

DATE IN 7/10/2018	SUSPENSE	ENGINEER	LOGGED IN 7/10/2018	TYPE SWD	APP NO. PMAM1642 55051
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ABOVE THIS LINE FOR DIVISION USE ONLY

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



ADMINISTRATIVE APPLICATION CHECKLIST

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

Application Acronyms:

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

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

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

Check One Only for [B] or [C]

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

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

[D] Other: Specify _____

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

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

[B] ☒ Offset Operators, Leaseholders or Surface Owner

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

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

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

[F] ☐ Waivers are Attached

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

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

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

Aliph Reena
 Print or Type Name

Signature

Engineering Supervisor
 Title

July 5, 2018
 Date

aliph.reena@duganproduction.com
 e-mail Address

-B SWD 7747
 -Dugan Production
 6515
 well
 PGA unit 33
 SWD #4
 30-045 35870
 Pool
 SWD's Entrance
 96436

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance ☒ Disposal Storage
Application qualifies for administrative approval? Yes No
- II. OPERATOR: Dugan Production Corp.
ADDRESS: 709 East Murray Drive, Farmington, New Mexico 87401
CONTACT PARTY: Aliph Reena PHONE: 505-325-1821
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes ☒ No
If yes, give the Division order number authorizing the project: Not Applicable
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- *X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- *XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Aliph Reena TITLE: Engineering Supervisor
SIGNATURE:  DATE: _____
E-MAIL ADDRESS: aliph.reena@duganproduction.com
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted.
Please show the date and circumstances of the earlier submittal: _____

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Application for Authorization to Inject

Dugan Production Corp.

PGA Unit SWD 33 #4

General Information

Dugan Production Corp. is hereby, making application for administrative approval to dispose of produced water by underground injection. The proposed disposal site is the PGA Unit SWD 33 #4 well, located 271' FSL & 184' FEL of Section 33, Township 24 North, Range 11 West, San Juan County, New Mexico. Produced water will be injected into the Entrada Sandstone between 6320 and 6570'. The maximum injection pressure will be 1289-psi and the maximum injection rate will be 6,000-barrels of water daily.

The well is a new drill for the purpose of salt water disposal. The well was permitted on 5/29/18 and awaiting SWD application approval to be commence drilling. Upon approval of this application, an injection test will be conducted. If adequate rates are not found, it may be necessary to stimulate the proposed injection zone or perforate additional zones in the well.

Any change to the plans contained herein, will be approved by the New Mexico Oil Conservation Division prior to implementation.

Application for Authorization to Inject

Dugan Production Corp.

PGA Unit SWD 33 #4

Part III. Well Data

A. Tabular Information

- | | |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name: | PGA Unit SWD 33 #4 |
| Location: | 271' FSL & 184' FEL
Sec. 33, T24N, R11W
San Juan Co., NM |
| 2. Surface Casing: | 9-5/8", 36#, J-55 set @ 352'. Cemented with 200
sx (234 cu ft). Circulate cement to surface.
Hole size – 12-1/4". |
| Production Casing: | 7", 23# (5215') and 26# (1,455') set @ 6670'.
Cement in two stages with stage tool at 3,175' using
898-ft ³ in first stage and 809-ft ³ in second stage.
Circulate cement to surface.
Hole size – 8-3/4". |
| Injection Tubing: | 3-1/2" J-55 EUE 9.3 lb/ft Internally Plastic Coated
tubing |
| Packer: | 7" x 3 1/2" AS1-X packer 10K, nickel coated will be
set in tension at 6270' or 50' above the upper most
perforation. |

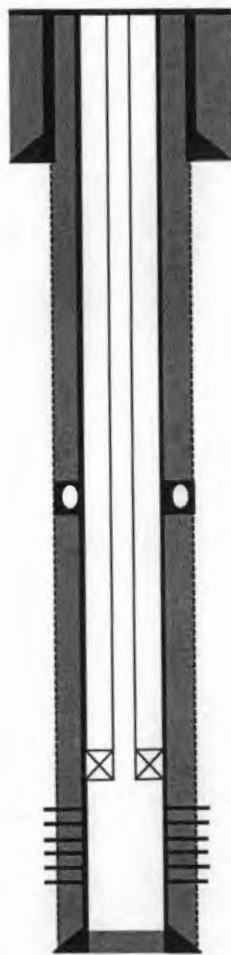
B. Additional Information

1. Injection Interval: Entrada Sandstone.
2. The injection interval (Entrada 6320 – 6570') will be perforated.
3. The well (PGA 33 #4) was drilled for the purpose of injection into the Entrada Sandstone.
4. Only the injection interval is to be perforated.
5. Fruitland Coal / Pictured Cliffs Sandstone – Approx. 660', Gallup -Approx. 3935' and Dakota Sandstone – Approx. 5075'.

INJECTION WELL DATA SHEET

OPERATOR: Dugan Production Corp.
WELL NAME & NUMBER: PGA Unit SWD 33 # 4
WELL LOCATION : 271' FSL & 184' FEL
: UL P Sec 33 T24N R11W

Wellbore Schematic



9-5/8", 36# Casing
Set @ 352', TOC @ Surface

Internal Plastic Coated
3-1/2" 9.3# EUE Tubing

Stage Tool @ 3175'

7" x 3-1/2" AS1-X Packer
Set @ 6270' or
50' above the top perforation

Perforate Entrada Sandstone
@ 6320'-6570'

7" 23# and 26# J-55 Casing Set @ 6670'.
TOC @ surface
TD 6685'

Well Construction Data

Surface Casing

Hole Size : 12-1/4"
Cemented with : 200 sks
Top of cement : Surface

Casing Size: 9-5/8", 36#, J-55
or 234 Cu.ft
Method Determined: Circulate to surface

Intermediate Casing

Hole Size : _____
Cemented with : _____
Top of cement : _____

Casing Size: _____
or _____
Method Determined: _____

Production Casing

Hole Size : 8-3/4"
Cemented with : 925 sks
Top of cement : Surface
Total Depth : 6670'

Casing Size: 7", 23/26#, J-55
or 1707 Cu.ft
Method Determined: Circulate to surface

Injection Interval

Perforated from 6320 feet to 6570 feet
(Perforated or Open Hole: Indicate Which)

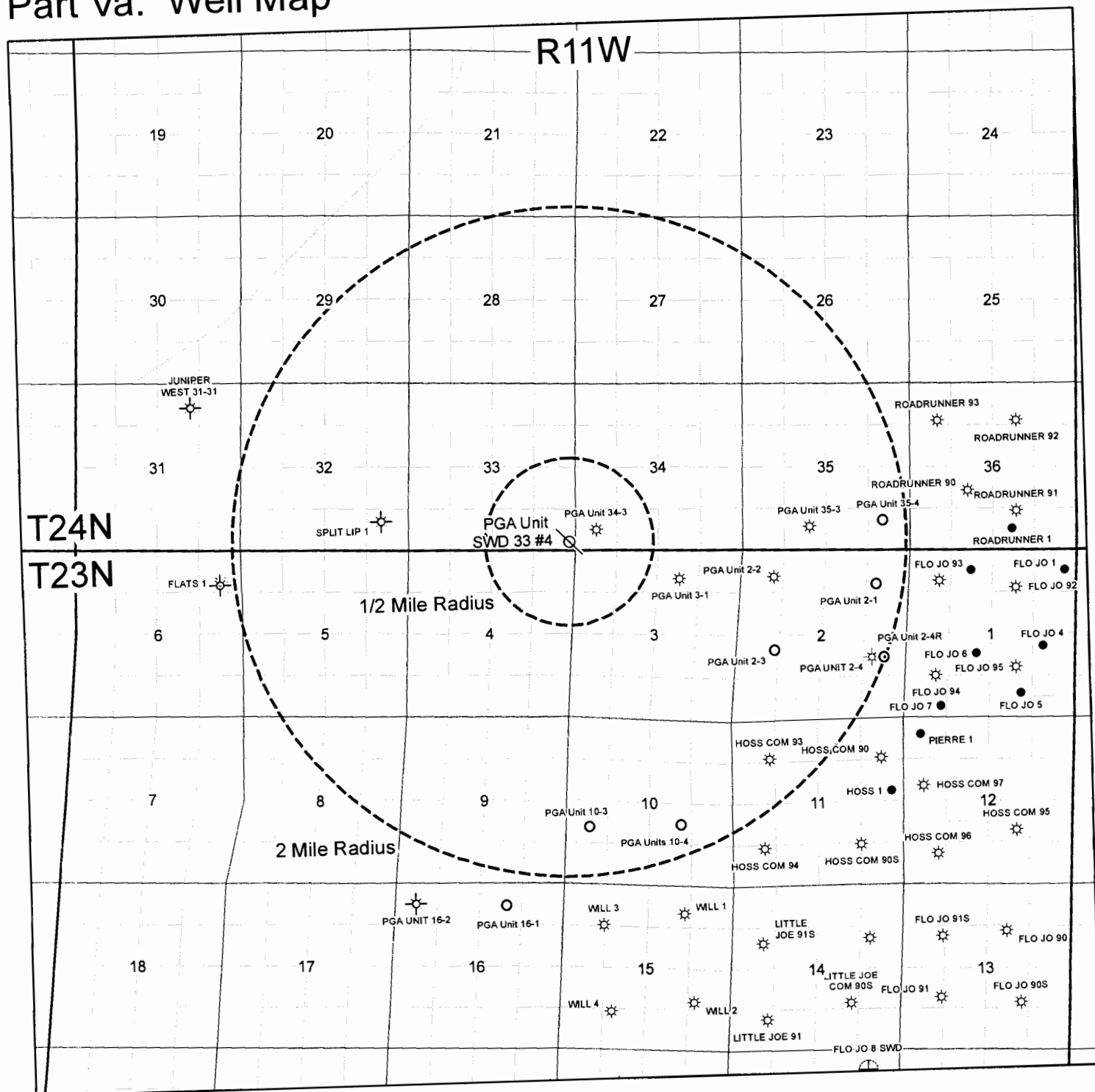
INJECTION WELL DATA SHEET

Tubing Size : 3-1/2" 9.3# EUE, J55, IPC Coated Lining Material: Plastic
Type of Packer: 7" x 3-1/2" AS1-X Packer 10K w/ Carbide Slips, Nickel Coated
Packer Setting Depth: 6270' approx
Other Type of Tubing/Casing Seal (If applicable): -NA-

Additional Data

1. Is this a new well drilled for injection: X Yes No
If no, for what purpose was the well originally drilled ?
2. Name of Injection Formation: Entrada Sandstone
3. Name of the Field or Pool (If Applicable): -NA-
4. Has the well ever been perforated in other zone(s) ?
List all such Perforated intervals and give plugging detail, i.e. Sacks of cement or plug(s) used: -NA-
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Fruitland Formation – 425', Pictured cliffs – 685', Mancos Shale – 3235',
 Gallup Sandstone – 3935', Dakota Sandstone: 5075'

