

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]

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OIL CONSERVATION
DIVISION

DUGAN
FWO
30-045-33320
6060-6340
EN TRADA

12/12/05
Kurt Fagrelus

- [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 _____

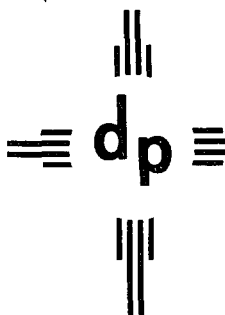
- [2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply
[A] ☐ Working, Royalty or Overriding Royalty Interest Owners
[B] ☒ Offset Operators, Leaseholders or Surface Owner
[C] ☐ Application is One Which Requires Published Legal Notice
[D] ☐ Notification and/or Concurrent Approval 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
[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 Fagrelus Kurt Fagrelus Geology 10/14/2005
Print or Type Name Signature Title Date
kfagrelus@duganproduction.com
e-mail Address



dugan production corp.

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OCT 18 2005

OIL CONSERVATION
DIVISION

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

October 14, 2005

--CERTIFIED MAIL, RETURN RECEIPT REQUESTED--
7004 2890 0004 1770 1495

Re: Application to Class 2, water disposal well, Flo Jo SWD #8 San Juan County, NM

Dear Mr. Jones:

Enclosed, is Dugan Production Corp.'s application for disposal of produced water in the Flo Jo SWD #8. 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 a copy of the Affidavit of Publication and copy of publication as appeared in the Farmington Daily Times.

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

Very Sincerely,

Kurt Fagrelus

Attachments

cc: Mr. Charlie Perrin-New Mexico Oil Conservation Division, 1000 Rio Bravo Rd, Aztec, NM 87410
Mr. David Mankiewicz-Bureau of Land Management, 1235 La Plata Hwy, Farmington, NM 47401
Ms. Debbie Padilla-New Mexico State Land Office, PO Box 1148, Santa Fe, NM 87504-1148
Mr. James Miles-Federal Indian Minerals Office, 1235 La Plata Hwy, Farmington, NM 87401
Yates Petroleum Corp., 105 South 4th Street, Artesia, NM 88210
Wellfleet Drilling, LLC, 5485 Beltline Road, Suite 190, Dallas, TX 75254

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance XX Disposal Storage
Application qualifies for administrative approval? XX Yes No
- II. OPERATOR: Dugan Production Corporation
ADDRESS: 709 East Murray Drive, Farmington, New Mexico 87401
CONTACT PARTY: Kurt Fagrelus 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 XX No
If yes, give the Division order number authorizing the project: _____
- 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 Fagrelus TITLE: Geology
SIGNATURE: Kurt Fagrelus DATE: 10/14/2005
E-MAIL ADDRESS: kfagrelus@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.

Flo Jo SWD #8

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 Flo Jo SWD #8 well, located 650' FNL & 915' FEL, Sec. 23, Twn. 23N, Rng. 11W, San Juan Co., NM. Produced water will be injected into the Entrada Sandstone between 6060' and 6340'. The maximum injection pressure will be 1210 psi and the maximum injection rate will be 6,000 barrels of water daily.

The well will be a new drill for the purpose of salt water disposal. The permit to drill has been approved and a drilling rig is scheduled to begin drilling in October of 2005. 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.

Flo Jo SWD #8

Part III. Well Data

A. Tabular Information

1. Name: Flo Jo SWD #8

Location: 650' FNL & 915' FEL
Sec. 23, T23N, R11W
San Juan Co., NM
2. Surface Casing: 8-5/8" 24#, J-55 set @ 320'. Cemented with 200-cu.ft. Circulate cement to surface.
Hole size – 12-1/4".

Production Casing: 5-1/2" 17#, N-80 and 15.5# J-55 set @ 6340'.
Cement in two stages with stage tool at 3100' using 800 cu.ft. in first stage and 850 cu.ft. in the second stage. Circulate cement to surface on second stage.
Hole size – 7-7/8".
3. Injection Tubing: 2-7/8", EUE, 6.5#, plastic lined tubing.
4. Packer: Baker Model AD-1 tension packer, plastic lined, will be set at 6010' or 50' above the upper most perforation.

B. Additional Information

1. Injection Interval: Entrada Sandstone.
2. The injection interval (Entrada 6060' – 6340') will be perforated.
3. The well (Flo Jo SWD #8) will be drilled for the purpose of injection.
4. Only the injection interval is to be perforated.
5. Fruitland Coal / Pictured Cliffs Sandstone – Approx. 550'. Gallup Sandstone – Approx. 3860'.

