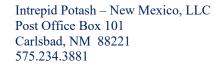
Office	State of New Me			Form C-103	
District I - (575) 393-6161	Energy, Minerals and Natu	ral Resources		sed July 18, 2013	
1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> – (575) 748-1283			WELL API NO.		
811 S. First St., Artesia, NM 88210	OIL CONSERVATION DIVISION		30-015-45441 5. Indicate Type of Lease		
District III - (505) 334-6178	1220 South St. Francis Dr.		STATE FEE		
1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> – (505) 476-3460	Santa Fe, NM 87	7505	6. State Oil & Gas Lease No.		
1220 S. St. Francis Dr., Santa Fe, NM 87505	,		or our or or our person in		
SUNDRY NOT (DO NOT USE THIS FORM FOR PROPO DIFFERENT RESERVOIR. USE "APPLIA"	ICES AND REPORTS ON WELLS SALS TO DRILL OR TO DEEPEN OR PLI CATION FOR PERMIT" (FORM C-101) FO	UG BACK TO A	7. Lease Name or Unit Agre Intrepid SWD No. 2	ement Name	
PROPOSALS.)  1. Type of Well: Oil Well	Gas Well Other (SWD)		8. Well Number 2		
2. Name of Operator Intrepid Potash – New Mexico			9. OGRID Number 372681		
3. Address of Operator	i, LLC		10. Pool name or Wildcat		
1001 17th St., Ste. 1050 Denv	SWD; Devonian-Silurian (Pool Code 97869)				
4. Well Location					
Unit Letter <u>B</u> :	505.6 feet from the North	line and1474.	7feet from the <u>East</u> lir	ıe	
Section 2		Range 29 East		nty <b>Eddy</b>	
	11. Elevation (Show whether DR	, RKB, RT, GR, etc			
Managard Carlo Control of the	3369.7 ft	•	DESCRIPTION OF THE PERSON OF T	THE RESERVE OF THE PERSON NAMED IN	
12. Check	Appropriate Box to Indicate N	lature of Notice,	Report or Other Data		
NOTICE OF IN	ITENTION TO:	l SUE	SEQUENT REPORT O	F:	
PERFORM REMEDIAL WORK		G CASING			
TEMPORARILY ABANDON	CHANGE PLANS	COMMENCE DR	ILLING OPNS. P AND A		
PULL OR ALTER CASING	MULTIPLE COMPL	CASING/CEMEN	IT JOB 🔲		
DOWNHOLE COMMINGLE					
CLOSED-LOOP SYSTEM	F7			_	
OTHER:	⊠	OTHER:			
(extension request)	eleted operations. (Clearly state all	l nertinent details, ar	nd give pertipent dates, includin	a estimated date	
	ork). SEE RULE 19.15.7.14 NMAC				
This is a single salt water	disposal well. Spud date: propose	ed 10/15/2021			
The original drill plans a	ad dates were postponed due to ec	onomic climate, C	Covid-19, and associated issue	S.	
-		•	•		
See attached proposed we	ell program, surveyed site location	ı, and well bore di	agram for information.		
	<del></del>	Г			
Spud Date:	Rig Release Da	ate:			
·					
I hereby certify that the information	above is true and complete to the b	est of my knowled	ge and belief.		
0 1					
SIGNATURE Roy Jones	TITLE O	erations M	angger DATE 11	4/2020	
0 0 7	Secret 5 11 11		phone: 57	C 124 20	
Type or print name Koy I	E-mail address	s:	PHONE: 57	5- 234- 370	
For State Use Only	104.401	CIES WINTER			
EXTENSION	\ DLINILD	Garcia - Petrol	· · · · · · · · · · · · · · · · · · ·	5/2021	
APPROVED BY: Conditions of Approval (if any):	TITLE		DATE		
Well expired 11/14/2020, ex	tension not received until 1	1/08/2021			
vv ch expheu 11/14/2020, ex	achision not received until I	1/00/2021			





November 3, 2020

Mr. Gilbert Cordero
Oil Conservation Division
Energy Minerals and Natural Resources
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Intrepid Potash – New Mexico, LLC

Application for Permit to Drill UIC Well

Intrepid SWD No 2

Request for Extension to Drill

Dear Mr. Cordero:

Intrepid Potash – New Mexico, LLC (Intrepid) previously submitted application for a UIC well with your Department (Intrepid SWD Well No 2 in 2018). The well is API# 30-015-45441. To date this well has not started construction or installation due to economic conditions and more recently due to the setbacks of Covid-19 issues in 2020.

