PTGW

DATE IN 1.23.12	SUSPENSE	ENGINEER WVJ	LOGGED IN 1.23.12	TYPE SWD 1317	APP NO. 1202329995

ABOVE THIS LINE FOR DIVISION USE ONLY

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

Dugan Morrison SWD #2

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

Sec 13 - 22N - 9W

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 _____

San Juan

[2] **NOTIF CATION 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.

Kurt Fagrelius	Kurt Fagrelius	VP-Land and Exploration	1-7-2012
Print or Type Name	Signature	Title	Date

kfagrelius@msn.com
e-mail Address

dugan production corp.

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

January 19, 2012

--CERTIFIED MAIL, RETURN RECEIPT REQUESTED—
7007-3020-0000-2100-0062

Re: Application to Class 2, water disposal well, Morrison SWD #2 San Juan Co., NM

Dear Mr. Jones:

Enclosed is Dugan Production Corp.'s application for disposal of produced water in the Morrison SWD #2. 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 drawn 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 proposed injection well (Fruitland Coal).
7. Required geologic, stimulation, logging and 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,

Kurt Fagrelius

Kurt Fagrelius
VP-Land and Exploration

Attachments

709 E. MURRAY DR. • P. O. BOX 420 • FARMINGTON, N.M. 87499-0420 • PHONE: (505) 325-1821 • FAX# (505) 327-4613

cc:

Mr. Charlie Perrin-New Mexico Oil Conservation Division, 1000 Rio Bravo Rd, Aztec, NM 87410 (Cert. Mail 7007-3020-0000-2100-4282).

Mr. David Mankiewicz-Bureau of Land Management, 1235 La Plata Hwy, Farmington, NM 87401 (Cert. Mail 7007-3020-0000-2100-4299).

Ms. Bertha Spencer-Bureau of Indian Affairs, P.O. Box 1060, Gallup, NM 87305 (Cert. Mail 7007-3020-0000-2100-4305).

Mr. Albert Bond-Farmington Indian Minerals Department, 1235 La Plata Hwy, Suite B, Farmington, NM 87401 (Cert. Mail 7007-3020-0000-2100-4312).

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance __X__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: Kurt Fagrelius 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 __X__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: Kurt Fagrelius TITLE: VP - Land and Exploration

SIGNATURE: Kurt Fagrelius DATE: 1-9-2012

E-MAIL ADDRESS: kfagrelius@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: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

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.

Morrison SWD #2

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 Morrison SWD #2 well, located 1350' FNL & 365' FEL of Section 13, Township 22 North, Range 9 West, San Juan County, New Mexico. Produced water will be injected into the Entrada Sandstone between 6254 and 6386'. The maximum injection pressure will be 1251-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 and drilled on October 13, 2011. 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 Injection

Dugan Production Corp.

Morrison SWD #2

Part III. Well Data

A. Tabular Information

1. Name: Morrison SWD #2

   Location: 1350' FNL & 365' FEL
   Sec. 13, T22N, R9W
   San Juan Co., NM

2. Surface Casing: 9-5/8", 36#, J-55 set @ 378'. Cemented with 278-ft³. Circulate cement to surface.
   Hole size – 12-1/4"

   Production Casing: 7", 23#, 5,029' and 26#, 1,481' set @ 6511'. Cement in two stages with stage tool at 3,211' using 532-ft³ in first stage and 746- ft³ in second stage. Circulate cement to surface.
   Hole size – 8-3/4".

   Injection Tubing: 3-1/2", J-55, EUE, plastic lined tubing..

   Packer: 7" Arrow Set 1X, nickel plated packer will be set at 6,204' or 50' above the upper most perforation.

B. Additional Information

1. Injection Interval: Entrada Sandstone

2. The injection interval (Entrada 6254 – 6386') will be perforated.

3. The well (Morrison SWD #2) 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. 650', Gallup - Approx. 3,900' and Dakota Sandstone – Approx. 4930'.

