

**STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT**

**IN THE MATTER OF:** )  
**THE APPLICATION OF S&R** )  
**SEPTIC FOR THE RENEWAL OF** )  
**A SEPTIC DISPOSAL FACILITY,** )  
**DISCHARGE PERMIT, DP-465** )

**GWB 19-28 (P)**

**PERMITTEES' STATEMENT OF INTENT TO PRESENT TECHNICAL TESTIMONY**

**COMES NOW** the Permittees' S&R Septic, by and through undersigned counsel of record, and pursuant to 20.6.3310.C, hereby file their Statement of Intent to Present Technical Testimony at the hearing scheduled for October 16, 2019.

1. This Statement to Present Technical Testimony is filed by Steve and Loretta Rael, the Permittees for Ground Water Discharge Permit DP-465.
2. As the Permittees, Steve and Loretta Rael support the draft Ground Water Discharge Permit DP-465.
3. The Permittees may call the following witnesses to testify at the public hearing in this matter:
  - a. Steve Rael, S&R Septic.
  - b. Robert D. Marley, P.G., Senior Hydrogeologist  
EA Engineering, Sciences, and Technology, Inc., PBC.
  - c. Jay Snyder, P.G., P.E.  
Vice President EA Engineering, Sciences, and Technology, Inc., PBC.
  - d. Jim McCann, Rocky Mountain Drilling, Inc.

The Permittees reserve the right to call rebuttal witnesses as needed. The qualifications of each witness are included in Attachment A, hereto.

4. The estimated length of the direct testimony of each witness:
  - a. Steve Rael – 45 minutes
  - b. Robert Marley – 60 minutes
  - c. Jay Snyder – included with Robert Marley above; possible rebuttal as needed.
  - d. Jim McCann – 30 minutes
5. The Permittees may offer the following exhibits at the hearing:
  - a. Draft permit
  - b. PowerPoint presentation of Exhibits to Testimony of Robert Marley and/or Jay Snyder.
  - c. All or portions of the Administrative Record for this matter (Index attached) (List of likely Exhibits identified).
  - d. The Permittees may also introduce demonstrative exhibits at the hearing.
6. Summary or outline of the anticipated direct testimony of each witness.
  - a. Steve Rael will present testimony about S&R Septic, including its location and daily operations, and general testimony about the history of operations of S&R Septic from initial operations to the present, Attachment B, hereto.
  - b. Robert Marley will present testimony concerning the proposed Ground Water Discharge Permit, DP-465, regulatory requirements and permit conditions, and that the Group Water Discharge Permit, DP-465, meets or exceeds the applicable regulatory requirements and the permitted discharge will not create a hazard to public health nor undue risk to property (NMAC 20.6.2.3109). A summary of his testimony is contained in Attachment B, attached hereto. PowerPoint of exhibits of testimony of Robert Marley and/or Jay Snyder.

- c. Jay Snyder may present testimony concerning the proposed Ground Water Discharge Permit, DP-465 regulatory requirements and permit conditions. A summary of his testimony is contained in Attachment B, hereto. Mr. Snyder may present rebuttal testimony. PowerPoint of exhibits of testimony of Robert Marley and/or Jay Snyder.
- d. Jim McCann may present testimony of subsurface geology based on actual drilling in the area.

Respectfully submitted,

DOMENICI LAW FIRM, P.C.

/s/ Pete V. Domenici, Jr.

Pete V. Domenici, Jr., Esq.

320 Gold Avenue SW, Suite 1000

Albuquerque, New Mexico 87102

(505) 883-6250

[pdomenici@domicilaw.com](mailto:pdomenici@domicilaw.com)

I hereby certify that the foregoing was served on all parties of record on the   4th   day of October, 2019.

/s/ Pete V. Domenici, Jr.

Pete V. Domenici, Jr., Esq.

PERMITTEES'  
STATEMENT OF INTENT TO PRESENT  
TECHNICAL TESTIMONY

WITNESS QUALIFICATIONS

ATTACHMENT  
A

## SUMMARY OF TESTIMONY OF STEVE RAEL

### Witness Qualifications

I am the owner and operator of S&R Septic. I began the operation in 1987 and have performed the S&R operations for the past 32 years. I am familiar with the operations at S&R Septic.

### Actual Operation of S&R Septic

S&R Septic site has 16 cells. During the past 10 years, the operation rotates between the cells. The site is permitted for the process and discharge of domestic septic and sludge to 9,857 gallons per day, average on a weekly basis. The domestic wastewater treatment sludge waste is permitted for up to 8,332 gallons per month on average on an annual basis, of liquid, semi-solid and solid domestic wastewater treatment plant facility and/or package treatment plant sludge to shallow surface disposal cells on a rotational basis. The cells are usually dry and each cell does not get more than 3".

I am a non-technical witness for most of my testimony. However, because of my experience, I will provide technical testimony. I have reviewed the liquid waste permits of two neighboring sites, RV Park Discharge Permit and Taos Mesa Brewery, and I will testify on the quantities of discharge that are near the S&R Septic site. I will testify on the comparison of the permit requirements for the RV Park and the Brewery. The Taos Wastewater Treatment Plant accepts a maximum of 30,000 gallons per day from Taos area haulers. Each Taos area hauler can only dispose of 10,000 gallons per day, but it is at a first come, first served basis. If the 30,000 gallon limit is met, the hauler cannot discharge his load at the Taos Wastewater Treatment Plant. It is a time consuming operation to dispose of septage into the Plant.

I will testify on the hardship of the NMED proposed permit on sampling requirements. My operation includes how NMED has changed the way S&R discharges to the cells so the operation is heavily evaporative and usually dry.

SUMMARY OF TESTIMONY OF JIM McCANN

Witness Qualifications

I am the owner and operator of Rock Mountain Drilling, Inc.

Operation of Rocky Mountain Drilling, Inc.

Jim McCann may present testimony of subsurface geology based on actual drilling in the area.

**PERMITTEES'  
STATEMENT OF INTENT TO PRESENT  
TECHNICAL TESTIMONY**

**Testimony of Robert D. Marley, P.G., EA Engineering**

**And/Or**

**Jay Snyder, P.E., P.G., Vice President EA Engineering**

**ATTACHMENT  
B**

**PETITIONERS' NOI EXHIBITS: STEVE RAEI DIRECT TESTIMONY**

(Exhibits are from the Administrative Record, Bates # 0001 through 01355 and photos Bates # 01356 through 01417.)

1. Application for Liquid Waste Permit; RV Park.
2. Application for Liquid Waste Permit; Brewery.
3. Aerial photos of S&R Septic site.
4. Aerial photos of RV Park.
5. Aerial photos of Taos Mesa Brewery.
6. Photos Taos Wastewater Treatment Plant. (6-1, 6-2. 6-3. 6-4)

This will conclude Mr. Rael's Direct Testimony.



PETITIONER'S NOI EXHIBITS: ROBERT MARLEY AND/OR JAY SNYDER'S DIRECT TESTIMONY; Possible use by Steve Rael and Jay Snyder

Petitioners will use some or all of the documents identified as Bates # 0001 through 01355 and photographs Bates # 01356 through 01417.

We will provide a link for documents used for direct testimony of Jay Snyder (or Robert Marley) and/or cross examination of Jason Herman, NMED.

[https://www.dropbox.com/sh/jrricxuez18vfk5/AAAgHsD5Hhhawvo1FMBU\\_N4Oa?dl=0](https://www.dropbox.com/sh/jrricxuez18vfk5/AAAgHsD5Hhhawvo1FMBU_N4Oa?dl=0)

1. Professional Profiles for Jay Snyder and Robert Marley
2. Office of the State Engineer nearby Well Records.
3. Evaluation of Migration of Nitrogen Compounds.
4. Limited Site Investigation.
5. Review of Draft Discharge Permit DP-465, Condition 21 and 22.
6. Proposed Modification to DP-465, Condition 21 and 22
7. Summary of narrative testimony of Jay Snyder
8. PowerPoint of Exhibits of text and slides of Robert Marley and/or Jay Snyder Direct Testimony.

*Hard copy of Exhibits provided as "Snyder 1"*

This will conclude Mr. Marley's Direct Testimony.  
This also summarizes Mr. Snyder's Direct Testimony.

PETITIONERS' NOI EXHIBITS: JIM McCANN DIRECT TESTIMONY

1. Well Record & Log of Plyer Iron, LLC.
2. Well Record & Log of Mark D. Miller
3. Well Record & Log of Waste Management of New Mexico

This will conclude Jim McCann's Direct Testimony.

PETITIONER'S ADDITIONAL EXHIBITS MAY BE USED FOR STEVE RAEI AND JAY  
SNYDER AND FOR CROSS EXAMINATION OF JASON HERMAN

All available on the link, provided.

[https://www.dropbox.com/sh/jrricxuez18vfk5/AAAgHsD5Hhhawvo1FMBU\\_N4Oa?dl=0](https://www.dropbox.com/sh/jrricxuez18vfk5/AAAgHsD5Hhhawvo1FMBU_N4Oa?dl=0)

1. NMED 00002 – 00015
2. NMED 00018 – 00026
3. NMED 00050
4. NMED 00060
5. NMED 00500 – 00502
6. NMED 00760 – 00761
7. NMED 00763 – 00779
8. NMED 00784 – 00796
9. NMED 00835 – 00838
10. NMED 00839 – 00856
11. NMED 00943 – 00971
12. NMED 01050 – 01057
13. NMED 01062 – 01066
14. NMED 01071 – 01079
15. NMED 01078 – 01079
16. NMED 01087 – 01088
17. NMED 01123 – 01143
18. NMED 01119 – 01122
19. NMED 01167 – 01177
20. NMED 01178 – 01179
21. NMED 01180 – 01196
22. NMED 01197 – 01209
23. NMED 01210 – 01227
24. NMED 01294 – 01299
25. NMED 01300 - 01316

26. NMED 01356 – 01359

27. NMED 01366

28. NMED 01367

29. NMED 01368

30. NMED 01392

31. NMED 01393

32. NMED 01397

33. NMED 01401

APPLICATION FOR A LIQUID WASTE PERMIT OR REGISTRATION

Date NMED Received: Feb 25, 2014.

NMED Use Only: Call 505-768-2808 to schedule an inspection a minimum of 2 working days prior to the inspection.

Permit Approved for (circle one): 1 2 3 4 5 6 Bedrooms Multiple dwellings

NMED Processing Number: TA140019

Permit Fee: \$150

Other: Rbt Billing



SYSTEM OWNER'S NAME: Last, First, MI Home Phone: Business Phone:

Iron Roc Properties, LLC 202-365-2002  
 MAILING ADDRESS: Street/PO Box, City, State, Zip Code  
 137 N. Daniels Street, Arlington, VA 22201  
 SYSTEM LOCATION: Address, City, ZIP, County - (if acceded, attach directions)

30 ABC Mesa Road, EL Prado, Tross County, NM 87529  
 SUBDIVISION UNIT/PHASE BLOCK LOT/TRACT  
 ABC MESA Subdivision Tract "D"

UNIFORM PROPERTY CODE: 1069153401007

TOWNSHIP RANGE SECTION QTR QTR LATITUDE LONGITUDE ELEV  
 26 North 12 East 21 23 38 37 59 N 105 39 46 W 7109

INSTALLER'S NAME & FIRM: Chris Espinoza  
 CHAS ESPINOZA ENGINEERS 575-741-0485

MAILING ADDRESS: Street/PO Box, City, State, Zip Code  
 ABC Box 17C, Tross, NM 87571

CID License No./Class MM-1 MM-98 MS-1 MS-3 Homeowner  
 No.: MS3 30044

I. PERMIT APPLICATION (instructions available on request)

Application is for:  New Permit  Registration - existing unpermitted system  
 Modification of an existing system  ATS ownership transfer  
 Existing Permit No. (if applicable):

II. WASTEWATER SOURCES & DESIGN FLOWS IN GALLONS PER DAY (gpd)

A. Proposed liquid waste system use and design flow:  
 Single family residence no. of bedrooms \_\_\_\_\_ gpd  
 Multiple family units no. of units; no. bedrooms per unit \_\_\_\_\_ gpd  
 Seasonal residence \_\_\_\_\_ gpd  
 Commercial/Institutional (type): 19 RV Services 1900 gpd  
 Other (type): 1 Washbasin 100 gpd  
 B. Are there other sewage sources on this property?  Yes  No  
 TOTAL WASTEWATER FLOW ON PROPERTY: 2000 gpd

III. SITE INFORMATION

A. Lot Size: 9.00 Acres Date of Record: 5-9-2006  
 (nearest 0.01 acre) (Plat, Date or Subdivision Date)  
 Ownership and lot size documentation attached:  Warranty deed  Property tax receipt  
 Recorded plat  Other, specify:

B. Depth from Ground Surface to:  
 Seasonal High Water Table 26.0 feet  
 Bedrock, Caliche, Tight Clay 25.0 feet  
 Gravel, Cobbles, Highly permeable soil 25.0 feet

C. Soil Description:  
 USDA Soil Class Methodology & Verification Submitted?  Yes  No  
 Type Ia=1.25 sf/gal/day Type Ib=2 sf/gal/day Type II=2 sf/gal/day  
 Type III=2 sf/gal/day Type IV=5 sf/gal/day

D. Domestic Water Source:  
 On-site  Off-site Private Public Shared  
 Irrigation well, or flood irrigated area on lot?  Yes  No  
 State Engineer Well Permit #: 65-83301  
 Name of Public Water System:

IV. SYSTEM DESIGN

A. Treatment Unit: Experimental System  
 Capacity: 3250 GPD Total  
 Manufacturer: Abs. Vault  
 Certification No: NM 97-98-1308

X ATS (Advanced Treatment System)  Secondary  Tertiary  Sand filter  
 Disinfection:  Chlorination  UV  Other (specify):  
 Manufacturer: Bio Microbials Inc Model: Micro Fast 30

B. Disposal System:  
 Trench  Leaching Bed  Seepage Pit  
 Privy  Holding tank  Elevated Bed  Wisconsin Mound  
 Vault  Lined Evapotranspiration (ET) Bed  Unlined ET Bed  
 Irrigation  Low pressure dosed  Drip  Gray water  
 Other (specify):

Materials:  Pipe & Gravel  Gravelless (type):  
 Distribution box:  Yes  No  
 C. Minimum required absorption area:  
 AR 2 x Q 2000 = 4000 SQ FT  
 (AR - Application Rate) (Q - Design Flow)  
 Trench or Bed width = 2 ft  
 Gravel depth below pipes = 1 ft

Total Trench or Bed Length = 1000 ft  
 Length of Trenches = (1) 304 ; (2) 504 ; (3)  
 Number of Gravelless Units = 4032 SQFT  
 Proposed Absorption Area of System = 4032 SQFT  
 D. Depth from ground surface to bottom of absorption area = 2.8 ft



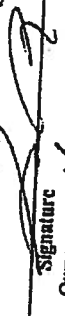
V. SITE PLAN: Attach plat, diagram or picture file of the lot and liquid waste system. Show setback distances from both the tank and disposal field to property lines, buildings, structures, wells, water lines, irrigation ditches, arroyos and surface waters within 200 feet of the system, and the direction of groundwater flow.

NMED Processing Number: TA 140019

NMED Use: A plat, drawing or picture, including setback distances, in accordance with 20.7.3.302: \_\_\_\_\_ IS attached

VI. The foregoing information is correct and true to the best of my knowledge. I understand the issuing of this permit does not relieve me from the responsibility of complying with all applicable provisions of the New Mexico Plumbing Code and the New Mexico Liquid Waste Disposal and Treatment Regulations. Obtaining this permit does not relieve me from the responsibility of obtaining any permit required by state, city or county regulation or ordinance or other requirements of state or federal law.

Print Name Ryan Lamb Iron, PE.

Signature  Date 01-30-14

Owner's Authorized Representative \_\_\_\_\_ Owner's Authorized Representative and Contractor \_\_\_\_\_

VII. NMED PERMIT TO CONSTRUCT (For Registrations, ATS Ownership Transfer, or Permitting of Existing Unpermitted Systems installed after February 1, 2002 skip this section and go to Section VIII):

NMED USE ONLY

A permit for CONSTRUCTION ONLY of the liquid waste disposal system described herein is hereby:

Granted subject to conditions  Denied

Permit Conditions or Reasons for Denial: \* Maintenance Contract Sampling (Monitoring) Contract - Sec. 403 B1(c)  
\* MSP - shall be factory certified for ATS installed - Sec. 903 B1  
\* Approved for 2000 gal or L.

W.H. Cravez  
NMED Representative  
Signature \_\_\_\_\_ Date 3/3/14

NOTE: This permit may be canceled for failure to meet any condition specified: failure to complete the system within one year; for providing inaccurate or incomplete information; or for failure to notify NMED to schedule an inspection, a minimum of 2 working days prior to the inspection.  
If you have questions call: 505-758-8108

VIII. NMED FINAL APPROVAL TO OPERATE LIQUID WASTE SYSTEM:  
The system described above: \_\_\_\_\_ was inspected by NMED \_\_\_\_\_ Contractor photo inspection authorized

NMED Inspection History

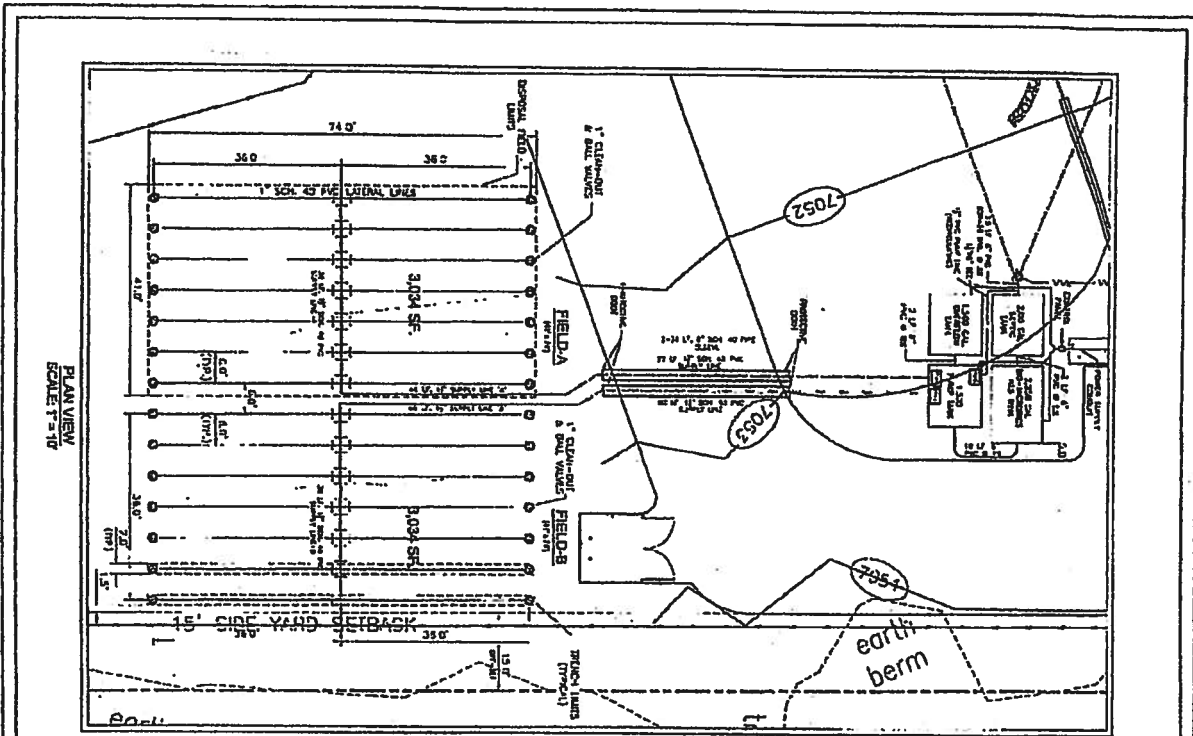
NMED Representative	Date

A permit for operation of the liquid waste disposal system described herein is hereby:

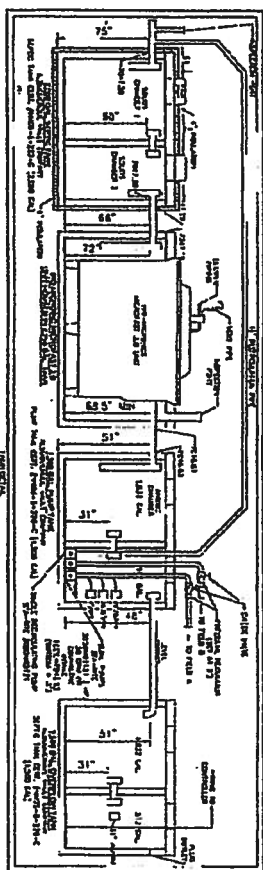
Granted  Granted subject to conditions  Denied

Conditions of Approval: \_\_\_\_\_ NMED Permit to Operate No. \_\_\_\_\_

NMED Representative \_\_\_\_\_ Date \_\_\_\_\_



PLAN VIEW  
SCALE 1" = 10'



NO.	DESCRIPTION	QTY	UNIT	AMOUNT
1	Excavation	100	cu yd	100
2	Gravel	200	cu yd	200
3	Concrete	100	cu yd	100
4	Rebar	100	lb	100
5	Steel Pipe	100	ft	100
6	Valves	100	each	100
7	Manholes	100	each	100
8	Structural Steel	100	lb	100
9	Insulation	100	sq ft	100
10	Paint	100	gal	100
11	Formwork	100	sq ft	100
12	Other	100	various	100
<b>TOTAL</b>				

1' DIA. DIS. LINE  
2' SALT WATER  
CONCRETE  
GRAVEL  
EXCAVATION

**LEGEND**

- Excavation
- Gravel
- Concrete
- Rebar
- Steel Pipe
- Valves
- Manholes
- Structural Steel
- Insulation
- Paint
- Formwork
- Other

NO. 9	DATE	BY	CHECKED
1			
2			
3			

**TAOS MESA RV PARK**  
**30 ABC MESA ROAD**  
**EL PRADO, TAOS COUNTY**  
**NEW MEXICO 87529**

**LIQUID WASTE DISPOSAL**  
**TREATMENT PLAN & DETAILS**

**Table 5-10. Groundwater Discharge Permits in the Taos Water Planning Region**  
Page 2 of 2

County	Facility Name <sup>a</sup>	Permit No.	Status <sup>b</sup>	Permitted Discharge Amount (gpd)
Taos (cont.)	Rio Lucio Septic Service	DP-748	Active	2,001
	S and R Septic Service	DP-465	Active	9,857
	Sanchez Mobile Home Park	DP-1063	Active	5,000
	Shady Brook Village	DP-1613	Active	8,000
	Singing River Ranch	DP-1590	Pending	—
	Sipapu Ski Area	DP-883	Active	40,000
	Ski Rio	DP-367	Active	5,000
	SMU in Taos - Fort Burgwin	DP-1473	Active	17,325
	Taos (County of) - Housing Authority	DP-1033	Active	6,000
	Taos (Town of) - Wastewater Treatment Plant	DP-232	Active	2,000,000
	Taos Country Club	DP-805	Active	750,000
	Taos East Condominium Association	DP-1760	Active	3,150
	Taos Junction Mobile Home Park	DP-1607	Active	4,050
	Taos Ridge Condominiums Association Inc.	DP-1143	Active	4,500
	Taos Trial Inn	DP-1756	Active	2,650
	The Inn at Taos Valley	DP-1435	Active	2,600

Source: NMED, 2014b, 2016b, NMED et al., 2016

<sup>a</sup> Names appear as listed in the NMED database.

<sup>b</sup> Facilities with an NMED-designated status of active or pending are shown. Inactive facilities are not included; they can be identified on the NMED website.

gpd = Gallons per day  
— = Not listed on GWQB web site

Handwritten notes in the table include checkmarks and asterisks in the County column, and "HW River" and "River" written vertically in the Facility Name column.



Brewery

APPLICATION FOR A LIQUID WASTE PERMIT OR REGISTRATION



NMED Processing Number: TAI10203

Date NMED Received: 10-26-11

Call NMED Use Only: to schedule an inspection a minimum of 2 working days prior to the inspection. Permit Fee: Other: Permit Approved for (circle one): 1 2 3 4 5 6 Bedrooms Multiple dwellings

SYSTEM OWNER'S NAME: Last, First, MI Home Phone: Business Phone:

MUSICH ENTERTAINMENT LLC 575 770-7301 City State Zip Code PO BOX 806 7APS NM 87521 SYSTEM LOCATION: Address, City, ZIP, County - (if needed, attach directions)

#22 ABC MESA RD EL PRADO, NM 87539 UNIT/PHASE BLOCK LOT/TRACT SUBDIVISION ABC MESA

UNIFORM PROPERTY CODE: 1-069153407007 TOWNSHIP RANGE SECTION QTR QTR LATITUDE LONGITUDE ELEV 26N 12E 21.23 36-2751.545 105044 7167 INSTALLER'S NAME & FIRM: ERNEST GEN'L PLUMBING PHONE: 575 770-2183

MAILING ADDRESS: Street/PO Box City State Zip Code PO Box 129 El Prado NM 87529 CID License No./Class X MM-1 (XMM-98) MS-1 MS-3 Homeowner No.: 11416

I. PERMIT APPLICATION (instructions available on request) Application is for: X New Permit Registration - existing unpermitted system Modification of an existing system ATS ownership transfer Existing Permit No. (if applicable):

II. WASTEWATER SOURCES & DESIGN FLOWS IN GALLONS PER DAY (gpd) A. Proposed liquid waste system use and design flow: Single family residence no. of bedrooms gpd Multiple family units no. of units; no. bedrooms per unit gpd Seasonal residence gpd X Commercial/Institutional (type): Conventional 1842 gpd Fixture units: 43 gpd B. Are there other sewage sources on this property? Yes No TOTAL WASTEWATER FLOW ON PROPERTY: 1885 gpd

III. SITE INFORMATION A. Lot Size: 4.99 Acres Date of Record: 5/16/2005 (nearest 0.01 acre) (Plat Date or Subdivision Date) Ownership and lot size documentation attached: X Warranty deed Property tax receipt X Recorded survey Recorded plat Other, specify:

B. Depth from Ground Surface to: Seasonal High Water Table 290' 565' feet Bedrock, Caliche, Tight Clay 10' >10' feet Gravel, Cobbles, Highly permeable soil >10' feet C. Soil Description: USDA Soil Class Methodology & Verification Submitted? Type Ia=1.25 sf/gal/day Type Ib=2 sf/gal/day Type II=2 sf/gal/day Type III=2 sf/gal/day Type IV=5 sf/gal/day D. Domestic Water Source: X On-site, Off-site Private Public Shared Irrigation well, or flood irrigated area on lot? Yes No State Engineer Well Permit #: R 683201 Name of Public Water System:

IV. SYSTEM DESIGN A. Treatment Unit: X Septic tank Manufacturer: ERNEST PLUMBING Capacity: 1500 gal X. Certification No.: NM 96-OR-221C ATS (Advanced Treatment System) Secondary Tertiary Sand filter Disinfection Other (specify): Manufacturer: Model: Voluntary ATS B. Disposal System: X Trench Leaching Bed Seepage Pit Privy Holding tank Elevated Bed Wisconsin Mound Vault Lined Evapotranspiration (ET) Bed Unlined ET Bed Irrigation Low pressure dosed Drip Other (specify): Materials: X Pipe & Gravel Gravelless (type): Distribution Box: Yes No Minimum required absorption area: AR 2 x Q 1842 = 3684 SQFT (AR - Application Rate) (Q - Design Flow) Trench or Bed width = 2'-0" ft. Gravel depth below pipe = 2'-0" ft. Total Trench or Bed Length = 52.2' Length of Trenches = (1) 132'; (2) 132'; (3) 132'; (4) 132' Number of Gravelless Units = N/A Proposed Absorption Area of System = 3684 SQFT D. Depth from ground surface to bottom of absorption area = 41 ft.



NMED Processing Number: TA11-0203

V. SITE PLAN: Attach plan, diagram or picture file of the lot and liquid waste system. Show setback distances from both the tank and disposal field to property lines, buildings, structures, wells, water lines, irrigation ditches, arroyos and surface waters within 200 feet of the system, and the direction of groundwater flow.

NMED Use:  A plat, drawing or picture, including setback distances, in accordance with 20.7.3.302.  IS attached

VI. The foregoing information is correct and true to the best of my knowledge. I understand the issuing of this permit does not relieve me from the responsibility of complying with all applicable provisions of the New Mexico Plumbing Code and the New Mexico Liquid Waste Disposal and Treatment Regulations. Obtaining this permit does not relieve me from the responsibility of obtaining any permit required by state, city or county regulation or ordinance or other requirements of state or federal law.

Print Name PETER KOLSMOR  
Signature [Signature] Date 10-5-11  
Owner  Owner's Authorized Representative and Contractor

VII. NMED PERMIT TO CONSTRUCT (For Registrations, ATS Ownership Transfer, or Permitting of Existing Unpermitted Systems installed after February 1, 2002 skip this section and go to Section VIII):

NMED USE ONLY

A permit for CONSTRUCTION ONLY of the liquid waste disposal system described herein is hereby:  
 Granted subject to conditions  Denied NMED Permit to Construct No. TA11-0203

Permit Conditions or Reasons for Denial: Install flow meter on incoming water, water to brewery and lands capth.  
Submit monthly water meter data to NMED 2x/yr. Eff low to low system > 2000 gal permit will be void.  
Must receive sign off from Groundwater Quality Bureau for handling brewery waste.

NOTE: This permit may be canceled for failure to meet any condition specified: failure to complete the system within one year; for providing inaccurate or incomplete information; or for failure to notify NMED to schedule an inspection, a minimum of 2 working days prior to the inspection.  
If you have questions call: \_\_\_\_\_

VIII. NMED FINAL APPROVAL TO OPERATE LIQUID WASTE SYSTEM:

The system described above:  was inspected by NMED  Contractor photo inspection authorized

NMED Inspection History  
Tim Vincent conducted in term at sewer - pumps not installed NMED Representative  
Date 12/2/11

A permit for operation of the liquid waste disposal system described herein is hereby:  
 Granted  Granted subject to conditions  Denied NMED Permit to Operate No. \_\_\_\_\_

Conditions of Approval:  
NMED Representative [Signature] Date 05/09/12

MUSICH Entertainment, LLC.  
 Taos Mesa Brewery  
 Taos, NM 87571

**EXHIBIT A**

**Schedule Of Estimated Waste / Sewage Flow Rates**

Based on:

1. Permitted Occupancy Diagram based on IBC 2009, Table 1004.1.1.1: Maximum Floor Area Allowances per Occupant, (Exhibit B)
2. Established Liquid Waste Design Flow Rates per NMAC Title 20, Chapter 7, Part 3 - Liquid Waste Disposal and Treatment, Table 201.1
4. Brewery Operations Water Usage Plan (Exhibit C)

Area Name	Square Feet	Occupancy Factor	Occupant Load	Usage Factor	Gallons per Day
Area 1: Platform	500 NSF	15 NSF/Person	33	5 Gal/Day/Person	167
Area 2: Assembly (Dance) (Standing)	1080 NSF	5 NSF/Person	216	5 Gal/Day/Person	1080
Area 3: Assembly (Seating) (Unconcentrated)	300 NSF	15 NSF/Person	20	20 Gal/Day/Person	400
<b>SUBTOTAL AREA 1, 2 &amp; 3</b>	<b>1880</b>		<b>269</b>		<b>1647</b>
Area 4: Staff					
a. Kitchen	150 GSF	200 GSF/Person	1	20 Gal/Day/Person	15
b. Storage	60 GSF	300 GSF/Person	1	20 Gal/Day/Person	20
c. Storage	370 GSF	300 GSF/Person	2	20 Gal/Day/Person	40
d. Changing	95 GSF	50 NSF/Person	2	20 Gal/Day/Person	40
e. Wait	150 GSF	100 GSF/Person	2	20 Gal/Day/Person	40
f. Tickets	75 GSF	100 GSF/Person	1	20 Gal/Day/Person	20
g. Sound	35 GSF	100 GSF/Person	1	20 Gal/Day/Person	20
<b>SUBTOTAL AREA 4</b>	<b>935</b>		<b>10</b>		<b>195</b>
<b>BREWERY USAGE:</b>	<b>300 Gallons/Week</b>	<b>(See Exhibit C)</b>			<b>43</b>
<b>BUILDING TOTALS</b>		<b>279 Occupants</b>			<b>1885 GPD</b>



EXHIBIT  
Rael 6-1  
abbles



EXHIBIT  
Rael 6-2  
tabbles



EXHIBIT

Rael 6-3

tabbles®



EXHIBIT  
Rae 16-4  
abbles



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE OF NEW MEXICO  
SAFE

2016 OCT -4 PM 2:48

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER)				OSE FILE NUMBER(S) RG 95991			
	WELL OWNER NAME(S) PLYER IRION, LLC				PHONE (OPTIONAL) 940-367-4850			
	WELL OWNER MAILING ADDRESS 25 ABC MESA ROAD				CITY EL PRADO		STATE ZIP NM 87529	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 36	MINUTES 27	SECONDS 54.53 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
LONGITUDE 105 39 35.56 W								
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE								
2. DRILLING & CASING INFORMATION	LICENSE NUMBER WD1494		NAME OF LICENSED DRILLER ROBERT W. COOK			NAME OF WELL DRILING COMPANY R.W.C. ENTERPRISES		
	DRILLING STARTED 6/4/16	DRILLING ENDED 9/21/16	DEPTH OF COMPLETED WELL (FT) 680	BORE HOLE DEPTH (FT) 680	DEPTH WATER FIRST ENCOUNTERED (FT) 651			
	COMPLETED WELL IS: <input type="checkbox"/> ARTERIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 572			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	60	7 7/8	SCH 80 PVC	GLUE	4 1/2	247	.030
	60	680	7 7/8	SCH 80 PVC	GLUE	4 1/2	247	---
	3. ANNULAR MATERIAL		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
DEPTH (feet bgl)	FROM TO							
	40 680	7 7/8	3/8 ROUND GRAVEL	129	MANUAL			

FOR OSE INTERNAL USE		WR-20. WELL RECORD & LOG (Version 10/29/15)	
FILE NUMBER	POD NUMBER	TRN NUMBER	
LOCATION			PAGE 1 OF 2





4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES/NO)		ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
FROM	TO			Y	N	
0	5	5				
5	30	25	CALICHE	Y	✓ N	
30	39	9	GRAVEL	Y	✓ N	
39	247	208	CLAY (BROWN)	Y	✓ N	
247	302	55	<del>BASALT</del>	Y	✓ N	
302	527	225	CLAY (BROWN)	Y	✓ N	
527	562	35	BASALT	Y	✓ N	
562	651	89	CINDERS (RED)	Y	✓ N	
651	680	29	BASALT	Y	✓ N	
			GRAVEL	✓ Y	N	30.00
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:  
 PUMP     AIR LIFT     BAILER     OTHER - SPECIFY: \_\_\_\_\_

TOTAL ESTIMATED WELL YIELD (gpm): 30.00

5. TEST RIG SUPERVISION

WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING.

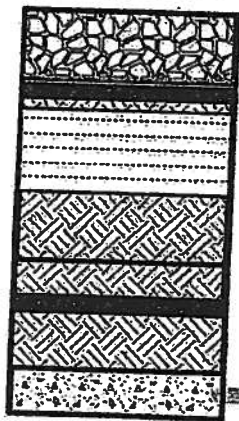
Robert W. Cook                      ROBERT W. COOK                      9/30/16

SIGNATURE OF DRILLER / PRINT SIGNEE NAME                      DATE

FOR USE INTERNAL USE

FILE NUMBER	POD NUMBER	WR-20' WELL RECORD & LOG (Version 10/29/2015)
LOCATION	TRN NUMBER	PAGE 2 OF 2

Lithologic Log (MIOSE)



From 100m to 105m  
100m - 105m  
105m - 110m  
110m - 115m  
115m - 120m  
120m - 125m  
125m - 130m

Lithologic Log (MIOSE)

STATE ENGINEER OFFICE  
WELL RECORD

2005 NOV 28 PM 1:48

Section 1. GENERAL INFORMATION

Owner of well Mark D Miller Owner's Well No. \_\_\_\_\_  
 Street or Post Office Address P.O. Box 7061  
 City and State Taos NM 87571  
 Well was drilled under Permit No. RG 85434 and is located in the:  
 1. \_\_\_\_\_ % \_\_\_\_\_ % \_\_\_\_\_ % \_\_\_\_\_ % of Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ N.M.P.S.  
 2. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
 3. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
 Subdivision, recorded in \_\_\_\_\_ County.  
 4. X = 672,034 feet, Y = 1,989,377 feet, N.M. Coordinate System Central Zone at  
 the Antelope Leap / Antelope Mountain Taos County Giant  
 5. Drilling Contractor: Fennell Drilling Co License No. WDP987  
 Address: P.O. Box 480 Arroyo Honda NM 87517  
 Drilling began 11-10-05 Completed 11-18-05 Type tools rotary Size of hole 7 7/8 in.  
 Location of land surface or \_\_\_\_\_ ft. Total depth of well 657 ft.  
 Completed well is  shallow  artesian. Depth to water upon completion of well 523 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
540	580	40	sand & gravel	6
620	655	35	sand & gravel	8

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5 7/16 OD	11.89		0	657	657	—	557	577
							617	657

Section 4. RECORD OF MUDDING AND CEMENTING

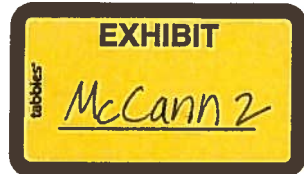
Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				
0	25	9 7/8	6 Bags Portland Cement		Chips - gravel

Section 5. PLUGGING RECORD

Drilling Contractor: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Plugging Method: \_\_\_\_\_  
 Date Well Plugged: \_\_\_\_\_  
 Plugging approved by: \_\_\_\_\_  
 State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

112805  
 Received RG 85434 Trm # 340445  
 FOR USE OF STATE ENGINEER ONLY



Section 6. LOG OF HOLE

Depth in Feet		Thickness in Feet	Color and Type of Material Encountered
To	To		
0	10	10	Brown sandy clay
10	99	89	sandy clay & gravel
99	106	7	Tan clay
<del>106</del>	136	30	black basalt
136	170	34	red sandy clay
170	195	25	black basalt
195	281	86	Tan sandy clay & gravel
281	540	259	black basalt
540	580	40	sand & gravel
580	620	40	black basalt
620	655	35	sand & gravel
655	657	2	black basalt

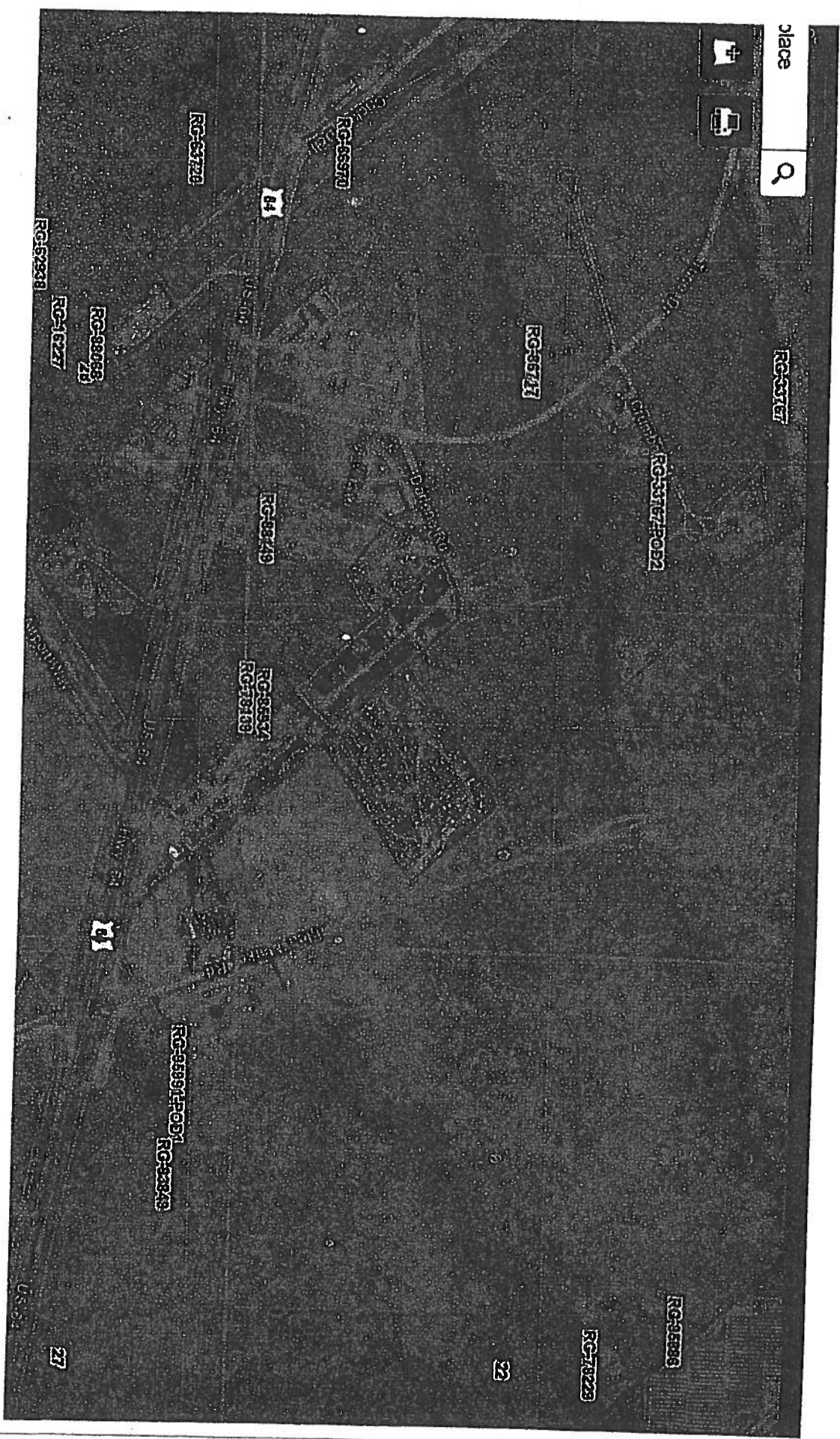
Section 7. REMARKS AND ADDITIONAL INFORMATION

I, the undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above

*[Signature]*  
 Driller

INSTRUCTIONS: This form should be executed in

place



RG-33167

RG-33171

RG-33167-P021

RG-33143

RG-33134  
RG-13133

RG-33120

RG-33053  
Z1

RG-13227

RG-33238

Z1

RG-33011-P001  
RG-33243

RG-33053

RG-13223

Z2

Z3

STATE ENGINEER OFFICE  
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Waste Management of New Mexico Owner's Well No. RG-78139  
 Street or Post Office Address PO Box 1590  
 City and State El Prado, NM 87529

Well was drilled under Permit No. RG-78139 and is located in the:  
 a. 1/4 of Section 1 Township 1 Range 1 N M P N

b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_

c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
 Subdivision, recorded in \_\_\_\_\_ Taos \_\_\_\_\_ County.

d. X = 672,000 feet, Y = 1,989,300 feet, N.M. Coordinate System Central Zone in  
 the Antonio Martinez or Godof Grant

(B) Drilling Contractor Rocky Mountain Drilling, Inc. License No. WD-841

Address PO Box 727 - Rancho de Taos, NM 87557

Drilling Began 6-11-02 Completed 6-28-02 Type tools Air Rotary Size of hole 8" in  
Mud Rotary

Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 800 ft.

Completed well is  shallow  artesian. Depth to water upon completion of well 500 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
550	580	30	Brown Sand & Gravel	10
600	800	200	Brown Sand w/Clay Stringers	10

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5"	SCH 40 PVC	-0-	+2	800	802	-0-	580	780

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_  
 Address \_\_\_\_\_  
 Plugging Method \_\_\_\_\_  
 Date Well Plugged \_\_\_\_\_  
 Plugging approved by \_\_\_\_\_  
 State Engineer Representative \_\_\_\_\_

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received \_\_\_\_\_  
 Title RG-78139  
TRN 281309  
 Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_  
 Location No. \_\_\_\_\_



Section 6. LOG OF HOLE

Depth in Feet		Thickness in Feet	Color and Type of Mate Encountered
From	To		
0	4	4	Brown Top Soil
4	8	4	White Caliche
8	110	102	Brown Gravel & Clay
110	140	30	Black Basalt
140	147	7	Red Cinders & Red Clay
147	220	73	Black Basalt
220	290	70	Brown Clay & Sand
290	370	80	Black Basalt
370	380	10	Tan Sand & Gravel
380	490	110	Black Basalt
490	510	20	Red Cinders
510	550	40	Black Basalt
550	580	30	Brown Sand & Gravel
580	600	20	Black Basalt
600	800	200	Brown Sand & Clay Stringers

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

  
 Driver

INSTRUCTIONS. This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.



EA Engineering, Science, & Technology, Inc., PBC  
320 Gold Avenue SW, Suite 1300  
Albuquerque, New Mexico 87102  
Phone: (505) 224-9013

October 4, 2019

Mr. Pete Domenici, Jr  
Domenici Law Firm P.C.  
320 Gold Ave SW Suite 1000  
Albuquerque, New Mexico 87102



RE: NMED Discharge Permit DP-465 Renewal  
S&R Septic Facility, Taos County, New Mexico

Dear Mr. Domenici:

On behalf of S&R Septic Services, EA Engineering, Science, and Technology, Inc., PBC (EA) is providing the attached written testimony for consideration at the NMED Discharge Permit DP-465 renewal hearing scheduled for October 16, 2019. S&R Septic Services contracted EA on August 12, 2019 to provide technical assistance with the discharge permit renewal process.

EA provides consulting services for a broad range of clients throughout the country. Mr. Jay Snyder and I both have specialized expertise in hydrogeology with more than 25 years of consulting experience in New Mexico. We have organized the attached written testimony within the follow exhibits:

- Exhibit 1 – Professional Profiles for Jay Snyder and Robert Marley
- Exhibit 2 – Office of the Sate Engineer Nearby Well Records
- Exhibit 3 – Evaluation of Migration of Nitrogen Compounds
- Exhibit 4 – Limited Site Investigation
- Exhibit 5 – Review of Draft Discharge Permit DP-465, Condition 21 and 22
- Exhibit 6 – Proposed Modification to DP-465, Condition 21 and 22
- Exhibit 7 – Summary of Opinions

Please feel free to contact us by phone at 505-224-9013 or me by email at [rmarley@eaest.com](mailto:rmarley@eaest.com) if you need additional information or have any questions on the provided exhibits.

Sincerely,  
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC., PBC

Robert D. Marley, P.G.  
Project Manager

Jay Snyder, P.E., P.G.  
Vice President

Cc: Steve Rael, S&R Septic Services



**EA EXHIBIT 1**  
**PROFESSIONAL PROFILES**

**Jay Snyder, P.G.,  
P.E., CHG, PHG**  
Vice President/Chief  
Geologist

Mr. Snyder has 30 years of professional experience in the environmental industry, serving a variety of federal, state, and commercial clients. He presently serves as Chief Geologist, coordinating licensure, professional development, and career progression for EA's junior geoscientists. He has worked as an operations manager, business development manager, program manager, project manager, and senior technical reviewer. Mr. Snyder has managed hundreds of hydrogeologic investigations, pilot tests and remedial action plans at leaking underground storage tank facilities, Resource Conservation and Recovery Act (RCRA) facilities, Superfund sites, and oil and gas facilities. He specializes in risk-based corrective action at hydrocarbon contaminated sites, remedial investigations at hazardous waste sites, and evaluation of remedial alternatives at a wide variety of sites, including fuel hydrocarbon, chlorinated solvent, heavy metals, and wood treatment sites.

Mr. Snyder applied a wide variety of remedial technologies at sites, including groundwater pump and treat, air sparging, multiphase extraction, *in situ* thermal desorption, soil vapor extraction, *in situ* bioremediation, monitored natural attenuation, land farming, chemical oxidation, and permeable reactive barriers. He has permitted numerous remediation systems, including Class V injection wells, discharge plans, and New Source Review for air emissions.

Mr. Snyder has served as hydrogeology technical lead for U.S. Environmental Protection Agency (EPA) Region 6 Response Action Contract; Installation Restoration Program activities at Naval Air Station Fallon, Nevada; and the TIMET facility in Henderson, Nevada. He served as the program manager for New Mexico Environment Department, New Mexico State Highway and Transportation Department, Texas Natural Resource Conservation Commission (TNRCC) State, and TNRCC Responsible Party Section contracts.

**Education**

M.S./Geological Engineering/2014 (University of Idaho)  
M.S./Geology/Geophysics/1986 (New Mexico State University)  
B.S./Meteorology/1988 (Texas A&M University)  
B.S./Geology/1982 (University of Wisconsin at Platteville)

**Registrations/Certifications**

Professional Geologist—AL (No. 1454); AR (No. 1852); AZ (No. 45804); CA (No. 8048); ID (No. PGL-1550); KS (No. 905); LA (No. 438), MN (No. 54555); MS (No. 948); NE (G-0366); OR (No. G2454); TX (No. 867); UT (No. 8947362-2250); and WI (No. 1306-13)  
Professional Engineer—CO (2016, No. 51233), NM (2019, No. 25296)  
Certified Hydrogeologist—CA (2013, No. 978)  
Professional Hydrologist Groundwater – American Institute of Hydrology (13-HGW-5005)  
Licensed Soil and Groundwater Remediation Contractor; NM (2005, GS-29)

**Specialized Training**

OSHA 40-Hour Hazardous Waste Operations and Emergency Response Training  
OSHA 40-Hour Hazardous Waste Operations and Emergency Response Refresher  
OSHA 8-Hour Hazardous Waste Operations Supervisor Training  
OSHA 10-Hour Construction Training  
Geochemistry and Hydrology of Waste Rocks, Tailing, and Pit Lakes, New Mexico Tech; Fall 2015  
Vapor Intrusion – Learning the Current Approaches, at Battelle Conference on Recalcitrant Compounds, Monterey, California; 2012  
Horizontal Wells: Enhanced Access for Characterization and Remediation, at Battelle Conference on Recalcitrant Compounds, Monterey, California; 2012  
Environmental Forensics, Northwest Environmental Training Center, 2012  
Stable Isotopes in Environmental and Forensic Geochemistry, at Battelle Conference on Recalcitrant Compounds, Monterey, California; 2010  
Contaminant Chemistry and Transport in Soil and Groundwater, Northwest Environmental Training Center; 2008  
Texas Risk Reduction Program Training, TNRCC and University of Houston; 2000  
Remediation by Natural Attenuation, National Groundwater Association; 1999  
RCRA Refinery Workshop, EPA Region 8, Denver; 1998  
Risk-Based Corrective Action, University of Houston; 1998  
Operating Permits (Title V), Trinity Consultants; 1996  
Project Management Training, Fred Pryor Seminar; 1994  
Air Dispersion Modeling Short Course, Trinity Consultants; 1992  
Vadose Zone Hydrology Short Course, Daniel B. Stephens & Associates, Inc.; 1991  
RCRA Training, PRC EMI; 1990  
CPR and First Aid Training

**Professional Affiliations**

American Society of Civil Engineers; Member  
Association of Ground Water Scientists and Engineers

**Experience**

Years with EA: 10

Total Years: 30



Mr. Snyder also participated in the Langley Air Force Base Installation Restoration Program, the New Mexico Environment Department risk-based corrective action working group, and the TNRCC Investigation Report Form working group.

Mr. Snyder has conducted numerous remedial investigations, aquifer pumping tests, and treatability studies including: (1) soil vapor extraction; (2) multiphase extraction; (3) air and ozone sparging; (4) *in situ* reductive dechlorination and reduction of metals; and (5) chemical oxidation, feasibility studies, and remedial designs. He serves as hydrogeology technical lead on numerous of projects.

### **Professional Experience**

**Environmental Services**—Specializes in risk-based corrective action at hydrocarbon contaminated sites, remedial investigations at hazardous waste sites, contaminant fate and transport, and evaluation of remedial alternatives at a wide variety of sites, including fuel hydrocarbon, chlorinated solvent, heavy metals, and wood treatment sites.

**Remedial Technologies**—Applied a wide variety of remedial technologies at sites, including groundwater pump and treat, air sparging, multiphase extraction, *in situ* thermal desorption, soil vapor extraction, *in situ* bioremediation, *in situ* reductive dechlorination and in *in situ* reduction of metals, monitored natural attenuation, land farming, chemical oxidation, and permeable reactive barriers.

**Permitting**—Has permitted numerous remediation systems, including Class V injection wells, discharge plans, and New Source Review for air emissions.

### **Employment History**

**Employer**—EA Engineering, Science, and Technology, Inc., PBC (Albuquerque, New Mexico)

**Dates of Employment**—2008 – Present

**Title**—Operations Manager Albuquerque

**Employer**—Golder Associates – Albuquerque, New Mexico

**Dates of Employment**—2005–2008

**Title**—Senior Consultant—Hydrogeology and Project Manager

**Employer**—Tetra Tech EMI – Albuquerque, New Mexico

**Dates of Employment**—2000–2005

**Title**—Office Manager and Senior Hydrogeologist

**Employer**—Daniel B. Stephens & Associates, Inc. – Albuquerque, New Mexico

**Dates of Employment**—1991–2000

**Title**—Texas Operations Manager, Project Group Leader, Business Development Manager

**Employer**—PRC Environmental Management, Inc. – Albuquerque, New Mexico

**Dates of Employment**—1991–1992

**Title**—Staff Hydrogeologist, Project Manager

**Employer**—U.S. Air Force – Langley Air Force Base, Virginia

**Dates of Employment**—1986–1990

**Title**—Wing Weather Officer (Active Duty), 1<sup>st</sup> Tactical Fighter Wing

**Employer**—New Mexico State University – Las Cruces, New Mexico

**Dates of Employment**—1982–1985

**Title**—Teaching and Research Assistant

## Robert D. Marley, P.G. Senior Hydrogeologist

Mr. Marley has 29 years of experience as a consulting hydrogeologist in the Southwest. His experience includes surface and groundwater hydrology, water resource planning and development, water reuse, aquifer recharge, water rights support, permitting, and environmental site characterization and remediation. He is managing investigation and remediation efforts at several sites within New Mexico and Texas, and serves as a Senior Technical Reviewer for multiple projects at EA.

Mr. Marley has worked with a diverse client base that includes municipalities; developers; attorneys; mining, energy, and power generation companies; tribal governments; regional planning authorities; and state/federal government agencies.

### Professional Experience

**Site Characterization and Remedial Technologies**—Extensive experience with corrective action at contaminated sites, remedial investigations, contaminant fate and transport, and evaluation of remedial alternatives for fuel hydrocarbon, chlorinated solvent, and heavy metals. Applied a wide variety of remedial technologies at sites, including groundwater pump and treat, air sparging, soil vapor extraction, *in situ* bioremediation, monitored natural attenuation, land farming, and chemical oxidation.

**Groundwater Hydrology**—Integrated structural geology, geophysics, water quality, and hydrostratigraphic analysis to develop new water supplies for private and municipal clients. Lead hydrogeologist and/or project manager on projects involving groundwater planning, well drilling and construction oversight, and aquifer performance testing. Manages all aspects of design, bidding, drilling, construction, testing, and supporting civil design services for dozens of new supply wells ranging from less than a hundred to several thousand feet deep, and up to \$3 million in construction costs.

**Surface Water Hydrology**—Conducted an evaluation of surface water flows, including groundwater contributions, in order to develop a surface water budget for sub-watershed inputs at over 20 locations along the main stem of the Red River in Northern New Mexico. The water budget was used to support waste load allocations from various point and non-point sources of pollution throughout the watershed. Developed and calibrated streamflow and sediment transport model for 27,000-square-mile basin in Northeastern Arizona. Model incorporated spatial and temporal basin characteristics and was used to estimate streamflow and sediment loads for a 50-year base period. Modeling efforts were used to support the evaluation of threatened and endangered species issues near the confluence with Colorado River in Grand Canyon National Park. Provided hydrologic support for client seeking to maintain in-stream Rio Grande flows near El Paso, Texas.

**Managed Aquifer Recharge**—Managed and/or have been lead scientist on multiple projects in the Southwest evaluating recharge sources and suitability for aquifer storage, treatment requirements, the degree of hydrologic continuity between aquifers and surface water, and potential water right impairment issues. Focused primarily on implementation of managed aquifer recharge programs using surplus reclaimed and surface water sources. Recharge methods include stream reach infiltration, surface infiltration galleries, and direct injection through deep,

#### Education

M.S./Hydrology/1990 (University of Arizona)  
B.S./Geology/1984 (Northern Arizona University)

#### Registrations/Certification

Professional Geologist—CA (2019, No. 9764),  
NE (2017, No. G-0435), TX (2016, No. 12372)

#### Specialized Training

OSHA 40-Hour Hazardous Waste Operations  
and Emergency Response Training; 1990  
OSHA 8-Hour Hazardous Waste Operations and  
Emergency Response Refresher, 2018  
OSHA 30-Hour Construction Safety Training;  
2018  
Mine Safety and Health Administration Training  
Radiological Worker Training  
CLE International courses on Southwestern  
United States water law  
Various conferences on water resource issues  
and hydrocarbon delineation and remediation  
Project Management Training, 2017  
CPR and First Aid Training, 2019

#### Professional Affiliations/Appointments

American Water Works Association; Member  
National Groundwater Association; Member

#### Experience

Years with EA: 3                      Total Years: 29



large capacity wells. Has led all aspects of the project's development and permitting, and the design, construction, and startup operations, as well as presented extensively on the topic.

***Water Resource Planning and Management***—Evaluated opportunities for source water blending, importation, and treatment or new source water development using detailed sets of evaluation criteria. Incorporated local and federal agency input into the recommended options, prioritized the development of the proposed water infrastructure improvements, and refined estimates of capital and operational costs for the identified public water system improvements. Conducted water system vulnerability assessment to identify and assess the susceptibility of municipal water system to a wide range of potential threats that could result in injury, illness, property damage, and/or disruption of operations. Provided water demand analysis, and discrimination between groundwater withdrawals from county, municipal, and private domestic wells. Prepared 40-year water plans, return flow plans, water resource policies and ordinances, drought contingency plans, source water protection plans, watershed restoration plans, and non-point source pollution management and protection plans.

***Water Rights Support***—Responsible for evaluation of water resources within complex hydrologic settings including the evaluation of potential impacts from proposed water appropriations, water right transfers, and conjunctive water management strategies. Has prepared Notice of Intent documents to appropriate non-potable groundwater pursuant to New Mexico Statutes Annotated §72-12-25 through §72-12-28, Artesian Well Plan of Operations, applications to change purpose and place of use, and other pertinent documents. Has provided expert testimony for state water rights hearings. Assessed condition and capacity of large well field in support of 26,000-acre-ft water right purchase, and provided expert testimony in U.S. Bankruptcy Court.

## **Employment History**

***Employer***—EA Engineering, Science, and Technology, Inc., PBC (Albuquerque, New Mexico)

***Dates of Employment***—July 2016 – Present

***Title***—Senior Hydrogeologist

***Employer***—Daniel B. Stephens & Associates, Inc.

***Dates of Employment***—2006–2016

***Title***—Senior Hydrogeologist and Technical Specialist

***Employer***—Golder Associates

***Dates of Employment***—2006

***Title***—Senior Hydrogeologist

***Employer***—Tetra Tech EMI

***Dates of Employment***—2001-2005

***Title***—Senior Hydrogeologist

***Employer***—Daniel B. Stephens & Associates, Inc.

***Dates of Employment***—1990–2001

***Title***—Staff, Project, and Senior Hydrogeologist



**EA EXHIBIT 2**  
**OFFICE OF THE STATE ENGINEER**  
**NEARBY WELL RECORDS**

### **New Mexico Office of the State Engineer Nearby Well Records**

The New Mexico Office of the State Engineer (OSE) well records for RG-78139 and RG-85934 indicate the presence of an interbedded sequence of gravel, clay, and basalt from ground surface to a total drilled depth of 800 ft. Depth to water at the time of well completion was 500 feet below ground surface (ft bgs) or greater. The first basalt interval was encountered at an approximate depth of 106 ft bgs, and extends to 140 ft bgs.





