WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

August 12, 1987

Mr. William J. LeMay
Division Director
Energy & Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

REF: Basin Disposal, Inc.
Application for Salt Water
Disposal Well

Dear Mr. LeMay:

Enclosed you will find on behalf of Basin Disposal, Inc., two copies of the above-referred-to application.

Also enclosed is copy of letter, accompanied by copy of application, sent to Meridian Oil, Inc., as leasehold Operator of the Mesa Verde Formation.

Please note that some required data and information is not included due to the proposed well not being drilled and completed.

This information will be presented to the Commission as soon as it is available after drilling the well.

Thank you for your cooperation and consideration. If you have any questions or desire more information, please do not hesitate to call upon me.

Very truly yours,

Ewell N. Walsh, P.E.
President

ENW:rr
cc: Frank Chavez, OCD, Aztec, N.M. w/encl.
Basin Disposal, Inc. w/encl.

Enclosures

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
Basin 9220
9220

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: BASIN DISPOSAL, INC.
c/o Walsh Engr. & Prod. Corp.
Address: P. O. Drawer Farmington, N.M. 87499

Contact party: Ewell N. Walsh Phone: 505 327-4892

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 _____.

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. ATTACHMENT NO. 2

* 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. ATTACHMENT NO. 3

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.). ATTACHMENT NO. 4

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological 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 source known to be immediately underlying the injection interval. ATTACHMENT NO. 5

IX. Describe the proposed stimulation program, if any. ATTACHMENT NO. 6

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.) ATTACHMENT NO. 7

* 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. ATTACHMENT NO. 8

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 source of drinking water. ATTACHMENT NO. 9

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. ATTACHMENT NO. 10

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

FOR: BASIN DISPOSAL, INC.
Name: Ewell N. Walsh Title President, Walsh Engr. & Production Corporation

Signature: ORIGINAL SIGNED BY EWELL N. WALSH Date: August 12, 1987

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe

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 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, P. O. Box 2088, Santa Fe, New Mexico 87501 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.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: BASIN DISPOSAL, INC.
c/o Walsh Engr. & Prod. Corp.
Address: P. O. Drawer Farmington, N.M. 87499

Contact party: Ewell N. Walsh Phone: 505 327-4892

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 _____.

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. ATTACHMENT NO. 2

* 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. ATTACHMENT NO. 3

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.). ATTACHMENT NO. 4

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological 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 source known to be immediately underlying the injection interval. ATTACHMENT NO. 5

IX. Describe the proposed stimulation program, if any. ATTACHMENT NO. 6

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.) ATTACHMENT NO. 7

* 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. ATTACHMENT NO. 8

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 source of drinking water. ATTACHMENT NO. 9

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. ATTACHMENT NO. 10

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

FOR: BASIN DISPOSAL, INC.
Name: Ewell N. Walsh Title President, Walsh Engr. & Production Corporation

Signature: ORIGINAL SIGNED BY EWELL N. WALSH Date: August 12, 1987

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

DISTRIBUTION: (illegible)

BASIN DISPOSAL, INC.
ATTACHMENT NO. 1
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

III. Well Data

A. (1) Disposal, No. 1, 2207'FNL, 1870'FWL, Section 3-T29N-R11W, N.M.P.M.

(2) Proposed Casing Strings:

(a) Surface - 8-5/8", 24.0 lb. E.R.W., ST & C, set at approximately 285', cemented 12-1/4" hole with approximately 350 sacks Class "B" cement with 2.0% Calcium Chloride. (NOTE: Will use sufficient cement to bring cement to surface.)

(b) Production - 4-1/2". 10.50 lb. K-55, ST & C set at approximately 4700'. Cemented 7-7/8" hole, in two stages.

First Stage: (TD to approximately 2300')
Lead Cement - 75 sacks 65/35 Pozmix (12.0% Gel) with 6-1/4 lbs. Gilsonite per sack.

Tail Cement - 250 sacks, 50/50 Pozmix (2% Gel) with 6-1/4 lbs. Gilsonite and 6 lbs. salt per sack.
(Estimated top of cement and Second Stage cementing tool - 300' below top of Pictured Cliffs Formation.

Second Stage: (Approximately 2400' to surface)
Lead Cement - 525 sacks 65/35 Pozmix (12.0% Gel) with 6-1/4 lbs. Gilsonite per sack.

Tail Cement - 50 sacks Class "B" Cement.

(NOTE: All cement volumes to be determined after running logs.)