Part Va. Well Map



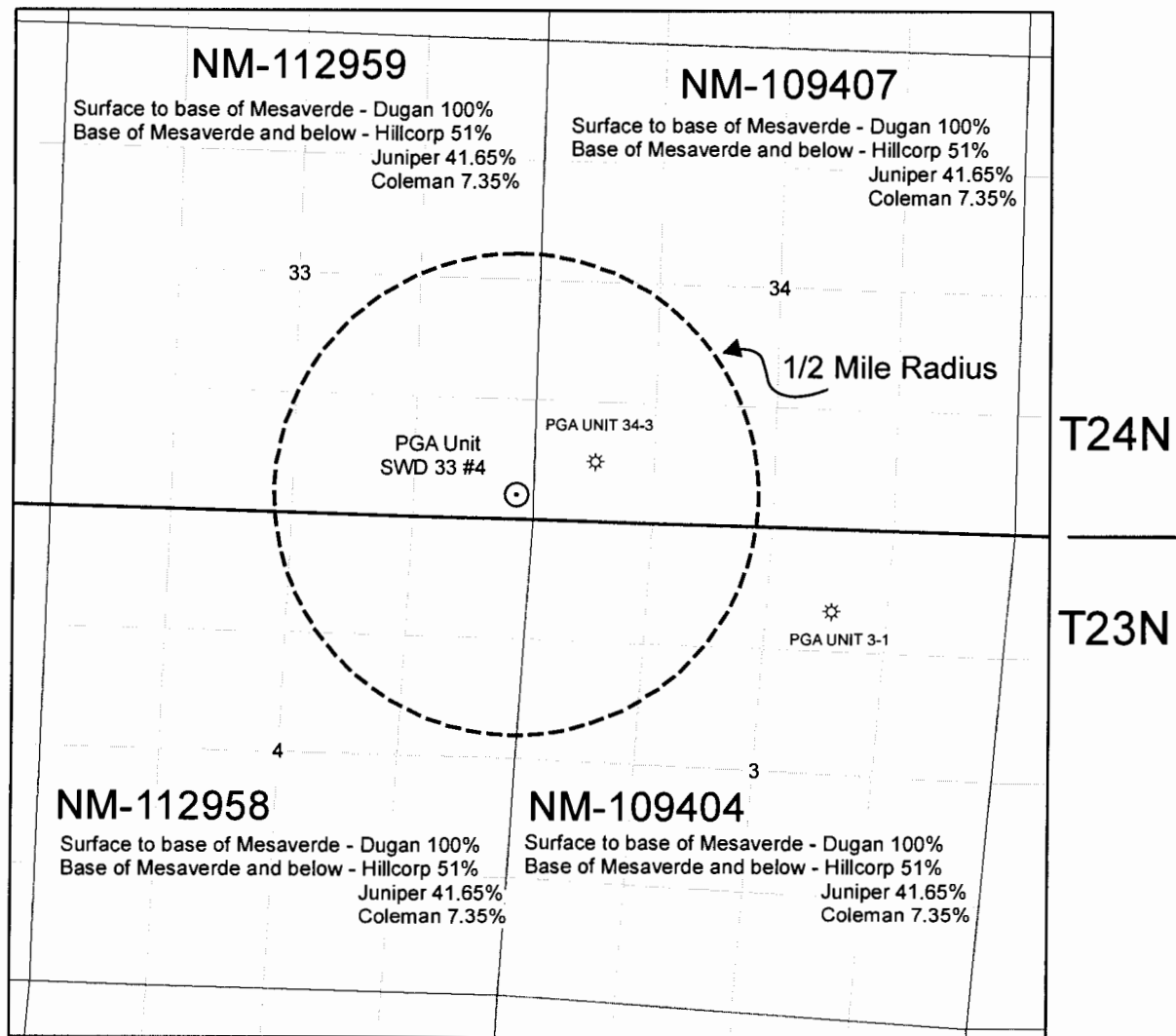
Dugan Production Corp.
PGA Unit SWD 33 #4
Sec. 33, T24N, R11W
271' FSL and 148 FEL
San Juna County, New Mexico
Salt Water Disposal Application

Part Vb. Lease Ownership Map

TOWNSHIP 24 NORTH, RANGE 11 WEST
SAN JUAN COUNTY, NEW MEXICO

OFFSET OPERATOR / LESSEE

R11W

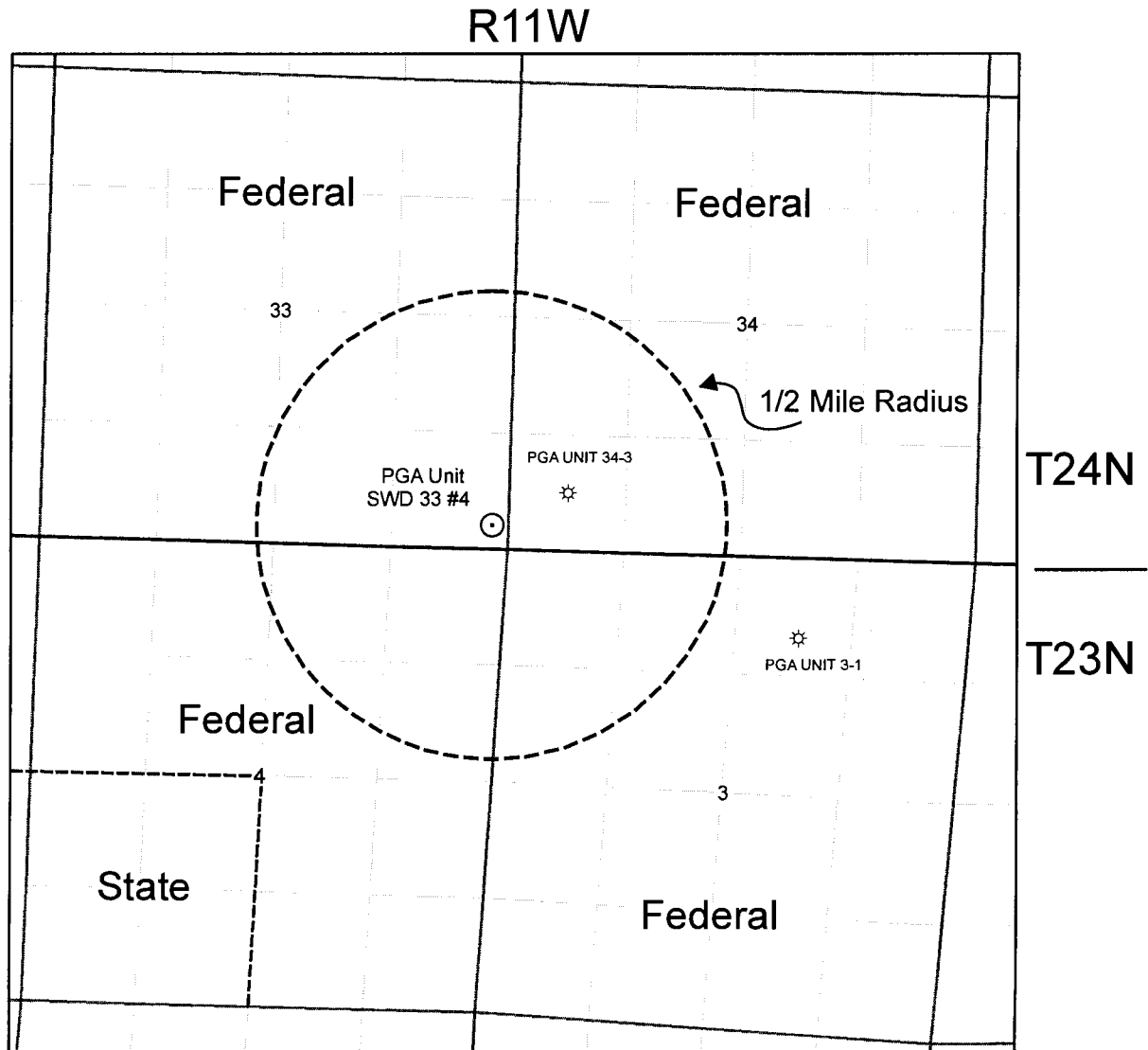


Dugan Production Corp.
PGA Unit SWD 33 #4
Sec. 33, T24N, R11W
271' FSL and 148 FEL
San Juna County, New Mexico
Salt Water Disposal Application

Part Vc. Surface Ownership Map

TOWNSHIP 24 NORTH, RANGE 11 WEST
SAN JUAN COUNTY, NEW MEXICO

OFFSET OPERATOR / LESSEE



Dugan Production Corp.
PGA Unit SWD 33 #4
Sec. 33, T24N, R11W
271' FSL and 148 FEL
San Juna County, New Mexico
Salt Water Disposal Application

Application for Authorization to Inject

Dugan Production Corp.

PGA Unit SWD # 4

Part VI. Data on Offset Wells

There are no wells within the ½ mile area of review which penetrate the proposed injection zone. There are also, no plugged wells in the ½ mile radius of the proposed injection well.

Application for Authorization to Inject

Dugan Production Corp.

PGA Unit SWD 33 #4

Part VII. Operations Plan

1. Average Injection Rate: 5,000-bwpd with a maximum of 6,000-bwpd.
2. The system will be closed.
3. The average injection pressure: 1000 psi and the maximum will be 1289-psi.
4. The source of injected water will be produced water from Fruitland Coal wells in the area (T23N and T24N, R10W and R11W. Attachments VII-4a., VII-4b. and VII-4c. are analyses of the Fruitland Coal water in the immediate area. The water to be injected is compatible with the water in the disposal zone.
5. Injection is for disposal purposes into a zone (Entrada Sandstone) that is not productive of oil or gas within one mile of the proposed injection well. ~~An analysis of the disposal water is not available.~~



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

28 June 2018

Marty Foutz
Dugan Production Corporation
PO Box 420
Farmington, NM 87499
RE: API, Corrosion/Langlier Index

Enclosed are the results of analyses for samples received by the laboratory on 06/12/18 12:54.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 3 #1
Project Manager: Marty Foutz

Reported:
06/28/18 07:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PGA 3 #1	1806099-01	Water	06/11/18 10:00	06/12/18 12:54

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.