STATE ENGINEER OFFICE  
WELL RECORD

Section 1 GENERAL INFORMATION

A. Owner of well: Waste Management of New Mexico Owner's Well No. RG-78139  
 Street or Post Office Address: PO Box 1590  
 City and State: El Prado, NM 87529

Well was drilled under Permit No. RG-78139 and is located in the

1. 1/4 1/4 1/4 1/4 of Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ N M P S

2. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_

3. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
 Subdivision recorded in Taos County

4. X = 672,000 feet, Y = 1,989,300 feet, N.M. Coordinate System Central Zone in  
 the Antonio Martinez or Godof Grant

B. Drilling Contractor: Rocky Mountain Drilling, Inc. License No. WD-841

Address: PO Box 727 - Ranchos de Taos, NM 87557

Drilling Began 6-11-02 Completed 6-28-02 Type tools Air Rotary Mud Rotary Size of hole 8" in

Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 800 ft.

Completed well is  shallow  artesian. Depth to water upon completion of well 500 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
550	580	30	Brown Sand & Gravel	10
600	800	200	Brown Sand w/Clay Stringers	10

Section 3 RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5"	SCH 40 PVC	-0-	+2	800	802	-0-	580	780

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5 PLUGGING RECORD

Plugging Contractor _____	<table border="1"> <thead> <tr> <th rowspan="2">No</th> <th colspan="2">Depth in Feet</th> <th rowspan="2">Cubic Feet of Cement</th> </tr> <tr> <th>Top</th> <th>Bottom</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	No	Depth in Feet		Cubic Feet of Cement	Top	Bottom	1				2				3				4			
No			Depth in Feet			Cubic Feet of Cement																	
		Top	Bottom																				
1																							
2																							
3																							
4																							
Address _____																							
Plugging Method _____																							
Date Well Plugged _____																							
Plugging approved by _____	State Engineer Representative																						

FOR USE OF STATE ENGINEER ONLY

Date Received \_\_\_\_\_ Quad \_\_\_\_\_ FWL \_\_\_\_\_ FST \_\_\_\_\_

File No. 26-78139 Use \_\_\_\_\_ Location No. \_\_\_\_\_  
TAN 231309

Section 6 LOG OF HOLE

Depth in Feet		Thickness in Feet	Color and Type of Mate	Encountered
From	To			
0	4	4	Brown Top Soil	
4	8	4	White Calccha	
8	110	102	Brown Gravel & Clay	
110	140	30	Black Basalt	
140	147	7	Red Cinders & Red Clay	
147	220	73	Black Basalt	
220	290	70	Brown Clay & Sand	
290	370	80	Black Basalt	
370	380	10	Tan Sand & Gravel	
380	490	110	Black Basalt	
490	510	20	Red Cinders	
510	550	40	Black Basalt	
550	580	30	Brown Sand & Gravel	
580	600	20	Black Basalt	
600	800	200	Brown Sand & Clay Stringers	

Section 7 REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole

*James Mc Corm*  
 Driller

INSTRUCTIONS This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

STATE ENGINEER OFFICE  
WELL RECORD

2005 MAY 28 PM 1:48

Section 1. GENERAL INFORMATION

Name of well Mark D Miller Owner's Well No \_\_\_\_\_  
 Street or Post Office Address P.O. Box 2061  
 City and State Taos NM 87571  
 Well drilled under Permit No. RG 85934 and is located in the  
 \_\_\_\_\_ N. \_\_\_\_\_ E. \_\_\_\_\_ S. \_\_\_\_\_ W. \_\_\_\_\_ of Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ N.M.P.S.  
 \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
 \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
 Subdivision, recorded in \_\_\_\_\_ County.  
 Easting 672074 feet, Y = 4989377 feet, N.M. Coordinate System Central Zone \_\_\_\_\_  
 \_\_\_\_\_ Antonia Lerma / Antonio Muckler \_\_\_\_\_ Taos County \_\_\_\_\_  
 Drilling Contractor Fennell Drilling Co. License No. W 0987  
 \_\_\_\_\_ P.O. Box 480 Arroyo Honda NM 87513  
 Logging Began 11-10-05 Completed 11-18-05 Type tools rotary Size of bit 7 7/8  
 \_\_\_\_\_ of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 657  
 Completed well is  shallow  artesian. Depth to water upon completion of well 523

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
540	580	40	sand + gravel	6
620	655	35	sand + gravel	8

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5 7/16 <sup>OD</sup>	11.89		0	657	657	—	557	577
							617	657

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				
0	25	9 7/8	6		Bag Portland Chip - gravity

Section 5. PLUGGING RECORD

Drilling Contractor \_\_\_\_\_  
 \_\_\_\_\_  
 Logging Method \_\_\_\_\_  
 Date Well Plugged \_\_\_\_\_  
 Logging approved by: \_\_\_\_\_  
 \_\_\_\_\_ State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

112805

FOR USE OF STATE ENGINEER ONLY

Received RG 85934 Tm # 340465

Section 6. LOG OF HOLE

Depth Feet	To	Thickness in Feet	Color and Type of Material Encountered
0	10	10	brown sandy clay
10	99	89	sandy clay + gravel
99	106	7	Tan clay
106	136	30	black basalt
136	170	34	red sandy clay
170	195	25	black basalt
195	281	86	Tan sandy clay + gravel
281	540	259	black basalt
540	580	40	sand + gravel
580	620	40	black basalt
620	655	35	sand + gravel
655	657	2	black basalt

Section 7 REMARKS AND ADDITIONAL INFORMATION

I, the undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the logs and data:

*[Signature]*  
Driller

INSTRUCTIONS: This form should be executed in...

**EA EXHIBIT 3**  
**EVALUATION OF MIGRATION OF**  
**NITROGEN COMPOUNDS**

## Evaluation of Migration of Nitrogen Compounds

The Duke Engineering & Services (2000) report entitled "*Evaluation of the Migration of Nitrogen Compounds from Septage/Sludge Land Disposal Facilities: Vadose Zone Predictive Computer Modeling Summary Report*" describes the analysis of physical and chemical properties of soils beneath the S&R Septic disposal facility in Taos, New Mexico. Summary and conclusions drawn from the report as they pertain to the S&R Septic disposal facility (NMED DP-465) follow:

### Summary

- Soil borings were advanced at the center of two septage cells to collect soil physical and chemical property data with depth.
- A clay loam to sandy silt was present from 0 to 5 feet in both cells. Below the upper 5 feet, sediments consist of sand and gravels with some clay and silt stringers occurring between 20 and 30 feet below ground surface (ft bgs).
- Representative physical properties of soils (porosity, saturated hydraulic conductivity, and dry bulk density) were measured from 3 to 30 ft bgs in both cells. Porosity values ranged from 0.25 to 0.47, saturated hydraulic conductivity values ranged from  $9.72 \times 10^{-6}$  to  $1.32 \times 10^{-4}$  centimeters per second (cm/sec), and dry bulk density ranged from 1.19 to 1.91 kilograms per liter (kg/L). See Table 3 for summary of physical properties.
- Moisture content and nitrate concentrations were determined for soil samples collected from 3 to 30 feet bgs. At Location 1 measured moisture contents declined from 0.204 (3-foot sample) to 0.081 (30-foot sample); whereas at Location 2 moisture content ranged from 0.192 (3-foot sample) to 0.046 (15-foot sample) and then increased to 0.149 (30-foot sample). See Table 4 for summary of measured moisture contents.
- Ammonia was detected only in soils from 0 to 5 ft bgs. Nitrate concentrations between the 5- and 20-foot depths declined steeply in one cell, whereas nitrate concentration with depth beneath the other disposal cell showed a less obvious declining trend. Soil nitrate concentrations at Location 1 ranged from 1.6 micrograms-per-gram ( $\mu\text{g/g}$ ) (30-foot sample) to 23  $\mu\text{g/g}$  (10-foot sample); whereas Location 2 ranged from 2.6  $\mu\text{g/g}$  (20-foot sample) to 238  $\mu\text{g/g}$  (3-foot sample). See Table 4 for summary of moisture contents. Note the concentration units of  $\mu\text{g/g}$  are equivalent to commonly reported laboratory units of milligram-per-kilogram (mg/Kg).

### Conclusions

- An estimated 25-percent of the total nitrogen mass in the form of ammonia is typically lost to volatilization within the uppermost 5 feet of sediments. Subsurface conditions were not expected to be conducive for denitrification processes. Detectable concentrations of nitrate were present at the total drilled depth of 30 feet after 15-years of facility operation. Duke (2000) used the observed nitrate concentrations to calibrate the infiltration model, see Figures 3 and 4.
- Infiltration of nitrogen compounds occurs through the downward migration of soil moisture. The vertical extent of nitrate migration is dependent on (a) type of surface soil/clogging layers and moisture content through time, (b) type subsurface soils and moisture content through time, and (c) the concentration of nitrogen compounds in the applied sludge or septage.
- Model predictions were made using the computer code VS2DT, a model domain constructed to a depth of 100 ft bgs, and over a simulation period of 100-years. Duke (2000) simplified soil

properties for model calibration and qualitative comparison purposes. Model calibration to measured data is shown on Figures 3 and 4.

- A conservative range of nitrate penetration depths was simulated for a range of potential site conditions. Figures 7 and 9 provide a conservative range of potential outcomes for the S&R Septic disposal facility. Model simulations suggest detectable nitrate conditions may have reached 50 ft bgs since operation of the facility began 30-years ago for the range of sediment types present beneath the facility.
- Downward penetration of nitrate through the soil profile can be reduced by (1) placing septage on low permeability surface layers, and (b) keeping low hydraulic pressure on the surface layer to limit infiltration.

**Evaluation of the Migration of Nitrogen Compounds  
from Septage/Sludge  
Land Disposal Facilities:  
Vadose Zone Predictive Computer Modeling**

**Summary Report**

**Prepared for:**

**New Mexico Environment Department  
Groundwater Quality Bureau**

**Prepared by:**



*A Duke Energy Company*

1650 University Blvd. NE, Suite 300  
Albuquerque, NM 87102  
Telephone: (505) 246-1600

**August 18, 2000**



**Table 3. Physical Properties of Soils at the Taos Facility**

Sample Depth (feet)	Porosity (unitless)	Saturated Hydraulic Conductivity (ft/day)	Saturated Hydraulic Conductivity (cm/sec)	Dry Bulk Density (lb/ft <sup>3</sup> )	Dry Bulk Density (kg/L)
<i>Impacted Location 1</i>					
3	0.42			87.4	1.40
5	0.47	3.69E-01	1.30E-04	77.3	1.24
10	0.33			106.9	1.71
15	0.27			112.6	1.80
20	0.42			92.2	1.48
30	0.36	2.68E-01	9.47E-05	103	1.65
<i>Impacted Location 2</i>					
3	0.41			78.8	1.26
5	0.43	2.76E-02	9.72E-06	74.6	1.19
10	0.35			107.4	1.72
15	0.25	3.74E-01	1.32E-04	119.2	1.91
20	0.28			117.9	1.89
30	0.31			109.2	1.75

Table 4. Measured Moisture Contents and Nitrate Concentrations

Sample Depth (feet)	Santa Fe Sludge Disposal Facility				Taos Disposal Site				Albuquerque Soil Amendment Facility			
	Moisture Content	Soil Nitrate Concentration	Aqueous Nitrate Concentration		Moisture Content	Soil Nitrate Concentration	Aqueous Nitrate Concentration		Moisture Content	Soil Nitrate Concentration	Aqueous Nitrate Concentration	
	(unitless)	(ug/g)	(ug/L)	(mg/L)	(unitless)	(ug/g)	(ug/L)	(mg/L)	(unitless)	(ug/g)	(ug/L)	(mg/L)
	Impacted Location 1				Impacted Location 1				Impacted Location 1			
0									0.007	1170	5.53E+07	55250.0
3	0.189	410	3.03E+06	3054.4	0.204	15.3	1.05E+05	104.9	0.132	980	4.63E+07	46277.8
5	0.187	545	4.10E+06	4098.9	0.205	16.9	1.02E+05	102.0	0.057	665	3.14E+07	31402.8
10	0.09	264	4.71E+06	4712.1	0.103	23	3.82E+05	381.9	0.036	1.6	7.56E+04	75.6
15	0.092	90.8	1.67E+06	1666.0	0.047	13	4.98E+05	498.3	0.034	3.2	1.51E+05	151.1
20	0.07	46.3	1.20E+06	1202.2	0.127	2.1	2.44E+04	24.4	0.019	1.6	7.56E+04	75.6
30	0.073	47.2	1.12E+06	1120.4	0.081	1.6	3.26E+04	32.6	0.018	<1	4.72E+04	<47.2
40									0.021	<1	4.72E+04	<47.2
50									0.028	<1	4.72E+04	<47.2
60									0.033	<1	4.72E+04	<47.2
70									0.013	<1	4.72E+04	<47.2
	Impacted Location 2				Impacted Location 2				Impacted Location 2			
0									0.007	385	8.80E+07	93500.0
3	0.072	259	5.42E+06	5416.0	0.192	238	1.56E+06	1562.9	0.132	649	7.87E+06	12037.3
5	0.07	248	5.28E+06	5277.4	0.157	58.1	4.42E+05	441.7	0.057	305	8.56E+06	2149.9
10	0.075	123	2.94E+06	2936.3	0.049	7.4	2.60E+05	259.5	0.036	6.4	2.84E+05	142.5
15	0.055	44.8	1.46E+06	1463.6	0.046	58	2.40E+06	2404.7	0.034	2.4	1.13E+05	53.4
20	0.095	31.2	6.42E+05	642.1	0.082	2.6	5.98E+04	59.8	0.019	1.3	1.09E+05	28.9
30	0.061	5.3	1.64E+05	163.9	0.149	30	3.32E+05	351.8	0.018	<1	4.72E+04	<47.2
40									0.021	<1	4.72E+04	<47.2
50									0.028	<1	4.72E+04	<47.2
60									0.033	<1	4.72E+04	<47.2
70									0.013	<1	4.72E+04	<47.2

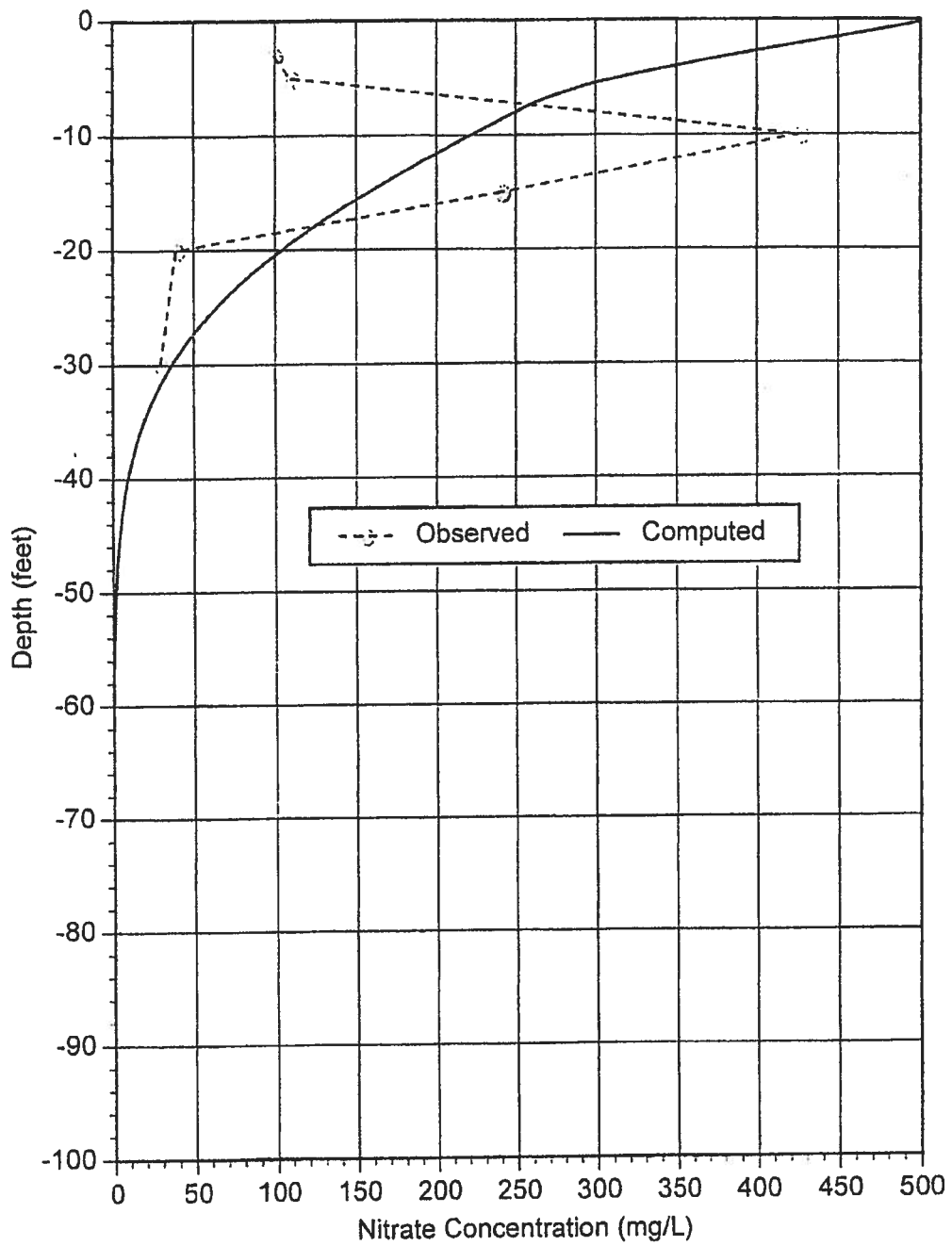


Figure 3. Observed and Computed Nitrate Concentrations in the Calibrated Model for Taos Cluster 1.

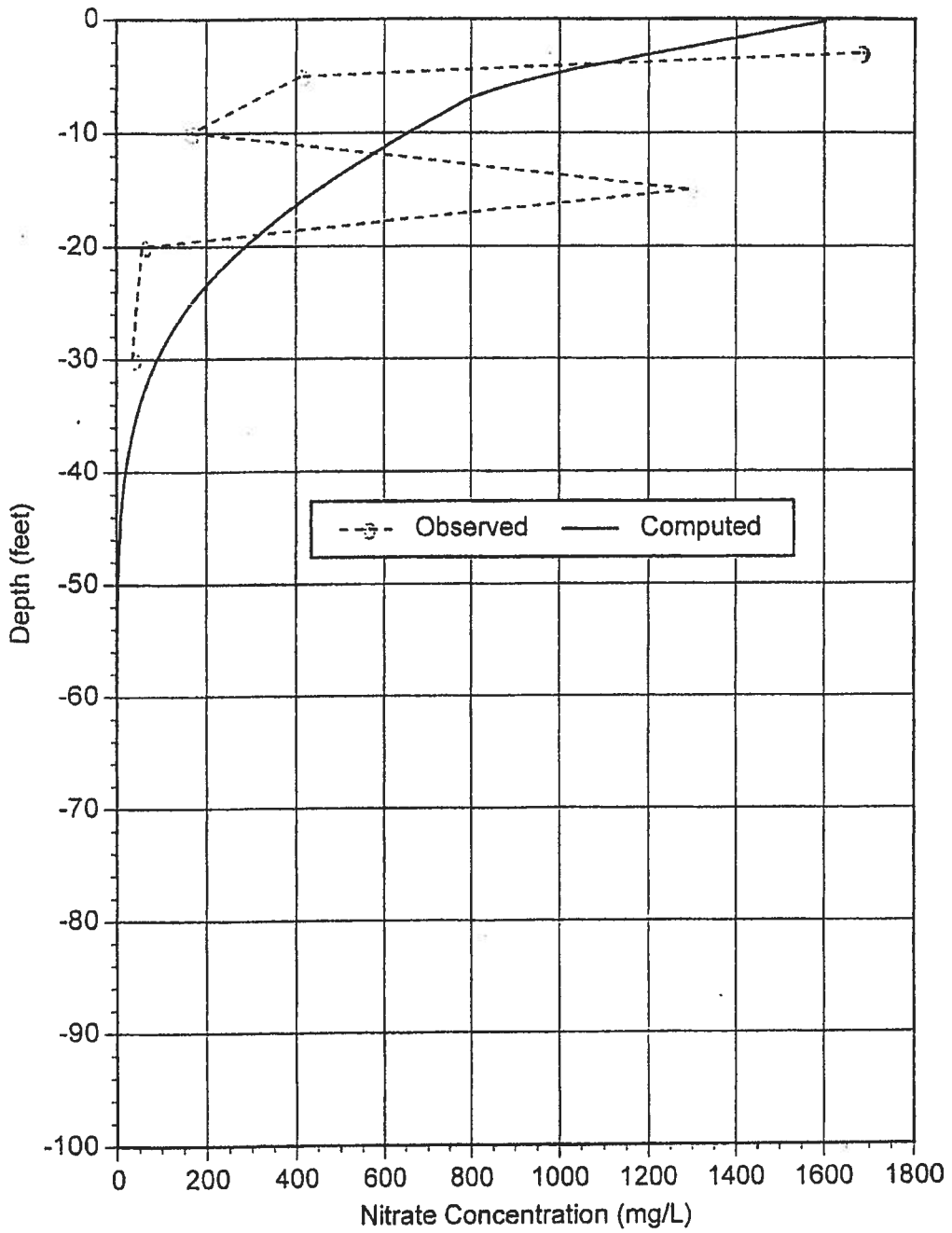
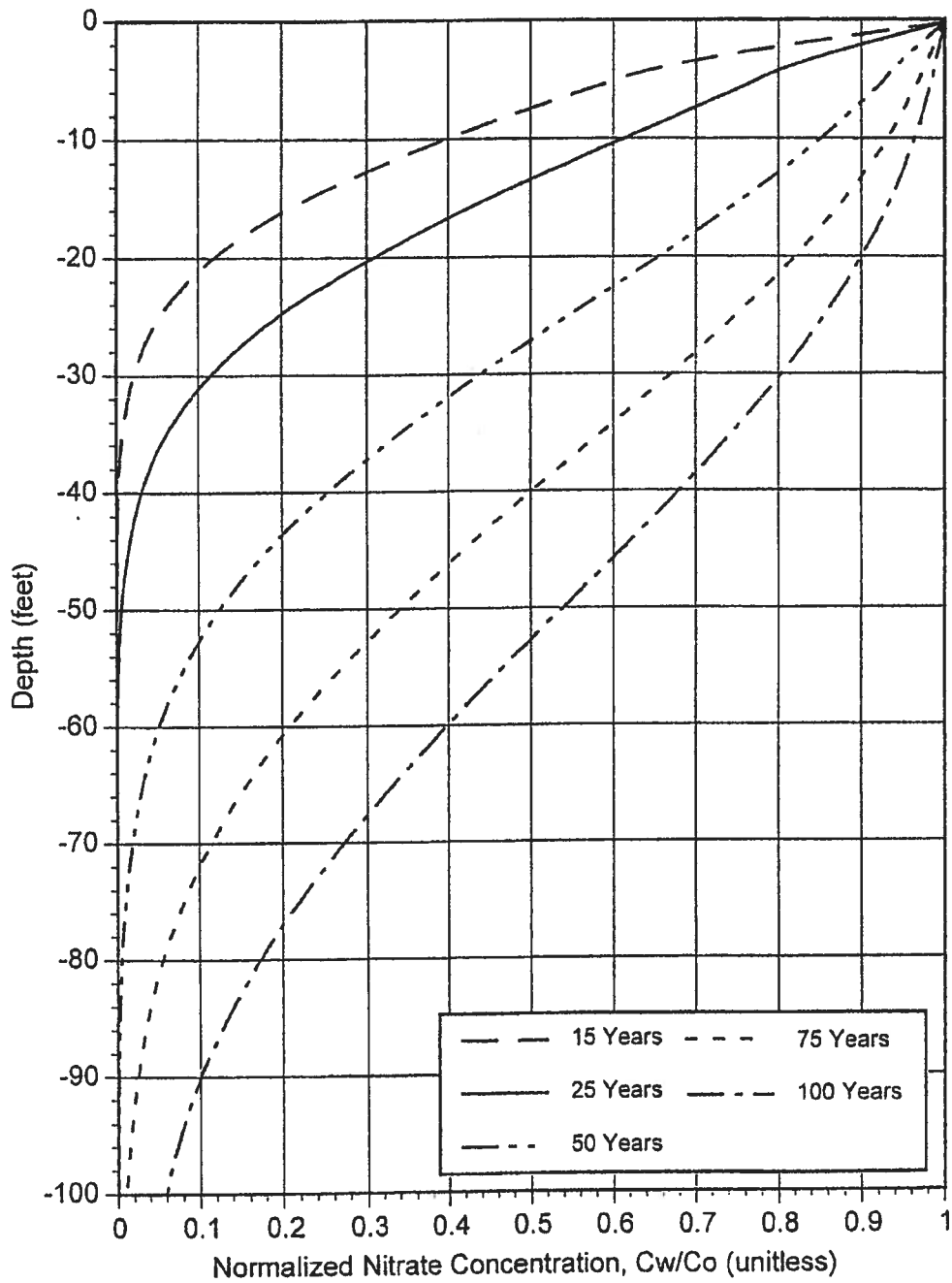


Figure 4. Observed and Computed Nitrate Concentrations in the Calibrated Model for Taos Cluster 2.



**Figure 7. Predicted Normalized Concentration of Nitrate, for Land Application on a Fine-Grained Surface Layer Overlying Coarse Sand Sediments.**

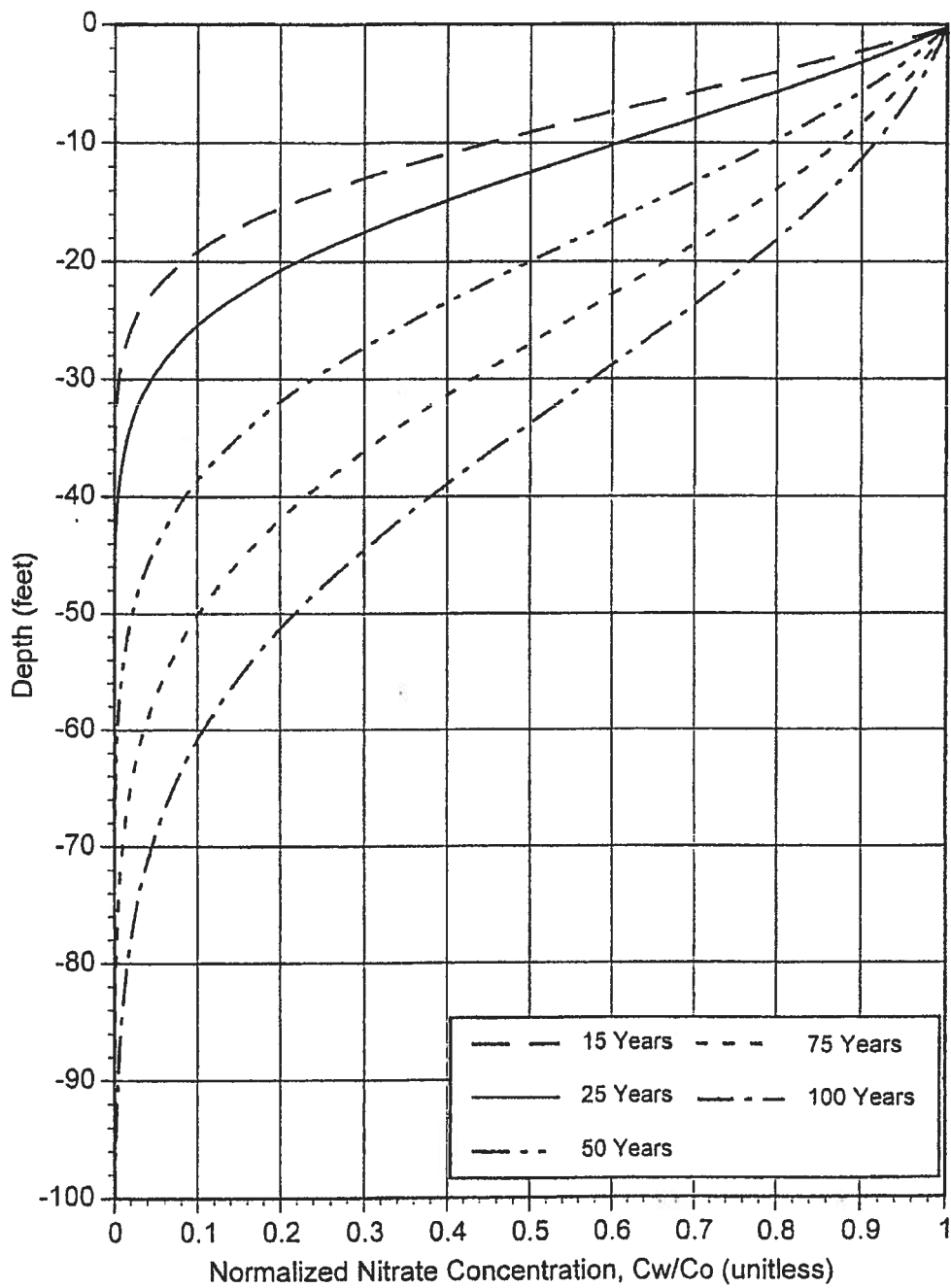


Figure 9. Predicted Normalized Concentration of Nitrate, for Land Application on a Fine-Grained Surface Layer Overlying Loamy Sand Sediments.

**EA EXHIBIT 4**  
**LIMITED SITE INVESTIGATION**

## Limited Site Investigation

EA assisted with the collection of soils samples for chemical analysis during the advancement of one soil boring in the center of Cell 7. Drilling services were provided by Rocky Mountain Drilling of Taos, New Mexico. Completed activities include:

- **Drilling:** A 6 ½ -inch diameter boring using air-rotary drilling methods. A combination of grab and split-spoon sampling were used to collect samples. An EA geologist described samples, field screened soils for relative salt content, and prepared samples for analysis of the chemical properties identified under Condition #21 of the March 18, 2019 draft discharge permit.
- **Chemical Analysis:** Hall Environmental Analysis Laboratory (HEAL) located in Albuquerque analyzed four samples to determine the concentration of Total Kjeldahl Nitrogen (TKN), Nitrate (NO<sub>3</sub>-N), Nitrate (NH<sub>3</sub>-N), Chloride (Cl), and Total Organic Carbon (TOC) within the submitted samples.

A lithologic log describing subsurface conditions to 35 ft bgs within Cell 7, and the field salt content measurements are attached. Sediments consisted of clayey silt with sand (0 to 5 ft bgs), well-graded sand with silt (5 to 15 ft bgs), well-graded gravel with clay and sand (15 to 25 ft bgs), and clayey sand with gravel (25 to 35 ft bgs). The qualitative measure of salt content from ground surface to 25 ft bgs declined with depth below the cell floor. Near surface gravels prevented open-hole advancement of the boring below 35 ft bgs by air-rotary drilling methods. The boring was subsequently plugged and abandoned by the drilling contractor.

Analytical data from the HEAL report is attached for the four samples collected during the limited site investigation. The field observed trend of declining soil specific conductance values with depth correspond to a similar decline in chloride concentrations as determined by the laboratory. Similar to the results reported by Duke (2000) and described in Exhibit 3, detectable concentrations of ammonia within Cell 7 were only present in the surface sample collected (Table 1). TKN and TOC concentrations were below detection within the 21 ft bgs sample. The decreasing concentration trends with depth below ground surface are shown graphically for field measurements of soil specific conductance, chloride, and nitrate.

Analytical results for SB-1 soil samples were compared to nitrate soil-screening levels (SSLs) provided in Table A-3. Summary of Soil-to-Groundwater Screening Levels of the NMED *Risk Assessment Guidance for Site Investigations and Remediation, Volume I Soil Screening Guidance for Human Health Risk Assessments, February 2019, (Revision 2, 6/19/19)*. The New Mexico groundwater/maximum contaminant level based soil screening level (NMGW/MCL-based SSL) with a dilution attenuation factor (DAF) of 1 is listed as 6.73 mg/Kg (see the attached Page A-19 from the NMED guidance document). The soil sample collected from 21 ft bgs has a reported nitrate concentration of 1.9 mg/Kg or 3.5 times less than the most protective NMED SSL.





EA Engineering, Science,  
and Technology, Inc., PBC

Project: 1596201  
Client: S & R Septic Services  
Start Date: 9-23-2019  
Completion Date: 9-25-2019

**WELL LOG**  
**Boring SB-1, Cell 7**

Page: 1 of 1

Drilling Company: **McCann Drilling and Plumbing**  
Drilling Method: **Air Rotary (uncased)**  
Driller: **Jim McCann**  
Geologist: **J. Messinger**

Boring Depth (ft): **35 ft bgs**  
Boring Diameter (in): **6 1/2"**  
Drill Bit: **6 1/4" tricone**

Depth (ft bgs)	Sample Type	Blows/ft*	Sample Collected	SPC/TDS	USCS	Lithology	Sample Description
----------------	-------------	-----------	------------------	---------	------	-----------	--------------------

0	CUT		S	520/-		ML	Clayey silt with sand: 7.5 YR 5/3, brown; nonplastic; slightly moist; 20% very fine to fine sand, trace medium sand; subangular to subrounded; 50% silt, nonplastic; 30% clay, medium stiff-stiff, low plasticity; sand is quartz, feldspar, and lithic fragments. Note: organics present (roots).
5							
10	CUT		S	311/ 202		SW-SM	Well-graded sand with silt: 10YR 7/2, light gray; loose; dry; 80% very fine to coarse sand (20% very fine, 50% fine, 20% medium, 10% coarse); angular to subrounded; 10% gravel up to 1/2"; 10% silt, nonplastic; trace clay; sand is quartz, feldspar, lithic fragments, and caliche; gravel is lithic fragments and caliche. At 10 ft, gravel up to 7/8". Note: secondary calcium carbonate present.
15							
20	SS		S	189.4/ 123.1		GW-GC	Well-graded gravel with clay and sand: 10YR 5/4, yellowish brown; loose; slightly moist; 25% fine to coarse sand (50% fine, 30% medium, 10% coarse); 60% gravel up to 1 1/2"; angular to subrounded; 5% silt, nonplastic; 10% clay, medium plasticity; sand is quartz, feldspar, and lithic fragments; gravel is lithic fragments. Note: clay coats sand and gravel. At 20 ft, gravel up to 2".
25	CUT		S	198.1/ 128.8			
30						SC	Clayey sand with gravel: 10YR 5/3, brown; loose; slightly moist; 55% very fine to coarse sand ( 10% very fine, 50% fine, 30% medium, 10% coarse); 25% gravel up to 1 1/2"; subangular to subrounded; 5% silt, nonplastic; 15% clay, medium stiff, medium plasticity. At 29 ft, no recovery from split spoon. At 30 ft, 50% sand; 30% gravel; 5% silt; 15% clay. At 35 ft, no recovery from split spoon.
35							

Note:  
bgs = below ground surface  
CUT = Drill Cuttings  
ft = foot/feet  
S = Total Kjeldahl Nitrogen, Nitrate, Ammonia, Chloride, Total Organic Carbon  
SPC = Specific Conductance (microSiemens/centimeter)  
SS = Split Spoon  
TDS = Total Dissolved Solids (grams/liter)

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909E32

Date Reported:

CLIENT: S R Septic Services

Client Sample ID: SRGS-092319

Project: S R Septic Services

Collection Date: 9/23/2019 10:05:00 AM

Lab ID: 1909E32-001

Matrix: SOIL

Received Date: 9/25/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: MRA
Chloride	71	7.5		mg/Kg	5	9/27/2019 3:08:04 PM
Nitrogen, Nitrate (As N)	23	1.5		mg/Kg	5	9/27/2019 3:08:04 PM
<b>AMMONIA AS N</b>						Analyst: OG
Nitrogen, Ammonia	28	25		mg/Kg	1	10/2/2019 2:30:00 PM
<b>METHOD 4500-N-ORG C: TKN</b>						Analyst: OG
Nitrogen, Total Kjeldahl	1700	50		mg/Kg	1	10/1/2019 4:39:00 PM
<b>WALKLEY BLACK TOC/FOC/OM</b>						Analyst: JRR
TOC	1.6	0.13		% C	1	9/30/2019 10:03:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Analytical Report

Lab Order 1909E32

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: S R Septic Services

Client Sample ID: SR010-092319

Project: S R Septic Services

Collection Date: 9/23/2019 1:00:00 PM

Lab ID: 1909E32-002

Matrix: SOIL

Received Date: 9/25/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: MRA
Chloride	25	7.5		mg/Kg	5	9/27/2019 3:32:53 PM
Nitrogen, Nitrate (As N)	7.0	1.5		mg/Kg	5	9/27/2019 3:32:53 PM
<b>AMMONIA AS N</b>						Analyst: OG
Nitrogen, Ammonia	ND	25		mg/Kg	1	10/2/2019 2:30:00 PM
<b>METHOD 4500-N-ORG C: TKN</b>						Analyst: OG
Nitrogen, Total Kjeldahl	70	50		mg/Kg	1	10/1/2019 4:39:00 PM
<b>WALKLEY BLACK TOC/FOC/OM</b>						Analyst: JRR
TOC	ND	0.13		% C	1	9/30/2019 10:03:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909E32

Date Reported:

CLIENT: S R Septic Services

Client Sample ID: SR021-092319

Project: S R Septic Services

Collection Date: 9/23/2019 4:45:00 PM

Lab ID: 1909E32-003

Matrix: SOIL

Received Date: 9/25/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: MRA
Chloride	ND	7.5		mg/Kg	5	9/27/2019 3:57:42 PM
Nitrogen, Nitrate (As N)	1.9	1.5		mg/Kg	5	9/27/2019 3:57:42 PM
<b>AMMONIA AS N</b>						Analyst: OG
Nitrogen, Ammonia	ND	25		mg/Kg	1	10/2/2019 2:30:00 PM
<b>METHOD 4500-N-ORG C: TKN</b>						Analyst: OG
Nitrogen, Total Kjeldahl	ND	51		mg/Kg	1	10/1/2019 4:39:00 PM
<b>WALKLEY BLACK TOC/FOC/OM</b>						Analyst: JRR
TOC	ND	0.14		% C	1	9/30/2019 10:03:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	<ul style="list-style-type: none"> <li>* Value exceeds Maximum Contaminant Level</li> <li>D Sample Diluted Due to Matrix</li> <li>H Holding times for preparation or analysis exceeded</li> <li>ND Not Detected at the Reporting Limit</li> <li>PQL Practical Quantitative Limit</li> <li>S % Recovery outside of range due to dilution or matrix</li> </ul>	<ul style="list-style-type: none"> <li>B Analyte detected in the associated Method Blank</li> <li>E Value above quantitation range</li> <li>J Analyte detected below quantitation limits</li> <li>P Sample pH Not In Range</li> <li>RL Reporting Limit</li> </ul>
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**Analytical Report**

Lab Order 1909E32

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** S R Septic Services

**Client Sample ID:** SR025-0092419

**Project:** S R Septic Services

**Collection Date:** 9/24/2019 10:40:00 AM

**Lab ID:** 1909E32-004

**Matrix:** SOIL

**Received Date:** 9/25/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: MRA
Chloride	8.2	7.5		mg/Kg	5	9/27/2019 4:22:31 PM
Nitrogen, Nitrate (As N)	2.6	1.5		mg/Kg	5	9/27/2019 4:22:31 PM
<b>AMMONIA AS N</b>						Analyst: OG
Nitrogen, Ammonia	ND	25		mg/Kg	1	10/2/2019 2:30:00 PM
<b>METHOD 4500-N-ORG C: TKN</b>						Analyst: OG
Nitrogen, Total Kjeldahl	ND	50		mg/Kg	1	10/1/2019 4:39:00 PM
<b>WALKLEY BLACK TOC/FOC/OM</b>						Analyst: JRR
TOC	ND	0.0013		% C	1	9/30/2019 10:03:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

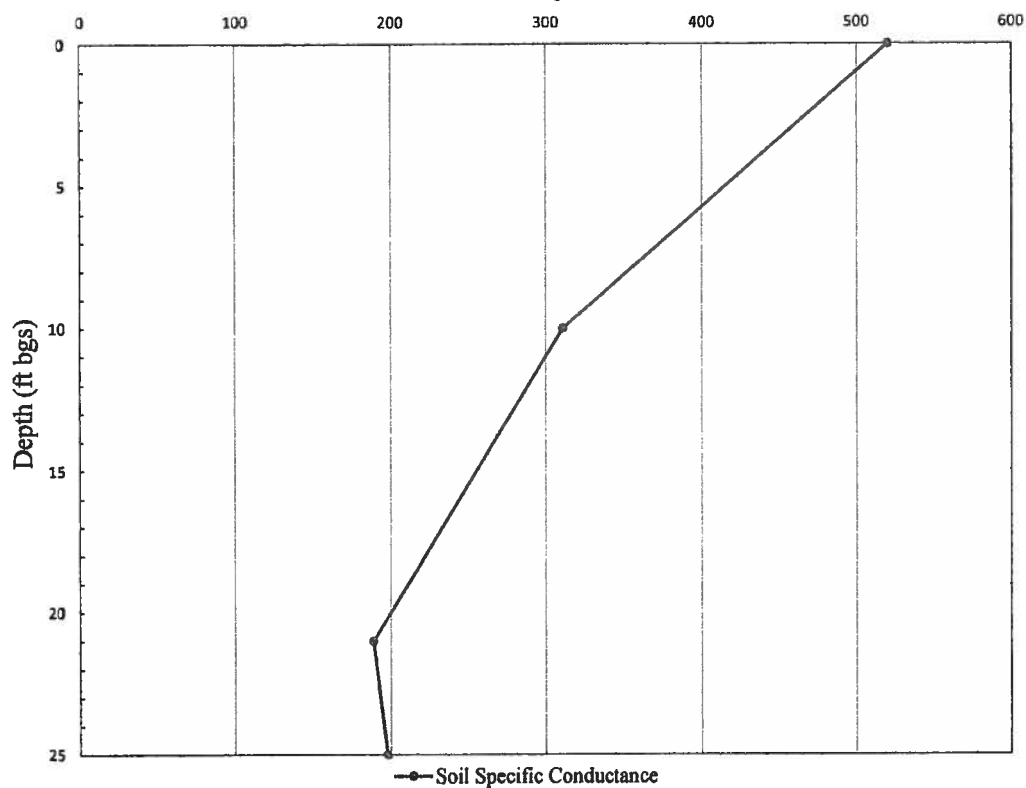
**Table 1 - Field and Laboratory Results for Soil Boring SB-1 (Cell 7)**

Date	Sample ID	Depth	Soil SpC	Chloride	Nitrate	Ammonia	TKN	TOC
		ft bgs	µs/cm	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%C
09/23/19	SRGS-092319	0	520	71	23	28	1700	1.6
09/23/19	SR010-092319	10	311	25	7.0	< 25	70	< 0.13
09/23/19	SR021-092319	21	189	< 7.5	1.9	< 25	< 51	< 0.14
09/24/19	Field Sample	25	198	-	-	-	-	-

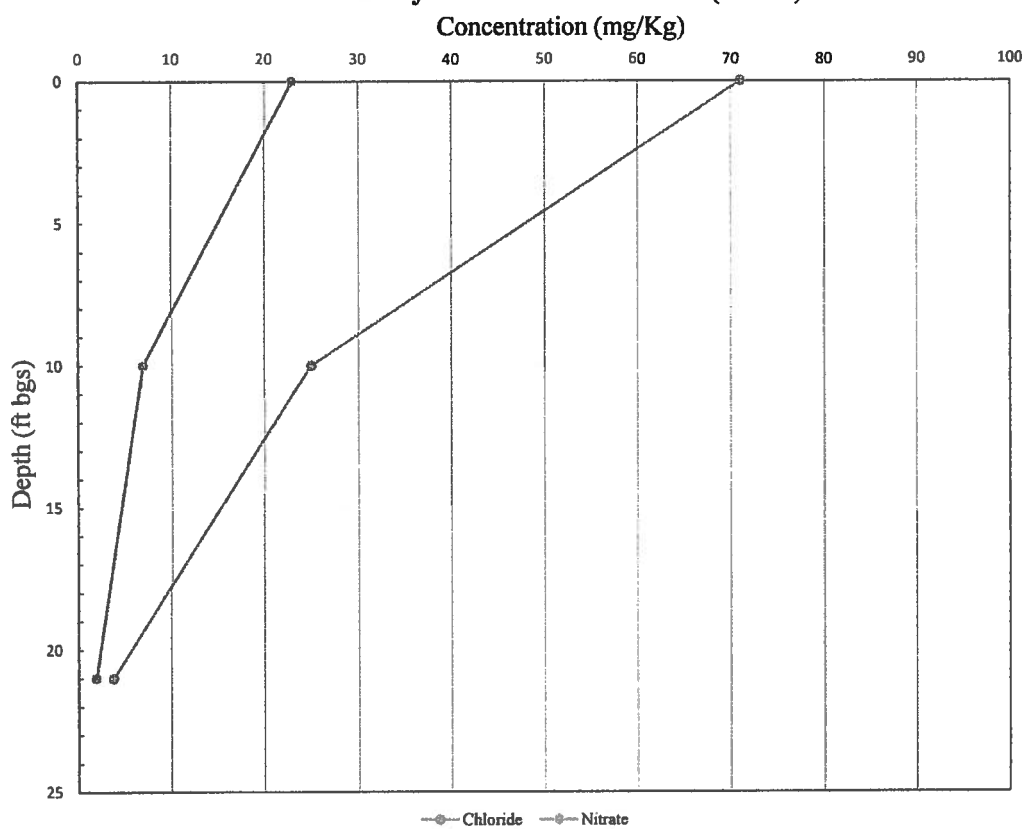
**Notes:**

ft bgs = feet below ground surface; TKN = Total Kjeldahl Nitrogen; TOC = Total Organic Carbon; SpC = Specific Conductance  
 µs/cm = microseimens per centimeter

**Field Soil Results for SB-1 (Cell 7)**  
microseimens per centimeter



### Laboratory Soil Results for SB-1 (Cell 7)





*Risk Assessment Guidance for Investigations and Remediation*  
*Volume I*  
 February 2019, Rev. 2 (6/19/19)

<b>Chemical</b>	<b>Risk-based SSL, DAF 1 (mg/kg)</b>	<b>Risk-based SSL, DAF 20 (mg/kg)</b>	<b>NMGW/MCL- based SSL, DAF 1 (mg/kg)</b>	<b>NMGW/MCL- based SSL, DAF 20 (mg/kg)</b>	<b>SL-SSL, DAF 20 (mg/kg)</b>
Hydrazine anhydride	4.50E-05	9.00E-04			9.00E-04
Hydrogen cyanide	2.61E-04	5.22E-03			5.22E-03
Indeno(1,2,3-c,d)pyrene	1.00E+00	2.01E+01			2.01E+01
Iron	3.48E+02	6.96E+03			6.96E+03
Isobutanol (Isobutyl alcohol)	1.05E+00	2.10E+01			2.10E+01
Isophorone	2.12E-01	4.23E+00			4.23E+00
Lead			1.35E+01	2.70E+02	2.70E+02
Lead (tetraethyl-)	4.70E-06	9.41E-05			9.41E-05
Maleic hydrazide	1.79E+00	3.57E+01			3.57E+01
Manganese	1.31E+02	2.63E+03			2.63E+03
Mercury (elemental)	3.27E-02	6.54E-01	1.04E-01	2.09E+00	2.09E+00
Mercury (methyl)	3.79E-04	7.58E-03			7.58E-03
Mercury (salts)	2.56E-01	5.13E+00	1.04E-01	2.09E+00	5.13E+00
Methacrylonitrile	3.71E-04	7.43E-03			7.43E-03
Methomyl	9.37E-02	1.87E+00			1.87E+00
Methyl acetate	3.55E+00	7.11E+01			7.11E+01
Methyl acrylate	7.13E-03	1.43E-01			1.43E-01
Methyl isobutyl ketone	2.40E-01	4.80E+00			4.80E+00
Methyl methacrylate	2.61E-01	5.22E+00			5.22E+00
Methyl styrene (alpha)	9.43E-01	1.89E+01			1.89E+01
Methyl styrene (mixture)	4.70E-02	9.40E-01			9.40E-01
Methylcyclohexane	1.58E+01	3.16E+02			3.16E+02
Methylene bromide (Dibromomethane)	1.68E-03	3.35E-02			3.35E-02
Methylene chloride (Dichloromethane)	2.35E-02	4.71E-01	1.11E-03	2.21E-02	4.71E-01
1-Methylnaphthalene	4.47E-02	8.93E-01			8.93E-01
2-Methylnaphthalene	1.38E-01	2.76E+00			2.76E+00
Molybdenum	1.99E+00	3.98E+01			3.98E+01
Naphthalene	4.11E-03	8.23E-02			8.23E-02
Nickel	2.42E+01	4.85E+02			4.85E+02
Nitrate	2.13E+01	4.25E+02	6.73E+00	1.35E+02	4.25E+02
Nitrite	1.33E+00	2.66E+01	6.73E-01	1.35E+01	2.66E+01

**EA EXHIBIT 5**  
**REVIEW OF**  
**DRAFT DISCHARGE PERMIT DP-465**  
**CONDITION 21 and 22**

## **Review of Draft Discharge DP-465 Condition 21 and 22**

EA reviewed the subject draft permit for general consistency with previous requirements for the S&R Septic disposal facility, and compared the proposed permit modifications (specifically Condition 21 and 22) to NMED discharge permit requirements for similar disposal facilities operating in New Mexico. The review revealed that there are new soil and groundwater investigations proposed under the draft permit renewal. A comparison between the draft conditions for the S&R Septic disposal facility to those of eight other septage/sludge disposal facilities permitted by NMED is provided as Table 1. The tabulated permit conditions as they related to soil and groundwater monitoring clearly show that similar disposal facilities are not being required to complete the extensive subsurface investigations proposed within Draft Discharge Permit DP-465.

The costs to implement the proposed subsurface investigation are significant as shown in Table 2. The estimated cost to implement Condition 21 alone is \$178,900. This new condition is an imposing financial commitment for the owner in order to evaluate subsurface conditions at the S&R Septic disposal facility, which has operated now for roughly 30 years. The prescriptive investigation requirements go well beyond the efforts described in the Duke (2000) evaluation. As written, Condition 21 may also trigger installation of three groundwater monitoring wells to an approximate depth of 500 feet under Condition 22.

The newly proposed permit renewal conditions require intensive subsurface investigation of soils (Condition 21) and potentially groundwater monitoring (Condition 22). Other scientifically valid approaches can determine whether continued operation of the disposal facility is protective of underlying groundwater quality.

**Table 1 - NMED Soil and Groundwater Monitoring Requirements for Similar Facilities and Site Conditions**

Discharge Permit No.	Renewal Date	Facility Name	City	County	Facility Type	Permitted Discharge Volume (gal/day)	Depth to Water (ft)	Status	Monitoring Requirements		
									Soil Physical Properties	Soil Chemical Properties	Groundwater Monitoring
465	Pending	S& Septic	Taos	Taos	Domestic	9857	>500	active	Condition 21	Condition 21	Condition 22
313	Mar-16	Rancho Ruidoso Valley Estates Wastewater Treatment Plant	Alto	Lincoln	Domestic	40,000	400	active	None	None	Quarterly sampling, one monitoring well
452	May-15	Frank's Septic Pumping	Belen	Valencia	Domestic	30,000	400	active	None	None	None
549	May-17	Ray's Septic Pumping	Los Lunas	Valencia	Domestic	8,000	470	active	None	None	None
748	Oct-11	Rio Lucio Septic Service	Penasco	-	Domestic	2,001	>400	active	None	None	None
978	Mar-19	Charlie's Septic Pipe And Drain	Los Lunas	Valencia	Domestic	9,380	410	active	None	None	None
1053	Jun-18	Los Lunas (Village of) - Surface Disposal Facility	Los Lunas	Valencia	Domestic	45,000	400	active	None	None	None
1244	Feb-17	Bosque Farms ( Village of) - Sludge Disposal Facility	Los Lunas	Valencia	Domestic	17,500	400	active	None	None	None
1534	May-15	A & A Pumping Services Inc	Belen	Valencia	Domestic	8,500	400	active	None	None	None

**Table 2 - Estimated Cost to Implement Draft Permit DP-465 Condition 21**

Description	Source	Units	Rate	No.	Amount
<i>Professional Consulting Services</i>					
Data analysis, reporting	EA level of effort estimate	lump sum	\$15,000	1	\$ 15,000.00
Field labor			\$25,000	1	\$ 25,000.00
Expenses			\$7,500	1	\$ 7,500.00
<i>Drilling Services</i>					
Mob/demob, drill, 5-interval sampling, plug and abandon boring.	4-bids within last 60-days	boring	\$10,000	5	\$ 50,000.00
<i>Laboratory Services</i>					
NMED Proposed Chemical Property Analysis	Quote from HEAL within last 60-days,	sample	\$140	110	\$ 15,400.00
NMED Proposed Physical Property Analysis	Quote from DBS&A within last 60 days	sample	\$600	110	\$ 66,000.00
<b>TOTAL COST (before applicable taxes)</b>					<b>\$ 178,900.00</b>

Note: Assumes 5-borings drilled to 110 feet below ground surface (depth to first basalt layer at RG-78139) using hollow stem auger drilling methods, sample collection as prescribed by NMED, plugging and abandonment of borings, and reporting.

HEAL = Hall Environmental Analysis Laboratory; DBS&A = Daniel B. Stephens & Associates, Inc.

**EA EXHIBIT 6**  
**PROPOSED MODIFICATION TO**  
**DRAFT DISCHARGE PERMIT DP-465**  
**CONDITION 21 AND 22**

**Proposed Modification to DP-465  
Condition 21 and 22**

Proposed modification to Draft Permit DP-465 Conditions #21 and #22 are provided herein for consideration (Exhibit 6).

***Monitoring Actions with Implementation Deadlines***

#	Terms and Conditions
21.	<ul style="list-style-type: none"> <li>• <del>Within 180 days following the effective date of this Discharge Permit (by DATE), the permittee shall complete soil borehole sampling at one location deemed by NMED to be representative of subsurface conditions within Cells 6, 7, 10, 11, and 13. NMED shall be notified at least 30 days prior to the sampling event, and sampling shall be completed in the following manner:</del></li> <li>• <del>One borehole per cell located in the center of each disposal cell</del></li> <li>• Samples taken from <u>the each borehole at 510 ft depth intervals starting at ground surface to the total drilled depth (50 ft, 10 ft, +520 ft, etc.)</u></li> <li>• Samples shall be collected and maintained <del>in sample coreboxes</del> for NMED inspection</li> <li>• Conducted in such a way that detects groundwater, if present</li> <li>• The depth of <u>the each borehole shall be to below the vertical extent of nitrogen compound seepage as indicated by field soil specific conductance measurements and as confirmed by laboratory chemical analysis, or the first occurrence of a solid basalt layer.</u></li> <li>• Laboratory analysis of <u>each up to five samples of representative soil types encountered</u> for the following physical properties           <ul style="list-style-type: none"> <li>○ Bulk density</li> <li>○ Particle size distribution</li> <li>○ Porosity</li> <li>○ Hydraulic conductivity</li> <li>○ Moisture content</li> </ul> </li> <li>• Laboratory analysis of <u>samples collected on approximately each 10-ft intervals</u> sample for the follow chemical analytes           <ul style="list-style-type: none"> <li>○ TKN</li> <li>○ NO3-N</li> <li>○ NH3-N</li> <li>○ Cl</li> <li>○ TOC</li> </ul> </li> </ul> <p><u>If chemical analyses indicate total nitrogen content is less than or equal to the non-impacted levels identified by Table 11 (enclosed) in the 1999 study titled "Evaluation of the Migration of Nitrogen Compounds at the City of Santa Fe Sludge Disposal Site Near Santa Fe, New Mexico and at the S&amp;R Septage Disposal Site Near Taos, New Mexico"; then no additional soil sampling and analysis will be required during the period of operation as defined in the permit renewal.</u></p> <p><u>If the chemical analysis indicate elevated total nitrogen content that extends to the first basalt layer encountered; then, the boring will be advanced through the basalt layer to collect additional soil samples (at the same 10 ft frequency) for chemical analysis of the constituents listed above. If nitrogen content is elevated (above Table 11) at depths exceeding 150 feet, then the Closure Plan (Section D. Conditions 40 through 5) requirements will initiated for the facility.</u></p> <p>All samples shall be collected and analyzed in accordance with EPA Soil Sampling Science and Ecosystem Support Division Operating Procedure, SESDPROC-300-R3 (enclosed) or ASTM methods D 420-93, D 1452-80, D 1586-84, D2488-93, D 4220-89, D 4700-91 and D 5434-93 .</p> <p>Each borehole shall be plugged and abandoned by emplacement of cement slurry from the bottom of the borehole to five feet below ground level. The final five feet of each borehole shall be filled with <u>soil auger cuttings</u>.</p> <p>90 days after completion of the sampling the permittee shall submit a completion report to NMED detailing the analysis and results for each cell.</p> <p>[Subsection C of 20.6.2.3106 NMAC, Subsection A of 20.6.2.3107 NMAC]</p>



22.	If Total Nitrogen content is found to be elevated above the non-impacted levels identified— by Table 11 (enclosed) in the 1999 study titled “Evaluation of the Migration of Nitrogen Compounds at the City of Santa Fe Sludge Disposal Site Near Santa Fe, New Mexico and at the S&R Septage Disposal Site Near Taos, New Mexico” in any of the samples collected.
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#	Terms and Conditions
	<p>at a depth of <del>10070</del> feet or greater, the permittee shall submit a written monitoring well location proposal for review and approval by NMED within 60 days of the completion of the sampling required by Condition 21 of this Discharge Permit. The proposal shall designate the locations and design of vadose zone monitoring systems sufficient to evaluate total nitrogen content migration wells, required to be installed by Condition 23 of this Discharge Permit. The proposal shall include, at a minimum, the following information.</p> <ul style="list-style-type: none"> <li>a) A map showing the proposed location of the vadose zone monitoring system wells.</li> <li>b) A written description of the specific location and design proposed for the monitoring system wells including the distance (in feet) and direction of the monitoring system wells from the edge of the source it is intended to monitor. Examples include: 35 feet north-northwest of the northern berm of the synthetically lined impoundment; 45 feet due south of the leachfield; 30 feet southeast of the re-use area 150 degrees from north. Design details of the vadose zone monitoring system will also be provided.</li> <li>c) A statement describing the groundwater flow direction beneath the facility, and documentation and/or data supporting the determination.</li> </ul> <p>All monitoring system well locations shall be approved by NMED prior to installation.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>

Comment: A comparison between the 1999 "Table 11" and the 2019 NMED SSLs for nitrogen species should be completed to establish the most applicable values for the triggers established under Condition #21 and #22.

**EA EXHIBIT 7**  
**SUMMARY OF OPINIONS**

## Summary of Opinions

Employed by EA Engineering, Science, and Technology, Inc., PBC (EA), both Mr. Jay Snyder and Mr. Robert Marley have specialized expertise in hydrogeology each with more than 25 years of consulting experience in New Mexico (Exhibit 1). Compensation for this opinion is provided by S&R Septic Services (S&R) in accordance with the EA schedule of fees for services provided by the Principal Technical Specialist (Mr. Snyder) and Senior Scientist (Mr. Marley). One or both of these individuals will provide testimony at the hearing.

### Local Subsurface Conditions

In close proximity to the site, the New Mexico Office of the State Engineer well records for RG-78139 and RG-85934 indicate the presence of an interbedded sequence of gravel, clay, and basalt from ground surface to a total drilled depth of 800 ft. Depth to water recorded at the time of well completion was 500 feet below ground surface (ft bgs) or greater. The first basalt interval was encountered at an approximate depth of 106 ft bgs, and extends to 140 ft bgs (Exhibit 2).

