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| | | 1220 Sou | - Enginee th St. Francis I | ring Bureau - Drive, Santa Fe, | NM 87505 | | ND SYL |
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| Τł | HIS CHECKLIST IS | MANDATORY FOR / WHICH | ALL ADMINISTRAT H REQUIRE PROC | IVE APPLICATIONS I | FOR EXCEPTIONS TO ISION LEVEL IN SANT, | DIVISION RULES | S AND REQUILATIONS |
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[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.

Tom Powell Print or Type Name

<u>Mu Llowcce</u> Signature <u>Manage i Reservoir Engr.</u> 3/17/2008 <u>Title</u> <u>Date</u> <u>tpowell C cdge pet. com</u> e-mail Address



March 10, 2008

Mr. William Jones New Mexico Energy, Minerals, and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505

RE: Edge Petroleum Operating Company Inc Application for saltwater disposal Southeast Lusk 34 Federal No. 6 API 30-025-37681 Section 34, T-19S R-32E Lea County, NM

Dear Mr. Jones:

Attached, please find Edge Petroleum Operating Company, Inc's ("Edge") application to convert to injection and operate as a saltwater disposal well the Southeast Lusk 34 Federal No. 6.

Attached in support of this application are two copies each of the following:

- 1. Administrative Application checklist.
- 2. Form C-108, Application for Authorization to Inject
- 3. Supporting documents for form C-108

If any further information is needed, please contact me at the letterhead address or by telephone, 713-427-8886.

Sincerely,

nu i Pouce

Tom L. Powell Manager, Reservoir Engineering Edge Petroleum Operating Company tpowell@edgepet.com



March 10, 2008

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Tom L. Powell Manager, Reservoir Engineering Edge Petroleum Operating Company tpowell@edgepet.com

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

APPLICATION FOR AUTHORIZATION TO INJECT

| I. | PURPOSE: Secondary Recovery Pressure Maintenance XDisposal Storage Application qualifies for administrative approval? Yes No |
|--------|---|
| II. | OPERATOR:Edge Petroleum Operating Company |
| | ADDRESS:1301 Travis Suite 2000, Houston TX, 77002 |
| | CONTACT PARTY: Tom Powell PHONE: 713-427-8886 |
| 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?YesXNo 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: |
| | Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, 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:Tom L. PowellTITLE:Manager Reservoir Engineering |
| | SIGNATURE: Mr. L. Ponce DATE: Min. dr. 10, 2008 |
| * | E-MAIL ADDRESS:tpowell@edgepet.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

III. Well Data.

A. Well data for the proposed injection well:

| 1. | Lease Name: | Southeast Lusk 34 Federal |
|----|-------------|---------------------------|
| | Well: | No. 6 |
| | API: | 30-025-37681 |
| | Location: | Section 34, T-19-S R-32-E |
| | | 990 FNL + 990 FEL |

2. Casing Strings

| Surface: | 13-3/8" 54.5# J-55 ST+C casing |
|----------------|-----------------------------------|
| Hole size: | 17-1/2" |
| Setting depth: | 896 ft |
| Cement: | 480 sacks "C" lead at 2.09 cf/sk, |
| | 200 sacks "C" tail at 1.34 cf/sk |
| Top Cement: | surface (circulated 142 sacks) |

Intermediate: 10-3/4" 45.50# J-55 BT+C casing Hole size: 12-1/2" Setting depth: 3060 ft Cement: 480 sacks "C" lead at 2.00 cf/sk,

200 sacks "C" tail Top Cement: surface (circulated 131 sacks)

Intermediate: 7-5/8" 29.70# N-80 LT+C casing

Hole size: 9-1/2" Setting depth: 4270 ft DV Tool: 3025 ft Cement 1st: 175 sacks "C" lead at 2.15 cf/sk, 200 sacks "C" tail at 1.32 cf/sk Open DV tool Cement 2nd: 650 sacks "C" lead at 2.15 cf/sk, 200 sacks "C" tail at 1.32 cf/sk Did not circulate cement Top Cement: 2,740 ft temperature survey

Production:4-1/2" 11.6# N-80 LT+C casingHole size:6-1/2"Setting depth:7999 ftCement:200 sacks LitecreteTop Cement:3358 ft (CBL)

| 3. | Tubing to be used: | |
|----|--------------------------|--------------------------|
| | Size: | 2-7/8" 6.50# L-80 |
| | Lining material: | plastic lined |
| | Setting depth: | 4550 ft |
| 4. | Name, model, setting dep | th of packer to be used: |
| | Manufacturer: | Weatherford |
| | Model: | HD |
| | Setting Depth: | 4550 ft |
| B. | | |
| 1. | Name of injection format | ion: Delaware |
| | Field or Pool name: | Lusk East Delaware |
| 2. | Injection Interval: | 4680 – 4725 ft |
| | | 4998 – 5038 ft |
| | | 5580 – 5598 ft |
| | | 5610 – 5624 ft |
| | | 6550 – 6532 ft |
| | | 6708 – 6720 ft |
| | | 6732 – 6786 ft |

3. **Original purpose of well:**

The well was originally drilled as a Bone Springs oil producing well.