INJECTION WELL DATA SHEET

OPERATOR: Dugan Production Corporation

WELL NAME & NUMBER: Flo Jo SWD #8

WELL LOCATION: 650' FNL & 915' FEL

UNIT LETTER A

SECTION 23,

T23N,

R11W

FOOTAGE LOCATION

UNIT LETTER

SECTION

TOWNSHIP

RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATA
Surface Casing

Hole Size: 12-1/4" Casing Size: 8-5/8"

Cemented with: 145 sx. or 200 ft³

Top of Cement: Surface Method Determined: Will Circulate

Intermediate Casing

Hole Size: Casing Size:

Cemented with: sx. or ft³

Top of Cement: Method Determined:

Production CasingBaker Model AD-1 Tension Packer
Set @ 6010'

Hole Size: 7-7/8" Casing Size: 5-1/2"

Cemented with: 750 sx. or 1650 ft³

Top of Cement: Surface Method Determined: Will Circulate

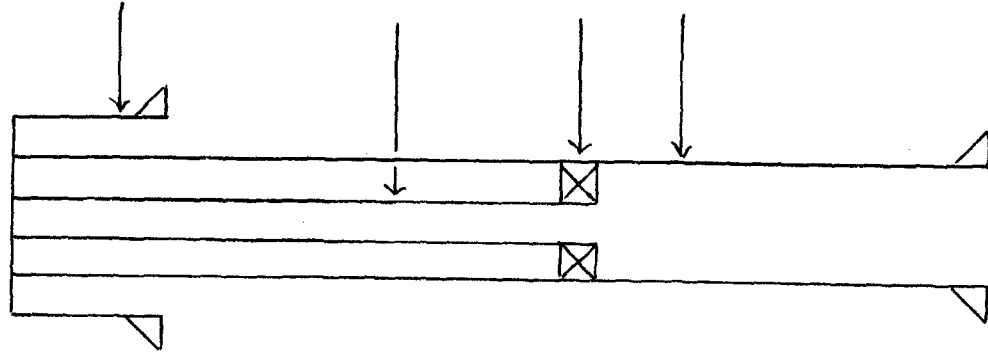
Perforate 6060' - 6340'

Injection Interval

Perforate 6060 feet to 6340 feet.

Total Depth 6340'

(Perforated or Open Hole; indicate which)



INJECTION WELL DATA SHEET

Tubing Size: 2-7/8" Lining Material: Plastic

Type of Packer: Baker Model AD-1 set in tension (5-1/2")

Packer Setting Depth: 6010' (50' above upper most perforation)

Other Type of Tubing/Casing Seal (if applicable):

Additional Data

1. Is this a new well drilled for injection? XX Yes No

If no, for what purpose was the well originally drilled?

2. Name of the Injection Formation: Entrada Sandstone

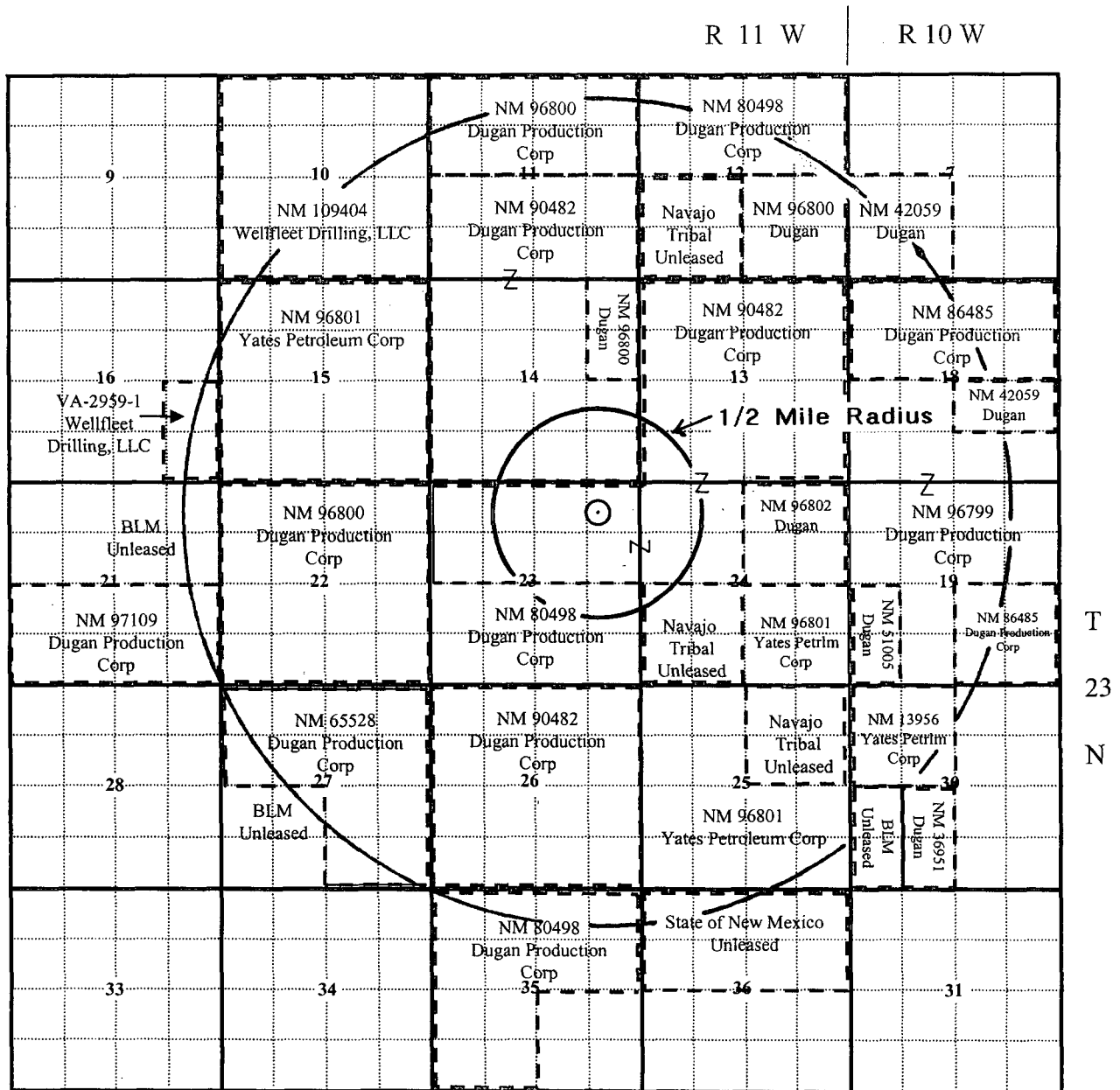
3. Name of Field or Pool (if applicable): Not applicable