SWD Well No 2 had an anticipated construction start date of January 15, 2019 with an application approval expiration date of 11/14/2020. Construction and operation of SWD Well No 2 has been delayed as mentioned above. Interpid is requesting a two (2) year extension associated with its application approval until November of 2022.

We are attaching a signed copy of Form C-103 that provides pertinent information on proposed Intrepid SWD No 2. Please let us know if this request is acceptable or if you need any additional information. Thank you for your time and consideration in this matter.

Sincerely,

Ken Faulkner, PE

Environmental Manager

Ken L. Faulliner

Attachments

Intrepid Potash-New Mexico, LLC
Intrepid SWD Well No.2
505.6' FNL & 1474.7' FEL
Section 2, Twp 21-S, Rng 29-E
Eddy County, New Mexico

## Well Program - New Drill

Objective: Drill new well for commercial salt water disposal into the Devonian, Silurian, Montoya and Simpson; mudlogging and e-logging to determine final depths.

## 1. Geologic Information - Devonian/ Silurian Formations

The Devonian and Silurian both consist of carbonates including light colored dolomite and chert intervals interspersed with some tight limestone intervals. Several thick sections of porous dolomite capable of taking water are present within the subject formations in the area. Depth control data was inferred from deep wells to the north, south and east. If the base of Devonian and top of Silurian and/or Ordovician rocks come in as expected the well will only be drilled deep enough for adequate logging rathole.

### **Estimated Formation Tops:**

B/Fresh Water	240'	
Salado	610'	
Delaware Sand	3900'	
Bone Spring	6840'	
Wolfcamp	10090,	
Strawn	11350'	
Atoka	11630'	
Morrow	12275'	
Woodford	13680'	
Devonian*	13830,	
Silurian	14150	
Montoya	14850'	
TD Simpson*	15175'	
Ellenburger	19000'	

<sup>\*</sup>Please see narrative portion of drilling/pipe specs for TD options.

### 2. Drilling Procedure

- a. MIRU drilling rig and associated equipment. Set up H<sub>2</sub>S wind direction indicators; brief all personnel on Emergency Evacuation Routes.
- All contractors conduct safety meeting prior to current task. All equipment inspected daily.
   Repair / replace as required.
- c. Well spud operations commence.
- d. Mud logger monitoring returns; cuttings & waste hauled to specified facility. (Sundance, Lea County)
- e. After surface casing set/drilled; if H<sub>2</sub>S levels >20ppm detected, implement H<sub>2</sub>S Plan accordingly. (e.g., cease operations, shut in well, employ H<sub>2</sub>S safety trailer & personnel safety devices, install flare line, etc. refer to plan.)
- f. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.
- g. Sundry forms filed as needed casing, cement, etc. operations continue to completion.

# Well Program - New Drill (cont.)

### 3. Casing program - Casing designed as follows:

STRING HOLE S	HOIE 57	DLE SZ DEPTH	CC CT	CSG SZ COND	WT/GRD	CLLPS/BRS	TNSN
	HOLE 32 D	DEFIN	C3G 3Z		** 1/GKD	(Minimum Safety Factors)	
Surface	26.5"	0-650'	20.0"	New	94.0 lb. J/K-55	1.125/1.1	1.8
Intermediate	17.5"	0-3850'	13.375"	New	68.0 lb. K-55	1.125/1.1	1.8
2nd Inter	12.25"	0-9,600'	9.625"	New	53.5 lb. P-110	1.125/1.1	1.8
Prod/ Liner*	8.5"	9,300'-13,530'	7.625"	New	39.0 lb. P-110	1.125/1.1	1.8
Openhole*	6.5" hole	13,530'-15,475'	ОН	n/a	n/a	n/a	n/a

