11/02/2014 DATE IN	SUSPENSE	PPG ENGINEER	11/03/2014 LOGGED IN	IPI TYPE	pMAM1400339027 APP NO.

463

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

Trek Operating
Pearl #1
30-015-40496
IPI

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☒ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Brad D. Burks	Brad D. Burks	Manager	12-27-2013
Print or Type Name	Signature	Title	Date

office@bkxcorp.com 918-582-3855 (x101)
e-mail Address

TREK OPERATING, LLC

10159 E. 11th St., #401 Tulsa, OK 74128-3028
Phone: 918.582.3855 Fax: 918.582.3865

December 27, 2013

New Mexico Oil Conservation Division
Engineering Bureau (UIC)
1220 S. St. Francis Dr.
Santa Fe, NM 87505-4225

Attn: Mr. Phillip Goetze

Re: Administrative Application for Injection Pressure Increase (IPI)
Trek Operating, LLC, Well Operator, OGRID 255281
Pearl Well #1, API #30-015-40496, NMOCD Order SWD-1339
Delaware SWD Pool (96802)
Unit O, Section 34, T-23-S R-28-E, NMPM, Eddy County, New Mexico

Dear Mr. Goetze,

Enclosed is our application to the NMOCD for administrative approval of an increased injection pressure for the referenced well. Results of a recent step rate test are included, along with a wellbore diagram.

The well has been injecting produced water at an average daily rate of 2,000 barrels of water per day (BWPD). Surface injection pressures have remained below the 670 psig mandated by NMOCD Order SWD-1339. In early 2014, we expect additional water to flow into the well's tank facility. The additional volumes will likely rise to 6,000 BWPD due to additional well completions in the area. For that reason, a step rate test was performed in December, 2013.

The step rate test was performed following guidelines published by the U.S. Environmental Protection Agency. The timeline of the test was as follows:

12-4-2013	Set 4 rental tanks on well location;
12-5-2013	Began filling rental tanks with produced Delaware water;
12-6-2013	Continued filling rental tanks with produced Delaware water;
12-7-2013	Continued filling rental tanks with produced Delaware water;
12-8-2013	Continued filling rental tanks with produced Delaware water;
12-9-2013	Continued filling rental tanks with produced Delaware water, and shut-in well for 48 hour period, prior to step rate test;
12-10-2013	Finished filling rental tanks with produced Delaware water;
12-11-2013	Cardinal Survey's wireline truck lowered pressure recording tool down well to 4,100', at roughly the mid-point of the open-hole section at 3,355' to 4,900'; Pacesetter's pump truck installed flowline, from rental tanks to the well, and recorded a 48 hour well shut-in surface pressure of 367 psia; Pacesetter pumped water from rental tanks down well, increasing injection rate stepwise every 30 minutes; After pumping for 30 minutes at rate of 10 BPM (14,400 BWPD), shut down pump, ending step rate test; Observed pressures for 15 minutes after test.

Surface data was recorded by Pacesetter's pump truck, showing expected increases in surface pressure with each corresponding increase in pump rate. Meanwhile, Cardinal Survey's pressure tool, set at 4,100' in the open-hole section, recorded slight pressure fluctuations during the step rate test.

Although all of the open-hole pressures were at or close to 2,500 psia, we believe the fluctuations were due to subtle differences in water densities pumped throughout the test. For example, the well's static column of water, prior to the test, is calculated to have an average density of 10.0 ppg. After the test, the static column of water is calculated to have an average of 9.8 ppg. This subtle difference of 0.2 ppg would yield a calculated difference of 43 psia at the pressure tool. Since water densities were not measured during the test, the precise timing and degree of water density variations are unknown. Nevertheless, the open-hole pressure data appears to be relatively flat on the enclosed pressure versus rate graph.

In our opinion, observed bottom-hole pressures were not high enough to initiate fractures in the Delaware formation exposed in, or near, the well's open-hole section. Based on: (1) this opinion; (2) the desire to dispose ever-increasing water volumes; and (3) the surface pressures seen during the step rate test, we respectfully request an increase in maximum surface injection pressure from the current 670 psig to a proposed 1,150 psig.

This proposed maximum injection pressure is 50 psig below the highest pressure observed during our test, and is similar to the maximum pressure of 1,100 psig granted to the operator of a nearby Delaware SWD well, under NMOCD Administrative Order IPI-424, on August 30, 2012.

