

DATE IN 3/12/2015	SUSPENSE	ENGINEER PNC	LOGGED IN 3/12/2015	TYPE SWD	APP NO. 7MAM1507154618
----------------------	----------	-----------------	------------------------	-------------	---------------------------

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]

[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 Amend Perforation Depths

SWD -14984A
 - TNT Environmental
 308209
 WCH
 - TNT SWD #1
 30-039-31257
 POOL
 - SWD; ENT Adq
 96436

[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.

<u>John C. Thompson</u>	<u>[Signature]</u>	<u>Engineer/Agent</u>	<u>3/11/15</u>
Print or Type Name	Signature	Title	Date
		<u>john@walsheng.net</u>	
		e-mail Address	

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505
Attn: Phillip R. Goetze, P.G. (Engineering & Geological Services Bureau)

3/8/2105

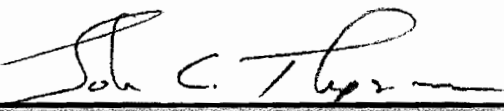
RE: TnT Amended Perforation Interval for TNT SWD #1 (Administrative Order SWD-1498)

TnT Environmental Inc., is requesting to amend the Authorization to Inject permit by changing the "proposed perforations" to the "actual perforations" within the Entrada injection interval. The proposed perforations were submitted with the initial geologic information inferred from the only offset well within 22 miles of the TnT SWD #1. The well which the geologic information was obtained is approximately 8 miles to the south. The "amended perforations" are based on the actual geologic formation tops found in the TnT SWD #1. In support of this request, please find the attached open hole logs showing the Todilto, Entrada & Chinle formations which are marked for reference. The "actual perforations" were picked using 14% porosity as a cutoff which resulted in a net injection interval of 121', all within the Entrada formation. The actual perforations are now from 8980' to 9188', the specific intervals are as follows:

**8980'-9007' (27'), 9040'-9060' (20'), 9078'-9090' (12'), 9094'-9132' (38'), 9164'-9188' (24').
121' net interval within the Entrada at 4 spf – 484 holes.**

An updated wellbore diagram with all the pertinent information is also attached. Please note that there have been no other changes regarding the content of the C-108 application originally submitted for the administrative order.

John C. Thompson
Engineer/Agent for TnT Environmental, Inc.



Attachments:

- 1) Open Hole Logs (Induction & Density/Neutron)
- 2) Wellbore Diagram

Xmas tree:	Big Red Tool configured
Surface Loc:	1761' FSL & 439' FWL Unit Letter L
Sec-Twn-Rge:	Sec 8/T25N/3W
Comments:	



WALSH
ENGINEERING
FARMINGTON, NM

TD at 9245' KB
Prod Csg @ 9242' 'KB
Float Collar @ 9196' KB
PBTD @ 9230' KB

[illegible]

Deviation		Geologic Markers	
MD	Inclination	MD	Formation
108	1/4	Surface	San Jose
255	1/2	2247'	Nacimiento
560	1	3254'	Ojo Alamo
1016	1	3431'	Kirtland
1517	1	3651'	Pictured Cliffs
2016	1-1/2	3715'	Lewis
2347	1-1/2	4570'	Chacra
2566	1	5301'	Cliff House
3055	3/4	5406'	Menefee
3580	3/4	5801'	Point Lookout
4066	3/4	6039'	Mancos
4750	1	6864'	Gallup
5000	1	7769'	Greenhorn
5250	1	7833'	Graneros
5750	3/4	7872'	Dakota
6250	1/2	8113'	Burro Canyon
6760	1	8185'	Morrison
7260	3/4	8891'	Todilto
7760	1/4	8977'	Entrada
8259	3/4	9192'	Chinie
8760	1		

Injection String Detail - PL 4-1/2", 10.5 ppf, J55			
	Length	Top	Bottom
KB Adjustment	16.00	0	16.00
4-1/2" PL casing/tubing	8947.00	16.00	8963.00

[illegible]

Pumping Unit:	_____	Gear Sheave:	_____
API Designation:	_____	Stroke Length:	_____
Samson Post SN:	_____	Gear Ratio:	_____
Gear Box SN:	_____	SPM:	_____
Structural Unbalance:	_____	Horse Power:	_____
Power:	_____	Volts:	_____
Power SN:	_____	Amps:	_____
Sheave Size:	_____	Belt:	_____