### Notes:

- ✓ On both Intermediate casing strings, the cement will be designed to circulate to surface. Both strings will have cement bond logs run (radial, CET or equivalent) to surface.
- ✓ While running all casing strings, the pipe will be kept a minimum of 1/3 full at all times to avoid approaching the collapse pressure of casing.
- ★ Based on mudlogging and e-logs, 7.625" casing shoe is expected to be set at 13,530' but could be as deep as 13,830'. Similarly, TD may be from 15,175' to 15,475' as determined by logging and suitable porosity has been exposed. IN ANY EVENT, maximum openhole interval would be from 13,530' to 15,475' and sundry notice will document such events and a C-105 completion report filed within 60 days.

### 4. Cementing Program:

Surface – LEAD Slurry: 1,300 sacks of Class C containing 4% gel + 2% CaCl2 + .4 pps defoamer + .125 pps cello flake + 3 pps Koal Seal. Weight 13.7 ppg, yield 1.68 ft3/sack; TAIL Slurry: 300 sacks of Class C Neet containing 2% CaCl2. Weight 14.8 ppg, yield 1.34 ft3/sack; 100% excess, circulate to surface.

Ist Intermediate – LEAD Slurry: 1,650 sacks of Class C containing 4% gel + .4 pps defoamer + .125 pps cello flake + 5% NaCl. Weight 13.2 ppg, yield 1.83 ft3/sack; TAIL Slurry: 600 sacks of Class C Neet. Weight 14.8 ppg, yield 1.32 ft3/sack; 50% excess, circulate to surface.

**Production** – LEAD Slurry: 1,285 sacks of Class H containing 10% gel + .4 pps defoamer + .125 pps cello flake + 1 pps Koal Seal + 5% NaCL. Weight 11.9 ppg, yield 2.473 ft3/sack; TAIL Slurry: 515 sacks of Class H containing 2% retarder + .2 pps defoamer. Weight 15.6 ppg, yield 1.18 ft3/sack; 30% excess, circulate to surface.

Liner – Slurry: 350 sacks of Class H containing .3% retarder + .7% fluid loss additive + .2% dispersant + .4 pps defoamer + .1% Anti-Settling agent. Weight 15.2 ppg, yield 1.32 ft3/sack. 30% excess; TOC calculated @ Top of Liner 9,300'.

5. Pressure Control - BOP diagram is attached to this application. All BOP and related equipment shall comply with well control requirements as described NMOCD Rules and Regulations and API RP 53, Section 17. Minimum working pressure of the BOP and related equipment required for the drilling shall be 5000 psi. The NMOCD Artesia district office shall be notified a minimum of 4 hours in advance for a representative to witness BOP pressure tests. The test shall be performed by an independent service

### Well Program - New Drill (cont.)

1.

company utilizing a test plug (no cup or J-packer). The results of the test shall be recorded on a calibrated test chart submitted to the OCD district office. Test shall be conducted at:

- a. Installation:
- b. after equipment or configuration changes;
- c. at 30 days from any previous test, and;
- d. anytime operations warrant, such as well conditions

### 6. Mud Program & Monitoring - Mud will be balanced for all operations as follows:

DEPTH	MUD TYPE	WEIGHT	FV	PV	ΥP	FL	Ph
0-650'	FW Spud Mud	8.5-9.2	70-40	20	12	NC	10.0
650'-3850'	Brine Water	9.8-10.2	28-32	NC	NC	NC	10.0
3850'-9,600'	FW/Gel	8.7-9.0	28-32	NC	NC	NC	9.5-10.5
9,600'-13,530'	XCD Brine Mud	11.0-12.5	45-48	20	10	<5	9.5-10.5
13,530'-15,475'	FW Mud	8.4-8.6	28-30	NC	NC	NC	9.5-10.5

Mud and all cuttings monitored w/ cuttings recovered for disposal. Returns shall be visually and electronically monitored. In the event of H2S, mud shall be adjusted appropriately by weight and H2S scavengers.