Your review, consideration and approval of our application for an increase in injection pressure is genuinely appreciated. Please contact me should your office require additional information in this regard.

Yours very truly,

Brad D. Burks

Brad D. Burks, Oklahoma PE 16172
Manager, Trek Operating, LLC

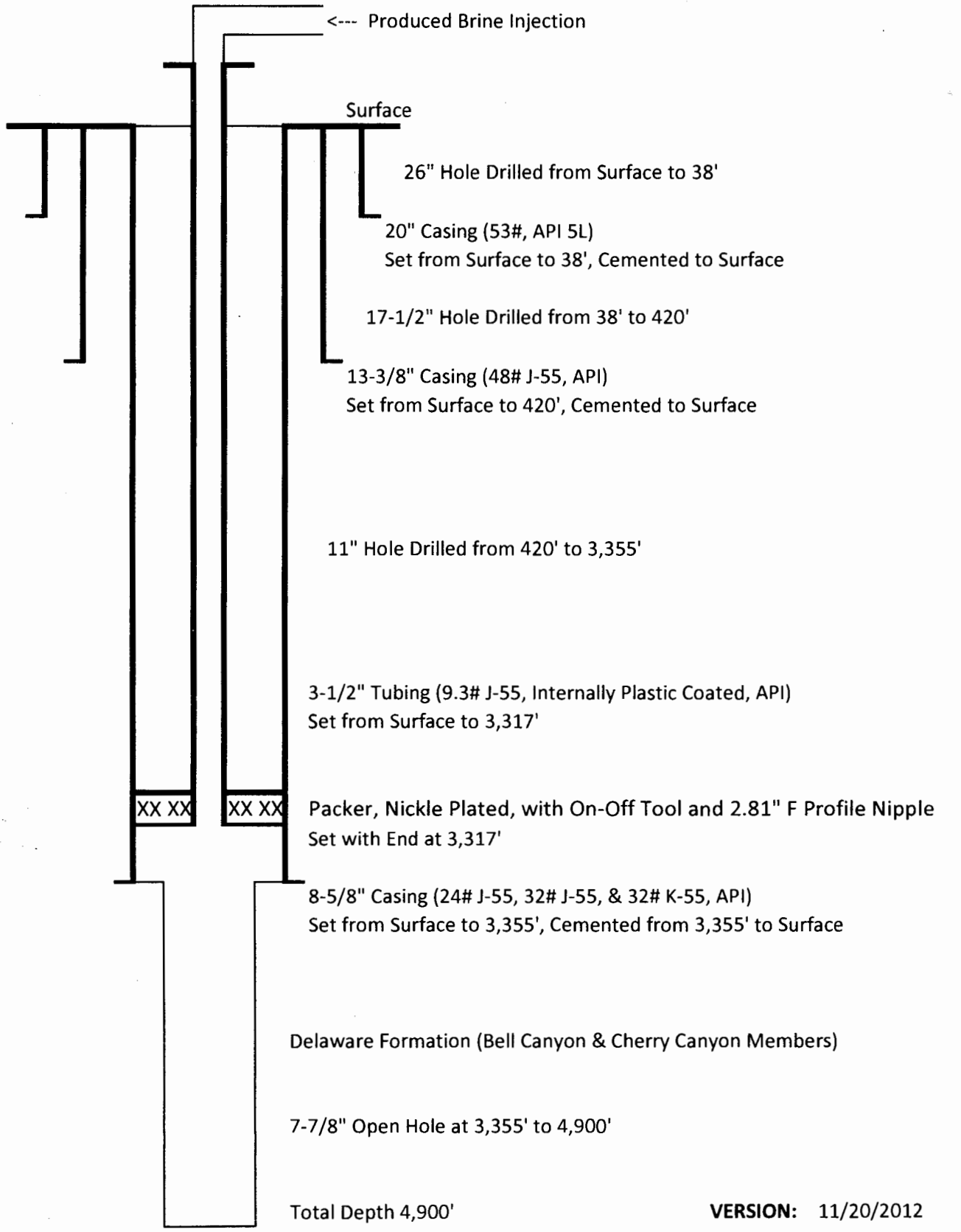
$\frac{1150 \text{ psig}}{3350 \text{ ft}} = 0.34 \text{ psig/ft}$