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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 3 #1
Project Manager: Marty Foutz

Reported:
06/28/18 07:03

PGA 3 #1

1806099-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO ₃ *	690	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Total as CaCO ₃ *	690	10.0		mg/L	10	06/19/18	2320 B		JDU
Chloride*	5270	500	96.4	mg/L	500	06/18/18	EPA300.0		AES
Conductivity*	19900	10.0		uS/cm	1	06/13/18	2510 B		JDU
Langlier Index	0.710			[blank]	1	06/27/18	Calculation		DJZ
pH*	7.70			pH Units	1	06/13/18	EPA150.1	H1	JDU
Resistivity	50.3			ohm/cm	1	06/18/18	2510 B		JDU
Total Dissolved Solids*	10400	20.0		mg/L	2	06/18/18	EPA160.1	Q1	LLG
Specific Gravity	1.008	0.8000		No Unit	1	06/19/18	Hydrometer		JDU
Sulfate*	<148	500	148	mg/L	500	06/18/18	EPA300.0		AES
Temperature, lab ambient	19.9			°C	1	06/27/18	Calculation		DJZ
Total Recoverable Metals by ICP (E200.7)									
Iron*	8.16	2.50	0.871	mg/L	50	06/20/18	EPA200.7		AES
Dissolved Metals by ICP									
Hardness	381	16.5	2.73	mg/L	25	06/26/18	2340 B		JDA
Barium*	5.63	0.500	0.052	mg/L	25	06/26/18	EPA200.7		JDA
Calcium*	116	2.50	0.321	mg/L	25	06/26/18	EPA200.7		JDA
Iron*	<1.25	1.25	0.691	mg/L	25	06/26/18	EPA200.7		JDA
Magnesium*	22.3	2.50	0.469	mg/L	25	06/26/18	EPA200.7		JDA
Manganese*	<0.500	0.500	0.067	mg/L	25	06/26/18	EPA200.7		JDA
Potassium*	<25.0	25.0	2.39	mg/L	25	06/26/18	EPA200.7		JDA
Sodium*	3610	25.0	9.17	mg/L	25	06/26/18	EPA200.7		JDA
Strontium*	4.27	2.50	0.072	mg/L	25	06/26/18	EPA200.7		JDA
Cation/Anion Balance	.84								

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 3 #1
Project Manager: Marty Foutz

Reported:
06/28/18 07:03

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B806120 - General Prep - Wet Chem										
Duplicate (B806120-DUP1)		Source: 1806096-01		Prepared & Analyzed: 06/13/18						
pH	11.7		pH Units		7.96			38.4	20	
Reference (B806120-SRM1)		Prepared & Analyzed: 06/13/18								
pH	9.07		pH Units	9.08		99.9	97.8-102.2			
Batch B806122 - General Prep - Wet Chem										
Duplicate (B806122-DUP1)		Source: 1806100-01		Prepared & Analyzed: 06/13/18						
Conductivity	20000	10.0	uS/cm		20300			1.49	20	
Reference (B806122-SRM1)		Prepared & Analyzed: 06/13/18								
Conductivity	463	10.0	uS/cm	508		91.1	90-110.1			
Batch B806134 - General Prep - Wet Chem										
Blank (B806134-BLK1)		Prepared: 06/18/18 Analyzed: 06/19/18								
Alkalinity, Total as CaCO ₃	ND	10.0	mg/L							
LCS (B806134-BS1)		Prepared: 06/18/18 Analyzed: 06/19/18								
Alkalinity, Total as CaCO ₃	115	10.0	mg/L	100		115	85-115			
LCS Dup (B806134-BSD1)		Prepared: 06/18/18 Analyzed: 06/19/18								
Alkalinity, Total as CaCO ₃	112	10.0	mg/L	100		112	85-115	2.64	20	
Batch B806136 - General Prep - Wet Chem										
Duplicate (B806136-DUP1)		Source: 1806097-01		Prepared: 06/18/18 Analyzed: 06/19/18						
Specific Gravity	1.003	0.8000	No Unit		1.003			0.00	20	
Batch B806143 - General Prep - Wet Chem										
Blank (B806143-BLK1)		Prepared & Analyzed: 06/18/18								
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B806143-DUP1)		Source: 1806045-05		Prepared & Analyzed: 06/18/18						
Total Dissolved Solids	1220	10.0	mg/L		1240			1.22	20	
Reference (B806143-SRM1)		Prepared & Analyzed: 06/18/18								
Total Dissolved Solids	3150	10.0	mg/L	3440		91.4	85-115			
Batch B806152 - General Prep - Wet Chem										
Blank (B806152-BLK1)		Prepared & Analyzed: 06/18/18								
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B806152-BS1)		Prepared & Analyzed: 06/18/18								
Chloride	23.6	1.00	mg/L	25.0		94.4	90-110			
Sulfate	23.6	1.00	mg/L	25.0		94.6	90-110			

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 3 #1
Project Manager: Marty Foutz

Reported:
06/28/18 07:03

**General Chemistry - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B806152 - General Prep - Wet Chem (Continued)

LCS Dup (B806152-BSD1)

Prepared & Analyzed: 06/18/18

Chloride	24.4	1.00	mg/L	25.0		97.4	90-110	3.21	20	
Sulfate	24.4	1.00	mg/L	25.0		97.8	90-110	3.35	20	

Total Recoverable Metals by ICP (E200.7) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B806156 - Total Rec. 200.7/200.8/200.2

Blank (B806156-BLK1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	ND	0.050	mg/L							
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LCS (B806156-BS1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	4.14	0.050	mg/L	4.00		103	85-115			
------	------	-------	------	------	--	-----	--------	--	--	--

LCS Dup (B806156-BSD1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	4.17	0.050	mg/L	4.00		104	85-115	0.702	20	
------	------	-------	------	------	--	-----	--------	-------	----	--

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 3 #1
Project Manager: Marty Foutz

Reported:
06/28/18 07:03

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B806159 - Diss. 200.7/200.8

Blank (B806159-BLK1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	ND	0.020	mg/L
Calcium	ND	0.100	mg/L
Iron	ND	0.050	mg/L
Magnesium	ND	0.100	mg/L
Manganese	ND	0.020	mg/L
Potassium	ND	1.00	mg/L
Sodium	ND	1.00	mg/L
Strontium	ND	0.100	mg/L

LCS (B806159-BS1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	2.49	0.020	mg/L	2.50	99.6	85-115
Calcium	5.07	0.100	mg/L	5.00	101	85-115
Iron	4.98	0.050	mg/L	5.00	99.5	85-115
Magnesium	25.2	0.100	mg/L	25.0	101	85-115
Manganese	2.50	0.020	mg/L	2.50	100	85-115
Potassium	10.1	1.00	mg/L	10.0	101	85-115
Sodium	4.05	1.00	mg/L	4.05	99.9	85-115
Strontium	4.93	0.100	mg/L	5.00	98.5	85-115

LCS Dup (B806159-BSD1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	2.47	0.020	mg/L	2.50	98.9	85-115	0.716	20
Calcium	5.11	0.100	mg/L	5.00	102	85-115	0.752	20
Iron	4.99	0.050	mg/L	5.00	99.8	85-115	0.237	20
Magnesium	25.7	0.100	mg/L	25.0	103	85-115	1.96	20
Manganese	2.52	0.020	mg/L	2.50	101	85-115	0.815	20
Potassium	10.0	1.00	mg/L	10.0	100	85-115	0.811	20
Sodium	4.07	1.00	mg/L	4.05	100	85-115	0.603	20
Strontium	4.89	0.100	mg/L	5.00	97.8	85-115	0.716	20

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 3 #1
Project Manager: Marty Foutz

Reported:
06/28/18 07:03

Notes and Definitions

Q1 Sample received outside of acceptable temperature range for analyses requiring cold storage.

H1 Sample was received several days after collected and subsequently analyzed past hold time.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.

RPD Relative Percent Difference

LCS Laboratory Control Sample (Blank Spike)

RL Report Limit

MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Page 7 of 8



ANALYSIS REQUEST

Company or Client: Dugan Production Corp				Bill to (if different):				ANALYSIS REQUEST										
Address: PO Box 420								P.O. #:	A	P	I	/	S	C	a	l	e	
City: Farmington				State: NM Zip: 87499				Company:	C	O	R	R	O	S	i	O	n	
Phone #: 505-486-5488								Attn:										
Contact Person: Marty Foutz								Address:										
Email Report to: marty.foutz@duganproduction.com								City:										
Project Name (optional): PGA 3 # 1								State:										
								Zip:										
Sample Name (Print):								Email:										
								Matrix (check one)										
For Lab Use				Collected		Date		Time		GROUNDWATER		# of containers						
										SURFACEWATER								
										WASTEWATER								
										PRODUCED WATER								
										SOIL								
										DRINKING WATER								
										OTHER :								
										No preservation (general)								
										HNO₃								
										HCl								
										H₂SO₄								
										Other:								
										Other:								

PLEASE NOTE: GAI's liability and client's recourse remedy for any claim arising hereunder shall be limited to the amount paid by the client for this analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by GAI within 30 days after completion. In no event shall GAI be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder.

Relinquished By:		Date: 6-12-18		Received By:		Additional Remarks:		Report to State? (Circle)	
Marty D. Foutz		6-12-18		Marty D. Foutz				Yes	
Relinquished By:		Date: 6/12/18		Received By:				No	
Marty D. Foutz		6/12/18		Kangaroo Express				Sample retained	
Relinquished By:		Date: 6/18/18		Received By:				outside of temp.	
Kangaroo Express		6/18/18		Kangaroo Express				range required	
Relinquished By:		Date: 6/18/18		Received By:				for certain	
Kangaroo Express		6/18/18		Kangaroo Express				analyses.	
Relinquished By:		Date: 6/18/18		Received By:					
Kangaroo Express		6/18/18		Kangaroo Express					

Temperature at receipt: 33°C
Checked by: [Signature]
Date: 6-13



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28 June 2018

Marty Foutz
Dugan Production Corporation
PO Box 420
Farmington, NM 87499
RE: API, Corrosion/Langlier Index

Enclosed are the results of analyses for samples received by the laboratory on 06/12/18 15:22.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 2 #2
Project Manager: Marty Foutz

Reported:
06/28/18 07:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PGA 2 #2	1806102-01	Water	06/12/18 13:50	06/12/18 15:22

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Dugan Production Corporation	Project: API, Corrosion/Langlier Index	
PO Box 420	Project Name / Number: PGA 2 #2	Reported:
Farmington NM, 87499	Project Manager: Marty Foutz	06/28/18 07:09

PGA 2 #2

1806102-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	760	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Total as CaCO ₃ *	760	10.0		mg/L	10	06/19/18	2320 B		JDU
Chloride*	4910	250	48.2	mg/L	250	06/18/18	EPA300.0		AES
Conductivity*	18500	10.0		uS/cm	1	06/13/18	2510 B		JDU
pH*	7.95			pH Units	1	06/13/18	EPA150.1		JDU
Resistivity	54.1			ohm/cm	1	06/18/18	2510 B		JDU
Total Dissolved Solids*	9570	20.0		mg/L	2	06/19/18	EPA160.1		LLG
Specific Gravity	1.007	0.8000		No Unit	1	06/19/18	Hydrometer		JDU
Sulfate*	<73.8	250	73.8	mg/L	250	06/18/18	EPA300.0		AES

Total Recoverable Metals by ICP (E200.7)