(3) 2-3/8", 4.70 lb. E.U.E., J-55, ST&C tubing with suitable lining will be utilized and set 50' to 100' above perforated injection interval.

(4) A retrievable packer will be utilized.

B. (1) The injection formation will be the Mesa Verde. Initial injection will be into the Point Lookout member. The proposed disposal well location is not located in any field or pool.

B. (2) The injection interval will be determined after drilling and running logs. The injection interval will be perforated.

(3) The well will be drilled only for injection purposes. No attempt will be made to complete the well as a producer.

(4) Not applicable at this time.

(5) The depth in the area, of the next higher producing zone, gas, is approximately 2100' (Pictured Cliffs). The depth of the next lower producing zone, gas, is approximately 6450' (Dakota).

XIV. Proof of Notice

- The applicant is owner of the surface of the land on which the well is located.
- The leasehold operator for the Mesa Verde Formation, within one-half mile of the well location is Meridian Oil Inc. Meridian Oil, Inc. is being advised of this application by a copy sent to them by registered mail.

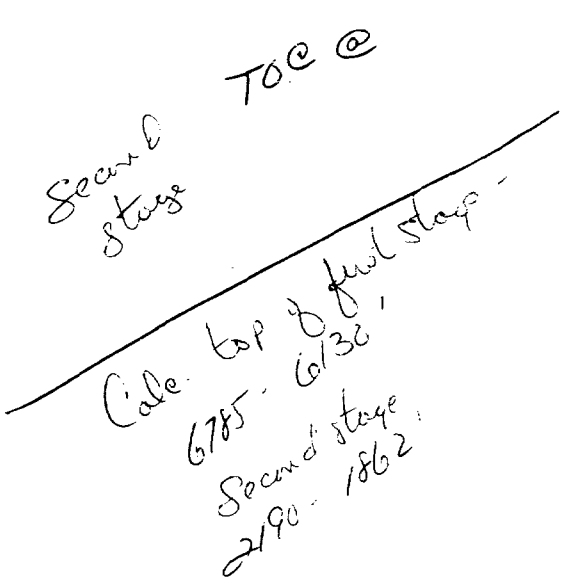
BASIN DISPOSAL, INC.
ATTACHMENT NO. 2
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

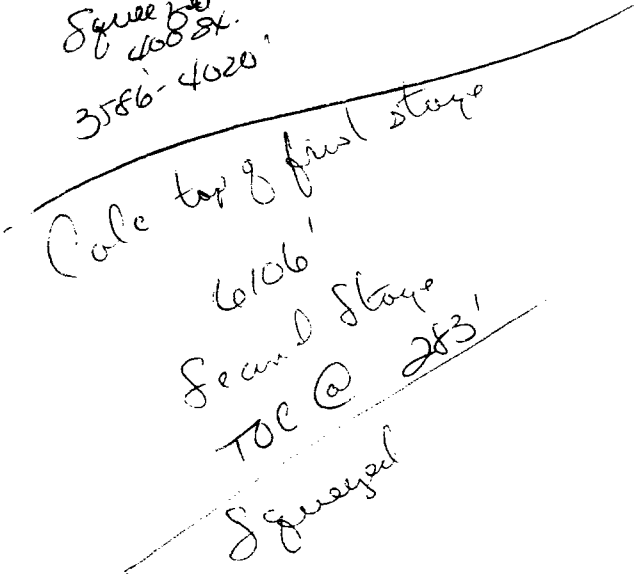
IV. See Exhibit No. 1 with Operator, Lease and Well Information attached.

BASIN DISPOSAL, INC.
ATTACHMENT NO. 3
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

VI.

	BETA DEVELOPMENT COMPANY MARTIN 3, NO. 1 UNIT E, SECTION 3-T29N-R11W San Juan County, New Mexico Elevation: 5750'K.B.	BETA DEVELOPMENT COMPANY MARTIN "A", NO. 1 UNIT J, SECTION 3-T29N-R11W San Juan County, New Mexico Elevation: 5693'K.B.
Type:	Dakota	Dakota
Well Status:	PGW	PGW
Date Drilled:	October, 1959	January, 1964
Total Depth:	6783'	6608'
Perforations:	6457'-6470' 6510'-6533' 6564'-6584'	6400' to 6532' (Gross)
Surface Casing:	9-5/8" at 256' with 200 sacks cemented to surface.	8-5/8" at 314' with 175 sacks cemented to surface.
Production Casing:	5-1/2" at 6783' First Stage - 200 sacks Second Stage - 100 sacks DV Tool - 2190'	4-1/2" at 6608' First Stage - 150 sacks Second Stage - 500 sacks DV Tool - 2091'





BASIN DISPOSAL, INC.
ATTACHMENT NO. 4
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

VII. 1. Average and maximum daily rate and volume of fluids to be injected will be determined after completion of injection well. Rates will be determined by Injectivity Test. Estimated, at this time, average daily injection rate to be approximately 2000 barrels per day.