BDB

Enclosures

WELL DIAGRAM

PEARL WELL NO. 1
UL O, SEC 34 -T23S-R28E
EDDY CO., NEW MEXICO
API 30-015-40496



VERSION: 11/20/2012

Step Rate Test

Cardinal Surveys Company

December 11, 2013

Trek Operating, LLC
Pearl SWD Well #1
API #30-015-40496
Unit O Section 34 T-23-S R-28-E NMPM
Eddy County, New Mexico

File # 21535
Tool # CSC101
Tool @ 4100'

Stage	Stage Start, MST	Stage End, MST	Pump Rate BPM	Pump Rate BWPD	Comments
1	7:44 AM	10:05 AM	0.0	0	Tool On Bottom
2	10:05 AM	10:36 AM	0.5	720	
3	10:36 AM	11:06 AM	1.0	1,440	
4	11:06 AM	11:36 AM	1.5	2,160	
5	11:36 AM	12:07 PM	2.0	2,880	
6	12:07 PM	12:37 PM	4.0	5,760	
7	12:37 PM	1:07 PM	6.0	8,640	
8	1:07 PM	1:38 PM	8.0	11,520	
9	1:38 PM	2:07 PM	10.0	14,400	
10	2:07 PM	2:22 PM	0.0	0	Fall Off