4. Perforated intervals and method used to seal off perforations:

| Bone Springs | 7789-7793 ft |
|-----------------------|--------------|
| | 7882-7886 ft |
| | 7895-7905 ft |
| Proposed isolation: | |
| Cast iron bridge plug | 6,985 ft |
| 35 ft cement, top at | 6,950 ft |

5. **Depth and name of next higher and next lower oil or gas zone, if any**: Next higher: none

| Next lower: | Bone Springs (oil) |
|-------------|--------------------|
| | 7,789 ft |

IV. This is not an expansion of an existing project

V. Attach map identifying all wells and leases within two miles of well and a one-half mile radius drawn around the well

Map is attached.

VI. Attach tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Include schematic of any plugged well showing all plugging detail.

There is one well within the area of review that penetrates the proposed injection zone. The data for that well is tabulated below.

| Well Name: API: Operator: | Southeast Lusk 34 Federal No. 5 30-025-37680 Edge Petroleum Operating Co. |
|---------------------------------|--|
| Well Location: | 990 FNL + 1650 FWL, Section 34, T-19-S, R-32-E, Lea County |
| Well Type / Status: | Oil / producing |
| Spud Date: | 8-04-2007 |
| Depth: | TD 5074 ft. |
| Surface Casing: | 13-3/8" 54.5# set at 890 ft Lead stage cemented w/ 499 sks 35-65 Poz C at 1.96 cf/sk Tail 200 sacks class C at 1.33 cf/sk Circulated 243 sacks to pit Hole size 17-1/2" |
| Intermediate Casing: | 10-3/4" 45.5# J-55 BTC set at 3092 ft, cement with 660 sacks 35:65 Poz "C", tail with 200 sacks class C, circulated 300 sacks to pit. Hole size 12-1/4" |
| Intermediate Casing: | 7-5/8" 26.6# set at 4283 ft, cement first stage with 140 sacks 50/50 poz "C" (21 bbls), tail with 120 sx "C" (60 bls), (calc TOC 2165 ft). Open stage collar @ 2992 ft. Cement second stage w/ 260 sx 50/50 poz "C", tail w/ 100 sx "C", circulate 40 sacks. Hole size 9-7/8" |
| Production Casing: | 5-1/2" 17#, Ultra FJ, set at 5073 ft, cement w/ 100 sacks "C" (24.0 bbls). TOC 3980' per CBL. |

- 7540

Completion: Perf Cherry Canyon 4904-4914, Frac w/ 663 Bbls clearFrac + 30,845# 20/40 sand. Perf Cherry Canyon 4837-4847, Frac w/ 669 Bbls clearFrac + 33,294# 20/40 sand. Ran tubing, pump + rods.

VII. Attach data on proposed operation.

- 1. Proposed average daily rate: 1500 Bwpd Proposed maximum daily rate: 2500 Bwpd
- 2. System will be closed system
- 3.Proposed average injection pressure:500 psi estimatedProposed maximum injection pressure:0.2 psi/ft (936 psi @ 4680 ft)
- 4. Sources of water will be produced water from reservoirs in the Lusk area; Delaware Bell Canyon, Cherry Canyon, Brushy Canyon; Bone Springs, Atoka, Morrow. An analysis of the various waters is attached.
- 5. An analysis of the disposal zone (Delaware) formation water is attached.

VIII. Attach appropriate geologic data on the injection zone.

The proposed injection zone are the sandstones in the Guadalupian Delaware Mountain Group, containing intervals known as the Bell Canyon, Cherry Canyon, and Brushy Canyon. The top of the Delaware is at 4245-ft; the base is at 7930 ft. Selected porous intervals within this section will be targeted for injection. At the Lusk 34-6 well, these intervals are low and water-bearing. Further updip to the west, some of the intervals are productive of oil where there exists sufficient porosity. Attached is a well log indicating the proposed perforation intervals.

Give geologic name and depth to bottom of all underground sources of drinking water.

The following information is based on material from Ground-Water Report No.6 "Geology and Ground-Water Conditions in Southern Lea County, New Mexico", and Ground-Water Report No.3 "Geology and Ground-Water Resources of Eddy County, New Mexico", published by the USGS and New Mexico Bureau of Mines and Mineral Resources.

In southern Lea County, all potable ground water is from three geologic units: the Upper Triassic red beds (Chinle, Santa Rosa, and Dockum Group), the Tertiary Ogallala, and Edge Petroleum Operating Company Inc Application for saltwater disposal Southeast Lusk 34 Federal No. 6 API 30-025-37681

லிகளிலில் தகிழிக்கான தேது பார்க்கள் பலிக்கள் பிக்கள் காகிக்கள் பின்ன பின்ன பின்ன பின்ன கான காட்டு பின்ன கின்ன காட்டுத் தோட்டத்து முறைய கிறுகில் என்னது கால நாக்கள் கான கிறிக்கும் குறிப்பில் கற்பதும் குறிப்பும். ஆன் திருப்ப காட்டுத் தோட்டத்து மற்று

Quaternary Alluvium. The top of the Rustler Anhydrite is regarded as the effective lower limit of fresh water. In the area of review, the Ogallala and Alluvium units are mapped as absent. The top of the red beds is approximately 3425 ft above sea level (160 ft depth). Stock and domestic water supplies are available at depths of less than 300 ft in the red beds, quality is fair but locally impotable. No known fresh water sources are underlying the injection interval.