Side 1

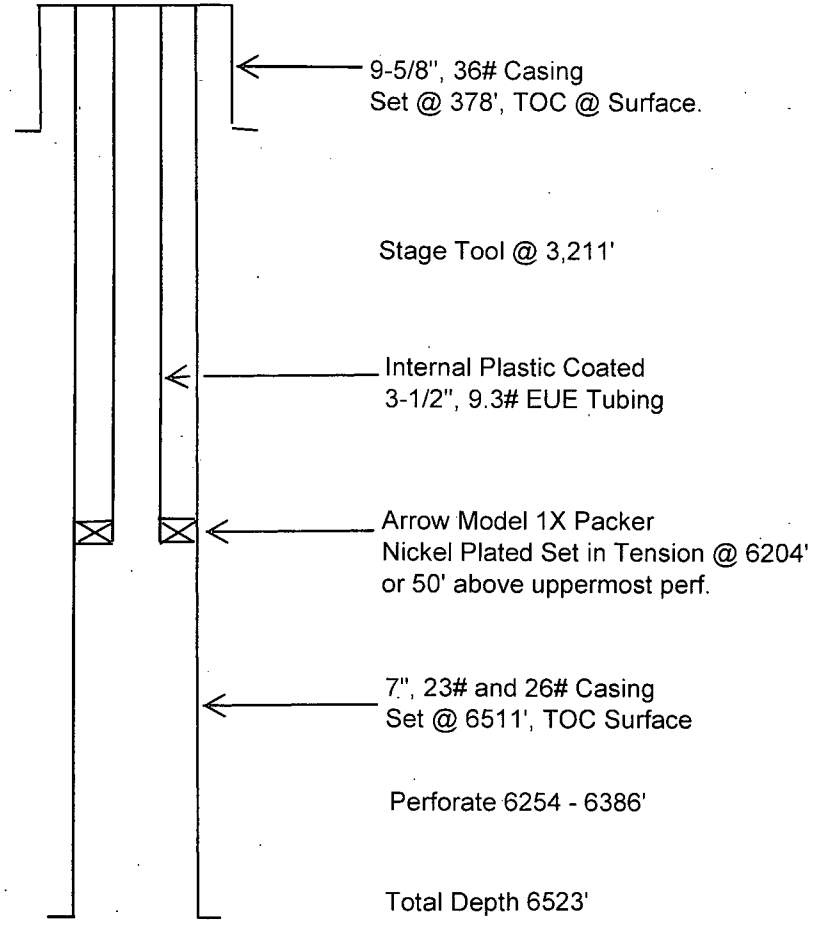
INJECTION WELL DATA SHEET

OPERATOR: Dugan Production Corp.

WELL NAME & NUMBER: Morrison SWD #2

WELL LOCATION:	1350' FSL & 365' FEL	H	13	T22N	R9W
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 12-1/4" Casing Size: 9-5/8", 36#, J-55

Cemented with: 200 sx. *or* 248 ft^3

Top of Cement: Surface Method Determined: Circulated to Surface

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft^3

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 8-3/4" Casing Size: 7", 26# & 23#, J-55

Cemented with: 595 sx. *or* 1280 ft^3

Top of Cement: Surface Method Determined: Circulated to Surface

Total Depth: 6523'

Injection Interval

6254 feet - to 6386

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 3-1/2", J-55 EUE, 9.3# Lining Material: Internally Plastic Coated

Type of Packer: Arrow model 1X, 7" Nickel Plated Packer

Packer Setting Depth: 6204' or 50' above the upper-most perforation.

Other Type of Tubing/Casing Seal (if applicable): Not Applicable

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 the Injection Formation: Entrada Sandstone

3. Name of Field or Pool (if applicable): Not Applicable

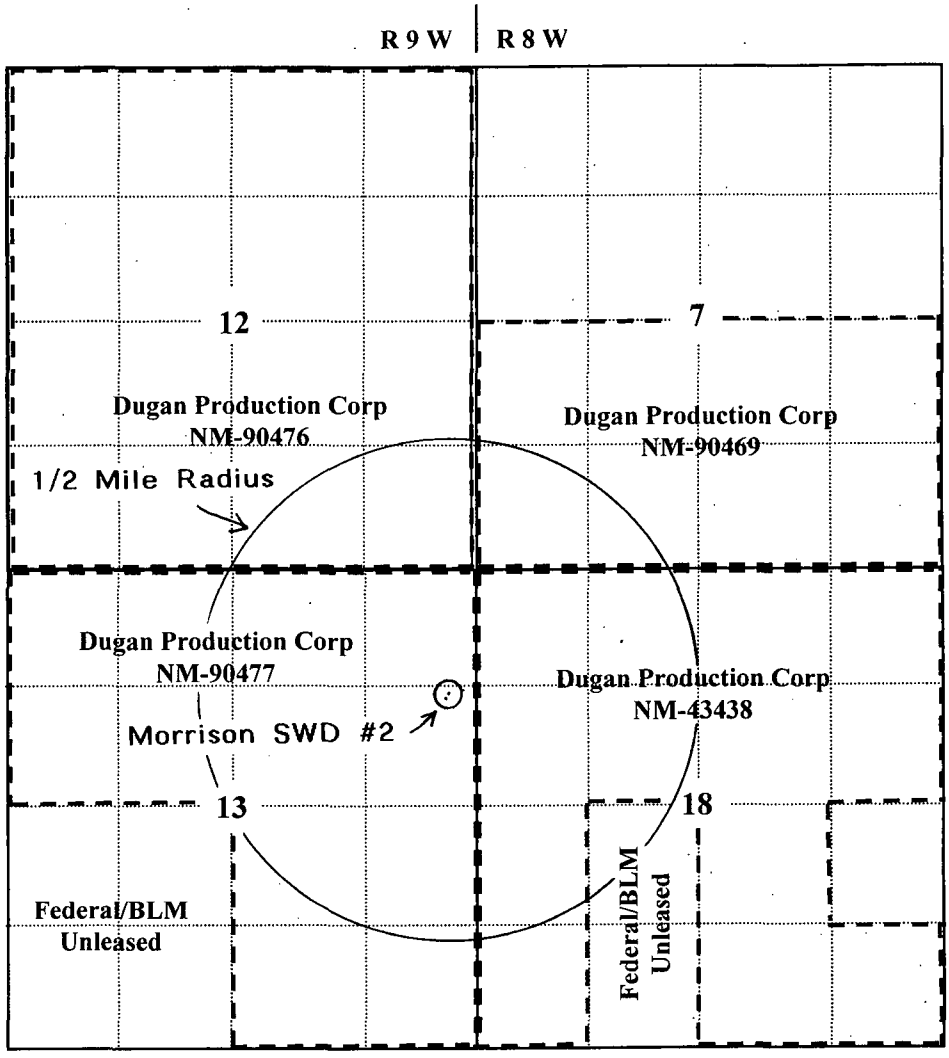
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. New well drilled for the purpose of injection into Entrada Sandstone, no other zones will be perforated.