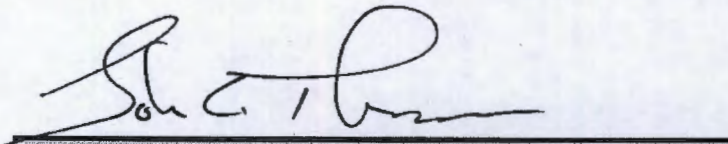
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505
Attn: Phillip R. Goetze, P.G. (Engineering & Geological Services Bureau)

3/8/2105

RE: TnT Amended Perforation Interval for TNT SWD #1 (Administrative Order SWD-1498)

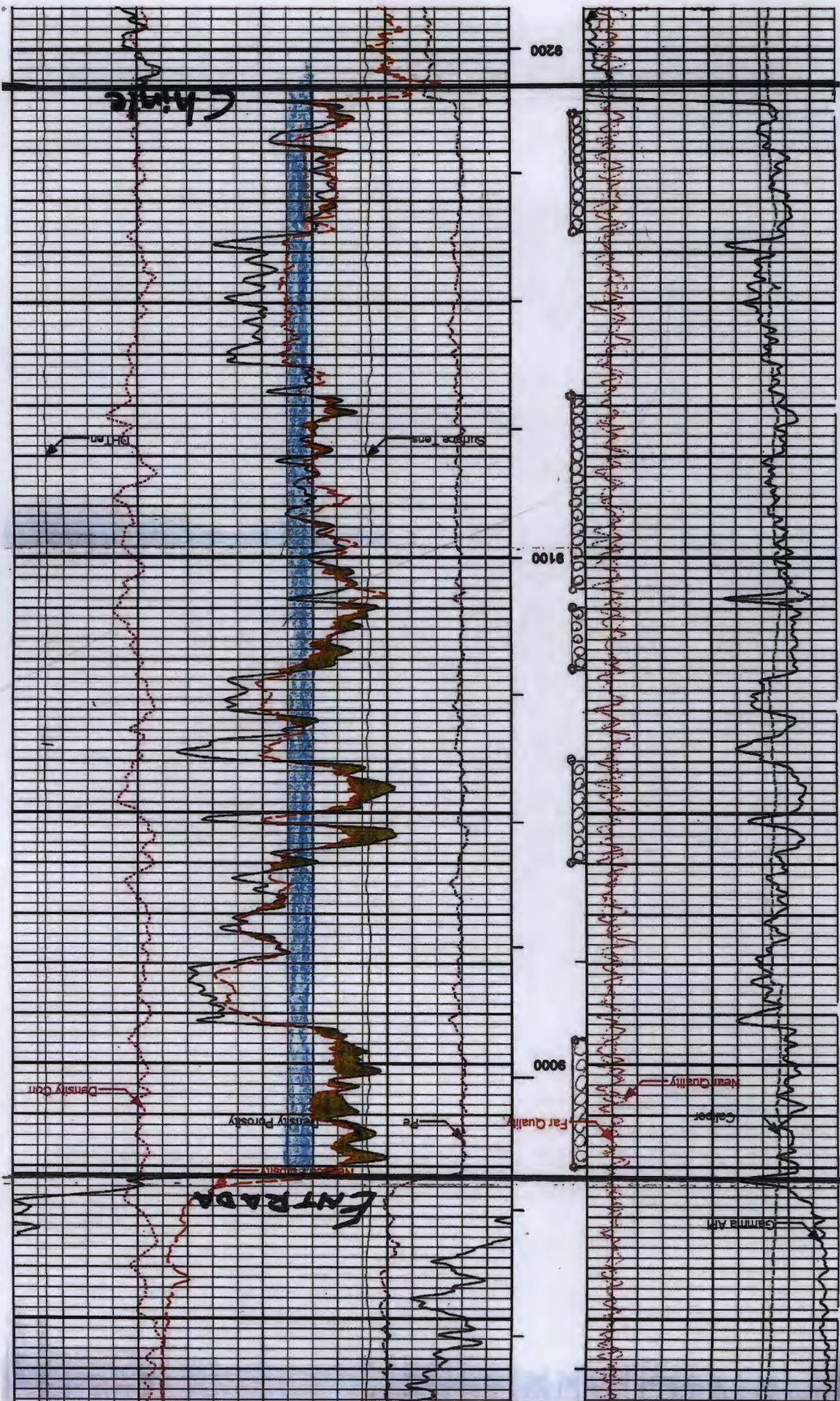
TnT Environmental Inc., is requesting to amend the Authorization to Inject permit by changing the "proposed perforations" to the "actual perforations" within the Entrada Injection interval. The proposed perforations were submitted with the initial geologic information inferred from the only offset well within 22 miles of the TnT SWD #1. The well which the geologic information was obtained is approximately 8 miles to the south. The "amended perforations" are based on the actual geologic formation tops found in the TnT SWD #1. In support of this request, please find the attached open hole logs showing the Todilto, Entrada & Chinle formations which are marked for reference. The "actual perforations" were picked using 14% porosity as a cutoff which resulted in a net injection interval of 121', all within the Entrada formation. An updated wellbore diagram with all the pertinent information is also attached. Please note that there have been no other changes regarding the content of the C-108 application originally submitted for the administrative order.