### Migration of Nitrogen Compounds

Infiltration of nitrogen compounds occurs through the downward migration of soil moisture. The vertical extent of nitrogen compound migration is dependent on the type of surface soil/clogging layers, moisture content within the soil profile, physical soil properties, and the concentration of nitrogen compounds within the applied sludge and/or septage.

According to the Duke (2000) report, an estimated 25-percent of the total nitrogen mass in the form of ammonia is typically lost to volatilization within the uppermost 5 feet of sediments and denitrifications was not considered to be an active process.

In 1999, nitrate was detected at the total drilled depth of 30 feet after 15-years of facility operation. Considering the soils types that appear to be present beneath the facility, the Duke (2000) model predictions suggest detectable nitrate conditions may have reached 50 ft bgs since operation of the facility began 30-years ago (Exhibit 3). The vertical migration of nitrate through the soil profile is the greatest concern for groundwater protection.

### Limited Site Investigation

In late September 2019, an EA geologist collected soil samples for field measurement of relative salt content and for laboratory chemical analysis near the center of Disposal Cell 7. Rocky Mountain Drilling of Taos, New Mexico advanced the soil boring using air-rotary drilling methods. The drilling contractor attempted to collect undisturbed soil samples using a split-spoon sampler, where unsuccessful cutting grab samples were collected instead.

The soils consisted of clayey silt with sand (0 to 5 ft bgs), well-graded sand with silt (5 to 15 ft bgs), well-graded gravel with clay and sand (15 to 25 ft bgs), and clayey sand with gravel (25 to 35 ft bgs). The qualitative measure of salt content, using soil specific conductance, from ground surface to 25 ft bgs declined with depth below the cell floor (Exhibit 4). These field measurement trends correspond to a similar decline in chloride concentrations as determined by the laboratory (Exhibit 4).

Detectable concentrations of ammonia were only present in the surface sample (Exhibit 4). TKN and TOC concentrations were below detection within the 21 ft bgs sample. Decreasing concentration trends with depth are shown graphically for field measurements of soil specific conductance, chloride, and nitrate in Exhibit 4 as well.

Analytical results for SB-1 soil samples were compared to 2019 NMED nitrate soil-screening levels (Exhibit 4). The New Mexico groundwater/maximum contaminant level based soil screening level with a dilution attenuation factor (DAF) of 1 is listed as 6.73 mg/Kg (Page A-19 from the NMED guidance document). The soil sample collected from 21 ft bgs has a reported nitrate concentration of 1.9 mg/Kg or 3.5 times less than the most protective NMED SSL.

### **Draft Permit Monitoring Conditions**

As shown in Exhibit 5, Draft Discharge Permit DP-465 includes two new conditions (Conditions 21 and 22) that were not included with previous permit renewals. These new requirements are not being consistently applied to other septage/sludge disposal facilities operating in New Mexico during the renewal process. Furthermore, the soil and groundwater monitoring requirements impose a significant financial burden while other equally protective approaches are available to protect human health and the environment.

A review of the NMED discharge permit database identified at least eight NMED permitted disposal facilities with similar daily discharge volumes and deep groundwater conditions. With the exception of a disposal facility located in Alto (DP-313), none of the active facilities have soil sampling or groundwater monitoring requirements. The Alto facility permit (DP-313) references quarterly sampling of only one groundwater monitoring well with no requirement for soil sample collection and laboratory analysis.

The estimated cost to implement the drilling, soil sampling, and laboratory analysis described in Condition 21 alone approaches \$180,000. This overly aggressive sampling regiment can be reduced while still obtaining sufficient information to verify that continued operation of the facility is protective of underlying groundwater quality.

### **Proposed Modifications to Draft Discharge Permit DP-465**

NMED should consider modification of the draft discharge permit conditions to more efficiently determine whether the underlying groundwater is threatened by continued operation of the disposal facility. The proposed approach satisfies the overall objective of protecting human health and the environment, specifically groundwater underlying the site. A redline markup of proposed changes to Conditions 21 and 22 is provided as Exhibit 6.

#### **Part B. Monitoring and Reporting, Condition #21**

Advance one borehole at a location deemed by NMED to be representative of current subsurface conditions within Cells 6, 7, 10, 11, and 13 to evaluate the vertical extent of nitrogen compound migration and establish soil sequence. Sampling and analysis will be completed as follows:

- Samples collected at 10 ft intervals starting at ground surface to the total drilled depth (0 ft, 10 ft, 20 ft, etc.)

- Total depth shall be below the vertical extent of nitrogen compound seepage as indicated by field soil specific conductance measurements and confirmed by laboratory chemical analysis, or reaching the first occurrence of a solid basalt layer.
- Laboratory analysis of up to five samples of representative soil types encountered for the following physical properties: bulk density, particle size distribution, porosity, hydraulic conductivity, and moisture content.
- Laboratory analysis of samples collected on approximately 10-ft intervals for the follow chemical analytes: TKN, NO<sub>3</sub>-N, NH<sub>3</sub>-N, Cl, and TOC.

If the chemical analyses indicate total nitrogen content is less than the non-impacted levels identified by Table 11; then no additional soil sampling will be required under the permit renewal period of operation. Note the values presented in Table 11 from a 1999 document should be reviewed for consistency with the current 2019 NMED Soil Screening Level values for protection of groundwater quality.

If the chemical analyses indicate elevated total nitrogen content extend to the first basalt layer encountered, a boring will be advanced through the basalt layer to collect underlying soil samples for chemical analysis of the constituents listed above. If nitrogen content is elevated at depths exceeding 150 feet, then the Closure Plan (Section D. Conditions 40 through 51) requirements will initiated for the facility.

#### Part B. Monitoring and Reporting Condition #22

Permit Condition 22 should be modified to include the following environmentally protective language, red highlights provided below to emphasis the key change to the permit condition (Exhibit 6):

*If Total Nitrogen content is elevated above identified by Table 11 (enclosed) in the 1999 study titled "Evaluation of the Migration of Nitrogen Compounds at the City of Santa Fe Sludge Disposal Site Near Santa Fe, New Mexico and at the S&R Septage Disposal Site Near Taos, New Mexico" in any of the samples collected at a depth of 100 feet, the permittee shall submit a written monitoring proposal for review and approval by NMED within 60 days of the completion of the sampling required by Condition 21 of this Discharge Permit. The proposal shall designate the locations and design of vadose zone monitoring systems sufficient to evaluate total nitrogen content migration."*

GROUND WATER  
OCT 25 2018  
BUREAU

Date	Customer	Location	Quanta Cell	N/A	Vehicle	# of Loads on Tru	Daily Total	Hydrated	U.S. Time	PH Meter Status, Y/N
1/1/16										
1/2/16	Zog Design	El Prado	1000	12	n/a	WD104940	1	1000	Hydrated 50 4:45pm	12.6 Y
1/3/16										
1/4/16	Mike Destabelle	Seco	1500	15	n/a	WD104940	1	1500	Hydrated 75 10:00am	12.5 Y
1/5/16	Carson Post Office	Carson	1250	1	n/a	WD104940	1	1250	Hydrated 75 12:30pm	12.3 Y
1/6/16	Adolfo Candelario	Ranchos	5000	2	n/a	WD113117	1	5000	Hydrated 175 4:45pm	12.6 Y
1/7/16	Kenneth Harold	Teco	1000	3	n/a	WD104940	1	1000	Hydrated 50 11:00 AM	12.4 Y
1/8/16	Joyce Gasa	Teco	1000	4	n/a	WD104940	1	1000	Hydrated 75 3:00pm	12.5 Y
1/9/16	Sam Lucero	Teco	1000	5	n/a	WD104940	1	1000	Hydrated 50 9:45am	12.1 Y
1/10/16	Michael Cloutman	Teco	1000	6	n/a	WD104940	1	1000	Hydrated 50 2:00PM	12.4 Y
1/11/16	Jennie Silva	Teco	1000	7	n/a	WD113117	1	1000	Hydrated 50 12:45pm	12.6 Y
1/12/16	Susan Mickarthy	Teco	1000	8	n/a	WD113117	2	2000	Hydrated 100 10:45AM	12.3 Y
1/12/16	Emilio Trujillo	Teco	1000	8	n/a	WD113117	2	2000	Hydrated 50 10:30am	12.5 Y
1/13/16	Theresa Guardalicia	Teco	1000	9	n/a	WD104940	1	1000	Hydrated 50 12:30pm	12.6 Y
1/14/16	Berna Valencia	Seco	1000	10	n/a	WD104940	1	1000	Hydrated 50 4:00pm	12.3 Y
1/15/16	Kathy Hall	Teco	1000	11	n/a	WD104940	1	1000	Hydrated 50 2:30pm	12.4 Y
1/16/16	Tei Teruya	Teco	1000	11	n/a	WD104940	1	1000	Hydrated 50 10:30am	12.2 Y
1/17/16	n/a									
1/18/16	Amanda Valdez	Alcalde	1000	12	n/a	WD104940	1	1000	Hydrated 50 1:00 PM	12.6 Y
1/19/16	Zog Design	El Prado	1000	13	n/a	WD104940	1	1000	Hydrated 50 10:30am	12.2 Y
1/20/16	n/a									
1/21/16	Sarah Buckingham	Teco	1000	1	n/a	WD104940	1	1000	Hydrated 50 3:45pm	12.7 Y
1/22/16	Rick Gallagos	Teco	1000	1	n/a	WD104940	1	1000	Hydrated 50 12:50 PM	12.5 Y
1/23/16	Octaviano Salazar	Teco	1000	2	n/a	WD104940	1	1000	Hydrated 50 1:50pm	12.3 Y
1/24/16	n/a									
1/25/16	Patricia Wolter	Teco	1000	3	n/a	WD104940	1	1000	Hydrated 50 8:45am	12.4 Y
1/26/16	Seco Post Office	Seco	1250	4	n/a	WD104940	1	1250	Hydrated 75 10:15am	12.3 Y
1/27/16	Scott Blair	Ranchos	1000	5	n/a	WD104940	1	1000	Hydrated 50 1:50pm	11.6 Y
1/28/16	n/a									
1/29/16	Mario Vigil	Ranchos	1000	6	n/a	WD104940	1	1000	Hydrated 50 10:25am	12.6 Y

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1/30/16 Joe Graves Teos 1000 6 n/a WD104940 1 1000 Hydrated 50 4:00 PM 12.5 Y

1/31/16 n/a Jan 2016 Total 30000

2/1/16 Joe Manzanera Rancho 1000 7 n/a WD104940 2 2000 Hydrated 100 2:30pm 12.6 Y  
 2/1/16 Rayhana Williams Teos 1000 7 n/a WD104940 2 2000 Hydrated 100 2:30pm 12.6 Y  
 2/2/16 Renee Dominguez Teos 1000 8 n/a WD104940 3 3000 Hydrated 150 2:15PM 12.5 Y  
 2/3/16 Chris Montoya Rancho 1000 9 n/a WD104940 1 1000 Hydrated 50 9:15am 12.6 Y  
 2/4/16 Kim Zamora Teos 1000 10 n/a WD104940 1 1000 Hydrated 50 1:30am 12.5 Y

2/5/16 n/a  
 2/6/16 n/a  
 2/7/16 n/a

2/8/16 El Prado Post Office El Prado 3000 11 n/a WD104940 1 3000 Hydrated 150 12:30pm 12.5 Y  
 2/9/16 Suzanne Veros Teos 1000 12 n/a WD104940 1 1000 Hydrated 50 4:30pm 12.2 Y  
 2/10/16 Michael & Julie Clout Teos 1000 13 n/a WD104940 1 1000 Hydrated 50 3:00pm 12.4 Y  
 2/11/16 Dan Ochoa Teos 1000 1 n/a WD104940 1 1000 Hydrated 50 1:45pm 12.2 Y  
 2/12/16 Joseph Westermeyer Teos 1000 2 n/a WD104940 1 1000 Hydrated 50 11:00am 12.4 Y

2/13/16 n/a  
 2/14/16 n/a

2/15/16 Felipe Martinez Teos 1000 3 n/a WD104940 1 1000 Hydrated 50 9:15 AM 12.5 Y  
 2/16/16 Daniel Corbove San Cristobal 1000 4 n/a WD104940 1 1000 Hydrated 50 4:30pm 12.6 Y  
 2/17/16 Elizabeth Tafuya El Prado 1000 5 n/a WD104940 1 1000 Hydrated 50 9:00am 12.5 Y  
 2/18/16 Zog Daign El Prado 1000 6 n/a WD104940 1 1000 Hydrated 50 9:45am 12.5 Y  
 2/19/16 Dan Lindsey Rancho de Teos 1000 7 n/a WD104940 1 1000 Hydrated 50 2:30PM 12.3 Y

2/20/16 n/a  
 2/21/16 n/a

2/22/16 Michael Reyes Teos 1000 8 n/a WD104940 1 1000 Hydrated 50 8:45am 12.6 Y  
 2/23/16 Estavan Ortiz Teos 1000 9 n/a WD104940 1 1000 Hydrated 50 11:00AM 12.5 Y  
 2/24/16 Aldo Chavez Teos 1000 10 n/a WD104940 1 1000 Hydrated 50 9:00AM 12.4 Y  
 2/25/16 Henry Nepa Valdez 1000 11 n/a WD104940 1 1000 Hydrated 50 3:00PM 12.3 Y  
 2/26/16 Reynaldo Brancal Rancho 1000 12 n/a WD104940 1 1000 Hydrated 50 5:00pm 12.2 Y

2/27/16 n/a  
 2/28/16 n/a  
 2/29/16 Robert Ripper Teos 1000 13 n/a WD104940 2 2000 Hydrated 100 2:00pm 12.6 Y  
 2/29/16 Jennifer Kraus Teos 1000 13 n/a WD104940 2 2000 Hydrated 100 2:00pm 12.6 Y



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TOTAL 24000

3/1/16	Fannie Mae	El Prado	1000	1	n/a	WD104940	1	1000	Hydrated	50	12:45PM	12.4	Y
3/2/16	Michelle Herrera	Ranchitos	1000	2	n/a	WD104940	1	1000	Hydrated	50	11:00am	12.5	Y
3/3/16	n/a												
3/4/16	Brigetta Torres	Tecos	1000	3	n/a	WD104940		1000	Hydrated	50	2:00pm	12.6	Y
3/5/16	n/a												
3/6/16	n/a												
3/7/16	Robert Pepper	Tecos	1000	4	n/a	WD104940	1	1000	Hydrated	50	11:45am	12.4	Y
3/8/16	Rosa Santistevan	Tecos	1000	5	n/a	WD104940		3000	Hydrated	150	2:30pm	12.3	Y
3/8/16	Cottons Ski Shop	Ski Valley	2000	5	n/a	WD104940	2	3000	Hydrated	150	2:30pm	12.3	Y
3/9/16	Bonnie Esquivel	Tecos	1000	6	n/a	WD113117	1	1000	Hydrated	50	11:00am	12.5	Y
3/10/16	Julian Casas	Tecos	1000	7	n/a	WD104940	1	1000	Hydrated	50	3:00pm	12.6	Y
3/11/16	Bernies Torrez	Arroyo Seco	1000	8	n/a	WD104940	1	1000	Hydrated	50	3:00pm	12.4	Y
3/12/16	Lloyd Archuleta	Teps	1000	9	n/a	WD104940	1	1000	Hydrated	50	12:15pm	12.2	Y
3/13/16													
3/14/16	Susan Heyneworth	Tecos	1000	10	n/a	WD104940	1	1000	Hydrated	50	8:40am	12.4	Y
3/15/16	Keith Jonas	Tecos	1000	11	n/a	WD113117	1	1000	Hydrated	50	5:30pm	12.6	Y
3/16/16	Daniel Truman	Tecos	1000	12	n/a	WD104940	1	1000	Hydrated	50	10AM	12.4	Y
3/17/16	Kathryn Clark	Arroyo Seco	1000	13	n/a	WD104940	1	1000	Hydrated	50	1:45pm	12.3	Y
3/18/16	Sarah Quintana	El Prado	1000	1	n/a	WD104940	1	1000	Hydrated	50	11:00am	12.5	Y
3/19/16	n/a												
3/20/16	n/a												
3/21/16	Rudy Pecheco	Tecos	1000	2	n/a	WD104940	1	1000	Hydrated	50	3:00pm	12.4	Y
3/22/16	Zog Design	El Prado	1000	3	n/a	WD104940	1	1000	Hydrated	50	10:00am	12.6	Y
3/23/16	Arroyo Seco PO	Arroyo Seco	1000	4	n/a	WD104940	1	1000	Hydrated	50	10:15am	12.3	Y
3/24/16	Arbitate Inn	Ski Valley	1250	5	n/a	WD104940	1	1000	Hydrated	50	11:45am	12.5	Y
3/25/16	Joseph Westamyer	Tecos	1000	6	n/a	WD104940	1	1000	Hydrated	50	9:45am	12.2	Y
3/26/16	n/a												
3/27/16	n/a												
3/28/16	Ric Keshlman	El Prado	1250	7	n/a	WD104940	1	1250	Hydrated	75	11:45 AM	12.6	Y
3/29/16	Southern Methodist	Tecos	2000	8	n/a								
3/29/16	Julien Romero	Tecos	1000	8	n/a	WD104940	2	3000	Hydrated	150	4:00pm	12.3	Y
3/30/16	Maya Cabot	Tecos	1000	9	n/a	WD104940	1	1000	Hydrated	50	12:15pm	12.5	Y
3/31/16	Lindsey Edwards	El Prado	1000	10	n/a	WD104940	1	1000	Hydrated	50	11:00AM	12.3	Y



4/30/16	Adsm Medina	Ranchos	1000	6	n/a	WD104940	1	1000	Hydrated	50	5:00pm	12.2	Y
			35000										
5/1/16	Mary Romo	Teos	1000	7	n/a	WD104940	1	1000	Hydrated	50	10:45am	12.5	Y
5/2/16	El Prado PO	El Prado	2000	8	n/a	WD104940	1	2000	Hydrated	75	10:15am	12.6	Y
5/3/16	Inn of TSV	Teos Ski Valley	2000	9	n/a	WD104940	1	2000	Hydrated	100	4:45pm	12.5	Y
5/4/16	Celso Vercos	Teos	1000	10	n/a	WD104940	1	1000	Hydrated	50	2:45pm	12.5	Y
5/5/16	Zog Design	El Prado	1000	11	n/a	WD104940	1	1000	Hydrated	50	12:00pm	12.4	Y
5/6/16	Tata Construction	Teos Pueblo	1000	12	n/a	wd104940	1	1000	Hydrated	50	11am	12.2	Y
5/7/16	n/a												
5/8/16	n/a												
5/9/16	Maya Lopez	Ranchos	1000	13	n/a	WD104940	1	1000	Hydrated	50	11:40am	12.5	Y
5/10/16	Alicia Rivera	Teos	1000	1	n/a	WD104940	1	1000	Hydrated	50	4:45pm	12.5	Y
5/11/16	Amanda Velázquez	Alcalde	1000	2	n/a	WD104940	1	1000	Hydrated	50	12:00 PM	12.5	Y
5/12/16	Carol Vigil	Teos	1000	3	n/a	WD104940	1	1000	Hydrated	50	3pm	12.6	Y
5/13/16	Paulette Jacobs	Los Altos	2000	4	n/a	WD104940	1	2000	Hydrated	100	9:00 AM	12.5	Y
5/14/16	Susan Biggs	Teos	1000	5	n/a								
5/14/16	Temara Chavez	El Prado	1000	5	n/a	WD104940	2	2000	Hydrated	100	10:45am	12.4	Y
5/15/16	Tracy Scott	Teos	1000	6	n/a	WD104940	1	1000	Hydrated	50	12:00 PM	12.7	Y
5/16/16	Reina Marquez	Teos	2000	7	n/a	WD104940	1	2000	Hydrated	100	5:30pm	12.6	Y
5/17/16	Tate Construction	Teos Pueblo	1000	8	n/a	wd104940	1	1000	Hydrated	50	9:45am	12.2	Y
5/18/16	Dermacio Martinez	Alcalde	1000	9	n/a	WD104940	1	1000	Hydrated	50	5:00pm	12.4	Y
5/19/16	JC Systems	Espanols	1000	10	n/a	WD104940	1	1000	Hydrated	50	6:00PM	12.5	Y
5/20/16	Joseph Chesky	Teos	1000	11	n/a	WD104940	1	1000	Hydrated	50	1:15pm	12.6	Y
5/21/16	Autum Gray	Teos	1000	12	n/a	WD104940	1	1000	Hydrated	50	11:30am	12.4	Y
5/22/16	n/a												
5/23/16	United States Post	Ojo Caliente	2000	1	n/a	WD104940	1	2000	Hydrated	75	4:00 PM	12.4	Y
5/24/16	Tommy Miller	Teos	1000	2	n/a	WD104940	1	1000	Hydrated	50	9:30am	12.5	Y
5/25/16	Yolanda Devo	Teos	2000	3	n/a	WD104940	1	2000	Hydrated	100	11:45am	12.3	Y
5/26/16	Michelle Hernandez	Ranchitos	1000	4	n/a	WD104940	1	1000	Hydrated	50	5:30pm	12.5	Y
5/27/16	Linda Murphy	Teos	1000	5	n/a	WD104940	1	1000	Hydrated	50	4:30pm	12.4	Y
5/28/16	Mario Gallegos	Teos	1000	6	n/a	WD104940	1	1000	Hydrated	50	10:45 AM	12.4	Y
5/29/16	n/a												

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5/30/16	Isaac Morada	Tecos	1000	8	n/a	WD104940	1	1000	Hydrated	50	9:45am	12.5	Y
5/31/16	Henry Reza	Valdez	1000	9	n/a	WD104940							
5/31/16	Luis Trigg	Questa	1000	9	n/a	WD104940	2	2000	Hydrated	125	11:15am	12.5	Y
			35000										
6/1/16	Joe Quintana	El Prado	1000	10	n/a	WD104940	1	1000	Hydrated	50	2:45pm	12.5	Y
6/2/16	Eisa Montano	Ranchos	1000	11	n/a	WD113117							
6/2/16	Margarita Salazar	Chamita	1000	11	n/a	WD113117							
6/2/16	Merlin Valencia	Tecos	1000	11	n/a	WD113117	3	3000	Hydrated	150	2:45pm	12.6	Y
6/3/16	Kristi Hall	Red River	1000	12	n/a	WD104940	1	1000	Hydrated	50	11am	12.4	Y
6/4/16	Felipe Nunez	Tecos	1000	13	n/a	WD104940	1	1000	Hydrated	75	10:30 AM	12.4	Y
6/5/16	n/a												
6/6/16	Valerie Quintana	Ranchos	1000	1	n/a	WD104940	1	1000	Hydrated	50	11:25am	12.5	Y
6/7/16	Renee Acosta	Tecos	1000	2	n/a	WD104940	1	1000	Hydrated	50	10:30 PM	12.7	Y
6/8/16	Dennis Gonzales	Tecos	1000	3	n/a	WD113117	1	1000	Hydrated	50	12:45PM	12.6	Y
6/9/16	Suzanna Barr	Tecos	1000	4	n/a	WD104940	1	1000	Hydrated	50	10:15am	12.5	Y
6/10/16	Richard Needina	San Cristobal	1000	5	n/a	WD104940	1	1000	Hydrated	50	5:00pm	12.9	Y
6/11/16	n/a												
6/12/16	n/a												
6/13/16	Ida Reyes	Tecos	1000	6	n/a	WD104940	1	1000	Hydrated	50	9:15am	12.2	Y
6/14/16	Michelle Hernandez	Tecos	1000	7	n/a	WD104940	1	1000	Hydrated	50	2:00PM	12.4	Y
6/15/16	Dani Davis	Tecos	1000	8	n/a	WD113117							
6/15/16	Donald Rumsfelt	Tecos	2000	8	n/a	WD113117	2	3000	Hydrated	125	1:45pm	12.6	Y
6/16/16	Andres Luna	Tecos	1000	9	n/a	WD104940	1	1000	Hydrated	50	10:30am	12.4	Y
6/17/16	Luis Madrid	Tecos	1000	10	n/a	WD104940	1	1000	Hydrated	50	12:30pm	12.5	Y
6/18/16	n/a												
6/19/16	n/a												
6/20/16	Adonio Lujan	Tecos	1000	11	n/a	WD104940	1	1000	Hydrated	50	2:30pm	12.6	Y
6/21/16	Paqual Okonis	Tecos	1000	12	n/a	WD104940	1	1000	Hydrated	50	9:15 AM	12.4	Y
6/22/16	Felipe Rodriguez	Tecos	1000	19	n/a	WD104940	1	1000	Hydrated	50	4:30pm	12.2	Y
6/23/16	El Prado Post Office	El Prado	1500	1	n/a	WD104940	1	1500	Hydrated	125	5:15pm	12.4	Y
6/24/16	Charley Reel	Ranchos	1000	2	n/a	WD104940	1	1000	Hydrated	50	10:45am	12.5	Y
6/25/16	n/a												
6/26/16	n/a												
6/27/16	Elizabeth Tefoya	El Prado	1000	3	n/a	WD104940	1	1000	Hydrated	50	9:45am	12.7	Y
6/28/16	Zog Design	El Prado	1000	4	n/a	WD104940	1	1000	Hydrated	50	10:30am	12.6	Y

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6/29/16	Eloy Piedra	Tecos	1000	5	n/s	WD104340	1	1000	Hydrated	50	2:45pm	12.5	Y
6/30/16	Mario Vigil	Ranchos	1000 27500	6	n/s	WD104340	1	1000	Hydrated	50	11:30am	12.4	Y

TOTALS	2016
JAN	30,000
FEB	24,000
MARCH	27,500
APRIL	35,000
MAY	35,000
JUNE	27,500
TOTAL	179,000

GROUND WATER

OCT 25 2018

BUREAU

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DP-465 2016 JULY-DECEMBER 2016

Date	Customer	Location	Galons	Call	N/A	Vehicle	# of Loads of 500	Daily Total	Hydrated	lbs.	Time	PH After
Date	Customer	Location	Galons	Call	N/A	Vehicle	# of Loads	Total	Hydrated	lbs.	Time	Blmsh. Y/N
7/1/16	Michelle Hernandez	Texas	1000	7	n/a	WD104940	2	2000	Hydrated	100	2:00PM	12.4
7/1/16	Joseph Cortez	Texas	1800	7	n/a	WD104940	2	2800	Hydrated	100	2:00PM	12.4
7/2/16	n/a											
7/3/16	n/a											
7/4/16	Scott Blair	Ranchos	1000	8	n/a	WD104940	1	1000	Hydrated	50	1:30pm	12.6
7/5/16	Elias Pino	Texas	1000	9	n/a	WD104940	1	1000	Hydrated	50	10:30am	12.4
7/6/16	Manuel Rodriguez	Texas	1000	10	n/a	WD104940	1	1000	Hydrated	50	9:45am	12.2
7/7/16	Pam Vasquez	Texas	1000	11	n/a	WD113117	1	1000	Hydrated	50	4:15pm	12.4
7/8/16	Joseph Westermeyer	Texas	1000	12	n/a	WD104940	1	1000	Hydrated	50	11:00am	12.3
7/9/16	n/a											
7/10/16	n/a											
7/11/16	Laura Florez	Texas	1000	13	n/a	WD104940	1	1000	Hydrated	50	10:45AM	12.4
7/12/16	Robert Duran	El Prado	1000	1	n/a	WD104940	1	1000	Hydrated	50	9:00 AM	12.3
7/13/16	Serjio Aguilar	Texas	1000	2	n/a	WD104940	1	1000	Hydrated	50	10:15 AM	12.2
7/14/16	Morris Reynolds	San Cristobal	1000	3	n/a	WD113117	2	2000	Hydrated	100	3:45 PM	12.5
7/14/16	Patricio Tapia	Texas	1000	3	n/a	WD113117	2	2000	Hydrated	100	3:45 PM	12.5
7/15/16	James Valerio	Texas	1000	4	n/a	wd104940	1	1000	Hydrated	50	1:30 PM	12.4
7/16/16	n/a											
7/17/16	n/a											
7/18/16	Lane Thompson	Texas	1000	5	n/a	WD104940	1	1000	Hydrated	50	10:15am	12.4
7/19/16	George Sherman	El Prado	1000	6	n/a	WD113117	2	2000	Hydrated	100	5:00PM	12.5
7/19/16	Hiram Hori	Texas	1000	6	n/a	WD113117	2	2000	Hydrated	100	5:00PM	12.5
7/20/16	United Church of An Angel FIRE		1000	7	n/a	WD104940	1	1000	Hydrated	50	1:50pm	12.4
7/21/16	Carlos Remova	Texas	1000	8	n/a	WD104940	1	1000	Hydrated	50	10:45am	12.3
7/22/16	Michelle Hernandez	Texas	1000	9	n/a	WD104940	1	1000	Hydrated	50	9:30 AM	12.4
7/23/16	Adolfo Candelario	Texas	5000	10	n/a	WD113117	1	5000	Hydrated	175	12:45pm	12.6
7/24/16	Rebecca Brinas	Texas	1000	11	n/a	WD104940	1	1000	Hydrated	50	11:30 AM	12.3
7/25/16	Lisa Davis	Texas	1000	12	n/a	WD104940	1	1000	Hydrated	50	9:00am	12.6
7/26/16	Henry Reza	Veldoz	1000	13	n/a	WD104940	1	1000	Hydrated	50	10:00am	12.2
7/27/16	Guillermo Villareal	Texas	1000	1	n/a	WD113117	1	1000	Hydrated	50	4:30pm	12.5
7/28/16	Zog Design	El Prado	1000	2	n/a	WD104940	1	1000	Hydrated	50	1:30 PM	12.3

7/29/16	Amanda Valdez	Alcalde	1000	3	n/a	WD104340	1	1000	Hydrated	50	1:30 PM	12.6	Y
7/30/16	Dennis Boone	Arroyo Seco	1000	4	n/a	WD104340	1	1000	Hydrated	50	9:30am	12.5	Y
7/31/16	n/a	TOTAL	91300										
8/1/16	Robert Reza	Ranchos	1000	5	n/a	WD104340	1	1000	Hydrated	50	10:00am	12.5	Y
8/2/16	Bertha Villa	Tecos	1200	6	n/a	WD113117							
8/2/16	Suzanne Star	Arroyo Hondo	1000	6	n/a	WD113117	2	2000	Hydrated	100	5:15PM	12.4	Y
8/3/16	Michelle Fernandez	Ranchitos	1000	7	n/a	WD104340	2	2000	Hydrated	100	11:00 AM	12.5	Y
8/3/16	David Henery	Tecos	1000	7	n/a	WD104340	1	1000	Hydrated	50	9:15AM	12.6	Y
8/4/16	Lolita Valdez	Tecos	1000	8	n/a	WD104340	1	1000	Hydrated	50	10:45 AM	12.2	Y
8/5/16	Aaron Livingston	El Prado	1000	9	n/a	WD104340	1	1000	Hydrated	50	11:30 AM	12.5	Y
8/6/16	Sam Meas	Tecos	1000	10	n/a	WD104340	1	1000	Hydrated	50	4:30pm	12.3	Y
8/7/16	n/a												
8/8/16	Kathy Hill	Tecos	1000	11	n/a								3
8/8/16	YDI	Quasta	2000	11	n/a	WD104340	2	3000	Hydrated	150	4:30pm	12.3	Y
8/9/16	YDI	Ranchos	2000	11	n/a	WD104340	1	2000	Hydrated	100	4:30pm	12.6	Y
8/10/16	Bernice Vargas	Tecos	1000	12	n/a	WD113117							
8/10/16	Sharon Cassidy	Tecos	1000	12	n/a	WD113117							
8/10/16	Luciano Vismaras	Tecos	1000	12	n/a	WD113117	3	3000	Hydrated	150	5:15PM	12.3	Y
8/11/16	Tate Construction	Tecos	1000	13	n/a	WD104340							
8/11/16	Amistate Inn	Tecos Ski Valley	1250	13	n/a	WD104340	2	2250	Hydrated	125	2:15PM	12.4	Y
8/12/16	n/a												
8/13/16	Annette Gardenas	El Prado	1000	1	n/a	WD104340	1	1000	Hydrated	50	1:45 PM	12.3	Y
8/14/16	Michelle Hernandez	Ranchitos	1000	2	n/a	WD104340	1	1000	Hydrated	50	9:30am	12.2	Y
8/15/16	Andrew Cox	Ranchos	1000	3	n/a	WD104340							
8/15/16	Lae Johnson	Tecos	1000	3	n/a	WD104340							
8/15/16	Inn of TSV	Tecos Ski Valley	2000	3	n/a	WD104340	3	4000	Hydrated	175	4:45pm	12.6	Y
8/16/16	Francisco Sandoval	Tecos	1000	4	n/a	WD104340	1	1000	Hydrated	50	2:45pm	12.5	Y
8/17/16	Michelle Fernandez	Ranchitos	1000	5	n/a	WD104340	1	1000	Hydrated	50	10:00AM	12.2	Y
8/18/16	Maya Cabot	Tecos	1000	6	n/a	WD104340	1	1000	Hydrated	50	3:30PM	12.4	Y
8/19/16	Diana Valencia	Tecos	1000	7	n/a	WD104340	1	1000	Hydrated	50	11:25am	12.6	Y
8/20/16	n/a												
8/21/16	n/a												
8/22/16	Barbara Edwards	El Prado	1000	8	n/a	WD104340							
8/22/16	Michael Reynolds	Tecos	1000	8	n/a	WD104340	2	2000	Hydrated	100	9:30am	12.4	Y
8/23/16	Kevin Annus	Tecos	1000	9	n/a	WD104340	1	1000	Hydrated	50	10:30AM	12.2	Y
8/24/16	Lou Mizubar	Tecos	1000	10	n/a	WD104340	1	1000	Hydrated	50	2:00pm	12.6	Y

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8/25/16	Franko	Ranchos	1000	11	n/a	WD104940	1	1000	Hydrated	50	1:45pm	12.6	Y
8/26/16	Nicholas Kimball	Tecos	1000	12	n/a	WD104940	1	1000	Hydrated	50	8:00am	12.2	Y
8/27/16	n/a												
8/28/16	n/a												
8/29/16	Federal National	Tecos	1000	13	n/a	WD104940	1	1000	Hydrated	50	12:30PM	12.6	Y
8/30/16	Zog Design	El Prado	1000	1	n/a	WD104940	1	1000	Hydrated	50	11:20am	12.5	Y
8/31/16	Fabiara Mirabal	Tecos	1000	2	n/a	WD104940							
8/31/16	US Post Office	Ranchos	1000	2	n/a	WD104940	2	2000	Hydrated	100	2:30pm	12.6	Y
		TOTAL	38460										
9/1/16	Greg Sherman	El Prado	1000	3	n/a	WD104940	1	1000	Hydrated	50	2:30pm	12.4	Y
9/2/16	Linda Raef	Tecos	1500	4	n/a	WD113117							
9/2/16	Gus & Ruth Hoffelder/Arroyo Seco	Tecos	1250	4	n/a	WD113117							
9/2/16	Felipe Rodriguez	Tecos	1000	4	n/a	WD113117	3	3750	Hydrated	150	4:30 PM	12.5	Y
9/3/16	Michelle Hernandez	Tecos	1000	5	n/a	WD104940	1	1000	Hydrated	50	9:15am	12.2	Y
9/4/16	n/a												
9/5/16	Elizabeth Finch	Ranchos	1000	6	n/a	WD104940	1	1000	Hydrated	50	11:45 PM	12.3	Y
9/6/16	Antonio Montano	Tecos	1000	7	n/a	WD104940	1	1000	Hydrated	50	1:00PM	12.4	Y
9/7/16	Tecos Aviation	Tecos	1000	8	n/a	WD104940	1	1000	Hydrated	50	11:45am	12.4	Y
9/8/16	Scott Hind	Tecos	1000	9	n/a	WD104940	1	1000	Hydrated	50	3:30pm	12.3	Y
9/9/16	Pamela Guyer	El Prado	1000	10	n/a	WD113117							
9/9/16	Cass Chernisa	Tecos	1000	10	n/a	WD113117							
9/9/16	Steve Gomez	Tecos	1000	10	n/a	WD113117	3	3000	Hydrated	150	1:30pm	12.6	Y
9/9/16	Red River Ski Area	RedRiver	2500	10	n/a	WD104940	1	2500	Hydrated	125	2:45pm	12.5	Y
9/10/16	n/a												
9/11/16	n/a												
9/12/16	John Russell	Tecos	1000	11	n/a	WD104940	1	1000	Hydrated	50	9:45am	12.5	Y
9/13/16	Lisa Bustos	Tecos	1000	12	n/a	WD104940	1	1000	Hydrated	50	12:45pm	12.4	Y
9/14/16	Parhway Manufactur	Tecos	1000	13	n/a	WD104940							
9/14/16	Carol Hinton	Quetta	1000	13	n/a	WD104940	2	2000	Hydrated	100	12:45PM	12.3	Y
9/15/16	Inn of TSV	Tecos Ski Valley	2000	1	n/a	WD113117							
9/15/16	Forest Service	Tecos	3000	1	n/a	WD113117	2	5000	Hydrated	200	3:30pm	12.5	Y
9/16/16	Bonasa Checon	Arroyo Hondo	1000	2	n/a	WD113117							Y
9/16/16	Peggy Romero	Tecos	1000	2	n/a	WD113117							
9/16/16	Ernest Veleiro	Tecos	1000	2	n/a	WD113117							
9/16/16	Margery Harliss	Tecos	1000	2	n/a	WD113117	4	4000	Hydrated	175	4:30pm	12.4	Y
9/17/16	Michelle Hernandez	Tecos	1000	3	n/a	WD104940	1	1000	Hydrated	50	11:45am	12.6	Y
9/18/16	n/a												



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9/19/16	Zog Design	El Prado	1000	4	n/a	WD104340	1	1000	Hydrated	50	12:15pm	12.4	Y
9/20/16	Robert Gza	El Prado	1000	5	n/a	WD104340							
9/20/16	Michelle Herrera	Tecos	1000	5	n/a	WD104340	3	3000	Hydrated	150	2:30pm	12.5	Y
9/20/16	Valeria Quintana	Ranchos	1000	5	n/a	WD104340							
9/21/16	Larry Sandoval	Tecos	1000	6	n/a	WD104340	1	1000	Hydrated	50	9:30am	12.2	Y
9/22/16	First NM Title	Tecos	1000	7	n/a	WD104340	1	1000	Hydrated	50	10:15am	12.3	Y
9/23/16	Estate of Rosemund	Ranchos	1000	8	n/a	WD104340							
9/23/16	Federal Mortgage	58 Ovejas	1000	8	n/a	WD104340	2	2000	Hydrated	100	1:45PM	12.5	Y
9/24/16	n/a												
9/25/16	n/a												
9/26/16	Linda Rael	Arroyo Hondo	1000	9	n/a	WD104340	1	1000	Hydrated	50	1:30pm	12.3	Y
9/27/16	Andy Padilla	Tecos	1000	10	n/a	WD104340	1	1000	Hydrated	50	11:45am	12.4	Y
9/28/16	Alana Smith	Tecos	1000	11	n/a	WD104340	1	1000	Hydrated	50	2:00pm	12.4	Y
9/29/16	Mario Vigil	Ranchos	1000	12	n/a	WD104340	1	1000	Hydrated	50	10:00am	12.6	Y
9/30/16	Ben Gonzales	Tecos	1000	13	n/a	WD104340	1	1000	Hydrated	50	4:30pm	12.5	Y
			43250										
10/1/16	Michelle Hernandez	Tecos	1000	1	n/a	WD104340	1	1000	Hydrated	50	12:45	12.6	Y
10/2/16	n/a												
10/3/16	YDI Vedito	Vedito	2000	2	n/a	WD113117	1	2000	Hydrated	100	5:30pm	12.6	Y
10/3/16	Irene Lafleur	El Prado	3000	2	n/a	WD104340	1	3000	Hydrated	75	1:00pm	12.3	Y
10/4/16	Jose Romero	Ranchos	2000	3	n/a	WD104340	2	3000	Hydrated	150	3:15PM	12.4	Y
10/5/16	Andres Valdez	Ranchos	1000	4	n/a	WD104340	1	1000	Hydrated	50	10:45am	12.5	Y
10/6/16	Real Apartment	El Prado	3000	5	n/a	WD113117							
10/6/16	Floyd Torres	Tecos	1000	5	n/a	WD113117	2	4000	Hydrated	175	2:00pm	12.2	Y
10/7/16	Jacilia Anaya	El Prado	1000	6	n/a	WD104340	1	1000	Hydrated	50	9:00am	12.5	Y
10/8/16	Zog Design	Tecos	1000	7	n/a	WD104340	1	1000	Hydrated	50	10:45am	12.2	Y
10/9/16	n/a												
10/10/16	Valeria Quintana	Ranchos	1000	8	n/a	WD104340	1	1000	Hydrated	50	9:00am	12.5	Y
10/11/16	Ron Jordan	Seco	1000	9	n/a	WD104340							
10/11/16	Ann Cole	Tecos	1000	9	n/a	WD104340	2	2000	Hydrated	100	4:15pm	12.4	Y
10/12/16	Elizabeth Tafuya	El Prado	1000	10	n/a	WD104340	1	1000	Hydrated	50	10:30am	12.2	Y
10/13/16	Joao Gomez	El Prado	1000	11	n/a	WD104340							
10/13/16	Karrison Properties	El Prado	2000	11	n/a	WD104340	2	3000	Hydrated	150	3:30pm	12.6	Y
10/14/16	Darlens Baca	El Prado	1000	12	n/a	WD104340	1	1000	Hydrated	50	8:45am	12.2	Y
10/15/16	Ofelia Chavez	Tecos	1000	13	n/a	WD104340	1	1000	Hydrated	50	4:30pm	12.3	Y
10/16/16	n/a												

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10/17/16	Mrs. Abeyta	Tecos	1000	1	n/a	WD104940	1	1000	Hydrated	50	11:30 AM	12.5	Y
10/18/16	Michelle Herrera	Ranchitos	1000	2	n/a	WD104940	1	1000	Hydrated	50	2:00pm	12.6	Y
10/19/16	Francis Lopez	Tecos	1000	3	n/a	WD104940	1	1000	Hydrated	50	5:00pm	12.3	Y
10/20/16	n/a												
10/21/16	Karen Acosta	El Prado	1000	4	n/a	WD104940							
10/21/16	Jim Rowley	Teco Canyon	1500	4	n/a	WD104940	2	2500	Hydrated	125	1:30pm	12.2	Y
10/22/16	n/a												
10/23/16	n/a												
10/24/16	Betty Rael	El Prado	1000	5	n/a	WD104940	1	1000	Hydrated	50	9:00am	12.3	Y
10/25/16	Jim McCann	El Prado	1000	6	n/a	WD104940	1	1000	Hydrated	50	11:45am	12.6	Y
10/26/16	Denak Davis	Ranchos de Tecos	1000	7	n/a	WD104940	1	1000	Hydrated	50	8:30am	12.2	Y
10/27/16	Zog Design	El Prado	1000	8	n/a	WD104940	1	1000	Hydrated	50	10:15am	12.5	Y
10/28/16	Joseph Westermeyer	Tecos	1000	9	n/a	WD104940	1	1000	Hydrated	50	10:40pm	12.6	Y
10/29/16	Terry Kippleman	Tecos	1000	10	n/a	WD104940							
10/29/16	Thomas Burns	Tecos	1000	10	n/a	WD104940	2	1000	Hydrated	100	3:45pm	12.3	Y
10/30/16	n/a												
10/31/16	Alan Reynolds	Tecos	1000	11	n/a	WD104940							
10/31/16	First NM Title Co	Tecos	1000	11	n/a	WD104940	2	2000	Hydrated	100	2:45pm	12.7	Y
		TOTAL	36500										
11/1/16	Nathaniel Martin	Arroyo Seco	1000	12	n/a	WD104940	1	1000	Hydrated	50	12:35pm	12.6	Y
11/2/16	Michelle Fernandez	Tecos	1000	13	n/a	WD104940	1	1000	Hydrated	50	11:00am	12.5	Y
11/3/16	Stan North Country	Eagles Nest	1000	1	n/a	WD104940	1	1000	Hydrated	50	1:00pm	12.2	Y
11/4/16	YDI	Vadito	2000	2	n/a	WD104940							
11/4/16	Sarah Goodman	Ranchos de Tecos	1000	2	n/a	WD104940	2	3000	Hydrated	150	11:45am	12.3	Y
11/5/16	Anna Muefler	Los Cordovas	1000	3	n/a	WD104940	1	1000	Hydrated	50	1:12pm	12.6	Y
11/6/16	n/a												
11/7/16	Inn at Tecos ShValley Ski Valley		2000	4	n/a	WD113117	1	2400	Hydrated	125	2:30pm	12.4	Y
11/8/16	George Williamson	Tecos	1000	5	n/a	WD104940	1	1000	Hydrated	50	8:30am	12.2	Y
11/9/16	Maysa Ceibot	Tecos	1000	6	n/a	WD104940	1	1000	Hydrated	50	3:00pm	12.5	Y
11/10/16	Scott Blair	Ranchos	1000	7	n/a	WD104940	1	1000	Hydrated	50	10:55am	12.5	Y
11/11/16	n/a												
11/12/16	n/a												
11/13/16	n/a												
11/14/16													

11/15/16	Delmar Lee	Ranchos de Tecos	1000	8	n/a	WD104340	1	1000	Hydrated	50	8:00am	12.2	Y
11/16/16	James Brock	Ranchos de Tecos	1000	9	n/a	WD104340	1	1000	Hydrated	50	9:15am	12.2	Y
11/17/16													
11/19/16	Michelle Fernandez	Tecos	1000	10	n/a	WD104340	1	1000	Hydrated	50	9:45am	12.5	Y
11/19/16	Jorge Muniz	Tecos	1000	11	n/a	WD104340	1	1000	Hydrated	50	11:50am	12.3	Y
11/20/16	n/a												
11/21/16	Antonio Salvador	Tecos	1000	12	n/a	WD104340	1	1000	Hydrated	50	11:45am	12.4	Y
11/22/16	Zog Design	El Prado	1000	19	n/a	WD104340	1	1000	Hydrated	50	11:45am	12.4	Y
11/23/16	Reynaldo Branchal	Ranchos	1000	1	n/a	WD104340	1	1000	Hydrated	50	5:00pm	12.6	Y
11/24/16	Seco Post Office	Seco	1000	2	n/a	WD104340	1	1000	Hydrated	50	2:00pm	12.5	Y
11/25/16													
11/26/16	Joe Graves	Tecos	1000	3	n/a	WD104340	1	1000	Hydrated	50	3:45pm	12.2	Y
11/27/16	n/a												
11/28/16	Harold Ramirez	Tecos	1250	4	n/a	WD104340	1	1250	Hydrated	75	11:55 AM	12.6	Y
11/29/16	Michael Reynolds	Tecos	1000	5	n/a	WD104340	1	1000	Hydrated	50	9:45am	12.6	Y
11/30/16	Carillo LC	Embudo	1000	6	n/a	WD104340	1	1000	Hydrated	50	1:30pm	12.6	Y
		TOTAL	24650										
12/1/16	Michelle Fernandez	Tecos	1000	7	n/a	WD104340	1	1000	Hydrated	50	5:00pm	12.6	Y
12/2/16	n/a												
12/3/16	n/a												
12/4/16	n/a												
12/5/16	Kathryn Clark	Arroyo Seco	1000	8	n/a	WD104340	1	1000	Hydrated	50	1:00pm	12.4	Y
12/6/16	Gloria Equibel	Tecos	1000	9	n/a	WD104340	1	1000	Hydrated	50	2:45pm	12.6	Y
12/7/16	Pablo Anaya	Tecos	1000	10	n/a	WD104340	1	1000	Hydrated	50	4:30pm	12.3	Y
12/8/16	n/a												
12/9/16													
12/10/16	Ted Tefoye	Tecos	1000	11	n/a	WD104340	1	1000	Hydrated	50	11:45am	12.7	Y
12/11/16	n/a												
12/12/16	Miguel Santos	Tecos	1000	12	n/a	WD104340	1	1000	Hydrated	50	10:15am	12.5	Y
12/13/16	n/a												
12/14/16	Iris Ovejero	Tecos	1000	1	n/a	WD104340	1	1000	Hydrated	50	1:00pm	12.6	Y
12/15/16	Streamside Condos	Tecos Ski Valley	2000	2	n/a	WD113117	1	2000	Hydrated	100	5:00PM	12.6	Y

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12/16/16	Katie Vilas	Taos	1000	3	n/a	WD111317	1	1000	Hydrated	50	9:45pm	12.3	Y
12/17/16	Michelle Hernandez	Taos	1000	4	n/a	WD104340	1	1000	Hydrated	50	1:30pm	12.5	Y
12/18/16	n/a												
12/19/16	Amenda Valdez	Alcalde	1000	5	n/a	WD104340	1	1000	Hydrated	50	12:45PM	12.4	Y
12/20/16	Florida Pacheco	Ranchos	1000	6	n/a	WD104340	1	1000	Hydrated	50	9:45pm	12.2	Y
12/21/16	Oscar Ramos	Taos	1000	7	n/a	WD104340	1	1000	Hydrated	50	3:30pm	12.6	Y
12/22/16	Hector Oquín	Taos	1000	8	n/a	WD104340	1	1000	Hydrated	50	4:50pm	12.5	Y
12/23/16	Mario Vigil	Ranchos	1000	9	n/a	WD104340	1	1000	Hydrated	50	9:45am	12.4	Y
12/24/16	n/a												
12/25/16	n/a												
12/26/16	Danny Vigil	Taos	1000	10	n/a	WD104340	1	1000	Hydrated	50	11:45am	12.5	Y
12/27/16	Zog Design	El Prado	1000	11	n/a	WD104340	1	1000	Hydrated	50	10:30am	12.5	Y
12/28/16	n/a												
12/29/16	Nick Moye	Ranchos	1000	12	n/a	WD104340	1	1000	Hydrated	50	4:45pm	12.6	Y
12/30/16	Lila Sanchez	Taos	1000	13	n/a	WD104340							
12/30/16	Amelata Inn	Sh Valley	2250	13	n/a	WD104340	2	2250	Hydrated	125	3:00pm	12.3	Y
12/31/16	Michelle Hernandez	Taos	1000	1	n/a	WD104340	1	1000	Hydrated	50	2:30pm	12.4	Y
			22250										

2016	
TOTAL	31,300
JULY	35,480
AUGUST	43150
SEPT	34900
OCTOBER	24,830
NOV	22,230
DEC	285,400
TOTAL	

**Surface Disposal D S&R Septic**  
**Cell # 1 Acres 0.21 SDDS Calculations DP-465**  
**Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	3,250	0.0033	16.26	77.44
Feb	2016	1,000	0.0010	5.00	23.83
Mar	2016	2,000	0.0020	10.01	47.66
Apr	2016	3,000	0.0030	15.01	71.49
May	2016	3,000	0.0030	15.01	71.49
Jun	2016	2,500	0.0025	12.51	59.57
<b>Jan-Jun</b>	<b>Total</b>	<b>14,750</b>			<b>351.47</b>
Jul	2016	2,000	0.0020	10.01	47.66
Aug	2016	2,000	0.0020	10.01	47.66
Sep	2016	5,000	0.0050	25.02	119.14
Oct	2016	2,000	0.0020	10.01	47.66
Nov	2016	2,000	0.0020	10.01	47.66
Dec	2016	2,000	0.0020	10.01	47.66
<b>Jul-Dec</b>	<b>Total</b>	<b>15,000</b>			<b>357.43</b>

# Surface Disposal DS&R Septic

**Cell # 3 Acres 0.14 SDDS Calculations DP-465**

**Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	6,000	0.0060	30.02	214.46
Feb	2016	1,000	0.0010	5.00	35.74
Mar	2016	2,000	0.0020	10.01	71.49
Apr	2016	3,000	0.0030	15.01	107.23
May	2016	2,000	0.0020	10.01	71.49
Jun	2016	2,000	0.0020	10.01	71.49
<b>Jan-Jun</b>	<b>Total</b>	<b>16,000</b>			<b>571.89</b>
Jul	2016	2,000	0.0020	10.01	71.49
Aug	2016	3,000	0.0030	15.01	107.23
Sep	2016	4,000	0.0040	20.02	142.97
Oct	2016	4,000	0.0040	20.02	142.97
Nov	2016	4,000	0.0040	20.02	142.97
Dec	2016	2,000	0.0020	10.01	71.49
<b>Jul-Dec</b>	<b>Total</b>	<b>19,000</b>			<b>679.11</b>

# Surface Disposal DS&R Septic

**Cell # 4 Acres 0.18 SDDS Calculations DP-465**

**Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	2,250	0.0023	11.26	62.55
Feb	2016	1,000	0.0010	5.00	27.80
Mar	2016	2,000	0.0020	10.01	55.60
Apr	2016	7,000	0.0070	35.03	194.60
May	2016	3,000	0.0030	15.01	83.40
Jun	2016	2,000	0.0020	10.01	55.60
<b>Jan-Jun</b>	<b>Total</b>	<b>17,250</b>			<b>479.55</b>
Jul	2016	2,000	0.0020	10.01	55.60
Aug	2016	1,000	0.0010	5.00	27.80
Sep	2016	4,750	0.0048	23.77	132.05
Oct	2016	3,500	0.0035	17.51	97.30
Nov	2016	3,650	0.0037	18.26	101.47
Dec	2016	1,000	0.0010	5.00	27.80
<b>Jul-Dec</b>	<b>Total</b>	<b>15,900</b>			<b>442.02</b>

# Surface Disposal DS&R Septic

Cell # 5 Acres 0.13 SDDS Calculations DP-465

Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	2,000	0.0020	10.01	76.98
Feb	2016	1,000	0.0010	5.00	38.49
Mar	2016	4,750	0.0048	23.77	182.84
Apr	2016	3,000	0.0030	15.01	115.48
May	2016	3,000	0.0030	15.01	115.48
Jun	2016	2,000	0.0020	10.01	76.98
<b>Jan-Jun</b>	<b>Total</b>	<b>15,750</b>			<b>606.25</b>
Jul	2016	1,000	0.0010	5.00	38.49
Aug	2016	2,000	0.0020	10.01	76.98
Sep	2016	4,000	0.0040	20.02	153.97
Oct	2016	5,000	0.0050	25.02	192.46
Nov	2016	2,000	0.0020	10.01	76.98
Dec	2016	1,000	0.0010	5.00	38.49
<b>Jul-Dec</b>	<b>Total</b>	<b>15,000</b>			<b>577.38</b>



# Surface Disposal DS&R Septic

Cell # 6 Acres 0.06 SDDS Calculations DP-465

Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	3,000	0.0030	15.01	250.20
Feb	2016	1,000	0.0010	5.00	83.40
Mar	2016	2,000	0.0020	10.01	166.80
Apr	2016	3,000	0.0030	15.01	250.20
May	2016	2,000	0.0020	10.01	166.80
Jun	2016	2,000	0.0020	10.01	166.80
<b>Jan-Jun</b>	<b>Total</b>	<b>13,000</b>			<b>1,084.20</b>
Jul	2016	2,000	0.0020	10.01	166.80
Aug	2016	3,200	0.0032	16.01	266.88
Sep	2016	2,000	0.0020	10.01	166.80
Oct	2016	2,000	0.0020	10.01	166.80
Nov	2016	2,000	0.0020	10.01	166.80
Dec	2016	1,000	0.0010	5.00	83.40
<b>Jul-Dec</b>	<b>Total</b>	<b>12,200</b>			<b>1,017.48</b>

# Surface Disposal DS&R Septic

Cell # 7 Acres 0.13 SDDS Calculations DP-465

Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	1,000	0.0010	5.00	38.49
Feb	2016	3,000	0.0030	15.01	115.48
Mar	2016	2,250	0.0023	11.26	86.61
Apr	2016	3,000	0.0030	15.01	115.48
May	2016	3,000	0.0030	15.01	115.48
Jun	2016	3,000	0.0030	15.01	115.48
<b>Jan-Jun</b>	<b>Total</b>	<b>15,250</b>			<b>587.01</b>
Jul	2016	3,300	0.0033	16.51	127.02
Aug	2016	3,000	0.0030	15.01	115.48
Sep	2016	2,000	0.0020	10.01	76.98
Oct	2016	2,000	0.0020	10.01	76.98
Nov	2016	1,000	0.0010	5.00	38.49
Dec	2016	2,000	0.0020	10.01	76.98
<b>Jul-Dec</b>	<b>Total</b>	<b>13,300</b>			<b>511.95</b>

# Surface Disposal D&R Septic

**Cell # 8 Acres 0.17 SDDS Calculations DP-465**

**Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	2,000	0.0020	10.01	58.87
Feb	2016	2,000	0.0020	10.01	58.87
Mar	2016	4,000	0.0040	20.02	117.74
Apr	2016	1,000	0.0010	5.00	29.44
May	2016	4,000	0.0040	20.02	117.74
Jun	2016	3,000	0.0030	15.01	88.31
<b>Jan-Jun</b>	<b>Total</b>	<b>16,000</b>			<b>470.96</b>
Jul	2016	2,000	0.0020	10.01	58.87
Aug	2016	3,000	0.0030	15.01	88.31
Sep	2016	3,000	0.0030	15.01	88.31
Oct	2016	2,000	0.0020	10.01	58.87
Nov	2016	1,000	0.0010	5.00	29.44
Dec	2016	2,000	0.0020	10.01	58.87
<b>Jul-Dec</b>	<b>Total</b>	<b>13,000</b>			<b>382.66</b>

# Surface Disposal DiS&R Septic

Cell # 10 Acres 0.17

SDDS Calculations

DP-465

Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	1,000	0.0010	5.00	29.44
Feb	2016	2,000	0.0020	10.01	58.87
Mar	2016	2,000	0.0020	10.01	58.87
Apr	2016	1,000	0.0010	5.00	29.44
May	2016	2,000	0.0020	10.01	58.87
Jun	2016	2,000	0.0020	10.01	58.87
Jan-Jun	Total	10,000			294.35
Jul	2016	6,000	0.0060	30.02	176.61
Aug	2016	2,000	0.0020	10.01	58.87
Sep	2016	6,500	0.0065	32.53	191.33
Oct	2016	1,000	0.0010	5.00	29.44
Nov	2016	1,000	0.0010	5.00	29.44
Dec	2016	2,000	0.0020	10.01	58.87
Jul-Dec	Total	18,500			544.55

**Surface Disposal DiS&R Septic**

**Cell # 12 Acres 0.18**

**SDDS Calculations**

**DP-465**

**Reporting Period: Jan-Jun 2016 and Jul - Dec 2016 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2016	2,000	0.0020	10.01	55.60
Feb	2016	2,000	0.0020	10.01	55.60
Mar	2016	1,000	0.0010	5.00	27.80
Apr	2016	2,000	0.0020	10.01	55.60
May	2016	2,000	0.0020	10.01	55.60
Jun	2016	2,000	0.0020	10.01	55.60
<b>Jan-Jun</b>	<b>Total</b>	<b>11,000</b>			<b>305.80</b>
Jul	2016	2,000	0.0020	10.01	55.60
Aug	2016	4,000	0.0040	20.02	111.20
Sep	2016	2,000	0.0020	10.01	55.60
Oct	2016	1,000	0.0010	5.00	27.80
Nov	2016	2,000	0.0020	10.01	55.60
Dec	2016	2,000	0.0020	10.01	55.60
<b>Jul-Dec</b>	<b>Total</b>	<b>13,000</b>			<b>361.40</b>

DP-465

JANUARY-JUNE 2017

6/17/2017	Daniel Fernandez	El Prado	1000	9	n/a	WD104040	1000	1	1000	Hydrated	50	11:00 AM	12.4	Y
6/18/2017	Gloria Gallegos 1509	El Prado	1000	9	n/a	WD104340	1000	1	1000	Hydrated	50	12:00 PM	12.5	Y
6/19/2017														
6/20/2017	El Rito Forest Service	El Rito	5000	10	n/a	WD113117	5000	1	5000	Hydrated	175	3:00pm	12.5	Y
6/21/2017	Georges Wood Work	Taos	1000	10	n/a	WD104340	1000	1	1000	Hydrated	50	10:15am	12.4	Y
6/22/2017	El Rito Forest Service	El Rito	5000	11	n/a	WD113117	5000	1	5000	Hydrated	175	3:45 PM	12.5	Y
6/23/2017														
6/24/2017	Marissa Gutierrez	Taos	1000	11	n/a	WD104340	1000	1	1000	Hydrated	50	10:45 AM	12.4	Y
6/25/2017	Tate Cpmpany	Taos	1000	11	n/a	WD104340	1000	1	1000	Hydrated	50	11:00am	12.3	Y
6/26/2017	El Rito Forest Service	El Rito	5000	12	n/a	WD113117	5000	1	5000	Hydrated	175	3:00pm	12.5	Y
6/26/2017														
6/27/2017	Gregory Chesmire	El Valle	1000	12	n/a	WD104340	1000	1	1000	Hydrated	50	3:00pm	12.2	Y
6/28/2017														
6/29/2017	El Rito Forest Service	El Rito	5000	13	n/a	Wd113117	5000	1	5000	Hydrated	175	4:00pm	12.5	Y
6/30/2017	Ryan MJS	Taos	1000	13	n/a	WD104340	1000	1	1000	Hydrated	50	2:30 pm	12.3	Y
									<b>76000</b>					

January	27500
February	31200
March	36000
April	24000
May	53500
June	76000
Total	248200

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12/26/17	Reynaldo Branchal	Ranchos	1000	5	n/a	WD104340	2	2000	Hydrated	75	2:00pm	12.2	Y
12/26/17	Ernest Martínez	Ranchos	1000	5	n/a	WD104340	2	2000	Hydrated	75	2:00pm	12.2	Y
12/27/17	Kathryn Czark	Arroyo Seco	1000	6	n/a	WD104340	1	1000	Hydrated	50	10:00am	12.2	Y
12/27/17	Streamside Condos	Ski Valley	5000	6	n/a	WD113117	1	5000	Hydrated	175	1:40pm	12.6	Y
12/28/17	Zog Design	El Prado	1000	7	n/a	WD104340	1	1000	Hydrated	50	5:00pm	12.3	Y
12/29/17	Ben Valdez	Valdez	1000	7	n/a	WD104340							
12/29/17	Ismael Aguirre	Taos	2000	7	n/a	WD104340	2	3000	Hydrated	150	1:40pm	12.3	Y
12/30/17	Jennifer Johnson	Taos	1500	8	n/a	WD104340	1	1000	Hydrated	50	9:30am	12.4	Y

**Dec. Total** **39600**

Totals													
Jul-17			49000										
17-Aug			34000										
17-Sep			52400										
17-Oct			53600										
17-Nov			45000										
17-Dec			39600										
Total			273600										

STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF THE ENVIRONMENT

IN THE MATTER OF S&R SEPTIC'S  
APPLICATION TO RENEW GROUND  
WATER DISCHARGE PERMIT DP-465

No. GWB 02-03(P)



S&R SEPTIC'S STATEMENT OF INTENT  
TO PRESENT TECHNICAL TESTIMONY

In accordance with Section 20.6.2.3110 NMAC of the Water Quality Control Commission Regulations ("WQCC Regulations") and the Public Notice in this matter, S&R Septic, by and through undersigned counsel of record, submits this statement of intent to present technical testimony in support of S&R Septic's application to renew Discharge Permit DP-465 ("DP-465").