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Fruitland Coal / Pictured Cliffs 630 -700', Gallup 3896 -4350', Dakota Sandstone 4928 -5218.

Va. Lease Owner Map

TOWNSHIP 22 NORTH, RANGE 9 WEST
SAN JUAN COUNTY, NEW MEXICO

OFFSET OPERATOR/LESSEE



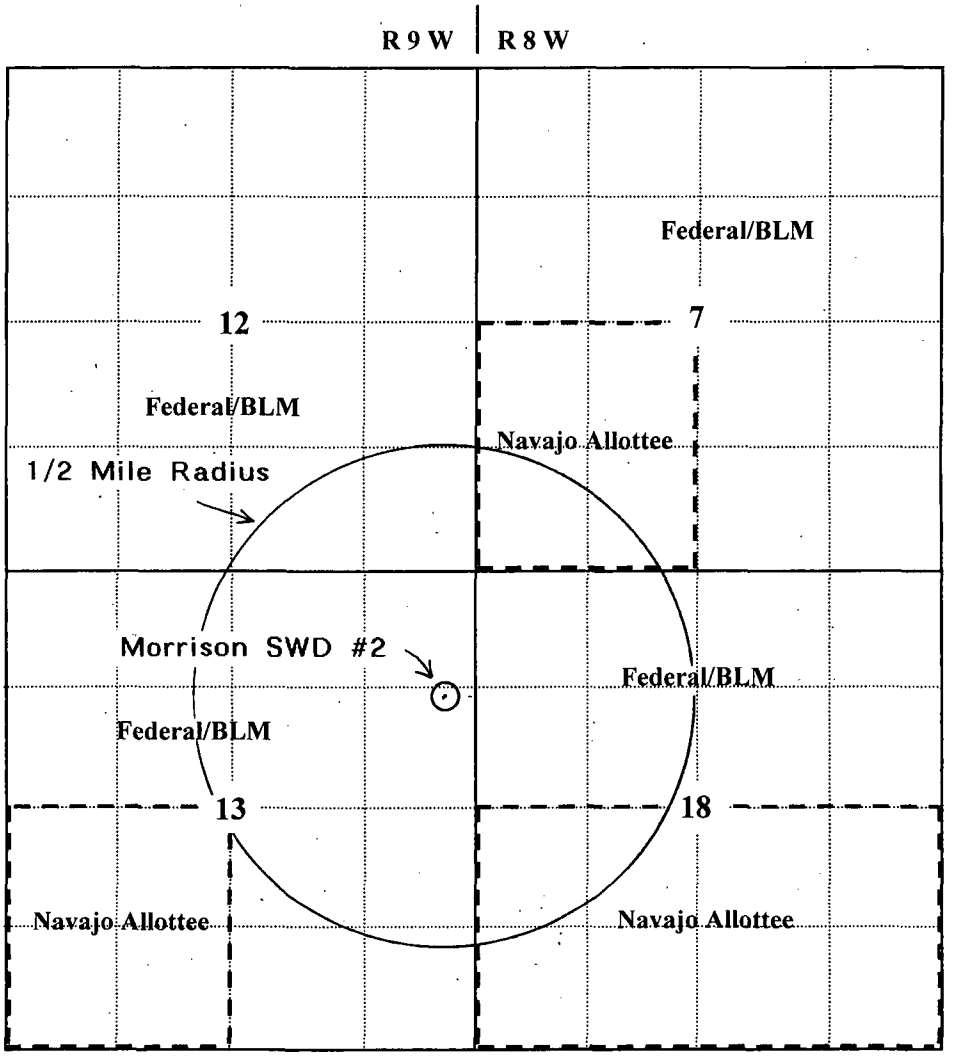
Dugan Production Corp.
Morrison SWD #2
Sec. 13, T22N, R9W
1350' FNL & 365' FEL
San Juan County, New Mexico

