	ES 🗆 NO Type of Ice: 🗀 Blue 🗀 Dry 🔎 Wet
Thermometer: ☐ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T7 (0042) ☐ T8 (0775) ☑ T9 (0727) ☐ 01339252		0178)	□ T6 (0235)
Did Samples Originate in West Virginia: 🗆 YES 🔎 NO			Were Ali	Container Temps taken:
Correction Factor:O(Cooler Temp Read w/Temp Blank: _		_°C	Average	Corrected Temp (no Temp Blank Only):°C
Cooler Temp Corrected w/Temp Blank: _{ NOTE: Temp should be above freezing to 6°C.	010	-'c	□ See E	xceptions Form ENV-FRM-MIN4-0142
		=		
USDA Regulated Soll: N/A / Water Sample/Other (describe):	A7 CA	_		R Date of Person Examining Contents: May 4/24/ ples originate from a foreign source (international, including
Did Samples originate from one of the following states (check maps) AL, AR, GA, ID, IA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA:	, AZ, CA,	^{[2} ,		and Puerto Rico): YES NO
NOTE: If YES to either question, fill out a Regulated Soll Checklist (ENV-FRM	-MIN4-0	154) a		
LOCATION (check one): DULUTH MINNEAPOLIS VIRGINIA	YES	NO	N/A	COMMENT(S)
Chain of Custody Present and Filled Out?			N/A	1.
Chain of Custody Present and Pilled Out	1	-	1	2.
Sampler Name and/or Signature on COC?	6	, D,		3.
Samples Arrived within Hold Time?	Z		1	4. If Fecal: □ <8 hrs □ >8 hr, <24 hr □No
Short Hold Time Analysis (<72 hr)2	1	Z		5. BOD / cBOD Fecal coliform Hex Chrom
RECEIVED	-	_		☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos '
V V				☐ Total collform/E. coli ☐ Other:
Rush Turn Around Time Requested?		1		6.
Sufficient Sample Volume? UCT 30 2024	Z.	Ö		7.
Correct Containers Used?	Z			8.
- Pace Containers Usedinontana BOARD OF OIL &	12			
Containers Intact? GAS CONSERVATION • BILLINGS				9.
Field Filtered Volume Received for Dissolved Tests?	′□		A	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC?			+	11. If NO, write ID/Date/Time of container below: NO
NOTE: If ID/Date/Time don't match fill out section 11.		250		11. If NO, write ID/Date/Time of container below: PO Sample id Only Quetch With La
Matrix: ☐ Oil ☐ Soil Water ☐ Other				☐ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	10			12. Sample #:00 /
All containers needing preservation are found to be in compliance with EPA				The state of the s
recommendation? (HNO ₃ , H ₂ SO ₄ , < 2 pH, NaOH > 9 Sulfide, NaOH > 10	2			HNO₃
Cyanide) Exceptions: VOA, Coliform, TOC/DOC, OII & Grease, DRO/8015 (water) and				Positive for Residual Chlorine: 🗆 YES 🗆 NO
Dioxins/PFAS		"		pH Paper Lot #
				Residual 0-6 Roll 0-6 Strip 0-14 Strip
NOTE: If adding preservation to the container, verify with the PM first.				Chlorine
Clients may require adding preservative to the field and equipment				205224
blanks when this occurs.				☐ See Exceptions form ENV-FRM-MIN4-0142
Headspace In Methyl Mercury Container?				13.
Extra labels present on soil VOA or WIDRO containers?				14.
Headspace in VOA Vials (greater than 6mm)?				☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?		Ø		15.
Trip Blank Custody Seals Present?				Pace Trip Blank Lot # (If purchased):
CLIENT NOTIFICATION / RESOLUTION				FIELD DATA REQUIRED: 🗆 YES 🗔 N
Person Contacted:		Date	& Time:	
Comments / Resolution:			1000	A STATE OF THE PARTY OF THE PAR
Commence / Heavingtons				
T 20 02				VIEWHELE CO.
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Qualtrax ID: 52742