- 7. Auxiliary Well Control and Monitoring Hydraulic remote BOP operation, mudlogging to monitor returns.
- 8. H<sub>2</sub>S Safety This well and related facilities are not expected to have H<sub>2</sub>S releases. However, there may be H<sub>2</sub>S in the area. There are no private residences or pubic facilities in the area but a contingency plan has been developed. Intrepid Potash-NM, LLC will have a company representative available to personnel throughout all operations. If H<sub>2</sub>S levels greater than 10ppm are detected or suspected, the Intrepid Potash H<sub>2</sub>S Contingency Plan will be implemented at the appropriate level.

H2S Safety - There is a low risk of H2S in this area. The operator will comply with the provisions of NMAC 19.15.11 and BLM Onshore Oil and Gas Order #6.

- a) Monitoring all personnel will wear monitoring devices.
- b) Warning Sign a highly visible H2S warning sign will be placed for obvious viewing at the vehicular entrance point onto location.
- c) Wind Detection two (2) wind direction socks will be placed on location.
- d) Communications will be via cellular phones and/or radios located within reach of the driller, the rig floor and safety trailer when applicable.
- e) Alarms will be located at the rig floor, circulating pump / reverse unit area and the flareline and will be set for visual (red flashing light) at 15 ppm and visual and audible (115 decibel siren) at 20 ppm.
- f) Mud program If H2S levels require, proper mud weight, safe drilling practices and H2S scavengers will minimize potential hazards.

## Well Program - New Drill (cont.)

g) Metallurgy - all tublars, pressure control equipment, flowlines, valves, manifolds and related equipment will be rated for H2S service if required.

# The Intrepid Potash H2S Contingency Plan will be implemented if levels greater than 10ppm H2S are detected.

- 9. Logging, Coring and Testing Intrepid Potash-NM, LLC expects to run;
  - a. Mud logging through the interval will ensure the target interval remains Devonian and Silurian.
  - b. CBL (Radial, CET or equivalent) on both intermediate casing strings.
  - c. Standard porosity log suite from TD to approximately 8,500'.
  - d. No corings or drill tests will be conducted. (The well may potentially be step rate tested in the future if additional injection pressures are required.)
- 10. Potential Hazards No abnormal pressures or temperatures are expected.

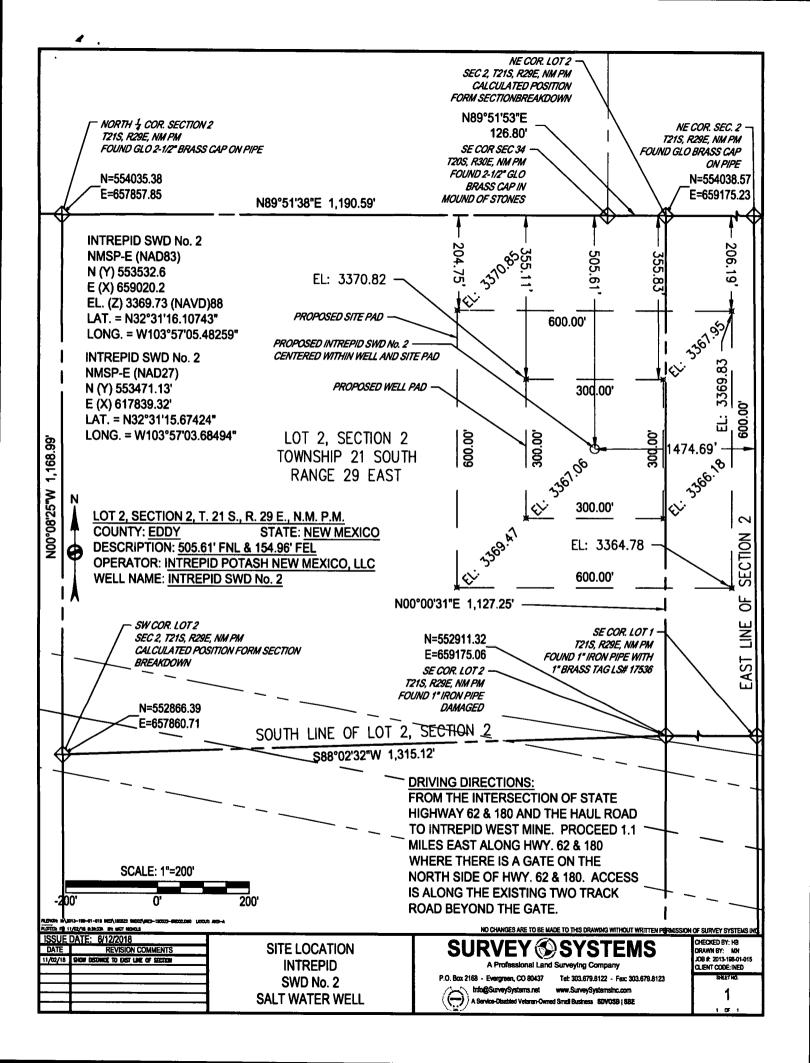
No loss of circulation is expected to occur with the exception of drilling into the target disposal zone. All personnel will be familiar with the safe operation of the equipment being used to drill this well.