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, will be drilled for purpose of injection into Entrada Ss., no other zones will be perf'd.

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 -Approx. 550'.

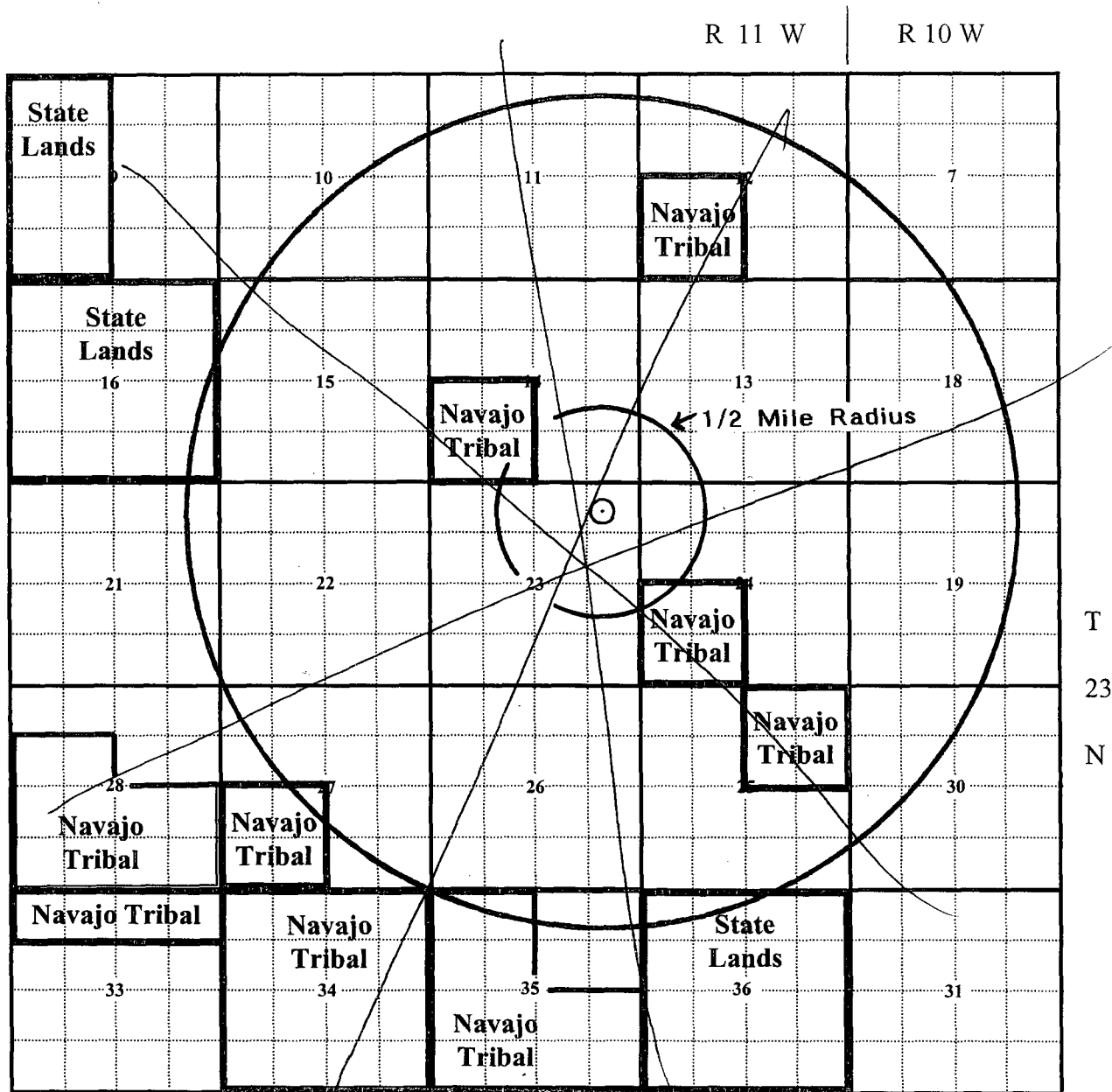
Gallup Sandstone - Approx. 3860' - 4150'.