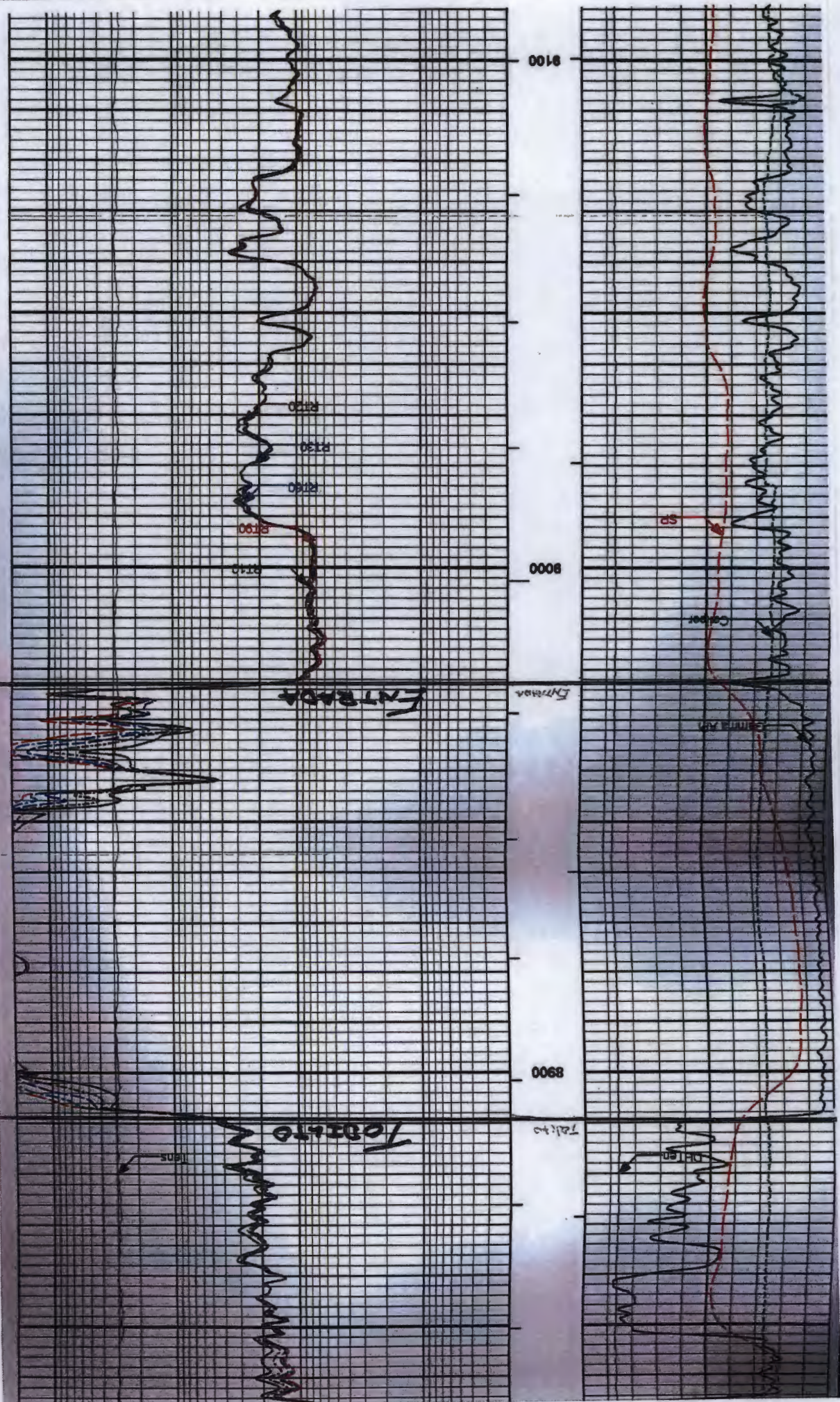
John C. Thompson
Engineer/Agent for TnT Environmental, Inc.