Salt Water Disposal Application

Vb. Surface Owner Map

TOWNSHIP 22 NORTH, RANGE 9 WEST
SAN JUAN COUNTY, NEW MEXICO

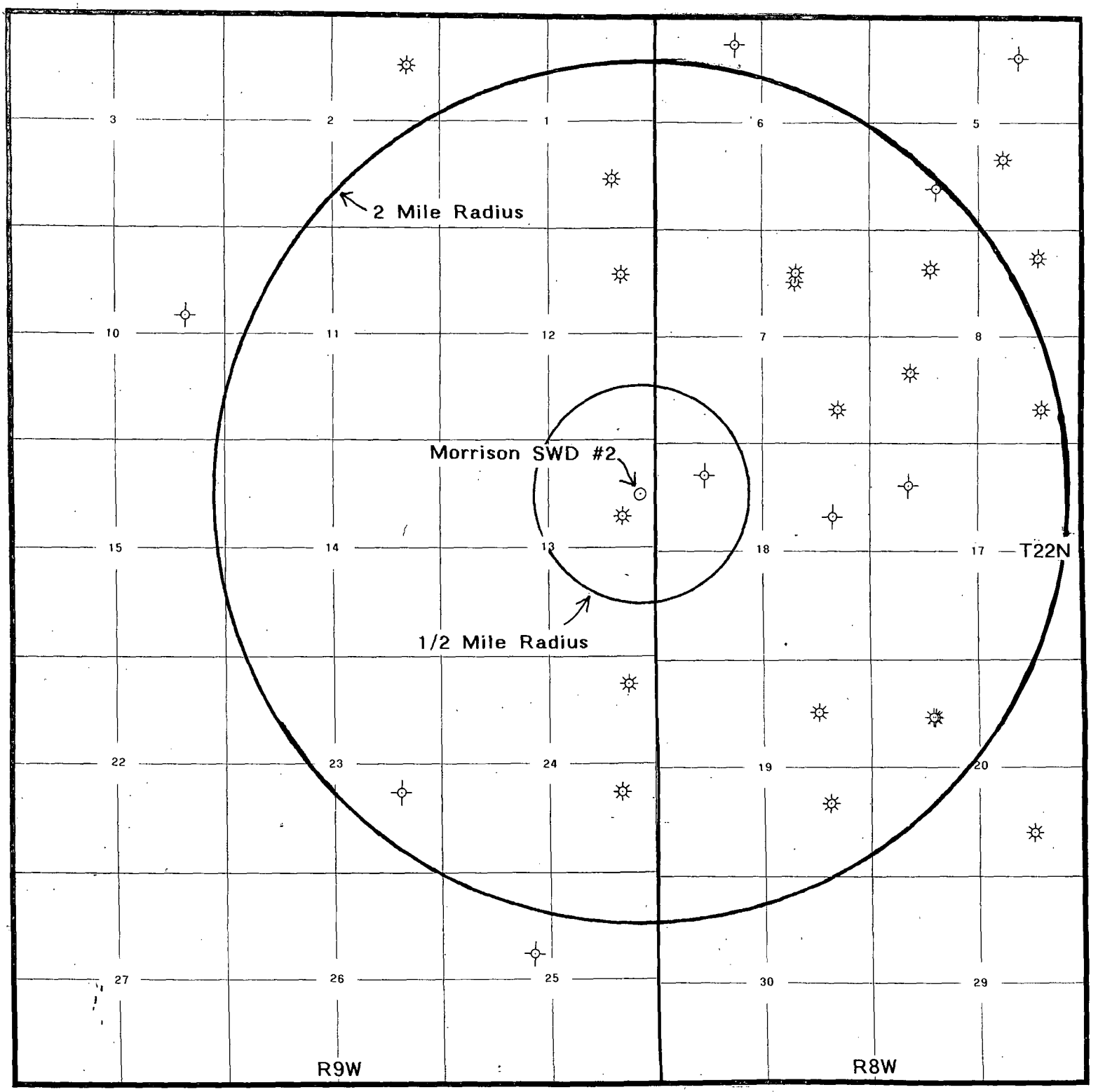
OFFSET SURFACE OWNERSHIP



Dugan Production Corp.
Morrison SWD #2
Sec. 13, T22N, R9W
1350' FNL & 365' FEL
San Juan County, New Mexico

Salt Water Disposal Application

Vc. Well Map



Dugan Production Corp.
Morrison SWD #2
Sec. 13, T22N, R9W
1350' FNL & 365' FEL
San Juan County, New Mexico

Salt Water Disposal Application

Application for Authorization to Inject

Dugan Production Corp.

Morrison SWD #2

Part VI. Data on offset wells

A tabulation of data on all existing, offset wells (shown on the Well Map Part Vc.) which highlights those wells that fall within the ½-mile area of review is presented on Attachment VIa. No wells within the area of review penetrate the proposed injection zone.

Attachment VIa. Tabulation of data on offset wells.