No Fracturing Indicated

Step Rate Test

Cardinal Surveys Company

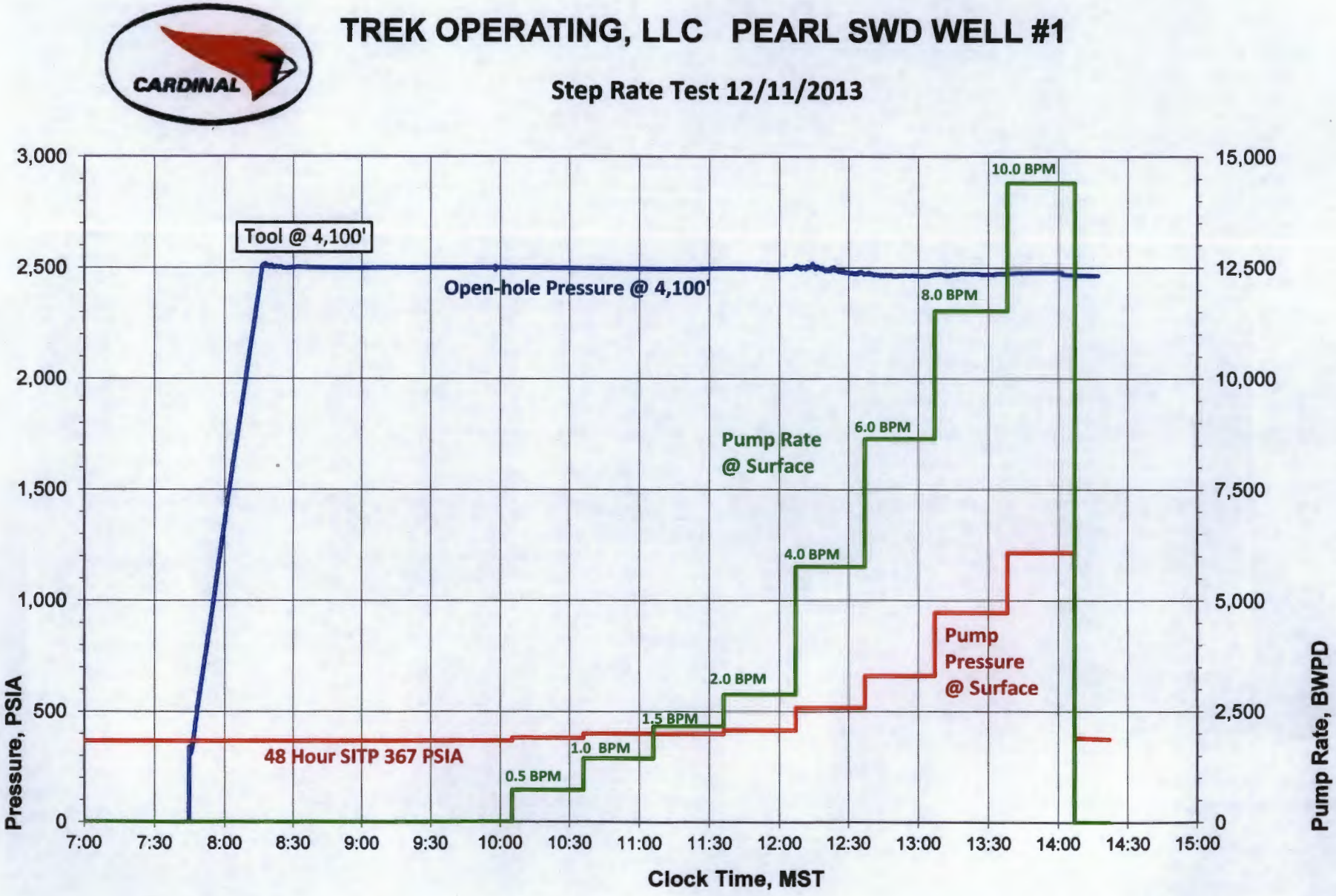
December 11, 2013

Trek Operating, LLC
Pearl SWD Well #1
API #30-015-40496
Unit O Section 34 T-23-S R-28-E NMPM
Eddy County , New Mexico

Stage	Stage Start, MST	Stage End, MST	Stage Time, Min	Pump Rate BPM	Pump Rate BWPD	Step BWPD	Open-hole Pressure, PSIA	Surface PSIA	Pumped BW	Cumulative BW
1	7:44 AM	10:05 AM	141	0.0	0	0	2,500	367	0	0
2	10:05 AM	10:36 AM	31	0.5	720	720	2,498	380	21	21
3	10:36 AM	11:06 AM	30	1.0	1,440	720	2,494	400	31	52
4	11:06 AM	11:36 AM	30	1.5	2,160	720	2,495	398	46	98
5	11:36 AM	12:07 PM	31	2.0	2,880	720	2,492	415	67	165
6	12:07 PM	12:37 PM	30	4.0	5,760	2,880	2,473	517	127	292
7	12:37 PM	1:07 PM	30	6.0	8,640	2,880	2,462	660	186	478
8	1:07 PM	1:38 PM	31	8.0	11,520	2,880	2,468	945	258	736
9	1:38 PM	2:07 PM	29	10.0	14,400	2,880	2,477	1,215	300	1,036
10	2:07 PM	2:22 PM	15	0.0	0	-14,400	2,463	374	0	1,036