Iron*	62.0	2.50	0.871	mg/L	50	06/20/18	EPA200.7		AES
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Dissolved Metals by ICP

Hardness	163	6.62	1.09	mg/L	10	06/26/18	2340 B		JDA
Barium*	2.05	0.200	0.021	mg/L	10	06/26/18	EPA200.7		JDA
Calcium*	40.6	1.00	0.128	mg/L	10	06/26/18	EPA200.7		JDA
Iron*	<0.500	0.500	0.277	mg/L	10	06/26/18	EPA200.7		JDA
Magnesium*	14.9	1.00	0.188	mg/L	10	06/26/18	EPA200.7		JDA
Manganese*	0.891	0.200	0.027	mg/L	10	06/26/18	EPA200.7		JDA
Potassium*	21.8	10.0	0.955	mg/L	10	06/26/18	EPA200.7		JDA
Sodium*	3360	10.0	3.67	mg/L	10	06/26/18	EPA200.7		JDA
Strontium*	2.48	1.00	0.029	mg/L	10	06/26/18	EPA200.7		JDA

Cation/Anion Balance -86

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation	Project: API, Corrosion/Langlier Index	
PO Box 420	Project Name / Number: PGA 2 #2	Reported:
Farmington NM, 87499	Project Manager: Marty Foutz	06/28/18 07:09

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B806120 - General Prep - Wet Chem										
Duplicate (B806120-DUP1)	Source: 1806096-01		Prepared & Analyzed: 06/13/18							
pH	11.7		pH Units		7.96			38.4	20	
Reference (B806120-SRM1)	Source: 1806096-01		Prepared & Analyzed: 06/13/18							
pH	9.07		pH Units		9.08		99.9	97.8-102.2		
Batch B806122 - General Prep - Wet Chem										
Duplicate (B806122-DUP1)	Source: 1806100-01		Prepared & Analyzed: 06/13/18							
Conductivity	20000	10.0	uS/cm		20300			1.49	20	
Reference (B806122-SRM1)	Source: 1806100-01		Prepared & Analyzed: 06/13/18							
Conductivity	463	10.0	uS/cm		508		91.1	90-110.1		
Batch B806134 - General Prep - Wet Chem										
Blank (B806134-BLK1)	Source: 1806134-01		Prepared: 06/18/18 Analyzed: 06/19/18							
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B806134-BS1)	Source: 1806134-01		Prepared: 06/18/18 Analyzed: 06/19/18							
Alkalinity, Total as CaCO3	115	10.0	mg/L		100		115	85-115		
LCS Dup (B806134-BSD1)	Source: 1806134-01		Prepared: 06/18/18 Analyzed: 06/19/18							
Alkalinity, Total as CaCO3	112	10.0	mg/L		100		112	85-115	2.64	20
Batch B806136 - General Prep - Wet Chem										
Duplicate (B806136-DUP1)	Source: 1806097-01		Prepared: 06/18/18 Analyzed: 06/19/18							
Specific Gravity	1.003	0.8000	No Unit		1.003			0.00	20	
Batch B806152 - General Prep - Wet Chem										
Blank (B806152-BLK1)	Source: 1806152-01		Prepared & Analyzed: 06/18/18							
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B806152-BS1)	Source: 1806152-01		Prepared & Analyzed: 06/18/18							
Chloride	23.6	1.00	mg/L		25.0		94.4	90-110		
Sulfate	23.6	1.00	mg/L		25.0		94.6	90-110		
LCS Dup (B806152-BSD1)	Source: 1806152-01		Prepared & Analyzed: 06/18/18							
Chloride	24.4	1.00	mg/L		25.0		97.4	90-110	3.21	20
Sulfate	24.4	1.00	mg/L		25.0		97.8	90-110	3.35	20
Batch B806158 - General Prep - Wet Chem										
Blank (B806158-BLK1)	Source: 1806158-01		Prepared & Analyzed: 06/19/18							
Total Dissolved Solids	ND	10.0	mg/L							

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 2 #2
Project Manager: Marty Foutz

Reported:
06/28/18 07:09

**General Chemistry - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B806158 - General Prep - Wet Chem (Continued)

Duplicate (B806158-DUP1) Source: 1806101-01 Prepared & Analyzed: 06/19/18

Total Dissolved Solids	9040	20.0	mg/L		9210			1.86	20	
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Reference (B806158-SRM1) Prepared & Analyzed: 06/19/18

Total Dissolved Solids	3460	10.0	mg/L	3440		101	85-115			
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Total Recoverable Metals by ICP (E200.7) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B806156 - Total Rec. 200.7/200.8/200.2

Blank (B806156-BLK1) Prepared: 06/19/18 Analyzed: 06/20/18

Iron	ND	0.050	mg/L							
------	----	-------	------	--	--	--	--	--	--	--

LCS (B806156-BS1) Prepared: 06/19/18 Analyzed: 06/20/18

Iron	4.14	0.050	mg/L	4.00		103	85-115			
------	------	-------	------	------	--	-----	--------	--	--	--

LCS Dup (B806156-BSD1) Prepared: 06/19/18 Analyzed: 06/20/18

Iron	4.17	0.050	mg/L	4.00		104	85-115	0.702	20	
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Green Analytical Laboratories

Debbie Zufelt

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Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 2 #2
Project Manager: Marty Foutz

Reported:
06/28/18 07:09

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

Batch B806159 - Diss. 200.7/200.8

Blank (B806159-BLK1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	ND	0.020	mg/L						
Calcium	ND	0.100	mg/L						
Iron	ND	0.050	mg/L						
Magnesium	ND	0.100	mg/L						
Manganese	ND	0.020	mg/L						
Potassium	ND	1.00	mg/L						
Sodium	ND	1.00	mg/L						
Strontium	ND	0.100	mg/L						

LCS (B806159-BS1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	2.49	0.020	mg/L	2.50	99.6	85-115			
Calcium	5.07	0.100	mg/L	5.00	101	85-115			
Iron	4.98	0.050	mg/L	5.00	99.5	85-115			
Magnesium	25.2	0.100	mg/L	25.0	101	85-115			
Manganese	2.50	0.020	mg/L	2.50	100	85-115			
Potassium	10.1	1.00	mg/L	10.0	101	85-115			
Sodium	4.05	1.00	mg/L	4.05	99.9	85-115			
Strontium	4.93	0.100	mg/L	5.00	98.5	85-115			

LCS Dup (B806159-BSD1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	2.47	0.020	mg/L	2.50	98.9	85-115	0.716	20	
Calcium	5.11	0.100	mg/L	5.00	102	85-115	0.752	20	
Iron	4.99	0.050	mg/L	5.00	99.8	85-115	0.237	20	
Magnesium	25.7	0.100	mg/L	25.0	103	85-115	1.96	20	
Manganese	2.52	0.020	mg/L	2.50	101	85-115	0.815	20	
Potassium	10.0	1.00	mg/L	10.0	100	85-115	0.811	20	
Sodium	4.07	1.00	mg/L	4.05	100	85-115	0.603	20	
Strontium	4.89	0.100	mg/L	5.00	97.8	85-115	0.716	20	

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 2 #2
Project Manager: Marty Foutz

Reported:
06/28/18 07:09

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.
RPD Relative Percent Difference
LCS Laboratory Control Sample (Blank Spike)
RL Report Limit
MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

FORM-006

COC - Revision 5.0

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75 Suttle St Durango, CO 81303

[illegible]

PLEASE NOTE: GAL's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by GAL within 30 days after completion. In no event shall GAL be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by GAL, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:		Date:	Received By:	ADDITIONAL REMARKS	Report to State? (Circle)
Martin D. Foutz	6-12-18	Chino Clark	Sample rvd outside of temp range required for certain analyses	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Relinquished By:	Time: 3:22P				
Chino Clark	06/12/18	Kangaroo Express	#1 on in R DGO 5.4/5.2°C	Sample rvd outside of temp range required for certain analyses	
Relinquished By:	Date: 06/13/18				
Kangaroo Express	Time: 8552		26.4°C NOICE	CHECKED BY	
Relinquished By:	Date:	Received By:			
	Time:				

† GAL cannot always accept verbal changes. Please fax or email written change requests.

* Chain of Custody must be signed in "Relinquished By:" as an acceptance of services and all applicable charges.

JustClick Printing Form #17-0301



75 Suttle Street
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970.247.4220 Phone
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www.greenanalytical.com

28 June 2018

Marty Foutz
Dugan Production Corporation
PO Box 420
Farmington, NM 87499
RE: API, Corrosion/Langlier Index

Enclosed are the results of analyses for samples received by the laboratory on 06/12/18 12:54.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 34 #3
Project Manager: Marty Foutz

Reported:
06/28/18 06:59

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PGA 34 #3	1806098-01	Water	06/11/18 10:00	06/12/18 12:54

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 34 #3
Project Manager: Marty Foutz

Reported:
06/28/18 06:59

PGA 34 #3

1806098-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO ₃ *	310	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Total as CaCO ₃ *	310	10.0		mg/L	10	06/19/18	2320 B		JDU
Chloride*	7720	500	96.4	mg/L	500	06/18/18	EPA300.0		AES
Conductivity*	26700	10.0		uS/cm	1	06/13/18	2510 B		JDU
Langlier Index	-0.100			[blank]	1	06/27/18	Calculation		DJZ
pH*	6.84			pH Units	1	06/13/18	EPA150.1	H1	JDU
Resistivity	37.5			ohm/cm	1	06/18/18	2510 B		JDU
Total Dissolved Solids*	14600	20.0		mg/L	2	06/18/18	EPA160.1	Q1	LLG
Specific Gravity	1.010	0.8000		No Unit	1	06/19/18	Hydrometer		JDU
Sulfate*	<148	500	148	mg/L	500	06/18/18	EPA300.0		AES
Temperature, lab ambient	19.9			°C	1	06/27/18	Calculation		DJZ
Total Recoverable Metals by ICP (E200.7)									
Iron*	38.4	2.50	0.871	mg/L	50	06/20/18	EPA200.7		AES
Dissolved Metals by ICP									
Hardness	981	16.5	2.73	mg/L	25	06/26/18	2340 B		JDA
Barium*	10.9	0.500	0.052	mg/L	25	06/26/18	EPA200.7		JDA
Calcium*	306	2.50	0.321	mg/L	25	06/26/18	EPA200.7		JDA
Iron*	<1.25	1.25	0.691	mg/L	25	06/26/18	EPA200.7		JDA
Magnesium*	53.0	2.50	0.469	mg/L	25	06/26/18	EPA200.7		JDA
Manganese*	0.938	0.500	0.067	mg/L	25	06/26/18	EPA200.7		JDA
Potassium*	<25.0	25.0	2.39	mg/L	25	06/26/18	EPA200.7		JDA
Sodium*	4700	25.0	9.17	mg/L	25	06/26/18	EPA200.7		JDA
Strontium*	9.31	2.50	0.072	mg/L	25	06/26/18	EPA200.7		JDA
Cation/Anion Balance	.29								