The top of the Capitan Reef interval is at 3288 ft and the top of the Delaware Mountain Group is at 4849 ft 4245

IX. Describe the proposed stimulation program, if any.

The injection zones will be perforated, broken down with a small acid stimulation, and if necessary stimulated with a small sand fracture treatment.

X. Attach appropriate logging and test data on the well.

The complete well logs for this well are on file with the Division.

XI. Attach chemical analysis of fresh water from two or more fresh water wells within 1 mile.

No fresh water wells are producing within one mile of the proposed injection well.

XII. Applicants must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or other hydrologic connection between the disposal zone and any underground sources of drinking water.

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

XIII. Applicants must complete the "Proof of Notice" section.

XIV. Proof of Notice

Attached with this application is the list of leasehold operators within one-half mile, and the surface owner. The proof of notice to these entities and proof of publication is also included.

Surface Owner:

United States Department of the Interior Bureau of Land Management Carlsbad Field Office 620 E. Greene St Carlsbad, NM 88220

List of Leasehold operators within one-half mile

Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210

Marbob Energy Corp P. O. Box 227 Artesia, NM 88211

Saba Energy of TX, Inc 3201 Airpark Dr #201 Santa Maria, CA 93455

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| | 20.045.04000 | | | ED | GE PETROLEUM CORPORATION | Attachment SE Lusk 34 Wellbore Di | III a. -6 C-108 App agram - Curr | olication ent |
|--|---|--------------------|----------------------------|-----------------------------|---|--|---|-------------------------------|
| API: LEASE: WELL: AREA: FIELD: | SE LUSK 34 FE No. 6 LEA CO., NM SOUTH LUSK | DERAL | SU | RF LOC: BHL: X: Y: | 290' FNL, 990' FEL SECTION 34, T19S, R32E SPUI STRAIGHT HOLE TD: 580170 ELEV 590227 KB: | D: | 2/17/2006 3/20/2006 3,567' 3,585' | |
| DIRECTIONAL | OPEN HOLE LOGGING | SANDS/ MARKERS | DEF TVD | YTH MD | CASING HOLE PROFILE | CASING DETAILS | MUD WT. & TYPE | MAXIMUM DOGLEG SEVERITY |
| | | | 40 ⁷ | 40 [.] | PRESE 1 20" 17 1/2 13 3 | 3/8", 54.5 ppf | SPUD MUD 8.6-8.8 PPG | 2 ⁰ /100' |
| | | Rustler | 1060 | 1060 | 480 sx | "C" + 200 sx " Circ 142 sx | 'C | |
| | | Yates | 2895 | 2895 | | | | |
| | TOC - | By Temp Survey | 2740 | 2740 | | | | |
| | | DV Tool | 2960 | 2960 | | 10 3/4" 5, 45.5, BTC 0'-3060' | 10.0-10.2 ppg Brine wtr 28-34 CP | |
| | | Seven Rivers | 3060 | 3060 2350 | | sx + 200 sxs Circ 131 sx | 896-3060 | |
| | | Capitan Reef | 3288 | 3288 | | DV Tool | | |
| STRAIGHT | Del E-LOGS | aware Mt Group | 4245 | 4245 | 9 1/2" 7 5/ | /8", 29.7 ppf N-80, LTC | 8.4-8.6 ppg Fresh wtr Vis 28-29 | |
| HOLE | NONE | | 4270 | 4270 | 1st S open D 2nd Stag . TOC 2740 ft | 0'-4257' Stage 175 sx + IV tool @ 2960 ge 650 sx + 20 t temperature | 3060'-4270' 200 sx ft 0 sx survey | 2 ⁰ /100' |
| | | Bell Canyon | 4485 | 4485 | 6 1/2" | <u>OC @ 3358</u> | 8.4-8.6 ppg fresh/brine/muc 4270'-8030' WL 6-8 CC Vis 28-40 | 4 |
| | | Cherry Canyon | 4849 | 4849 | Tubing detail 6/16/ 7553 ft 23 7556 ft Tubin 7841 ft 9 7842 ft Se 7846 ft 7878 ft 7878 ft bul | /2006 38 jts 2-3/8" ng anchor in 17 9 jts 2-3/8" eating nipple Perf sub 1 jt 2-3/8" Il plug (EOT) | 7 pts tension | - |
| | | Bushy Canyon | 5880 | 5880 | Rod Detail 6/19/20 13 ft Pol 17 ft Pc 2942 ft 117 7367 ft 117 | 006 lish rod (22 ft) ony (2 - 2 ft) - 7/8" HS rods - 3/4" HS rods | | |
| | Bone Springs Per | Bone Springs fs | 7590 7789-77 7882-78 | 7590 93 86 | 7817 ft 18 - 7843 ft Pumi 7849 ft C | - 7/8" HS rods p 20-150-RHB(Gas anchor | C-24-3-0-HPT "F | rac Pump" |
| STRAIGHT HOLE | <u>E-LOGS</u> Triple Combo 4270' to 7800' | тр | 7895-79 8030 | 05 8030 | 4 1/2", 200 Top Cement 33 | 11.6#, N-80, L 0'-7999') sx Litecrete 358 ft (cement | TC bond log) | 2 ⁰ /100' |