Part Va. Lease Owner Map



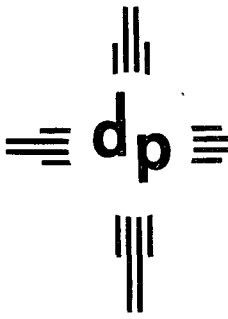
Dugan Production Corp.
 Flo Jo SWD #8
 Sec. 23, T23N, R11W
 650' FNL and 915' FEL
 San Juan County, New Mexico
 Salt Water Disposal Application

Part Vb. Surface Owner Map



All remaining lands are Bureau of Land Management

Dugan Production Corp.
Flo Jo SWD #8
Sec. 23, T23N, R11W
650' FNL and 915' FEL
San Juan County, New Mexico
Salt Water Disposal Application



dugan production corp.

2005 OCT 21 PM 1 16

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

October 17, 2005

--CERTIFIED MAIL, RETURN RECEIPT REQUESTED--

7004 2890 0004 1770 1563

Re: Application to Class 2, water disposal well, Flo Jo SWD #8 San Juan County, NM

Dear Mr. Jones:

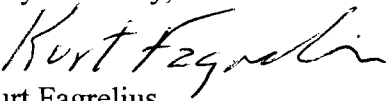
On October 14, 2005 an application for disposal of produced water in the Flo Jo SWD #8 was mailed to your office, the Aztec OCD office and impacted offsetting operators and surface owners.

The map titled PART Vb. Surface Owner Map was incorrect. The Navajo Tribal piece in Sec. 14, T23N, R11W was located incorrectly. Please replace the original map with the enclosed, corrected map.

Copies of this correction have been sent to all offsetting operators and surface owners.