1. The name of the person filing the statement:

This statement is being filed on behalf of S&R Septic.

2. S&R Septic's position on the proposed discharge renewal:

S&R Septic supports the approval of the proposed renewal of DP-465 with the conditions set forth in the draft Discharge Permit issued July 17, 2002 by the Ground Water Quality Bureau.

3. The name and qualifications of each witness who may testify:

S&R Septic will call **Dr. William Mansker, Ph.D.** for technical testimony at the public hearing. Dr. Mansker's qualifications are attached hereto.

4. Estimated length of Dr. Mansker's direct testimony:

Dr. Mansker's direct testimony will take approximately one hour.



5. List of exhibits, if any, that may be offered into evidence at the hearing:

The following exhibits may be entered into evidence at the hearing. Except where noted, copies of the exhibits are attached hereto.

- A. Addendum to Discharge Plan Renewal Application For S&R Septic, Taos, New Mexico, dated April 2, 1998.
- B. Letter dated December 18, 1998, from William Mansker to Weldon Merrit.  
Re: S&R Septic Public Meeting (Scheduled 1/7/99); and Response to NMED-GWB Discharge Plan Recommendations, ref. DP-465, S&R Septic.
- C. NMED and S&R Septic's Joint Stipulated Proposed Findings of Fact and Conclusions of Law, filed April 19, 1999.
- D. Evaluation of the Migration of Nitrogen Compounds at the City of Santa Fe Sludge Disposal Site Near Santa Fe, New Mexico and at the S&R Septage Disposal Site Near Taos, New Mexico. Steven T. Finch, Jr., John Shoemaker & Assoc., Albuquerque, New Mexico. August 24, 1999.
- E. Report of Semi-annual Lagoon Soil Sampling and Nitrogen-loading Calculations for the S&R Septic Disposal Facility, Taos, New Mexico, Ref. DP-465. June 25, 2001.
- F. Amendments to S&R Septic Discharge Renewal Application-DP-465. April 12, 2002.
- G. Maps and diagrams
- H. 40 CFR §503
- I. 40 CFR §257
- J. Photographs and site documentation (not attached).

K. Any documents in the permit file for DP-465.

L. All exhibits identified by the Department or any interested parties.

6. Summary of the direct testimony of Dr. Mansker:

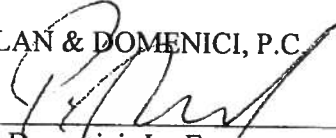
Dr. Mansker will present an overview of DP-465, S&R Septic operations, facility design and how planned facility operations and modifications as described in the draft permit will meet regulatory requirements and be protective of human health and the environment. Dr. Mansker's testimony will be based on the contents of the exhibits above. He may also testify regarding how lime treatment addresses vector concerns and satisfies EPA requirements.

7. Rebuttal:

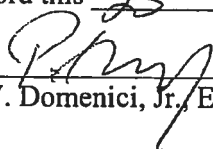
S&R Septic reserves the right to supplement the testimony or exhibits identified above in order to rebut technical testimony as appropriate.

Respectfully submitted,

DOLAN & DOMENICI, P.C.

  
\_\_\_\_\_  
Pete Domenici, Jr., Esq.  
6100 Seagull St. NE  
Albuquerque, New Mexico 87109  
505-883-6250

I hereby certify that a true copy  
of the foregoing was mailed to all counsel  
of record this 25<sup>th</sup> day of July, 2002.

  
\_\_\_\_\_  
Pete V. Domenici, Jr., Esq.

STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT

IN THE MATTER OF THE APPLICATION  
OF MR. STEVE RAEL, OWNER OF S & R  
SEPTIC, TO RENEW HIS GROUND  
WATER DISCHARGE PERMIT, DP-465



No. GWB 02-03 (P)

FINAL ORDER

This matter comes before the Secretary of Environment following a hearing before the Hearing Officer on October 8, 2002, in Taos, New Mexico.

Mr. Steve Rael, owner of S & R Septic (Applicant) seeks a discharge permit for the planned discharge of up to 10,000 gallons per day of domestic septage, stabilized domestic sludge, chemical toilet residue and restaurant grease into shallow lagoons, following pre-treatment with lime, located in Taos County, approximately 8 miles northwest of Taos. Ground water below the site is at a depth of approximately 600 feet and has a total dissolved solids concentration of approximately 73 to 928 milligrams per liter (mg/l).


The New Mexico Environment Department (NMED) Ground Water Bureau (Bureau) supports the issuance of the permit with conditions necessary to protect public health and welfare and the environment.

Having considered the administrative record in its entirety, including all post-hearing submittals and the Hearing Officer's Report; and being otherwise fully advised regarding this matter;

THE SECRETARY HEREBY ADOPTS THE HEARING OFFICER'S REPORT AND THE PARTIES' STIPULATED PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW.

IT IS THEREFORE ORDERED:

1. The Hearing Officer's time in which to submit her Report and proposed findings and conclusions was extended to April 11, 2003.
2. The application for the discharge permit is granted, and the permit shall be issued in the form set forth in the Draft Permit issued by the Ground Water Bureau with the change below. The Applicant concurred in this change: In Condition No. 14, the following sentence shall be added as shown in Finding No. 46: "S & R shall complete the disking, regrading and reseeding within 6 months of disposal of the last load of waste at the facility."

  
RON CURRY  
Secretary of Environment

NOTICE OF RIGHT TO REVIEW

Any person who participated in this permitting action and who is adversely affected by the action may file a petition for review by the Water Quality Control Commission, c/o Geraldine Madrid-Chavez, 1190 St. Francis Drive, Santa Fe, New Mexico 87502. The petition shall be made in writing to the Commission within thirty days from the date notice is given of this action.

STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT



IN THE MATTER OF THE APPLICATION  
OF MR. STEVE RAEI, OWNER OF S & R  
SEPTIC, TO RENEW HIS GROUND  
WATER DISCHARGE PERMIT, DP-465

No. GWB 02-03 (P)

HEARING OFFICER'S REPORT

INTRODUCTION

Mr. Steve Rael, owner of S & R Septic (Applicant) seeks a discharge permit for the planned discharge of up to 10,000 gallons per day of domestic septage, stabilized domestic sludge, chemical toilet residue and restaurant grease into shallow lagoons, following pre-treatment with lime, located in Taos County, approximately 8 miles northwest of Taos. Ground water below the site is at a depth of approximately 600 feet and has a total dissolved solids concentration of approximately 73 to 928 milligrams per liter (mg/l). The New Mexico Environment Department (NMED) Ground Water Bureau (Bureau) supports the issuance of the permit with conditions necessary to protect public health and welfare and the environment.

This matter was heard on October 8, 2002, in Taos, New Mexico. NMED was represented by Paul Halajian of NMED's Office of General Counsel, and the Bureau's position was presented by Fred Kalish. Those present on behalf of the Applicant included attorney Pete Domenici, Jr. and consultant William Mansker. Many members of the public participated in questioning and testimony at the hearing, including Zena Kolshorn, Michael Reynolds, Linda Thompson, Mitzy Kennaugh, Lorenzo Gutierrez, Johnny Martinez, Doug West, Julia Pyatt, Susan Vernon and Gladys Kozoll.

The administrative record includes, *inter alia*, the permit application, the notice of docketing and hearing officer assignment, the Notices of Intent to Present Technical Testimony, the transcripts

and exhibits, the sign-in sheets, a joint post-hearing submittal from the Bureau and the Applicant, and this Report.

The hearing was conducted in accordance with the New Mexico Water Quality Control Commission Regulations, 20 NMAC 6.2.3110. The hearing lasted five hours, beginning at 5:30 p.m. The sign-in sheets show 60 names, but not everyone signed in.

Notices of intent to present technical testimony were submitted by the Bureau and the Applicant.

Every participant was allowed full opportunity to call witnesses, present testimony and other evidence, and cross-examine witnesses called by any other participant. The hearing was transcribed by a court reporter. The record was left open only for the purpose of submitting proposed findings of fact and conclusions of law within thirty days of receipt of the transcript.

Based on the entire record, I recommend that the permit be issued as requested subject to the conditions laid out by the Ground Water Bureau in Mr. Kalish's testimony.

#### **PROCEDURAL MATTERS**

Although the hearing in this matter was originally scheduled for August 6, 2002, shortly before the hearing it was not clear from a review of the hearing notices sent that all of the state's pueblos had been given notice, and not just those near Taos.

On August 5, 2002, I issued an order to continue the hearing to October 8, 2002, on the same day we would be reconvening a hearing in a similar matter in Taos [Silva's Sanitation] for the same reason.

On August 6, 2002, the Bureau sent a letter to the Governors of all of New Mexico's Indian Tribes with this notice. The entire hearing was conducted on October 8, 2002, and included a representative of Taos Pueblo.

### **SUMMARY OF TESTIMONY**

#### **For the Applicant**

#### **William Mansker**

Dr. Mansker testified that he has a bachelor's, master's and doctorate in geology and has been in the environmental field since 1984. He prepared the discharge plan application in question. The documents submitted support the issuance of the permit; no technical testimony contradicts its issuance.

Turning to the terms of the renewal application, Dr. Mansker stated that S & R Septic would be limited to discharging no more than 10,000 gallons per day of domestic septage, chemical toilet residue, grease trap holdings and treated sludge. Grease trap holdings, which constitute a minimal amount of what is hauled by S & R Septic, would be buried daily. The facility where the materials would be discharged is an evaporative facility. They would be pre-treating the septage and sludge with lime to raise the pH to 12, which is detrimental to pathogens that may exist. Security at the site must be maintained. Waterproof placards will be provided for each cell. An 8-10 foot berm and a hog-wire fence enclose the entire facility. Approximately 2.8 acres is separated into 16 lagoons. The lagoons are used on a rotational basis. Two trenches will receive the grease trap material and be covered daily. The site will be inspected on a weekly basis, and the material will be monitored. Dr. Mansker showed photographs of the site.

Dr. Mansker then described the substrate lithology at the site. Ground water is at a depth of 585 to 600 feet. The gradient is toward the Rio Grande drainage, and is underlain by interlayered clays and basalts down to a thin gravelly aquifer. Given the high impermeability of the clays, it is unlikely that surface activity will ever reach ground water. Drilling in the lagoons did not indicate penetration below 35 feet. Nitrates, which are the primary contaminant of concern, are focused in the upper 12 inches to 3 feet of the lagoon bottoms. Dr. Mansker described the composite soil samples taken for analysis. Section 503 requires pathogen and vector reduction, which they plan to accomplish with the lime, which kills most pathogens and decreases odor. They have to maintain an alkalinity of 12 for at least 30 minutes. The draft permit meets state and federal requirements.

On cross-examination, Dr. Mansker stated that the permit requires re-treatment with lime if the minimum alkalinity is not initially maintained. He also described the manifesting system. The berms will be created from soil taken from the surface and the borrow pit, not from sewage. Testing for heavy metals is not required at these sites, but at large municipal sites. Standing water may not exceed three inches in the pits. He does not believe it will represent a particular breeding ground for mosquitoes. Because depth to ground water is so far, they are not required to have a monitoring well. He does not believe the possibility of faults presents a risk to the ground water, given the depth to ground water and the intervening clay layers. He approximates it will take a minimum 40 pounds of lime per load, depending on the pH of the original solution.

On re-direct examination, Dr. Mansker stated that evaporation rates were about 13 inches per year, and highest in the summertime.

**Steve Rael**

Mr. Rael testified that he is the owner of S & R Septic, and has operated at the current



location for about 16 years. He has been using the Town of Taos wastewater treatment facility 90% of the time recently, as it is cheaper. If the plant continues to be available, he will continue using it. It is only open 6 days a week from 8 to 5, and they refuse sludge from outside the county. He is not subject to any of the "bad actor" grounds set out for denying a permit under the Water Quality Act.

On cross-examination, Mr. Rael stated that Dr. Mansker had explained the permit's terms and conditions to him, that he agrees with the terms and understands enforcement action may be taken for violations. He further stated that a load could not be dumped until it meets a pH of 12. He believes the Town is not accepting waste from outside the county to reduce their volume while they address problems at the plant.

He is not willing to restrict his hauling activities to the County of Taos. He serves Dixon and Angel Fire and does not want to haul those loads all the way to Santa Fe. Roughly 30% of the waste he handles is from outside the county. There are different methods of measuring pH, including probes and paper; he will use a state-approved method.

Currently, using his disposal site would be more expensive than using the Town's plant because they would have to drive across town, using gasoline and labor. When they have to treat with lime, it will be more expensive still. He expects each load to be treated with about \$40 of lime. They are currently paying \$15 per truckload at the Town's plant. In Pojoaque, they pay \$88 per load.

**For the Bureau**

**Fred Kalish**

Mr. Kalish has been employed with the Ground Water Bureau for 5 ½ years. He is currently a water resource engineering specialist with the Bureau's Pollution Prevention Section and the team

leader for domestic waste discharge permits. He is responsible for ensuring consistency in discharge permits for domestic waste permits; he is also a technical reviewer for a portfolio of discharge permits. He has reviewed approximately one hundred applications for discharge permits, 15 of which were for septage facilities. He has a bachelor's degree in philosophy and a master's degree in environmental engineering. [Mr. Kalish adopted his prepared written testimony, which is part of the record and will not be further summarized here.]

Mr. Kalish described the regulatory framework for groundwater discharge permits: anyone wishing to discharge wastewater that could exceed ground water standards may do so only with an approved discharge permit. Typically, a notice of intent or permit application is submitted to the Bureau for review. The application is first reviewed for administrative completeness. The Department then moves forward with public notification. Following public notice, a 30-day period for public comment begins. A public hearing is held if there is significant public interest, as happened here. If significant public interest is not found, the Bureau continues the technical review of the permit, and provides a draft permit to the discharger. Here, with a hearing, there is a draft permit for everyone to review and comment on.

Discharge permits are typically issued for a period of five years. Any time there is a modification to a permit, public notice is issued so the public is aware of significant changes to the facility. Public notice and participation also occurs with each renewal. A discharge permit includes several components: a description of the discharge and the contaminants, site-specific conditions at the discharge facility, an operational plan, a monitoring plan, a contingency plan and a closure plan.

Mr. Rael's facility was first permitted in 1987; it was one of the first septage facilities to be permitted. In the late 1990s, the Bureau obtained funding from the Environmental Protection

Agency to do studies investigating the migration of nitrogen contaminants from these facilities. They wanted to assure that these facilities did not pose a current or long-term threat to ground water.

The first study was conducted in 1999. The two facilities studied were S & R Septic and the City of Santa Fe sludge disposal facility. They drilled a number of boreholes to a depth of 30 feet. At regular intervals in those boreholes they collected soil samples and analyzed the soils for nitrogen contaminants to determine how far the contaminants had migrated after operation of the facility for 12-13 years. They found the contamination was limited to approximately 15-30 feet below ground surface, with the ground water at 580 feet below the surface, indicating that the facility was unlikely to pose a threat to ground water beneath the facility.

In the second study they investigated the City of Albuquerque sludge disposal area, and developed a computer program to do predictive modeling for contaminant migration. They drilled to 70 feet to complement the earlier study. Looking at all three facilities, the results were consistent. In connection with the second study they also contracted with a third party to develop computer modeling for the soils and vadose zone, and to make recommendations for best management practices, and have incorporated some of those recommendations into the permits as well. This includes, for example, limiting the depth of septage in the waste disposal cells to reduce the driving force that drives contaminants beneath the soil. More recent concerns focus on public health concerns outside of direct impacts to ground water. More funding was sought from EPA, and received, to continue the work on the best management practices, and develop a Bureau policy for these facilities.

Mr. Kalsih was the primary technical reviewer for the DP-465 application. The initial application proposed a similar operational procedure to what had been permitted three years earlier.

The Bureau organized a meeting in February 2002 to which they invited all septage disposal facility owners in Taos, and discussed its concerns. The Bureau's concerns specifically related to the federal regulations dealing with septage disposal, and the fact that the Water Quality Act requires NMED to deny a permit if there are federal standards of performance or limitation that are not met. These standards are at 40 CFR 503. Section 503 offers septage disposers three options for disposals: injection below the surface of the ground, application to the ground with disking within 6 hours, or treatment with lime and disposal on the ground surface.

At a follow-up meeting, Mr. Rael submitted a revised permit application addressing the concerns raised and consistent with 40 CFR Section 503. The revised application proposes pretreatment of the domestic septage and chemical toilet waste with lime to satisfy the vector attraction reduction requirement of Section 503. The grease trap waste would be disposed of in trenches and covered within 6 hours, and the stabilized municipal sludge will be applied only after meeting all requirements under Section 503.

The applicant did provide a site and method for flow measurement and sampling. The applicant proposed a written manifest system for tracking volume of discharge at the facility, a method that's commonly employed. The applicant proposes to discharge domestic septage, chemical toilet waste, grease trap waste and stabilized municipal sludge.

The primary contaminant of concern to the Bureau is nitrogen; there is a health-based standard for nitrate among the water quality standards. Other contaminants include metals, organic chemicals in trace amounts, and biocides such as formaldehyde or glutaraldehyde in the chemical toilet waste. Metals are at lower concentrations and would not be expected to migrate at these sites. There are only trace amounts of the organic contaminants; they are generally readily biodegradable.

The biocides are also readily biodegradable, and present less of a concern. Pathogens are not a contaminant of concern for the ground water quality at this site, due to the great depth to ground water and the expectation that they would not migrate. EPA requires a minimum distance of three to four feet from ground water to filter out pathogens; at this site it is substantially greater than that.

Mr. Kalish believes Silva's facility is a suitable site to discharge septage for purposes of protection of ground water quality; it is unlikely that ground water would be impacted by the operations of this facility.

Mr. Kalish agreed with most of Dr. Mansker's testimony, but he would make a few corrections: Grease trap waste must be buried within 6 hours, not on a daily basis. The disposal cells are not entirely evaporative; Mr. Kalish believes there is an element of infiltration as well, because the cells are unlined. Loss is primarily evaporative. Nitrate penetrates deeper than 12 inches, although not greater than tens of feet.

The Bureau has prepared a draft permit with conditions for approval. Mr. Kalish read the conditions into the record, including requirements relating to pretreatment, the depth of liquid in the disposal cells, the segregation and cover of grease trap holdings, signs to show usage assignments and rotational schedule, fencing and posting, the construction of an earthen berm and stormwater diversion bar trenches, inspection and clean-up, monitoring for acceptable waste and manifesting, testing for pH and re-treatment with lime if necessary, collection and analysis of soil samples, the submission of data sheets and biannual reports, the submission of a plan and the implementation of corrective action in the event of contamination, and cover, regrading and reseeded in the event of closure.

With the conditions proposed, Mr. Kalish does not believe DP-465 will result in a hazard to public health or adversely affect ground water, nor will there be undue risk to personal or physical property, or cause a stream standard to be violated. The effluent will meet applicable regulations, and the discharge will not cause or contribute to water contaminant levels in excess of any state or federal standard. To his knowledge, the applicant has not exhibited a willful disregard of environmental laws.

Mr. Kalish commented on the National Academy of Sciences Report testified to by Ms. Pyatt: the report was initiated and published due to public concerns relating to the disposal of sludge, biosolids and septage. EPA contracted with the Academy to gather an expert panel to consider the adequacy of Section 503 with regard to the protection of the public. The report found there was much to do, and was critical of Section 503, but it also concluded that there was no documented scientific evidence that Section 503 had failed to protect public health.

On cross-examination, Mr. Kalish agreed that the Ground Water Bureau does not consider air quality issues in its permitting. The operation is primarily self-monitored, but NMED does its best to review the manifests for completeness, and they do routine site inspections and collect samples.

There has been communication between the Ground Water Bureau and the Air Quality Bureau regarding these facilities. The Air Quality Bureau did not have the proper equipment to test for ammonia or hydrogen sulfide in the air, but they have now obtained the equipment and are doing site-specific investigations to determine if there is a regulatory concern for emissions generated. The Bureau reserves the right to revisit the permit conditions at any date in the future if, for example, the federal regulations become more stringent, to modify the permit.

There are 3-6 open pit septage disposal facilities in the state. If manifests are late, the Bureau writes a letter of noncompliance to the facility. Mr. Kalish acknowledges that there is no state tracking mechanism for the transportation of septage. The Bureau is meeting on this issue, and considering regulations to this effect. A full-blown organic analysis on each load might cost \$2,000, when the profit margin is \$40-50. Who would pay that cost? Typically, however, they don't expect some unusual hazardous chemical to enter that waste stream. Prior to the renewal of this permit, Mr. Kalish did extensive sampling of the lagoons at each of the three septage disposal facilities in Taos. He found very consistent results, and nothing alarming about the hazardous components in the waste stream.

The three-inch cover for restaurant grease was chosen based on a review of the solid waste regulations and adequate depth to discourage flies and other insects. There is no regulatory minimum.

Mr. Kalish acknowledged that there is no time requirement for closure plans following the end of operations.

Mr. Kalish had seen some information about allegations that S & R had illegally dumped septage into a river, but Mr. Rael was not the driver, and there was no evidence that he had asked or directed the person doing the dumping to do what they did. The report made of the incident was inconclusive, and it not clear what actually happened.

On re-direct examination, Mr. Kalish testified that he is not aware of a practical method for monitoring septage sites other than manifests. He knows the Department has issued a compliance order against a septage facility, but was not personally involved. The Bureau will

consider Ms. Pyatt's suggestion to have a time deadline for closure and will suggest something for the final permit, perhaps six months.

#### **Public Comment**

**Ms. Zena Kolshorn** is resident of Tune Drive of ten years and is glad she saw the mesa. She did not see toilet paper or smell sewage, but a neighbor asked her if she knew about the sewage. She obtained information from Mr. Kalish and got to know the Raels. She visited the Red River treatment plant and learned about septage. Mr. Kalish spent over \$20,000 to do a deep ground water test on their mesa and found things in order. The Raels built a fence around their site. She is thankful to the local and state governments and to God.

**Mr. Michael Reynolds** agrees with those opposed to surface dumping and also has issues with the treatment plant and its effect on the Rio Grande. He presented an alternative system; Mr. Silva and Mr. Rael have indicated they are interested and would participate if it is possible. It is an underground system that uses treatment and distillation to make sewage usable. They have been using it for over a decade on an individual residential basis, and the NMED has been supporting and checking them; a subdivision was approved with the system. The system contains the sewage and uses the moisture. They have the community planned and the land necessary; the waste haulers have promised them a certain number of loads. They will catch water in cisterns and hold it for household use. The toilet is separated from everything else. Drainage goes into a rubber-lined planter in the house. The plants are the system. The water is re-caught, pumped, flushed and run through a similar system for much less water. NMED has made unannounced test samples, which have shown to be better than those pulled at the wastewater treatment plant. They are proposing thousand-foot long series of botanical cells, ten feet wide, three feet deep and forty feet long. Solids are broken down by



the sun and heat. Bacteria hang up on the gravel. Oxygenation and transpiration reduce nitrate loading. This is a good alternative to ground dumping and would take the pressure off the current circumstances.

**Mr. Lorenzo Gutierrez** stated that he works next to the pits. He has had to deal with this unpleasant situation for three years, since he moved there. The problems started when the pits overflowed and ran onto his property. There are prairie dog holes all under the fence, and the coyotes are still getting in. There are children's toys by the fence and items of waste on the tall berms. He believes S and R Septic was more than 2 years late in providing a manifest, but there was no enforcement. In the middle of winter he has seen swarms of mosquitoes when the sun comes out. He has seen sewage deeper than 3 inches in the pits. No fence will keep out the windstorms and the dust devils. At least three of his employees quit for health problems. These pits should be stopped.

**Ms. Linda Thompson** stated that her neighborhood association has worked with Mr. Rael and concluded that he provides a much-needed service, particularly to the mobile home community, but she still has concerns. She understands that Mr. Rael would like to close the pits, reclaim them, and sell the land, but she is concerned that NMED does not monitor and inspect as it should. She urges the agency to monitor randomly at least twice a month, and to check the pH. She further urges the renewal of the permit for just one year, and that the state work with the county and the town to end the dumping of raw sewage in residential areas. There are children and others living near the pits who have health problems. The NMED should take a more holistic approach, and find funding for air quality monitoring as well.

**Ms. Mitzy Kennaugh** owns Airport Self-Storage, in close proximity to the pits. She offered a number of photographs into the record showing the area. [See Kennaugh Exhibits 1-15.] Waste is

still visible on the berms. She appreciates the reduced use of the pits, because she smells it when it is used a lot, and she hasn't had to smell it in the summer and fall. This is an under-regulated area for cleanliness, safety and biohazards, including the West Nile Virus. If the berms are being constructed of waste, she believes they are beyond their capacity. She has no problem with the burial of grease out there. All of the photos were taken outside the fence, with the exception of the one that shows a condom. We need more responsible treatment of human waste and a buffer zone for neighborhood businesses and homes.

**Mr. Johnny Martinez** stated that he wishes there were a solution, but unless the Town and NMED get involved, it's not going to get any better. They need a bigger facility so that Mr. Rael can provide the services and Taos is still nice and clean. People who flush stuff that shouldn't be flushed should be cited.

**Mr. Doug West** stated that he is the head of the neighborhood association for the entire Tune Drive area and that Mr. Rael is a subject of concern. They want him to continue using the Town's facility solely, but they know he provides a service that's essential. When he purchased the land, there were no homes; now there are 50. They would like to close the facility, reimburse Mr. Rael for his investment and find an alternate site with a buffer zone for backup. Espanola should have its own facility for septage. The problem is complex and it is much larger than Mr. Rael. They would like to work with him to find solutions that do not require a permit in the next cycle.

**Ms. Julia Pyatt** stated that her main concern is from a health standpoint. Raw sewage is contaminated material, full of disease and viruses and bacteria and solvents and chemicals. She has done over ten months of research on the Internet. When lime is used, it is breathed in and irritates the throat and increases susceptibility to other diseases. Not many states have this open pit concept,

and it is not a healthy way to dispose of sludge. Mr. Rael did what he was asked, and made his berms huge, but they are made of raw sewage. Bacteria can live up to three years in soil. A Pennsylvania boy died after a field was plowed up.

Sewage effluent is a health hazard unless you put a fence around it and get a discharge plan; then it's not a health hazard. Ms. Pyatt cited Dr. Lewis' credentials, and quoted from one of the articles she submitted: "The U.S. EPA's standards that govern using treated sewage sludge on soil are based on outdated science." She and her children go to the doctor all the time, with the sort of complaints known to result from exposure to biosolids. Worker exposure is also a big issue in this field. One of the main ways people are exposed is not through drinking water but air contamination. Another paper Ms. Pyatt offered a synopsis of, and quoted at length from, links an increase in illnesses to sewage sludge used as fertilizer. It is not just odors that are present, but toxic gases with the odors that cause symptoms.

Ms. Pyatt quoted from another article stating that lead is one of the most insidious toxins in sewage sludge. She is thankful Mr. Rael is using the treatment plant, because it is a class A plant, and it may have some problems, but it is the best available thing to kill pathogens. She is concerned about the sludge coming in from outside the county, and about the lime. She hopes the governments, the citizens and the septic haulers can work together for safe disposal.

**Ms. Susan Vernon** stated that she has a couple of suggestions for the discharge permit: the grease should be covered with 6 inches of soil rather than 3; the area has livestock and flies. She has seen plastic tampon applicators in the septage ponds, which would not be biodegradable, and she suggests that the cover in closure be virgin soil, not mixed with what's been dumped there, and clean topsoil for the reseeded. She would like to see the permit Mr. Rael's commitment to use the Town

of Taos facility primarily and other disposal options that become available.

Ms. Gladys Kozoll stated that she is from Taos Pueblo. She is truly concerned about the disposal of sludge in the community, and believes it is archaic. She knows Julia's kids are close and they are affected. This is not a local problem, but a worldwide one. Native people have a concept of integral relationship with all life forms. Together we should be finding creative solutions to the problem. Exposure to bacteria-laden mixture poses a serious threat to us and the environment. Self-regulation does not afford us any protection. We have inadequate documentation regarding sludge. Environmental choices are fundamentally moral and social. We need a holistic approach that ensures and preserves habitats and resources, especially water. Ms. Kozoll recommends that we reduce permits to one year and evaluate the dumping. She further recommends that they use the Town's disposal site. She recommends education and protective gear for the waste handlers.

#### DISCUSSION

I agree with Mr. Kalish that the NMED has no legal basis to impose on Mr. Rael a requirement in the discharge plan to use the municipal plant as his primary disposal place under the WQCC Regulations, although Mr. Rael has made that commitment verbally at the hearing.

Nor do I see a legal basis under the Regulations for the other requested special adjustments to the draft permit, such as limiting the length of the permit to one year rather than five. As Mr. Kalish has explained, in the event that Rael's is in violation of existing requirements, enforcement would be taken, and in the event new requirements are established that require changes to the permit, this would be done through modification.

NMED may terminate or modify the permit for violation of any permit condition or of the Water Quality Act. If EPA changed its regulations, the permittee would not be in accord with the

federal standard, and thus not in accord with the Act.

The proposed requirement of 6 inches of soil is not based on scientific testimony and is not necessary to protect ground water in this case.

The Bureau acted on Ms. Pyatt's suggestion to include a time for closure following the end of operations, and the Applicant concurred in the additional language.

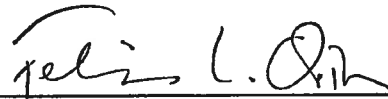
**RECOMMENDED STATEMENT OF REASONS AND OTHER ACTION**

Having reviewed the Bureau's and Applicant's Joint Proposed Findings of Fact and Conclusions of Law, I believe it accurately summarizes the relevant facts and law. I recommend that the Secretary adopt them as his own.

**RECOMMENDED FINAL ORDER**

A draft Final Order consistent with the recommendation above is attached and incorporated by reference.

Respectfully submitted,



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FELICIA L. ORTH  
Hearing Officer

STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT



IN THE MATTER OF THE APPLICATION  
OF MR. STEVE RAEL, OWNER OF S & R  
SEPTIC, TO RENEW HIS GROUND  
WATER DISCHARGE PERMIT, DP-465

NO. GWB 02-03(P)

**STIPULATED PROPOSED FINDINGS OF FACT AND  
CONCLUSIONS OF LAW**

Pursuant to Section 20.1.4.502 NMAC, the New Mexico Environment Department ("NMED") and Mr. Steve Rael hereby submit the following Stipulated Proposed Findings of Fact and Conclusions of Law:

**FINDINGS OF FACT**

1. The NMED Ground Water Quality Bureau (the "Bureau"), by and through the Secretary of the Environment (the "Secretary"), is charged with administering the ground water permit program for the State of New Mexico pursuant to the New Mexico Water Quality Act ("WQA") set forth at NMSA 1978, Section 74-6-1 through 74-6-15, and the Water Quality Control Commission Regulations (the "WQCC Regulations") set forth at 20.6.2 NMAC.
2. Pursuant to Section 74-6-5 of the WQA and Section 20.6.2.3104 of the WQCC Regulations, a person intending to discharge effluent or leachate so that it may move directly or indirectly into ground water must obtain a discharge permit issued by the Secretary of Environment.

3. If the holder of a discharge permit wishes to continue discharging effluent or leachate after the term of the permit has lapsed, the holder must apply for a permit renewal. 20.6.2.3106.F NMAC.

4. An application for the renewal of a discharge permit must include and adequately address all the information necessary for evaluation of a new discharge permit. 20.6.2.3106.F NMAC.

**Procedural Background**

5. On September 12, 2001, Mr. William Mansker submitted a request and application for renewal of discharge permit DP-465 on behalf of Mr. Rael (hereinafter referred to as the "Applicant), owner of S & R Septic -- a septage disposal facility located approximately eight miles northwest of Taos in Section 26, T26N, R12E, Taos County, New Mexico (hereinafter referred to as the "site"). Written Testimony of Fred Kalish (hereinafter referred to as "WT"), attached to NMED's Statement of Intent to Present Technical Testimony as Exhibit "B", at 4.

6. On October 18, 2001, NMED deemed S & R Septic's application administratively complete in accordance with Section 20.6.2.3108.A NMAC. WT at 4.

7. On December 6, 2001, the Secretary determined, in accordance with Section 20.6.2.3108.D NMAC, that a public hearing would be held regarding the proposed renewal of DP-465 because of significant public interest. WT at 5.

8. On April 12, 2002, at NMED's request, Mr. William Mansker submitted to NMED on behalf of the Applicant a revised permit renewal application (the "Application), which forms the basis for the Draft Permit. WT at 5; Transcript ("Tr.") at 138.

9. On June 27, 2002, NMED sent notice of a public hearing initially scheduled to be held on August 6, 2002 to certain required persons under Section 20.6.2.3108.E NMAC, but inadvertently failed to send notice to the Governors of New Mexico's Indian Tribes. WT at 4; Tr. at 121.

10. NMED published notice of the public hearing initially scheduled for August 6, 2002 in the Albuquerque Journal on June 30, 2002 and the Taos News on July 4, 2002. WT at 5-6.

11. On July 25, 2002, the Applicant timely filed a Statement of Intent to Present Technical Testimony pursuant to 20.6.2.3110.C NMAC.

12. On July 26, 2002, the Bureau timely filed a Statement of Intent to Present Technical Testimony pursuant to 20.6.2.3110.C NMAC.

13. On August 2, 2002, after realizing that it had inadvertently failed to send notice of the public hearing to the Governors of New Mexico's Indian Tribes, NMED moved to reschedule the hearing on the ground that public notice was defective.

14. In her Order Resetting the Hearing, dated August 5, 2002, Felicia Orth, the Hearing Officer assigned to the matter, agreed that proper notice was not given, reset the hearing for October 8, 2002, and required the Bureau to timely publish and mail the required notice of hearing.

15. On August 30, 2002, NMED sent notice of the reset public hearing to all required persons under Section 20.6.2.3108.E NMAC, including the Governors of New Mexico's Indian tribes.





or 2) the renewal will not result in either concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use.

23. Pursuant to Section 20.6.2.3109.H NMAC, the Secretary shall not approve a renewal if it: 1) does not provide a site and method for flow measurement and sampling; 2) will cause any stream standard to be violated; 3) will result in the discharge of any water contaminant which may result in a hazard to public health; or 4) if the renewal is for a period longer than five years.

24. Pursuant to Section 74-6-5.E of the WQA, NMED shall deny any application for a permit if: 1) any provision of the WQA would be violated; or 2) the discharge would cause or contribute to water contaminant levels in excess of any state or federal standard.

25. Furthermore, Section 74-6-5.E of the WQA provides that NMED shall deny any application for a permit if the applicant has, within ten years immediately preceding the date of submission of the permit application: 1) knowingly misrepresented a material fact in an application for a permit; 2) refused or failed to disclose any information required under the WQA; 3) been convicted of a felony or other crime involving moral turpitude; 4) been convicted of a felony in any court for any crime defined by state or federal law as being a restraint of trade, price-fixing, bribery or fraud; 5) exhibited a history of willful disregard for environmental laws of any state or the United States; or 6) had an environmental permit revoked or permanently suspended for cause under any environmental laws of any state or the United States.

26. Lastly, Section 74-6-5.E of the WQA provides that NMED shall deny any application for a permit if the proposed effluent would not meet applicable state or federal effluent regulations, standards of performances or limitations.

27. The only state or federal effluent regulations, standards of performance or limitations that apply to the Applicant's facility are the federal sludge regulations set forth at 40 CFR Part 503. Tr. 1 at 79-80.

28. Established to reduce vector attraction and limit exposure to pathogens, the regulations at Part 503 require a facility that disposes of domestic septage to either inject the septage below the ground, land-apply the septage and disk the material into the ground within six hours of application, or treat the septage with lime prior to disposal. 40 CFR 503.33(a)(5); Tr. 1 at 79-80.

29. Septage treated with lime must remain at a pH of 12 or higher for a period of 30 minutes prior to disposal. 40 CFR 503.33(b)(12).

**Site Conditions**

30. Depth to ground water at the site is approximately 500 to 600 feet below the surface. Tr. 1 at 88.

31. The ground water at the site has a concentration of 73 to 928 mg/l of total dissolved solids. WT at 7.

**S & R Septic's Application For Renewal Of DP-465**

32. At the hearing, Mr. Mansker, witness for the Applicant, and Fred Kalish, Water Resource Engineering Specialist and Team Leader for domestic waste ground water discharge permits at the Bureau, testified that the Applicant proposes to pre-treat

domestic septage with lime to raise the pH of the waste above 12 and then dispose of it into shallow lagoons. Tr. at 33-35, 132-133.

33. Mr. Kalish testified that the Applicant further proposes to dispose of grease trap holdings in two trenches at the site and cover the waste within 6 hours of disposal. Tr. at 33-35, 132.

34. Mr. Kalish testified that the Applicant proposes a manifest system as the method of measuring the flow of incoming waste, a method commonly employed at septage facilities in New Mexico as well as other states. Tr. at 133.

35. Mr. Kalish testified that the waste that the Applicant proposes to discharge contains contaminants including nitrogen compounds, metals, organic chemicals, biosides and pathogens. Tr. at 133-134.

36. Mr. Kalish further testified, and no technical evidence was presented at hearing to rebut, that NMED conducted two studies in 1999 and 2000 on the downward migration of nitrogen contamination at three different sites -- S&R Septic and two sludge disposal facilities, one located in Santa Fe and the other in Albuquerque -- and that the results of the studies showed that nitrogen contamination migrated only 10 to 30 feet below the surface during the lifetime of the facilities (in the case of S & R Septic, 12 to 13 years). Tr. at 126-128.

37. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that metals are present in domestic septage in only trace amounts and that they are not expected to migrate down to ground water. Tr. at 134-135.

38. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that, like metals, organic compounds are present in domestic septage in only trace amounts and that such compounds are also readily biodegradable. Tr. at 135.

39. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that the biosides contained in the waste are readily biodegradable. Tr. at 135.

40. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that approximately 4 feet of soil below a source effectively filters pathogens out of wastewater, and thus pathogens are not expected to migrate down to ground water at the site. Tr. at 135-136.

#### **The Draft Permit**

41. The Draft Permit is for a period of 5 years. Draft Permit at 11.

42. Mr. Kalish testified that the Bureau recommends the imposition of conditions as set forth in the Draft Permit. Tr. at 138.

43. Mr. Steve Rael testified that he understood, and agreed to, each of the conditions set forth in the Draft Permit. Tr. at 70.

44. Upon cross-examination of Mr. Kalish, Ms. Julia Pyatt, a member of the public, raised her concern that the Draft Permit did not place a time requirement on closure of the site upon cessation of facility operations. Tr. at 176.

45. In response to Ms. Pyatt's concern, Mr. Kalish testified that he recommends adding language to the Draft Permit to limit the amount of time the Applicant has to complete closure of the site and suggesting, though not definitively, that the time period should be no longer than 6 months. Tr. at 194.

46. To address the time period for closure of the site, the Bureau proposes to add, and the Applicant stipulates to, the following underlined language to Condition #14 of the Draft Permit:

In the event of closure of the facility, S & R Septic shall cover and disk all waste materials into the soil and re-grade the site to match surrounding landscape contours. S & R Septic shall re-seed the site with native grasses following final grading. S & R shall complete the disking, regrading and reseeded within 6 months of disposal of the last load of waste at the facility.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

47. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that the issuance of the Draft Permit with the proposed conditions will not result in either concentrations in excess of standards set forth at Section 20.6.2.3103 NMAC or the presence of any toxic pollutants at any place of withdrawal of water for present or reasonably foreseeable future use. WT at 17.

48. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not result in a "hazard to public health" as that term is defined in the WQCC Regulations. WT at 17; Tr. at 150.

49. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not adversely affect ground water quality. Tr. at 150.

50. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not result in an undue risk to property, real or personal. Tr. at 150.

51. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not cause a stream standard to be violated. Tr. at 150-151.

52. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that the Applicant's discharge plan consisting of treatment of waste with lime to raise the pH of the waste to 12 or higher for 30 minutes prior to disposal will meet applicable federal effluent regulations set forth at 40 CFR Part 503. Tr. at 151.

53. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not violate any provision of the WQA. Tr. at 151-152.

54. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that the proposed discharge will not cause or contribute to water contaminant levels in excess of any state or federal standard. Tr. at 152.

55. Mr. Kalish testified, and no evidence was presented at hearing to rebut, that to the best of his knowledge, the Applicant has not exhibited a history of willful disregard for environmental laws of any state or the United States. Tr. at 152, 189-190.

56. Mr. Rael testified that he has not knowingly misrepresented a material fact in an application for a permit; has not refused or failed to disclose information required under the WQA; has not been convicted of a felony or other crime involving moral turpitude or for any crime defined by state or federal law as being a restraint of trade, price-fixing, bribery or fraud; and has not had an environmental permit revoked or permanently suspended for cause under any environmental laws of any state or the United States. Tr. at 69.

## CONCLUSIONS OF LAW

1. Based upon findings of fact "1" through "3", the Secretary has jurisdiction over the subject matter and parties to the Application.
2. Based upon findings of fact "13" through "16", "19" and "21", NMED issued public notice of the hearing in full accordance with procedures set forth at Section 20.6.2.3108 NMAC and afforded members of the public and affected tribes due process required under state law.
3. Based upon findings of fact "22", "31", "36" through "40", and "47" through "50", the renewal meets all the applicable requirements for approval under Section 20.6.2.3109.C NMAC.
4. Based upon findings of fact "23", "34", "41", "48" and "51", none of the reasons for denying a permit under Section 20.6.2.3109.H NMAC applies to the Application.
5. Based upon findings of fact "24" through "29" and "52" through "56", none of the reasons for denying a permit under 74-6-5.E of the WQA applies to the Application.
6. NMED's determination to impose the terms and conditions set forth in the Draft Permit, which are not in dispute, as well as the language NMED proposes to add to Condition #14 set forth in findings of fact "46" above, is reasonable, supported by





consistency in domestic waste discharge permits and policy development. Prior to joining the Bureau, Mr. Kalish worked for a private engineering consulting firm in Albuquerque for three years as a project engineer on a variety of environmental engineering projects ranging from solid waste management to wastewater treatment. Mr. Kalish holds a bachelors degree in Biology from the University of California, Santa Cruz where he specialized in microbiology and sub-cellular biology. He also holds a Masters degree in Engineering from the University of Washington in Seattle where he studied Environmental and Wastewater Engineering. Mr. Kalish is a registered Engineering Intern in the State of New Mexico.

4. Estimated length of Mr. Kalish's direct testimony:

Mr. Kalish's direct testimony shall take approximately one hour.

5. List of exhibits, if any, that may be offered into evidence at the hearing:

NMED Exhibit A: Written Testimony of Fred Kalish

NMED Exhibit B: Letter dated July 19, 2002 from William M. Mansker, consultant for S & R Septic, to Fred Kalish stipulating to the conditions in the draft permit.

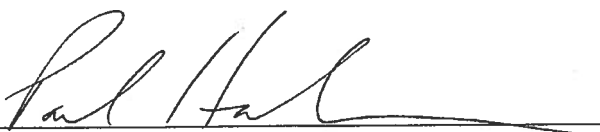
6. Summary of the direct testimony of Mr. Kalish:

Mr. Kalish's testimony will discuss the regulatory framework under which the Bureau issues permits and the basic components of a discharge plan. Mr. Kalish will also testify about the regulatory history of DP-465, a summary of the discharge permit renewal application submitted by the Applicant, the permit conditions imposed by NMED, and the regulatory authority and reasons for NMED's proposed conditions, general discharge plan requirements and recommendations concerning DP-465.

A more detailed summary of Mr. Kalish's direct testimony is attached hereto as  
NMED Exhibit "A".

Respectfully submitted,

NEW MEXICO ENVIRONMENT DEPARTMENT



Paul T. Halajian  
Assistant General Counsel  
NMED Office of General Counsel  
1190 St. Francis Drive, Suite N-4050  
Santa Fe, NM 87501  
(505) 827-2054

**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing pleading was served on July 26, 2002 via first class mail to:

Pete V. Domenici, Jr., Esq.  
Dolan & Domenici, P.C.  
Attorney for S&R Septic  
6100 Seagull St. NE, Suite 205  
Albuquerque, NM 87109

By:

  
\_\_\_\_\_  
PAUL T. HALAJIAN

**NEW MEXICO ENVIRONMENT DEPARTMENT'S  
SUMMARY OF DIRECT TECHNICAL TESTIMONY FOR  
S & R SEPTIC'S PUBLIC HEARING, DP-465**

**I. INTRODUCTION**

My name is Fred Kalish and I am currently employed as a Water Resource Engineering Specialist in the Ground Water Quality Bureau (GWQB) of the New Mexico Environment Department (NMED), a position I have held since November 1999. I am also the team leader for domestic waste ground water discharge permits. In this position, my duties include reviewing applications for domestic waste discharge permits and ensuring consistency in domestic waste discharge permits and policy development. I have worked in the GWQB for 5 ½ years.

Prior to joining the GWQB, I worked for a private engineering consulting firm in Albuquerque for three years as a project engineer on a variety of environmental engineering projects ranging from solid waste management to wastewater treatment.

I hold a bachelors degree in Biology from the University of California, Santa Cruz where I specialized in microbiology and sub-cellular biology. I also hold a Masters degree in Engineering from the University of Washington in Seattle where I studied Environmental and Wastewater Engineering. I am a registered Engineering Intern in the State of New Mexico.

**II. REGULATORY FRAMEWORK**

**The WQCC Regulations**

In 1977, the New Mexico Water Quality Control Commission (WQCC), pursuant to the New Mexico Water Quality Act (WQA), promulgated regulations set forth at 20.6.2 NMAC (hereinafter referred to as the "WQCC Regulations") to protect ground water quality, surface water quality and public health. The stated goal of the WQCC Regulations is to protect all ground water with an existing concentration of less than 10,000 mg/l total dissolved solids for



present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water flow for uses designated in the New Mexico Surface Water Quality Standards. 20.6.2.3101 NMAC. To this end, the WQCC established health-based ground water quality standards for a number of organic and inorganic contaminants. 20.6.2.3103 NMAC.

### **Permits**

Moreover, to control discharges from sources to ground water, the WQCC Regulations prohibit a person from discharging effluent or leachate containing contaminants enumerated under Section 20.6.2.3103 NMAC into ground water unless such person has a discharge permit. 20.6.2.3104 NMAC. To obtain a discharge permit or a modification or renewal of a discharge permit, a person must submit to NMED an application consisting of a discharge plan. 20.6.2.3106 NMAC. In the discharge plan, the applicant is required to set forth a proposed method of discharge that will ensure compliance with the WQCC Regulations including the ground water quality standards at 20.6.2.3103 NMAC. 20.6.2.3106 NMAC.

When an applicant has submitted all the information required under the WQCC regulations and the GWQB has deemed the application administratively complete, the GWQB then has thirty days to notify the applicant, the public, those person who have requested notification, any affected local, state, federal, tribal or pueblo governmental agency, and the Governor, Chairperson or President of each Indian Tribe, Pueblo or Nation within the state of New Mexico, as identified by the NMED. 20.6.2.3108.B NMAC. Following public notice, the WQCC Regulations require a period of at least thirty days during which written comments or request for public hearing may be submitted to NMED. 20.6.2.3108.D NMAC. If the Secretary determines, based upon these comments and requests, that there is significant public interest in

the matter, a public hearing must be held. 20.6.2.3108.D NMAC. If a hearing is held, NMED is required to provide the above-mentioned parties with notice at least thirty days prior to the hearing. 20.6.2.3108.E NMAC.

Within sixty days after the public hearing, the Secretary must, based upon the full administrative record, either approve, approve with conditions or disapprove the application for a new discharge permit, modification or renewal. 20.6.2.3109.B NMAC. The Secretary must approve an application if it complies with requirements set forth at 20.6.2.3109.C NMAC. Conversely, the Secretary must deny an application if any of causes for denial enumerated under Section 74-6-5 of the WQA or 20.6.2.3109.H NMAC exist.

The term of a discharge permit is generally five years from the date the permit is issued. 20.6.2.3109.H NMAC. The holder of a discharge permit must submit an application for renewal at least 120 days before the permit expires. 20.6.2.3106.F NMAC.

#### **Components of Discharge Permits**

Each discharge permit consists of the following four components: operational plan, monitoring plan, contingency plan, and closure plan. The operational plan describes the operations and maintenance of a facility with respect to the collection, treatment, distribution and disposal of wastewater, storm water management, solids management, and site security. The monitoring plan describes the proposed sampling point locations (e.g., monitoring wells, discharge outfalls, soil sampling, etc.), sampling protocols (e.g., bailers, pumps, etc.), sampling frequency, chemical parameters to be sampled, discharge rates, delivery manifests and treatment manifests. The contingency plan describes the actions the discharger will take in the event that spills or failures occur or if disposal of septage threatens to cause exceedences of ground water standards or adverse impacts to public health. Finally, the closure plan describes the specific

actions the discharger will take at a facility when operations cease and the facility is closed. Specifically, the closure plan must address the reclamation and post-operational monitoring of ground water at the site, as appropriate, and describe actions the discharger will take to minimize potential impacts to ground and surface waters, and public health.

### **III. REGULATORY HISTORY OF DP-465**

1. On February 4, 1987, Steve Rael submitted a discharge permit application for the S & R Septic septage disposal facility (the "facility").
2. On April 7, 1987, NMED issued discharge permit DP-465 to Steve Rael authorizing the discharge of 12,000 gallons per day (gpd) of septage into shallow ponds at the facility.
3. On July 25, 1990, NMED approved a modification to DP-465 increasing the allowable discharge volume to 20,000 gpd.
4. On June 10, 1992, NMED approved the renewal of DP-465.
5. On July 28, 1999, NMED approved the modification and renewal of DP-465 which decreased the allowable discharge volume to 10,000 gpd and changed the operational plan from shallow ponds to twelve shallow disposal cells.
6. On May 14, 2001, NMED required Steve Rael to modify DP-465 to install additional fencing around the perimeter of the facility.
7. On September 12, 2001, Mr. William Mansker, on behalf of Mr. and Mrs. Steve Rael, submitted a request and application for renewal of DP-465.
8. On October 18, 2001, NMED deemed Mr. Rael's application administratively complete in accordance with 20.6.2.3108.A NMAC.
9. On October 19, 2001, NMED sent notice of the proposed renewal of DP-465 to the required parties in accordance with 20.6.2.3108.B and C NMAC.



10. On October 20, 2001, NMED published public notice of the proposed renewal of DP-465 in the Albuquerque Journal in accordance with 20.6.2.3108.B and C NMAC.
11. On October 25, 2001, NMED published public notice of the proposed renewal of DP-465 in the Taos News in accordance with 20.6.2.3108.B and C NMAC.
12. Following public notice of the proposed discharge permit renewal, NMED received a number of letters from members of the community, including requests for a public hearing from Doug West representing the Stagecoach Neighborhood Association, Wayne Ludvigson representing the Hondo Mesa Community Association, Roger C. Sanders on behalf of the Council of Neighborhood Associations, Carol Richman, and Alex Kurtz.
13. On December 6, 2001, the Secretary of NMED determined that a public hearing would be held regarding the proposed renewal of DP-465 because of significant public interest.
14. On February 21, 2002 and March 22, 2002, NMED held meetings with Mr. and Mrs. Rael to discuss the concerns of NMED and the public pertaining to the facility's proposed method of disposal. At those meetings, NMED requested Mr. and Mrs. Rael to submit additional information and a revision to the permit renewal application.
15. On April 12, 2002, Mr. William Mansker, on behalf of S & R Septic, submitted an amended permit renewal application to NMED.
16. On June 27, 2002, NMED sent notice of the public hearing to all required persons and affected tribal and governmental agencies in accordance with 20.6.2.3108.E NMAC.
17. On June 30, 2002, NMED published notice of the public hearing to be held on August 6, 2002 in the Albuquerque Journal in accordance with 20.6.2.3108.E NMAC.
18. On July 4, 2002, NMED published notice of the public hearing in the Taos News in

accordance with 20.6.2.3108.E NMAC.

19. On July 17, 2002, NMED entered the draft discharge permit renewal into the administrative record.

20. On July 19, 2002, NMED received a letter from Mr. William Mansker on behalf of S & R Septic stipulating to all conditions contained in the draft discharge permit renewal dated July 17, 2002.

#### **IV. DESCRIPTION OF SITE**

##### **Geology and Geohydrology**

Three general physiographic subdivisions lie within Taos County: the Taos Plateau to the west, the Sangre de Cristo Mountains to the east, and the Costilla Plains lying between the plateau and the mountains. The facility is located on the Costilla Plains, southeast of the Taos Municipal Airport. On the Costilla Plains, ground water is found in the alluvial sediments, which can be divided into the most recent Quaternary (Holocene) deposits near the surface and the alluvial sediments of the early Quaternary and late Tertiary age, referred to as the Santa Fe Group (Garrabrant, *Water Resources of Taos County New Mexico*, U.S.G.S., 1993, pg 11). The Santa Fe Group consists of alluvial sediments inter-bedded in places with volcanic rocks and clay deposits (Winograd, *Ground-water conditions and geology of Sunshine Valley and western Taos County, New Mexico*, NM State Engineer Technical Report 12, 1959). The Santa Fe Group underlies the recent alluvial sediments of the Costilla Plains and underlies and inter-tongues with the Servilleta Basalt of Pliocene age in the Taos Plateau.

In addition, the facility is located in the vicinity of the Los Cordovas Faults. Faults have been mapped in the area in a north-south orientation and may extend thousands of feet downward

(Personal Communication, Paul Bauer, New Mexico Bureau of Geology and Mineral Resources).

The area in which the facility is located can be characterized, based upon the extrapolation of data from recent mapping of the region at the southern end of the Los Cordovas Faults, as an area where faulting is more extensive than previously recognized, there is significant fracturing of bedrock, and in general the fractures are not cemented.

NMED has reviewed well records in the New Mexico State Engineer's Office located within one mile of the facility. These records, in particular, drillers' logs of wells closest to the facility indicate a depth to ground water of approximately 500 feet.

Furthermore, in 1999 NMED contracted with John Shomaker & Associates to perform a study to evaluate the migration of nitrogen compounds into the vadose zone below the City of Santa Fe Sludge Disposal Site and the S & R Septage Disposal facility. A final report from the study has been entered into the administrative record and indicates that migration of nitrogen contaminants at the S & R Septage disposal facility is limited to approximately 15 - 30 feet below ground surface after 12 years of operation.

#### **Water Quality**

Garrabrant, 1993 reports a range of total dissolved solids in Taos County from 73 to 928 milligrams per liter (Mg/l) (Garrabrant, *Water Resources of Taos County New Mexico*, U.S.G.S., 1993), which is well below the 10,000 Mg/l standard for total dissolved solids set forth at 20.6.2.3101 NMAC.

#### **Waste Characteristics**

Many factors affect the physical characteristics of septage, including but not limited to user habits, septic tank size and design, septic tank pumping frequency, water supply

characteristics and piping materials, the presence of water conservation fixtures and garbage disposals, the use of household hazardous chemicals and water softeners, and climate (*EPA, Guide to Septage Treatment and Disposal, 1994*). In addition, wastes from portable toilets typically contain chemical additives such as biocide (typically formaldehyde or glutaraldehyde). Contaminants of concern to NMED in the proposed discharge at Mr. Rael's facility include, but are not limited to, nitrogen species and pathogens.

#### **V. NMED'S PROPOSED DISCHARGE PERMIT**

The following are the proposed conditions for approval of S & R Septic, DP-465 that NMED believes are necessary to ensure compliance with WQCC Regulations and the WQA.

##### **Operational Plan**

1. The Applicant has proposed to discharge up to 10,000 gallons per day (gpd) of domestic septage, stabilized domestic sludge, chemical toilet residue, and restaurant grease trap waste. Domestic sewage and grease trap wastes will be separated at the facility. Grease trap waste will be separately documented in haulage and facility receipt logs. The grease trap waste will be disposed of into dedicated trenches and immediately covered with soil. Domestic sewage will be treated with lime to a pH of 12 for a minimum of 30 minutes and then discharged into one of 16 shallow surface disposal cells.