- no fracture

No Fracturing Indicated


TREK OPERATING, LLC PEARL SWD WELL #1
Step Rate Test 12/11/2013
CARDINAL
Tool @ 4,100'
Open-hole Pressure @ 4,100'
Pump Rate @ Surface
Pump Pressure @ Surface
48 Hour SITP 367 PSIA
0.5 BPM
1.0 BPM
1.5 BPM
2.0 BPM
4.0 BPM
6.0 BPM
8.0 BPM
10.0 BPM
Pressure, PSIA
Pump Rate, BWPD
Clock Time, MST
3,000
2,500
2,000
1,500
1,000
500
0
15,000
12,500
10,000
7,500
5,000
2,500
0
7:00
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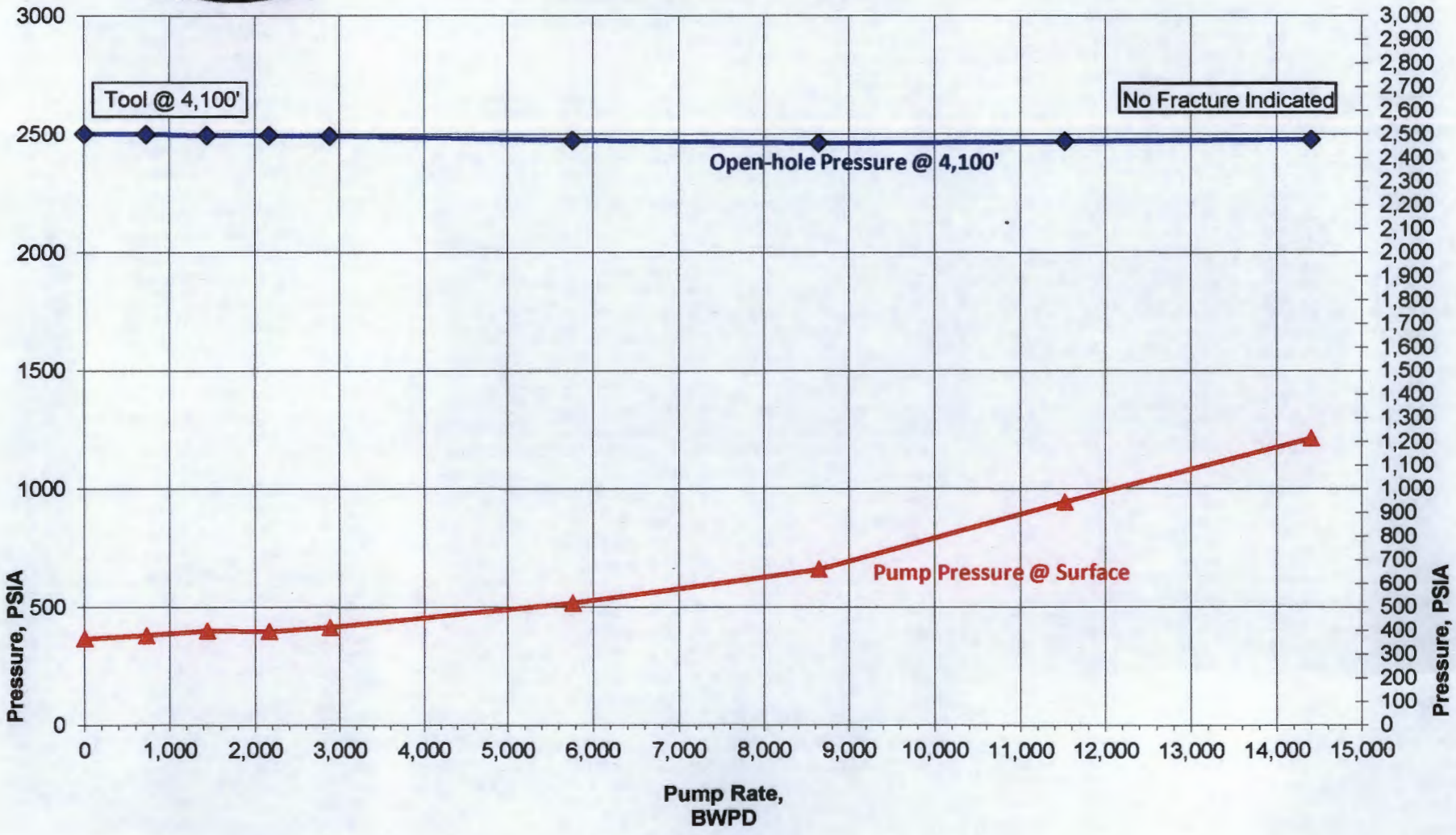
TREK OPERATING, LLC PEARL SWD WELL #1

Step Rate Test 12/11/2013



TREK OPERATING, LLC
10159 E. 11th St., #401 Tulsa, OK 74128-3028
Phone: 918.582.3855 Fax: 918.582.3865

November 21, 2013

State of New Mexico
Oil Conservation Division
811 S. 1st St.
Artesia, NM 88210-2834

Attn: Mr. Randy Dade, District 2 Supervisor

Re: OCD Form C-103, Request to Run Step Rate Test on 12/9/2013

Dear Mr. Dade,

Enclosed for your review is a Form C-103, with well diagram, requesting OCD approval to allow us the opportunity to perform a step rate test on an existing water disposal well.

We have tentatively scheduled to start the step rate test at 8:00 AM MST on Monday, December 9, 2013, in case any of your staff desires to witness the test. It will likely take all day to complete the test.

We appreciate your timely review of this form. Assuming that the form is complete and meets with your acceptance, we would be very grateful if we may have your approval by Wednesday, December 4, 2013.

Please contact me if you have any questions at office@bkxcorp.com , or at 918-582-3855 (x101).