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

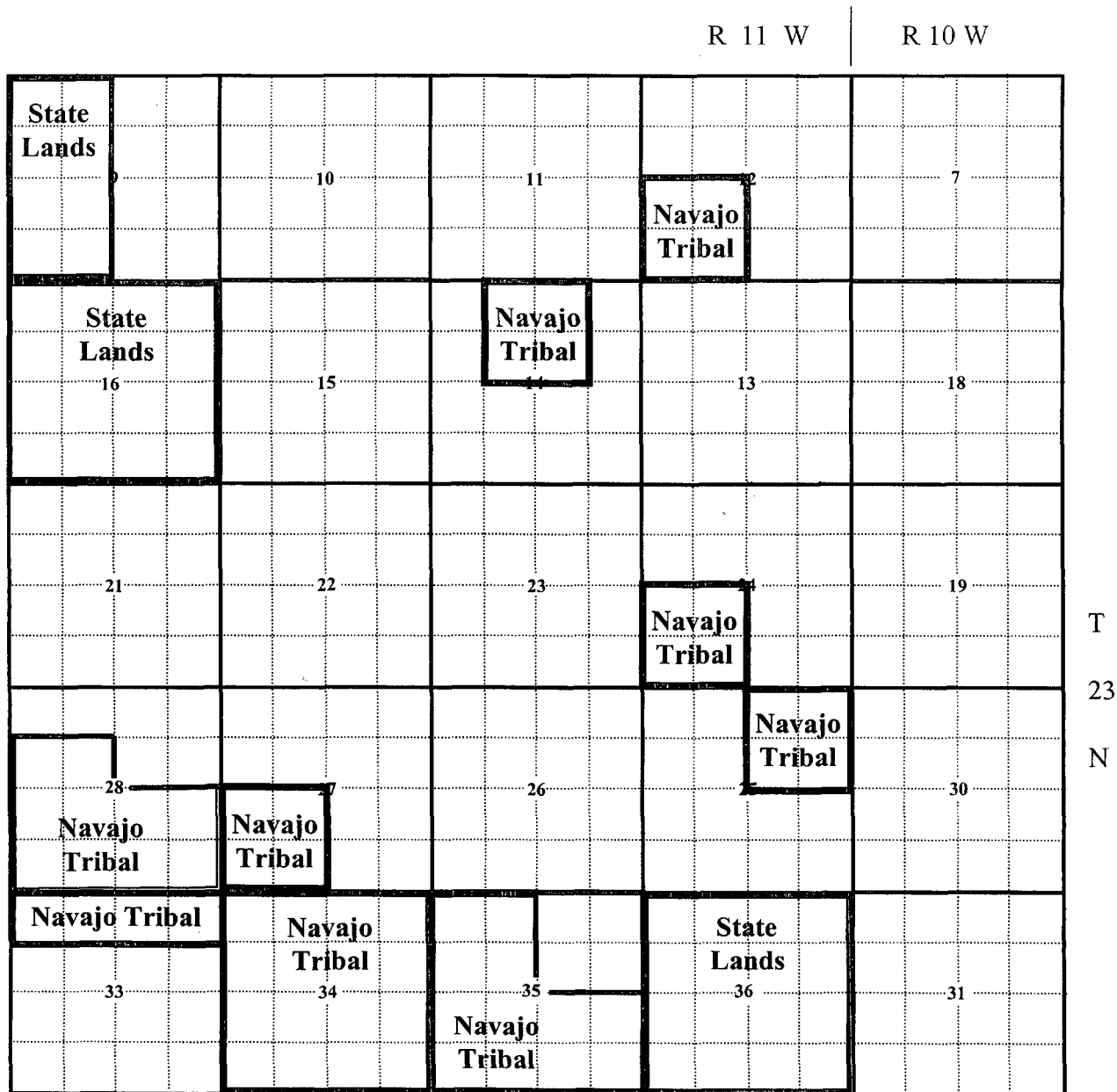
Very Sincerely,


Kurt Fagrelus

Attachments

cc: Mr. Charlie Perrin-New Mexico Oil Conservation Division, 1000 Rio Bravo Rd, Aztec, NM 87410
Mr. David Mankiewicz-Bureau of Land Management, 1235 La Plata Hwy, Farmington, NM 47401
Ms. Debbie Padilla-New Mexico State Land Office, PO Box 1148, Santa Fe, NM 87504-1148
Mr. James Miles-Federal Indian Minerals Office, 1235 La Plata Hwy, Farmington, NM 87401
Yates Petroleum Corp., 105 South 4th Street, Artesia, NM 88210
Wellfleet Drilling, LLC, 5485 Beltline Road, Suite 190, Dallas, TX 75254