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 34 #3
Project Manager: Marty Foutz

Reported:
06/28/18 06:59

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B806120 - General Prep - Wet Chem										
Duplicate (B806120-DUP1)	Source: 1806096-01		Prepared & Analyzed: 06/13/18							
pH	11.7		pH Units		7.96			38.4	20	
Reference (B806120-SRM1)			Prepared & Analyzed: 06/13/18							
pH	9.07		pH Units	9.08		99.9	97.8-102.2			
Batch B806122 - General Prep - Wet Chem										
Duplicate (B806122-DUP1)	Source: 1806100-01		Prepared & Analyzed: 06/13/18							
Conductivity	20000	10.0	uS/cm		20300			1.49	20	
Reference (B806122-SRM1)			Prepared & Analyzed: 06/13/18							
Conductivity	463	10.0	uS/cm	508		91.1	90-110.1			
Batch B806134 - General Prep - Wet Chem										
Blank (B806134-BLK1)			Prepared: 06/18/18 Analyzed: 06/19/18							
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B806134-BS1)			Prepared: 06/18/18 Analyzed: 06/19/18							
Alkalinity, Total as CaCO3	115	10.0	mg/L	100		115	85-115			
LCS Dup (B806134-BSD1)			Prepared: 06/18/18 Analyzed: 06/19/18							
Alkalinity, Total as CaCO3	112	10.0	mg/L	100		112	85-115	2.64	20	
Batch B806136 - General Prep - Wet Chem										
Duplicate (B806136-DUP1)	Source: 1806097-01		Prepared: 06/18/18 Analyzed: 06/19/18							
Specific Gravity	1.003	0.8000	No Unit		1.003			0.00	20	
Batch B806143 - General Prep - Wet Chem										
Blank (B806143-BLK1)			Prepared & Analyzed: 06/18/18							
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B806143-DUP1)	Source: 1806045-05		Prepared & Analyzed: 06/18/18							
Total Dissolved Solids	1220	10.0	mg/L		1240			1.22	20	
Reference (B806143-SRM1)			Prepared & Analyzed: 06/18/18							
Total Dissolved Solids	3150	10.0	mg/L	3440		91.4	85-115			
Batch B806152 - General Prep - Wet Chem										
Blank (B806152-BLK1)			Prepared & Analyzed: 06/18/18							
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B806152-BS1)			Prepared & Analyzed: 06/18/18							
Chloride	23.6	1.00	mg/L	25.0		94.4	90-110			
Sulfate	23.6	1.00	mg/L	25.0		94.6	90-110			

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 34 #3
Project Manager: Marty Foutz

Reported:
06/28/18 06:59

**General Chemistry - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B806152 - General Prep - Wet Chem (Continued)

LCS Dup (B806152-BSD1)

Prepared & Analyzed: 06/18/18

Chloride	24.4	1.00	mg/L	25.0		97.4	90-110	3.21	20	
Sulfate	24.4	1.00	mg/L	25.0		97.8	90-110	3.35	20	

Total Recoverable Metals by ICP (E200.7) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B806156 - Total Rec. 200.7/200.8/200.2

Blank (B806156-BLK1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	ND	0.050	mg/L							
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LCS (B806156-BS1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	4.14	0.050	mg/L	4.00		103	85-115			
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LCS Dup (B806156-BSD1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	4.17	0.050	mg/L	4.00		104	85-115	0.702	20	
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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 34 #3
Project Manager: Marty Foutz

Reported:
06/28/18 06:59

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B806159 - Diss. 200.7/200.8

Blank (B806159-BLK1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	ND	0.020	mg/L							
Calcium	ND	0.100	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Manganese	ND	0.020	mg/L							
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
Strontium	ND	0.100	mg/L							

LCS (B806159-BS1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	2.49	0.020	mg/L	2.50		99.6	85-115			
Calcium	5.07	0.100	mg/L	5.00		101	85-115			
Iron	4.98	0.050	mg/L	5.00		99.5	85-115			
Magnesium	25.2	0.100	mg/L	25.0		101	85-115			
Manganese	2.50	0.020	mg/L	2.50		100	85-115			
Potassium	10.1	1.00	mg/L	10.0		101	85-115			
Sodium	4.05	1.00	mg/L	4.05		99.9	85-115			
Strontium	4.93	0.100	mg/L	5.00		98.5	85-115			

LCS Dup (B806159-BSD1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	2.47	0.020	mg/L	2.50		98.9	85-115	0.716	20	
Calcium	5.11	0.100	mg/L	5.00		102	85-115	0.752	20	
Iron	4.99	0.050	mg/L	5.00		99.8	85-115	0.237	20	
Magnesium	25.7	0.100	mg/L	25.0		103	85-115	1.96	20	
Manganese	2.52	0.020	mg/L	2.50		101	85-115	0.815	20	
Potassium	10.0	1.00	mg/L	10.0		100	85-115	0.811	20	
Sodium	4.07	1.00	mg/L	4.05		100	85-115	0.603	20	
Strontium	4.89	0.100	mg/L	5.00		97.8	85-115	0.716	20	

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API, Corrosion/Langlier Index
Project Name / Number: PGA 34 #3
Project Manager: Marty Foutz

Reported:
06/28/18 06:59

Notes and Definitions

Q1 Sample received outside of acceptable temperature range for analyses requiring cold storage.
H1 Sample was received several days after collected and subsequently analyzed past hold time.
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.
RPD Relative Percent Difference
LCS Laboratory Control Sample (Blank Spike)
RL Report Limit
MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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970.247.4220 Phone
970.247.4227 Fax
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28 June 2018

Marty Foutz
Dugan Production Corporation
PO Box 420
Farmington, NM 87499
RE: API

Enclosed are the results of analyses for samples received by the laboratory on 06/12/18 15:22.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API
Project Name / Number: PGA 35 #3
Project Manager: Marty Foutz

Reported:
06/28/18 07:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PGA 35 #3	1806101-01	Water	06/12/18 13:45	06/12/18 15:22

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation	Project: API	
PO Box 420	Project Name / Number: PGA 35 #3	Reported:
Farmington NM, 87499	Project Manager: Marty Foutz	06/28/18 07:07

PGA 35 #3

1806101-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	960	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	10	06/19/18	2320 B		JDU
Alkalinity, Total as CaCO ₃ *	960	10.0		mg/L	10	06/19/18	2320 B		JDU
Chloride*	4620	250	48.2	mg/L	250	06/18/18	EPA300.0		AES
Conductivity*	16300	10.0		uS/cm	1	06/13/18	2510 B		JDU
pH*	7.90			pH Units	1	06/13/18	EPA150.1		JDU
Resistivity	61.3			ohm/cm	1	06/18/18	2510 B		JDU
Total Dissolved Solids*	9210	20.0		mg/L	2	06/19/18	EPA160.1		LLG
Specific Gravity	1.006	0.8000		No Unit	1	06/19/18	Hydrometer		JDU
Sulfate*	<73.8	250	73.8	mg/L	250	06/18/18	EPA300.0		AES

Total Recoverable Metals by ICP (E200.7)

Iron*	5.34	2.50	0.871	mg/L	50	06/20/18	EPA200.7		AES
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Dissolved Metals by ICP

Hardness	159	6.62	1.09	mg/L	10	06/26/18	2340 B		JDA
Barium*	3.39	0.200	0.021	mg/L	10	06/26/18	EPA200.7		JDA
Calcium*	39.7	1.00	0.128	mg/L	10	06/26/18	EPA200.7		JDA
Iron*	<0.500	0.500	0.277	mg/L	10	06/26/18	EPA200.7		JDA
Magnesium*	14.6	1.00	0.188	mg/L	10	06/26/18	EPA200.7		JDA
Manganese*	<0.200	0.200	0.027	mg/L	10	06/26/18	EPA200.7		JDA
Potassium*	15.2	10.0	0.955	mg/L	10	06/26/18	EPA200.7		JDA
Sodium*	3340	10.0	3.67	mg/L	10	06/26/18	EPA200.7		JDA
Strontium*	2.46	1.00	0.029	mg/L	10	06/26/18	EPA200.7		JDA

Cation/Anion Balance -19

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation	Project: API	
PO Box 420	Project Name / Number: PGA 35 #3	Reported:
Farmington NM, 87499	Project Manager: Marty Foutz	06/28/18 07:07

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B806120 - General Prep - Wet Chem

Duplicate (B806120-DUP1)		Source: 1806096-01		Prepared & Analyzed: 06/13/18						
pH	11.7		pH Units		7.96			38.4	20	
Reference (B806120-SRM1)		Prepared & Analyzed: 06/13/18								
pH	9.07		pH Units	9.08		99.9	97.8-102.2			

Batch B806122 - General Prep - Wet Chem

Duplicate (B806122-DUP1)		Source: 1806100-01		Prepared & Analyzed: 06/13/18						
Conductivity	20000	10.0	uS/cm		20300			1.49	20	
Reference (B806122-SRM1)		Prepared & Analyzed: 06/13/18								
Conductivity	463	10.0	uS/cm	508		91.1	90-110.1			

Batch B806134 - General Prep - Wet Chem

Blank (B806134-BLK1)		Prepared: 06/18/18 Analyzed: 06/19/18								
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B806134-BS1)		Prepared: 06/18/18 Analyzed: 06/19/18								
Alkalinity, Total as CaCO3	115	10.0	mg/L	100		115	85-115			
LCS Dup (B806134-BSD1)		Prepared: 06/18/18 Analyzed: 06/19/18								
Alkalinity, Total as CaCO3	112	10.0	mg/L	100		112	85-115	2.64	20	

Batch B806136 - General Prep - Wet Chem

Duplicate (B806136-DUP1)		Source: 1806097-01		Prepared: 06/18/18 Analyzed: 06/19/18						
Specific Gravity	1.003	0.8000	No Unit		1.003			0.00	20	

Batch B806152 - General Prep - Wet Chem

Blank (B806152-BLK1)		Prepared & Analyzed: 06/18/18								
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B806152-BS1)		Prepared & Analyzed: 06/18/18								
Chloride	23.6	1.00	mg/L	25.0		94.4	90-110			
Sulfate	23.6	1.00	mg/L	25.0		94.6	90-110			
LCS Dup (B806152-BSD1)		Prepared & Analyzed: 06/18/18								
Chloride	24.4	1.00	mg/L	25.0		97.4	90-110	3.21	20	
Sulfate	24.4	1.00	mg/L	25.0		97.8	90-110	3.35	20	

Batch B806158 - General Prep - Wet Chem

Blank (B806158-BLK1)		Prepared & Analyzed: 06/19/18								
Total Dissolved Solids	ND	10.0	mg/L							

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API
Project Name / Number: PGA 35 #3
Project Manager: Marty Foutz