Effective Date: 05/10/24

Page19 of 21

RECEIVED

OCT 3 0 2024

Andrea Pace A 1700 E Minnea	order: 10709475 Wo To Richardson nalytical Minnesota Im Street polls, MN 55414 (218)341-6080	rkordi	er N	am	e:	Phoen bcontra Pace 8 Eas Ormo	es Pre-Loggi ix Operating act to Analytical Or at Tower Circl and Beach, Fi e (386)672-56	mond Bead		-		Cert. No				T		26/20 Requ	3	5 S	esults alysis 008	36		_	by: 10/	10/2024
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Project #

Client:

Project Manager:

VIII. Water Analysis - Source Waters



Due Date: 10/11/24

CLIENT: PACMIN



Date and Initials of person Examining contents: Verifying nHe

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Leased Mineral Owners within AOR

Tri-Star Minerals P.O. Box 3086 Minot, ND 58702

Timothy R. Lee P.O. Box 81450 Billings, MT 59108

The Donald L. Laber Family Trust c/o Jo Marie S. Nelson P.O. Box 749 Culbertson, MT 59218

Crown Resources, LLC, f/k/a Crown Resources LLP 1555 West Yellowstone Way Chandler, AZ 85248

The Erickson Family Trust UDT c/o Daniel M. Erickson and Pamela Jo Oyloe 591 Knobhill Drive Lake Havasu City, AZ 86403

The Carol Ann Maskeny Erickson Living Trust, c/o Carol Ann Erickson 1753 West Regents Park Road Crofton, MD 21114

> Jamie Paul Keillor 1619 Pontiac Trail Ann Arbor, MI 48105

Lucy Rostar 1120 Barber Terrace Northwest Grand Rapids, MI 49504

> David Anthony Bussier 705 Woodbridge Drive Dilworth, MN 56529

The Picard Family Trust c/o Samuel L.
Picard
1643 41st Street Way
Billings, MT 59106

Susan G. Keillor P.O. Box 18 Lake Ann, MI 49650

The Stony Creek Trust c/o James V. Lee and Karen J. Lee PO BOX 242 Port Orchard, WA 98366

Kringen Oil, LLC 8540 East McDowell Road, Unit 59 Mesa, AZ 85207

> Enerlex Inc. 18452 East 111th Street Broken Arrow, OK 74011

Boedecker Resources P.O. Box 1236 Billings, MT 59103

Carol Ann Erickson 1753 West Regents Park Road Crofton, MD 21114

Kathleen Keillor O'Keefe P.O. Box 166 Traverse City, MI 49685

The Snead 2000 Revocable Trust c/o Mark Snead and Ginger Snead 6528 East 101st Street, Building D-1 #443 Tulsa, OK 74133

> Sarah Lynn Bussier Uhler 705 Woodbridge Drive Dilworth, MN 56529

Picard One, LLC c/o Samuel L. Picard 1643 41st Street Way Billings, MT 59106 Marcus D. Lee P.O. Box 1936 Williston, ND 58802