The maximum anticipated bottom-hole pressure is 8000 psi and the maximum anticipated bottom-hole temperature is 195° F.

- 11. Waste Management All drill cuttings and other wastes associated with and drilling operations will be transported to the Lea County Sundance facility (or alternate), permitted by the Environmental Bureau of the New Mexico Oil Conservation Division.
- 12. Anticipated Start Date Upon approval of all permits for SWD, operations would begin within 30 days. Completion of the well operations will take six to seven weeks. Installation of the tank battery, berms, plumbing and other and associated equipment would be occurring during the same interval. In any event, it is not expected for the construction phase of the project to last more than 60 days, depending on availability of contractors and equipment. At the time of this submittal, and subject to the availability of the drilling contractor, the anticipated start date is:

## January 15, 2019.

13. Configure for Salt Water Disposal – Subsequent to SWD permit approval from OCD and prior to commencing any work, an NOI sundry(ies) will be submitted to configure the well for SWD and will detail the completion workover including all work otherwise described above, any change to the procedure noted herein and to perform mechanical integrity pressure test per BLM and OCD test procedures. (Notify NMOCD 24 hours prior.) The casing/tubing annulus will be monitored for communication with injection fluid or loss of casing integrity. Anticipated daily maximum volume is 30,000 bpd and average of 17,500 bpd at a maximum surface injection pressure of 2706 psi (0.2 psi/ft to uppermost injection interval, i.e., casing shoe). If satisfactory disposals rates cannot be achieved at default pressure of .2 psi/ft, Intrepid Potash-NM, LLC will conduct a step-rate test and apply for an injection pressure increase 50 psi below parting pressure.





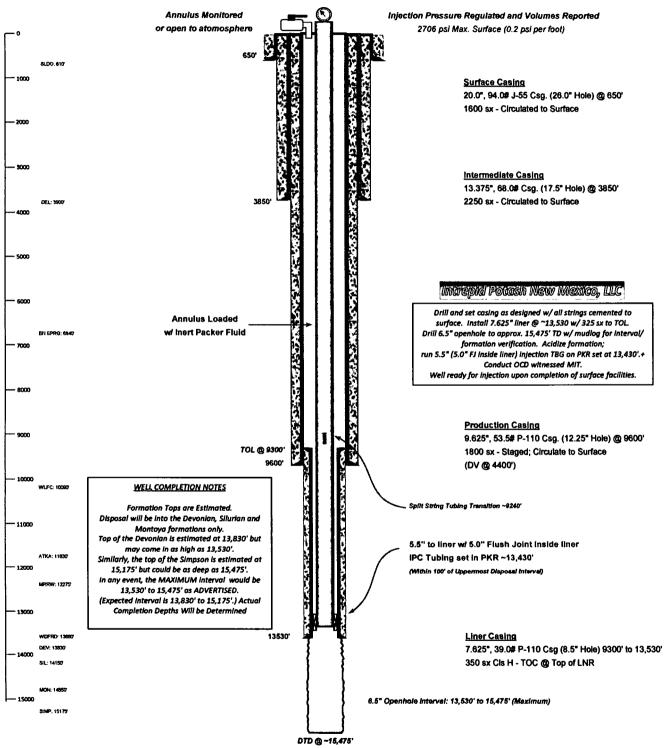
# WELL SCHEMATIC - PROPOSED Intrepid SWD Well No.2