NMED proposes and the Applicant stipulates to the following condition:

S & R Septic shall not discharge more than 10,000 gallons per day of domestic septage, treated sludge, chemical toilet waste and grease trap holdings. The waste materials discharged at the facility shall be pretreated/disposed of as follows:

A. *Domestic septage and chemical toilet residue* shall be pre-treated prior to disposal in accordance with 40 CFR 503.33.a.5 to reduce vector attraction. Treated wastes will

be discharged into sixteen shallow surface disposal cells. The depth of liquid in any disposal cell shall not exceed approximately 3 inches.

B. *Grease trap holdings* shall be segregated from other waste types and, following discharge to one of two dedicated grease trap disposal trenches, immediately covered with stockpiled soil, or if conditions prevent immediate coverage, no later than 6 hours after discharge. The wastes shall be covered with soil so that no residual waste is at the soil surface. The cover thickness shall not be less than 3 inches.

C. *Treated sludge* from municipal wastewater treatment plants or package treatment plants shall be pre-treated in accordance with 40 CFR 503 requirements prior to disposal at the facility. Treated wastes shall be discharged into sixteen shallow surface disposal cells.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

2. The Applicant has not proposed to install signs to mark all disposal cells and trenches in use, but stipulates to the following NMED proposed condition:

S & R Septic shall install and maintain waterproof placards marking each disposal cell or trench to indicate usage assignments in a daily rotational schedule.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC.

3. The Applicant has proposed to restrict unauthorized site access using fencing and a security gate. NMED proposes and the Applicant stipulates to the following condition:

S & R Septic shall maintain fences around the entire disposal facility constructed to prevent access by children and dogs (eg., field fencing, chain link fencing). S & R Septic shall post signs at the facility entrance and other areas where public contact is likely which state the following in both English and Spanish: "Notice – Domestic Waste Disposal Area – Keep Out."

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

4. The Applicant has proposed and NMED agrees to the following stormwater management condition:

S & R Septic shall construct and maintain an earthen berm surrounding the perimeter of the facility, with a minimum height of two feet. In addition, S & R Septic shall construct and maintain shallow (minimum depth of six inches) storm water diversion bar trenches parallel to and on each side of the site entrance gate. The perimeter berm and diversion trenches shall be constructed within 30 days of the date of permit approval.

The reason for this condition is to comply with Sections 20.6.2.3106 and 20.6.2.3109 NMAC by preventing contaminated wastewater from moving directly or indirectly into ground water.

5. The Applicant has proposed and NMED agrees to the following condition for routine site inspections:

S & R Septic shall inspect the site on a weekly basis for integrity of the perimeter berm, fencing and gate. Dried residual material (such as plastics, rags, paper, etc.) originating from waste disposal cells and that are susceptible to being blown off-site will be collected and bagged. The bagged materials shall be disposed of at a permitted solid waste landfill.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

#### **Monitoring Plan**

6. The Applicant has proposed to monitor the odor and visual appearance of the wastes and

record and maintain a manifest documenting the date of pick-up, location, type of waste, total volume pumped and disposal location, and further proposes to submit to NMED copies of the manifests every six months. NMED proposes and the Applicant stipulates to the following condition:

Prior to waste pick-up, S & R Septic shall monitor the odor and visual appearance of the waste to ensure that only allowable wastes are collected. S & R Septic shall record for each waste pick-up the following information: the date of pick-up, the location of pick-up, type of waste, confirmation of inspection for acceptable waste type, signature of person conducting the inspection, total volume pumped, and the disposal location (disposal cell identifier). The manifest records shall be submitted to NMED as part of the bi-annual monitoring reports due May 31 and November 30 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109.H NMED by providing monitoring of effluent.

7. The Applicant has not proposed a method for monitoring to ensure compliance with the vector attraction reduction and pathogen reduction requirements under 40 CFR 503, but stipulates to the following NMED proposed condition:

S & R Septic shall maintain a separate manifest sheet for each load of domestic septage, chemical toilet waste, grease trap holdings, and treated sludge to meet vector attraction reduction and pathogen reduction requirements under 40 CFR 503. The manifest shall include the following information:

A. *Domestic septage and chemical toilet residue:* the type and amount of lime initially added to the pumping truck, the time of lime addition, and the resulting pH of the septage immediately after addition of lime to verify a minimum pH of 12 at the beginning of treatment.

If after 30 minutes the pH of the septage is confirmed, S & R Septic shall record in the manifest the time, the pH of the treated septage, and the disposal cell identifier, and discharge the waste.

If the initial lime treatment fails to maintain the prescribed pH of 12 for 30 minutes, the treatment process shall be repeated, and the time and amount of additional lime added recorded in the manifest. After 30 minutes the septage shall be retested. If the pH is at or above 12, the time, the pH of the treated septage, and the disposal cell identifier shall be recorded in the manifest and the waste discharged.

The pH of the septage shall be at or above 12 for a minimum of 30 minutes from the last addition of lime prior to disposal. At no time shall wastes be disposed of at the facility without treatment verification.

B. *Grease trap holdings*: the disposal trench identifier, the time of disposal of wastes into the disposal trenches, and the time and depth of placement of soil cover.

C. *Treated sludge*: description of the methods of pre-treatment utilized to achieve vector attraction and pathogen reduction requirements of EPA 40 CFR 503, the disposal cell identifier, and the time of disposal.

All manifests shall be signed by Mr. Steve Rael and contain the following language:

"I certify, under penalty of law, that the prescribed ground water protection, vector attraction reduction and pathogen reduction requirements have been met. This determination has been made under my direction and supervision in accordance with the prescribed procedures. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment."

The reason for this condition is to comply with Section 20.6.2.3107.A.8 NMAC and Section 74-6-5 of the WQA.

8. The Applicant has proposed and NMED agrees to the following soil monitoring condition:

Composite samples shall be collected annually from designated locations within the shallow disposal cells. The locations shall be subject to NMED approval prior to sampling. Using a hand auger



or shovel, S & R Septic shall collect soil samples from each of six locations at a depth of 12 inches and a depth of 36 inches *below* the cell bottoms. The soil samples from the six locations at each of the two discrete depths shall be mixed together, and the two "composite" samples (12 inch sample and 36 inch sample) shall be analyzed for total Kjeldahl nitrogen and nitrate as nitrogen. Samples shall be collected and analyzed, and the analytical results shall be submitted to NMED by May 31 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109 NMAC by providing monitoring in the vadose zone.

9. The Applicant has proposed and NMED agrees with the following condition concerning monitoring and reporting of nitrogen loading at the facility:

S & R Septic shall submit to NMED on a bi-annual basis Land Application Data Sheets specifying the volume of wastewater discharged to each of the shallow disposal trenches and the total nitrogen load determined from either of the following methods: (1) an assumed total nitrogen concentration of 600 milligrams per liter based on average characteristics of septage (*Guide to Septage Treatment and Disposal, EPA/625/R-94-002*); or (2) a total nitrogen value derived from the laboratory analysis of a composite sample from a minimum of six waste loads using a sampling protocol pre-approved by NMED.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC by providing adequate documentation of nitrogen discharged.

10. The Applicant has proposed submitting monitoring reports to NMED, and stipulates to the following NMED proposed condition:

The Applicant shall submit bi-annual reports that include the following information:

- A. Manifests of waste pick-up,
- B. Manifests of vector attraction reduction and pathogen reduction,
- C. Land application data sheets for all disposal trenches used during the previous six months,
- D. Annual analyses of soils for total Kjeldahl nitrogen

(TKN) and nitrate as nitrogen.  
Bi-annual reports shall be submitted to NMED by May 31 and November 30 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109.H NMAC by providing monitoring of leachate and effluent.

**Contingency Plan**

11. The Applicant has not proposed a contingency plan in the event that waste discharges at the facility adversely impacts ground water. NMED proposes and the Applicant stipulates to the following condition:

If ground water contamination is discovered during the term of the discharge permit or following closure of the facility and is attributable to the operations at this facility, S & R Septic shall submit a corrective action plan to NMED. The corrective action plan shall include a site investigation to define the source, nature and extent of contamination, a proposed abatement option, and a schedule for implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4106.E, 20.6.2.4107, and 20.6.2.4112 NMAC. The corrective action plan shall be submitted to NMED for approval within 30 days of confirmation of ground water contamination, and shall be initiated within 30 days of NMED approval.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC.

12. The Applicant has proposed to notify NMED within 25 hours in the event of a spill. NMED proposes and the Applicant stipulates to the following condition:

In the event of an effluent spill or release, S & R Septic shall take immediate action to contain or mitigate the damage caused by the discharge and shall initiate the notifications and corrective actions required as required in Section 20.6.2.1203 NMAC. Within 24 hours of discovery of the incident, S & R Septic shall verbally notify NMED and provide the information outlined in Section 20.6.2.1203.A.1 NMAC. Within seven days of discovering the incident, S & R Septic shall submit a written report verifying the

oral notification and providing any additional pertinent information or changes. Within 15 days of the incident, S & R Septic shall submit a corrective action report describing actions taken and/or to be taken to remedy the impact of the spill.

The reason for this condition is to comply with Sections 20.6.2.1203 and 20.6.2.3107.A.10 NMAC by providing a corrective action response to address unauthorized releases.

13. The Applicant has proposed and NMED agrees to the following condition regarding a contingency plan in the event of significant migration of nitrogen contaminants in the vadose zone beneath the disposal cells:

In the event that results of sampling conducted under Condition # 8 indicate that significant migration of contaminants has occurred and upon notification by NMED, S & R Septic shall submit to NMED within 60 days a corrective action plan which proposes additional testing to determine the extent of the vertical migration of total Kjeldahl nitrogen and nitrate-nitrogen below the facility and address source control or reduction of the total nitrogen discharged.

The reason for this condition is to comply with Section 20.6.2.3107.A.10 NMAC by providing a contingency plan to address potential impacts to ground water quality.

**Closure Plan**

14. The Applicant proposes and NMED agrees with the following condition regarding closure of the facility:

In the event of closure of the facility, S & R Septic shall cover and disk all waste materials into the soil and re-grade the site to match surrounding landscape contours. S & R Septic shall re-seed the site with native grasses following grading.

The reason for this condition is to comply with Section 20.6.2.3107.A.11 NMAC by

providing a closure plan to address potential impacts to ground water quality after the facility is closed.

15. The Applicant has proposed to maintain the perimeter fencing and security for a minimum of thirty days after grading and re-seeding to prevent unauthorized access, but instead stipulates to the following NMED proposed condition:

Following final grading and re-seeding of the site, S & R Septic shall maintain the perimeter fencing and security gate for a minimum of three years to prevent unauthorized access.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC, Section 20.6.2.3109 NMAC, and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

#### **Other Conditions**

16. NMED further proposes and the Applicant stipulates to the following condition:

Pursuant to Section 20.6.2.3109 NMAC and the WQA, NMED reserves the right to terminate or modify this permit for, among other things: 1) violation of any condition of the permit; 2) violation of any provisions of the Water Quality Act or any applicable regulations, standard of performance or water quality standards; or 3) violation of any applicable state or federal effluent regulations or limitations [WQA 74-6-5 (L)]. A modification may include changing waste disposal management practices, and/or implementing remediation systems.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC, Section 20.6.2.3109 NMAC, and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

#### **General Discharge Permit Requirements**

NMED also proposes that the discharge permit include standard general requirements.

They are included in all of NMED's discharge permits, covering a broad range of topics including monitoring and reporting, record keeping, inspection and entry, duty to provide information, reporting of spills, leaks and other unauthorized discharges, retention of records, enforcement, permit modifications, and the term of the permit.

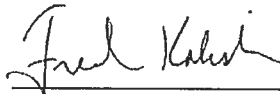
## **VII. NMED'S RECOMMENDATION**

Section 20.6.2.3109 NMAC provides that the Secretary shall approve a proposed discharge plan, modification or renewal if it meets one of three requirements, provided that the other requirements of the WQCC Regulations are met and the proposed discharge plan, modification or renewal demonstrates that neither a hazard to public health nor undue risk to property will result from the discharge. The proposed discharge plan for the renewal of DP-465 with conditions will not adversely affect ground water quality at and around the facility, nor will it result in either concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutants at any place of withdrawal of water for present or reasonably foreseeable future use. Moreover, the proposed discharge plan with conditions provides for adequate sampling and monitoring and meets all other applicable requirements under the WQA and the WQCC Regulations. Lastly, the proposed discharge plan with conditions presents neither a hazard to the public health nor undue risk to property.

Additionally, upon information and belief, none of the causes for denying an application for a permit, modification or renewal under Section 74-6-5 of the WQA or Section 20.6.2.3109.H NMAC exist in this matter. On February 26, 1997 and July 28, 2000 NMED issued Letters of Non-Compliance to Mr. Rael for failure to submit timely monitoring reports and non-compliance with permit conditions. In response to the Letters, Mr. Rael corrected the violations. As such,

the referenced compliance issues, in my opinion, do not rise to the level of willful disregard for environmental laws.

Therefore, on behalf of the Ground Water Quality Bureau I recommend that, pursuant to his authority under Section 20.6.2.3109.B, the Secretary approve the proposed discharge permit renewal with the conditions detailed in NMED Exhibit "A".



\_\_\_\_\_  
FRED KALISH  
Ground Water Quality Bureau  
New Mexico Environment Department  
Santa Fe, New Mexico

*ACKNOWLEDGEMENT*

Subscribed and sworn to before me this 26<sup>TH</sup> day of July 2002 by Fred Kalish



\_\_\_\_\_  
Notary Public

My commission expires:

10/29/02

# Surface Disposal D: S&R Septic

Cell # 1 Acres 0.15

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2014	0	0.0000	0.00	0.00
Feb	2014	0	0.0000	0.00	0.00
Mar	2014	0	0.0000	0.00	0.00
Apr	2014	0	0.0000	0.00	0.00
May	2014	0	0.0000	0.00	0.00
Jun	2014	0	0.0000	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>0</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.00</b>
Jul	2014	0	0.0000	0.00	0.00
Aug	2014	0	0.0000	0.00	0.00
Sep	2014	0	0.0000	0.00	0.00
Oct	2014	0	0.0000	0.00	0.00
Nov	2014	0	0.0000	0.00	0.00
Dec	2014	0	0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>0</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.00</b>

GROUND WATER

OCT 25 2018

BUREAU

*Via email  
Sawyer*

**Surface Disposal DiS&R Septic**

**Cell # 2 Acres 0.10**

**SDDS Calculations DP-465**

(NOTE: Pre 2015 Cell D

**Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge Volume gallons	V/million V/1000000	Total N 600xCx8.34	N-loading (lbs)	
					Total N	Total N/Ac
Jan	2014	0.0000	0.0000	0.00	0.00	0.00
Feb	2014	0.0000	0.0000	0.00	0.00	0.00
Mar	2014	0.0000	0.0000	0.00	0.00	0.00
Apr	2014	0.0000	0.0000	0.00	0.00	0.00
May	2014	0.0000	0.0000	0.00	0.00	0.00
Jun	2014	0.0000	0.0000	0.00	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>0</b>				<b>0.00</b>
Jul	2014	0.0000	0.0000	0.00	0.00	0.00
Aug	2014	0.0000	0.0000	0.00	0.00	0.00
Sep	2014	0.0000	0.0000	0.00	0.00	0.00
Oct	2014	0.0000	0.0000	0.00	0.00	0.00
Nov	2014	0.0000	0.0000	0.00	0.00	0.00
Dec	2014	0.0000	0.0000	0.00	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>0</b>				<b>0.00</b>



# Surface Disposal DiS&R Septic

Cell # 3 Acres 0.14

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2014	0	0.0000	0.00	0.00
Feb	2014	0	0.0000	0.00	0.00
Mar	2014	0	0.0000	0.00	0.00
Apr	2014	0	0.0000	0.00	0.00
May	2014	0	0.0000	0.00	0.00
Jun	2014	0	0.0000	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>0</b>			<b>0.00</b>
Jul	2014	0	0.0000	0.00	0.00
Aug	2014	0	0.0000	0.00	0.00
Sep	2014	0	0.0000	0.00	0.00
Oct	2014	0	0.0000	0.00	0.00
Nov	2014	0	0.0000	0.00	0.00
Dec	2014	0	0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>0</b>			<b>0.00</b>

# Surface Disposal DiS&R Septic

Cell # 4 Acres 0.11

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-J|Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/AC
		Volume gallons	V/million V/1000000		
Jan	2014	6,000	0.0060	30.02	272.95
Feb	2014	0	0.0000	0.00	0.00
Mar	2014	8,000	0.0080	40.03	363.93
Apr	2014	0	0.0000	0.00	0.00
May	2014	5,000	0.0050	25.02	227.45
Jun	2014	0	0.0000	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>19,000</b>			<b>864.33</b>
Jul	2014	10,000	0.0100	50.04	454.91
Aug	2014	6,000	0.0060	30.02	272.95
Sep	2014	7,000	0.0070	35.03	318.44
Oct	2014	0	0.0000	0.00	0.00
Nov	2014	9,000	0.0090	45.04	409.42
Dec	2014	0	0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>32,000</b>			<b>1,455.71</b>

# Surface Disposal D:S&R Septic

Cell # 5 Acres 0.18

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2014	5,000	0.0050	25.02	139.00
Feb	2014	0	0.0000	0.00	0.00
Mar	2014	7,000	0.0070	35.03	194.60
Apr	2014	2,000	0.0020	10.01	55.60
May	2014	7,500	0.0075	37.53	208.50
Jun	2014	0	0.0000	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>21,500</b>			<b>597.70</b>
Jul	2014	8,000	0.0080	40.03	222.40
Aug	2014	8,500	0.0085	42.53	236.30
Sep	2014	7,000	0.0070	35.03	194.60
Oct	2014	2,000	0.0020	10.01	55.60
Nov	2014	6,000	0.0060	30.02	166.80
Dec	2014	0	0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>31,500</b>			<b>875.70</b>

**Surface Disposal DiS&R Septic**

**Cell # 6 Acres 0.13**

**SDDS Calculations**

**DP-465**

(NOTE: Pre 2015 Cell D

**Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2014	12,000	0.0120	60.05	461.91
Feb	2014	0	0.0000	0.00	0.00
Mar	2014	7,000	0.0070	35.03	269.45
Apr	2014	8,000	0.0080	40.03	307.94
May	2014	0	0.0000	0.00	0.00
Jun	2014	0	0.0000	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>27,000</b>			<b>1,039.29</b>
Jul	2014	9,000	0.0090	45.04	346.43
Aug	2014	4,000	0.0040	20.02	153.97
Sep	2014	0	0.0000	0.00	0.00
Oct	2014	8,000	0.0080	40.03	307.94
Nov	2014	6,000	0.0060	30.02	230.95
Dec	2014	0	0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>27,000</b>			<b>1,039.29</b>

# Surface Disposal DiS&R Septic

Cell # 7 Acres 0.17

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-June 2014 and July Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2014	14,500	0.0145	72.56	426.81
Feb	2014	12,000	0.0120	60.05	353.22
Mar	2014	0	0.0000	0.00	0.00
Apr	2014	6,000	0.0060	30.02	176.61
May	2014	0	0.0000	0.00	0.00
Jun	2014	9,000	0.0090	45.04	264.92
<b>Jan-Jun</b>	<b>Total</b>	<b>41,500</b>		<b>45.04</b>	<b>1,221.56</b>
Jul	2014	6,500	0.0065	32.53	191.33
Aug	2014	6,000	0.0060	30.02	176.61
Sep	2014	0	0.0000	0.00	0.00
Oct	2014	6,000	0.0060	30.02	176.61
Nov	2014	7,000	0.0070	35.03	206.05
Dec	2014	0	0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>25,500</b>		<b>0.00</b>	<b>750.60</b>

# Surface Disposal D:S&R Septic

Cell # 8 Acres 0.28

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		V/million Total N	N-loading (lbs)
		Volume	V/1000000		
		gallons	V/1000000	600xCx8.34	Total N/Ac
Jan	2014	0	0.0000	0.00	0.00
Feb	2014	9,300	0.0093	46.54	166.20
Mar	2014	0	0.0000	0.00	0.00
Apr	2014	6,000	0.0060	30.02	107.23
May	2014	0	0.0000	0.00	0.00
Jun	2014	8,000	0.0080	40.03	142.97
<b>Jan-Jun</b>	<b>Total</b>	<b>23,300</b>			<b>416.40</b>
Jul	2014	6,000	0.0060	30.02	107.23
Aug	2014	7,000	0.0070	35.03	125.10
Sep	2014	0	0.0000	0.00	0.00
Oct	2014	7,000	0.0070	35.03	125.10
Nov	2014	5,000	0.0050	25.02	89.36
Dec	2014	0	0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>25,000</b>			<b>446.79</b>

**Surface Disposal Dis&R Septic**

**Cell # 9 Acres 0.17 SDDS Calculations DP-465**

(NOTE: Pre 2015 Cell D

**Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2014	0	0.0000	0.00	0.00
Feb	2014	10,000	0.0100	50.04	294.35
Mar	2014	0	0.0000	0.00	0.00
Apr	2014	9,500	0.0095	47.54	279.64
May	2014	0	0.0000	0.00	0.00
Jun	2014	7,000	0.0070	35.03	206.05
<b>Jan-Jun</b>	<b>Total</b>	<b>26,500</b>			<b>780.04</b>
Jul	2014	7,000	0.0070	35.03	206.05
Aug	2014	8,000	0.0080	40.03	235.48
Sep	2014	0	0.0000	0.00	0.00
Oct	2014	4,300	0.0043	21.52	126.57
Nov	2014	6,000	0.0060	30.02	176.61
Dec	2014	0	0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>25,300</b>			<b>744.71</b>

**Surface Disposal DiS&R Septic**

**Cell # 10 Acres 0.13**

**SDDS Calculations**

**DP-465**

(NOTE: Pre 2015 Cell D

**Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2014	0	0.0000	0.00	0.00
Feb	2014	8,000	0.0080	40.03	307.94
Mar	2014	0	0.0000	0.00	0.00
Apr	2014	6,000	0.0060	30.02	230.95
May	2014	0	0.0000	0.00	0.00
Jun	2014	7,000	0.0070	35.03	269.45
<b>Jan-Jun</b>	<b>Total</b>	<b>21,000</b>			<b>808.34</b>
Jul	2014	7,000	0.0070	35.03	269.45
Aug	2014	1,000	0.0010	5.00	38.49
Sep	2014	4,000	0.0040	20.02	153.97
Oct	2014	9,000	0.0090	45.04	346.43
Nov	2014	0	0.0000	0.00	0.00
Dec	2014	8,000	0.0080	40.03	307.94
<b>Jul-Dec</b>	<b>Total</b>	<b>29,000</b>			<b>1,116.28</b>



# Surface Disposal Discharge

Cell # 11 Acres 0.06

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs)
		Volume	V/million		
		gallons	V/1000000	600xCx8.34	Total N/Ac
Jan	2014	0	0.0000	0.00	0.00
Feb	2014	7,000	0.0070	35.03	583.80
Mar	2014	0	0.0000	0.00	0.00
Apr	2014	7,500	0.0075	37.53	625.50
May	2014	0	0.0000	0.00	0.00
Jun	2014	11,000	0.0110	55.04	917.40
<b>Jan-Jun</b>	<b>Total</b>	<b>25,500</b>			<b>2,126.70</b>
Jul	2014	5,000	0.0050	25.02	417.00
Aug	2014	0	0.0000	0.00	0.00
Sep	2014	6,500	0.0065	32.53	542.10
Oct	2014	6,000	0.0060	30.02	500.40
Nov	2014	0	0.0000	0.00	0.00
Dec	2014	6,000	0.0060	30.02	500.40
<b>Jul-Dec</b>	<b>Total</b>	<b>23,500</b>			<b>1,959.90</b>

# Surface Disposal D: S&R Septic

Cell # 12 Acres 0.13

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge Volume gallons	V/million V/1000000	Total N 600xCx8.34	N-loading (lbs)	
					Total N	Total N/Ac
Jan	2014	0.0000	0.0000	0.00	0.00	0.00
Feb	2014	0.0000	0.0000	0.00	0.00	0.00
Mar	2014	0.0000	0.0000	0.00	0.00	0.00
Apr	2014	0.0000	0.0000	0.00	0.00	0.00
May	2014	0.0000	0.0000	0.00	0.00	0.00
Jun	2014	0.0000	0.0000	0.00	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>0</b>				<b>0.00</b>
Jul	2014	0.0000	0.0000	0.00	0.00	0.00
Aug	2014	0.0000	0.0000	0.00	0.00	0.00
Sep	2014	0.0000	0.0000	0.00	0.00	0.00
Oct	2014	0.0000	0.0000	0.00	0.00	0.00
Nov	2014	0.0000	0.0000	0.00	0.00	0.00
Dec	2014	0.0000	0.0000	0.00	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>0</b>				<b>0.00</b>

**Surface Disposal D: S&R Septic**

**Cell # 13 Acres 0.18**

**SDDS Calculations**

**DP-465**

(NOTE: Pre 2015 Cell D)

**Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge		Total N	N-loading (lbs) Total N/Ac
		Volume gallons	V/million V/1000000		
Jan	2014	0.0000	0.00	0.00	0.00
Feb	2014	0.0000	0.00	0.00	0.00
Mar	2014	0.0000	0.00	0.00	0.00
Apr	2014	0.0000	0.00	0.00	0.00
May	2014	0.0000	0.00	0.00	0.00
Jun	2014	0.0000	0.00	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00</b>
Jul	2014	0.0000	0.00	0.00	0.00
Aug	2014	0.0000	0.00	0.00	0.00
Sep	2014	0.0000	0.00	0.00	0.00
Oct	2014	0.0000	0.00	0.00	0.00
Nov	2014	0.0000	0.00	0.00	0.00
Dec	2014	0.0000	0.00	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00</b>

# Surface Disposal D: S&R Septic

Cell # 14 Acres 0.14 SDDS Calculations DP-465

(NOTE: Pre 2015 Cell D)

Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge		Total N	N-loading (lbs)
		Volume	V/million		
		gallons	V/1000000	600xCx8.34	Total N/Ac
Jan	2014		0.0000	0.00	0.00
Feb	2014		0.0000	0.00	0.00
Mar	2014		0.0000	0.00	0.00
Apr	2014		0.0000	0.00	0.00
May	2014		0.0000	0.00	0.00
Jun	2014		0.0000	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>0</b>			<b>0.00</b>
Jul	2014		0.0000	0.00	0.00
Aug	2014		0.0000	0.00	0.00
Sep	2014		0.0000	0.00	0.00
Oct	2014		0.0000	0.00	0.00
Nov	2014		0.0000	0.00	0.00
Dec	2014		0.0000	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>0</b>			<b>0.00</b>

**Surface Disposal D: S&R Septic**

**Cell # 15 Acres 0.15**

**SDDS Calculations**

**DP-465**

(NOTE: Pre 2015 Cell D

**Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration**

Month	Year	Discharge Volume gallons	V/million V/1000000	Total N 600xCx8.34	N-loading (lbs)	
					Total N/Ac	Total N/Ac
Jan	2014	0.0000	0.0000	0.00	0.00	0.00
Feb	2014	0.0000	0.0000	0.00	0.00	0.00
Mar	2014	0.0000	0.0000	0.00	0.00	0.00
Apr	2014	0.0000	0.0000	0.00	0.00	0.00
May	2014	0.0000	0.0000	0.00	0.00	0.00
Jun	2014	0.0000	0.0000	0.00	0.00	0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>0</b>				<b>0.00</b>
Jul	2014	0.0000	0.0000	0.00	0.00	0.00
Aug	2014	0.0000	0.0000	0.00	0.00	0.00
Sep	2014	0.0000	0.0000	0.00	0.00	0.00
Oct	2014	0.0000	0.0000	0.00	0.00	0.00
Nov	2014	0.0000	0.0000	0.00	0.00	0.00
Dec	2014	0.0000	0.0000	0.00	0.00	0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>0</b>				<b>0.00</b>

# Surface Disposal D: S&R Septic

Cell # 16 Acres 0.21

SDDS Calculations

DP-465

(NOTE: Pre 2015 Cell D

Reporting Period: Jan-Jun 2014 and Jul Dec 2014 Assumes 600 mg/L Nitrogen Concentration

Month	Year	Discharge Volume gallons	V/million V/1000000	Total N 600xCx8.34	N-loading (lbs)	
					Total N	Total N/Ac
Jan	2014		0.0000	0.00		0.00
Feb	2014		0.0000	0.00		0.00
Mar	2014		0.0000	0.00		0.00
Apr	2014		0.0000	0.00		0.00
May	2014		0.0000	0.00		0.00
Jun	2014		0.0000	0.00		0.00
<b>Jan-Jun</b>	<b>Total</b>	<b>0</b>				<b>0.00</b>
Jul	2014		0.0000	0.00		0.00
Aug	2014		0.0000	0.00		0.00
Sep	2014		0.0000	0.00		0.00
Oct	2014		0.0000	0.00		0.00
Nov	2014		0.0000	0.00		0.00
Dec	2014		0.0000	0.00		0.00
<b>Jul-Dec</b>	<b>Total</b>	<b>0</b>				<b>0.00</b>

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DP-465 (ua)  
p.1

GROUND WATER

JUN 03 2014

BUREAU

**S&R PLUMBING**  
**P.O. BOX 3155**  
**RANCHOS DE TAOS, NEW MEXICO 87557**  
**575-758-3515** FAX 575-751-0308

**FAX TRANSMITTAL FORM**

**To: NMED GROUND WATER**  
**Name**  
**CC:**  
**Phone: 505-827-2900**  
**Fax: 505-827-2965**

**From: Loretta Rael**  
**Date Sent: 06-03-14**

**Number of Pages: 13 with cover**

**Message: DP-465**

01134  
NMED 00959

GROUNDWATER

JUN 03 2014

**HAULED LIQUID WASTE D-P 465 July 01 to December 31 2013**

BUREAU

Date	Customer	Location	Galic	Cell	N/A	Vehicle	gallons	# Lds.	Total Gal Per Day	Date	Hydrated	lbs.	Time	pH after 30 min
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07-01-13	Trading Post	Ranchos	2000	9	n/a	WD-88789	2000	1	2000	07-01-13	Hydrated	75	10:45	12.3
07-02-13														
07-03-13	Trading Post	Ranchos	2000	9	n/a	WD-10434C	2000	1	2000	07-03-13	Hydrated	75	11:00	12.4
07-03-13	Inn of TSV	TSV	5000	9	n/a	WD-88789	5000	1	5000	07-13-13	Hydrated	200	4:30	12.6
07-04-13	TaosSKIV	TSV	5000	10	n/a	WD-88789	5000	1	5000	07-04-13	Hydrated	200	3:00	12.6
07-05-13	Trading Post	Ranchos	2000	10	n/a	WD-88789								
07-05-13	Plaza Grill	Ranchos	1000	10	n/a	WD-88789	3000	2	3000	07-05-13	Hydrated	125	9:45	12.3
07-06-13														
07-07-13														
07-08-13	Trading Post	Ranchos	2000	11	n/a	WD-88789	2000	1	2000	07-08-13	Hydrated	75	9:45	12.3
07-09-13	Billy Azbell	Ranchos	1000	11	n/a	WD-10434C	1000	1	1000	07-09-13	Hydrated	50	2:30	12.5
07-10-13	Trading Post	Ranchos	2000	11	n/a	WD-88789	2000	1	2000	07-10-13	Hydrated	75	9:30	12.4
07-11-13	Angel Fire Home		1000	11	n/a	WD-10434C	1000	1	1000	07-11-13	Hydrated	50	2:30	12.5
07-12-13	Trading Post	Ranchos	2000	12	n/a	WD-88789								
07-12-13	Plaza Grill	Ranchos	1000	12	n/a	WD-88789								
07-12-13	Taos Aviation SRanchos		1000	12	n/a	WD-88789	4000	3	4000	07-12-13	Hydrated	175	3:30	12.7
07-13-13														
07-14-13														



GROUND WATER

JUN 03 2014

BUREAU



07-15-13	Laura Chavez Taos	1000	12	n/a	WD-88789	3000	3	2000	07-15-13	Hydrated	125	1:00	12.8
07-15-13	Trading Post Ranchos	2000	12	n/a	WD-88789	3000	3	2000	07-15-13	Hydrated	125	1:00	12.8
07-16-13													
07-17-13	Trading Post Ranchos	2000	13	n/a	WD-88789	3000	2	3000	07-17-13	Hydrated	125	2:15	12.8
07-17-13	George Lee ArroyoSeco	1000	13	n/a	WD-88789	3000	2	3000	07-17-13	Hydrated	125	2:15	12.8
07-18-13	Suzanne Salazar	1000	13	n/a	WD-10434C	1000	1	1000	07-18-13	Hydrated	50	2:00	12.4
07-19-13	Trading Post Ranchos	2000	1	n/a	WD-104340								
07-19-13	Plaza Grill Ranchos	1000	1	n/a	WD-10434C	3000	2	3000	07-19-13	Hydrated	125	9:15	12.5
07-19-13	Taos Country C Taos	2000	1	n/a	WD-88789								
07-19-13	US Post Office El Prado	2000	1	n/a	WD-88789	4000	2	4000	07-19-13	Hydrated	175	2:45	12.8
07-20-13	Zog Design Taos	1000	1	n/a	WD-88789	1000	1	1000	07-20-13	Hydrated	50	1:00	12.3
07-21-13													
07-22-13	Trading Post Ranchos	2000	2	n/a	WD-104340								
07-22-13	Mariposa Taos	1000	2	n/a	WD-10434C	3000	2	3000	07-22-13	Hydrated	125	3:45	12.3
07-23-13													
07-24-13	Trading Post Ranchos	2000	2	n/a	WD-88789	2000	1	2000	07-24-13	Hydrated	75	10:00	12.5
07-25-13	Solar Survival Taos	1000	2	n/a	WD-104340								
07-25-13	Harry Bartel Ranchos	1000	2	n/a	WD-10434C	2000	2	3000	07-25-13	Hydrated	100	5:30	12.7
07-26-13	Trading Post Ranchos	2000	3	n/a	WD-88789								
07-26-13	Plaza Grill Ranchos	1000	3	n/a	WD-88789	3000	2	3000	07-26-13	Hydrated	125	11:00	12.4
07-27-13													
07-28-13													

07-29-13	Trading Post	Ranchos	2000	3	n/a	WD-10434C	2000	1	2000	07-29-13	Hydrated	75	10:15	12.3
07-30-13														
07-31-13	Trading Post	Ranchos	2000	3	n/a	WD-88789								
07-31-13	Twining	TSV	2000	3	n/a	WD-88789	4000	2	4000	07-31-13	Hydrated	175	5:00	12.8
							58000							
08-01-13	Nora Oast	Taos	1000	4	n/a	WD-10434C	1000	1	1000	08-01-13	Hydrated	50	4:30	12.4
08-02-13	Trading Post	Ranchos	2000	4	n/a	WD-104340								
08-02-13	Plaza Grill	Ranchos	1000	4	n/a	WD-10434C	3000	2	3000	08-02-13	Hydrated	125	9:00	12.6
08-02-13	Streamside	TSV	5000	4	n/a	WD-88789	5000	1	5000	08-02-13	Hydrated	200	4:30	12.5
08-03-13														
08-04-13														
08-05-13	Trading Post	Ranchos	2000	5	n/a	WD-10434C	2000	1	2000	08-05-13	Hydrated	75	8:30	12.3
08-06-13														
08-07-13	Trading Post	Ranchos	2000	5	n/a	WD-104340								
08-07-13	Marie Salandra Taos	Taos	1000	5	n/a	WD-10434C	3000	2	3000	08-07-13	Hydrated	150	12:45	12.6
08-08-13														
08-09-13	Trading Post	Ranchos	2000	5	n/a	WD-88789								
08-09-13	Plaza Grill	Ranchos	1000	5	n/a	WD-88789	3000	2	3000	08-09-13	Hydrated	125	11:00	12.5
08-10-13														
08-11-13														
08-12-13	Trading Post	Ranchos	2000	6	n/a	WD-10434C	2000	1	2000	08-12-13	Hydrated	75	10:00	12.4





08-13-13	SuzannaStar	Taos	1000	6	n/a	WD-10434C	1000	1	1000	08-13-13	Hydrated	50	4:45	12.7
08-14-13	Trading Post	Ranchos	2000	6	n/a	WD-10434C	2000	1	2000	08-14-13	Hydrated	75	9:30	12.3
08-15-13														
08-16-13	Trading Post	Ranchos	2000	7	n/a	WD-10434D								
08-16-13	Plaza Grill	Ranchos	1000	7	n/a	WD-10434C	3000	2	3000	08-16-13	Hydrated	75	11:00	12.6
08-17-13														
08-18-13	Lindley Edwar	Taos	1000	7	n/a	WD-10434C	1000	1	1000	08-18-13	Hydrated	###	3:00	12.7
08-19-13	Trading Post	Ranchos	2000	7	n/a	WD-10434C	2000	1	2000	08-19-13	Hydrated	75	9:00	12.5
08-20-13														
08-21-13	Trading Post	Ranchos	2000	8	n/a	WD-88789								
08-21-13	Robert Gaza	El Prado	1000	8	n/a	WD-88789								
08-21-13	SusanneSala	Ranchos	1000	8	n/a	WD-88789	4000	3	4000	08-21-13	Hydrated	150	4:30	12.8
08-22-13														
08-23-13	Trading Post	Ranchos	2000	8	n/a	WD-88789								
08-23-13	Plaza Grill	Ranchos	1000	8	n/a	WD-88789	3000	2	3000	08-23-13	Hydrated	125	10:15	12.4
08-24-13														
08-25-13														
08-26-13	Trading Post	Ranchos	2000	9	n/a	WD-10434C	2000	1	2000	08-26-13	Hydrated	75	9:30	12.3
08-27-13														
08-28-13	Trading Post	Ranchos	2000	9	n/a	WD-10434C	2000	1	2000	08-28-13	Hydrated	75	10:45	12.6



08-29-13  
**08-30-13 TOWN OF TAOS 39000**  
  
08-31-13 TOWN OF TAOS  
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12-06-13	Trading Post	Ranchos	2000	5	n/a	WD-88789	2000	1	2000	12-06-13	Hydrated	75	9:15	12.3
12-07-13														
12-08-13														
12-09-13	Trading Post	Ranchos	1000	6	n/a	WD-88789	2000	1	2000	12-09-13	Hydrated	75	11:00	12.5
12-10-13														
12-11-13	Trading Post	Ranchos	1000	6	n/a	WD-88789	2000	1	2000	12-11-13	Hydrated	75	10:45	12.5
12-12-13	Streamside	TSV	4000											
12-12-13	Carl Jones	ArroyoSeco	1000	6	n/a	WD-88789	5000	2	5000	12-12-13	Hydrated	200	4:30	12.4
12-13-13	Trading Post	Ranchos	2000	7	n/a	WD-88789	2000	1	2000	12-13-13	Hydrated	75	9:45	12.5
12-13-13	Lynn Conto	Pojoaque	5000	7	n/a	WD-88789	5000	1	5000	12-13-13	Hydrated	200	4:30	12.5
12-14-13	Brenda Price	Taos	1000	7	n/a	WD-88789	1000	1	1000	12-14-13	Hydrated	50	2:30	12.4
12-15-13	Ron Jordan	ArroyoSeco	1000	8	n/a	WD-88789	1000	1	1000	12-15-13	Hydrated	50	1:00	12.6
12-16-13	Trading Post	Ranchos	1000	8	n/a	WD-88789	2000	1	2000	12-16-13	Hydrated	75	10:45	12.5
12-17-13	Matt Martin	Taos	1000	8	n/a	WD-88789	1000	1	1000	12-17-13	Hydrated	50	12:15	12.4
12-18-13	Trading Post	Ranchos	1000	8	n/a	WD-88789	2000	1	2000	12-18-13	Hydrated	75	8:45	12.5
12-19-13														
12-20-13	Trading Post	Ranchos	2000	8	n/a	WD-88789	2000	1	2000	12-20-13	Hydrated	75	11:00	12.4
12-21-13														
12-22-13														



12-23-13	Trading Post	Ranchos	2000	9	n/a	WD-88789	2000	1	2000	12-23-13	Hydrated	75	10:00	12.6
12-24-13	Zog Design	Taos	1000	9	n/a	WD-88789								
12-24-13	Amizette Inn	TSV	1000	9	n/a	WD-88789	2000	2	2000	12-24-13	Hydrated	100	11:45	12.7
12-24-13	MonteClaire	Ranchos	4500	9	n/a	WD-88789	4500	1	4500	12-24-13	Hydrated	175	4:00	12.4
12-25-13	Trading Post	Ranchos	2000	10	n/a	WD-88789	2000	1	2000	12-25-13	Hydrated	75	9:30	12.6
12-26-13	Ron Jordon	ArroyoSeco	1000	10	n/a	WD-88789	1000	1	1000	12-26-13	Hydrated	75	3:15	12.4
12-27-13	Trading Post	Ranchos	2000	10	n/a	WD-88789	2000	1	2000	12-27-13	Hydrated	75	10:00	12.5
12-28-13														
12-29-13														
12-30-13	Trading Post	Ranchos	2000	10	n/a	WD-88789								
12-30-13	Dennis Coca	Ranchos	1000	10	n/a	WD-88789	3000	2	3000	12-30-13	Hydrated	125	3:00	12.3

12-31-13  
**2013 TOTALS**  
 48500

July	58000
August	39000
#####	
October	12000
November	47400
December	48500



GARY E. JOHNSON  
GOVERNOR

State of New Mexico  
**ENVIRONMENT DEPARTMENT**  
Ground Water Protection and Remediation Bureau

Harold Runnels Building  
1190 St. Francis Drive, P.O. Box 26110  
Santa Fe, New Mexico 87502  
(505) 827-2918 phone  
(505) 827-2965 fax



MARK E. WEIDLER  
SECRETARY

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

March 17, 1997

DP-465 (FK)

Mr. Steve Rael  
S & R Septic Service  
Box 4890  
Taos, New Mexico 87571

Dear Mr. Rael:

The NM Environment Department (NMED) on May 29, 1992 approved DP-465 for S & R Septic Service. According to our records, the discharge plan approval will expire on May 29, 1997.

If you are still discharging at this facility and wish to continue discharging, you must request renewal of the discharge plan approval. You may request renewal by submitting a completed New Mexico Environment Department Ground Water Discharge Permit Application (copy enclosed). Please note that the application now requires a contingency plan and a closure plan which may not have been included when your discharge plan was previously approved.

Also, all requests for renewal must be accompanied by a Filing Fee of \$50. An additional Discharge Fee will be assessed prior to approval as required by Section 3-114 of the NM Water Quality Control Commission Regulations.

If you are no longer discharging, please notify this office so that we may correct our records.

We look forward to your response. Generally processing requires 120 days. Timely action on your part can avoid a lapse in your discharge plan, which would be a violation of the NM Water Quality Control Commission regulations.

3/19/97  
P 332 432 537


US Postal Service  
**Receipt for Certified Mail**  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to Steve Rael	
S & R Septic Service	
Street & Number BOX 4890	
Post Office, New Mexico 87571	
Postage	\$

Mr. Steve Rael  
March 17, 1997  
Page 2

The person assigned to your discharge plan is Fred Kalish who you may contact at 827-2713 if you have any questions.

Sincerely,

  
Dale M. Doremus, Program Manager  
Ground Water Pollution Prevention Section

DMD:cjm

Enclosure: New Mexico Environment Department Ground Water  
Discharge Permit Application

cc: Kenneth McCallum, District Manager, NMED District 2



GARY E. JOHNSON  
GOVERNOR

*ad*

State of New Mexico  
**ENVIRONMENT DEPARTMENT**  
Ground Water Protection and Remediation Bureau

Harold Runnels Building  
1190 St. Francis Drive, P.O. Box 26110  
Santa Fe, New Mexico 87502  
(505) 827-2918 phone  
(505) 827-2965 fax



MARK E. WEIDLER  
SECRETARY

May 13, 1997

Mr. Steve Rael  
S & R Septic  
P.O. Box 4890  
Taos, NM 87571

RE: Requested Information, DP-465, S & R Septic

Dear Mr. Rael:

Enclosed find copies of documents you requested in our telephone conversation on May 12, 1997. I hope you will find the documents useful in the preparation of your discharge plan renewal.

If you have additional questions, please call me at 827-2713.

Sincerely,

Fred Kalish  
Water Resource Specialist  
Ground Water Pollution Prevention Section

Enclosure

NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION  
DISCHARGE PLAN APPLICATION - PART A

Name of facility: Steve E. Rael/b/a S&R Septic Service

Name of person legally responsible for discharge: Steve E. Rael

Address: P.O. Box 4890  
Taos, New Mexico 87571

DP-465

RECEIVED  
MAR 16 1992

GROUND WATER BUREAU

Telephone: 505-758-3515 Work 505-758-3085 Home

Name of local representative or contact person if different from above:  
n/a

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_  
\_\_\_\_\_

1. Location:

County: Taos see attached legal description  
\_\_\_\_\_ 1/4 of \_\_\_\_\_ 1/4 of \_\_\_\_\_ 1/4 of Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_

Use State coordinates or latitude/longitude on unsurveyed land \_\_\_\_\_

2. Type of operation, facility or development: sludge/treated wastewater  
depository

3. Type of treatment and/or storage - type of discharge (septic tank - leachfield,  
package treatment plant - lagoon, lagoon - land application, etc.):

Discharge to surface pond with trenches at exterior boundaries of  
pond to prevent escape. Sludge to be turned into soil with discs. 5/90

4. Quantity. Total volume in gallons per day (gpd) of each discharge. Describe how the flow will be metered or estimated: 20,000 gpd.

5. Quality. Concentrations in milligrams per liter (mg/l) of any contaminant listed in Section 3-103 of the New Mexico Water Quality Control Commission (WQCC) regulations, total nitrogen (sum of nitrate, ammonia and TKN), and any toxic pollutants as defined in Subsection 1-101.00 of the WQCC regulations that may be present in the discharge:

<u>Contaminant</u>	<u>Concentration (mg/l)</u>
<u>Total Nitrogen</u>	<u>650 mg/l</u>
<u>Total dissolved solids (TDS)</u>	<u>1000 mg/l</u>

6. Location of any water supply wells, injection wells, seeps, springs, bodies of water or watercourses within a one mile radius of the discharge site. Please locate on a topographic map or detailed aerial photograph.

Nearest body of water, watercourse, or groundwater discharge site more than 1 mile from proposed discharge site.

7. Depth to ground water: 500 to 600 ft.

Total dissolved solids (TDS) concentration of the ground water below the discharge site: 1000 milligrams per liter.

Reference or source of information: Taos EID

8. Flooding potential of the discharge site: Please indicate if discharge site is in a defined floodplain or has the potential for flash floods.  
~~xxxxxxperimeterofxxxx~~ None

Flooding protection measures (berms, channels, other, if applicable):  
Trenches at perimeter of site.



9. Geologic description of discharge site, if driller's logs(s) are available, please attach.

Soil (sand, clay, loam, or caliche etc.): 1-2 ft. topsoil/3-4 ft. caliche/gravel

Aquifer material (e.g. alluvium, sandstone, volcanic, etc.): Basalt

Thickness of alluvium, i.e. depth to bedrock (if available): 100-150 ft.

10. Describe actions taken to minimize potential contaminant seepage. e.g. lining of ponds, leakage detection/collection systems, etc.

Perimeter trenches to minimize escape of discharge.

11. Describe the proposed monitoring system. This should include sampling point locations for effluent, leachate, and/or ground water; sampling protocol; and the parameters to be tested for.

None proposed because of great depth (500-600ft.) of groundwater

Describe the location(s) of existing or proposed wells to be used for monitoring ground-water quality. Specify below and locate on a survey plot plan or scaled drawing of the property.

Well ID      Township      Range      Section      \_\_\_ 1-2 of \_\_\_ 1/4 of \_\_\_ 1/4

See Exhibit "B" attached hereto for legal description of  
property upon which is located at 600 ft. well which is  
closest groundwater well to proposed site.

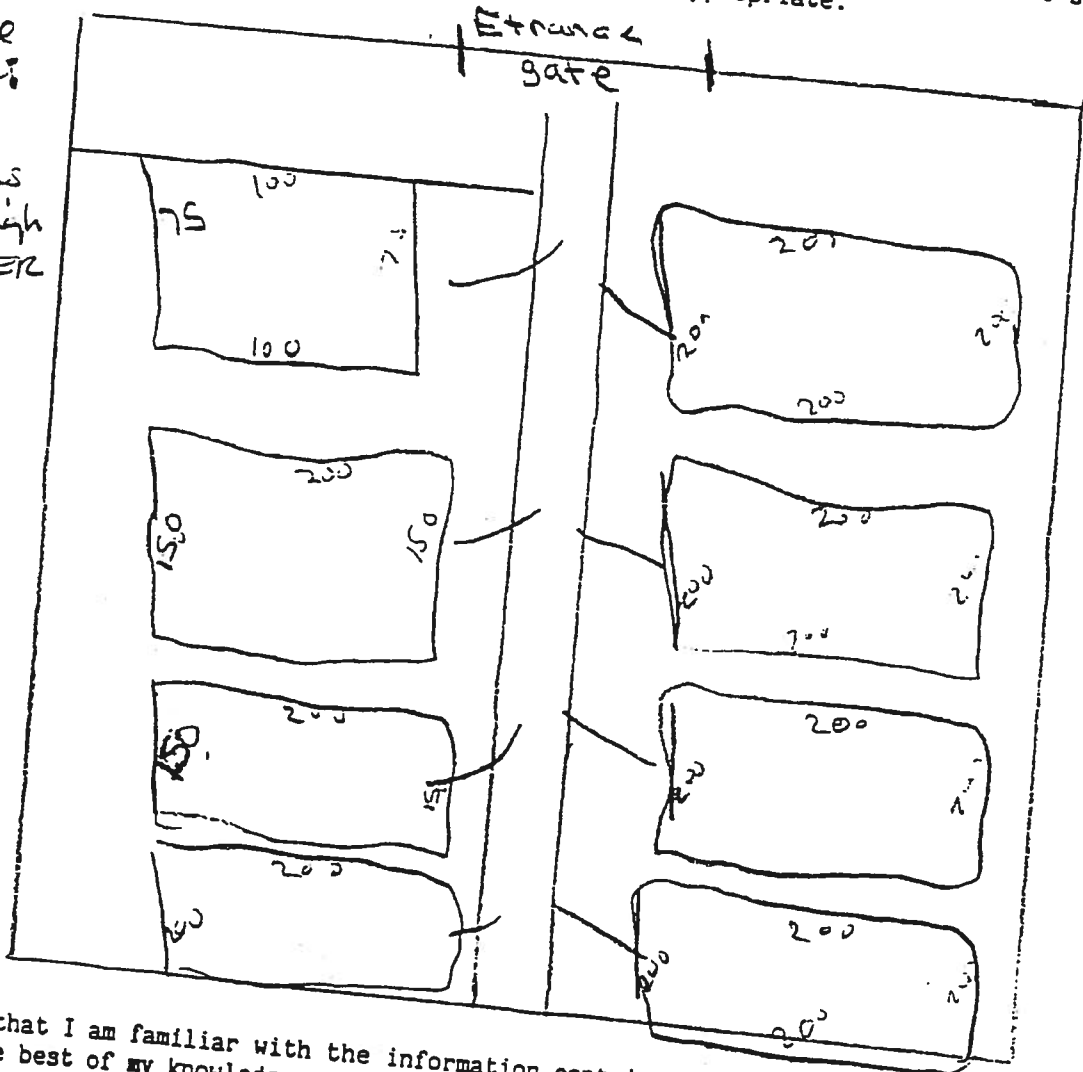
12. Describe the contingency plan to be implemented should ground-water standards be threatened or spills or failures occur.

Non-proposed because of the great depth of groundwater.

DISCHARGE PLAN APPLICATION - PART A - Page 4

13. Two (2) copies of plans and specifications must be submitted to the Ground Water Section of the Environmental Improvement Division. Plans and specifications should include a survey plot plan or scaled drawing of the property which shows all buildings on the property, the location and size of all septic tanks and leachfields or other systems used for the treatment and discharge of waste water, and the location and size of all pipelines used for the conveyance and distribution of effluent with valves and distribution boxes as appropriate. Include as part of the specifications, the size in acres of the facility. Use separate attachments as appropriate.

Please  
note:  
Side  
beams  
4 ft high  
AND OVER



I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete and accurate.

Steve Paul  
Signature of person legally  
responsible for the discharge

3-12-92  
Date

GARREY CARRUTHERS  
Governor  
DENNIS BOYD  
Secretary  
MICHAEL J. BURKHART  
Deputy Secretary  
RICHARD MITZELFELT  
Director

May 3, 1990

Courte Voorhes

District Manager, EID District 2

1911 5th St. suite 202-205

Santa Fe, NM 87515

RE: Discharge Plan DP - 465 or NOI

Dear Courte:

Enclosed is a copy of the latest Modification request  
which the EID Ground Water Section has received for your  
district. It is for S & R Sextre.

Please call me at 827-2900 if you would like additional  
information on this facility.

Sincerely,

\_\_\_\_\_  
Ernest C. Rebuck  
Program Manager  
Ground Water Section

Enclosure(s)

cc: Jon F. Thompson, Deputy Director, EID  
Stuart P. Castle, Bureau Chief, Ground Water Bureau  
Glenn Saums, Program Manager, Surface Water Section  
Bruce R. Nicholson, Program Manager, Air Quality Bureau  
Bill Blankenship, WR Specialist, Hazardous Waste Section  
District Engineer, EID District \_\_\_\_\_  
Discharge Plan or NOI File  
Reading File

- ENVIRONMENTAL IMPROVEMENT DIVISION -  
Harold Runnels Building  
1190 St. Francis Dr.  
Santa Fe, New Mexico 87503

01154 MED 01057



State of New Mexico

# ENVIRONMENT DEPARTMENT

BRUCE KING  
GOVERNOR

JUDITH M. ESPINOSA  
SECRETARY

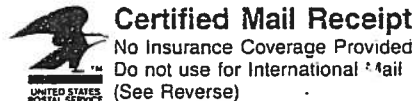
RON CURRY  
DEPUTY SECRETARY

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

June 10, 1992

P 904 057 535

Steve Rael  
S & R Septic  
Box 4890  
Taos, NM 87571



Sent to <i>Steve Rael</i>	
Street & No.	
P.O., State & ZIP Code	
Postage	\$

RE: Discharge Plan Renewal Approval, DP-465

Dear Mr. Rael:

Pursuant to Water Quality Control Commission (WQCC) Reg. 2-109, the discharge plan renewal application for DP-465, submitted by S & R Septic for the discharge of a maximum 20,000 gallons per day of septage is hereby approved, subject to the condition listed below. The facility is located northwest of Taos in Section 26, T26N, R12E, Taos County.

The approved septage disposal system is briefly described as follows: A maximum of 20,000 gpd of domestic septage is discharged into a series of shallow trenches.

The approved discharge plan consists of the information and materials dated March 3, 1992, and the original discharge plan approved April 7, 1987, and modified July 25, 1990.

However, approval of this discharge plan does not relieve you of your responsibility to comply with any other applicable local laws and regulations, such as zoning requirements and nuisance ordinances.

**CONDITION FOR APPROVAL**

This discharge plan approval is subject to the following condition for the following reason:

1. Within one year of the date of this letter you must demonstrate via soil testing beneath the sludge disposal basins that ground water won't be contaminated by the operation. A sampling program must be developed and submitted to the NMED for approval. Based on the sampling results the NMED reserves the right to modify DP-465, require additional sampling or the installation of liners.

DRUG FREE

Mr. Rael

Page 2

The reason for this condition is to ensure that ground water will not be contaminated by your septage disposal operation.

#### GENERAL DISCHARGE PLAN REQUIREMENTS

In addition to any other requirements provided by law, DP-465 approval is subject to the following general requirements:

##### Monitoring and Reporting

Monitoring and reporting shall be as specified in the discharge plan and supplements thereto. These requirements are summarized on the attached sheet(s). Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

##### Record Keeping

1. The discharger shall maintain at the facility, a written record of ground water and waste water quality analyses.
2. The discharger shall maintain a written record of any spills, seeps, and/or leaks of effluent, leachate and/or process fluids not authorized by this discharge plan.
3. The discharger shall maintain a written record of the operation, maintenance and repair of facilities/equipment used to treat, store and/or dispose of waste water; to measure flow rates; and/or to monitor water quality. This will include repairs, replacement or calibration of flow meters or repairs or replacement of pond liners.

##### Inspection and Entry

In accordance with § 74-6-9.B & E NMSA 1978 and WQCC Reg. 3-107.D., the discharger shall allow the Secretary or her authorized representative, upon the presentation of credentials, to:

1. Enter at regular business hours or at other reasonable times upon the discharger's premises or where records must be kept under the conditions of this discharge plan.
2. Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of the discharge plan.

Mr. Rael

Page 3

3. Inspect, at regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment), practices or operations regulated or required under this discharge plan.

4. Sample or monitor, at reasonable times for the purpose of assuring discharge plan compliance or as otherwise authorized by the New Mexico Water Quality Act, any effluent at any location before or after discharge.

#### Duty to Provide Information

In accordance with § 74-6-9.B NMSA 1978 and WQCC Reg. 3-107.D., the discharger shall furnish to the NMED, within a reasonable time, any relevant information which it may request to determine whether cause exists for modifying, terminating and/or renewing this discharge plan or to determine compliance with this plan. The discharger shall furnish to the NMED, upon request, copies of records required to be kept by this discharge plan.

#### Spills, Leaks and Other Unauthorized Discharges

This approval authorizes only those discharges specified in the discharge plan. Any unauthorized discharges violate WQCC Reg. 3-104, and must be reported to the NMED and remediated as required by WQCC Reg. 1-203. This requirement applies to all seeps, spills, and/or leaks discovered from the septic tank/leachfield or that may directly or indirectly leave the boundaries of S & R Septic.

#### Retention of Records

The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this discharge plan, and records of all data used to complete the application for this discharge plan, for a period of at least five years from the date of the sample collection, measurement, report or application. This period may be extended by request of the Secretary at any time.

#### Enforcement

Failure to grant the Secretary or her authorized representative access to the records required to be kept by this discharge plan or to allow an inspection of the discharge facilities or to the collection of samples is a violation of this discharge plan and the WQCC Regulations. Such violations as well as other violations of the discharge plan may subject the discharger to civil penalties and injunctive relief pursuant to § 74-6-5.P and § 74-6-10 NMSA 1978, and/or modification or termination of this discharge plan.

Mr. Rael

Page 4

pursuant to § 74-6-5.J NMSA 1978. In addition, anyone who knowingly makes any false statement, representation or certification in any record, report or other document required to be kept by this discharge plan shall, upon conviction, be punished by a fine of not less than \$300 or more than \$10,000 per day or by imprisonment for not more than one year or both, pursuant to § 74-6-5.0 NMSA 1978.

**Modifications and/or Amendments**

The discharger shall notify NMED, pursuant to WQCC Regs. 3-107.C, of any modifications or additions to the S & R Septic's waste water disposal system, including any increase in waste water flow rate and waste water storage and disposal management changes to the system as approved under this discharge plan. The discharger shall obtain NMED's approval, as a discharge plan modification, prior to any increase in the quantity or concentration of constituents in the leachate above those approved in this plan. Please note that WQCC Regs. 3-109.E and F provide for possible future amendment of the plan.

**Other Requirements**

Please be advised that the approval of this plan does not relieve S & R Septic of liability should your operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations.

**RIGHT TO APPEAL**

If S & R Septic is dissatisfied with this action taken by NMED, S & R Septic may file a petition for hearing before the WQCC. This petition shall be in writing to the Secretary of NMED within thirty (30) days of the receipt of this letter. Unless a timely request for hearing is made, the decision of the NMED shall be final.

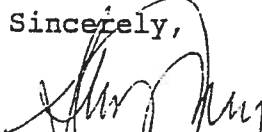
**PERIOD OF APPROVAL**

Pursuant to WQCC Reg. 3-109.G.4., this discharge plan approval is for a period of 5 years. This approval will expire May 29, 1997, and you should submit an application for new approval in ample time before that date.