2. System will be an open system.

3. Average and maximum injection pressure to be determined after injectivity test.

4. Source of injection fluids will be from various wells. Injection fluid should be compatable with receiving formation due to produced salt water being injected. Analysis of water in currect disposal pit is attached. Disposal pit will be utilized as storage for injection well.

5. There is not a Mesa Verde (Cliff House, Menefee or Point Lookout) well within one mile of proposed injection well. Water analysis are not available in the immediate vicinity of the proposed injection well. Water analysis were presented in Case No. 7949, Order No. R-7370, Southland Royalty Company (now Meridian Oil, Inc.) an application for injecting produced water into the Point Lookout Formation in the McGrath No. 4, Unit B, Section 34-T30N-R12W concerning waters produced from the Point Lookout formation and Mesa Verde wells.

The exhibits stated that a water sample analysis of a Point Lookout/Menefee Test in the NW/4, Section 15-T30N-R12W yielded 33,200 ppm TDS. Also a water analysis of the Cooper, No. 3-E (MV) located in the SE/4, Section 6-T29N-R11W yielded 36,427 ppm TDS.

WATER ANALYSIS REPORT

DATE: 7/20/87

PAGE:

TO: Welsh Engineering

LAB NO.:

TECH, Inc.
333 East Main
Farmington
New Mexico
87401
505/327-3311

Sample From Basin Disposal (Skimmer Tanks)

Date Sampled 7/17/87 Sampled

Time Sampled ..... By RW

PARAMETER	mg/l	me/l	PARAMETER	mg/l	me/l
Acidity ($CaCO_3$)			Arsenic		
Alkalinity ($CaCO_3$)			Barium		
Bicarbonate	11566	189	Boron		
Carbonate	1890	62.4	Cadmium		
Hydroxide	0	0	Calcium	112	6
Chloride	139800	393	Chromium, Hex		
Chlorine, Free			Total		
Total			Iron, Dissolved		
Fluoride			Total		
Nitrogen, Total			Lead		
Nitrate (N)			Magnesium	37.4	1.9
Ammonia (N)			Mercury		
Phosphate, Ortho			Potassium		
Total			Selenium		
Sulfur, Sulfate	967	20.1	Silver		
Sulfide	0		Sodium	15230	662
BOD_5					
COD					
Hardness ($CaCO_3$)		gr.			
Oil & Grease					
Oxygen, Dissolved					
Phenols					
Solids, Total					
Dissolved	43530				
Suspended					
Settleable		ml/l			
Conductivity	3.9×10^4	µmhos/cm			
pH	8.83	units			
Turbidity		NTU			
Specific gravity	1.0344				

Date Received ..... Preserved? ..... Date Analyzed ..... Analyzed By .....

REMARKS:

BASIN DISPOSAL, INC.
ATTACHMENT NO. 5
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

VIII. See Exhibit No. 2

There are no underground sources of drinking water within a three (3) mile radius overlying or underlying the injection interval.

BASIN DISPOSAL, INC.
ATTACHMENT NO. 6
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

IX. Stimulation will be with sand and water if determined necessary after conducting injectivity test.

BASIN DISPOSAL, INC.
ATTACHMENT NO. 7
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

X. Logging and test data will be presented to the Oil Conservation Commission after drilling the proposed injection well.

BASIN DISPOSAL, INC.
ATTACHMENT NO. 8
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

XI. No fresh water wells within one (1) mile of proposed injection well.

BASIN DISPOSAL, INC.
ATTACHMENT NO. 9
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

VII. I hereby certify that I have examined available geological and engineering data and can find no evidence of connection between the disposal zone and underground drinking water sources.

ORIGINAL SIGNED BY
EWELL N. WALSH

August 12, 1987
DATE

Ewell N. Walsh, P.E.
President
Walsh Engineering & Production Corporation

BASIN DISPOSAL, INC.
ATTACHMENT NO. 10
TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
DATED: August 12, 1987

XIII. Proof on Notice will be sent to the Oil Conservation Division as soon as received from newspaper.