Dugan Production Corp., Morrison SWD #2, S.13, T22N, R9W

OPERATOR	WELL NAME	WELL NO	TWN	RGE	SEC	UL	FTAGE NS	FTAGE EW	STATUS	POOL	TD
C C KENNEDY	BEARD	1	22N	08W	05	B	990/N	1650/E	PA	CLIFF HOUSE	1702
DUGAN PRODUCTION CORP	BELUSHI	1	22N	08W	05	J	1680/S	1970/E	CO	BISTI CHACRA	1600
DAVIS OIL CO	BEARD FEDERAL	1	22N	08W	05	N	1000/S	1640/W	PA	CLIFF HOUSE	1741
GREAT WESTERN DRILLING CO	SOUTH CHACO U 6-22-8	1	22N	08W	06	C	660/N	1980/W	PA	GALLUP	5517
DUGAN PRODUCTION CORP	HENDRIX	2	22N	08W	07	B	990/N	1850/E	SI	ESCAVADO PC	1005
DUGAN PRODUCTION CORP	HENDRIX	1	22N	08W	07	B	1190/N	1830/E	SI	BISTI CHACRA	1535
DUGAN PRODUCTION CORP	PRESLEY	1	22N	08W	07	P	790/S	790/E	SI	BISTI CHACRA	1305
DUGAN PRODUCTION CORP	WOOD DENN	1	22N	08W	08	L	1750/S	1000/W	CO	BASIN FRUITLAND COAL	1020
DUGAN PRODUCTION CORP	WOOD DENN	2	22N	08W	08	P	790/S	1050/E	CO	BASIN FRUITLAND COAL	1090
DUGAN PRODUCTION CORP	TOM WOOD DENN	1	22N	08W	08	A	660/N	1145/E	CO	BASIN FRUITLAND COAL	1120
DUGAN PRODUCTION CORP	TOM WOOD DENN	2	22N	08W	08	C	1000/N	1500/W	CO	BASIN FRUITLAND COAL	1100
BENSON MINERAL GROUP INC	FEDERAL 17-22-8	1	22N	08W	17	D	1060/N	950/W	PA	BISTI CHACRA	1475
DUGAN PRODUCTION CORP	CLEVE KYLE	2	22N	08W	18	D	790/N	1190/W	PA	BISTI CHACRA	1345
DUGAN PRODUCTION CORP	CLEVE KYLE	1	22N	08W	18	H	1735/N	900/E	PA	BISTI CHACRA	1350
DUGAN PRODUCTION CORP	LENNON COM	1	22N	08W	19	A	1300/N	1300/E	NC	BASIN FRUITLAND COAL	895
DUGAN PRODUCTION CORP	LENNON COM	2	22N	08W	19	I	1765/S	1020/E	NC	BASIN FRUITLAND COAL	810
DUGAN PRODUCTION CORP	MARY ROSE COM	2	22N	08W	20	P	1095/S	1260/E	CO	BASIN FRUITLAND COAL	850
DUGAN PRODUCTION CORP	ZAPPA	1	22N	08W	20	F	1450/N	1550/W	SI	BISTI CHACRA	1220
DUGAN PRODUCTION CORP	ZAPPA	2	22N	08W	20	F	1450/N	1600/W	SI	BASIN FRUITLAND COAL	813
DUGAN PRODUCTION CORP	GAYE	1	22N	09W	01	P	1190/S	1060/E	SI	BISTI CHACRA	1365
DUGAN PRODUCTION CORP	MCCARTNEY	1	22N	09W	02	A	1190/N	825/E	CO	BISTI CHACRA	1385
BIRD OIL CORP	BIRD PAH 10	1	22N	09W	10	H	2110/N	990/E	PA	ENTRADA	6325
DUGAN PRODUCTION CORP	JOPLIN	1	22N	09W	12	A	1095/N	830/E	SI	BISTI CHACRA	1485
DUGAN PRODUCTION CORP	MORRISON	1	22N	09W	13	H	1850/N	790/E	SI	BISTI CHACRA	1255
DUGAN PRODUCTION CORP	MORRISON SWD	2	22N	09W	13	A	1350/N	365/E	NC	SWD ENTRADA	6523
HUMBLE OIL & REFINING CO	SOUTH CHACO UNIT	3	22N	09W	23	I	1980/S	990/E	PA	MORRISON	5230
DUGAN PRODUCTION CORP	HARRISON COM	90	22N	09W	24	A	660/N	660/E	CO	BASIN FRUITLAND COAL	624
DUGAN PRODUCTION CORP	HARRISON	1	22N	09W	24	I	1960/S	830/E	CO	BISTI CHACRA	1250
SUN OIL CO	NAVAJO LANDS	1	22N	09W	25	F	2035/N	2260/W	PA	PRE-CAMBRIAN	10897

Wells within 1/2-mile area of review are shaded (grey). No wells within the area of review penetrate the proposed injection zone.

Application for Authorization to Inject

Dugan Production Corp.

Morrison SWD #2

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 1251-psi.

4. The source of injected water will be produced water from Fruitland Coal wells in the area (T22N and T23N, R8W and R9W. 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.

GREEN GAL Analytical Laboratories

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

www.GreenAnalytical.com

Dugan Production Corporation	Project: Production Water	
709 E. Murray Dr	Project Name / Number: [none]	**Reported:**
Farmington NM, 87401	Project Manager: Kurt Fagrelius	01/18/12 16:22

Hendrix #1 (B) Sec. 7, T22N, R8W

1201038-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry								
Alkalinity, Bicarbonate	**990**	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Carbonate	**40.0**	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Hydroxide	ND	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Total	**1030**	10.0	mg/L	10	01/12/12	2320 B		ABP
Chloride	**3800**	200	mg/L	20	01/13/12	4500Cl B		ABP
Conductivity	**15300**	10.0	uS/cm	1	01/10/12	2510 B		MJV
Fluoride	**2.20**	0.200	mg/L	1	01/10/12	4500F C		ABP
Nitrate/Nitrite as N	ND	0.040	mg/L	2	01/12/12	353.2	Q3	KLJ
pH	**8.54**		pH Units	1	01/10/12	150.1	H4	MJV
Phosphorus, Total	ND	0.100	mg/L	2	01/12/12	365.3	Q3	KLJ
SAR	**131**		[blank]	1	01/18/12	Calculation		DJZ
Sulfate	**320**	50.0	mg/L	5	01/17/12	4500SO4		ABP
TDS	**7650**	10.0	mg/L	1	01/10/12	160.1/2540C		ABP
Dissolved Metals by ICP								
Calcium	**19.9**	10.0	mg/L	10	01/12/12	200.7		JLM
Hardness	**97.1**	66.2	mg/L	10	01/12/12	Calc		JLM
Iron	ND	0.500	mg/L	10	01/12/12	200.7		JLM
Magnesium	**11.5**	10.0	mg/L	10	01/12/12	200.7		JLM
Potassium	**21.2**	10.0	mg/L	10	01/12/12	200.7		JLM
Sodium	**2970**	10.0	mg/L	10	01/12/12	200.7		JLM
Cation/Anion Balance	**.06**							

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

Green Analytical Laboratories
dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

Dugan Production Corporation	Project: Production Water	
709 E. Murray Dr	Project Name / Number: [none]	**Reported:**
Farmington NM, 87401	Project Manager: Kurt Fagrelius	01/18/12 16:22