Mr. Rael

Page 5

Sincerely,



Steven J. Cary, Chief  
Ground Water Protection &  
Remediation Bureau

SJC:DJ:am

Enclosures

xc: Richard Mitzelfelt, Dist. Manager, NMED Dist. II



NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION

DISCHARGE PLAN APPLICATION - PART A

Name of facility: Steve E. Rael b/b/a S&R Septic Service

Name of person legally responsible for discharge:

Steve E. Rael

Address:

P.O. Box 4890

DP-465

Taos, New Mexico 87571

RECEIVED

MAR 16 1992

GROUND WATER BUREAU

Telephone: 505-758-3515 Work 505-758-3085 Home

Name of local representative or contact person if different from above:

n/a

Address:

Telephone:

1. Location:

County: Taos see attached legal description  
1/4 of 1/4 of 1/4 of Sec. T R

Use State coordinates or latitude/longitude on unsurveyed land \_\_\_\_\_

2. Type of operation, facility or development: sludge/treated wastewater  
depository

3. Type of treatment and/or storage - type of discharge (septic tank - leachfield,  
package treatment plant - lagoon, lagoon - land application, etc.):

Discharge to surface pond with trenches at exterior boundaries of

pond to prevent escape. Sludge to be turned into soil with discs. 5/90

DISCHARGE PLAN APPLICATION - PART A - Page 2

4. Quantity. Total volume in gallons per day (gpd) of each discharge. Describe how the flow will be metered or estimated: 20,000 gpd.

5. Quality. Concentrations in milligrams per liter (mg/l) of any contaminant listed in Section 3-103 of the New Mexico Water Quality Control Commission (WQCC) regulations, total nitrogen (sum of nitrate, ammonia and TKN), and any toxic pollutants as defined in Subsection 1-101.UU. of the WQCC regulations that may be present in the discharge:

<u>Contaminant</u>	<u>Concentration (mg/l)</u>
<u>Total Nitrogen</u>	<u>650 mg/l</u>
<u>Total dissolved solids (TDS)</u>	<u>1000 mg/l</u>

6. Location of any water supply wells, injection wells, seeps, springs, bodies of water or watercourses within a one mile radius of the discharge site. Please locate on a topographic map or detailed aerial photograph.

Nearest body of water, watercourse, or groundwater discharge site more than 1 mile from proposed discharge site.

7. Depth to ground water: 500 to 600 ft.

Total dissolved solids (TDS) concentration of the ground water below the discharge site: 1000 milligrams per liter.

Reference or source of information: Taos EID

8. Flooding potential of the discharge site: Please indicate if discharge site is in a defined floodplain or has the potential for flash floods.

~~trenches at perimeter of site~~ None

Flooding protection measures (berms, channels, other, if applicable): \_\_\_\_\_

Trenches at perimeter of site.

DISCHARGE PLAN APPLICATION - PART A - Page 3

9. Geologic description of discharge site, if driller's logs(s) are available, please attach.

Soil (sand, clay, loam, or caliche etc.): 1-2 ft. topsoil/3-4 ft. caliche/gravel

Aquifer material (e.g. alluvium, sandstone, volcanic, etc.): Basalt

Thickness of alluvium, i.e. depth to bedrock (if available): 100-150 ft.

10. Describe actions taken to minimize potential contaminant seepage, e.g. lining of ponds, leakage detection/collection systems, etc.

Perimeter trenches to minimize escape of discharge.

11. Describe the proposed monitoring system. This should include sampling point locations for effluent, leachate, and/or ground water; sampling protocol; and the parameters to be tested for.

None proposed because of great depth (500-600ft.) of groundwater

Describe the location(s) of existing or proposed wells to be used for monitoring ground-water quality. Specify below and locate on a survey plot plan or scaled drawing of the property.

Well ID    Township    Range    Section    1/4 of    1/4 of    1/4

See Exhibit "B" attached hereto for legal description of

property upon which is located at 600 ft. well which is

closest groundwater well to proposed site.

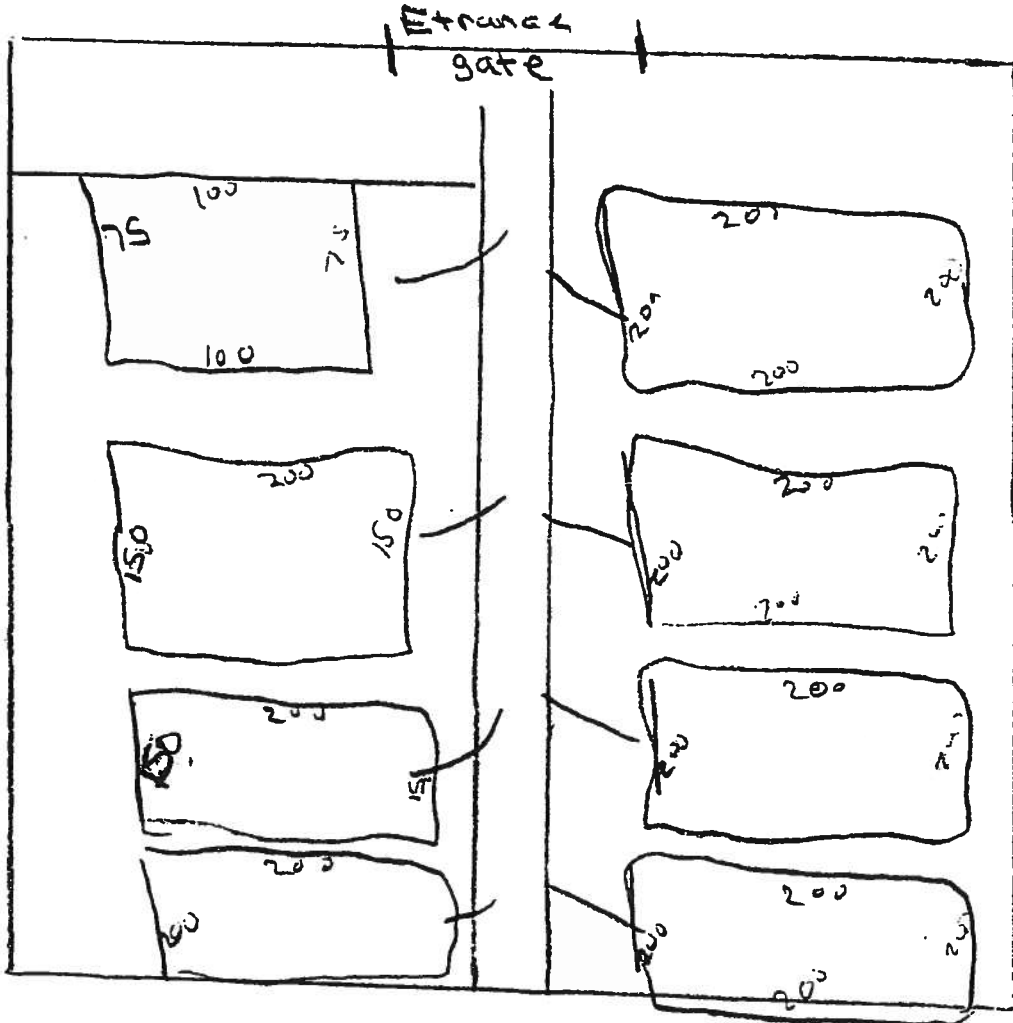
12. Describe the contingency plan to be implemented should ground-water standards be threatened or spills or failures occur.

Non-proposed because of the great depth of groundwater.

DISCHARGE PLAN APPLICATION - PART A - Page 4

13. Two (2) copies of plans and specifications must be submitted to the Ground Water Section of the Environmental Improvement Division. Plans and specifications should include a survey plot plan or scaled drawing of the property which shows all buildings on the property, the location and size of all septic tanks and leachfields or other systems used for the treatment and discharge of waste water, and the location and size of all pipelines used for the conveyance and distribution of effluent with valves and distribution boxes as appropriate. Include as part of the specifications, the size in acres of the facility. Use separate attachments as appropriate.

Please  
note:  
Side  
beams  
4 ft high  
AND OVER



I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete and accurate.

Steve Reed  
Signature of person legally  
responsible for the discharge

3-12-92  
Date

EXHIBIT "A"

PARCEL 1

Commencing at the Three Mile Corner on the Chacon boundary line; thence N 56° 11' E along the three mile line, 7,566.17 feet to the true point of BEGINNING;

Thence S 43° 00' E, 494.27 feet,  
Thence N 47° 00' E, 261.10 feet,  
Thence N 43° 04' W, 452.15 feet,  
Thence S 56° 11' W, 263.95 feet, to the true point of BEGINNING

And containing 2.835 acres, more or less.

Above described tract of land also being shown as a portion of Tract 9 of Map 25 of Survey 3 of the 1941 New Mexico State Reassessment Survey of Taos County.

PARCEL 2

Commencing at the Three Mile Corner of the Chacon boundary line; thence N 53° 11' E along the three mile line, 7,566.17 feet; Thence N 56° 11' E, 263.95 feet to the true point of BEGINNING. Thence North to the Cul-de-sac; Thence westerly along road; Thence southerly along a line back to the 3 mile line --

to be 2.0 acres more or less

A full legal description and plat shall be provided by Seller, George P. Tune, a registered land surveyor, on or before June 1, 1987 being 4.835 acres, more or less. When such plat is done it shall be delivered to Southwest Escrow Company in Albuquerque, New Mexico to be substituted as the legal description on the Real Estate Contract, Warranty Deed, and Special Warranty Deed that are being held in escrow for this transaction.

EXHIBIT "B"

WHEREAS, George P. Tune and Margaret M. Tune, his wife, hereinafter referred as Owners, on a 5.498 acre tract described as follows:

That portion of the Ranchitos Tracts within the Antonio Martinez Grant, Taos County, New Mexico, within the following described boundaries:

Commencing at the Northwest corner of said Antonio Martinez Grant; thence S.  $11^{\circ} 14'$  W., 75.70 feet; thence S.  $43^{\circ} 00'$  E., 22,125.26 feet; thence S.  $76^{\circ} 44'$  W., 428.45 feet to the true point of beginning; thence S.  $76^{\circ} 44'$  W., 527.17 feet; thence N.  $43^{\circ} 03'$  W., 449.08 feet to the southerly edge of Crumbo Road, a private road; thence N.  $65^{\circ} 30'$  E., along said southerly edge 480.00 feet; thence S.  $84^{\circ} 30'$  E., along said southerly edge 53.93 feet; thence S.  $39^{\circ} 23'$  E., 518.92 feet to the true point of beginning and containing 5.489 acres, more or less.

Above described tract of land also being shown as portions of Tracts 17 and 18 of Map 25 of Survey 3 of the 1941 New Mexico State Assessment Survey of Taos County.

WHEREAS, there is presently situate a 600 foot deep water well on the above-described tract; and

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of Check No. 2507 dated 3/13/92  
or cash, received \_\_\_\_\_ in the amount of \$ 50.00 from

S & R Plumbing for S & R Septic Service DP-465  
(Facility Name) (Discharge Plan No.)

Submitted by: Annette Moreland Date: 3/17/92

Submitted to ASD by: \_\_\_\_\_ Date: \_\_\_\_\_

Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_

Filing Fee  New Facility  Renewal

Modification  Other  (Explain) \_\_\_\_\_

Organization Code 543080 Applicable FY \_\_\_\_\_

To be deposited in the Water Quality Management Fund.

Full Payment  or Annual Increment

Western Bank  
Paseo del Pueblo Sur Taos, New Mexico 87571

S & R PLUMBING  
DBA S & R EXCAVATION & SEPTIC SERVICE  
STEVE OR LORETTA RAE  
BOX 4890 758-3515  
TAOS, NM 87571

2507

95-419/1070

Pay to the  
order of

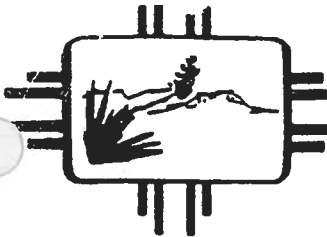
TM Environment 3/13 19 92 \$ 50.00  
Fifty dollars and 00/100 Dollars

YOUR ENDORSEMENT ON THIS CHECK ACKNOWLEDGES PAYMENT ON THE FOLLOWING ACCOUNT(S):

<u>permit fee for</u>			
<u>dumpsite # DP-465</u>			

Loretta Rae

⑈0002507⑈ ⑆107004491⑆ 01155482⑈



CERTIFIED MAIL - RETURN RECEIPT REQUESTED

GARREY CARRUTHERS Governor
DENNIS BOYD Secretary
MICHAEL J. BURKHART Deputy Secretary
RICHARD MITZELFELT Director

July 25, 1990

U.S.G.P.O. 1989-234-555

Steve Rael, Owner
S&R Septic Service
P.O. Box 4890
Taos, New Mexico 87571

Form with fields: Sent to, Street and No., P.O. State and ZIP Code, Postage, Certified Fee

RECEIPT FOR CERTIFIED MAIL
P 355 576 775
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNAL MAIL
(See Reverse)

RE: Modification Approval, DP-465

Dear Mr. Rael,

The modification of the discharge plan (DP-465) for S&R Septic Service located in Taos, New Mexico is hereby approved. The approved discharge plan modification consists of the materials dated May 3, 1990, plus the information and materials submitted as part of the original discharge plan approved April 7, 1987.

Further, approval of this ground water discharge plan does not relieve you of your responsibility to comply with any other applicable local laws and regulations, such as zoning requirements and nuisance ordinances.

The discharge plan modification application was submitted pursuant to Section 3-106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3-109. Please note Subsections 3-109.E. and 3-109.F, which provide for possible future amendment of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations.

Monitoring and reporting shall be as specified in the discharge plan and supplements thereto. These requirements are summarized on the attached sheet. Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

- ENVIRONMENTAL IMPROVEMENT DIVISION -
Harold Runnels Building
1180 St. Francis Dr.
Santa Fe, New Mexico 87503



Mr. Steve Rael  
July 25, 1990  
Page 2

Pursuant to Subsection 3-109.G.4., this modification approval expires on April 7, 1992, the same date as the original plan, and you should submit an application for new approval in ample time for that date.

On behalf of the staff of the Ground Water Section, I wish to thank you for your cooperation during this discharge plan review.

Sincerely,

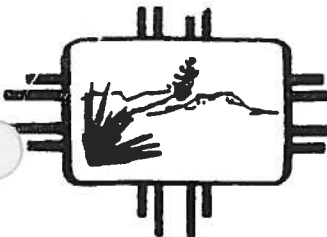


*for*: Stuart P. Castle  
Bureau Chief  
Ground Water Bureau

SPC:RRO/ro

Enclosures

cc: Courte Voorhees , Dist. Manager, EID Dist. 2  
Ken McCallum, Environmental Supervisor, Taos



New Mexico Health and Environment Department

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

GARREY CARRUTHERS Governor
DENNIS BOYD Secretary
MICHAEL J. BURKHART Deputy Secretary
RICHARD MITZELFELT Director

July 25, 1990

Steve Rael, Owner
S&R Septic Service
P.O. Box 4890
Taos, New Mexico 87571

RE: Modification Approval, DP-465

Dear Mr. Rael,

U.S.G.P.O. 1989-234-555
Form with fields: Sent to, Street and No., P.O. State and ZIP Code, Postage, Certified Fee

RECEIPT FOR CERTIFIED MAIL
P 355 576 775
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNAL/LOCAL MAIL
(See Reverse)

The modification of the discharge plan (DP-465) for S&R Septic Service located in Taos, New Mexico is hereby approved. The approved discharge plan modification consists of the materials dated May 3, 1990, plus the information and materials submitted as part of the original discharge plan approved April 7, 1987.

Further, approval of this ground water discharge plan does not relieve you of your responsibility to comply with any other applicable local laws and regulations, such as zoning requirements and nuisance ordinances.

The discharge plan modification application was submitted pursuant to Section 3-106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3-109. Please note Subsections 3-109.E. and 3-109.F, which provide for possible future amendment of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations.

Monitoring and reporting shall be as specified in the discharge plan and supplements thereto. These requirements are summarized on the attached sheet. Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

- ENVIRONMENTAL IMPROVEMENT DIVISION -
Harold Runnels Building
1180 St. Francis Dr.
Santa Fe, New Mexico 87503

Mr. Steve Rael  
July 25, 1990  
Page 2

Pursuant to Subsection 3-109.G.4., this modification approval expires on April 7, 1992, the same date as the original plan, and you should submit an application for new approval in ample time for that date.

On behalf of the staff of the Ground Water Section, I wish to thank you for your cooperation during this discharge plan review.

Sincerely,



*for:* Stuart P. Castle  
Bureau Chief  
Ground Water Bureau

SPC:RRO/ro

Enclosures

cc: Courte Voorhees , Dist. Manager, EID Dist. 2  
Ken McCallum, Environmental Supervisor, Taos



Post Office Box 968  
Santa Fe, New Mexico 87504-0968

GARREY CARRUTHERS  
Governor  
LARRY GORDON  
Secretary  
CARLA L. MUTH  
Deputy Secretary

HAND DELIVERED

~~CERTIFIED MAIL - RETURN RECEIPT REQUESTED~~

April 7, 1987

Steve Rael  
S & R Septic Service  
Box 431  
El Prado, NM 87529

RE: Discharge Plan (DP-465) Approval

Dear Mr. Rael:

The discharge plan (DP-465) for the disposal of domestic septage to shallow trenches located eight miles north of Taos in Taos County, New Mexico is hereby approved. The approved discharge plan consists of the plan dated February 24, 1987, and the materials dated March 16, March 25 and April 2, 1987, submitted as supplements to the discharge plan.

The discharge plan was submitted pursuant to Section 3-106 of the New Mexico Water Quality Control Commission Regulations. It is approved pursuant to Section 3-109. Please note subsections 3-109.E. and 3-109.F., which provide for possible future amendment of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface or ground waters which may be actionable under other laws and/or regulations.

The monitoring and reporting shall be as specified in the discharge plan and supplements thereto. These requirements are summarized on the attached sheet. Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

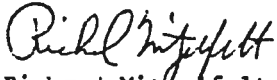
Please note that Section 3-104 of the regulations requires that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan."

Pursuant to subsection 3-109.G.4., this plan approval is for a period of five (5) years. This approval will expire April 7, 1992, and you should submit an application for new approval in ample time before that date.

Steve Rael  
April 7, 1987  
Page 2

On behalf of the staff of the Ground Water Section, I wish to thank you for your cooperation during this discharge plan review.

Sincerely,



Richard Mitzelfelt, Chief  
Ground Water/Hazardous Waste Bureau

RM:KL:egr

cc: Neil Weber, EID District II Manager, Santa Fe  
Kenneth D. Burkett, Twining Water & Sanitation District, Taos Ski Valley  
Jerry J. Caswell, Carson National Forest, Taos

STATE OF NEW MEXICO  
SECRETARY OF ENVIRONMENT



IN RE. THE APPLICATION OF  
STEVE RAEI FOR MODIFICATION  
AND RENEWAL OF DISCHARGE  
PLAN, DP-465

NEW MEXICO ENVIRONMENT DEPARTMENT'S STATEMENT  
OF INTENT TO PRESENT EVIDENCE

The Ground Water Quality Bureau of the New Mexico Environment Department ("NMED"), pursuant to 20 N.M.A.C. 6.2.3110.C., submits this Statement of Intent to Present Evidence at the hearing on this matter scheduled for February 9, 1999.

1. Name of Person Filing Statement: Ground Water Quality Bureau, NMED, through its counsel, Nicholas F. Persampieri, NMED Office of General Counsel.

2. Indication Whether Person Filing Statement Supports or Opposes the Proposed Discharge Plan Modification and Renewal:

The Ground Water Quality Bureau supports the proposed Modification and Renewal, subject to the general and specific requirements and conditions for approval described in the Summary of Anticipated Direct Testimony of Fred Kalish, attached.

3. Name of Each Witness:

Fred Kalish

Karen McCormack

4. Estimate of Length of Direct Testimony of Each Witness:

Fred Kalish- 45 minutes.

Karen McCormack- It is not anticipated that McCormack will present direct testimony.

She will be available to respond to questions as the need arises. NMED reserves the right to call other witnesses as needed for rebuttal or to respond to questions.

5. List of Exhibits to be Offered into Evidence at the Hearing:

1. Characteristics of Septage;
2. NMED Land Application Data Sheet;
3. Garrabrant, Water Resources of Taos County, New Mexico, U.S.G.S., 1993.
4. Winograd, Ground-Water Conditions and Geology of Sunshine Valley and Western Taos County, New Mexico, NM State Engineer Technical Report 12, 1959.
5. NMED also relies on the administrative record, including the discharge plan file that NMED has filed with the hearing clerk, and the Summary of Anticipated Direct Testimony and Resumes that are attached to this Statement.
6. NMED reserves the right to introduce additional exhibits on rebuttal or as otherwise needed.

6. Summary or Outline of Anticipated Direct Testimony of Each Witness:

A summary of the anticipated direct testimony of Fred Kalish is attached.

Resumes of Kalish and McCormack are also attached. McCormack is not expected to present direct testimony. Therefore, no summary of testimony of McCormack is being provided.

Respectfully submitted,

NEW MEXICO ENVIRONMENT  
DEPARTMENT  
OFFICE OF GENERAL COUNSEL

By Nicholas F. Persampieri  
Nicholas F. Persampieri  
P.O. Box 26110  
Santa Fe, NM 87502-6110  
(505) 827-1031

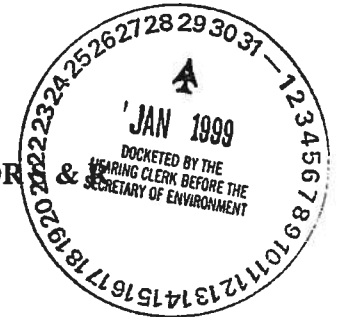
CERTIFICATE OF SERVICE

The undersigned hereby certified that he caused a true and correct copy of the foregoing Statement to be faxed and mailed to Steve Rael, S & R Septic Service, Box 4890, Taos, NM 87571, and mailed to Peter V. Domenici, Jr., 6100 Seagull NE, Suite 205, Albuquerque, NM 87109, on this 29th day of January, 1999.

*Neilson J. Romayseri.*



**NEW MEXICO ENVIRONMENT DEPARTMENT'S  
SUMMARY OF ANTICIPATED DIRECT TECHNICAL TESTIMONY FOR  
SEPTIC PUBLIC HEARING, DP-465**



**I. INTRODUCTION**

This technical testimony is submitted by Fred Kalish, Water Resource Specialist III, Ground Water Quality Bureau, New Mexico Environment Department (NMED) for the public hearing on the proposed discharge plan DP-465 for the existing S & R Septic discharge site. The hearing is to be held in Taos, NM on February 9, 1999.

**TESTIMONY OF FRED KALISH**

**II. REGULATORY FRAMEWORK**

The New Mexico Water Quality Control Commission (WQCC) Regulations were adopted in 1977 pursuant to the New Mexico Water Quality Act to protect ground water quality and surface water quality. Subpart III of the WQCC Regulations requires that all ground water with an existing concentration of less than 10,000 mg/l total dissolved solids be protected for present and potential future use as domestic and agricultural water supply, and that surface waters which are gaining because of ground water flow be protected for uses designated in the New Mexico Surface Water Quality Standards. Subpart III sets ground water quality standards that must not be exceeded by the discharge from a facility. Subpart III requires that a facility obtain an approved discharge plan if the facility discharges water contaminants. A discharge plan is defined in the regulations as a description of any operational, monitoring, contingency and closure requirements and conditions for any discharge of effluent or leachate which may move directly or indirectly into ground water. When NMED informs a facility that a discharge plan is required, the WQCC Regulations require the facility to submit an application that contains detailed information about the facility site and the discharge system. NMED commonly must ask for additional administrative and technical information to supplement the original discharge plan application.

A discharge plan approval is generally for a period of five years from the date the approval is signed. The holder of an approved discharge plan must submit an application for renewal at least 120 days before the discharge plan expires.

The regulations require that NMED publish a public notice describing the discharge, and allow at least 30 days following publication for submission of written public comment. The regulations state that a public hearing will be held if the Secretary of NMED determines there is significant public interest. If a public hearing is held, a public hearing officer is appointed, who listens to all the testimony of the discharger, the public, and NMED, and makes a recommendation to the Secretary of NMED on whether to approve, approve with conditions, or deny the proposed discharge plan. The decision of the Secretary may be appealed to the Water Quality Control Commission within 30 days by any person who participated in the permitting action and who is adversely affected by the decision.

### **III. REGULATORY HISTORY OF DP-933**

NMED determined that S & R Septic was required to submit a discharge plan for the discharge site under the New Mexico Water Quality Control Commission Regulations (20 NMAC 6.2.3104). The following is a brief description of the administrative requirements for DP-465 and the public hearing, set forth under 20 NMAC 6.2.3106, 3108 and 3114.

1. NMED approved a discharge plan for S & R Septic, DP-465 on April 7, 1987 for the discharge of 12,000 gallons per day (gpd) of sludge and treated wastewater into shallow trenches. (20 NMAC 6.2.3109.B.)
2. NMED approved modification of discharge plan for S & R Septic, DP-465 on July 25, 1990. The approved modification increased allowable discharge from 12,000 gpd to 20,000 gpd and allowed additional commercial haulers to use the facility. (20 NMAC 6.2.3109.A.)
3. NMED approved the renewal of discharge plan for S & R Septic, DP-465 on June 10, 1992. (20 NMAC 6.2.3109.B.)
4. NMED received a request for renewal of discharge plan for S & R Septic, DP-465 on June 2, 1997. (20 NMAC 6.2.3106.B.)
5. NMED published a public notice in the Albuquerque Journal on July 12, 1997 and the Taos News on July 17, 1997 and sent the notice to the required parties. (20 NMAC 6.2.3108.A., B. and C.)
6. Following public notice of the proposed discharge plan modification and renewal, NMED received letters from many interested parties. Within 30 days of publishing the notice, 12 interested parties specifically requested a public hearing: Zena Kolshorn, Ernie Atencio representing *Amigos Bravos*, Julia Pyatt, Cyndee Stone, Harvey Kimball, Jason Boyd, Shawn Anderson, Simon Gonzales, Lorenzo Gutierrez, Arthur Yellen (representing the *Hondo Mesa Neighborhood Association*), James and Patricia Pollard, and Maria Totman. In addition, the Honorable Frederick Peralta, *Mayor of Taos*, submitted a letter protesting the authorization of the permit. Furthermore, in the three days following the 30 day period, letters were received from David DiCicco, *Taos County Planning Director*, and David Gomez of the *Western Environmental Law Center* requesting a public hearing. The NMED Secretary approved recommendation for hearing based on significant public interest. (20 NMAC 6.2.3108.D.)
7. NMED sent a letter to interested persons on September 22, 1997, explaining that a public hearing would be held when the discharge plan was technically complete, and they would

be notified by mail of the hearing. (20 NMAC 6.2.3108.D.)

8. NMED requested additional information regarding the proposed discharge plan renewal on December 1, 1997, March 13, 1998, and April 23, 1998. (20 NMAC 6.2.3109.A.)
9. NMED published a notice for the January 7, 1999 public hearing in the Taos News on December 4, 1998. However, due to a procedural error NMED re-scheduled the public hearing for February 9, 1999.
10. NMED published a notice for the February 9, 1999 public hearing in the Albuquerque Journal on January 5, 1999 and the Taos News on January 7, 1999. The public notice was sent to all required persons and affected governmental agencies and tribes and contained all information required in 20 NMAC 6.2.3108.B. (20 NMAC 6.2.3108.E.)

#### **Summary of Regulatory Compliance**

NMED evaluated the compliance history of this facility as part of its discharge plan review and found the facility to be operating in compliance with the past discharge plan requirements. Monitoring reports were occasionally submitted past the prescribed deadline.

#### **IV. HYDROGEOLOGIC DESCRIPTION OF SITE**

##### **Description of Field Work Performed**

The Site was inspected by NMED Ground Water Quality Bureau staff on seven occasions between March 5, 1987 and January 12, 1998. Samples were collected from standing wastewater at S & R Septic on October 7, 1997. The samples were analyzed for total dissolved solids (TDS), chloride (Cl), total Kjeldahl nitrogen (TKN), nitrate (NO<sub>3</sub>), ammonia (NH<sub>4</sub>), metals, and wide variety of organic compounds.

The analytical results demonstrated the presence of wastewater contaminants at concentrations that are typical of municipal septage. Trace amounts of organic contaminants were detected indicative of the disposal of household cleaning and building maintenance products into residential and commercial septic systems.

##### **Geology and Geohydrology**

Three general physiographic subdivisions lie within Taos County: the Taos Plateau to the west, the Sangre de Cristo Mountains to the east, and the Costilla Plains lying between the plateau and the mountains. S & R Septic is located within the Costilla Plains, north of the Taos Municipal Airport. In the Costilla Plains, ground water is found in the alluvial sediments, which can be

DP-465, Technical Testimony

January 29, 1999

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divided into the most recent Quaternary (Holocene) deposits near the surface and the alluvial sediments of early Quaternary and late Tertiary age, referred to as the Santa Fe Group (Garrabrant, *Water Resources of Taos County New Mexico*, U.S.G.S., 1993, pg 11). The Santa Fe Group consists of alluvial sediments interbedded in places with volcanic rocks and clay deposits (Winograd, *Ground-water conditions and geology of Sunshine Valley and western Taos County, New Mexico*, NM State Engineer Technical Report 12, 1959). The Santa Fe Group underlies the recent alluvial sediments of the Costilla Plains and underlies and intertongues with the Servilleta Basalt of Pliocene age in the Taos Plateau. In addition, the S & R Septage facility is located in the vicinity of the Los Cordovas Faults. Faults have been mapped in the area in a north-south orientation and may extend thousands of feet downward (Personal Communication, Paul Bauer, NMBMMR). Based on the extrapolation of data from recent mapping of the region at the southern end of the Los Cordovas Faults the following characterization may apply to the area of the referenced facility: faulting is more extensive than previously recognized, there is significant fracturing of bedrock, and in general the fractures are not cemented.

The New Mexico State Engineer's Office well records for supply wells located within one mile of the facility were reviewed. Drillers' logs of the wells closest to the S & R Septic facility indicate a depth to ground water of approximately 500 feet.

#### **Water Quality**

Ground water quality below the S & R Septic facility has not been characterized. Garrabrant, 1993 reports a range of total dissolved solids in Taos County from 73 to 928 milligrams per liter (Garrabrant, *Water Resources of Taos County New Mexico*, U.S.G.S., 1993).

#### **Waste Characteristics**

Many factors affect the physical characteristics of septage, including: user habits, septic tank size, design, and pumping frequency; water supply characteristics and piping materials, the presence of water conservation fixtures and garbage disposals; the use of household hazardous chemicals and water softeners; and climate (*EPA, Guide to Septage Treatment and Disposal, 1994*). In addition, waste from portable toilets typically contain chemical additives: a biocide (typically formaldehyde, glutaraldehyde, or a quaternary ammonia species), fragrance, a surfactant, and coloring.

### **V. REVIEW OF THE DISCHARGE PLAN**

A ground water discharge permit consists of the following four components: operational plan, monitoring plan, contingency plan, and closure plan.

### **Operational Plan**

The Operational Plan describes how the system(s) for the collection, treatment, distribution, and disposal of waste waters will be operated and maintained. The purpose of the plan is to define the day to day operations of the facility with respect to waste water discharge in sufficient detail for the GWQB to evaluate potential adverse impacts to ground and surface waters. In addition, the GWQB evaluates the operation and maintenance of a facility with respect to storm water management, solids management, and site security.

S & R Septic proposes to discharge up to 10,000 gallons per day (gpd) of domestic septage, stabilized domestic sludge, chemical toilet residue, and restaurant grease trap holdings to designated cells. The facility will accept wastewater from S & R Septic and L & L Portables. S & R Septic proposes to utilize eleven primary cells with dimensions of 105 feet by 105 feet to receive and retain effluent discharges from daily operations. S & R Septic proposes that the cells be utilized sequentially on a weekly basis and proposes to limit effluent depths to approximately one inch or less in each of the cells. Each cell will be signed with a weatherproof placard to indicate the daily cell usage assignments as part of the weekly rotation schedule. S & R Septic anticipates that effluent within each of the primary cells will evaporate entirely within the weekly rotational time frame. S & R Septic proposes to discharge all effluent from L & L Portables to one of the cells. S & R Septic also proposes a twelfth "emergency" cell with dimensions of 105 feet by 300 feet for seasonal overages and storm water detention.

S & R Septic will construct and maintain earthen berms surrounding each shallow disposal cell with a minimum height of two feet. S & R Septic will also construct and maintain a berm around the perimeter of the facility with a minimum height of two feet. In addition, S & R Septic will construct and maintain shallow (minimum depth of six inches) storm water diversion bar trenches parallel to and on each side of the site entrance gate.

S & R Septic does not anticipate excessive ponding of wastewater during normal operations. S & R Septic will divert temporary overages to a primary cell or to the designated emergency overage and storm water cell. Under normal operating conditions, S & R Septic proposes that primary cells will be utilized in a manner to minimize reaching total dryness in any single cell. Any incidental or intentional dry residual material will be disced into the cell floor surface as needed.

NMED recommends that the Operational Plan proposed by S & R Septic be augmented as follows:

NMED recommends the allowable discharge for the S & R Septic facility, operated according to the criteria described above, to be a maximum 4,000 gallons per day.

NMED recommends that S & R Septic inspect the site on a weekly basis for integrity of berms, excessive ponding, and integrity of the fencing and gate. Dried residual material (such as plastics, rags, paper, etc.) originating from waste disposal cells which is susceptible to being blown off-site shall be collected and bagged. The bagged materials shall be disposed of in a manner consistent with local, state, and federal regulations.

These additions to the proposed Operation Plan are recommended conditions described in the section below entitled "Recommendations for Discharge Plan Approval with Conditions".

### **Monitoring Plan**

The Monitoring Plan outlines the proposed sampling point locations (e.g., monitoring wells, discharge outfalls, soil sampling, etc.), sampling protocols (e.g., bailers, pumps, etc.), sampling frequency, chemical parameters to be sampled for, discharge rates, etc.

S & R Septic proposes to record and maintain a manifest documenting the source, volume, type, and destination cell for all discharges at the facility. S & R Septic also proposes monitoring waste at each pickup location visually and by smell to ensure that no inappropriate wastes are accepted.

S & R Septic will collect and analyze the following soil samples at the prescribed times:

- A. *Background Samples:* two composite samples will be collected from outside the disposal area, at three locations adjacent to the perimeter fencing, subject to NMED approval. Using a hand auger or shovel, S & R Septic will collect soil samples from each of these locations at a depth of 12 inches and a depth of 36 inches. The soils samples from the three locations at each of the two discrete depths will be mixed together and the two "composite" samples analyzed for total Kjeldahl nitrogen and nitrate. Samples will be collected within 30 days of receipt of the discharge plan renewal approval letter. Analytical results will be submitted to NMED no later than 60 days following sample collection.
- B. *Baseline Samples:* composite samples will be collected from within a designated disposal cell subject to NMED approval. Using a hand auger or shovel, S & R Septic will collect soil samples from each of six locations at a depth of 12 inches and a depth of 36 inches. The soils samples from the six locations at

each of the two discrete depths will be mixed together and the two "composite" samples analyzed for total Kjeldahl nitrogen and nitrate. Samples will be collected within 30 days of receipt of the discharge plan renewal approval letter. Analytical results will be submitted to NMED no later than 60 days following sample collection.

- C. *Semi-annual Samples:* composite samples will be collected semi-annually from designated disposal cells subject to NMED approval. Using a hand auger or shovel, S & R Septic will collect soil samples from each of six locations at a depth of 12 inches and a depth of 36 inches. The soils samples from the six locations at each of the two discrete depths will be mixed together and the two "composite" samples analyzed for total Kjeldahl nitrogen and nitrate. Samples will be collected, analyzed, and the analytical results submitted to NMED by May 31 and November 30 of each year.

NMED recommends that the Monitoring Plan proposed by S & R Septic be augmented as follows:

NMED recommends that S & R Septic submit to NMED, on a semi-annual basis, Land Application Data Sheets (LADS) specifying the volume of wastewater discharged to the site and a total nitrogen value in milligrams per liter from either of the following methods: (1) an assumed total nitrogen concentration of 600 milligrams per liter based on average characteristics of septage (*Guide to Septage Treatment and Disposal (EPA/625/R-94/002)*), or (2) total nitrogen value derived from the laboratory analysis of a composite sample from a minimum of six waste loads using a sampling protocol pre-approved by NMED.

These additions to the proposed Monitoring Plan are recommended conditions described in the section below entitled "Recommendations for Discharge Plan Approval with Conditions".

### **Contingency Plan**

The Contingency Plan describes the actions to be taken in the event that spills or failures occur, or if disposal of septage threatens to cause exceedences of ground water standards.

S & R Septic proposes that in the event of spills or berm failures, corrective action will be initiated within a 24 hour period. The gate and fencing will be monitored on a continuous basis,

and repairs will be performed within 24 hours.

S & R Septic also proposes, on a contingency basis, that the twelfth "emergency" cell be used at three times the allowable capacity (i.e., 3 inch average depth in lieu of 1 inch average depth) during times of excessive rainfall events or freezing conditions), until temporary overages can be transferred (within 24 - 72 hours) to primary cells.

NMED recommends that the Contingency Plan proposed by S & R Septic be augmented as follows:

NMED recommends that in the event of a spill, or any uncontrolled discharge, S & R Septic shall notify NMED within 24 hours pursuant to notification requirements of WQCC Regulation 1203, and undertake any required corrective actions.

NMED recommends that the maximum allowable depth of septage in all cells be 1 inch.

NMED recommends the following soil sampling contingency:

In the event that the analytical results from the soil sampling indicate significant migration of total nitrogen to a depth of 36 inches, in response to notification by NMED, S & R Septic shall submit to NMED within 60 days a corrective action plan which proposes additional testing to determine the extent of the vertical migration of total Kjeldahl nitrogen and nitrate nitrogen below the facility, and addresses source control or reduction of the total nitrogen discharged.

These additions to the proposed Contingency Plan are recommended conditions described in the section below entitled "Recommendations for Discharge Plan Approval with Conditions".

### **Closure Plan**

The Closure Plan describes the specific actions to be taken at a facility in the event of closure. The Closure Plan must address the reclamation and post-operational monitoring of ground water at the site, as appropriate, and describe actions to be taken to minimize potential impacts to ground and surface waters.

In the event of closure of the facility, S & R Septic proposes to allow discharges to dry and then to disc and grade the site to match surrounding contours. S & R Septic will re-seed the site with



native grasses following final grading. The gate and fencing will be maintained around the site as long as current ownership is maintained.

NMED recommends that the Closure Plan proposed by S & R Septic be augmented as follows:

NMED recommends that the gate and fencing be maintained around the site following final grading and re-seeding for a minimum of 30 days regardless of status of ownership of subject property.

These additions to the proposed Closure Plan are recommended conditions described in the section below entitled "Recommendations for Discharge Plan Approval with Conditions".

#### **RECOMMENDATIONS FOR DISCHARGE PLAN APPROVAL WITH CONDITIONS**

The following sections list the proposed specific requirements, general requirements and conditions for approval of DP-465. Specific Requirements are provisions of the discharge plan that are required under the WQCC Regulations, and which S & R Septic agreed to in writing. Conditions are provisions that S & R Septic has not agreed to in writing, but NMED believes are necessary under the WQCC Regulations to protect ground water or surface water. General Requirements are provisions that are included in every discharge plan that NMED approves.

The S & R Septic disposal system is briefly described as follows:

Trucks containing domestic septage, stabilized domestic sludge, chemical toilet residue, and restaurant grease trap waste are emptied into twelve shallow surface disposal cells. Eleven of the disposal cells are 105 feet by 105 feet, and the twelfth cell is 105 feet by 300 feet. The disposal cells will be used sequentially on a weekly basis and effluent depths will be less than one inch in depth at all times. Ground water below the site is at a depth of approximately 600 feet and has a total dissolved solids concentration of approximately 1,000 milligrams per liter.

The discharge plan renewal and modification, subject to approval, consists of the materials submitted by Mr. Steve Rael dated May 28, 1997 and March 27, 1998, and materials submitted by Mr. William Mansker of INEX Explorations dated April 2, 1998, May 6, 1998 and December 18, 1998. In addition, the discharge plan includes information and materials submitted as part of the original discharge plan approved on April 7, 1987 and the materials for the discharge plan renewal/modification dated June 10, 1992. The discharge shall be managed in accordance with the approved plan and is subject to the conditions listed below.

## **SPECIFIC REQUIREMENTS FOR APPROVAL**

### **Operational Plan**

1. S & R Septic will dispose of domestic septage, stabilized domestic sludge, chemical toilet residue, and restaurant grease trap waste into twelve shallow surface disposal cells.
2. S & R Septic will ensure that the site is secure to prevent unrestricted access. A three strand barbed-wire fence and locked gate will surround the site. Warning signs will be mounted to the fencing every 100 feet. S & R Septic and L & L Portables will be the only haulers discharging at the facility.
3. S & R Septic will construct and maintain a minimum of twelve shallow cells on the site. Eleven of the cells will have dimensions of 105 feet by 105 feet. The twelfth cell will have dimensions of 105 feet by 300 feet. The eleven cells will be utilized sequentially on a weekly basis and effluent depth will be limited to approximately one inch or less. The twelfth cell will be used for seasonal overages and storm water detention. Each disposal cell will be signed with a waterproof placard to indicate daily cell usage assignments in the weekly rotation.
4. S & R Septic will construct and maintain earthen berms surrounding each shallow disposal cell with a minimum height of two feet. S & R Septic will also construct and maintain a berm around the perimeter of the facility with a minimum height of two feet. In addition, S & R Septic will construct and maintain shallow (minimum depth of six inches) storm water diversion bar trenches parallel to and on each side of the site entrance gate.

### **Monitoring Plan**

5. Prior to waste pick-up, S & R Septic will monitor the odor and visual appearance of the waste to ensure that only allowable wastes are collected. S & R Septic will record for each waste pick-up the following information: the date of pick-up, the location of pick-up, type of waste, description and confirmation of inspection for acceptable waste type, signature of person conducting inspection, total volume pumped, and the disposal location (disposal cell identifier). The manifest records will be submitted to NMED as part of the semi-annual monitoring reports due on or before May 31 and November 30 of each year.
6. S & R Septic will collect and analyze the following soil samples at the prescribed times:

- A. *Background Samples:* two composite samples will be collected from outside the disposal area, at three locations adjacent to the perimeter fencing, subject to NMED approval. Using a hand auger or shovel, S & R Septic will collect soil samples from each of these locations at a depth of 12 inches and a depth of 36 inches. The soils samples from the three locations at each of the two discrete depths will be mixed together and the two "composite" samples analyzed for total Kjeldahl nitrogen and nitrate. Samples will be collected within 30 days of receipt of the discharge plan renewal approval letter. Analytical results will be submitted to NMED no later than 60 days following sample collection.
- B. *Baseline Samples:* composite samples will be collected from within a designated disposal cell subject to NMED approval. Using a hand auger or shovel, S & R Septic will collect soil samples from each of six locations at a depth of 12 inches and a depth of 36 inches. The soils samples from the six locations at each of the two discrete depths will be mixed together and the two "composite" samples analyzed for total Kjeldahl nitrogen and nitrate. Samples will be collected within 30 days of receipt of the discharge plan renewal approval letter. Analytical results will be submitted to NMED no later than 60 days following sample collection.
- C. *Semi-annual Samples:* composite samples will be collected semi-annually from designated disposal cells subject to NMED approval. Using a hand auger or shovel, S & R Septic will collect soil samples from each of six locations at a depth of 12 inches and a depth of 36 inches. The soils samples from the six locations at each of the two discrete depths will be mixed together and the two "composite" samples analyzed for total Kjeldahl nitrogen and nitrate. Samples will be collected, analyzed, and the analytical results submitted to NMED by May 31 and November 30 of each year.

#### Contingency Plan

- 7. In the event of spills or berm failures, corrective action will be initiated within a 24 hour period. The gate and fencing will be monitored on a continuous basis, and repairs will be performed within 24 hours.

### **Closure Plan**

8. In the event of closure of the facility, S & R Septic will allow all discharges to dry. Once the residual waste is dry, the residual will be disced into the soil, and the site graded to match surrounding landscape contours. S & R Septic will re-seed the site with native grasses following final grading.

### **CONDITIONS FOR APPROVAL**

Should the discharge plan modification and renewal be approved as a result of this public hearing, NMED recommends that the following conditions be incorporated into the permit.

### **Operational Plan**

1. S & R Septic shall discharge a maximum of 4,000 gallons per day of domestic septage, stabilized domestic sludge, chemical toilet residue, and restaurant grease trap holdings into designated disposal cells.

The reasons for this condition are to comply WQCC Regulation 3109 and to protect ground water.

2. S & R Septic shall inspect the site on a weekly basis for integrity of berms, excessive ponding, and integrity of the fencing and gate. Dried residual material (such as plastics, rags, paper, etc.) originating from waste disposal cells which is susceptible to being blown off-site shall be collected and bagged. The bagged materials shall be disposed of in a manner consistent with local, state, and federal regulations.

The reason for this condition is to comply with WQCC Regulation 3107.

3. S & R Septic shall limit the maximum depth of septage in all disposal cells to 1 inch.

The reason for this condition is to comply with WQCC Regulation 3109.

### **Monitoring Plan**

4. S & R Septic shall submit to NMED, on a semi-annual basis, Land Application Data Sheets (LADS; copy attached) specifying the volume of wastewater discharged to the site and a total nitrogen value in milligrams per liter from either of the following methods: (1) an assumed total nitrogen concentration of 600



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milligrams per liter based on average characteristics of septage (*Guide to Septage Treatment and Disposal (EPA/625/R-94/002)*), or (2) an annual total nitrogen value derived from the laboratory analysis of a composite sample from a minimum of six waste loads using a sampling protocol pre-approved by NMED.

The reason for this condition is to comply with WQCC Regulations 3107 and 3109.

#### **Contingency Plan**

5. In the event that the analytical results from the soil sampling indicate significant migration of total nitrogen to a depth of 36 inches, in response to notification by NMED, S & R Septic shall submit to NMED within 60 days a corrective action plan which proposes additional testing to determine the extent of the vertical migration of total Kjeldahl nitrogen and nitrate nitrogen below the facility, and address source control or reduction of the total nitrogen discharged.

The reason for this condition is to comply with WQCC Regulation 3109.

6. In the event of a spill, or any uncontrolled discharge, S & R Septic shall notify NMED with 24 hours.

The reason for this condition is to comply with WQCC Regulation 1203.

#### **Closure Plan**

7. In the event that use of the facility is discontinued, S & R Septic will augment the closure plan requirements described in Specific Requirement #8 as follows:

Following final grading and re-seeding of the property, the perimeter fencing and security gate shall be maintained for a minimum of 30 days to prevent unauthorized access.

The reason for this condition is to comply with WQCC Regulation 3107.

#### **GENERAL DISCHARGE PLAN REQUIREMENTS FOR APPROVAL**

In addition to any other requirements provided by law, approval of discharge plan, DP-465, is subject to the following general requirements:

**Monitoring and Reporting**

Monitoring and reporting shall be as specified in the discharge plan and supplements thereto. These requirements will be summarized on a sheet attached to the discharge plan approval letter. Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

**Record Keeping**

1. The discharger shall maintain at the facility, a written record of and septage and soil sampling analyses.

The following information shall be recorded and shall be made available to the NMED upon request.

- a. The dates, exact place and times of sampling or field measurements.
  - b. The name and job title of the individuals who performed the sampling or measurements.
  - c. The dates the analyses were performed.
  - d. The name and job title of the individuals who performed the analyses.
  - e. The analytical techniques or methods used.
  - f. The results of such analyses, and
  - g. The results of any split sampling, spikes or repeat sampling.
2. The discharger shall maintain a written record of any spills, seeps, and/or leaks of effluent, leachate and/or process fluids not authorized by this discharge plan.
  3. The discharger shall maintain a written record of the operation, maintenance and repair of facilities/equipment used to treat, store and/or dispose of wastewater; to measure flow rates; and/or to monitor water quality. This will include repairs, replacement or calibration of any monitoring equipment and repairs or replacement of any equipment used in S & R Septic's wastewater disposal system.

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### **Inspection and Entry**

In accordance with § 74-6-9.B & E NMSA 1978 and WQCC Regulation 3107.D., the discharger shall allow the Secretary or his authorized representative, upon the presentation of credentials, to:

1. Enter at regular business hours or at other reasonable times upon the discharger's premises or where records must be kept under the conditions of this discharge plan.
2. Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of the discharge plan.
3. Inspect, at regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment), practices or operations regulated or required under this discharge plan.
4. Sample or monitor, at reasonable times for the purpose of assuring discharge plan compliance or as otherwise authorized by the New Mexico Water Quality Act, any effluent at any location before or after discharge, the vadose zone and/or ground water.

### **Duty to Provide Information**

In accordance with § 74-6-9.B NMSA 1978 and WQCC Regulations 3107.D. and 3109.A., the discharger shall furnish to the NMED, within a reasonable time, any relevant information which NMED may request to determine whether cause exists for modifying, terminating and/or renewing this discharge plan or to determine compliance with this plan. The discharger shall furnish to the NMED, upon request, copies of records required to be kept by this discharge plan.

### **Spills, Leaks and Other Unauthorized Discharges**

This approval authorizes only those discharges specified in the discharge plan. Any unauthorized discharges violate WQCC Regulation 3104, and must be reported to the NMED and remediated as required by WQCC Regulation 1203. This requirement applies to all seeps, spills, and/or leaks discovered from the disposal cells.

### **Retention of Records**

The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this discharge plan, and records of all data used to complete the application for this discharge plan, for a period of at least five years from the date of the sample collection, measurement, report or application. This period may be extended by request of the Secretary at any time.



**Enforcement**

Failure to grant the Secretary or his authorized representative access to the records required to be kept by this discharge plan or to allow an inspection of the discharge facilities or to the collection of samples is a violation of this discharge plan and the WQCC Regulations. Such violations as well as other violations of the discharge plan, may subject the discharger to a compliance order, a compliance order assessing a civil penalty or an action in district court pursuant to § 74-6-10 NMSA 1978, and/or modification or termination of this discharge plan pursuant to § 74-6-5.L NMSA 1978. Penalties assessed as part of a compliance order shall not exceed \$15,000 per day for violations of the terms of this permit or the requirements of § 74-6-5 NMSA 1978, and shall not exceed \$10,000 per day for violations of other sections of the Water Quality Act.

**Modifications**

The discharger shall notify NMED, pursuant to WQCC Regs. 3107.C, of any proposed modifications or additions to the S & R Septic's disposal system, including any proposed increase in the maximum allowable discharge of 4,000 gallons per day, and any proposed changes in disposal practices as approved under this discharge plan. The discharger shall obtain NMED's approval before implementing a proposed modification. Please note that WQCC Regs. 3109.E and F provide for possible future modification of the plan.

**Other Requirements**

Please be advised that the approval of this plan does not relieve Steve Rael of liability should his operation result in violation of any law, regulation, or standard.

**RIGHT TO APPEAL**

Any person who participates in this permitting action who is adversely affected by the permitting action taken by NMED on Steve Rael's application for discharge plan modification and renewal, may file a petition for hearing before the WQCC. The petition shall be made in writing to the WQCC within thirty (30) days from the date notice is given of NMED's action. Unless a timely request for hearing is made, the decision of NMED shall be final.

**TRANSFER OF DISCHARGE PLAN**

Pursuant to WQCC Regulation 3111, prior to any transfer of ownership, the discharger shall provide the transferee a copy of the discharge permit and shall document such to the NMED.

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**PERIOD OF APPROVAL**

Pursuant to WQCC Regulation 3109.G.4., NMED recommends that the discharge plan be approved for a period of five years. S & R Septic must submit an application for renewal at least 120 days before the date of expiration date.

**RECOMMENDATIONS**

The Ground Water Pollution Prevention Section recommends that the discharge plan modification and renewal be approved with the conditions listed above. We believe that the proposed conditions and specific requirements satisfy all necessary requirements of the WQCC Regulations and comprise a discharge plan that is protective of ground water and surface water quality.

STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT



IN THE MATTER OF THE  
APPLICATION OF S&R SEPTIC  
FOR MODIFICATION AND RENEWAL  
OF DP-465

No. GWQB 98-04(DP)

HEARING OFFICER'S REPORT

DISCUSSION

Steve Rael, d/b/a S&R Septic ("S&R"), seeks renewal and modification of an existing discharge plan, DP-465, for a septage disposal facility located approximately eight miles northwest of the Town of Taos, in Section 26, T26N, R12E, Taos County, New Mexico. The New Mexico Environment Department ("NMED"), through its Ground Water Quality Bureau, supports renewal and modification of the discharge plan, subject to Certain Specific Requirements, Conditions, and General Requirements. This matter was heard by Weldon Merritt, then the NMED Hearing Officer, on February 9, 1999, in Taos, New Mexico. While numerous members of the general public either filed written statements or testified at the hearing, no other person or entity entered an appearance as a party. Thus, the only parties to this proceeding are S&R and NMED.

S&R is represented in this proceeding by Peter V. Domenici, of the law firm of Dolan & Domenici, P.C. NMED initially was represented by Nicholas J. Persampieri, of NMED's Office of General Counsel. Mr. Persampieri has, however, left NMED employment effective April 30, 1999, and no substitution of counsel has been filed. This Report will be served on NMED's General Counsel. Mr. Merritt has also left NMED's employment, and subsequently I have been designated

as hearing officer in this matter. I have reviewed the entire administrative record, and listened to the tapes of the hearing, and on that basis offer this Report.

Based on the hearing record, including the parties' Joint Stipulated Proposed Findings of Fact and Conclusions of Law ("Joint Findings & Conclusions"), I recommend S&R's application be approved for a term expiring December 13, 2001, subject to the Specific Requirements, Conditions, and General Requirements recommended by NMED, as modified in the Joint Findings and Conclusions.

The hearing in this matter was conducted pursuant to § 3110, Public Hearing Participation, of 20 NMAC 6.2, Ground and Surface Water Protection, and 20 NMAC 1.4, Permit Procedures - Environment Department. Each party was allowed full opportunity to call witnesses, present testimony and other evidence, and cross-examine witnesses called by the other party. Members of the general public also were provided an opportunity to present non-technical testimony, and many of them did so. Most of the non-technical testimony was supportive of S&R's application. Some members of the general public, however, expressed concerns about certain aspects of S&R's operation. The concerns expressed, either in written or oral comment, included: proximity of the discharge site to the Taos Municipal Airport, and the possible hazard to aircraft created by the attraction of birds; the possible impact on domestic water supply wells; the potential for spread of diseases by airborne insects attracted to the open pit sewage dumps; and emanation of odors from the site. In addition, Amigos Bravos, the County of Taos, and the Western Environmental Law Center suggested that the discharge plan should not be approved because the Town of Taos is preparing to accept disposal of septage. No one, however, provided any technical evidence showing that any provision of the Water Quality Act, NMSA 1978, Sections 74-6-1 through 17, or any

regulation of the Water Quality Control Commission would be violated by renewal of the discharge plan as proposed.

Pursuant to 20 NMAC 6.2.3110.J, the hearing was tape-recorded. By stipulation of the parties, the initial deadline for filing of proposed findings of fact and conclusions of law, and written closing argument if desired, was set at 45 days after the hearing. That time would have expired March 26, 1999. On S&R's unopposed oral motion, Mr. Merritt entered an order on March 24, 1999, extending the deadline to April 9, 1999. On April 9, Mr. Merritt entered another order, on the parties' joint motion, further extending the deadline to April 19, 1999. The parties filed their Joint Findings and Conclusions on April 19, 1999.

#### RECOMMENDED FINDINGS OF FACT AND CONCLUSIONS OF LAW

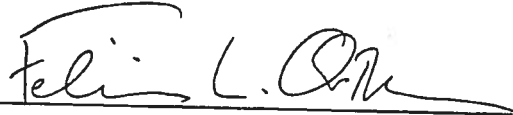
Having reviewed the Joint Findings and Conclusions, I believe they accurately summarize the relevant facts and law. I recommend that the Secretary adopt the Joint Findings and Conclusions as his own, with a few minor stylistic changes.

#### RECOMMENDED FINAL ORDER

A draft Final Order consistent with the recommendation noted above is attached as Exhibit A and incorporated by reference. To avoid any possible misunderstanding, the draft Final Order sets forth the Specific Requirements, Conditions, and General Requirements (as modified in the Joint Findings and Conclusions and with stylistic changes) in full.

Pursuant to 20 NMAC 6.2.3110.L, the Final Order must be issued within thirty (30) days of the Secretary's receipt of this Report.

Respectfully submitted,

A handwritten signature in black ink that reads "Felicia L. Orth". The signature is written in a cursive style with a long horizontal line extending to the right.

FELICIA L. ORTH  
Hearing Officer



BILL RICHARDSON  
GOVERNOR

State of New Mexico  
**ENVIRONMENT DEPARTMENT**

Ground Water Quality Bureau  
Harold Runnels Building  
1190 St. Francis Drive, P.O. Box 26110  
Santa Fe, New Mexico 87502-6110  
Telephone (505) 827-2900  
Fax (505) 827-2965



RON CURRY  
SECRETARY

DERRITH WATCHMAN-MOORE  
DEPUTY SECRETARY

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

May 22, 2003

Mr. Steve Rael, Owner  
S & R Septic  
Box 4890  
Taos, NM 87571

**RE: Discharge Permit Renewal, DP-465, S & R Septic**

Dear Mr. Rael:

Pursuant to Section 20.6.2.3109 NMAC of the Water Quality Control Commission Regulations ("WQCC Regulations"), your application for renewal of discharge permit, DP-465, for the discharge of 10,000 gallons per day of domestic septage, treated sludge, chemical toilet residue, and grease trap holdings from S & R Septic was approved by Final Order of the Secretary of the New Mexico Environment Department (NMED) on April 30, 2003 subject to the Conditions and Requirements stated below.

The approved discharge plan consists of the materials submitted by William Mansker dated September 12, 2001 and April 12, 2002. In addition, the approved discharge plan includes information and materials submitted as part of the original discharge plan approved on April 7, 1987 and the materials for renewal and modification dated June 10, 1992 and July 28, 1999. The discharge shall be managed in accordance with the approved plan and is subject to the conditions listed below.

Approval of this discharge permit does not relieve you of your responsibility to comply with the New Mexico Water Quality Act, WQCC Regulations, any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

### **DESCRIPTION OF FACILITY**

The facility is located approximately eight miles northwest of Taos in Section 26, T26N, R12E, Taos County. Ground water below the site is at a depth of approximately 600 feet and has a total dissolved solids concentration of approximately 1,000 milligrams per liter.

### **CONDITIONS FOR APPROVAL**

This discharge permit is subject to the following conditions for the following reasons:

#### **Operational Plan**

1. S & R Septic shall not discharge more than 10,000 gallons per day of domestic septage, treated sludge, chemical toilet waste and grease trap holdings. The waste materials discharged at the facility shall be pretreated/disposed of as follows:
  - A. Domestic septage and chemical toilet residue shall be pre-treated prior to disposal in accordance with 40 CFR 503.33.a.5 to reduce vector attraction. Treated wastes will be discharged into sixteen shallow surface disposal cells. The depth of liquid in any disposal cell shall not exceed approximately 3 inches.
  - B. Grease trap holdings shall be segregated from other waste types and, following discharge to one of two dedicated grease trap disposal trenches, immediately covered with stockpiled soil, or if conditions prevent immediate coverage, no later than 6 hours after discharge. The wastes shall be covered with soil so that no residual waste is at the soil surface. The cover thickness shall not be less than 3 inches.
  - C. Treated sludge from municipal wastewater treatment plants or package treatment plants shall be pre-treated in accordance with 40 CFR 503 requirements prior to disposal at the facility. Treated wastes shall be discharged into sixteen shallow surface disposal cells.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

2. S & R Septic shall install and maintain waterproof placards marking each disposal cell or trench to indicate usage assignments in a daily rotational schedule.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC.