PART Vb. Surface Owner Map

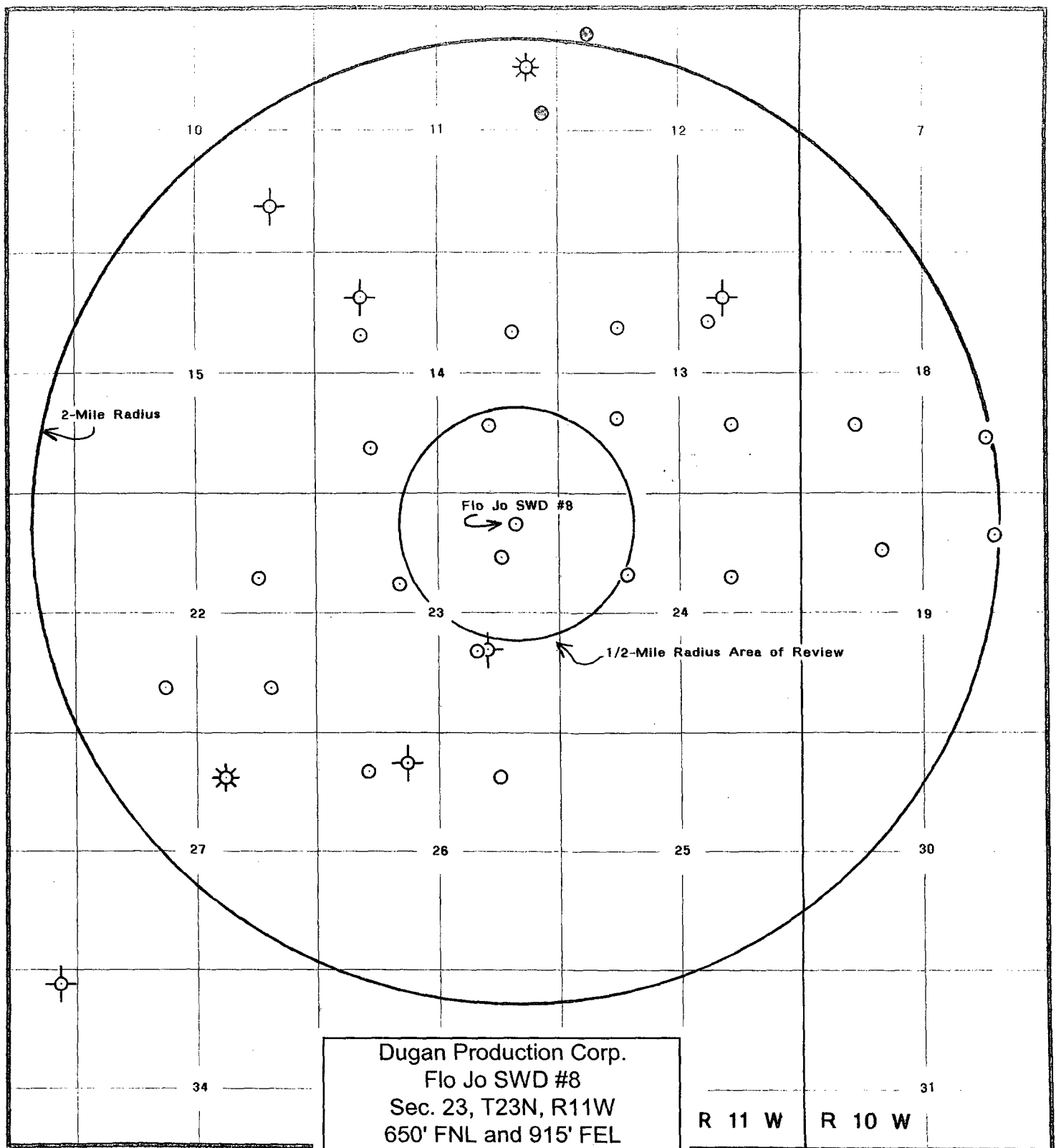


All remaining lands are Bureau of Land Management

Dugan Production Corp.
Flo Jo SWD #8
Sec. 23, T23N, R11W
650' FNL and 915' FEL
San Juan County, New Mexico

Salt Water Disposal Application

Part Vc. Well Map



Application for Authorization to Inject

Dugan Production Corp.

Flo Jo SWD #8

Part VI. Data on offset wells

A tabulation of data on all existing, offset wells (shown on the Well Map Part Vc.) that 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 Vla. Tabulation of data on offset wells.

Dugan Production Corp., Flo Jo SWD #8, S.23, T23N, R11W

OPERATOR	WELL NAME	WELL NO	TWN	RGE	SEC	UL	FTAGE NS	FTAGE EW	STATUS	POOL	TD
DUGAN PRODUCTION CORP	BEN COM	90	23N	10W	18	P	1200/S	1300/E	PE	BASIN FRUITLAND COAL	870
DUGAN PRODUCTION CORP	PONDEROSA COM	90	23N	10W	18	L	1500/S	1200/W	PE	BASIN FRUITLAND COAL	870
DUGAN PRODUCTION CORP	CARTWRIGHT COM	90	23N	10W	19	A	900/N	1105/E	PE	BASIN FRUITLAND COAL	790
DUGAN PRODUCTION CORP	ADAM COM	90	23N	10W	19	C	1250/N	1800/W	PE	BASIN FRUITLAND COAL	760
PAUL STOCK	MILLS	1	23N	11W	10	P	990/S	990/E	PA	WC MESAVERDE	1350
DUGAN PRODUCTION CORP	HOSS COM	90	23N	11W	11	A	1250/N	660/E	CO	BASIN FRUITLAND COAL	980
DUGAN PRODUCTION CORP	HOSS	1	23N	11W	11	H	2310/N	340/E	CO	SOUTH BISTI GALLUP EXT	4440
DUGAN PRODUCTION CORP	PIERRE	1	23N	11W	12	D	545/N	656/W	CO	SOUTH BISTI GALLUP	4565
FW MEYER	MSB	1	23N	11W	13	B	990/N	1650/E	PA	BASIN DAKOTA	5272
SHELL OIL CO	MEYER GOVERNMENT	1	23N	11W	14	D	990/N	990/W	PA	WC D3;MORRISON	5220
DUGAN PRODUCTION CORP	FLO JO	90	23N	11W	13	G	1500/N	1975/E	PE	BASIN FRUITLAND COAL	770
DUGAN PRODUCTION CORP	FLO JO	90-S	23N	11W	13	J	1500/S	1500/E	PE	BASIN FRUITLAND COAL	800
DUGAN PRODUCTION CORP	FLO JO	91-S	23N	11W	13	E	1650/N	1300/W	PE	BASIN FRUITLAND COAL	725
DUGAN PRODUCTION CORP	FLO JO	91	23N	11W	13	L	1660/S	1300/W	PE	BASIN FRUITLAND COAL	760
DUGAN PRODUCTION CORP	LITTLE JOE COM	90	23N	11W	14	H	1700/N	990/E	PE	BASIN FRUITLAND COAL	700
DUGAN PRODUCTION CORP	LITTLE JOE COM	90-S	23N	11W	14	J	1500/S	1500/E	PE	BASIN FRUITLAND COAL	680
DUGAN PRODUCTION CORP	LITTLE JOE	91-S	23N	11W	14	E	1800/N	1000/W	PE	BASIN FRUITLAND COAL	680
DUGAN PRODUCTION CORP	LITTLE JOE	91	23N	11W	14	M	990/S	1200/W	PE	BASIN FRUITLAND COAL	630
DUGAN PRODUCTION CORP	HOSS	91	23N	11W	22	P	990/S	990/E	PE	BASIN FRUITLAND COAL	650
DUGAN PRODUCTION CORP	HOSS	91-S	23N	11W	22	H	1850/N	1250/E	PE	BASIN FRUITLAND COAL	600
DUGAN PRODUCTION CORP	HOSS	92	23N	11W	22	N	990/S	1980/W	PE	BASIN FRUITLAND COAL	600
DUGAN PRODUCTION CORP	FLO JO SWD	8	23N	11W	23	A	650/N	915/E	PE	ENTRADA	6340
DUGAN PRODUCTION CORP	PIERRE COM	91	23N	11W	23	J	1800/S	1900/E	PE	BASIN FRUITLAND COAL	1600
DUGAN PRODUCTION CORP	PIERRE COM	90-S	23N	11W	23	F	2000/N	1800/W	PE	BASIN FRUITLAND COAL	650
DUGAN PRODUCTION CORP	PIERRE COM	91	23N	11W	23	J	1800/S	1900/E	PE	WC; PIERRE MESAVERDE	1600
DUGAN PRODUCTION CORP	PIERRE COM	91-S	23N	11W	23	H	1400/N	1250/E	PE	BASIN FRUITLAND COAL	725
DUGAN PRODUCTION CORP	PIERRE	2	23N	11W	23	J	1850/S	1550/E	PA	WC; PIERRE MESAVERDE	1600
DUGAN PRODUCTION CORP	BONANZA COM	92-S	23N	11W	24	F	1800/N	1500/W	PE	BASIN FRUITLAND COAL	710