Reported:
06/28/18 07:07

General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B806158 - General Prep - Wet Chem (Continued)

Duplicate (B806158-DUP1)

Source: 1806101-01 Prepared & Analyzed: 06/19/18

Total Dissolved Solids	9040	20.0	mg/L		9210			1.86	20	
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Reference (B806158-SRM1)

Prepared & Analyzed: 06/19/18

Total Dissolved Solids	3460	10.0	mg/L	3440		101	85-115			
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Total Recoverable Metals by ICP (E200.7) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B806156 - Total Rec. 200.7/200.8/200.2

Blank (B806156-BLK1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	ND	0.050	mg/L							
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LCS (B806156-BS1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	4.14	0.050	mg/L	4.00		103	85-115			
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LCS Dup (B806156-BSD1)

Prepared: 06/19/18 Analyzed: 06/20/18

Iron	4.17	0.050	mg/L	4.00		104	85-115	0.702	20	
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www.GreenAnalytical.com

Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API
Project Name / Number: PGA 35 #3
Project Manager: Marty Foutz

Reported:
06/28/18 07:07

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B806159 - Diss. 200.7/200.8

Blank (B806159-BLK1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	ND	0.020	mg/L
Calcium	ND	0.100	mg/L
Iron	ND	0.050	mg/L
Magnesium	ND	0.100	mg/L
Manganese	ND	0.020	mg/L
Potassium	ND	1.00	mg/L
Sodium	ND	1.00	mg/L
Strontium	ND	0.100	mg/L

LCS (B806159-BS1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	2.49	0.020	mg/L	2.50	99.6	85-115
Calcium	5.07	0.100	mg/L	5.00	101	85-115
Iron	4.98	0.050	mg/L	5.00	99.5	85-115
Magnesium	25.2	0.100	mg/L	25.0	101	85-115
Manganese	2.50	0.020	mg/L	2.50	100	85-115
Potassium	10.1	1.00	mg/L	10.0	101	85-115
Sodium	4.05	1.00	mg/L	4.05	99.9	85-115
Strontium	4.93	0.100	mg/L	5.00	98.5	85-115

LCS Dup (B806159-BSD1)

Prepared: 06/19/18 Analyzed: 06/26/18

Barium	2.47	0.020	mg/L	2.50	98.9	85-115	0.716	20
Calcium	5.11	0.100	mg/L	5.00	102	85-115	0.752	20
Iron	4.99	0.050	mg/L	5.00	99.8	85-115	0.237	20
Magnesium	25.7	0.100	mg/L	25.0	103	85-115	1.96	20
Manganese	2.52	0.020	mg/L	2.50	101	85-115	0.815	20
Potassium	10.0	1.00	mg/L	10.0	100	85-115	0.811	20
Sodium	4.07	1.00	mg/L	4.05	100	85-115	0.603	20
Strontium	4.89	0.100	mg/L	5.00	97.8	85-115	0.716	20

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Dugan Production Corporation
PO Box 420
Farmington NM, 87499

Project: API
Project Name / Number: PGA 35 #3
Project Manager: Marty Foutz

Reported:
06/28/18 07:07

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.
RPD Relative Percent Difference
LCS Laboratory Control Sample (Blank Spike)
RL Report Limit
MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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FORM-006
COC - Revision 5.0

COC - Revision 5.0

† GAL cannot always accept verbal changes. Please fax or email written change requests.

Application for Authorization to Inject

Dugan Production Corp.

PGA Unit SWD 33 #4

Part VIII. Geologic Data

The proposed injection interval is the Entrada Sandstone from approximately 6320' – 6570' feet below the surface.

The main source of stock water in the region is encountered in valley-fill deposits in existing arroyos at shallow depths of approximately 15 – 50 feet below the surface and stock tanks constructed on surface shale in the upper reaches and confluences of arroyos. The disposal well is not located in an arroyo. The closest arroyo is approximately 450-feet south of the disposal well and there is a stock tank located approximately 4,500-feet west from the proposed disposal well.

There are no known drinking water sources below the Mesaverde interval. The formation tops in the well are as follows:

Kirtland	Surface	Greenhorn	4990'
Fruitland	425'	Graneros	5050'
Pictured Cliffs	685'	Dakota	5075'
Lewis	835'	Morrison	5365'
Cliff House	1370'	Bluff	5890'
Menefee	1540'	Todilto	6265'
Point Lookout	3075'	Entrada	6320'
Mancos	3235'	Chinle	6570'
Gallup	3935'	Total Depth	6670'

Part IX. Stimulation Program

Following injection rate tests, it may be necessary to stimulate the Entrada Sandstone by acidizing or fracturing.

Part X. Logging and Test Data

All logs and test data for the injection well will be submitted to the New Mexico Oil Conservation Division in Aztec, NM.

Part XI. Fresh Water Samples

A records search and field survey for existing water wells in the vicinity of the proposed disposal well were conducted. One water well is located 8,950-feet southeast of the proposed disposal well in the SW/4 of the SE/4 of section 36, T24N, R10W. This well was drilled to a total depth of 442-feet and the depth to water was reported at 284-feet. No other information is available on the well.

Application for Authorization to Inject

Dugan Production Corp.

PGA Unit SWD 33 #4

Part XII. Statement of Geologic and Engineering Data

I have examined all available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.



Aliph Reena, Engineering Supervisor (Pet. Engineer)

July 5, 2018

Date

Application for Authorization to Inject

Dugan Production Corp.

PGA Unit SWD 33 #4

Part XIII. Proof of Notice

Attached are proof's of notice that this application has been sent by certified mail, to the surface owner of the land which the injection well is to be located on and all leasehold operators within one-half mile of the well location. Also, proof of publication is enclosed showing the legal advertisement which was published in the Farmington Daily Times.

AFFIDAVIT OF PUBLICATION

Ad No.
0001252539

DUGAN PRODUCTION CORP.
PO BOX 420


FARMINGTON NM 87499

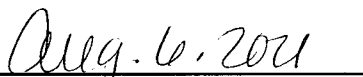
I, being duly sworn say: THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the State of New Mexico for publication and appeared in the internet at The Daily Times web site on the following day(s):

06/28/18


Legal Clerk

Subscribed and sworn before me this
28th of June 2018.

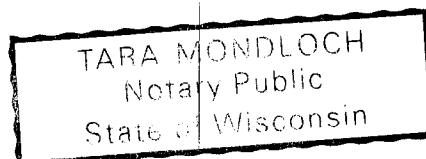

State of WI, County of Brown
NOTARY PUBLIC


My Commission Expires

Dugan Production Corp., P.O Box 420, Farmington, NM 87499 is making application for administrative approval to dispose of produced water by underground injection. Contact person is Aliph Reena, Phone 505-360-9192. The proposed disposal site is PGA Unit SWD 33 # 4, API No: 30-045-35870, located 271' FSL & 184' FEL, Sec 33 T24N R11W, San Juan Co. NM. Water will be injected into the Entrada Sandstone between the depths of approximately 6320' and 6570' below the surface. Maximum anticipated injection pressure is 1289 psi. Maximum injection rate will be 6000 barrels of water per day. Any interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, NM 87505 within 15 days.

Legal No. 1252539 published in The Daily Times on June 28, 2018.

Ad#:0001252539
P O : PGA Unit SWD 33 # 4
of Affidavits :0.00



REC'D JUL 02 2018

PGA Unit SWD 33 #4

<p>SENDER: COMPLETE THIS SECTION</p> <p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Article Addressed to:</p> <p style="font-size: 1.2em;">Bureau of Land Mgmt 6751 College Blvd., Ste A. Farmington, NM 87402</p> <p style="text-align: center;">9590 9402 1293 5285 1324 87</p> <p>2. Article Number (Transfer from service label)</p> <p style="text-align: center;">7015 0640 0002 3192 0910</p> <p>PS Form 3811, July 2015 PSN 7530-02-000-9053</p>	<p>COMPLETE THIS SECTION ON DELIVERY</p> <p>A. Signature</p> <p style="font-size: 1.5em;">X</p> <p>B. Received by (Printed Name)</p> <p>C.</p> <p>D. Is delivery address different from item 1? If YES, enter delivery address below:</p> <p>3. Service Type</p> <table border="0"> <tr> <td><input type="checkbox"/> Adult Signature</td> <td><input type="checkbox"/> Priority</td> </tr> <tr> <td><input type="checkbox"/> Adult Signature Restricted Delivery</td> <td><input type="checkbox"/> Registered</td> </tr> <tr> <td><input checked="" type="checkbox"/> Certified Mail®</td> <td><input type="checkbox"/> Registered Mail</td> </tr> <tr> <td><input type="checkbox"/> Certified Mail Restricted Delivery</td> <td><input type="checkbox"/> Return Receipt</td> </tr> <tr> <td><input type="checkbox"/> Collect on Delivery</td> <td><input type="checkbox"/> Signature Merchandise</td> </tr> <tr> <td><input type="checkbox"/> Collect on Delivery Restricted Delivery</td> <td><input type="checkbox"/> Signature Restricted</td> </tr> <tr> <td><input type="checkbox"/> Mail</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Mail Restricted Delivery</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Restricted Delivery</td> <td></td> </tr> </table> <p>Domestic</p>	<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority	<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered	<input checked="" type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail	<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt	<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Merchandise	<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Restricted	<input type="checkbox"/> Mail		<input type="checkbox"/> Mail Restricted Delivery		<input type="checkbox"/> Restricted Delivery	
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PGA Unit SWD 33 #4

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PGA Unit SWD 33 #4

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PGA Unit SWD 33 #4

SENDER: COMPLETE THIS SECTION

COMPLETE THIS SECTION ON DELIVERY

1. Complete items 1, 2, and 3.

2. Print your name and address on the reverse so that we can return the card to you.

3. Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Quipco Resources
900 Mainline, #201
Durango, CO 81301

9590 9402 1293 5285 1324 49

2. Article Number (Transfer from service label)

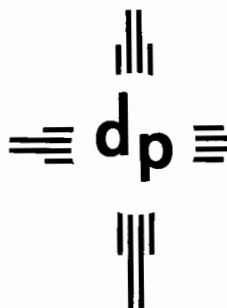
7015 0640 0002 3192 0910

PS Form 3811, July 2015 PSN 7530-02-000-9053

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail
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Domestic Return



dugan production corp.

July 5, 2018

-CERTIFIED MAIL - RETURN RECEIPT REQUESTED-

Mr. Will Jones
New Mexico Oil Conservation Division – Engineering Bureau
1220 South St. Francis Street
Santa Fe, New Mexico 87505

Re: Application to Class 2, water disposal well, PGA Unit SWD 33 #4 San Juan Co., NM

Dear Mr. Jones:

Enclosed is Dugan Production Corp.'s application for disposal of produced water in the PGA Unit SWD 33 #4. In fulfilling the requirements of application, the following materials are provided herein.