3/10/2008, 2:30 PM, CURRENT 34-6, WBDs.xls

| API: LEASE: WELL: AREA: FIELD: | 30-015-31829 SE LUSK 34 FE No. 6 LEA CO., NM SOUTH LUSK | DERAL | OPE | EE V RATOR: RF LOC: BHL: X: Y | GE PETROLEUM CORPORATION /ELLBORE SCHEMATIC - PROPOSED EDGE PETROLEUM OPERATING COMPANY 990' FNL, 990' FEL SECTION 34, T19S, R32E STRAIGHT HOLE 680170 590227 | Y E SP TD EL KR | Attachment III b. SE Lusk 34-6 C-108 App Wellbore Diagram - Prop PUD: 2/17/2006 D: 3/20/2006 LEV. 3,565' B: 3,585' | | lication osed |
|--|---|----------------|----------------------|---|---|--|--|--|----------------------|
| | OPEN HOLE | SANDS/ | DE | •тн | CASING | HOLE | CASING | MUD WT. | MAXIMUM DOGLEG |
| | LOGGING | MARKERS | 1VD 40' | MD 40' | | SIZE PRESET 2 | 0" Conductor | & TYPE | SEVERITY |
| | | | 896 | 896 | | 17 1/2 | 3 3/8", 54.5 ppf J-55, STC | SPUD MUD 8.6-8.8 PPG | 2 ⁰ /100' |
| | | Rustler | 1060 | 1060 | | 480 9 | Circ 142 sx | C I | |
| | | Yates | 2895 | 2895 | | | | | |
| | TOC - | By Temp Survey | 2740 | 2740 | | 12 1/4" | | | |
| | | DV Tool | 2960 | 2960 | | J | 10 3/4" -55, 45.5, BTC 0'-3060' | 10.0-10.2 ppg Brine wtr 28-34 CP | |
| | | Sauca Biuara | 3060 | 3060 | | 68 | 80 sx + 200 sxs Circ 131 sx | 896'-3060' | |
| | | Capitan Reef | 3288 | 3288 | | | DV Tool | | |
| STRAIGHT | Del | aware Mt Group | 4245 | 4245 | | 9 1/2" | 5/8", 29.7 ppf | 8.4-8.6 ppg Fresh wtr | |
| HOLE | NONE | | 4270 | 4270 | | 1st | N-80, LTC 0'-4257' t Stage 175 sx + | 3060'-4270' 200 sx | 2 ⁰ /100' |
| | | | | | | 2nd St TOC 2740 | age 650 sx + 200) ft temperature : |) sx survey | |
| | | | | | | | TOC @ 3358' | | |
| | | | | | | 6 1/2" | 1 | 8.4-8.6 ppg resh/brine/muc 4270'-8030' WL 6-8 CC Vis 28-40 | |
| | | Bell Canyon | 4485 | 4485 | | oposed tubing 4550' 2-7 4550' We | 7/8" 6.50# J-55 pl eatherford HD Pa | astic lined tubing cker | 3 |
| | | Cherry Canyon | 4849 | 4849 | 46 | 680-4725 | proposed perfs | | - |
| | | | | | | 998-5038 580-5598 | proposed perfs | | - |
| | | | | | 56 | 610-5624 | | | |
| | | Bushy Canyon | 5880 | 5880 | | 708-6720 | proposed perfs | | 1 |
| | | Bone Springs | 7590 | 7590 | CIE | /32-6786 BP at 6985 ft v | w/ 35 ft cement or | n top to 6950 ft | |
| E | 3one Springs Per | fs | 7789-779 7882-788 |)3 16 | | | | | |
| 075 415 | E-LOGS | | 7895-790 | 5 | | 4 1/2 | ", 11.6#, N-80, L1 0'-7999' | Ċ | 1 |
| HOLE | 4270' to 7800' | тр | 8030 | 8030 | | 2 Top Cement | 00 sx Litecrete 3358 ft (cement | bond log) | 2 ⁰ /100' |

f hann san san sa sa san ¹⁹ ka tinun san har san f f Manasa na san na san hara ta' 2/6/2008, 10:02 AM, PROPOSED 34-6, WBDs.xls