3. S & R Septic shall maintain fences around the entire disposal facility constructed to prevent access by children and dogs (eg., field fencing, chain link fencing). S & R Septic shall post and maintain signs at the facility entrance and other areas where



public contact is likely which state the following in both English and Spanish: "Notice - Domestic Waste Disposal Area - Keep Out."

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

4. S & R Septic shall construct and maintain an earthen berm surrounding the perimeter of the facility with a minimum height of two feet. In addition, S & R Septic shall construct and maintain shallow (minimum depth of six inches) storm water diversion bar trenches parallel to and on each side of the site entrance gate. The perimeter berm and diversion trenches shall be constructed within 30 days of the date of permit approval.

The reason for this condition is to comply with Sections 20.6.2.3106 and 20.6.2.3109 NMAC by preventing contaminated wastewater from moving directly or indirectly into ground water and/or surface water.

5. S & R Septic shall inspect the site on a weekly basis for integrity of the perimeter berm, fencing and gate. Dried residual material (such as plastics, rags, paper, etc.) originating from waste disposal activities and that are susceptible to being blown off-site shall be collected and bagged. The bagged materials shall be disposed of at a permitted solid waste landfill.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

#### **Monitoring Plan**

6. Prior to waste pick-up, S & R Septic shall monitor the odor and visual appearance of the waste to ensure that only allowable wastes are collected. S & R Septic shall record for each waste pick-up the following information: the date of pick-up, the location of pick-up, type(s) of waste, confirmation of inspection for acceptable waste type(s), signature of person conducting the inspection, total volume pumped, and the disposal location (disposal cell or trench identifier). The manifest records shall be submitted to NMED as part of the bi-annual monitoring reports due May 31 and November 30 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109.H NMAC by providing monitoring of effluent.

7. S & R Septic shall maintain a separate manifest sheet for each load of domestic septage, chemical toilet waste, grease trap holdings, and treated sludge to meet

vector attraction reduction and pathogen reduction requirements under 40 CFR 503. The manifest shall include the following information:

A. Domestic septage and chemical toilet residue: the type and amount of lime initially added to the pumping truck, the time of lime addition, and the resulting pH of the septage immediately after addition of lime to verify a minimum pH of 12 at the beginning of treatment.

If after 30 minutes the pH of the septage is confirmed, S & R Septic shall record in the manifest the time, the pH of the treated septage, and the disposal cell identifier, and discharge the waste.

If the initial lime treatment fails to maintain the prescribed pH of 12 for 30 minutes, the treatment process shall be repeated, and the time and amount of additional lime added recorded in the manifest. After 30 minutes the septage shall be retested. If the pH is at or above 12, the time, the pH of the treated septage, and the disposal cell identifier shall be recorded in the manifest and the waste discharged.

The pH of the septage shall be at or above 12 for a minimum of 30 minutes from the last addition of lime prior to disposal. At no time shall wastes be disposed of at the facility without treatment verification.

B. Grease trap holdings: the disposal trench identifier, the time of disposal of wastes into the disposal trenches, and the time and depth of placement of soil cover.

C. Treated sludge: description of the methods of pre-treatment utilized to achieve vector attraction and pathogen reduction requirements of EPA 40 CFR 503, the disposal cell identifier, and the time of disposal.

All manifests shall be signed by Mr. Steve Rael and contain the following language:

"I certify, under penalty of law, that the prescribed ground water protection, vector attraction reduction and pathogen reduction requirements have been met. This determination has been made under my direction and supervision in accordance with the prescribed procedures. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment."

The reason for this condition is to comply with Section 20.6.2.3107.A.8 NMAC and Section 74-6-5 of the WQA.

8. S & R Septic shall collect and analyze soil samples as follows:

Composite samples shall be collected annually from designated locations within the shallow disposal cells. The locations shall be subject to NMED approval prior to sampling. Using a hand auger or shovel, S & R Septic shall collect soil samples from each of six locations at a depth of 12 inches and a depth of 36 inches below the cell bottoms. The soil samples from the six locations at each of the two discrete depths shall be mixed together, and the two "composite" samples (12 inch sample and 36 inch sample) shall be analyzed for total Kjeldahl nitrogen and nitrate as nitrogen. Samples shall be collected and analyzed, and the analytical results shall be submitted to NMED by May 31 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109 NMAC by providing monitoring in the vadose zone.

9. S & R Septic shall submit to NMED on a bi-annual basis Land Application Data Sheets specifying the volume of wastewater discharged to each of the shallow disposal cells and the total nitrogen load determined from either of the following methods: (1) an assumed total nitrogen concentration of 600 milligrams per liter based on average characteristics of septage (Guide to Septage Treatment and Disposal, EPA/625/R-94-002); or (2) a total nitrogen value derived from the laboratory analysis of a composite sample from a minimum of six waste loads using a sampling protocol pre-approved by NMED.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC by providing adequate documentation of nitrogen discharged.

10. S & R Septic shall submit bi-annual reports which include the following information:
- A. Manifests of waste pick-up,
  - B. Manifests of vector attraction reduction and pathogen reduction,
  - C. Land application data sheets for all disposal cells used during the previous six months,
  - D. Annual analyses of soils for total Kjeldahl nitrogen (TKN) and nitrate as nitrogen.

Bi-annual reports shall be submitted to NMED by May 31 and November 30 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109.H NMAC by providing monitoring of leachate and effluent.

### Contingency Plan

11. If ground water contamination is discovered during the term of the discharge permit or following closure of the facility and is attributable to the operations at the facility, S & R Septic shall submit a corrective action plan to NMED. The corrective action plan shall include a site investigation to define the source, nature and extent of contamination, a proposed abatement option, and a schedule for implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4106.E, 20.6.2.4107, and 20.6.2.4112 NMAC. The corrective action plan shall be submitted to NMED for approval within 30 days of confirmation of ground water contamination and shall be initiated within 30 days of NMED approval.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC.

12. In the event of an effluent spill or release, S & R Septic shall take immediate action to contain or mitigate the damage caused by the discharge and shall initiate the notifications and corrective actions as required in Section 20.6.2.1203 NMAC. Within 24 hours of discovery of the incident, S & R Septic shall verbally notify NMED and provide the information outlined in Section 20.6.2.1203.A.1 NMAC. Within seven days of discovering the incident, S & R Septic shall submit a written report verifying the oral notification and providing any additional pertinent information or changes. Within 15 days of the incident, S & R Septic shall submit a corrective action report describing actions taken and/or to be taken to remedy the impact of the spill.

The reason for this condition is to comply with Section 20.6.2.1203 and 20.6.2.3107.A.10 NMAC by providing a corrective action response to address unauthorized releases.

13. In the event that results of sampling conducted under Condition #8 indicate that significant migration of contaminants has occurred, and upon notification by NMED, S & R Septic shall submit to NMED within 60 days a corrective action plan which proposes additional testing to determine the extent of the vertical migration of total Kjeldahl nitrogen and nitrate nitrogen below the facility and address source control or reduction of the total nitrogen discharged.

The reason for this condition is to comply with Section 20.6.2.3107.A.10 NMAC by providing a contingency plan to address potential impacts to ground water quality.  
Closure Plan

14. In the event of closure of the facility, S & R Septic shall cover and disk all waste materials into the soil and re-grade the site to match surrounding landscape contours. S & R Septic shall re-seed the site with native grasses following final grading. S & R Septic shall complete the disking, regarding and seeding within 6 months of disposal of the last load of waste at the facility.

The reason for this condition is to comply with Section 20.6.2.3107.A.11 NMAC by providing a closure plan to address potential impacts to ground water quality after the facility is closed.

15. Following final grading and re-seeding of the site, S & R Septic shall maintain the perimeter fencing and security gate for a minimum of three years to prevent unauthorized access.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC, Section 20.6.2.3109 NMAC, and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

#### **Other Requirements**

16. Pursuant to Section 20.6.2.3109 NMAC and the WQA, NMED reserves the right to terminate or modify this permit for, among other things: 1) violation of any condition of the permit; 2) violation of any provisions of the Water Quality Act or any applicable regulations, standard of performance or water quality standards; or 3) violation of any applicable state or federal effluent regulations or limitations [WQA 74-6-5 (L)]. A modification may include changing waste disposal management practices and/or implementing remediation systems.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA by ensuring that protective measures put in place perform the task of protecting ground water quality, surface water quality and public health.

#### **GENERAL DISCHARGE PERMIT REQUIREMENTS**

In addition to any other requirements provided by law, approval of discharge permit, DP-465, is subject to the following general requirements:

##### **Monitoring and Reporting**

Monitoring and reporting shall be as specified in the discharge permit and supplements thereto. These requirements are summarized on the attached sheet(s). Any inadvertent omissions from this summary of a discharge permit monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

##### **Record Keeping**

1. The discharger shall maintain at the facility, a written record of ground water and wastewater quality analyses.

The following information shall be recorded and shall be made available to the NMED upon request.

- a. The dates, exact place and times of sampling or field measurements.
  - b. The name and job title of the individuals who performed the sampling or measurements.
  - c. The dates the analyses were performed.
  - d. The name and job title of the individuals who performed the analyses.
  - e. The analytical techniques or methods used.
  - f. The results of such analyses, and
  - g. The results of any split sampling, spikes or repeat sampling.
2. The discharger shall maintain a written record of any spills, seeps, and/or leaks of effluent, leachate and/or process fluids not authorized by this discharge permit.
3. The discharger shall maintain a written record of the operation, maintenance and repair of facilities/equipment used to treat, store and/or dispose of wastewater; to measure flow rates; and/or to monitor water quality. This will include repairs, replacement or calibration of any monitoring equipment and repairs or replacement of any equipment used in S & R Septic's waste treatment and disposal system.

#### **Inspection and Entry**

In accordance with Sections 74-6-9.B & E of the WQA and Section 20.6.2.3107.D NMAC, the discharger shall allow the Secretary or his authorized representative, upon the presentation of credentials, to:

1. Enter at regular business hours or at other reasonable times upon the discharger's premises or where records must be kept under the conditions of this discharge permit.
2. Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of the discharge permit.
3. Inspect, at regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment), practices or operations regulated or required under this discharge permit.
4. Sample or monitor, at reasonable times for the purpose of assuring discharge permit compliance or as otherwise authorized by the New Mexico Water Quality Act, any effluent at any location before or after discharge.

### **Duty to Provide Information**

In accordance with Section 74-6-9.B of the WQA and Section 20.6.2.3107.D NMAC, the discharger shall furnish to the NMED, within a reasonable time, any relevant information which it may request to determine whether cause exists for modifying, terminating and/or renewing this discharge permit or to determine compliance with this permit. The discharger shall furnish to the NMED, upon request, copies of records required to be kept by this discharge permit.

### **Spills, Leaks and Other Unauthorized Discharges**

This approval authorizes only those discharges specified in the discharge permit. Any unauthorized discharges violate Section 20.6.2.3104 NMAC, and must be reported to the NMED and remediated as required by Section 20.6.2.1203 NMAC. This requirement applies to all seeps, spills, and/or leaks discovered from the shallow disposal cells or trenches.

### **Retention of Records**

The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this discharge permit, and records of all data used to complete the application for this discharge permit, for a period of at least five years from the date of the sample collection, measurement, report or application. This period may be extended by request of the Secretary at any time.

### **Enforcement**

Failure to grant the Secretary or his authorized representative access to the records required to be kept by this discharge permit or to allow an inspection of the discharge facilities or to the collection of samples is a violation of this discharge permit and the WQCC Regulations. Such violations as well as other violations of the discharge permit, may subject the discharger to a compliance order, a compliance order assessing a civil penalty or an action in district court pursuant to Section 74-6-10 of the WQA, and/or modification or termination of this discharge permit pursuant to Section 74-6-5.L of the WQA. Penalties assessed as part of a compliance order shall not exceed \$15,000 per day for violations of the terms of this permit or the requirements of Section 74-6-5 of the WQA, and shall not exceed \$10,000 per day for violations of other sections of the Water Quality Act.

### **Modifications and/or Amendments**

The discharger shall notify NMED, pursuant to Section 20.6.2.3107.C NMAC, of any modifications or additions to the S & R Septic's wastewater treatment or disposal system, including any increase in wastewater flow rate or wastewater storage and disposal

Mr. Steve Rael, DP Approval  
May 22, 2003  
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management changes to the system as approved under this discharge permit. The discharger shall obtain NMED's approval, as a discharge permit modification, prior to any increase in the quantity or concentration of constituents in the leachate above those approved in this permit. Please note that Sections 20.6.2.3109.E and F NMAC provide for possible future amendment of the plan.

#### **Other Requirements**

Please be advised that the approval of this permit does not relieve you of liability should your operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations.

#### **RIGHT TO APPEAL**

If Steve Rael is dissatisfied with this action taken by NMED, Steve Rael may file a petition for hearing before the WQCC. This petition shall be in writing to the Water Quality Control Commission within thirty (30) days of the receipt of this letter. Unless a timely request for hearing is made, the decision of the NMED shall be final.


#### **TRANSFER OF DISCHARGE PERMIT**

Pursuant to Section 20.6.2.3111 NMAC, prior to any transfer of ownership, the discharger shall provide the transferee a copy of the discharge permit, including a copy of this approval letter and shall document such to the NMED.

#### **PERIOD OF APPROVAL**

Pursuant to Section 20.6.2.3109.G.4 NMAC, this discharge approval is for a period of 5 years. This approval will expire on May 22, 2008, and you must submit an application for new approval at least 120 days before that date.

Sincerely,

  
Marcy Leavitt, Chief  
Ground Water Quality Bureau

ML:FK/fk

Enclosures: Discharge Permit Summary  
Discharge Permit Monitoring Summary  
Land Application Data Sheet



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xc: Courte Voorhees, Dist. Manager, NMED Dist. 2  
NMED Taos Field Office  
Paul Saavedra, Office of the State Engineer  
Pete Domenici, Jr., 6100 Seagull St. NE, Suite 205, Albuquerque, NM 87109

STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT

IN THE MATTER OF THE APPLICATION  
OF MR. STEVE RAEL, OWNER OF S & R  
SEPTIC, TO RENEW HIS GROUND  
WATER DISCHARGE PERMIT, DP-465



No. GWB 02-03 (P)

FINAL ORDER

This matter comes before the Secretary of Environment following a hearing before the Hearing Officer on October 8, 2002, in Taos, New Mexico.

Mr. Steve Rael, owner of S & R Septic (Applicant) seeks a discharge permit for the planned discharge of up to 10,000 gallons per day of domestic septage, stabilized domestic sludge, chemical toilet residue and restaurant grease into shallow lagoons, following pre-treatment with lime, located in Taos County, approximately 8 miles northwest of Taos. Ground water below the site is at a depth of approximately 600 feet and has a total dissolved solids concentration of approximately 73 to 928 milligrams per liter (mg/l).

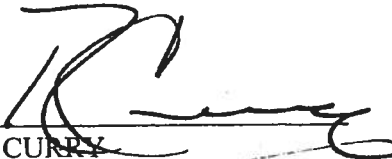
The New Mexico Environment Department (NMED) Ground Water Bureau (Bureau) supports the issuance of the permit with conditions necessary to protect public health and welfare and the environment.

Having considered the administrative record in its entirety, including all post-hearing submittals and the Hearing Officer's Report; and being otherwise fully advised regarding this matter;

THE SECRETARY HEREBY ADOPTS THE HEARING OFFICER'S REPORT AND THE PARTIES' STIPULATED PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW.

IT IS THEREFORE ORDERED:

1. The Hearing Officer's time in which to submit her Report and proposed findings and conclusions was extended to April 11, 2003.
2. The application for the discharge permit is granted, and the permit shall be issued in the form set forth in the Draft Permit issued by the Ground Water Bureau with the change below. The Applicant concurred in this change: In Condition No. 14, the following sentence shall be added as shown in Finding No. 46: "S & R shall complete the disking, regrading and reseeded within 6 months of disposal of the last load of waste at the facility."

  
\_\_\_\_\_  
RON CURRY  
Secretary of Environment

NOTICE OF RIGHT TO REVIEW

Any person who participated in this permitting action and who is adversely affected by the action may file a petition for review by the Water Quality Control Commission, c/o Geraldine Madrid-Chavez, 1190 St. Francis Drive, Santa Fe, New Mexico 87502. The petition shall be made in writing to the Commission within thirty days from the date notice is given of this action.

STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT



IN THE MATTER OF THE APPLICATION  
OF MR. STEVE RAEL, OWNER OF S & R  
SEPTIC, TO RENEW HIS GROUND  
WATER DISCHARGE PERMIT, DP-465

No. GWB 02-03 (P)

HEARING OFFICER'S REPORT

INTRODUCTION

Mr. Steve Rael, owner of S & R Septic (Applicant) seeks a discharge permit for the planned discharge of up to 10,000 gallons per day of domestic septage, stabilized domestic sludge, chemical toilet residue and restaurant grease into shallow lagoons, following pre-treatment with lime, located in Taos County, approximately 8 miles northwest of Taos. Ground water below the site is at a depth of approximately 600 feet and has a total dissolved solids concentration of approximately 73 to 928 milligrams per liter (mg/l). The New Mexico Environment Department (NMED) Ground Water Bureau (Bureau) supports the issuance of the permit with conditions necessary to protect public health and welfare and the environment.

This matter was heard on October 8, 2002, in Taos, New Mexico. NMED was represented by Paul Halajian of NMED's Office of General Counsel, and the Bureau's position was presented by Fred Kalish. Those present on behalf of the Applicant included attorney Pete Domenici, Jr. and consultant William Mansker. Many members of the public participated in questioning and testimony at the hearing, including Zena Kolshorn, Michael Reynolds, Linda Thompson, Mitzy Kennaugh, Lorenzo Gutierrez, Johnny Martinez, Doug West, Julia Pyatt, Susan Vernon and Gladys Kozoll.

The administrative record includes, *inter alia*, the permit application, the notice of docketing and hearing officer assignment, the Notices of Intent to Present Technical Testimony, the transcripts

and exhibits, the sign-in sheets, a joint post-hearing submittal from the Bureau and the Applicant, and this Report.

The hearing was conducted in accordance with the New Mexico Water Quality Control Commission Regulations, 20 NMAC 6.2.3110. The hearing lasted five hours, beginning at 5:30 p.m. The sign-in sheets show 60 names, but not everyone signed in.

Notices of intent to present technical testimony were submitted by the Bureau and the Applicant.

Every participant was allowed full opportunity to call witnesses, present testimony and other evidence, and cross-examine witnesses called by any other participant. The hearing was transcribed by a court reporter. The record was left open only for the purpose of submitting proposed findings of fact and conclusions of law within thirty days of receipt of the transcript.

Based on the entire record, I recommend that the permit be issued as requested subject to the conditions laid out by the Ground Water Bureau in Mr. Kalish's testimony.

#### **PROCEDURAL MATTERS**

Although the hearing in this matter was originally scheduled for August 6, 2002, shortly before the hearing it was not clear from a review of the hearing notices sent that all of the state's pueblos had been given notice, and not just those near Taos.

On August 5, 2002, I issued an order to continue the hearing to October 8, 2002, on the same day we would be reconvening a hearing in a similar matter in Taos [Silva's Sanitation] for the same reason.

On August 6, 2002, the Bureau sent a letter to the Governors of all of New Mexico's Indian Tribes with this notice. The entire hearing was conducted on October 8, 2002, and included a representative of Taos Pueblo.

### **SUMMARY OF TESTIMONY**

#### **For the Applicant**

#### **William Mansker**

Dr. Mansker testified that he has a bachelor's, master's and doctorate in geology and has been in the environmental field since 1984. He prepared the discharge plan application in question. The documents submitted support the issuance of the permit; no technical testimony contradicts its issuance.

Turning to the terms of the renewal application, Dr. Mansker stated that S & R Septic would be limited to discharging no more than 10,000 gallons per day of domestic septage, chemical toilet residue, grease trap holdings and treated sludge. Grease trap holdings, which constitute a minimal amount of what is hauled by S & R Septic, would be buried daily. The facility where the materials would be discharged is an evaporative facility. They would be pre-treating the septage and sludge with lime to raise the pH to 12, which is detrimental to pathogens that may exist. Security at the site must be maintained. Waterproof placards will be provided for each cell. An 8-10 foot berm and a hog-wire fence enclose the entire facility. Approximately 2.8 acres is separated into 16 lagoons. The lagoons are used on a rotational basis. Two trenches will receive the grease trap material and be covered daily. The site will be inspected on a weekly basis, and the material will be monitored. Dr. Mansker showed photographs of the site.

Dr. Mansker then described the substrate lithology at the site. Ground water is at a depth of 585 to 600 feet. The gradient is toward the Rio Grande drainage, and is underlain by interlayered clays and basalts down to a thin gravelly aquifer. Given the high impermeability of the clays, it is unlikely that surface activity will ever reach ground water. Drilling in the lagoons did not indicate penetration below 35 feet. Nitrates, which are the primary contaminant of concern, are focused in the upper 12 inches to 3 feet of the lagoon bottoms. Dr. Mansker described the composite soil samples taken for analysis. Section 503 requires pathogen and vector reduction, which they plan to accomplish with the lime, which kills most pathogens and decreases odor. They have to maintain an alkalinity of 12 for at least 30 minutes. The draft permit meets state and federal requirements.

On cross-examination, Dr. Mansker stated that the permit requires re-treatment with lime if the minimum alkalinity is not initially maintained. He also described the manifesting system. The berms will be created from soil taken from the surface and the borrow pit, not from sewage. Testing for heavy metals is not required at these sites, but at large municipal sites. Standing water may not exceed three inches in the pits. He does not believe it will represent a particular breeding ground for mosquitoes. Because depth to ground water is so far, they are not required to have a monitoring well. He does not believe the possibility of faults presents a risk to the ground water, given the depth to ground water and the intervening clay layers. He approximates it will take a minimum 40 pounds of lime per load, depending on the pH of the original solution.

On re-direct examination, Dr. Mansker stated that evaporation rates were about 13 inches per year, and highest in the summertime.

**Steve Rael**

Mr. Rael testified that he is the owner of S & R Septic, and has operated at the current

location for about 16 years. He has been using the Town of Taos wastewater treatment facility 90% of the time recently, as it is cheaper. If the plant continues to be available, he will continue using it. It is only open 6 days a week from 8 to 5, and they refuse sludge from outside the county. He is not subject to any of the "bad actor" grounds set out for denying a permit under the Water Quality Act.

On cross-examination, Mr. Rael stated that Dr. Mansker had explained the permit's terms and conditions to him, that he agrees with the terms and understands enforcement action may be taken for violations. He further stated that a load could not be dumped until it meets a pH of 12. He believes the Town is not accepting waste from outside the county to reduce their volume while they address problems at the plant.

He is not willing to restrict his hauling activities to the County of Taos. He serves Dixon and Angel Fire and does not want to haul those loads all the way to Santa Fe. Roughly 30% of the waste he handles is from outside the county. There are different methods of measuring pH, including probes and paper; he will use a state-approved method.

Currently, using his disposal site would be more expensive than using the Town's plant because they would have to drive across town, using gasoline and labor. When they have to treat with lime, it will be more expensive still. He expects each load to be treated with about \$40 of lime. They are currently paying \$15 per truckload at the Town's plant. In Pojoaque, they pay \$88 per load.

**For the Bureau**

**Fred Kalish**

Mr. Kalish has been employed with the Ground Water Bureau for 5 ½ years. He is currently a water resource engineering specialist with the Bureau's Pollution Prevention Section and the team



leader for domestic waste discharge permits. He is responsible for ensuring consistency in discharge permits for domestic waste permits; he is also a technical reviewer for a portfolio of discharge permits. He has reviewed approximately one hundred applications for discharge permits, 15 of which were for septage facilities. He has a bachelor's degree in philosophy and a master's degree in environmental engineering. [Mr. Kalish adopted his prepared written testimony, which is part of the record and will not be further summarized here.]

Mr. Kalish described the regulatory framework for groundwater discharge permits: anyone wishing to discharge wastewater that could exceed ground water standards may do so only with an approved discharge permit. Typically, a notice of intent or permit application is submitted to the Bureau for review. The application is first reviewed for administrative completeness. The Department then moves forward with public notification. Following public notice, a 30-day period for public comment begins. A public hearing is held if there is significant public interest, as happened here. If significant public interest is not found, the Bureau continues the technical review of the permit, and provides a draft permit to the discharger. Here, with a hearing, there is a draft permit for everyone to review and comment on.

Discharge permits are typically issued for a period of five years. Any time there is a modification to a permit, public notice is issued so the public is aware of significant changes to the facility. Public notice and participation also occurs with each renewal. A discharge permit includes several components: a description of the discharge and the contaminants, site-specific conditions at the discharge facility, an operational plan, a monitoring plan, a contingency plan and a closure plan.

Mr. Rael's facility was first permitted in 1987; it was one of the first septage facilities to be permitted. In the late 1990s, the Bureau obtained funding from the Environmental Protection

Agency to do studies investigating the migration of nitrogen contaminants from these facilities. They wanted to assure that these facilities did not pose a current or long-term threat to ground water.

The first study was conducted in 1999. The two facilities studied were S & R Septic and the City of Santa Fe sludge disposal facility. They drilled a number of boreholes to a depth of 30 feet. At regular intervals in those boreholes they collected soil samples and analyzed the soils for nitrogen contaminants to determine how far the contaminants had migrated after operation of the facility for 12-13 years. They found the contamination was limited to approximately 15-30 feet below ground surface, with the ground water at 580 feet below the surface, indicating that the facility was unlikely to pose a threat to ground water beneath the facility.

In the second study they investigated the City of Albuquerque sludge disposal area, and developed a computer program to do predictive modeling for contaminant migration. They drilled to 70 feet to complement the earlier study. Looking at all three facilities, the results were consistent. In connection with the second study they also contracted with a third party to develop computer modeling for the soils and vadose zone, and to make recommendations for best management practices, and have incorporated some of those recommendations into the permits as well. This includes, for example, limiting the depth of septage in the waste disposal cells to reduce the driving force that drives contaminants beneath the soil. More recent concerns focus on public health concerns outside of direct impacts to ground water. More funding was sought from EPA, and received, to continue the work on the best management practices, and develop a Bureau policy for these facilities.

Mr. Kalsih was the primary technical reviewer for the DP-465 application. The initial application proposed a similar operational procedure to what had been permitted three years earlier.

The Bureau organized a meeting in February 2002 to which they invited all septage disposal facility owners in Taos, and discussed its concerns. The Bureau's concerns specifically related to the federal regulations dealing with septage disposal, and the fact that the Water Quality Act requires NMED to deny a permit if there are federal standards of performance or limitation that are not met. These standards are at 40 CFR 503. Section 503 offers septage disposers three options for disposals: injection below the surface of the ground, application to the ground with disking within 6 hours, or treatment with lime and disposal on the ground surface.

At a follow-up meeting, Mr. Rael submitted a revised permit application addressing the concerns raised and consistent with 40 CFR Section 503. The revised application proposes pretreatment of the domestic septage and chemical toilet waste with lime to satisfy the vector attraction reduction requirement of Section 503. The grease trap waste would be disposed of in trenches and covered within 6 hours, and the stabilized municipal sludge will be applied only after meeting all requirements under Section 503.

The applicant did provide a site and method for flow measurement and sampling. The applicant proposed a written manifest system for tracking volume of discharge at the facility, a method that's commonly employed. The applicant proposes to discharge domestic septage, chemical toilet waste, grease trap waste and stabilized municipal sludge.

The primary contaminant of concern to the Bureau is nitrogen; there is a health-based standard for nitrate among the water quality standards. Other contaminants include metals, organic chemicals in trace amounts, and biocides such as formaldehyde or glutaraldehyde in the chemical toilet waste. Metals are at lower concentrations and would not be expected to migrate at these sites. There are only trace amounts of the organic contaminants; they are generally readily biodegradable.

The biocides are also readily biodegradable, and present less of a concern. Pathogens are not a contaminant of concern for the ground water quality at this site, due to the great depth to ground water and the expectation that they would not migrate. EPA requires a minimum distance of three to four feet from ground water to filter out pathogens; at this site it is substantially greater than that.

Mr. Kalish believes Silva's facility is a suitable site to discharge septage for purposes of protection of ground water quality; it is unlikely that ground water would be impacted by the operations of this facility.

Mr. Kalish agreed with most of Dr. Mansker's testimony, but he would make a few corrections: Grease trap waste must be buried within 6 hours, not on a daily basis. The disposal cells are not entirely evaporative; Mr. Kalish believes there is an element of infiltration as well, because the cells are unlined. Loss is primarily evaporative. Nitrate penetrates deeper than 12 inches, although not greater than tens of feet.

The Bureau has prepared a draft permit with conditions for approval. Mr. Kalish read the conditions into the record, including requirements relating to pretreatment, the depth of liquid in the disposal cells, the segregation and cover of grease trap holdings, signs to show usage assignments and rotational schedule, fencing and posting, the construction of an earthen berm and stormwater diversion bar trenches, inspection and clean-up, monitoring for acceptable waste and manifesting, testing for pH and re-treatment with lime if necessary, collection and analysis of soil samples, the submission of data sheets and biannual reports, the submission of a plan and the implementation of corrective action in the event of contamination, and cover, regrading and reseeded in the event of closure.

With the conditions proposed, Mr. Kalish does not believe DP-465 will result in a hazard to public health or adversely affect ground water, nor will there be undue risk to personal or physical property, or cause a stream standard to be violated. The effluent will meet applicable regulations, and the discharge will not cause or contribute to water contaminant levels in excess of any state or federal standard. To his knowledge, the applicant has not exhibited a willful disregard of environmental laws.

Mr. Kalish commented on the National Academy of Sciences Report testified to by Ms. Pyatt: the report was initiated and published due to public concerns relating to the disposal of sludge, biosolids and septage. EPA contracted with the Academy to gather an expert panel to consider the adequacy of Section 503 with regard to the protection of the public. The report found there was much to do, and was critical of Section 503, but it also concluded that there was no documented scientific evidence that Section 503 had failed to protect public health.

On cross-examination, Mr. Kalish agreed that the Ground Water Bureau does not consider air quality issues in its permitting. The operation is primarily self-monitored, but NMED does its best to review the manifests for completeness, and they do routine site inspections and collect samples.

There has been communication between the Ground Water Bureau and the Air Quality Bureau regarding these facilities. The Air Quality Bureau did not have the proper equipment to test for ammonia or hydrogen sulfide in the air, but they have now obtained the equipment and are doing site-specific investigations to determine if there is a regulatory concern for emissions generated. The Bureau reserves the right to revisit the permit conditions at any date in the future if, for example, the federal regulations become more stringent, to modify the permit.

There are 3-6 open pit septage disposal facilities in the state. If manifests are late, the Bureau writes a letter of noncompliance to the facility. Mr. Kalish acknowledges that there is no state tracking mechanism for the transportation of septage. The Bureau is meeting on this issue, and considering regulations to this effect. A full-blown organic analysis on each load might cost \$2,000, when the profit margin is \$40-50. Who would pay that cost? Typically, however, they don't expect some unusual hazardous chemical to enter that waste stream. Prior to the renewal of this permit, Mr. Kalish did extensive sampling of the lagoons at each of the three septage disposal facilities in Taos. He found very consistent results, and nothing alarming about the hazardous components in the waste stream.

The three-inch cover for restaurant grease was chosen based on a review of the solid waste regulations and adequate depth to discourage flies and other insects. There is no regulatory minimum.

Mr. Kalish acknowledged that there is no time requirement for closure plans following the end of operations.

Mr. Kalish had seen some information about allegations that S & R had illegally dumped septage into a river, but Mr. Rael was not the driver, and there was no evidence that he had asked or directed the person doing the dumping to do what they did. The report made of the incident was inconclusive, and it not clear what actually happened.

On re-direct examination, Mr. Kalish testified that he is not aware of a practical method for monitoring septage sites other than manifests. He knows the Department has issued a compliance order against a septage facility, but was not personally involved. The Bureau will

consider Ms. Pyatt's suggestion to have a time deadline for closure and will suggest something for the final permit, perhaps six months.

#### **Public Comment**

**Ms. Zena Kolshorn** is resident of Tune Drive of ten years and is glad she saw the mesa. She did not see toilet paper or smell sewage, but a neighbor asked her if she knew about the sewage. She obtained information from Mr. Kalish and got to know the Raels. She visited the Red River treatment plant and learned about septage. Mr. Kalish spent over \$20,000 to do a deep ground water test on their mesa and found things in order. The Raels built a fence around their site. She is thankful to the local and state governments and to God.

**Mr. Michael Reynolds** agrees with those opposed to surface dumping and also has issues with the treatment plant and its effect on the Rio Grande. He presented an alternative system; Mr. Silva and Mr. Rael have indicated they are interested and would participate if it is possible. It is an underground system that uses treatment and distillation to make sewage usable. They have been using it for over a decade on an individual residential basis, and the NMED has been supporting and checking them; a subdivision was approved with the system. The system contains the sewage and uses the moisture. They have the community planned and the land necessary; the waste haulers have promised them a certain number of loads. They will catch water in cisterns and hold it for household use. The toilet is separated from everything else. Drainage goes into a rubber-lined planter in the house. The plants are the system. The water is re-caught, pumped, flushed and run through a similar system for much less water. NMED has made unannounced test samples, which have shown to be better than those pulled at the wastewater treatment plant. They are proposing thousand-foot long series of botanical cells, ten feet wide, three feet deep and forty feet long. Solids are broken down by

the sun and heat. Bacteria hang up on the gravel. Oxygenation and transpiration reduce nitrate loading. This is a good alternative to ground dumping and would take the pressure off the current circumstances.

**Mr. Lorenzo Gutierrez** stated that he works next to the pits. He has had to deal with this unpleasant situation for three years, since he moved there. The problems started when the pits overflowed and ran onto his property. There are prairie dog holes all under the fence, and the coyotes are still getting in. There are children's toys by the fence and items of waste on the tall berms. He believes S and R Septic was more than 2 years late in providing a manifest, but there was no enforcement. In the middle of winter he has seen swarms of mosquitoes when the sun comes out. He has seen sewage deeper than 3 inches in the pits. No fence will keep out the windstorms and the dust devils. At least three of his employees quit for health problems. These pits should be stopped.

**Ms. Linda Thompson** stated that her neighborhood association has worked with Mr. Rael and concluded that he provides a much-needed service, particularly to the mobile home community, but she still has concerns. She understands that Mr. Rael would like to close the pits, reclaim them, and sell the land, but she is concerned that NMED does not monitor and inspect as it should. She urges the agency to monitor randomly at least twice a month, and to check the pH. She further urges the renewal of the permit for just one year, and that the state work with the county and the town to end the dumping of raw sewage in residential areas. There are children and others living near the pits who have health problems. The NMED should take a more holistic approach, and find funding for air quality monitoring as well.

**Ms. Mitzy Kennaugh** owns Airport Self-Storage, in close proximity to the pits. She offered a number of photographs into the record showing the area. [See Kennaugh Exhibits 1-15.] Waste is



still visible on the berms. She appreciates the reduced use of the pits, because she smells it when it is used a lot, and she hasn't had to smell it in the summer and fall. This is an under-regulated area for cleanliness, safety and biohazards, including the West Nile Virus. If the berms are being constructed of waste, she believes they are beyond their capacity. She has no problem with the burial of grease out there. All of the photos were taken outside the fence, with the exception of the one that shows a condom. We need more responsible treatment of human waste and a buffer zone for neighborhood businesses and homes.

**Mr. Johnny Martinez** stated that he wishes there were a solution, but unless the Town and NMED get involved, it's not going to get any better. They need a bigger facility so that Mr. Rael can provide the services and Taos is still nice and clean. People who flush stuff that shouldn't be flushed should be cited.

**Mr. Doug West** stated that he is the head of the neighborhood association for the entire Tune Drive area and that Mr. Rael is a subject of concern. They want him to continue using the Town's facility solely, but they know he provides a service that's essential. When he purchased the land, there were no homes; now there are 50. They would like to close the facility, reimburse Mr. Rael for his investment and find an alternate site with a buffer zone for backup. Espanola should have its own facility for septage. The problem is complex and it is much larger than Mr. Rael. They would like to work with him to find solutions that do not require a permit in the next cycle.

**Ms. Julia Pyatt** stated that her main concern is from a health standpoint. Raw sewage is contaminated material, full of disease and viruses and bacteria and solvents and chemicals. She has done over ten months of research on the Internet. When lime is used, it is breathed in and irritates the throat and increases susceptibility to other diseases. Not many states have this open pit concept,

and it is not a healthy way to dispose of sludge. Mr. Rael did what he was asked, and made his berms huge, but they are made of raw sewage. Bacteria can live up to three years in soil. A Pennsylvania boy died after a field was plowed up.

Sewage effluent is a health hazard unless you put a fence around it and get a discharge plan; then it's not a health hazard. Ms. Pyatt cited Dr. Lewis' credentials, and quoted from one of the articles she submitted: "The U.S. EPA's standards that govern using treated sewage sludge on soil are based on outdated science." She and her children go to the doctor all the time, with the sort of complaints known to result from exposure to biosolids. Worker exposure is also a big issue in this field. One of the main ways people are exposed is not through drinking water but air contamination. Another paper Ms. Pyatt offered a synopsis of, and quoted at length from, links an increase in illnesses to sewage sludge used as fertilizer. It is not just odors that are present, but toxic gases with the odors that cause symptoms.

Ms. Pyatt quoted from another article stating that lead is one of the most insidious toxins in sewage sludge. She is thankful Mr. Rael is using the treatment plant, because it is a class A plant, and it may have some problems, but it is the best available thing to kill pathogens. She is concerned about the sludge coming in from outside the county, and about the lime. She hopes the governments, the citizens and the septic haulers can work together for safe disposal.

**Ms. Susan Vernon** stated that she has a couple of suggestions for the discharge permit: the grease should be covered with 6 inches of soil rather than 3; the area has livestock and flies. She has seen plastic tampon applicators in the septage ponds, which would not be biodegradable, and she suggests that the cover in closure be virgin soil, not mixed with what's been dumped there, and clean topsoil for the reseeded. She would like to see the permit Mr. Rael's commitment to use the Town

of Taos facility primarily and other disposal options that become available.

**Ms. Gladys Kozoll** stated that she is from Taos Pueblo. She is truly concerned about the disposal of sludge in the community, and believes it is archaic. She knows Julia's kids are close and they are affected. This is not a local problem, but a worldwide one. Native people have a concept of integral relationship with all life forms. Together we should be finding creative solutions to the problem. Exposure to bacteria-laden mixture poses a serious threat to us and the environment. Self-regulation does not afford us any protection. We have inadequate documentation regarding sludge. Environmental choices are fundamentally moral and social. We need a holistic approach that ensures and preserves habitats and resources, especially water. Ms. Kozoll recommends that we reduce permits to one year and evaluate the dumping. She further recommends that they use the Town's disposal site. She recommends education and protective gear for the waste handlers.

#### **DISCUSSION**

I agree with Mr. Kalish that the NMED has no legal basis to impose on Mr. Rael a requirement in the discharge plan to use the municipal plant as his primary disposal place under the WQCC Regulations, although Mr. Rael has made that commitment verbally at the hearing.

Nor do I see a legal basis under the Regulations for the other requested special adjustments to the draft permit, such as limiting the length of the permit to one year rather than five. As Mr. Kalish has explained, in the event that Rael's is in violation of existing requirements, enforcement would be taken, and in the event new requirements are established that require changes to the permit, this would be done through modification.

NMED may terminate or modify the permit for violation of any permit condition or of the Water Quality Act. If EPA changed its regulations, the permittee would not be in accord with the

federal standard, and thus not in accord with the Act.

The proposed requirement of 6 inches of soil is not based on scientific testimony and is not necessary to protect ground water in this case.

The Bureau acted on Ms. Pyatt's suggestion to include a time for closure following the end of operations, and the Applicant concurred in the additional language.

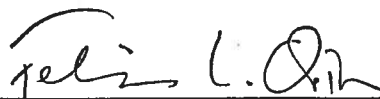
**RECOMMENDED STATEMENT OF REASONS AND OTHER ACTION**

Having reviewed the Bureau's and Applicant's Joint Proposed Findings of Fact and Conclusions of Law, I believe it accurately summarizes the relevant facts and law. I recommend that the Secretary adopt them as his own.

**RECOMMENDED FINAL ORDER**

A draft Final Order consistent with the recommendation above is attached and incorporated by reference.

Respectfully submitted,



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FELICIA L. ORTH  
Hearing Officer

**COPY**

**STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT**



**IN THE MATTER OF THE APPLICATION  
OF MR. STEVE RAEI, OWNER OF S & R  
SEPTIC, TO RENEW HIS GROUND  
WATER DISCHARGE PERMIT, DP-465**

**NO. GWB 02-03(P)**

**STIPULATED PROPOSED FINDINGS OF FACT AND  
CONCLUSIONS OF LAW**

Pursuant to Section 20.1.4.502 NMAC, the New Mexico Environment Department ("NMED") and Mr. Steve Rael hereby submit the following Stipulated Proposed Findings of Fact and Conclusions of Law:

**FINDINGS OF FACT**

1. The NMED Ground Water Quality Bureau (the "Bureau"), by and through the Secretary of the Environment (the "Secretary"), is charged with administering the ground water permit program for the State of New Mexico pursuant to the New Mexico Water Quality Act ("WQA") set forth at NMSA 1978, Section 74-6-1 through 74-6-15, and the Water Quality Control Commission Regulations (the "WQCC Regulations") set forth at 20.6.2 NMAC.
2. Pursuant to Section 74-6-5 of the WQA and Section 20.6.2.3104 of the WQCC Regulations, a person intending to discharge effluent or leachate so that it may move directly or indirectly into ground water must obtain a discharge permit issued by the Secretary of Environment.

3. If the holder of a discharge permit wishes to continue discharging effluent or leachate after the term of the permit has lapsed, the holder must apply for a permit renewal. 20.6.2.3106.F NMAC.

4. An application for the renewal of a discharge permit must include and adequately address all the information necessary for evaluation of a new discharge permit. 20.6.2.3106.F NMAC.

**Procedural Background**

5. On September 12, 2001, Mr. William Mansker submitted a request and application for renewal of discharge permit DP-465 on behalf of Mr. Rael (hereinafter referred to as the "Applicant), owner of S & R Septic -- a septage disposal facility located approximately eight miles northwest of Taos in Section 26, T26N, R12E, Taos County, New Mexico (hereinafter referred to as the "site"). Written Testimony of Fred Kalish (hereinafter referred to as "WT"), attached to NMED's Statement of Intent to Present Technical Testimony as Exhibit "B", at 4.

6. On October 18, 2001, NMED deemed S & R Septic's application administratively complete in accordance with Section 20.6.2.3108.A NMAC. WT at 4.

7. On December 6, 2001, the Secretary determined, in accordance with Section 20.6.2.3108.D NMAC, that a public hearing would be held regarding the proposed renewal of DP-465 because of significant public interest. WT at 5.

8. On April 12, 2002, at NMED's request, Mr. William Mansker submitted to NMED on behalf of the Applicant a revised permit renewal application (the "Application), which forms the basis for the Draft Permit. WT at 5; Transcript ("Tr.") at 138.

9. On June 27, 2002, NMED sent notice of a public hearing initially scheduled to be held on August 6, 2002 to certain required persons under Section 20.6.2.3108.E NMAC, but inadvertently failed to send notice to the Governors of New Mexico's Indian Tribes. WT at 4; Tr. at 121.

10. NMED published notice of the public hearing initially scheduled for August 6, 2002 in the Albuquerque Journal on June 30, 2002 and the Taos News on July 4, 2002. WT at 5-6.

11. On July 25, 2002, the Applicant timely filed a Statement of Intent to Present Technical Testimony pursuant to 20.6.2.3110.C NMAC.

12. On July 26, 2002, the Bureau timely filed a Statement of Intent to Present Technical Testimony pursuant to 20.6.2.3110.C NMAC.

13. On August 2, 2002, after realizing that it had inadvertently failed to send notice of the public hearing to the Governors of New Mexico's Indian Tribes, NMED moved to reschedule the hearing on the ground that public notice was defective.

14. In her Order Resetting the Hearing, dated August 5, 2002, Felicia Orth, the Hearing Officer assigned to the matter, agreed that proper notice was not given, reset the hearing for October 8, 2002, and required the Bureau to timely publish and mail the required notice of hearing.

15. On August 30, 2002, NMED sent notice of the reset public hearing to all required persons under Section 20.6.2.3108.E NMAC, including the Governors of New Mexico's Indian tribes.

16. NMED published notice of the reset hearing in the Albuquerque Journal on September 4, 2002 and the New Mexican on September 6, 2002.

17. Instead of re-filing the same Statements of Intent to Present Technical Testimony, the Bureau and the Applicant relied upon the Statement's already filed on July 26, 2002 and July 25, 2002 respectively.

18. No other Statement of Intent to Present Technical Testimony was filed in the matter.

19. The public hearing on the Application was held on October 8, 2002 before Ms. Orth at the Enos Garcia Elementary School, 305 Don Fernando Street, Taos, New Mexico. Tr. at 1.

20. At the hearing, Mr. Mansker and the Applicant testified for the Applicant and Fred Kalish testified for the Bureau regarding the Application and the Draft Permit. Tr. at 32-78, 118-196.

21. Members of the public also testified at the hearing regarding the Application and the Draft Permit, several of which, most notably Julia Pyatt, presented technical evidence despite not filing a Statement of Intent to Present Technical Testimony. Tr. at 9-29, 80-117, 197-204.

**Statutory and Regulatory Requirements For Issuance of Renewal**

22. Pursuant to Section 20.6.2.3109.C NMAC, the Secretary shall approve a permit renewal, provided that the other requirements of the WQCC Regulations are met and the renewal demonstrates that neither a "hazard to public health" nor "undue risk to property" will result, if the renewal meets the following requirements: 1) ground water that has a TDS concentration of 10,000 mg/l or less will not be affected by the discharge,



or 2) the renewal will not result in either concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use.

23. Pursuant to Section 20.6.2.3109.H NMAC, the Secretary shall not approve a renewal if it: 1) does not provide a site and method for flow measurement and sampling; 2) will cause any stream standard to be violated; 3) will result in the discharge of any water contaminant which may result in a hazard to public health; or 4) if the renewal is for a period longer than five years.

24. Pursuant to Section 74-6-5.E of the WQA, NMED shall deny any application for a permit if: 1) any provision of the WQA would be violated; or 2) the discharge would cause or contribute to water contaminant levels in excess of any state or federal standard.

25. Furthermore, Section 74-6-5.E of the WQA provides that NMED shall deny any application for a permit if the applicant has, within ten years immediately preceding the date of submission of the permit application: 1) knowingly misrepresented a material fact in an application for a permit; 2) refused or failed to disclose any information required under the WQA; 3) been convicted of a felony or other crime involving moral turpitude; 4) been convicted of a felony in any court for any crime defined by state or federal law as being a restraint of trade, price-fixing, bribery or fraud; 5) exhibited a history of willful disregard for environmental laws of any state or the United States; or 6) had an environmental permit revoked or permanently suspended for cause under any environmental laws of any state or the United States.

26. Lastly, Section 74-6-5.E of the WQA provides that NMED shall deny any application for a permit if the proposed effluent would not meet applicable state or federal effluent regulations, standards of performances or limitations.

27. The only state or federal effluent regulations, standards of performance or limitations that apply to the Applicant's facility are the federal sludge regulations set forth at 40 CFR Part 503. Tr. 1 at 79-80.

28. Established to reduce vector attraction and limit exposure to pathogens, the regulations at Part 503 require a facility that disposes of domestic septage to either inject the septage below the ground, land-apply the septage and disk the material into the ground within six hours of application, or treat the septage with lime prior to disposal. 40 CFR 503:33(a)(5); Tr. 1 at 79-80.

29. Septage treated with lime must remain at a pH of 12 or higher for a period of 30 minutes prior to disposal. 40 CFR 503.33(b)(12).

#### **Site Conditions**

30. Depth to ground water at the site is approximately 500 to 600 feet below the surface. Tr. 1 at 88.

31. The ground water at the site has a concentration of 73 to 928 mg/l of total dissolved solids. WT at 7.

#### **S & R Septic's Application For Renewal Of DP-465**

32. At the hearing, Mr. Mansker, witness for the Applicant, and Fred Kalish, Water Resource Engineering Specialist and Team Leader for domestic waste ground water discharge permits at the Bureau, testified that the Applicant proposes to pre-treat

domestic septage with lime to raise the pH of the waste above 12 and then dispose of it into shallow lagoons. Tr. at 33-35, 132-133.

33. Mr. Kalish testified that the Applicant further proposes to dispose of grease trap holdings in two trenches at the site and cover the waste within 6 hours of disposal. Tr. at 33-35, 132.

34. Mr. Kalish testified that the Applicant proposes a manifest system as the method of measuring the flow of incoming waste, a method commonly employed at septage facilities in New Mexico as well as other states. Tr. at 133.

35. Mr. Kalish testified that the waste that the Applicant proposes to discharge contains contaminants including nitrogen compounds, metals, organic chemicals, biosides and pathogens. Tr. at 133-134.

36. Mr. Kalish further testified, and no technical evidence was presented at hearing to rebut, that NMED conducted two studies in 1999 and 2000 on the downward migration of nitrogen contamination at three different sites -- S&R Septic and two sludge disposal facilities, one located in Santa Fe and the other in Albuquerque -- and that the results of the studies showed that nitrogen contamination migrated only 10 to 30 feet below the surface during the lifetime of the facilities (in the case of S & R Septic, 12 to 13 years). Tr. at 126-128.

37. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that metals are present in domestic septage in only trace amounts and that they are not expected to migrate down to ground water. Tr. at 134-135.

38. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that, like metals, organic compounds are present in domestic septage in only trace amounts and that such compounds are also readily biodegradable. Tr. at 135.

39. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that the biosides contained in the waste are readily biodegradable. Tr. at 135.

40. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that approximately 4 feet of soil below a source effectively filters pathogens out of wastewater, and thus pathogens are not expected to migrate down to ground water at the site. Tr. at 135-136.

#### **The Draft Permit**

41. The Draft Permit is for a period of 5 years. Draft-Permit at 11.

42. Mr. Kalish testified that the Bureau recommends the imposition of conditions as set forth in the Draft Permit. Tr. at 138.

43. Mr. Steve Rael testified that he understood, and agreed to, each of the conditions set forth in the Draft Permit. Tr. at 70.

44. Upon cross-examination of Mr. Kalish, Ms. Julia Pyatt, a member of the public, raised her concern that the Draft Permit did not place a time requirement on closure of the site upon cessation of facility operations. Tr. at 176.

45. In response to Ms. Pyatt's concern, Mr. Kalish testified that he recommends adding language to the Draft Permit to limit the amount of time the Applicant has to complete closure of the site and suggesting, though not definitively, that the time period should be no longer than 6 months. Tr. at 194.

46. To address the time period for closure of the site, the Bureau proposes to add, and the Applicant stipulates to, the following underlined language to Condition #14 of the Draft Permit:

In the event of closure of the facility, S & R Septic shall cover and disk all waste materials into the soil and re-grade the site to match surrounding landscape contours. S & R Septic shall re-seed the site with native grasses following final grading. S & R shall complete the disking, regrading and reseeding within 6 months of disposal of the last load of waste at the facility.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

47. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that the issuance of the Draft Permit with the proposed conditions will not result in either concentrations in excess of standards set forth at Section 20.6.2.3103 NMAC or the presence of any toxic pollutants at any place of withdrawal of water for present or reasonably foreseeable future use. WT at 17.

48. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not result in a "hazard to public health" as that term is defined in the WQCC Regulations. WT at 17; Tr. at 150.

49. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not adversely affect ground water quality. Tr.at 150.

50. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not result in an undue risk to property, real or personal. Tr. at 150.

51. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not cause a stream standard to be violated. Tr. at 150-151.

52. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that the Applicant's discharge plan consisting of treatment of waste with lime to raise the pH of the waste to 12 or higher for 30 minutes prior to disposal will meet applicable federal effluent regulations set forth at 40 CFR Part 503. Tr. at 151.

53. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that issuance of the Draft Permit will not violate any provision of the WQA. Tr. at 151-152.

54. Mr. Kalish testified, and no technical evidence was presented at hearing to rebut, that the proposed discharge will not cause or contribute to water contaminant levels in excess of any state or federal standard. Tr. at 152.

55. Mr. Kalish testified, and no evidence was presented at hearing to rebut, that to the best of his knowledge, the Applicant has not exhibited a history of willful disregard for environmental laws of any state or the United States. Tr. at 152, 189-190.

56. Mr. Rael testified that he has not knowingly misrepresented a material fact in an application for a permit; has not refused or failed to disclose information required under the WQA; has not been convicted of a felony or other crime involving moral turpitude or for any crime defined by state or federal law as being a restraint of trade, price-fixing, bribery or fraud; and has not had an environmental permit revoked or permanently suspended for cause under any environmental laws of any state or the United States. Tr. at 69.

## CONCLUSIONS OF LAW

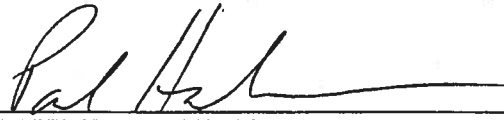
1. Based upon findings of fact "1" through "3", the Secretary has jurisdiction over the subject matter and parties to the Application.
2. Based upon findings of fact "13" through "16", "19" and "21", NMED issued public notice of the hearing in full accordance with procedures set forth at Section 20.6.2.3108 NMAC and afforded members of the public and affected tribes due process required under state law.
3. Based upon findings of fact "22", "31", "36" through "40", and "47" through "50", the renewal meets all the applicable requirements for approval under Section 20.6.2.3109.C NMAC.
4. Based upon findings of fact "23", "34", "41", "48" and "51", none of the reasons for denying a permit under Section 20.6.2.3109.H NMAC applies to the Application.
5. Based upon findings of fact "24" through "29" and "52" through "56", none of the reasons for denying a permit under 74-6-5.E of the WQA applies to the Application.
6. NMED's determination to impose the terms and conditions set forth in the Draft Permit, which are not in dispute, as well as the language NMED proposes to add to Condition #14 set forth in findings of fact "46" above, is reasonable, supported by

substantial evidence, in accordance with law, and necessary to ensure protection of ground water quality and the public health.

Dated: Nov. 21, 2002  
Santa Fe, NM


Respectfully submitted,

NEW MEXICO ENVIRONMENT DEPT.



PAUL T. HALAJIAN  
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Special Assistant Attorney General  
New Mexico Environment Department  
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DOLAN & DOMENICI, P.C.  
Attorney for Applicant

*TELEPHONIC APPROVAL*   
Pete Domenici, Jr., Esq. 11/21/02  
6100 Seagull St. NE  
Albuquerque, NM 87109  
(505) 883-6250



**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing pleading was served on November 21, 2002 via first class mail to:

Pete Domenici, Jr., Esq.  
Attorney for Applicant  
6100 Seagull St. NE  
Albuquerque, NM 87109

By:

  
\_\_\_\_\_  
PAUL T. HALAJIAN

**NEW MEXICO ENVIRONMENT DEPARTMENT'S  
SUMMARY OF DIRECT TECHNICAL TESTIMONY FOR  
S & R SEPTIC'S PUBLIC HEARING, DP-465**

**I. INTRODUCTION**

My name is Fred Kalish and I am currently employed as a Water Resource Engineering Specialist in the Ground Water Quality Bureau (GWQB) of the New Mexico Environment Department (NMED), a position I have held since November 1999. I am also the team leader for domestic waste ground water discharge permits. In this position, my duties include reviewing applications for domestic waste discharge permits and ensuring consistency in domestic waste discharge permits and policy development. I have worked in the GWQB for 5 ½ years.

Prior to joining the GWQB, I worked for a private engineering consulting firm in Albuquerque for three years as a project engineer on a variety of environmental engineering projects ranging from solid waste management to wastewater treatment.

I hold a bachelors degree in Biology from the University of California, Santa Cruz where I specialized in microbiology and sub-cellular biology. I also hold a Masters degree in Engineering from the University of Washington in Seattle where I studied Environmental and Wastewater Engineering. I am a registered Engineering Intern in the State of New Mexico.

**II. REGULATORY FRAMEWORK**

**The WQCC Regulations**

In 1977, the New Mexico Water Quality Control Commission (WQCC), pursuant to the New Mexico Water Quality Act (WQA), promulgated regulations set forth at 20.6.2 NMAC (hereinafter referred to as the "WQCC Regulations") to protect ground water quality, surface water quality and public health. The stated goal of the WQCC Regulations is to protect all ground water with an existing concentration of less than 10,000 mg/l total dissolved solids for



present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water flow for uses designated in the New Mexico Surface Water Quality Standards. 20.6.2.3101 NMAC. To this end, the WQCC established health-based ground water quality standards for a number of organic and inorganic contaminants. 20.6.2.3103 NMAC.

### Permits

Moreover, to control discharges from sources to ground water, the WQCC Regulations prohibit a person from discharging effluent or leachate containing contaminants enumerated under Section 20.6.2.3103 NMAC into ground water unless such person has a discharge permit. 20.6.2.3104 NMAC. To obtain a discharge permit or a modification or renewal of a discharge permit, a person must submit to NMED an application consisting of a discharge plan. 20.6.2.3106 NMAC. In the discharge plan, the applicant is required to set forth a proposed method of discharge that will ensure compliance with the WQCC Regulations including the ground water quality standards at 20.6.2.3103 NMAC. 20.6.2.3106 NMAC.

When an applicant has submitted all the information required under the WQCC regulations and the GWQB has deemed the application administratively complete, the GWQB then has thirty days to notify the applicant, the public, those person who have requested notification, any affected local, state, federal, tribal or pueblo governmental agency, and the Governor, Chairperson or President of each Indian Tribe, Pueblo or Nation within the state of New Mexico, as identified by the NMED. 20.6.2.3108.B NMAC. Following public notice, the WQCC Regulations require a period of at least thirty days during which written comments or request for public hearing may be submitted to NMED. 20.6.2.3108.D NMAC. If the Secretary determines, based upon these comments and requests, that there is significant public interest in

the matter, a public hearing must be held. 20.6.2.3108.D NMAC. If a hearing is held, NMED is required to provide the above-mentioned parties with notice at least thirty days prior to the hearing. 20.6.2.3108.E NMAC.

Within sixty days after the public hearing, the Secretary must, based upon the full administrative record, either approve, approve with conditions or disapprove the application for a new discharge permit, modification or renewal. 20.6.2.3109.B NMAC. The Secretary must approve an application if it complies with requirements set forth at 20.6.2.3109.C NMAC. Conversely, the Secretary must deny an application if any of causes for denial enumerated under Section 74-6-5 of the WQA or 20.6.2.3109.H NMAC exist.

The term of a discharge permit is generally five years from the date the permit is issued. 20.6.2.3109.H NMAC. The holder of a discharge permit must submit an application for renewal at least 120 days before the permit expires. 20.6.2.3106.F NMAC.

### **Components of Discharge Permits**

Each discharge permit consists of the following four components: operational plan, monitoring plan, contingency plan, and closure plan. The operational plan describes the operations and maintenance of a facility with respect to the collection, treatment, distribution and disposal of wastewater, storm water management, solids management, and site security. The monitoring plan describes the proposed sampling point locations (e.g., monitoring wells, discharge outfalls, soil sampling, etc.), sampling protocols (e.g., bailers, pumps, etc.), sampling frequency, chemical parameters to be sampled, discharge rates, delivery manifests and treatment manifests. The contingency plan describes the actions the discharger will take in the event that spills or failures occur or if disposal of septage threatens to cause exceedences of ground water standards or adverse impacts to public health. Finally, the closure plan describes the specific

actions the discharger will take at a facility when operations cease and the facility is closed. Specifically, the closure plan must address the reclamation and post-operational monitoring of ground water at the site, as appropriate, and describe actions the discharger will take to minimize potential impacts to ground and surface waters, and public health.