1. Form C-108, Application for Authorization to Inject.
2. Tabular and schematic data on proposed injection well.
3. Lease and surface owner maps identifying all wells and leases within 2-miles of proposed injection well with a one-half mile radius circle around the proposed injection well.
4. Data sheet of wells within 2-miles of proposed injection well, highlighting those wells inside one-half mile radius around the injection well.
5. Operations plan for proposed injection well.
6. Water Analysis of produced water to be disposed in injection well (Fruitland Coal).
7. Required geologic, stimulation, logging, test data and fresh water data from nearby wells.
8. Signed statement of geologic and engineering data.
9. Proof of notice in the form of notification letters sent to offsetting operators and surface owners and a copy of the Affidavit of Publication of the notice as it appeared in the Farmington Daily Times.

If you have questions or require additional information, please contact me.

Very Sincerely,

Aliph Reena
Engineering Supervisor

Attachments

cc: Mr. Will Jones-NMOCD, 1220 South St. Francis Street, Santa Fe, New Mexico
Mr. David Mankiewicz-BLM, 6251 College Blvd, Suite A, Farmington, NM 87401
Mr. Mike Anaya-NM State Land Office, PO Box 1148, Santa Fe, NM 87504-1148
Hilcorp Energy Co., 382 Road 3100, Aztec, NM 87410
Coleman Oil & Gas, P.O. Drawer 3337, Farmington, NM 87499
Juniper Resources, 900 Main Ave. #201, Durango, CO 81301

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Postage

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Total Postage and Fees

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Bureau of Land Mgmt
Street and Apt. No., or PO Box No.
6251 College Blvd Suite A
City, State, ZIP+4
Farmington, NM 87402

PS Form 3800, April 2015 PSN 7530-02-000-9047

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382 Road 3100
City, State, ZIP+4
Farmington, NM 87410

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☐ Adult Signature Restricted Delivery \$

Postage

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Total Postage and Fees

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Sent To

Uniper Resources
Street and Apt. No., or PO Box No.
400 Main Ave, #201
City, State, ZIP+4
Durango, CO 81301

PS Form 3800, April 2015 PSN 7530-02-000-9047

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☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$

Postage

\$

Total Postage and Fees

\$

Sent To

MOCD - Mr. Will Jones
Street and Apt. No., or PO Box No.
1320 S. St. Francis Drive
City, State, ZIP+4
Santa Fe, NM 87505

PS Form 3800, April 2015 PSN 7530-02-000-9047

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☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$

Postage

\$

Total Postage and Fees

\$

Sent To

MOCD - Charlie Perin
Street and Apt. No., or PO Box No.
1000 Rio Grande Road
City, State, ZIP+4
Farmington, NM 87410

PS Form 3800, April 2015 PSN 7530-02-000-9047

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☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$

Postage

\$

Total Postage and Fees

\$

Sent To

Coleman Oil & Gas
Street and Apt. No., or PO Box No.
PO Drawer 3337
City, State, ZIP+4
Farmington, NM 87499

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instruction

Postmark
Here
7/6/18
Jared

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Tuesday, July 24, 2018 1:24 PM
To: 'Aliph Reena'
Cc: Powell, Brandon, EMNRD
Subject: RE: Harry Monster # 3 SWD - Water Sample Information

After talking with the Aztec Office, the OCD will require a swab test prior to injection.
You will be required to provide Aztec Office and Engineering Bureau with the results.
Further, You will be expected to coordinate with Aztec if they have any special requirements.

Mike

From: McMillan, Michael, EMNRD
Sent: Tuesday, July 24, 2018 12:35 PM
To: 'Aliph Reena' <Aliph.Reena@duganproduction.com>
Subject: RE: Harry Monster # 3 SWD - Water Sample Information

I need the dates that the affected parties were mailed the application packet
I need a signed statement from you for the date

Mike

From: McMillan, Michael, EMNRD
Sent: Tuesday, July 24, 2018 12:07 PM
To: 'Aliph Reena' <Aliph.Reena@duganproduction.com>
Subject: RE: Harry Monster # 3 SWD - Water Sample Information

I am not very knowledgeable about the San Juan geology.
Did you ran any swab tests in the Entrada on the Harry Monster SWD Well No. 3?
If so what were the results?
Mike

From: McMillan, Michael, EMNRD
Sent: Tuesday, July 24, 2018 11:57 AM
To: 'Aliph Reena' <Aliph.Reena@duganproduction.com>
Subject: RE: Herry Monster # 3 SWD - Water Sample Information

Thanks for the quick response
Mike

From: Aliph Reena <Aliph.Reena@duganproduction.com>
Sent: Tuesday, July 24, 2018 11:56 AM
To: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: Herry Monster # 3 SWD - Water Sample Information

Hi Mike,

Dugan Well "Herry Monster # 3 SWD", API: 30-045-33217, Sec 11 T24N R11W, is completed in the Entrada Sandstone formation. The water sample analysis shows TDS is 41,183 mg/l and Chlorides are 843,781. We request you to consider it a representative Entrada water sample for the PGA Unit SWD 33 # 4, injection application.

Aliph Reena P.E
Engineering Supervisor
Dugan Production Corp.
P.O.Box 420, Farmington, NM 87499
Cell: 505-360-9192
Office: 505-326-4548

EXHIBIT B.

Operations Plan
PGA Unit SWD 33 #4
Lease # NMNM-112959
SESE of Section 33, T24N, R11W
271' FSL and 184' FEL
San Juan County, New Mexico

San Juan County, New Mexico

1. **APPROXIMATE FORMATION TOPS:**

Kirtland	Surface
Fruitland	425'
Pictured Cliffs	685'
Lewis	835'
Cliff House	1370'
Menefee	1540'
Point Lookout	3075'
Mancos	3235'
Gallup	3935'
Greenhorn	4990'
Graneros	5050'
Dakota	5075'
Morrison	5365'
Bluff	5890'
Todilto	6265'
Entrada	6320'
Total Depth	6670'

NMOCB
JUN 08 2018
DISTRICT III

Catch samples every 10 feet from 3500' to 4100'
and from 5800' to total depth.

2. **LOGGING PROGRAM:**

Run cased hole GR-CCL-CNL from total depth to surface.

3. **CASING PROGRAM:**

Hole Size	Casing Size	Wt./ft.	Setting Depth	Grade and Condition
12-1/4"	9-3/4"	36#	352'	J-55
8-3/4"	7"	23#	5215'	K-55
8-3/4"	7"	26#	6670'	K-55

Plan to drill a 12-1/4" hole and set 352' of 9-3/4" OD, 36#, J-55 Surface casing. Then plan to drill a 8-3/4" hole to total depth with gel-water mud program. 7", 23 # K-55 casing to 5215' and 7", 26# K-55 casing to 6670' will be run and cemented in two stages. Open hole IES and CDL logs will be run. Injection zone will be perforated and acidized. After

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Tuesday, July 24, 2018 11:47 AM
To: 'Aliph Reena'
Subject: RE: PGA Unit 33 SWD Well No. 4

Your approved injection pressure is 1264psi (.2* top perforation)
Also based on our conversation the top of the Entrada is 6320 feet-is that correct?
Mike

From: McMillan, Michael, EMNRD
Sent: Tuesday, July 24, 2018 11:11 AM
To: 'Aliph Reena' <Aliph.Reena@duganproduction.com>
Subject: PGA Unit 33 SWD Well No. 4

Aliph:
Here is the link.
<http://gotech.nmt.edu/gotech/>

Go to Water Data (3rd link on left hand side)
Produced water sample (click on this) Select Township and Range

Mike

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

McMillan, Michael, EMNRD

From: Aliph Reena <Aliph.Reena@duganproduction.com>
Sent: Tuesday, July 24, 2018 11:56 AM
To: McMillan, Michael, EMNRD
Subject: Herry Monster # 3 SWD - Water Sample Information

Hi Mike,

Dugan Well "Herry Monster # 3 SWD", API: 30-045-33217, Sec 11 T24N R11W, is completed in the Entrada Sandstone formation. The water sample analysis shows TDS is 41,183 mg/l and Chlorides are 843,781. We request you to consider it a representative Entrada water sample for the PGA Unit SWD 33 # 4, injection application.

Aliph Reena P.E
Engineering Supervisor
Dugan Production Corp.
P.O.Box 420, Farmington, NM 87499
Cell: 505-360-9192
Office: 505-326-4548

DISTRICT ENGINEER
505-327-6222

LABORATORY SERVICES
P.O. DRAWER 360
FARMINGTON, N.M.

WATER ANALYSIS

OPERATOR DUGAN PRODUCTION DATE SAMPLED 10-1-82
WELL 14-24N-10W DATE RECEIVED 10-1-82
FIELD Basin Dakota SUBMITTED BY Kurt Fagrelus
FORMATION Dakota WORKED BY Clay Terry
DEPTH 6069-6076 SAMPLE DESCRIPTION tan-brown aqueous
COUNTY San Juan solution with solids and slight oil phase.
STATE New Mexico

PHYSICAL DETERMINATIONS

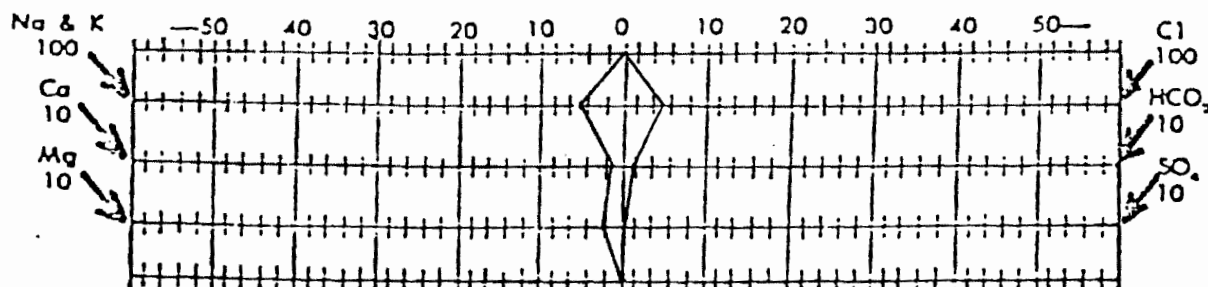
SPECIFIC GRAVITY 1.021 AT 71 °F TOTAL DISSOLVED SOLIDS 30,797 ppm
pH 7.0 RESISTIVITY (Ohm-meters) 0.125 Ω-M

CHEMICAL DETERMINATIONS

IRON 0-3 ppm Fe²; 0-3 ppm Fe³ PHOSPHATE --
HYDROGEN SULFIDE 0 ✓ SULFATE 25 ✓ ppm
TOTAL HARDNESS 1700 ✓ ppm BICARBONATE 1104 ✓ ppm
CALCIUM 240 ✓ ppm CHLORIDE 17901 ✓ ppm
MAGNESIUM 267 ✓ ppm SODIUM & POTASSIUM 11260 ✓ ppm

COMMENTS:

for Stiff type plot (in meq./l.)