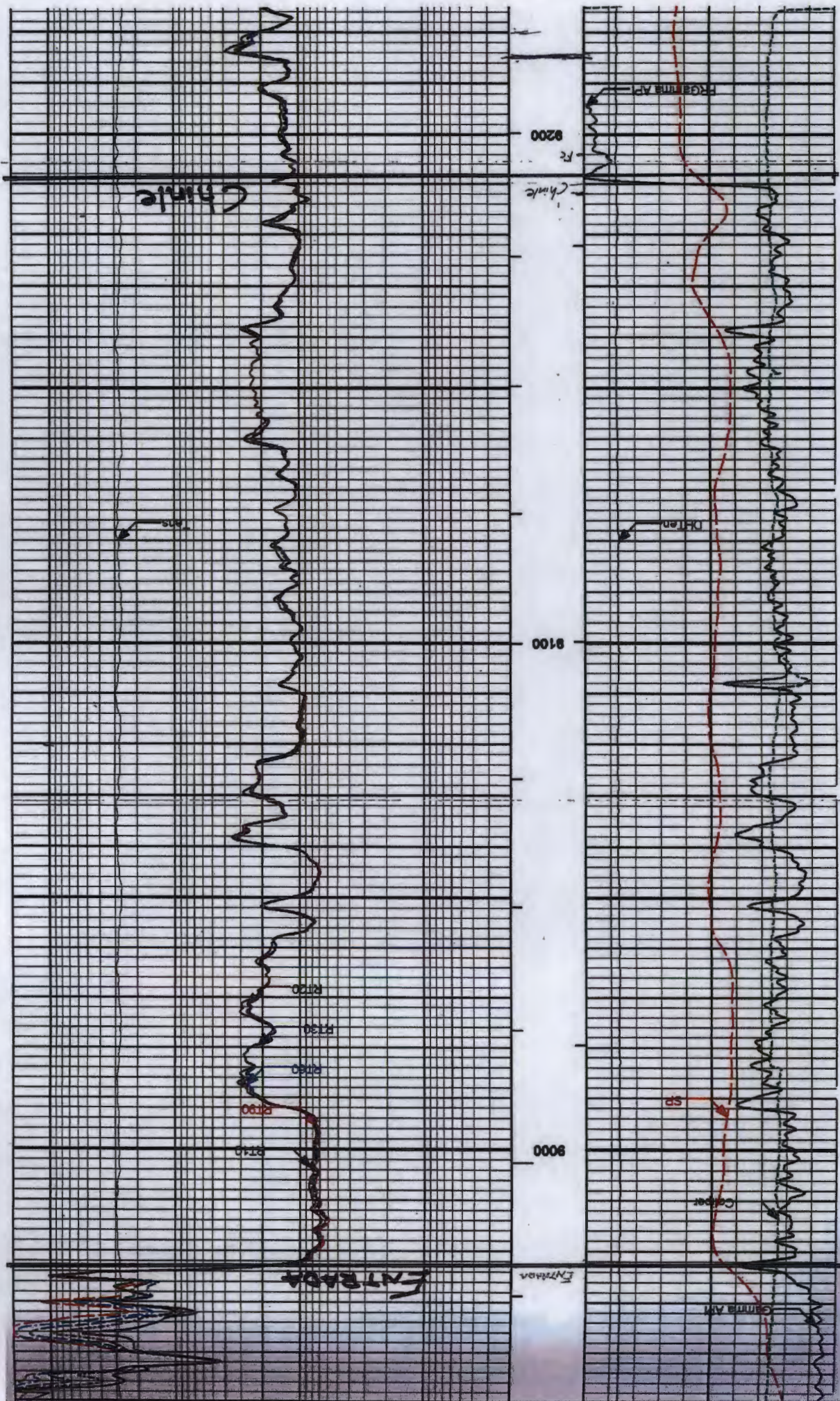
A handwritten signature in black ink, appearing to read 'John C. Thompson', is written over a horizontal line.