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

Attachment VIa. Tabulation of data on offset wells.

Dugan Production Corp., Flo Jo SWD #8, S.23, T23N, R11W

OPERATOR	WELL_NAME	WELL_NO	TWN	RGE	SEC	UL	FTAGE_NS	FTAGE_EW	STATUS	POOL	TD
DUGAN PRODUCTION CORP	BONANZA COM	92	23N	11W	24	G	1800/N	1500/E	PE	BASIN FRUITLAND COAL	750
DUGAN PRODUCTION CORP	BONANZA	91	23N	11W	26	A	990/N	1300/E	PE	BASIN FRUITLAND COAL	650
DUGAN PRODUCTION CORP	BONANZA	90	23N	11W	26	D	850/N	1150/W	PE	BASIN FRUITLAND COAL	580
SHELL OIL CO	MEYER GOVERNMENT	2	23N	11W	26	C	651/N	2015/W	PA	WC D3;GALLUP	4170
DUGAN PRODUCTION CORP	HOP-SING	1	23N	11W	27	B	990/N	1980/E	ZA	WC 23N11W27B GALLUP	4115
DUGAN PRODUCTION CORP	HOP-SING	1	23N	11W	27	B	990/N	1980/E	CO	BASIN FRUITLAND COAL	4115
DUGAN PRODUCTION CORP	HOP-SING	1	23N	11W	27	B	990/N	1980/E	SI	PIERRE MESA MESAVERDE	4115
DUGAN PRODUCTION CORP	BABY RUTH	1	23N	11W	33	D	330/N	330/W	PA	WC D3;MESAVERDE	2800

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.

Flo Jo SWD #8

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. Average Injection Pressure: 1100 psi and the maximum will be 1210 psi.
4. The source of injected water will be produced water from Fruitland Coal (T23N, R10W and R11W). Attachment 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 zone water is not available.

American Energy Services

Attachment VII-4a.

Water Analysis Results Sheet

Operator:	Dugan Production	Date:	5/10/00
Well :	Hopsing #1	District:	Farmington
Formation:	Fruitland Coal	Requested by:	Bill Schaaphok
County:	San Juan Co., NM Sec. 27, T23N, R11W	Technician:	Mike Brown / Chad Durdin
Depth:	990' FNL & 1980' FEL 360' - 395'.	Source:	Well

PHYSICAL AND CHEMICAL DETERMINATION

SPECIFIC GRAVITY:	1.01	AT 75 Degrees F.
pH:	8.1	SULFATES: 0 ppm
IRON:	0 ppm	CALCIUM: 396.0 ppm
H2S:	0 ppm	BICARBONATES: 1183.8 ppm
MAGNESIUM:	866.1 ppm	RESISTIVITY: ohm/meter
		CHLORIDES: 2772.3 ppm
		SODIUM : 154.1 ppm
		POTASSIUM: 53.0 ppm
		TDS: 5425.348 ppm

CaCO3 Scale Tendency = Remote

CaSO4 Scale Tendency = Remote

REMARKS:

Sample presented appears to be production water.

Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

Key Energy Services
Water Analysis Result Form
708 S. Tucker, Farmington, NM. 87401
Office: (505) 325-4192
Fax: (505) 564-3524



UNLOCK YOUR POTENTIAL

Pressure Pumping Services

Attachment VII-4b.