Yours very truly,

Brad D. Burks, Manager
Trek Operating, LLC

BDB

Enclosures

CC: Mr. Phillip Goetze, OCD Engineering Bureau, Santa Fe, NM

• Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised August 1, 2011

WELL API NO. 30-015-40496

5. Indicate Type of Lease STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: Pearl

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD (Order SWD-1339)

8. Well Number 1

2. Name of Operator: Trek Operating, LLC

9. OGRID Number 255281

3. Address of Operator: 10159 E. 11th St., Ste. 401 Tulsa, OK 74128-3028

10. Pool name or Wildcat: Delaware SWD (96802)

4. Well Location: Unit Letter O : 800 feet from the South line and 2,475 feet from the East line
Section 34 Township 23-S Range 28-E NMPM Eddy County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 3,031' GR

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
Perform Step Rate Test for Injection Pressure Increase							
OTHER: Application; Test Scheduled Monday, December 9, 2013	☒			OTHER:			☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Under OCD Administrative Order SWD-1339, dated 6/16/2012, subject injection well currently has allowable surface injection pressure of 670 psig. The well is presently injecting produced water into the Delaware formation open-hole (3,355' to 4,900') at average rate of 2,000 BWPD at 600 psig (see attached wellbore diagram). We foresee the need to double the present injection rate. An increased surface injection pressure would facilitate disposal of additional water. To determine if higher pressure allowable is feasible, we propose to perform a step rate test, working with EPA UIC testing guidelines as follows:

1. Set rental steel tanks and fill with produced water (no known hydrogen sulfide gas, and no OCD Form C-144 pit permit required);
2. Shut-in well, at wellhead, at least 48 hours prior to commencement of step rate test operations;
3. With Cardinal Survey's wireline truck on 12/9/2013, down well, lower pressure recording tool to mid-point of open-hole section;
4. With Pacesetter's pump truck on same day, pump produced water from rental tanks, down well, in following stages:

Stage 1	0.50 BPM	30 minutes	15 BW pumped
Stage 2	0.75 BPM	30 minutes	23 BW pumped
Stage 3	1.50 BPM	30 minutes	45 BW pumped
Stage 4	2.25 BPM	30 minutes	68 BW pumped
Stage 5	3.00 BPM	30 minutes	90 BW pumped
Stage 6	3.75 BPM	30 minutes	113 BW pumped
Stage 7	4.50 BPM	30 minutes	135 BW pumped
Stage 8	5.25 BPM	30 minutes	158 BW pumped
Stage 9	6.75 BPM	30 minutes	203 BW pumped
Stage 10	7.50 BPM	30 minutes	225 BW pumped
Stage 11	8.25 BPM	30 minutes	248 BW pumped
Stage 12	9.00 BPM	30 minutes	270 BW pumped

One or more of the 12 listed stages may be adjusted or deleted as conditions warrant, with each stage lasting exactly 30 minutes;

5. Record surface and open-hole pressures, along with pumping rate, continuously during all pumped stages;
6. Pump and record at least 2 stages where the injection pressure exceeds the apparent breakdown pressure of the formation;
7. After pumping the last necessary stage, stop pumping and record the instantaneous shut-in pressure (ISIP), then release all crews and equipment; and
8. Submit all recorded data to OCD's Engineering Bureau in Santa Fe for administrative IPI approval.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Brad D. Burks TITLE General Manager DATE 11/21/2013

Type or print name Brad D. Burks E-mail address: office@bkxcorp.com PHONE: 918-582-3855 (x101)