Ann M. Dorwart 9728 Pinnacle Knoll Court Colorado Springs, CO 80920

Western Energy Corporation P.O. Box 641 Williston, ND 58802

J. P. Furlong Co., f/k/a Furlong Oil &Minerals Co. P.O. Box 836 Charleston, IL 61920

Kaleb M. Dasinger 122 2nd Avenue Southwest Sidney, MT 59270

Christopher Dale Keillor 1002 Carefree Court Carson City, NV 89705

Smokey Oil, LLC 130 Equinox Drive Castle Rock, CO 80108

Timothy P. Furlong P.O. Box 2556 Bismarck, ND 58502

Nancy Marie Bussier Wahl 1058 5th Avenue West Dickinson, ND 58601

Armen G. Suny 325 Lions Head Drive Monument, CO 80132

RECEIVED

OCT 3 0 2024

IX. List of Surface Owners - Mineral Owners within AOR

Lana Jane Hoffman 35296 Road 124 Visalia, CA 93291

Kenneth R. Wittl 19635 Garfield Street Redford, MI 48240

JaNahn A. Barnhouse 2416 377th Avenue Northwest Stanchfield. MN 55080

Tamara J. Olson 36100 Xenon Street Northwest Princeton, MN 55371

Arthur Matusiak 10328 West Twin River Lane Homosassa, FL 34448

Denice R. Melin 615 North Fern Street Cambridge, MN 55008

Marleah Muzyl and William J. Muzyl P.O. Box 673 Gaylord, MI 49734

The Robert A. Erickson Living Trust c/o Cleo M. Erickson 11336 Birdie Lane Ray, ND 58849

> Donald T. Kirt W6495 Number 2 Road Menominee, MI 49858

The Special Needs Trust of Deborah L.
Anderson,
c/o First Fiduciary Corporation
4120 Lexington Way
Eagan, MN 55123

Ricky A. Vinecki 9401 Larchwood Lane Interlochen, MI 49643 The Campbell Living Trust c/o Earl C. Morton and Nancy Lou Campbell 18831 North Summerbreeze Way Surprise, AZ 85374

> Phillip S. Olson 4025 Boulder Ridge Road Bismarck, ND 58503

Greg J. Olson 19726 Irving Street Northwest Elk River, MN 55330

Frank Maziarz 19821 Arthur Street, Apartment 238 Harper Woods, MI 48225

> Danielle Lynn Muzyl 1088 Studebaker Avenue Ypsilanti, MI 48198

P.O. Box 2249 Gaylord, MI 49734

The Denise Mack Trust 1182 North University Drive Plantation, FL 33322

The Grant M and SueAnn Babcock Revocable Living Trust Survivor's Trust c/o Theodore Roosevelt Babcock P.O. Box 32341 Phoenix, AZ 85064 Bonny Downing 1839 Lake Glen Drive Fuguay Varina, NC 27526

> Jackie Ruta 394 Crestview Drive South Maplewood, MN 55119

Haymaker Properties, L.P. P.O. Box 206200 Dallas, TX 75320 Alicia L. Vinecki 9401 Larchwood Lane Interlochen, MI 49643

Sandra S. Kennedy 1023 Kassuba Road Gaylord, MI 49735

Theresa Jaruzel 4157 McCoy Road Gaylord, MI 49735

Brock Ebert 919 East 7th Street Gillette, WY 82716

Anna D. Jaruzel 4157 McCoy Road Gaylord, MI 49735

Carol A. Tognetti 2324 Castlewood Drive Gaylord, MI 49735

The Russell Torgerson and Renata Torgerson Revocable Trust 2602 Muirfield Court Missoula, MT 59808

> Marie Kirt 213 East Sheldon Gaylord, MI 49735

William Kirt 3169 Parmator Road Gaylord, MI 49735

Tracy A. Schletz 1200 Josephine Road Roseville, MN 55113

Estate of Scott Allen Keillor c/o Jamie Paul Keillor 1619 Pontiac Trail Ann Arbor, MI 48105

RECEIVED

OCT 3 0 2024

Surface Owners with AOR

Department of Natural Resources & Conservation (DNRC)
Northeast Land Office
PO BOX 1021
Lewistown, MT 59457-1021

Dale & Jodi & Dean Nelson 533 Big Lk Rd Homestead, MT 59242 Russell & Renata Torgerson 2602 Muirfield Ct Missoula, MT 59808-9472

RECEIVED

OCT 3 0 2024

BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

IN THE MATTER OF THE APPLICATION FOR PHOENIX OPERATING LLC FOR THE HEARING OF ITS REQUEST FOR A UIC PERMIT FOR THE SCADDEN 1 SWD WELL, 450' FNL 2036' FEL, SECTION 21, T30N, R59E, P.M.M. ROOSEVELT COUNTY, MONTANA, FOR THE PURPOSE OF WATER INJECTION

AFFIDAVIT OF NOTIFICATION

Date: October 28, 2024

State of Utah County of Uintah RECEIVED

OCT 3 0 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Amy Doebele, being first duly sworn, deposes and says:

That Notice of advising of Phoenix Operating LLC' application for UIC permit in the captioned matter, in the form attached as "Exhibit A", was mailed to each current operator, surface owner and lease owner within the area of review at the addresses shown in the exhibit attached to the Notice, by mailing a true copy thereof this 29 day of __Oct . , 2024, postage prepaid, First Class USPS Mail. This affidavit is given as evidence of compliance with A.R.M. 36.22.1410.