Harrison Com #90 (A) Sec. 24, T22N, R9W

1201038-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry								
Alkalinity, Bicarbonate	**620**	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Carbonate	**20.0**	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Hydroxide	ND	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Total	**640**	10.0	mg/L	10	01/12/12	2320 B		ABP
Chloride	**4400**	10.0	mg/L	50	01/13/12	4500Cl B		ABP
Conductivity	**15600**	10.0	uS/cm	1	01/10/12	2510 B		MJV
Fluoride	**0.911**	0.200	mg/L	1	01/10/12	4500F C		ABP
Nitrate/Nitrite as N	ND	0.020	mg/L	1	01/12/12	353.2	Q3	KLJ
pH	**8.22**		pH Units	1	01/10/12	150.1	H4	MJV
Phosphorus, Total	ND	0.100	mg/L	2	01/12/12	365.3	Q3	KLJ
SAR	**100**		[blank]	1	01/18/12	Calculation		DJZ
Sulfate	ND	10.0	mg/L	1	01/16/12	4500SO4		ABP
TDS	**8160**	10.0	mg/L	1	01/10/12	160.1/2540C		ABP
Dissolved Metals by ICP								
Calcium	**54.3**	10.0	mg/L	10	01/12/12	200.7		JLM
Hardness	**191**	66.2	mg/L	10	01/12/12	Calc		JLM
Iron	ND	0.500	mg/L	10	01/12/12	200.7		JLM
Magnesium	**13.4**	10.0	mg/L	10	01/12/12	200.7		JLM
Potassium	**21.3**	10.0	mg/L	10	01/12/12	200.7		JLM
Sodium	**3180**	10.0	mg/L	10	01/12/12	200.7		JLM
Cation/Anion Balance	**2.76**							

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

Green Analytical Laboratories
dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

Dugan Production Corporation	Project: Production Water	
709 E. Murray Dr	Project Name / Number: [none]	**Reported:**
Farmington NM, 87401	Project Manager: Kurt Fagrelius	01/18/12 16:22

Belushi #1 (J) Sec. 5, T22N, R8W

1201038-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry								
Alkalinity, Bicarbonate	**550**	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Carbonate	**60.0**	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Hydroxide	ND	10.0	mg/L	10	01/12/12	2320 B		ABP
Alkalinity, Total	**610**	10.0	mg/L	10	01/12/12	2320 B		ABP
Chloride	**5000**	10.0	mg/L	50	01/13/12	4500Cl B		ABP
Conductivity	**19100**	10.0	uS/cm	1	01/10/12	2510 B		MJV
Fluoride	**1.39**	0.200	mg/L	1	01/10/12	4500F C		ABP
Nitrate/Nitrite as N	ND	0.040	mg/L	2	01/12/12	353.2	Q3	KLJ
pH	**8.98**		pH Units	1	01/10/12	150.1	H4	MJV
Phosphorus, Total	ND	0.100	mg/L	2	01/12/12	365.3	Q3	KLJ
SAR	**159**		[blank]	1	01/18/12	Calculation		DJZ
Sulfate	**780**	200	mg/L	20	01/16/12	4500SO4		ABP
TDS	**9960**	10.0	mg/L	1	01/10/12	160.1/2540C		ABP
Dissolved Metals by ICP								
Calcium	**15.6**	10.0	mg/L	10	01/12/12	200.7		JLM
Hardness	**133**	66.2	mg/L	10	01/12/12	Calc		JLM
Iron	ND	0.500	mg/L	10	01/12/12	200.7		JLM
Magnesium	**22.7**	10.0	mg/L	10	01/12/12	200.7		JLM
Potassium	**35.8**	10.0	mg/L	10	01/12/12	200.7		JLM
Sodium	**4210**	10.0	mg/L	10	01/12/12	200.7		JLM
Cation/Anion Balance	**5.16**							

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

Application for Authorization to Inject

Dugan Production Corp.

Morrison SWD #2

Part VIII. Geologic Data

The proposed injection interval is the Entrada Sandstone from approximately 6254 to 6386 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 350-feet south of the disposal well.

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

Ojo Alamo	Surface	Gallup	3896
Kirtland	<120	Skelly	3976
Fruitland	362	Greenhorn	4828
Pictured Cliffs	666	Graneros	4883
Lewis	768	Dakota	4928
Upper Cliff House	1406	Morrison	5218
Upper Menefee	2010	Bluff	5587
Lower Cliff House	2424	Todilto	6168
Lower Menefee	2538	Entrada	6254
Point Lookout	3009	Chinle	6386
Mancos	3134	Total Depth	6523

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 2,200-feet northwest of the proposed disposal well in the SWSW of the SE/4 of section 12, T22N, R9W. This well was drilled to a total depth of 762-feet and the depth to water was reported at 362-feet. No other information is available on the well.

Application for Authorization to Inject

Dugan Production Corp.

Morrison SWD #2

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 betwee4n the disposal zone and any underground source of drinking water.

Kurt Fagrelius

Kurt Fagrelius, VP-Land and Exploration

January 9, 2012
Date

Application for Authorization to Inject

Dugan Production Corp.

Morrison SWD #2

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. 66990

STATE OF NEW MEXICO
County of San Juan:

JOHN ELCHERT, being duly sworn says: That HE is the PUBLISHER of 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 meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication and appeared in the Internet at The Daily Times web site on the following day(s):

Friday, December 2, 2011

And the cost of the publication is $58.39

ON 12/14/11 JOHN ELCHERT appeared before me, whom I know personally to be the person who signed the above document.