| Trebal | Marbob | EDG Bar Amoco - | Sayn Iner Lang Sun | OE. | Texos | Amer |
|--|---|---|--|---|---|-----------------|
| 19 (Chevron) | 104685 | φ | TECLINET L CALL CONTRACTOR | P.R. I G | hment V | 001 1 |
| Morbob Enery | -, <u>-, -</u> | Humble St To 5609 | De15302 Jennings-Fed Plans Unit Sun) Control 199112 10 3741 | | usk 34-6 C-108 Application | T014 1113 |
| 0,56,001 | Marbobio4500' | E: 36/9 70 300: 15 | Pene Sat Disc sig Gamings | Sun 3/4 10 SIV PR Bass OL L | of area of interest showing | ` -8 |
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| Trebol)bolow450 .unk[DeepUnit | Superior St. (Superior) | Cheverock Ener) | Triple W.C. Date (1) 1 Jp 1,000 | EI2 Received and 2 | 2 miles of the well | 7 |
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| | ips) 10 Pan Amer | nž mž Kersey Contrativ | Llang, inc Lusk Fea. | (P/B) Burlington | (Union tex) (EOG) 07006 | TD 318 |
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| Pick-d | | Scott Expl. 1500 | | | | - +" |
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| | | | EDG | E PETROLEUM OF Wellbore Sch | PERATING CC nematic - Curr | MPANY, IN rent | Atta IC. SE We | ichment VI. Lusk 34-6 C-108 Application Ilbore Diagram - Lusk 34-5 |
|--|---|----------------|-------------------------|---|--------------------------------|---|---|--|
| API: LEASE: WELL: AREA: FIELD: | 30-015-31829 LUSK 34 FED No. 5 LEA CO., NM SOUTH LUSK | 0 | PERATC SURF LO BH | R: EDGE PETROLEU C: 990 FNL + 1650 FV IL: STRAIGHT HOLE X: 677,528.6 Y: 590,211.3 | IM OPERATING NL, SECTION 34 | COMPANY 4, T19S, R32E | SPUD: TD: ELEV. KB: | 8/5/2007 8/29/2007 3,561' 3,585' |
| DIRECTIONAL | SANDS/ MARKERS | | PTH MD | CASIN | G _E | HOLE SIZE | CASING DETAILS | DESCRIPTION |
| | | 40' 890' | 40' 890' | | | PRESET | 20" Conductor 13-3/8", 68 ppf J-55, BTC | |
| | | | | | | 499 sx 12-1/4" Hole | 35:65 poz "C" + 2 Circ 243 sx | 00 sx "C |
| | | 3092' | 3092' | | | 6 | J-55, BTC 50 sx "C" + 200 sx | "C |
| | Capitan Reef | 3260' | 3260' 3585' | | | | Circ 300 sx | |
| | iost an returns | 5505 | 5505 | | | 7-5/8" s | tage collar @ 2992 | Pumping Unit Lufkin 640-365-144 |
| | | | | | | 9-7/8" Hole | | electric motor <u>Rod String Detail</u> 16' x 1-1/4" x 1-1/2" PRL 26' x 1-2/4" polish rod 1 - 2' x 7/8" pony |
| | | | | | | | TOC @ 3980' CBI | 1 - 8' x 7/8" pony 193 - 7/8" Weatherford KD rods |
| | | 4283' | 4283' | | | | 7-5/8", 26.4 ppf P-110, LTC | |
| | ** Ran DST in Belco | while dri | lling ** | | 140 | sx 50/50 poz (Si 260 sx | Stage 1 : "C" (21 bbls) + 12 Calc cmt to 2165 f age 2 (tool at 2995 50/50 pz "C" + 10 Circ 40 sx | 20 sx "C" (60 bbis) it). 2 ft) 0 sx "C" |
| | Belco - Upr Belco - Mid | 4510' 4598' | 4510' 4598' | | | 6-3/4" Hole | | |
| | Belco - Lwr | 4660' | 4660' | × | × | 4700' | TBG ANCHOR | |
| Stage 2 Frac | Cherry Canyon | 4795' | 4795' | | | Perforations 4837'-4847' 4spf | Frac'd w/ 669 bb! (| ClearFrac & 33,294# 20/40 sand |
| Stage 1 Frac | | | | | | 4904'-4914' 4spf 4919' 5021' | Frac'd w/ 663 bbl (SEATING NIPPLI PERFORATED SL END OF TUBING | ClearFrac & 30,845# 20/40 sand = B |
| STRAIGHT HOLE | PBTD TD | 4967' 5074' | 4967' 5074' | | | tagged 11/28/2007 cem | 5-1/2", 17#, L-80, Ultra-FJ ent 100 sx "C" (24 | bbis). |