Amy Doebele Authorized Agent

Notary Public of the State of Utah My Commission Expires: Man 17 2016





October 25, 2024

RECEIVED

OCT 3 0 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

To: Department of Natural Resources Conservation

Northeast Land Office

PO BOX 1021

Lewistown, MT 59457-1021

RE:

Proposed Saltwater Disposal Well

Location of proposed Disposal Well & Facility: Scadden 1 SWD

NE 1/4 NW 1/4, Section 21, Township 30N, Range 59W. P.M.M. Roosevelt County, Montana

This letter is to advise you that Phoenix Operating LLC (Phoenix) plans to drill and complete the subject well into a Class II saltwater disposal well. Water will be injected into the Dakota group for the purpose of disposal operations.

In accordance with the rules and regulations of the Montana Board of Oil & Gas Conservation (MBOG), Phoenix is required to give notice that it has made an application to perform this work to each surface owner within a one-quarter mile radius of the injection site. The MBOGC will conduct a hearing regarding this application. For the hearing date, please contact the MBOGC by phone at (406) 656-0040, or visit their website at https://dnrc.mt.gov/BOGC/. Your comments or objections regarding this application may be directed to the MBOGC at that time.

Written comments or objections may be submitted prior to the hearing to the following address:

Montana Board of Oil & Gas Conservation 2535 St. Johns Avenue Billings, MT 59102

Please direct any and all of your communication regarding this proposed project, including more information about the upcoming hearing, to Mr. John Gizicki with the MBOGC at (406) 656-0040 or to Mark Johnson with Phoenix Operating LLC at (303) 548-1953.

Sincerely,

Amy Doebele



October 25, 2024

RECEIVED

OCT 30 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

To:

Dale & Jodi & Dean Nelson

533 Big Lk Rd

Homestead, MT 59242

RE:

Proposed Saltwater Disposal Well

Location of proposed Disposal Well & Facility: Scadden 1 SWD

NE 1/4 NW 1/4, Section 21, Township 30N, Range 59W. P.M.M. Roosevelt County, Montana

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Sincerely,

Amy Doebele



October 25, 2024

RECEIVED

OCT 3 0 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

To:

Russel & Renata Torgerson

2602 Muirfield Ct Missoula, MT 59808

RE:

Proposed Saltwater Disposal Well

Location of proposed Disposal Well & Facility: Scadden 1 SWD

NE 1/4 NW 1/4, Section 21, Township 30N, Range 59W. P.M.M. Roosevelt County, Montana

This letter is to advise you that Phoenix Operating LLC (Phoenix) plans to drill and complete the subject well into a Class II saltwater disposal well. Water will be injected into the Dakota group for the purpose of disposal operations.

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Montana Board of Oil & Gas Conservation 2535 St. Johns Avenue Billings, MT 59102

Please direct any and all of your communication regarding this proposed project, including more information about the upcoming hearing, to Mr. John Gizicki with the MBOGC at (406) 656-0040 or to Mark Johnson with Phoenix Operating LLC at (303) 548-1953.

Sincerely,

Amy Doebele



RECEIVED

October 25, 2024

OCT 3 0 2024

To: Mineral lease owner within ¼ mile of the proposed saltwater disposal well.