Attachments:

- 1) Open Hole Logs (Induction & Density/Neutron)
- 2) Wellbore Diagram







State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

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

Jami Bailey, Division Director
Oil Conservation Division



Administrative Order SWD-1498
September 12, 2014

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B, NMAC, T-N-T Environmental, Incorporated (the "operator") seeks an administrative order to utilize its proposed TnT SWD No. 1 with a location of 1761 feet from the South line and 439 feet from the West line, Unit letter L of Section 8, Township 25 North, Range 3 West, NMPM, Rio Arriba County, New Mexico, for produced-water, commercial disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rules 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 Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Rule 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, T-N-T Environmental, Inc. (OGRID 308209), is hereby authorized to utilize its TnT SWD No. 1 (API 30-039-31257) with a location of 1761 feet from the South line and 439 feet from the West line, Unit letter L of Section 8, Township 25 North, Range 3 West, NMPM, Rio Arriba County, New Mexico, for commercial disposal of oil field produced water (UIC Class II only) through perforations in the Entrada formation from 8932 feet to 9080 feet. Injection will occur through internally-coated, 4 1/2-inch or smaller tubing and a packer set within 100 feet of the top perforation of the approved injection interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the well construction proposed and described in the application.

Prior to commencing injection, the operator shall submit the following information to be reviewed by the Division's District III office and the Santa Fe Bureau office:

1. *Hydrocarbon assessment of disposal interval: the operator shall either complete a mudlog (or equivalent) for entire approved interval or conduct a swab test of the new* ✓

perforations for hydrocarbon potential and obtain a water sample for analysis of hydrocarbon content. The Division's District III office shall be noticed prior to this test and given the opportunity to witness the swab test.

2. Analysis of water sample from injection interval: the operator shall obtain a sample of the formation fluid and submit the sample for water quality analysis that includes major cations, major anions, and Total Dissolved Solids (TDS). *If the analysis of the sample is found to contain a TDS concentration of 10000 milligrams per liter or less, the injection authority under this Order shall be suspended ipso facto. If no formation fluid is encountered following completion of the perforated interval, the operator shall document this event in a Form C-103 Sundry Notice.* ✓

3. Cement bond log: the operator shall run a cement bond log (or equivalent) to determine the top of cement and the quality of cement placement for the 7-inch production casing. If the log indicates significant voids in the cement placed in the annulus of the 7-inch production casing, the operator shall prepare a remedial plan to emplace cement to seal the voids and submit the plan in a Form C-103 Sundry Notice for approval. ✓

4. Sample of disposal fluid: the operator shall obtain a representative sample of the disposal fluid from that portion of the surface facility used for storage prior to injection. The sample shall be submitted for water quality analysis that includes major cations, major anions, and Total Dissolved Solids (TDS). The operator will submit the analysis results along with a description of the sample location in a Form C-103 Sundry Notice. ✓

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 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 1786 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 III office of the date and time of the installation of disposal equipment and of any MIT 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 III 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.

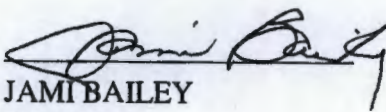
The injection authority granted under this Order is not transferable except upon division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

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

The disposal authority granted herein shall terminate two (2) 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/prg

cc: Oil Conservation Division – Aztec District Office
Bureau of Land Management – Farmington Field Office