2/5/2008, 4:08 PM, CURRENT 34-5, WBDs.xls

| : | | Attachment VII- SE Lusk 34-6 C | Attachment VII-4,5 SE Lusk 34-6 C-108 Application Disposal and Source waters | | |
|---|--|---------------------------------------|--|---|--|
| | Martin Water Laborato | Disposal and Sc | | | |
| P.O. BOX 98 MIDLAND, TX. 79702 PHONE (432) 683-4521 | RESULT OF WATER AN/ | RESULT OF WATER ANALYSES | | | |
| | | OBATORYNO | 50 | 6-38 | |
| TO: Mr. Kennon Doval | SAN | PLE RECEIVED | 5-1-06 | | |
| 1301 Travis, Houston, TX 77062 | RES | ULTS REPORTED | 5- | 3-06 | |
| | | | | | |
| COMPANY <u>Edge Petroleum</u> | LEAS | е <u>SE</u> | Lusk 34 Fed | | |
| SECTION BLOCK SURVEY . | COUNTY Lea | STA' | re N | M | |
| NO 1 Submitted water sample | - taken from well #3 on 4-29- |)6. Rouse | Lans an Source | æ + disposal Zone Wa | |
| NO. 2Submitted water sample | - taken from well #6 on 4-29-0 |)6. Bone Sp | prings Sou | rce Zone Water | |
| NO. 3 | | | | <u> </u> | |
| NO. 4 | | | | | |
| REMARKS: | | ····· | | | |
| | CHEMICAL AND PHYSICAL P | ROPERTIES | | | |
| | NO. 1 | NO. 2 | NO. 3 | NO. 4 | |
| Specific Gravity at 60* F. | 1.1620 | 1.0560 | | | |
| pH When Sampled | | | | | |
| pH When Received | 5.85 | 7.04 | | | |
| Bicarbonate as HCO; | 159 | 1,122 | | | |
| Supersaturation as CaCO ₃ | | | | | |
| Undersaturation as CaCO, | | | <u> </u> | ···· | |
| Total Hardness as CaCO ₁ | 93,000 | 11,200 | | | |
| Calcium as Ca | 26,800 | 3,840 | | | |
| Magnesium as Mg | 6,318 | 389 | <u></u> | | |
| Sodium and/or Polassium | 62,563 | 31,147 | ······································ | ······ | |
| Suitate as SU | | 1,834 | | · · · · · · · · · · · · · · · · · · · | |
| Von de Ea | <u> </u> | <u> </u> | | | |
| Barium as Ba | 00.5 | | ······ | ····· | |
| Turbidity Electric | V | V | | | |
| Color as Pt | | | | | |
| Total Solids, Calculated | 258 319 | 92 293 | | | |
| Temperature / F. | | | | | |
| Carbon Dioxide, Calculated | | · · · · · · · · · · · · · · · · · · · | | | |
| Dissolved Oxygen, | | | | | |
| Hydrogen Sullide | 0.0 | 0.0 | | | |
| Resistivity, ohms/m at 77 ° F. | 0.050 | 0.101 | | | |
| Suspended Oil | | | · · · · · · · · · · · · · · · · · · · | | |
| Filtrable Solids as mg/l | | | ······ | | |
| Volume Filtered, ml | | | | | |
| | | | | | |
| | | | : | | |
| | Basuite Deported As Millisson | Perliter | <u>k</u> | 2 | |
| Additional Determinations And Remarks | Results Reported As Minigrams | with our catalog | ed formation water | records in | |
| the Luck and surrounding fields we | find that this water from well #3 of | orrelates well wi | th Delaware while | the water from | |
| well #6 has characteristics very simi | lar to Bone Springs | certaintos moli Wi | 12 Dominare while | | |
| then are may characteristics very sinu | un to acone optingo. | | | · _ [| |
| | | | | | |
| | ······································ | ··· · · · · · · · · · · · · · · · · · | | | |
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| Form No. 3 | | 11:00 | 1 | and the second secon | |
| | Вў | 1 sont to | 2 | | |
| | | Gr | eg Ogden, B.S. | | |

LATHAM PRINTING CO. - 333-1292

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Attachment VII-4,5 continued SE Lusk 34-6 C-108 Application Source waters + Disposal zone waters

P.O. BOX 98 MIDLAND, TX. 79702 PHONE (432) 683-4521 Martin Water Laboratories, Inc.

MIDLAND, TEXAS 79701 FAX (432) 682-8819

| PHONE (432) | RES | SULT OF WAT | ER ANALYSES | | | FAA (432) 082-0819 | |
|--|----------------------------------|-------------|-------------------|---------|----------------|--|--|
| | 16 n n t | | LABORATO | RY NO | 907 | <u>907-2 (pg 1)</u> | |
| TO: <u>Mr. Ryan Price</u> | | | _ SAMPLE RECEIVED | | 8-31 | 8-30-07 | |
| 1301 Travis, Suite 2000, Houston, TX 77002 | | . RESULTS R | EPORTED | 9-5- | 9-5-07 | | |
| | Edge Petroleum | | LEASE | SE Lu | ısk | | |
| SECTION | | COUNTY | Lea | PTATE | NM | F | |
| SECTION | E SANDIE AND DATE TAKEN | | Lui | SIAIE - | 13 <u>1</u> 77 | . | |
| NO 1 | Southeast Lusk #28-1 (Morrow). | Source Z | Zone Water | | | | |
| NO. 2 | Southeast Lusk #34-1. (Morrow). | Source Z | Zone Water | | | ······································ | |
| NO.3 | Southeast Lusk #34-2 (Delaware). | Source + | ⊦ disposal Zone | e Water | | | |
| NO.4 | Southeast Lusk #34-3 (Delaware). | Source + | ⊦ disposal Zone | • Water | | | |
| REMARKS: | | | | | | | |
| | CHEMIC | AL AND PHYS | SICAL PROPER | TIES | | | |
| | | NO. 1 | NO | . 2 | NO. 3 | NO. 4 | |
| Specific Grav | vity at 60 ° F. | 1.0231 | 1.0 | 0321 | 1.1668 | 1.1685 | |
| pH When Sa | mpled | | | | | | |
| pH When Red | ceived | 6.92 | | 7.32 | 5.61 | 5.97 | |
| Bicarbonate | as HCQ, | 573 | | 878 | 37 | 85 | |
| Supersatur | ration as CaCO ₃ | | | · . | | | |
| Undersatu | ration as CaCO, | | | , | | ····· | |
| Total Hardne | ess as CaCO, | 2,050 | 5 | ,000 | 87.000 | 87.000 | |
| Calcium as C | Ca | 736 | 1 | .800 | 29,200 | 14.000 | |
| Magnesium a | as Mg | 51 | | 122 | 3.402 | 12.636 | |
| Sodium and/o | or Potassium | 10,989 | 17 | .651 | 62,507 | 74.504 | |
| Sulfate as SC | D ₄ | 424 | | 101 | 586 | 596 | |
| Chloride as C | | 17,750 | 30 | .175 | 157.620 | 176.080 | |
| Iron as Fe | | 59.3 | | 69.2 | 410 | 82.7 | |

0

30,524

0.0

Results Reported As Milligrams Per Liter

. . .

0.250

...