### **III. REGULATORY HISTORY OF DP-465**

1. On February 4, 1987, Steve Rael submitted a discharge permit application for the S & R Septic septage disposal facility (the "facility").
2. On April 7, 1987, NMED issued discharge permit DP-465 to Steve Rael authorizing the discharge of 12,000 gallons per day (gpd) of septage into shallow ponds at the facility.
3. On July 25, 1990, NMED approved a modification to DP-465 increasing the allowable discharge volume to 20,000 gpd.
4. On June 10, 1992, NMED approved the renewal of DP-465.
5. On July 28, 1999, NMED approved the modification and renewal of DP-465 which decreased the allowable discharge volume to 10,000 gpd and changed the operational plan from shallow ponds to twelve shallow disposal cells.
6. On May 14, 2001, NMED required Steve Rael to modify DP-465 to install additional fencing around the perimeter of the facility.
7. On September 12, 2001, Mr. William Mansker, on behalf of Mr. and Mrs. Steve Rael, submitted a request and application for renewal of DP-465.
8. On October 18, 2001, NMED deemed Mr. Rael's application administratively complete in accordance with 20.6.2.3108.A NMAC.
9. On October 19, 2001, NMED sent notice of the proposed renewal of DP-465 to the required parties in accordance with 20.6.2.3108.B and C NMAC.

10. On October 20, 2001, NMED published public notice of the proposed renewal of DP-465 in the Albuquerque Journal in accordance with 20.6.2.3108.B and C NMAC.
11. On October 25, 2001, NMED published public notice of the proposed renewal of DP-465 in the Taos News in accordance with 20.6.2.3108.B and C NMAC.
12. Following public notice of the proposed discharge permit renewal, NMED received a number of letters from members of the community, including requests for a public hearing from Doug West representing the Stagecoach Neighborhood Association, Wayne Ludvigson representing the Hondo Mesa Community Association, Roger C. Sanders on behalf of the Council of Neighborhood Associations, Carol Richman, and Alex Kurtz.
13. On December 6, 2001, the Secretary of NMED determined that a public hearing would be held regarding the proposed renewal of DP-465 because of significant public interest.
14. On February 21, 2002 and March 22, 2002, NMED held meetings with Mr. and Mrs. Rael to discuss the concerns of NMED and the public pertaining to the facility's proposed method of disposal. At those meetings, NMED requested Mr. and Mrs. Rael to submit additional information and a revision to the permit renewal application.
15. On April 12, 2002, Mr. William Mansker, on behalf of S & R Septic, submitted an amended permit renewal application to NMED.
16. On June 27, 2002, NMED sent notice of the public hearing to all required persons and affected tribal and governmental agencies in accordance with 20.6.2.3108.E NMAC.
17. On June 30, 2002, NMED published notice of the public hearing to be held on August 6, 2002 in the Albuquerque Journal in accordance with 20.6.2.3108.E NMAC.
18. On July 4, 2002, NMED published notice of the public hearing in the Taos News in

accordance with 20.6.2.3108.E NMAC.

19. On July 17, 2002, NMED entered the draft discharge permit renewal into the administrative record.

20. On July 19, 2002, NMED received a letter from Mr. William Mansker on behalf of S & R Septic stipulating to all conditions contained in the draft discharge permit renewal dated July 17, 2002.

#### **IV. DESCRIPTION OF SITE**

##### **Geology and Geohydrology**

Three general physiographic subdivisions lie within Taos County: the Taos Plateau to the west, the Sangre de Cristo Mountains to the east, and the Costilla Plains lying between the plateau and the mountains. The facility is located on the Costilla Plains, southeast of the Taos Municipal Airport. On the Costilla Plains, ground water is found in the alluvial sediments, which can be divided into the most recent Quaternary (Holocene) deposits near the surface and the alluvial sediments of the early Quaternary and late Tertiary age, referred to as the Santa Fe Group (Garrabrant, *Water Resources of Taos County New Mexico*, U.S.G.S., 1993, pg 11). The Santa Fe Group consists of alluvial sediments inter-bedded in places with volcanic rocks and clay deposits (Winograd, *Ground-water conditions and geology of Sunshine Valley and western Taos County, New Mexico*, NM State Engineer Technical Report 12, 1959). The Santa Fe Group underlies the recent alluvial sediments of the Costilla Plains and underlies and inter-tongues with the Servilleta Basalt of Pliocene age in the Taos Plateau.

In addition, the facility is located in the vicinity of the Los Cordovas Faults. Faults have been mapped in the area in a north-south orientation and may extend thousands of feet downward

(Personal Communication, Paul Bauer, New Mexico Bureau of Geology and Mineral Resources).

The area in which the facility is located can be characterized, based upon the extrapolation of data from recent mapping of the region at the southern end of the Los Cordovas Faults, as an area where faulting is more extensive than previously recognized, there is significant fracturing of bedrock, and in general the fractures are not cemented.

NMED has reviewed well records in the New Mexico State Engineer's Office located within one mile of the facility. These records, in particular, drillers' logs of wells closest to the facility indicate a depth to ground water of approximately 500 feet.

Furthermore, in 1999 NMED contracted with John Shomaker & Associates to perform a study to evaluate the migration of nitrogen compounds into the vadose zone below the City of Santa Fe Sludge Disposal Site and the S & R Septage Disposal facility. A final report from the study has been entered into the administrative record and indicates that migration of nitrogen contaminants at the S & R Septage disposal facility is limited to approximately 15 - 30 feet below ground surface after 12 years of operation.

### **Water Quality**

Garrabrant, 1993 reports a range of total dissolved solids in Taos County from 73 to 928 milligrams per liter (Mg/l) (Garrabrant, *Water Resources of Taos County New Mexico*, U.S.G.S.,1993), which is well below the 10,000 Mg/l standard for total dissolved solids set forth at 20.6.2.3101 NMAC.

### **Waste Characteristics**

Many factors affect the physical characteristics of septage, including but not limited to user habits, septic tank size and design, septic tank pumping frequency, water supply



characteristics and piping materials, the presence of water conservation fixtures and garbage disposals, the use of household hazardous chemicals and water softeners, and climate (*EPA, Guide to Septage Treatment and Disposal, 1994*). In addition, wastes from portable toilets typically contain chemical additives such as biocide (typically formaldehyde or glutaraldehyde). Contaminants of concern to NMED in the proposed discharge at Mr. Rael's facility include, but are not limited to, nitrogen species and pathogens.

#### **V. NMED'S PROPOSED DISCHARGE PERMIT**

The following are the proposed conditions for approval of S & R Septic, DP-465 that NMED believes are necessary to ensure compliance with WQCC Regulations and the WQA.

##### **Operational Plan**

1. The Applicant has proposed to discharge up to 10,000 gallons per day (gpd) of domestic septage, stabilized domestic sludge, chemical toilet residue, and restaurant grease trap waste. Domestic sewage and grease trap wastes will be separated at the facility. Grease trap waste will be separately documented in haulage and facility receipt logs. The grease trap waste will be disposed of into dedicated trenches and immediately covered with soil. Domestic sewage will be treated with lime to a pH of 12 for a minimum of 30 minutes and then discharged into one of 16 shallow surface disposal cells.

NMED proposes and the Applicant stipulates to the following condition:

S & R Septic shall not discharge more than 10,000 gallons per day of domestic septage, treated sludge, chemical toilet waste and grease trap holdings. The waste materials discharged at the facility shall be pretreated/disposed of as follows:

A. *Domestic septage and chemical toilet residue* shall be pre-treated prior to disposal in accordance with 40 CFR 503.33.a.5 to reduce vector attraction. Treated wastes will

be discharged into sixteen shallow surface disposal cells. The depth of liquid in any disposal cell shall not exceed approximately 3 inches.

B. *Grease trap holdings* shall be segregated from other waste types and, following discharge to one of two dedicated grease trap disposal trenches, immediately covered with stockpiled soil, or if conditions prevent immediate coverage, no later than 6 hours after discharge. The wastes shall be covered with soil so that no residual waste is at the soil surface. The cover thickness shall not be less than 3 inches.

C. *Treated sludge* from municipal wastewater treatment plants or package treatment plants shall be pre-treated in accordance with 40 CFR 503 requirements prior to disposal at the facility. Treated wastes shall be discharged into sixteen shallow surface disposal cells.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

2. The Applicant has not proposed to install signs to mark all disposal cells and trenches in use, but stipulates to the following NMED proposed condition:

S & R Septic shall install and maintain waterproof placards marking each disposal cell or trench to indicate usage assignments in a daily rotational schedule.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC.

3. The Applicant has proposed to restrict unauthorized site access using fencing and a security gate. NMED proposes and the Applicant stipulates to the following condition:

S & R Septic shall maintain fences around the entire disposal facility constructed to prevent access by children and dogs (eg., field fencing, chain link fencing). S & R Septic shall post signs at the facility entrance and other areas where public contact is likely which state the following in both English and Spanish: "Notice – Domestic Waste Disposal Area – Keep Out."

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

4. The Applicant has proposed and NMED agrees to the following stormwater management condition:

S & R Septic shall construct and maintain an earthen berm surrounding the perimeter of the facility, with a minimum height of two feet. In addition, S & R Septic shall construct and maintain shallow (minimum depth of six inches) storm water diversion bar trenches parallel to and on each side of the site entrance gate. The perimeter berm and diversion trenches shall be constructed within 30 days of the date of permit approval.

The reason for this condition is to comply with Sections 20.6.2.3106 and 20.6.2.3109 NMAC by preventing contaminated wastewater from moving directly or indirectly into ground water.

5. The Applicant has proposed and NMED agrees to the following condition for routine site inspections:

S & R Septic shall inspect the site on a weekly basis for integrity of the perimeter berm, fencing and gate. Dried residual material (such as plastics, rags, paper, etc.) originating from waste disposal cells and that are susceptible to being blown off-site will be collected and bagged. The bagged materials shall be disposed of at a permitted solid waste landfill.

The reason for this condition is to comply with Section 20.6.2.3109 NMAC and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

**Monitoring Plan**

6. The Applicant has proposed to monitor the odor and visual appearance of the wastes and

record and maintain a manifest documenting the date of pick-up, location, type of waste, total volume pumped and disposal location, and further proposes to submit to NMED copies of the manifests every six months. NMED proposes and the Applicant stipulates to the following condition:

Prior to waste pick-up, S & R Septic shall monitor the odor and visual appearance of the waste to ensure that only allowable wastes are collected. S & R Septic shall record for each waste pick-up the following information: the date of pick-up, the location of pick-up, type of waste, confirmation of inspection for acceptable waste type, signature of person conducting the inspection, total volume pumped, and the disposal location (disposal cell identifier). The manifest records shall be submitted to NMED as part of the bi-annual monitoring reports due May 31 and November 30 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109.H NMAC by providing monitoring of effluent.

7. The Applicant has not proposed a method for monitoring to ensure compliance with the vector attraction reduction and pathogen reduction requirements under 40 CFR 503, but stipulates to the following NMED proposed condition:

S & R Septic shall maintain a separate manifest sheet for each load of domestic septage, chemical toilet waste, grease trap holdings, and treated sludge to meet vector attraction reduction and pathogen reduction requirements under 40 CFR 503. The manifest shall include the following information:

A. *Domestic septage and chemical toilet residue:* the type and amount of lime initially added to the pumping truck, the time of lime addition, and the resulting pH of the septage immediately after addition of lime to verify a minimum pH of 12 at the beginning of treatment.

If after 30 minutes the pH of the septage is confirmed, S & R Septic shall record in the manifest the time, the pH of the treated septage, and the disposal cell identifier, and discharge the waste.

If the initial lime treatment fails to maintain the prescribed pH of 12 for 30 minutes, the treatment process shall be repeated, and the time and amount of additional lime added recorded in the manifest. After 30 minutes the septage shall be retested. If the pH is at or above 12, the time, the pH of the treated septage, and the disposal cell identifier shall be recorded in the manifest and the waste discharged.

The pH of the septage shall be at or above 12 for a minimum of 30 minutes from the last addition of lime prior to disposal. At no time shall wastes be disposed of at the facility without treatment verification.

B. *Grease trap holdings*: the disposal trench identifier, the time of disposal of wastes into the disposal trenches, and the time and depth of placement of soil cover.

C. *Treated sludge*: description of the methods of pre-treatment utilized to achieve vector attraction and pathogen reduction requirements of EPA 40 CFR 503, the disposal cell identifier, and the time of disposal.

All manifests shall be signed by Mr. Steve Rael and contain the following language:

"I certify, under penalty of law, that the prescribed ground water protection, vector attraction reduction and pathogen reduction requirements have been met. This determination has been made under my direction and supervision in accordance with the prescribed procedures. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment."

The reason for this condition is to comply with Section 20.6.2.3107.A.8 NMAC and Section 74-6-5 of the WQA.

8. The Applicant has proposed and NMED agrees to the following soil monitoring condition:

Composite samples shall be collected annually from designated locations within the shallow disposal cells. The locations shall be subject to NMED approval prior to sampling. Using a hand auger

or shovel, S & R Septic shall collect soil samples from each of six locations at a depth of 12 inches and a depth of 36 inches *below* the cell bottoms. The soil samples from the six locations at each of the two discrete depths shall be mixed together, and the two "composite" samples (12 inch sample and 36 inch sample) shall be analyzed for total Kjeldahl nitrogen and nitrate as nitrogen. Samples shall be collected and analyzed, and the analytical results shall be submitted to NMED by May 31 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109 NMAC by providing monitoring in the vadose zone.

9. The Applicant has proposed and NMED agrees with the following condition concerning monitoring and reporting of nitrogen loading at the facility:

S & R Septic shall submit to NMED on a bi-annual basis Land Application Data Sheets specifying the volume of wastewater discharged to each of the shallow disposal trenches and the total nitrogen load determined from either of the following methods: (1) an assumed total nitrogen concentration of 600 milligrams per liter based on average characteristics of septage (*Guide to Septage Treatment and Disposal, EPA/625/R-94-002*); or (2) a total nitrogen value derived from the laboratory analysis of a composite sample from a minimum of six waste loads using a sampling protocol pre-approved by NMED.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC by providing adequate documentation of nitrogen discharged.

10. The Applicant has proposed submitting monitoring reports to NMED, and stipulates to the following NMED proposed condition:

The Applicant shall submit bi-annual reports that include the following information:

- A. Manifests of waste pick-up,
- B. Manifests of vector attraction reduction and pathogen reduction,
- C. Land application data sheets for all disposal trenches used during the previous six months,
- D. Annual analyses of soils for total Kjeldahl nitrogen

(TKN) and nitrate as nitrogen.  
Bi-annual reports shall be submitted to NMED by May 31 and November 30 of each year.

The reason for this condition is to comply with Sections 20.6.2.3107 and 20.6.2.3109.H NMAC by providing monitoring of leachate and effluent.

**Contingency Plan**

11. The Applicant has not proposed a contingency plan in the event that waste discharges at the facility adversely impacts ground water. NMED proposes and the Applicant stipulates to the following condition:

If ground water contamination is discovered during the term of the discharge permit or following closure of the facility and is attributable to the operations at this facility, S & R Septic shall submit a corrective action plan to NMED. The corrective action plan shall include a site investigation to define the source, nature and extent of contamination, a proposed abatement option, and a schedule for implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4106.E, 20.6.2.4107, and 20.6.2.4112 NMAC. The corrective action plan shall be submitted to NMED for approval within 30 days of confirmation of ground water contamination, and shall be initiated within 30 days of NMED approval.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC.

12. The Applicant has proposed to notify NMED within 25 hours in the event of a spill.

NMED proposes and the Applicant stipulates to the following condition:

In the event of an effluent spill or release, S & R Septic shall take immediate action to contain or mitigate the damage caused by the discharge and shall initiate the notifications and corrective actions required as required in Section 20.6.2.1203 NMAC. Within 24 hours of discovery of the incident, S & R Septic shall verbally notify NMED and provide the information outlined in Section 20.6.2.1203.A.1 NMAC. Within seven days of discovering the incident, S & R Septic shall submit a written report verifying the

oral notification and providing any additional pertinent information or changes. Within 15 days of the incident, S & R Septic shall submit a corrective action report describing actions taken and/or to be taken to remedy the impact of the spill.

The reason for this condition is to comply with Sections 20.6.2.1203 and 20.6.2.3107.A.10 NMAC by providing a corrective action response to address unauthorized releases.

13. The Applicant has proposed and NMED agrees to the following condition regarding a contingency plan in the event of significant migration of nitrogen contaminants in the vadose zone beneath the disposal cells:

In the event that results of sampling conducted under Condition # 8 indicate that significant migration of contaminants has occurred and upon notification by NMED, S & R Septic shall submit to NMED within 60 days a corrective action plan which proposes additional testing to determine the extent of the vertical migration of total Kjeldahl nitrogen and nitrate-nitrogen below the facility and address source control or reduction of the total nitrogen discharged.

The reason for this condition is to comply with Section 20.6.2.3107.A.10 NMAC by providing a contingency plan to address potential impacts to ground water quality.

#### **Closure Plan**

14. The Applicant proposes and NMED agrees with the following condition regarding closure of the facility:

In the event of closure of the facility, S & R Septic shall cover and disk all waste materials into the soil and re-grade the site to match surrounding landscape contours. S & R Septic shall re-seed the site with native grasses following grading.

The reason for this condition is to comply with Section 20.6.2.3107.A.11 NMAC by



providing a closure plan to address potential impacts to ground water quality after the facility is closed.

15. The Applicant has proposed to maintain the perimeter fencing and security for a minimum of thirty days after grading and re-seeding to prevent unauthorized access, but instead stipulates to the following NMED proposed condition:

Following final grading and re-seeding of the site, S & R Septic shall maintain the perimeter fencing and security gate for a minimum of three years to prevent unauthorized access.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC, Section 20.6.2.3109 NMAC, and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

**Other Conditions**

16. NMED further proposes and the Applicant stipulates to the following condition:

Pursuant to Section 20.6.2.3109 NMAC and the WQA, NMED reserves the right to terminate or modify this permit for, among other things: 1) violation of any condition of the permit; 2) violation of any provisions of the Water Quality Act or any applicable regulations, standard of performance or water quality standards; or 3) violation of any applicable state or federal effluent regulations or limitations [WQA 74-6-5 (L)]. A modification may include changing waste disposal management practices, and/or implementing remediation systems.

The reason for this condition is to comply with Section 20.6.2.3107 NMAC, Section 20.6.2.3109 NMAC, and Section 74-6-5 of the WQA to ensure protection of ground water quality, surface water quality and public health.

**General Discharge Permit Requirements**

NMED also proposes that the discharge permit include standard general requirements.

They are included in all of NMED's discharge permits, covering a broad range of topics including monitoring and reporting, record keeping, inspection and entry, duty to provide information, reporting of spills, leaks and other unauthorized discharges, retention of records, enforcement, permit modifications, and the term of the permit.

## **VII. NMED'S RECOMMENDATION**

Section 20.6.2.3109 NMAC provides that the Secretary shall approve a proposed discharge plan, modification or renewal if it meets one of three requirements, provided that the other requirements of the WQCC Regulations are met and the proposed discharge plan, modification or renewal demonstrates that neither a hazard to public health nor undue risk to property will result from the discharge. The proposed discharge plan for the renewal of DP-465 with conditions will not adversely affect ground water quality at and around the facility, nor will it result in either concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutants at any place of withdrawal of water for present or reasonably foreseeable future use. Moreover, the proposed discharge plan with conditions provides for adequate sampling and monitoring and meets all other applicable requirements under the WQA and the WQCC Regulations. Lastly, the proposed discharge plan with conditions presents neither a hazard to the public health nor undue risk to property.

Additionally, upon information and belief, none of the causes for denying an application for a permit, modification or renewal under Section 74-6-5 of the WQA or Section 20.6.2.3109.H NMAC exist in this matter. On February 26, 1997 and July 28, 2000 NMED issued Letters of Non-Compliance to Mr. Rael for failure to submit timely monitoring reports and non-compliance with permit conditions. In response to the Letters, Mr. Rael corrected the violations. As such,

the referenced compliance issues, in my opinion, do not rise to the level of willful disregard for environmental laws.

Therefore, on behalf of the Ground Water Quality Bureau I recommend that, pursuant to his authority under Section 20.6.2.3109.B, the Secretary approve the proposed discharge permit renewal with the conditions detailed in NMED Exhibit "A".



\_\_\_\_\_  
FRED KALISH  
Ground Water Quality Bureau  
New Mexico Environment Department  
Santa Fe, New Mexico

*ACKNOWLEDGEMENT*

Subscribed and sworn to before me this 26<sup>th</sup> day of July 2002 by Fred Kalish



\_\_\_\_\_  
Notary Public

My commission expires:

10/29/02



Inspection Date: July 10, 2015

DP #: 465

Facility Name: S&R Septic

### Facility Contact Information – Scheduling Inspection

Scheduled Inspection - provide contact information

Unannounced Inspection

Person Contacted: Steve Real

Phone Number: (505) 738-3515

### Facility Description

Waste Type: Surface Disposal Site

Directions to Facility: From US-64 W, turn north onto Tune Drive. Facility is on the right after about a quarter of a mile

### Inspection Information

Start Time: 10:00 AM

End Time: 11:00 AM

NMED Inspector(s): Kathryn Hayden, Greg Huey

Verify that NMED identification was presented:  Yes  No

Facility Representative(s) present during the Inspection/Discussion:

Reason for Inspection: permit compliance assessment

*If "other", describe reason for inspection.*

### Discussion, Observations and Information Obtained

We met Steve Real and William Mansker at the facility and walked around the facility. Some water was observed in the cells, but the splashpads required by the permit did not appear to be constructed. There were 'do not enter' signs on the entrance. Some water was observed in the cells and a slight odor was detected, but no trash was detected at the site. Mr. Real said they dose the septage with lime prior to putting it in the cells. I asked that they send me monitoring reports that they had available.

### Photographic Documentation

Photos Taken?  Yes - see attached  No

### Sample Information

Samples Collected?  Yes  No



Samples Collected by: Choose an item.

Sample Id #s and locations:

Were samples split between permittee and NMED?  Yes  No  N/A

Did the Facility Representative request copies of NMED's sampling results?  Yes  No  N/A

Monitoring Well Camera Inspection

Monitoring well camera inspection conducted?  Yes - see attached report(s)  
 No

Initials of Report Preparer: KH



Figure 1: Signs and fence at the entrance

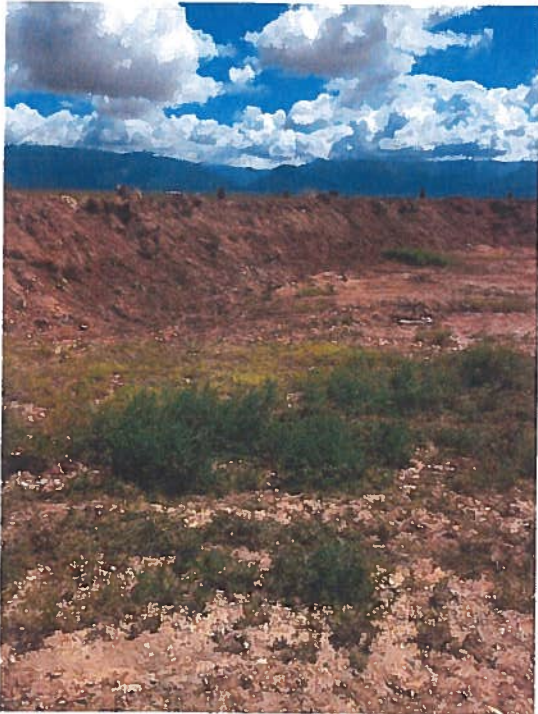


Figure 2: The first of the three sludge cells

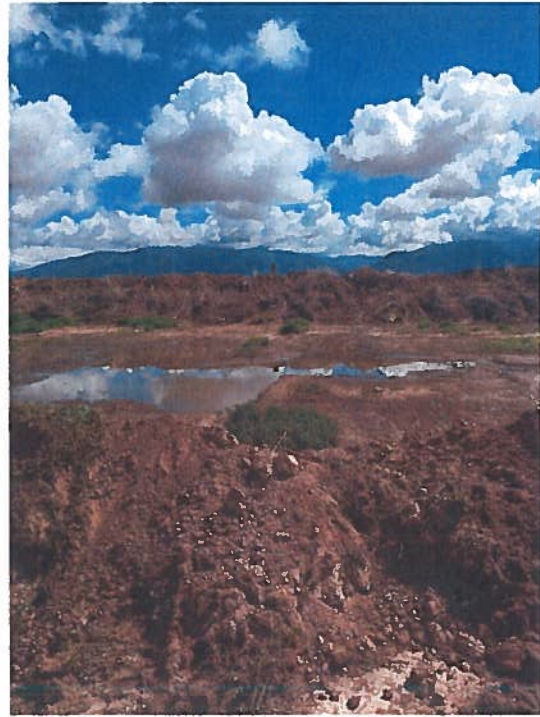


Figure 3: Septic cell with fresh dirt work and some ponding



**New Mexico Environment Department (NMED), Ground Water Quality Bureau (GWQB), Pollution Prevention Section (PPS)**

**Memorandum of Meeting**

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Meeting	<b>Time:</b> 10:00 am	<b>Date:</b> October 22, 2013
<b>Individuals Involved</b>			
Melanie Sanchez and John Hall	<input checked="" type="checkbox"/> called	Steve and Loretta Rael, Owners, Bill Mansker, Consultant	
NMED, GWQB, PPS	<input type="checkbox"/> returned call to	S & R Septic	
(505) 222-9574	<input type="checkbox"/> teleconference		
	<input type="checkbox"/> other:		
<b>Subject:</b>			
DP-465 S & R Septic			
<b>Discussion:</b>			
<p>John Hall, Steve Rael, Loretta Rael and Bill Mansker met in Santa Fe and called me for a teleconference meeting to discuss grease disposal options. After a brief introduction, Mr. Rael mentioned his facility used to accept grease before the regulations changed and asked how many facilities currently have a Discharge Permit that accept grease. Mr. Hall stated eight facilities, although most are in the renewal process.</p> <p>Mr. Rael stated that permitted Albuquerque commercial grease pumpers only go to Taos once a month, and in the meantime restaurants build up so much grease that they are forced to temporarily close their business. Mr. Rael added that other haulers mix grease with septage illegally and take it to the treatment plants causing problems for treatment plants. Mr. Rael further stated that Pojoaque will sometime accept grease a combine it into their synthetically-lined lagoons, which is also illegal. We all agreed that grease is a major problem for the state of New Mexico and that it is a bigger issue that should also be addressed by county and city entities.</p> <p>We then discussed the following grease disposal options:</p> <ul style="list-style-type: none"> <li>• Synthetically-lined lagoon that would allow grease separation. Grease removed from top that would pass paint filter test and hauled off-site to landfill. Water would be evaporated or disposed of similarly to sludge disposal or tilled into ground.</li> <li>• Synthetically-lined sand filter that would also allow grease separation. Grease and sand would be skimmed from top and removed. It would also have to pass paint filter test and hauled offsite.</li> <li>• Storage tanks that are similar to what AAA uses with heated separation.</li> </ul> <p>Mr. Hall discussed the importance of separating the grease from the liquid and then being able to land apply the liquid similarly to his current septage disposal procedures with lime treatment. Mr. Hall explained that he would be required to submit a modification application, which would be very similar to the renewal procedure including the public notice process and newspaper advertisement. I further</p>			





**New Mexico Environment Department (NMED), Ground Water  
Quality Bureau (GWQB), Pollution Prevention Section (PPS)**

stated that since it is a modification a sign would also have to be posted at the facility entrance and at an approved offsite location and all neighbors within a 1/3 mile would have to be notified. Mr. Rael asked why a permit is required if a liner is installed. Mr. Hall explained that a liner could tear causing leaks into ground water. I further stated that the life of a liner is approximately 20 years.

Mr. Hall stated that the addition of grease accumulation into soil causes a vector and pathogens. Mr. Hall also stated that adding grease would also cause an increase of rodent and bird population, which may cause additional problematic concerns with the public. Mr. Hall suggested installing a screen that could be placed over the grease impoundments that prevent animal activity. Mr. Mansker asked if there are specific additives that could be added to degrade grease. Mr. Hall stated NMED does not recommend adding additives since we are unsure of their impacts to ground water.

Mr. Mansker asked if there were any Federal programs we could recommend that would assist in funding. Mr. Hall stated the Construction Programs Bureau only offers assistance to public entities, but recommended they look into small business assistance programs.

Mr. Rael revealed a petition signed by several restaurant owners seeking help for their Taos restaurant grease problem. Mr. Rael explained that many Taos restaurants have contacted him and requested he reconsider accepting grease and he wants to know what to tell these people. Mr. Hall suggested he contact his local governing representative. Mr. Rael stated he has attended meeting in the past and is attending a city council meeting this evening, but it doesn't seem to be making any progress. Mr. Hall also suggested contacting AAA or American Waste to see if they would accept grease if he hauled it them in Albuquerque. Mr. Mansker asked if Mr. Rael could accept grease in an emergency situation as he is modifying his permit. Mr. Hall stated that would not be acceptable by NMED.

I offered to be of assistance shall additional questions arise or as they fill out an application to modify the Discharge Permit. The meeting ended at approximately 11:10 am.

**Conclusions:**

**Distribution:**

Initialed MS



NEW MEXICO  
ENVIRONMENT DEPARTMENT



Ground Water Quality Bureau

SUSANA MARTINEZ  
Governor  
JOHN A. SANCHEZ  
Lieutenant Governor

Harold Runnels Building  
1190 St. Francis Drive  
P.O. Box 5469, Santa Fe, NM 87502-5469  
Phone (505) 827-2918 Fax (505) 827-2965  
www.nmenv.state.nm.us

DAVE MARTIN  
Secretary  
BUTCH TONGATE  
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

December 27, 2012

Steve Rael, Owner  
S&R Septic  
Box 4890  
Taos, NM 87571

RE: Discharge Permit Renewal, DP-465, S&R Septic

Dear Mr. Rael:

The New Mexico Environment Department (NMED) issues the enclosed Discharge Permit, DP-465, to Steve Rael (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC.

The Discharge Permit contains terms and conditions that shall be complied with by Steve Rael and are enforceable by NMED pursuant to Section 20.6.2.3104 NMAC, WQA, NMSA 1978 §74-6-5 and §74-6-10. Please be aware that this Discharge Permit may contain conditions that require the permittee to implement operational, monitoring or closure actions by a specified deadline. Such conditions are listed at the beginning of the operational, monitoring and closure plans of this Discharge Permit.

Issuance of this Discharge Permit does not relieve the permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

Pursuant to Paragraph (4) of Subsection H of 20.6.2.3109 NMAC, the term of the Discharge Permit shall be five years from the effective date. The term of this Discharge Permit will end on December 27, 2017.

U.S. Postal Service  
**CERTIFIED MAIL**  
 (Domestic Mail Only; No Ins...)  
 For delivery information visit ou...  
 7008 1830 0000 4177 8461  
 Postage \$  
 Certified Fee  
 Return Receipt Fee (Endorsement Required)  
 Restricted Delivery Fee  
 Steve Rael, Owne  
 S&R Septic  
 Box 4890  
 Taos, NM 87571  
 PS Form 3800, August 2006

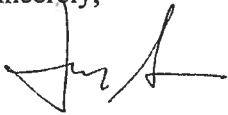
Steve Rael, DP-465  
December 27, 2012  
Page 2

NMED requests that the permittee submit an application for renewal (or renewal and modification) at least 180 days prior to the date the Discharge Permit term ends.

An invoice for the Discharge Permit Fee of \$2,875.00 is being sent under separate cover. Payment of the Discharge Permit Fee must be received by NMED within 30 days of the date the Discharge Permit is issued.

If you have any questions, please contact Brad Reid at (505) 827-2963. Thank you for your cooperation and comments during this Discharge Permit review.

Sincerely,



Jerry Schoeppner, Chief  
Ground Water Quality Bureau

JS:BR/br

Enc: Discharge Permit, DP-465  
Surface Disposal Data Sheets (septage and sludge) (SDDS; also available at the following website:<http://www.nmenv.state.nm.us/gwb/forms/NewMexicoEnvironmentDepartment-GroundWaterQualityBureau-Forms.htm>)

cc: Robert Italiano, District Manager, NMED District II (permit – electronic copy)  
NMED Taos Field Office (permit)  
John Romero, Office of the State Engineer (permit – electronic copy)  
William L. Mansker, Ph.D, 8704 Gutierrez NE, Albuquerque, NM, 87111

**GROUND WATER DISCHARGE PERMIT RENEWAL  
S&R Septic, DP-465**

**I. INTRODUCTION**

The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal (Discharge Permit), DP-465, to Steve Rael (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the S&R Septic (facility) into ground and surface water, so as to protect ground and surface water for present and potential future use as domestic and agricultural water supply and other uses and protect public health. In issuing this Discharge Permit, NMED has determined that the requirements of Subsection C of 20.6.2.3109 NMAC have been met.

The activities which produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics of the discharge are briefly described as follows:

Domestic septage and sludge are processed and discharged at the facility as follows:

- Up to a 9,857 gallons per day average on a weekly basis, not to exceed a maximum of 69,000 gallons per week, of domestic septage (including portable toilet waste) to 13 unlined shallow surface disposal cells totaling 2.31 acres on a rotational basis.
- Up to a 8,333 gallons per month average on an annual basis, not to exceed a maximum of 100,000 gallons per year, of liquid, semi-solid and solid domestic wastewater treatment facility and/or package treatment plant sludge to three disposal cells totaling 0.46 acres on a rotational basis.

The discharge contains water contaminants or toxic pollutants which may be elevated above the standards of Section 20.6.2.3103 NMAC. The facility is located on NM Highway 64 three miles west from intersection of NM 64 and NM 522, approximately eight miles northwest of Taos in Section 26, T26N, R12E, Taos County. Ground water beneath the site is at a depth greater than 500 feet and has a total dissolved solids concentration of approximately 300 - 400 milligrams per liter.

The original Discharge Permit was issued on April 7, 1987 and subsequently renewed and/or modified on June 10, 1992, July 28, 1999, and May 22, 2003. The permittee's application consists of the materials submitted by William L. Mansker, PhD on behalf of Steve Rael dated October 23, 2008 and materials contained in the administrative record prior to issuance of this Discharge Permit. The discharge shall be managed in accordance with all conditions and requirements of this Discharge Permit.

Pursuant to Section 20.6.2.3109 NMAC, NMED reserves the right to require a Discharge Permit Modification in the event NMED determines that the requirements of 20.6.2 NMAC are being or may be violated or the standards of Section 20.6.2.3103 NMAC are being or may be violated. This may include a determination that structural controls and/or management practices approved

under this Discharge Permit are not protective of ground water quality, and that more stringent requirements to protect and/or remediate ground water quality may be required by NMED. These requirements may include: lining/relining lagoons; expanding surface disposal areas; ceasing discharging to surface disposal areas, changing waste management practices; expanding monitoring requirements; installing an advanced treatment system; and/or implementing abatement of water pollution.

Issuance of this Discharge Permit does not relieve the permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

The following abbreviations may be used in this Discharge Permit:

Abbreviation	Explanation	Abbreviation	Explanation
BOD <sub>5</sub>	biochemical oxygen demand (5-day)	NO <sub>3</sub> -N	nitrate-nitrogen
CFR	Code of Federal Regulations	NTU	nephelometric turbidity units
CFU	colony forming units	SDDS	Surface Disposal Data Sheet
Cl	chloride	TDS	total dissolved solids
EPA	United States Environmental Protection Agency	TKN	total Kjeldahl nitrogen
Mg/kg	Milligrams per kilogram		
mg/L	milligrams per liter	TPH	total petroleum hydrocarbons
mL	milliliters	TSS	total suspended solids
NMAC	New Mexico Administrative Code	total nitrogen	TKN+NO <sub>3</sub> -N
NMED	New Mexico Environment Department	WQCC	Water Quality Control Commission
NMSA	New Mexico Statutes Annotated		

## II. FINDINGS

In issuing this Discharge Permit, NMED finds:

1. The permittee is discharging effluent or leachate from the facility so that such effluent or leachate may move directly or indirectly into ground water within the meaning of Section 20.6.2.3104 NMAC.
2. The permittee is discharging effluent or leachate from the facility so that such effluent or leachate may move into ground water of the State of New Mexico which has an existing concentration of 10,000 milligrams per liter or less of total dissolved solids within the

meaning of Subsection A of 20.6.2.3101 NMAC.

3. The discharge from the facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

### III. CONDITIONS

The following conditions shall be complied with by the permittee and are enforceable by NMED. The permittee is authorized to discharge water contaminants subject to the following conditions:

#### OPERATIONAL PLAN

#	Terms and Conditions
1.	The permittee shall implement the following operational plan to ensure compliance with Title 20, Chapter 6, Parts 1 and 2 NMAC. [20.6.2.3106.C NMAC, 20.6.2.3107 NMAC]
2.	The permittee shall operate in a manner such that standards and requirements of Sections 20.6.2.3101 NMAC and 20.6.2.3103 NMAC are not violated. [20.6.2.3103 NMAC]
3.	<p>The permittee is authorized to process and discharge the following waste types:</p> <ul style="list-style-type: none"> <li>• Up to a 9,857 gallons per day average on a weekly basis, not to exceed a maximum of 69,000 gallons per week, of domestic septage (including portable toilet waste) to 13 unlined shallow surface disposal cells totaling 2.31 acres on a rotational basis.</li> <li>• Up to a 8,333 gallons per month average on an annual basis, not to exceed a maximum of 100,000 gallons per year, of liquid, semi-solid and solid domestic wastewater treatment facility and/or package treatment plant sludge to three unlined shallow surface disposal cells totaling 0.46 acres on a rotational basis.</li> </ul> <p>Waste types that are not specifically authorized to be received by this Discharge Permit shall not be received at the facility. [20.6.2.3104 NMAC]</p>
4.	The permittee shall maintain fences around the entire disposal facility to prevent unrestricted access. A minimum of a three-strand barbed wire fence and locked gate shall surround the facility. [20.6.2.3109 NMAC]
5.	<p>The permittee shall maintain the following signs at the following locations:</p> <ul style="list-style-type: none"> <li>• Signs in both English and Spanish that state: "Notice: Waste Disposal Area - KEEP OUT" and "Aviso: Área de Disposición - NO ENTAR" posted at the facility entrance and every 500 feet along the facility boundary.</li> <li>• A sign with the name of the facility's contact person, office phone number of the contact person, emergency contact phone number for the facility, and physical location of facility including township, range, and section(s) posted at the entrance gate.</li> <li>• A sign to identify each cell by number and the waste type authorized to be discharged in the cell. All signs shall be weatherproof and posted at the boundary of the cells to facilitate a rotational disposal schedule as required in conditions below.</li> </ul>

#	Terms and Conditions
	All signs shall remain legible for the term of this Discharge Permit. [20.6.2.3109 NMAC]
6.	To prevent run-on and run-off from a storm event, the permittee shall maintain a minimum 24-inch earthen berm surrounding the perimeter of the facility. The berm shall be inspected on a regular basis and after any major rainfall event and repaired as necessary. In place of a berm across the facility entrance, the permittee shall construct and maintain shallow (minimum depth of six inches) stormwater diversion bar trenches parallel to and on each side of the facility entrance gate. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]
7.	Different waste types shall not be combined and shall be disposed of in separate cells that receive only a single designated waste type. [20.6.2.3109 NMAC]
8.	The permittee shall inspect the facility weekly and collect any residual solid waste (trash) on the facility site. The collected materials shall be disposed of in a manner consistent with all local, state and federal regulations. [20.6.2.3109 NMAC]
9.	Within 180 days following the effective date of this Discharge Permit ( <b>by June 15, 2013</b> ), the permittee shall construct concrete (or other material pre-approved by NMED) splash pads for each of the 16 disposal cells. The splash pads shall be a minimum of 4 inches thick and shall slope down toward the disposal cell. They shall be constructed in such a manner so as to minimize scouring and/or ponding that results from the septage being discharged out of the septage truck and onto the ground surface. [20.6.2.3109 NMAC]
10.	<p>The permittee shall maintain the surface disposal cells in such a manner as to avoid conditions which could affect the ability of septage and/or sludge to be evenly distributed across the surface of the disposal cells. Such conditions include or may be characterized by the following:</p> <ul style="list-style-type: none"> <li>• erosion damage;</li> <li>• animal burrows or other damage;</li> <li>• the presence of vegetation including aquatic plants, weeds, woody shrubs or trees growing within the disposal cell and/or surrounding berms; and</li> <li>• the presence of large debris or large quantities of debris in the disposal cells.</li> </ul> <p>Vegetation growing in/around the disposal cells shall be periodically/seasonally controlled in a manner that is protective of the disposal cells.</p> <p>The permittee shall visually inspect the disposal cells and surrounding berms on a monthly basis to ensure proper maintenance. In the event that an inspection reveals any evidence of damage and/or that may result in an unauthorized discharge, the permittee shall enact the contingency plan set forth in this Discharge Permit.</p> <p>[NMSA 1978, § 74-6-5.D, Subsection B of 20.6.2.3109 NMAC]</p>

**Domestic Septage**

#	Terms and Conditions
11.	Treatment and disposal of domestic septage shall be in accordance with requirements set forth in 40 CFR Part 503. Ponding of septage shall be minimized. The depth of liquid in any disposal cell shall not exceed approximately 3 inches. [20.6.2.3109 NMAC, 74-6-5 WQA]

**Domestic Wastewater Treatment Plant Sludge**

#	Terms and Conditions
12.	The permittee shall apply liquid, semi-solids and solid domestic wastewater treatment facility sludge to three unlined shallow surface disposal cells (Cells 3, 4, and 5) totaling 0.46 acres on a rotational basis. The sludge shall be evenly distributed throughout the individual cells in use. Ponding of liquid sludge shall be minimized. Treatment, storage and disposal of sludge shall be in accordance with requirements set forth in 40 CFR Part 503. [20.6.2.3104 NMAC]

**MONITORING, REPORTING, AND OTHER REQUIREMENTS**

#	Terms and Conditions
13.	The permittee shall conduct the following monitoring, reporting, and other requirements listed below in accordance with the monitoring requirements of this Discharge Permit.  [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
14.	<p>METHODOLOGY – Unless otherwise approved in writing by NMED, the permittee shall conduct sampling and analysis in accordance with the most recent edition of the following documents:</p> <ul style="list-style-type: none"> <li>a) American Public Health Association, Standard Methods for the Examination of Water and Wastewater (18<sup>th</sup>, 19<sup>th</sup> or current)</li> <li>b) U.S. Environmental Protection Agency, Methods for Chemical Analysis of Water and Waste</li> <li>c) U.S. Geological Survey, Techniques for Water Resources Investigations of the U.S. Geological Survey</li> <li>d) American Society for Testing and Materials, Annual Book of ASTM Standards, Part 31. Water</li> <li>e) U.S. Geological Survey, et al., National Handbook of Recommended Methods for Water Data Acquisition</li> <li>f) Federal Register, latest methods published for monitoring pursuant to Resource</li> </ul>



#	Terms and Conditions
	Conservation and Recovery Act regulations g) Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods; Part 2. Microbiological and Biochemical Properties; Part 3. Chemical Methods, American Society of Agronomy [Subsection B of 20.6.2.3107 NMAC]
15.	The permittee shall submit semi-annual monitoring reports to NMED for the most recently completed semi-annual period by the 1 <sup>st</sup> of February and August each year.  Semi-annual monitoring shall be performed during the following periods: <ul style="list-style-type: none"> <li>• January 1<sup>st</sup> through June 30<sup>th</sup> (first half) – <b>report due by August 1<sup>st</sup></b>, and</li> <li>• July 1<sup>st</sup> through December 31<sup>st</sup> (second half) – <b>report due by February 1<sup>st</sup></b>.</li> </ul> [Subsection A of 20.6.2.3107 NMAC]
16.	The permittee shall create a manifest for each load of waste received. The manifest shall record the following information: <ul style="list-style-type: none"> <li>• name of the hauling company;</li> <li>• date of receipt;</li> <li>• name and address of the waste origin;</li> <li>• type of waste or description of contamination;</li> <li>• volume of waste;</li> <li>• confirmation of inspection for acceptable waste type;</li> <li>• signature of person conducting the inspection; and</li> <li>• cell identification and location within the cell where the waste is discharged.</li> </ul> Copies of each manifest created during the reporting period shall be submitted with the semi-annual monitoring report. [20.6.2.3107 NMAC] [NMSA 74-6-5.E]
17.	The permittee shall submit copies of documentation demonstrating compliance with the requirements set forth by 40 CFR Part 503. Documentation records shall be submitted to NMED in the semi-annual monitoring reports.

***Domestic Septage***

#	Terms and Conditions
18.	The permittee shall complete a SDDS to document the amount of nitrogen applied to each surface disposal cell, each month. A SDDS shall be completed for each cell, and shall reflect the volume and total nitrogen concentration of waste discharged to the land disposal

#	Terms and Conditions
	<p>cells for each month. The total nitrogen concentration shall be determined from either of the following methods:</p> <ol style="list-style-type: none"> <li>1) Assuming total nitrogen concentration of 600 mg/L based on average characteristics of septage (Guide to Septage Treatment and Disposal, EPA/625/R-94-002); or</li> <li>2) Assuming a total nitrogen value derived from the laboratory analysis of a composite sample from a minimum of six waste loads using a sampling protocol approved by NMED prior to sample collection.</li> </ol> <p>Nitrogen content shall not be adjusted to account for volatilization or mineralization processes. The SDDS, or a statement that no surface disposal occurred within the specific cell, shall be submitted to NMED in the semi-annual monitoring reports. [20.6.2.3109 NMAC]</p>

*Domestic Wastewater Treatment Plant Sludge*

#	Terms and Conditions
19.	<p>The permittee shall measure and record the volume and dry weight of domestic wastewater treatment facility sludge discharged to the surface disposal cells each month by tracking the volume of the loads received and the percent total solids as determined by sampling each type of sludge (i.e., solid, semisolid, liquid). Records of the volume and dry weight of the sludge discharged shall be submitted to NMED in the semi-annual monitoring reports. [20.6.2.3107 NMAC]</p>
20.	<p>The permittee shall sample each sludge type (solid, semi-solid and liquid) transported to the surface disposal facility on a quarterly basis and analyze the samples for TKN and NO<sub>3</sub>-N. Samples shall be properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. Analytical results, reported as mg/kg for TKN and NO<sub>3</sub>-N (dry weight basis), shall be submitted to NMED in the semi-annual monitoring reports. [20.6.2.3107 NMAC]</p>
21.	<p>The permittee shall complete a SDDS to document the amount of nitrogen applied to each surface disposal cell, each month. A SDDS shall be completed for each sludge type (solid, semi-solid and liquid) associated with each disposal cell, and shall reflect the nitrogen concentration from the quarterly sludge analysis and the total number of dry tons discharged each month. Nitrogen content shall not be adjusted to account for volatilization or mineralization processes. The SDDS, or a statement that no surface disposal occurred within the specific cells, shall be submitted to NMED in the semi-annual monitoring reports. [20.6.2.3107 NMAC]</p>

**CONTINGENCY PLAN**

#	Terms and Conditions
22.	In the event that ground water standards are violated during the term of this Discharge Permit, upon closure of the facility or during the implementation of post-closure requirements, the permittee shall submit a corrective action plan that proposes measures to mitigate damage from the discharge including, at a minimum, source control measures and an implementation schedule to NMED. The permittee may be required to abate water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC, if the corrective action plan will not result in compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC within 180 days of confirmation of ground water contamination. [20.6.2.1203 NMAC, 20.6.2.4105.A(8) NMAC]
23.	In the event of a spill or release that is not authorized under this Discharge Permit, the permittee shall initiate the notifications and corrective actions as required in Section 20.6.2.1203 NMAC. The permittee shall take immediate corrective action to contain and remove or mitigate the damage caused by the discharge. Within 24 hours after discovery of the discharge, the permittee shall verbally notify NMED and provide the information required by Paragraph (1) of Subsection A of 20.6.2.1203 NMAC. Within seven days of discovering the discharge, the permittee shall submit a written report to NMED verifying the oral notification and providing any additional information or changes. The permittee shall submit a corrective action report within 15 days after discovery of the discharge. [20.6.2.1203 NMAC]
24.	In the event NMED or the permittee identifies any other failures of the discharge plan or system not specifically noted herein, NMED may require the permittee to develop for NMED approval contingency plans and schedules to cope with the failures. [20.6.2.3107.A(10) NMAC]

**CLOSURE PLAN**

*Domestic Septage*

#	Terms and Conditions
25.	Upon closure of the facility, the permittee shall perform the following closure measures: a) Backfill the disposal cells with clean fill (as necessary) and re-grade to allow for positive stormwater drainage. b) Re-vegetate the cells and disturbed areas at the facility by establishing a vegetative cover equal to 70% of the native perennial vegetative cover consisting of at least three native plant species including at least one grass, but not including noxious weeds. The permittee shall maintain the vegetative cover through two consecutive growing seasons.

#	Terms and Conditions
	<p>c) Submit proof to NMED that all closure activities set forth for the facility under 40 CFR Part 503 have been completed.</p> <p>When all closure and post-closure requirements have been met, the permittee may request to terminate the Discharge Permit. [20.6.2.3109 NMAC, 20.6.2.3107. NMAC]</p>

***Domestic Wastewater Treatment Plant Sludge***

#	Terms and Conditions
26.	<p>Upon closure of the facility, the permittee shall perform the following closure measures:</p> <p>a) Backfill the cells with clean fill (as necessary) and contour to provide for positive stormwater drainage.</p> <p>b) Re-vegetate the cells and disturbed areas at the facility by establishing a vegetative cover equal to 70% of the native perennial vegetative cover consisting of at least three native plant species including at least one grass, but not including noxious weeds. The permittee shall maintain the vegetative cover through two consecutive growing seasons.</p> <p>c) Submit proof to NMED that all closure activities set forth for the facility under 40 CFR 503 have been completed.</p> <p>When all closure and post-closure requirements have been met, the permittee may request to terminate the Discharge Permit. [20.6.2.3107.A(11) NMAC]</p>

***Grease Trap/Interceptor Waste***

#	Terms and Conditions
27.	<p>Within 90 days of the effective date of this Discharge Permit (by March 27, 2013), the permittee shall perform the following closure measure:</p> <p>a) Backfill the former grease disposal trenches with clean fill (as necessary) and re-grade to allow for positive stormwater drainage.                      [20.6.2.3109 NMAC, 20.6.2.3107. NMAC]</p>

**GENERAL TERMS AND CONDITIONS**

#	Terms and Conditions
28.	<p>RECORD KEEPING - The permittee shall maintain a written record of the following information:</p>

#	Terms and Conditions
	<p>a) Information and data used to complete the application for this Discharge Permit.</p> <p>b) Records of any releases (commonly known as “spills”) not authorized under this Discharge Permit and reports submitted pursuant to 20.6.2.1203 NMAC.</p> <p>c) Records of the operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of wastewater.</p> <p>d) Facility record drawings (plans and specifications) showing the actual construction of the facility and bear the seal and signature of a licensed New Mexico professional engineer.</p> <p>e) Copies of monitoring reports completed and/or submitted to NMED pursuant to this Discharge Permit.</p> <p>f) The volume of wastewater or other wastes discharged pursuant to this Discharge Permit.</p> <p>g) Ground water quality and wastewater quality data collected pursuant to this Discharge Permit.</p> <p>h) Copies of construction records (well log) for all ground water monitoring wells required to be sampled pursuant to this Discharge Permit.</p> <p>i) Records of the maintenance, repair, replacement or calibration of any monitoring equipment or flow measurement devices required by this Discharge Permit.</p> <p>j) Data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit. The following information shall be recorded and shall be made available to NMED upon request:</p> <ul style="list-style-type: none"> <li>i) The dates, location and times of sampling or field measurements;</li> <li>ii) The name and job title of the individuals who performed each sample collection or field measurement;</li> <li>iii) The sample analysis date of each sample;</li> <li>iv) The name and address of the laboratory, and the name of the signatory authority for the laboratory analysis;</li> <li>v) The analytical technique or method used to analyze each sample or collect each field measurement;</li> <li>vi) The results of each analysis or field measurement, including raw data;</li> <li>vii) The results of any split, spiked, duplicate or repeat sample; and</li> <li>viii) A copy of the laboratory analysis chain-of-custody as well as a description of the quality assurance and quality control procedures used.</li> </ul> <p>The written record shall be maintained by the permittee at a location accessible during a facility inspection by NMED for a period of at least five years from the date of application, report, collection or measurement and shall be made available to the department upon request.</p> <p>[Subsections A and D of 20.6.2.3107 NMAC]</p>
29.	INSPECTION and ENTRY – The permittee shall allow inspection by NMED of the

#	Terms and Conditions
	<p>facility and its operations which are subject to this Discharge Permit and the WQCC regulations. NMED may upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which are located any records required to be maintained by regulations of the federal government or the WQCC.</p> <p>The permittee shall allow NMED to have access to and reproduce for their use any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this Discharge Permit and the WQCC regulations.</p> <p>Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other local, state or federal regulations.</p> <p>[Subsection D of 20.6.2.3107 NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]</p>
30.	<p><b>DUTY to PROVIDE INFORMATION</b> - The permittee shall, upon NMED's request, allow NMED's inspection/duplication of records required by this Discharge Permit and/or furnish to NMED copies of such records.</p> <p>[Subsection D of 20.6.2.3107 NMAC]</p>
31.	<p><b>MODIFICATIONS and/or AMENDMENTS</b> – In the event the permittee proposes a change to the facility or the facility's discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the facility, the permittee shall notify NMED prior to implementing such changes. The permittee shall obtain approval (which may require modification of this Discharge Permit) by NMED prior to implementing such changes.</p> <p>[Subsection C of 20.6.2.3107 NMAC, Subsections E and G of 20.6.2.3109 NMAC]</p>
32.	<p><b>PLANS and SPECIFICATIONS</b> – In the event the permittee is proposing to construct a wastewater system or change a process unit of an existing system such that the quantity or quality of the discharge will change substantially from that authorized by this Discharge Permit, the permittee shall submit construction plans and specifications to NMED for the proposed system or process unit prior to the commencement of construction.</p> <p>In the event the permittee implements changes to the wastewater system authorized by this Discharge Permit which result in only a minor effect on the character of the discharge, the permittee shall report such changes (including the submission of record drawings, where applicable) as of January 1 and June 30 of each year to NMED.</p>

#	Terms and Conditions
	[Subsections A and C of 20.6.2.1202 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]
33.	<p>CIVIL PENALTIES - Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit.</p> <p>[20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10 and 74-6-10.1]</p>
34.	<p>CRIMINAL PENALTIES – No person shall:</p> <ol style="list-style-type: none"> <li>1) make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the WQA;</li> <li>2) falsify, tamper with or render inaccurate any monitoring device, method or record required to be maintained under the WQA; or</li> <li>3) fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation.</li> </ol> <p>Any person who knowingly violates or knowingly causes or allows another person to violate the requirements of this condition is guilty of a fourth degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who is convicted of a second or subsequent violation of the requirements of this condition is guilty of a third degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition or knowingly causes another person to violate the requirements of this condition and thereby causes a substantial adverse environmental impact is guilty of a third degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition and knows at the time of the violation that he is creating a substantial danger of death or serious bodily injury to any other person is guilty of a second degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15.</p>

#	Terms and Conditions
	[20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10.2.A through 74-6-10.2.F]
35.	<p>COMPLIANCE with OTHER LAWS - Nothing in this Discharge Permit shall be construed in any way as relieving the permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits or orders.</p> <p>[NMSA 1978, § 74-6-5.L]</p>
36.	<p>RIGHT to APPEAL - The permittee may file a petition for review before the WQCC on this Discharge Permit. Such petition shall be in writing to the WQCC within thirty days of the receipt of postal notice of this Discharge Permit and shall include a statement of the issues to be raised and the relief sought. Unless a timely petition for review is made, the decision of NMED shall be final and not subject to judicial review.</p> <p>[20.6.2.3112 NMAC, NMSA 1978, § 74-6-5.O]</p>
37.	<p>TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or possession of this facility or any portion thereof, the permittee shall:</p> <ol style="list-style-type: none"> <li>1) notify the proposed transferee in writing of the existence of this Discharge Permit;</li> <li>2) include a copy of this Discharge Permit with the notice; and</li> <li>3) deliver or send by certified mail to NMED a copy of the notification and proof that such notification has been received by the proposed transferee.</li> </ol> <p>Until both ownership and possession of the facility have been transferred to the transferee, the permittee shall continue to be responsible for any discharge from the facility.</p> <p>[20.6.2.3111 NMAC]</p>
38.	<p>PERMIT FEES - Payment of permit fees is due at the time of Discharge Permit approval. Permit fees shall be paid in a single payment or shall be paid in equal installments on a yearly basis over the term of the Discharge Permit. Single payments shall be remitted to NMED no later than 30 days after the Discharge Permit effective date. Initial installment payments shall be remitted to NMED no later than 30 days after the Discharge Permit effective date; subsequent installment payments shall be remitted to NMED no later than the anniversary of the Discharge Permit effective date.</p> <p>Permit fees are associated with <u>issuance</u> of this Discharge Permit. Nothing in this Discharge Permit shall be construed as relieving the permittee of the obligation to pay all permit fees assessed by NMED. A permittee that ceases discharging or does not commence discharging from the facility during the term of the Discharge Permit shall pay all permit fees assessed by NMED. An approved Discharge Permit shall be suspended or terminated if the facility fails to remit an installment payment by its due date.</p>

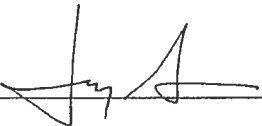


#	Terms and Conditions
	[Subsection F of 20.6.2.3114 NMAC, NMSA 1978, § 74-6-5.K]

**PERMIT TERM & SIGNATURE**

EFFECTIVE DATE: December 27, 2012  
TERM ENDS: December 27, 2017

[20.6.2.3109.H NMAC, NMSA 1978, § 74-6-5.I]



A handwritten signature in black ink, appearing to read 'Jerry Schoeppner', is written over a horizontal line.

JERRY SCHOEPPNER, Chief  
Ground Water Quality Bureau  
New Mexico Environment Department



**New Mexico Environment Department Ground Water Quality Bureau  
Discharge Permit Summary**

**Facility Information**

**Facility Name** S&R Septic  
**Discharge Permit Number** DP-465  
**Legally Responsible Party** Steve Rael, owner  
 Box 4890  
 Taos, NM 87571  
 575-758-3515

**Treatment, Disposal and Site Information**

**Primary Waste Type** Domestic  
**Facility Type** Septage/sludge disposal

**Discharge Locations**

Discharge Type	Designation	Description & Comments
Land Disposal	Domestic septage and sludge	Disposal area is divided into 16 unlined shallow surface disposal cells totaling 2.77 acres. Septage is discharged to 13 cells totaling 2.31 acres and sludge is discharged to 3 cells totaling 0.46 acres

**Depth to Ground Water** >500 feet  
**Total Dissolved Solids (TDS)** 300-400 mg/L

**Permit Information**

**Application Received** October 23, 2008  
**Public Notice Published** July 27, 2012  
**Discharge Permit Issued** December 27, 2012  
**Discharge Permit Term Ends** December 27, 2017  
**Permitted Discharge Volume** 9,857 gallons per day of domestic septage and 8333 gallons per month of sludge.

**NMED Contact Information**

**Mailing Address** Ground Water Quality Bureau  
 PO Box 5469  
 Santa Fe, New Mexico 87502  
**Telephone Number** 505-827-2900  
**NMED Lead Staff** Brad Reid  
**Lead Staff Telephone Number** 505-827-2963  
**Lead Staff E-Mail** brad.reid@state.nm.us









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