MONTANA BOARD OF OIL &
GAS CONSERVATION • BILLINGS

RE: Proposed Saltwater Disposal Well

Location of proposed Disposal Well & Facility: Scadden 1 SWD

NE 1/4 NW 1/4, Section 21, Township 30N, Range 59W. P.M.M. Roosevelt County, Montana

This letter is to advise you that Phoenix Operating LLC (Phoenix) plans to drill and complete the subject well into a Class II saltwater disposal well. Water will be injected into the Dakota group for the purpose of disposal operations.

In accordance with the rules and regulations of the Montana Board of Oil & Gas Conservation (MBOG), Phoenix is required to give notice that it has made an application to perform this work to each mineral lease owner within a one-quarter mile radius of the injection site. The MBOGC will conduct a hearing regarding this application. For the hearing date, please contact the MBOGC by phone at (406) 656-0040, or visit their website at https://dnrc.mt.gov/BOGC/. Your comments or objections regarding this application may be directed to the MBOGC at that time.

Written comments or objections may be submitted prior to the hearing to the following address:

Montana Board of Oil & Gas Conservation 2535 St. Johns Avenue Billings, MT 59102

Please direct any and all of your communication regarding this proposed project, including more information about the upcoming hearing, to Mr. John Gizicki with the MBOGC at (406) 656-0040 or to Mark Johnson with Phoenix Operating LLC at (303) 548-1953.

Sincerely,

Amy Doebele

October 29, 2024

RECEIVED

OCT 3 0 2024

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue Billings, MT 59102

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Attn: Mr. John Gizicki

UIC Program Manager

RE:

Application for UIC Permit and Authorization to Drill a Class II Injection Well

Location of proposed Disposal Well & Facility: Scadden 1 SWD

NE ¼ NW ¼, Section 21, Township 30N, Range 59W. P.M.M.

Roosevelt County, Montana

Dear Mr. Gizicki.

Phoenix Operating LLC (Phoenix) respectfully requests approval of an Underground Injection Control (UIC) permit for the referenced location and as described in the attached application. Phoenix has provided notice to the appropriate parties within ¼ mile area of review of the proposed well location and requests that the application be placed on the docket for the MBOGC hearing scheduled December 5, 2024.

If you have any questions concerning the enclosed application, please contact myself at (435) 789-1017 or to Mark Johnson with Phoenix Operating LLC at (303) 548-1953.

Sincerely,

Authorized Agent for Phoenix Operating LLC

UELS, LLC

RECEIVED

OCT 3 0 2024

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Phoenix Operating - Scadden 1 SWD BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

In the Matter of the application of

Phoenix Operating LLC

for a Class II Injection well permit.

NOTICE OF INTENTION TO APPLY FOR A

CLASS II INJECTION WELL PERMIT

1. Name and address of Applicant: Phoenix Operating LLC 4643 S. Ulster Street Suite 1510 Denver, CO 80237 This public legal notice is scheduled to be published in the Helena Independent Record on November 2, 2024 Upon publication, receipt of the proof of publication will be provided to MBOGC.

 Legal Description including County and Approximate Footages of Surface Location of Proposed Oil and Gas Well: (and projected bottom-hole location, if a directional or horizontal well)

Scadden 1 SWD Surface Hole: 450' FNL 2036' FEL NENW Section 21, Township 30 North, Range 59 East Roosevelt County, MT

- 3. Source of fluids to be injected Produced water from Three Forks (Bakken) wells
- Zone or formation into which injection will occur, including depth
 Dakota from 5,332 -5,811'

5. An aquifer exemption will be requested as part of the application since the proposed injection zone contains water with less than 10,000 ppm total dissolved solids. Pursuant to Rules 36.22.1409, Administrative Rules of Montana,

Pursuant to Rules 36.22.1409, Administrative Rules of Montana, the Montana Board of Oil and Gas Conservation will hold a public meeting upon the application of Phoenix Operating LLC for a Class II underground injection permit for the well or project set forth above. Said hearing will be held at the Montana Board of Oil & gas Hearing Room at 2535 St. John's Ave. Billings, Montana, beginning at 9:00 am on Thursday, December 5, 2024.

November 2, 2024 ##### MNAXLP