0

50,727

0.0

0.160

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253,352

0.0

0.051

0

277,902

0.0

0.047

1. S. S. S. S.

By _

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Form No. 3

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Barium as Ba

Turbidity, Electric Color as Pt

Temperature °F. Carbon Dioxide, Calculated Dissolved Oxygen, Hydrogen Sulfide

Suspended Oil Filtrable Solids as mg/l Volume Filtered, mt

Total Solids, Calculated

Resistivity, ohma/m at 77° F.

Additional Determinations And Remarks



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AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea.

I, KATHI BEARDEN

PUBLISHER

of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of _____1

____ weeks.

_ 2008

Beginning with the issue dated

February 15 2008 and ending with the issue dated

February 15

PUBLISHER Sworn and subscribed to before

me this <u>15th</u> day of

Februat 2008

Notary Public.

My Commission expires February 07, 2009 (Seal)



FFICIAL SEAL ORA MONTZ OTARY PUBLIC TATE OF NEW MEXICO

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made. Attachment XIV page 1 SE Lusk 34-6 C-108 Proof of Notice Affidavit of Publication

LEGAL NOTICE February 15, 2008

Edge Petroleum Operating Company, Inc. 1301 Travis Suite 2000. Houston, TX 77002, has filed form C-108, Application for Authorization to Inject, with the New Mexico Oll Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Southeast Lusk 34 Federal No. 6, is located 990 ft FNL; 990 ft FEL, Section 34, Township 19S, Range 32 East, Lea County, New Mexico. Disposal water is from wells in the Lusk area that produce from the Delaware, Bone Springs; Morrow, Atoka formations. The water will be injected into the Delaware formation at a depth of 4680 – 6786 ft with a maximum surface pressure of 936 psi and a maximum rate of 2500 Bwpd.

All interested parties opposing the action must file objections or requests for hearing with the Oll Conservation Division, 1220 South St. Francis Drive, Santa Fe, NM 87505, within 15 days of the date of this publication. Addition information can be obtained by contacting Tom Powell, Edge Petroleum Operating Company Inc, 1301 Travis Suite 2000, Houston, TX 77002, or (713) 427-8886. #23840

02108492000 02598353

EDGE PETROLEUM 1301 TRAVIS, SUITE 2000 HOUSTON, TX 77002



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U.S. Postal Service. CERTIFIED MAIL RECEIPT 4658 4538 9479 3479 \$ Postage Certified Fee Postmark 0000 0000 Return Receipt Fee (Endorsement Required) Here Restricted Delivery Fee (Endorsement Required) 2570 510 \$ Total Postage & Fees 3 Sent To ณ์ ENERGY OF TEXAS, INC SABA 7001 7001 Street, Apt. No.; 3201 AIRPARK DRIVE or PO Box No. City, State, ZIP+4 SANTA MARIA, CA 93455 Compare of





No.2

2570

Jones, William V., EMNRD

 From:
 Jones, William V., EMNRD

 Sent:
 Wednesday, April 23, 2008 5:11 PM

 To:
 'Powell, Tom'

 Output
 Description for the form of the parallelement of the form of the parallelement of the parallelemen

Subject: RE: SWD application from Edge Petroleum: SE Lusk 34 Fed #6 (API No. 30-025-37681)

Hey Tom:

This is all I need, I will get this ready for a signature tonight.

Thank You,

William V. Jones PE New Mexico Oil Conservation Division 1220 South St. Francis Santa Fe, NM 87505 505-476-3448

From: Powell, Tom [mailto:tpowell@edgepet.com]
Sent: Wednesday, April 23, 2008 4:55 PM
To: Jones, William V., EMNRD
Cc: Ezeanyim, Richard, EMNRD; Warnell, Terry G, EMNRD
Subject: RE: SWD application from Edge Petroleum: SE Lusk 34 Fed #6 (API No. 30-025-37681)

Thanks William,

The Bone Springs is very thin and tight in this well, we have trouble keeping the unit running; when it does the rate is 2-3 bopd.

I will send some information on the Delaware tomorrow, but it appears to our geologist that the main pay zones in the 34-5, 34-2, and 34-3 are not present in the 34-6. The upper "Belco" sand is present, but it is down dip and had poor shows in cores and on mud logs. Overall, this well was low with few mud log shows. In the other wells on the lease, the zones which were productive had excellent shows in cores and mud logs. We had considered swab testing, and may still do this, but our partners are very sensitive to capital expenditures and have been against extensive testing that we have done in the past out here. The data we have collected from all the testing in the offset wells 34-3 and 34-2 really indicates that if these zones are oil productive, they will be at very small oil rates with significant water.

If the injection intervals are in communication with the 34-2 and 34-3, we believe that would be a positive (Pure does as well) by providing pressure support and sweeping some oil to the producers. The 34-2 has maintained a flat GOR, but the 34-3 has increased a bit. The zones are not exactly the same in these two. The 34-5 looks like different zones altogether. There is also a lower zone, Brushy Canyon, in the 34-2, currently isolated, which is the main pay in the old waterflood to the northwest. This zone rapidly increased in GOR, so I suspect it is limited, but in the event it is connected to the Brushy Canyon zone in the 34-6, that would help repressure and sweep oil to the 34-2.