Operator:	Dugan Production	Sample Date:	March 22, 2005
		Analysis Date:	April 1, 2005
Well :	Mary Lou 91	District:	Farmington
Formation:	Fruitland Coal	Requested by:	Kurt Fegrulis
County:	San Juan County, NM	Technician:	Ben Barela
	Sec. 32, T24N, R10W		
Depth:	1700' FNL & 1200' FEL	Source:	Well

PHYSICAL AND CHEMICAL DETERMINATION

SPECIFIC GRAVITY:	1.005	AT 68 Degrees F.	
pH:	6.8	MAGNESIUM:	10 ppm
RESISTIVITY:	10.00 ohm/meter	CALCIUM:	40 ppm
IRON:	0 ppm	BICARBONATES:	1214 ppm
H2S:	0 ppm	CHLORIDES:	7164 ppm
POTASSIUM:	17 ppm	SODIUM:	5040 ppm
SULFATES:	0.00 ppm	TDS:	13494 ppm

CaCO3 Scale Tendency = Remote

CaSO4 Scale Tendency = Remote

REMARKS:

Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

Key Energy Services
Water Analysis Result Form
708 S. Tucker, Farmington, NM. 87401
Office: (505) 325-4192
Fax: (505) 564-3524



UNLOCK YOUR POTENTIAL

Pressure Pumping Services

Attachment VII-4c.

Operator:	Dugan Production	Sample Date:	March 22, 2005
		Analysis Date:	April 1, 2005
Well :	SOB 91S	District:	Farmington
Formation:	Fruitland Coal	Requested by:	Kurt Fegrulis
County:	San Juan County, NM	Technician:	Ben Barela
	Sec. 6, T24N, R9W		
Depth:	1850' FNL & 1850' FEL	Source:	Well

PHYSICAL AND CHEMICAL DETERMINATION

SPECIFIC GRAVITY: 1.020 AT 68 Degrees F.

pH:	6.5	MAGNESIUM:	14 ppm
RESISTIVITY:	0.36 ohm/meter	CALCIUM:	47 ppm
IRON:	0 ppm	BICARBONATES:	359 ppm
H2S:	0 ppm	CHLORIDES:	12549 ppm
POTASSIUM:	140 ppm	SODIUM :	8191 ppm
SULFATES:	0.00 ppm	TDS:	21301 ppm

CaCO3 Scale Tendency = Remote

CaSO4 Scale Tendency = Remote

REMARKS:

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Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

Application for Authorization to Inject

Dugan Production Corp.

Flo Jo SWD #8

Part VIII. Geologic Data

The proposed injection interval is the Entrada Sandstone from approximately 6060 – 6340 feet. The only known source of stock water in the area is encountered in existing arroyos at a depth of approximately 35 – 50 feet below the surface. The Ojo Alamo does not exist in this area and there are no known drinking water sources below the Mesaverde interval. The expected formation tops in the well are as follows:

Fruitland	Surface	Greenhorn	4800'
Pictured Cliffs	550'	Graneros	4855'
Lewis	685'	Dakota	4880'
Cliff House	1260'	Morrison	5100'
Menefee	1410'	Bluff	5700'
Point Lookout	2925'	Todilto	6040'
Mancos	3070'	Entrada	6060'
Gallup	3860'	Total Depth	6340'
Skelly	3915'		

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. Three shallow water wells were located as follows:

Location and Distance From Proposed Disposal Well	Depth to Water	Water Source
NWNE S.14, T23N, R11W	0.9 Miles	35 Feet
NENE S. 24, T23N, R11W	1.1 Miles	50 Feet
NESW S.19, T23M, R10W	1.5 Miles	45 Feet

Application for Authorization to Inject

Dugan Production Corp.

Flo Jo SWD #8

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.


Kurt Fagrelus, Geologist

October 14, 2005
Date

Application for Authorization to Inject

Dugan Production Corp.

Flo Jo SWD #8

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. 52394

STATE OF NEW MEXICO County of San Juan:

CONNIE PRUITT, being duly sworn says:
That she is the ADVERTISING MANAGER 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):

Wednesday, October 12, 2005.

And the cost of the publication is \$29.69.

Connie Pruitt

ON 10/12/05 CONNIE PRUITT
appeared before me, whom I know personally
to be the person who signed the above
document.

Wynell Corey
My Commission Expires November 17, 2008.

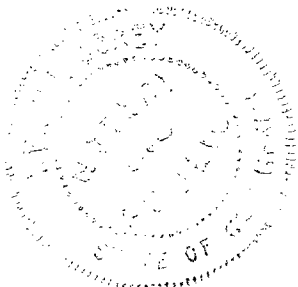
COPY OF PUBLICATION

918 Legals

NOTICE

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 Fagrellius, phone 505-325-1821. The proposed disposal site is the Flo Jo SWD #8, located 650' fnl & 915' fel, Sec 23, Twn. 23N, Rng. 11W, San Juan Co., NM. Water will be injected into the Entrada Sandstone between 6060' and 6340' below the surface. Maximum injection pressure is 1210 psi. Maximum injection rate is 3,000 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 15 days.

Legal No. 52394 published in The Daily Times, Farmington, New Mexico on Wednesday, October 12, 2005.



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