Christine Sellers

My Commission Expires=

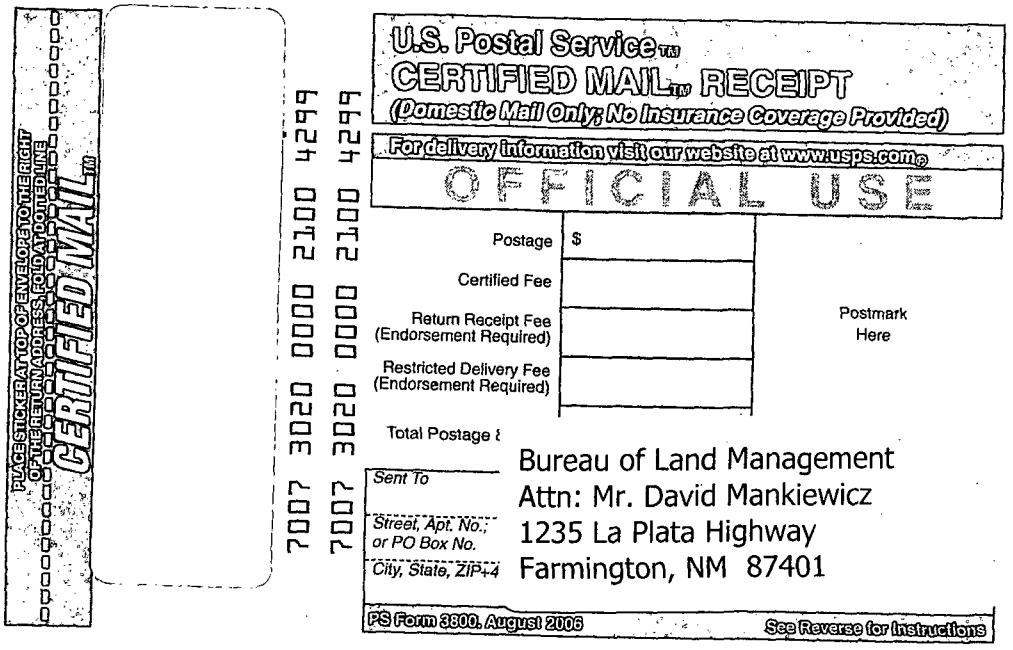
OFFICIAL SEAL
CHRISTINE SELLERS
Notary Public
State of New Mexico
My Comm Expires 11/05/15

COPY OF PUBLICATION

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 Kurt Fagrelius, phone 505-325-1821. The proposed disposal site is the Morrison SWD #2 located 1350' FNL & 365' FEL, Sec. 13, Twn. 22N, Rng. 9W, San Juan Co., NM. Water will be injected into the Entrada Sandstone between the depths of approximately 6262' and 6394' below the surface. Maximum injection pressure is 1252-psi. Maximum injection rate is 5,000-barrels of water daily. 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 20-days.

Legal No. 66990 published in The Daily Times on Dec. 2, 2011.

DEC 19 2011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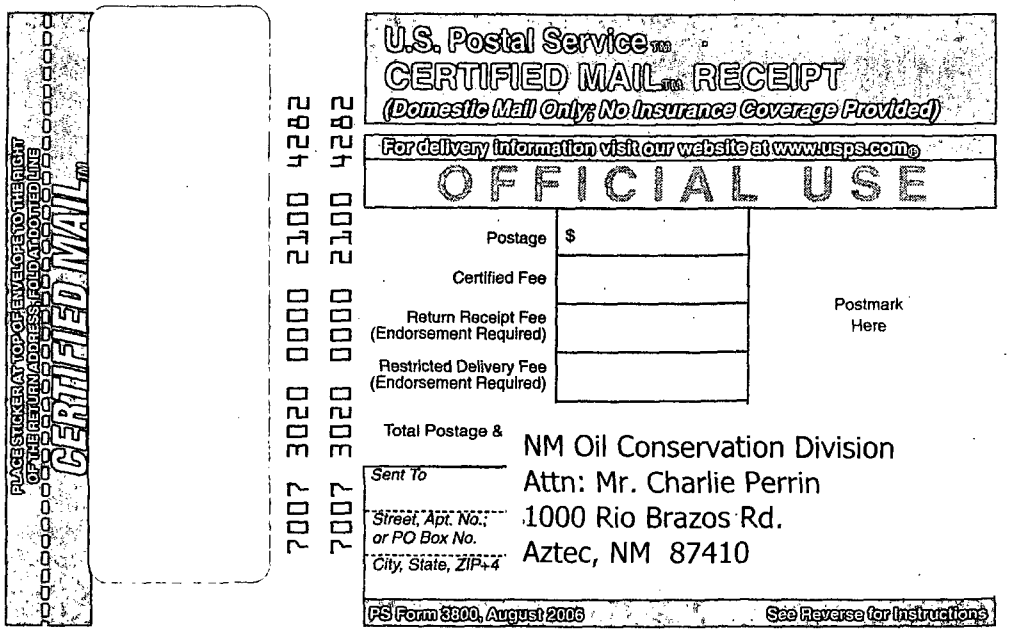
Street, Apt. No.; or PO Box No.
City, State, ZIP+4
Bureau of Land Management
Attn: Mr. David Mankiewicz
1235 La Plata Highway
Farmington, NM 87401
PS Form 3800, August 2006
See Reverse for Instructions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Sent To
Street, Apt. No.; or PO Box No.
City, State, ZIP+4
NM Oil Conservation Division
Attn: Mr. Charlie Perrin
1000 Rio Brazos Rd.
Aztec, NM 87410
PS Form 3800, August 2006
See Reverse for Instructions