I have discussed with Pure the injection intervals in this well and they agree with the selection. They have been calling or emailing us almost daily to get the disposal project going, so I know they concur with the use of the well as disposal. At our last partner meeting we discussed the plans to convert this well to injection so Chisos should be on board as well.

Thanks for the questions, I will get more info to you tomorrow, let me know if you have other questions, Tom

Tom Powell Edge Petroleum Corporation 713-427-8886 office 281-414-8889 mobile tpowell@edgepet.com From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Wednesday, April 23, 2008 5:13 PM
To: Powell, Tom
Cc: Ezeanyim, Richard, EMNRD; Warnell, Terry G, EMNRD
Subject: SWD application from Edge Petroleum: SE Lusk 34 Fed #6 (API No. 30-025-37681)

Hello Tom:

Was the Bone Spring production totally gone - or is it just at a very low level?

I understand that the (Edge operated) offsetting Delaware producer (SE Lusk 34 Fed #5) is higher on structure than the subject well and the subject well may be wet in the target injection zones? Would you please send a crude structure map showing the Delaware structure (or just subsea elevation numbers) and a water saturation calculation OR a copy of a mud log over these intervals in both wells to support this? Should the new perfs in the subject well be swab tested? or why not?

Would you also talk a bit using reservoir engineering reasoning, as to why this injection would not harm production in your producer?

Do your partners, Chisos and Pure (or successor) concur with the use of this well as an injector in those Delaware intervals?

Rule 40 looks fine for Edge

Thank you for sending answers to these questions,

William V. Jones PE New Mexico Oil Conservation Division 1220 South St. Francis Santa Fe, NM 87505 505-476-3448

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| | Injection Permit Checklist 2/8/07 | | | | | | | | |
|---------------------|--|---------------------|--|-----------------------------|-----------------|--|--|--|--|
| | SWD Order Number Dates: Division Approved District Approved | | | | | | | | |
| | Well Name/Num: Southeast LUSK34 Fa | lal HG | Date Spudded: | 2/17/06 | | | | | |
| ĸ, | API Num: (30-) 025-37681 County: Loa | | | | | | | | |
| X | V Footages 990 FNL/990 FEL Sec 34 Tsp 195 Rge 32E Operator Name: EDGE Palialing Oleute Comp, FIC Contact To M L. Powell | | | | | | | | |
| \$ | | | | | | | | | |
| | Operator Address: 1301 Train Suite 2000 Austral TX 77002 | | | | | | | | |
| | Current Status of Well: BS Planned Work: | | | | | | | | |
| \bigcirc | Hole/Pine Sizes | Denths | Cement | Top/Method | | | | | |
| 98 | Surface 17/2 1378 | 8% | 480+243 | CIRC | | | | | |
| 6 | Intermediate 12/2 103/4 | 3060 | 455 /200 | CIRC | 1 | | | | |
| S I | 9 Piloduction 75/8 | 4270 DN | 03025 17 | - 120 + 650/200 Tore = | 2740 | | | | |
| b b | Last DV Tool V2 4/2 | 7999 | 200 | 3358 CBL | (| | | | |
| an | Open Hole/Liner | | | 7 | | | | | |
| 20 | Plug Back Depth | | / | | | | | | |
| 44 | Diagrams Included (Y/N): Before Conversion | After Conversion | | | | | | | |
| N | Checks (Y/N): Well File Reviewed | _ELogs in Imaging _ | V+CBL | | | | | | |
| NX | Intervals: Depths | Formation | Producing (Yes/No) | BSTort | • | | | | |
| () | (Salt/Potass 10-00-20 | \$ 60 | ······································ | prod TIT pown DI | P | | | | |
| | Capitan Reef 3288- | 4245) | | Will My water Set in | Cu _r | | | | |
| 1× | CHIFF House, Etc. |) | | in mini | | | | | |
| /it | Formation Above 4245 | Put Del. | | | | | | | |
| | Top Inj Interval | Del Ball | Ver-in Acl | - 936 PSI Max, WHIP | | | | | |
| | Bottom Inj Interval 6786 | Europy | ~ | NO_Open Hole (Y/N) | | | | | |
| | Formation Below 7789-7905 | BS parks | | Deviated Hole (Y/N) | , | | | | |
| | 750 -= | = BN V | * * | | | | | | |
| | Fresh Water: Depths: 0-300 Wells | (Y/N)Analys | sis Included (Y/N): | Affirmative Statement | | | | | |
| | Salt Water Analysis: Injection Zone (Y/N/NA) | 2DispWaters (Y/N/ | NAY CL Types: Bis | Chary Brush / ES / ATUKA MS | Nen | | | | |
| | Notice: Newspaper(Y/N)Sufface Owner | BLM | _Mineral Owner(s) | 1 | | | | | |
| | Other Affected Parties: Vater / Marbol- | / Saba | | Araph | | | | | |
| | AOR/Repairs: NumActiveWells Repairs?] | Producing in | Injection Interval in AC | DR Yoz (Hony Coyen | | | | | |
| ۰. _ک ر ۲ | AOR Num of P&A Wells <u>O</u> Repairs? <u>N</u> ° _C |)iagrams Included? | | RBDMS Updated (Y/N) | | | | | |
| | Well Table Adequate (Y/N) AOR STRs: | SecT: | spRge | UIC Form Completed (Y/N) | | | | | |
| | New AOR Table Filename | SecT | spRge | This Form completed | | | | | |
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