Analyst

Clay Terry, District Engineer

BJ SERVICES COMPANY**WATER ANALYSIS #FW01W027**

FARMINGTON LAB

GENERAL INFORMATION

OPERATOR: DUGAN PRODUCTION DEPTH:
WELL: SANCHEZ O'BRIEN #1 DATE SAMPLED: 12/03/97
FIELD: SEC.6/T24N/R9W DATE RECEIVED:12/03/97
SUBMITTED BY:JOHN ALEXANDER COUNTY:SAN JUAN STATE:NM
WORKED BY :D. SHEPHERD FORMATION: MESAVERDE
PHONE NUMBER:

SAMPLE DESCRIPTION

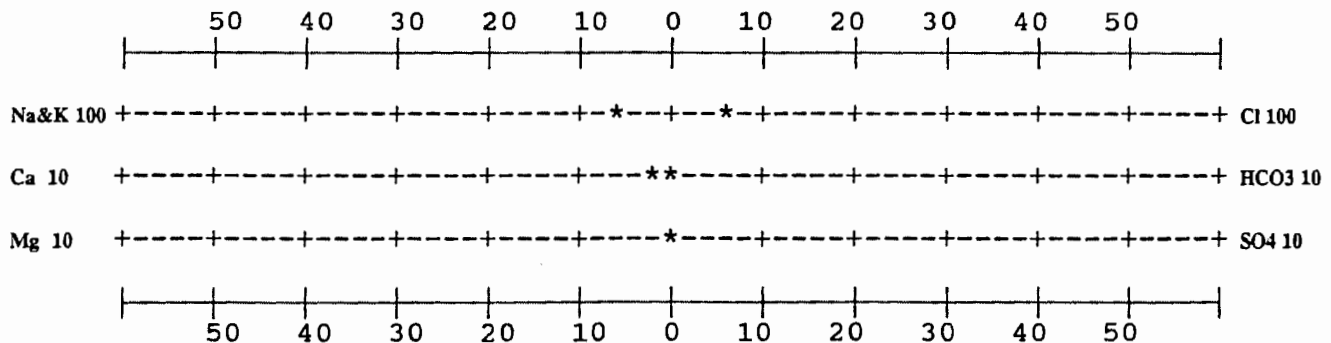
SWAB SAMPLE AFTER 200 BBL.

PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY:	1.025	@ 76°F	PH:	7.23
RESISTIVITY (MEASURED):	0.160	ohms @ 76°F		
IRON (FE++) :	3 ppm	SULFATE:		0 ppm
CALCIUM:	336 ppm	TOTAL HARDNESS		1,074 ppm
MAGNESIUM:	57 ppm	BICARBONATE:		548 ppm
CHLORIDE:	22,137 ppm	SODIUM CHLORIDE(Calc)		36,415 ppm
SODIUM+POTASS:	14,065 ppm	TOT. DISSOLVED SOLIDS:		37,823 ppm
H2S: NO TRACE		POTASSIUM (PPM):		84

REMARKS

STIFF TYPE PLOT (IN MEQ/L)



ANALYST

D. SHEPHERD

wellname	api	section	township	range	ftgns	ftgew	formation	ph	tds_mgL	chloride_mgL
HERRY MONSTER SWD #003	3004528623	F-11	24N	11W	1980N	1650W	GALLUP	7.5	41183	843781
HERRY MONSTER #001	3004525515	M-12	24N	11W	790S	790W	GALLUP	7	34832	744513
MUPPET #001	3004527712	N-2	24N	11W	790S	1520W	FRUITLAND COAL	7	11900	244626
ROADRUNNER #090	3004528027	K-36	24N	11W	1850S	1850W	FRUITLAND COAL	6.1	15892	340349
ROADRUNNER #001	3004527693	O-36	24N	11W	660S	1980E	GALLUP	7.5	37417	801238

All wells operated by Dugan Production

Enter All
E-sec E-mail

Submit 3 Copies To Appropriate District Office

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103

March 4, 2004

WELL API NO.

30-045-33217

5. Indicate Type of Lease - *Federal*

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

Federal Lease SF-078110

7. Lease Name or Unit Agreement Name

Herry Monster

8. Well Number

3 SWD

9. OGRID Number

006515

10. Pool name or Wildcat

Entrada SWD (96436)

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. Type of Well:

Oil Well ☐ Gas Well ☒ Other

2. Name of Operator

Dugan Production Corp.

3. Address of Operator

P. O. Box 420, Farmington, NM 87499-0420

(505)325-1821

4. Well Location

Unit Letter F : 1980 feet from the North line and 1700 feet from the West line

Section 11 Township 24N Range 11W NMPM San Juan County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

6643' GL

Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)

Pit Location: UL Sect Twp Rng Pit type Depth to Groundwater Distance from nearest fresh water well

Distance from nearest surface water Below-grade Tank Location UL Sect Twp Rng ;

 feet from the line and feet from the line

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work).
SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

As required by Administrative Order SWD-994. This well was perforated in the Entrada on 11/9/05. A packer and tubing were run to swab test the zone. The beginning static fluid level was 400' from surface. After 13 swab runs, approximately 78 barrels of water was recovered. The ending fluid level was 300' from surface. The water analysis from the last swab run is attached.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐ a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Darrin Steed TITLE Petroleum Engineer DATE November 10, 2005

Type or print name Darrin Steed E-mail address: darrinsteed@duganproduction.com Telephone No. 505-325-1821

(This space for State use)

APPROVED BY

TITLE

DATE

Conditions of approval, if any:

HALLIBURTON

Water Analysis Report

To:	<u>Dugan Production</u>	Date:	<u>11/10/2005</u>
Submitted by:	<u>Halliburton Energy Services</u>	Date Rec:	<u>11/10/2005</u>
Attention:	<u>Darrin Steed</u>	Report #:	<u>FLMM5A44</u>
Well Name:	<u>Herry Monster #3 SWD</u>	Formation:	<u>Entrada/SWD</u>

Specific Gravity	1.005	
pH	8.4	
Resistivity	0.89	@ 70° F
Iron (Fe)	0	Mg / L
Potassium (K)	200	Mg / L
Sodium (Na)	4165	Mg / L
Calcium (Ca)	176	Mg / L
Magnesium (Mg)	15	Mg / L
Chlorides (Cl)	2200	Mg / L
Sulfates (SO4)	2000	Mg / L
Carbonates (CO3)	40	Mg / L
Bicarbonates (HCO3)	5612	Mg / L
Total Dissolved Solids	14408	Mg / L

Respectfully: Bill Loughridge
Title: Senior Scientist
Location: Farmington, NM

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.



FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 7/10/24 Admin Complete: _____ or Suspended: _____ Add. Request/Reply: _____

ORDER TYPE: WFX / PMX / SWD Number: _____ Order Date: _____ Legacy Permits/Orders: _____

Well No. 4 Well Name(s): PGA Unit 33 SWD
API: 30-0 45 35870 Spud Date: T B I D New or Old (EPA): N (UIC Class II Primacy 03/07/1982)
Footages: 271 FSL 184 FEL Lot _____ or Unit P Sec 33 Tsp 24N Rge 11W County San Juan
General Location: Blanco Chaco Chaco Pool: SWD, ENTRADA Pool No.: 96436
BLM 100K Map: L Anyon Operator: Production Corporation OGRID: 6515 Contact: Aliph necha

COMPLIANCE RULE 5.9: Total Wells: _____ Inactive: _____ Fincl Assur: _____ Compl. Order? _____ IS 5.9 OK? ☒ Date: _____WELL FILE REVIEWED ☐ Current Status: ProposedWELL DIAGRAMS: NEW: Proposed ☒ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: NA

Planned Rehab Work to Well: _____

Well Construction Details		Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface		<u>12 3/4" / 4 5/8"</u>	<u>352'</u>	<u>200</u>	<u>Surface / Vis</u>
Planned ___ or Existing ___ Interm/Prod		<u>8 3/4" / 7"</u>		<u>925</u>	<u>Surface / Vis</u>
Planned ___ or Existing ___ Interm/Prod					
Planned ___ or Existing ___ Prod/Liner					
Planned ___ or Existing ___ Liner					
Planned ___ or Existing ___ OH / REF		<u>6320 / 6570</u>			

Injection Lithostratigraphic Units	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		<u>Entrada</u>	<u>6320'</u>
Confining Unit: Litho. Struc. Por.		<u>OC</u>	<u>5075'</u>
Proposed Inj Interval TOP:			
Proposed Inj Interval BOTTOM:			
Confining Unit: Litho. Struc. Por.			
Adjacent Unit: Litho. Struc. Por.			

Completion/Operation Details:	
Drilled TD	<u>6685</u> PBTD
NEW TD	NEW PBTD
NEW Open Hole <input type="radio"/> or NEW Perfs <input checked="" type="radio"/>	
Tubing Size	<u>32</u> in. Inter Coated?
Proposed Packer Depth	<u>6270</u> ft
Min. Packer Depth	<u>6229</u> (100-ft limit)
Proposed Max. Surface Press	<u>1289</u> psi
Admin. Inj. Press.	<u>1264</u> (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P MA Noticed? ☐ BLM Sec Ord ☐ WIPP ☐ Noticed? ☐ Salt/Salado T: _____ B: _____ NW: Cliff House fm 2

FRESH WATER: Aquifer 030 ALAMO Max Depth 100' HYDRO AFFIRM STATEMENT By Qualified Person ☒

NMOSE Basin: San Juan CAPITAN REEF: thru _____ adj _____ NA No. GW Wells in 1-Mile Radius? _____ FW Analysis? _____

Disposal Fluid: Formation Source(s) Basin Fruitland Analysis? Y On Lease ☐ Operator Only ☒ or Commercial ☐

Disposal Interval: Inject Rate (Avg/Max BWPD): 6000 Protectable Waters? _____ Source: _____ System: Closed or Open

HC Potential: Producing Interval? NA Formerly Producing? no Method: Logs/DST/P&A/Other _____ 2-Mi Radius Pool Map ☐

AOR Wells: 1/2-M Radius Map and Well List? _____ No. Penetrating Wells: 0 [AOR Horizontals: _____ AOR SWDs: _____]

Penetrating Wells: No. Active Wells 0 Num Repairs? _____ on which well(s)? _____ Diagrams? _____

Penetrating Wells: No. P&A Wells _____ Num Repairs? _____ on which well(s)? _____ Diagrams? _____

NOTICE: Newspaper Date 6-28-20 Mineral Owner BLM Surface Owner BLM N. Date _____

RULE 26.7(A): Identified Tracts? Y Affected Persons: Hil Corp, Juniper, Cuernan N. Date _____

Order Conditions: Issues: Run A SWAB test.Additional COAs: Run AC-13-L of production casing