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Total Postag

Sent To: NM Oil Conservation Division
Attn: Will Jones
Street, Apt. No. or PO Box No.: 1220 S. St. Francis Street
City, State, Zip: Santa Fe, NM 87505

PS Form 3800, August 2006 — See Reverse for Instructions

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Return Receipt Fee (Endorsement Required)	
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Total Postag

Sent To: Farmington Indian Minerals Dept.
Attn: Mr. Albert Bond
Street, Apt. No. or PO Box No.: 1235 La Plata Highway, Ste. B
City, State, Zip: Farmington, NM 87401

PS Form 3800, August 2006 — See Reverse for Instructions

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

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Sent To: Bureau of Indian Affairs
Attn: Ms. Bertha Spencer
Street, Apt. N or PO Box No.: PO Box 1060
City, State, Zi: Gallup, NM 87305

PS Form 3800, August 2006 — See Reverse for Instructions

Dugan Production Corp.
Morrison SWD #2
Sec. 13, T22N, R9W
1350' FNL and 365' FEL
San Juan County, New Mexico

Salt Water Disposal Application
Proof of Notification

SENDER: COMPLETE THIS SECTION

- ☑ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- ☐ Print your name and address on the reverse so that we can return the card to you.
- ☐ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

NM Oil Conservation Division
Attn: Mr. Charlie Perrin
1000 Rio Brazos Rd.
Aztec, NM 87410

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Brandon Powell C. Date of Delivery 1/20/12

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7007 3020 0000 2100 4282

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- ■ Print your name and address on the reverse so that we can return the card to you.
- ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Bureau of Land Management
Attn: Mr. David Mankiewicz
1235 La Plata Highway
Farmington, NM 87401

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☑ Agent ☐ Addressee

B. Received by (Printed Name) [signature] C. Date of Delivery 1/20/12

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7007 3020 0000 2100 4299

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- ■ Print your name and address on the reverse so that we can return the card to you.
- ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Bureau of Indian Affairs
Attn: Ms. Bertha Spencer
PO Box 1060
Gallup, NM 87305

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 1/20/12

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7007 3020 0000 2100 4305

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- ☐ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- ☐ Print your name and address on the reverse so that we can return the card to you.
- ☐ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

NM Oil Conservation Division
Attn: Will Jones
1220 S. St. Francis Street
Santa Fe, NM 87505

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery
LeRoy Vic JAN 20 2012

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

CORONADO STATION SANTA FE NM 87505 USPS JAN 20 2012

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7007 3020 0000 2100 0062

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- ■ Print your name and address on the reverse so that we can return the card to you.
- ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Farmington Indian Minerals Dept.
Attn: Mr. Albert Bond
1235 La Plata Highway, Ste. B
Farmington, NM 87401

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery
Stacy 1/20/12

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7007 3020 0000 2100 4312

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Dugan Production Corp.
Morrison SWD #2
Sec. 13, T22N, R9W
1350' FNL and 365' FEL
San Juan County, New Mexico

Salt Water Disposal Application
Proof of Notification

Injection Permit Checklist (11/15/2010)

WFX ____ PMX ____ SWD 1317 Permit Date 2/10/12 UIC Qtr F/M

Wells 1 Well Name(s): MORRISON SWD #2

API Num: 30-0 45-33684 Spud Date: ____ New/Old: ____(UIC primacy March 7, 1982)

Footages 1350 FNL/ 365 FEL Unit H Sec 13 Tsp 22N Rge 9W County SAN JUAN

General Location:

Operator: DUGAN Production-CORP Contact KURT Fagrelius

OGRID: 6515 RULE 5.9 Compliance (Wells) 4/9/10 (Finan Assur) OCD IS 5.9 OK? OK

Well File Reviewed ___ Current Status:

Planned Work to Well:

Diagrams: Before Conversion____ After Conversion____ Elogs in Imaging File:

Well Details:	Sizes Hole.....Pipe	Setting Depths	Stage Tool	Cement Sx or Cf	Determination Method
New __Existing __Surface	12 1/4 9 5/8	378		278cF	CIRC
New__Existing __Interm					
New__Existing __ LongSt	8 3/4 7	6511	3211	1st 532/2nd 746cF	CIRC
New__Existing __ Liner		(6523TD)			
New__Existing __ OpenHole					

Depths/Formations:	Depths, Ft.	Formation	Tops?
Formation(s) Above	6254	Entrada	✓
Injection TOP:	6254	Entrada	Max. PSI 1251 OpenHole___ Perfs ✓
Injection BOTTOM:	6386	F	Tubing Size 3 1/2 Packer Depth 6204
Formation(s) Below			

Capitan Reef? ____(Potash?____Noticed?_____) [WIPP?____Noticed?_____] Salado Top/Bot _____Cliff House?_____ ?

Fresh Water: Depths: 362'-762' Formation _____ Wells? 1 Analysis? ___Affirmative Statement ✓

Disposal Fluid Analysis? ✓ Sources: FRC

Disposal Interval: Analysis? ____ Production Potential/Testing:

Notice: Newspaper Date 12/22/11 Surface Owner BLM Mineral Owner(s) BLM

RULE 26.7(A) Affected Persons: No others

AOR: Maps? ✓ Well List? ✓ Producing in Interval? NO Wellbore Diagrams? —

.....Active Wells 0 Repairs? — WhichWells? —

.....P&A Wells 0 Repairs? — Which Wells? —

Issues: Request Sent _____ Reply: _____