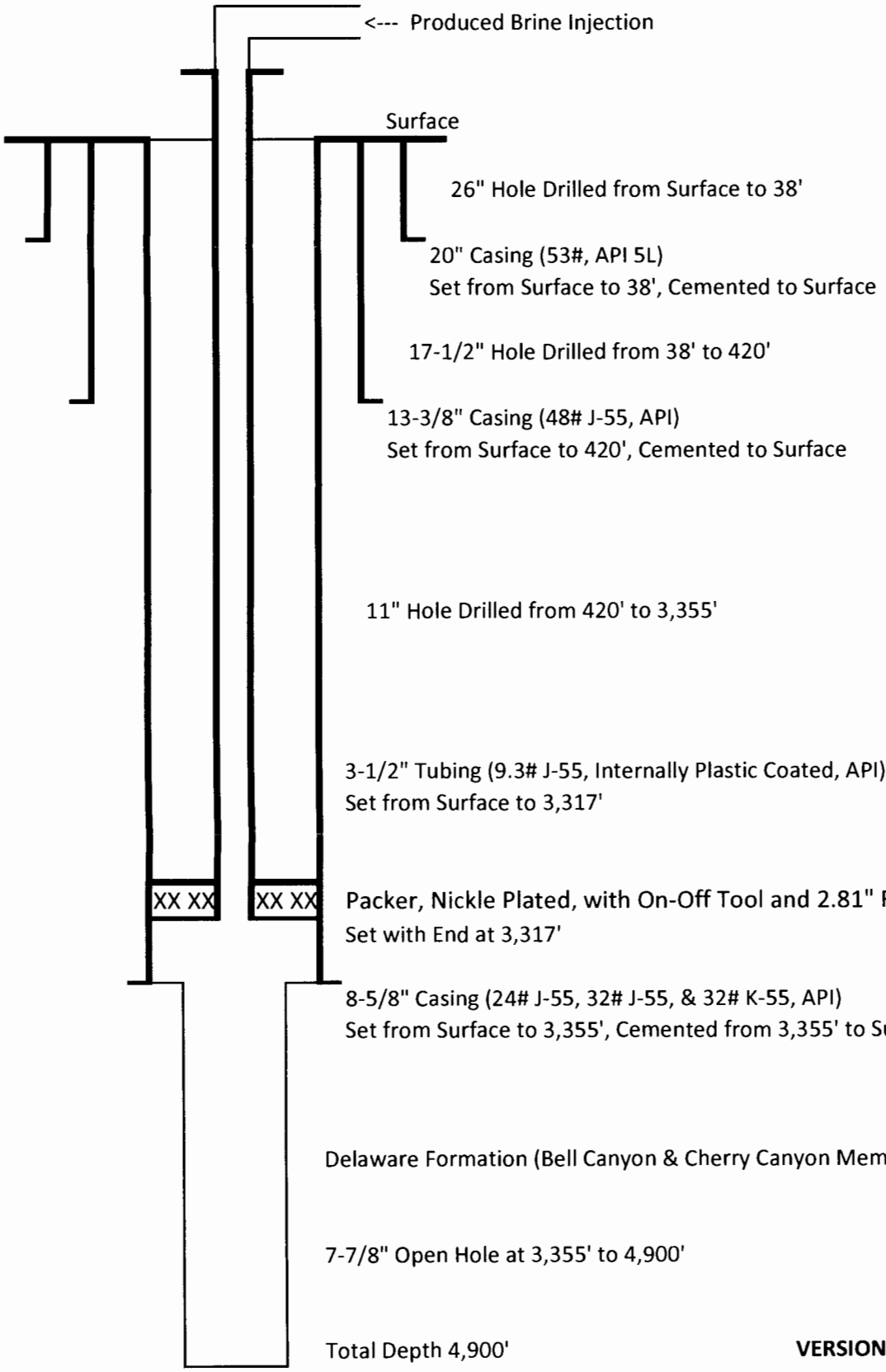
For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

WELL DIAGRAM

PEARL WELL NO. 1
UL O, SEC 34 -T23S-R28E
EDDY CO., NEW MEXICO
API 30-015-40496



VERSION: 11/20/2012

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John Bemis
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

Administrative Order SWD-1339
June 16, 2012

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of 19.15.26.8B NMAC, TREK OPERATING, LLC seeks an administrative order to utilize its proposed Pearl Well No. 1 (API 30-015-NA) to be located 800 feet from the South line and 2475 feet from the East line, Unit letter O of Section 34, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for produced water disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of 19.15.26.8B NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, TREK OPERATING, LLC, is hereby authorized to utilize its proposed Pearl Well No. 1 (API 30-015-NA) to be located 800 feet from the South line and 2475 feet from the East line, Unit letter O of Section 34, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for disposal of oil field produced water (UIC Class II only) into the lower Bell Canyon and Cherry Canyon members of the Delaware Mountain Group through an open hole interval from approximately 3350 to 4900 feet through internally coated tubing and a packer set less than 100 feet above the permitted disposal interval.

The operator shall run a tracer/temperature injection survey (or equivalent) on this 1550 foot open-hole interval within 2 years of commencing disposal operations and supply a copy to the Division.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the proposed disposal interval and is not permitted to escape to other formations or onto the surface.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and

equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT testing procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 670 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate-Test.

The operator shall notify the supervisor of the Division's district office of the date and time of the installation of disposal equipment and of any MIT test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's district office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's district office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon division approval. The division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.

JAMI BAILEY
Director

JB/wvjj

cc: Oil Conservation Division – Artesia