### API 30-015-xxxxx

505.6' FNL & 1474.7' FEL, SEC. 2-T21S-R29E EDDY COUNTY, NEW MEXICO

### Proposed: SWD; Devonian-Silurian-Montoya

Spud Date: 1/15/2019 SWD Config Dt: 2/15/2019

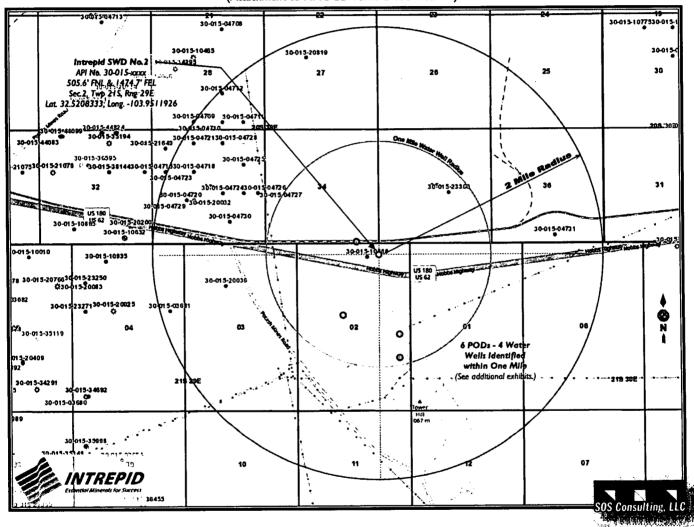


Drawn by: Ben Stone, Rvs'd 10/18/2018



# Intrepid SWD No.2 - Area of Review / 2 Miles

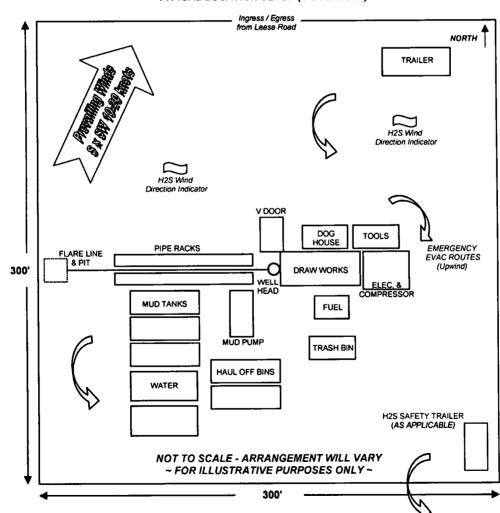
(Attachment to NMOCD Form C-108 - Item V)



# Standard Drill - Operating Procedure & Site Setup

# ALL OPERATIONS CONDUCTED WITHIN EXISTING PAD SITE NOT EXCEEDING SURVEYED SITE. ORIENTATION PER BEST FIT.

- 1. MIRU Drilling and drilling support contractors / equipment.
- 2. Set up H2S wind direction indicators; brief all personnel on Emergency Evacuation Routes.
- 3. All contractors conduct safety meeting prior to current task.
- 4. If H2S levels >20ppm detected, implement H2S Plan accordingly. (e.g., cease operations, shut in well, employ H2S safety trailer & personnel safety devices, install flare line, etc. refer to plan.)
- 5. All equipment inspected daily. Repair / replace as required.
- 6. Mud logger monitoring returns; cuttings & waste hauled to specified facility. CRI LEA COUNTY
- 7. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.
- 8. Sundry forms filed as needed casing, cement, etc. operations continue to completion.



TYPICAL LOCATION SETUP (V Door North)



# **Blow Out Preventer Diagram**

# **5000 PSI WORKING PRESSURE**

