

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

Havenor Operating
 10216
 RECEIVED OGD
 Sand Hills SWD #1
 MAY 13 11:46

ABOVE THIS LINE FOR DIVISION USE ONLY

ADMINISTRATIVE APPLICATION CHECKLIST 30-015-29104

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

Application Acronyms:

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

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication
 NSL NSP SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR
- [D] Other: Specify _____

Eddy
 Fed

- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply
- [A] Working, Royalty or Overriding Royalty Interest Owners
- [B] Offset Operators, Leaseholders or Surface Owner
- [C] Application is One Which Requires Published Legal Notice
- [D] Notification and/or Concurrent Approval by BLM or SLO
U S Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] Waivers are Attached

8358'-8862'
 1672 psi

[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.

Kay Havenor *Kay C Havenor* Geologist 5/11/2011

Print or Type Name Signature Title Date

KHavenor@georesources.com
 e-mail Address

Havenor Operating Co. OGRID 10216
904 Moore Ave
Roswell, NM 88201

Contact party: Kay Havenor 575-626-4518
KHavenor@georesources.com

C-108 Ancillary Data

1. API: 30-015-29104
2. Original Lease Name: Sand Hills SWD #1 New name used here: No
3. Legal publication lay distance description: "The well is located 2.5 miles southwest of Loco Hills junction of CR-217 and US-82."
4. AOR data: All wells are shown in summary and detail in **Item VI**:
Data on unplugged wells in AOR that penetrate proposed disposal zone:
 1. 3001529104 Havenor Operating Co. Sand Hills SWD #1 OCD Unit O, 660 FSL & 2220 FEL Sec. 31, T17S-R30E, the target well for re-completion. Open perms in Siluro-Devonian 12,458-12,668.
 2. 30-015-30033 EOG Resources, Inc. Sand Tank 31 Federal Com. #1, OCD Unit M, 990' FSL & 1200' FWL Sec. 31, T17S-R30E, open perms in Morrow 11094'-11122', Production casing TOC 4575'.
5. AOR well count as shown in **Item VI (b)**: 32 (2 deep: SWD target and one Morrow gas, 1 shallow injection, 11 active shallow, 18 shallow P&A).
6. P&A wells in AOR count: 19 (including target re-complete SWD-1182) 18 max TD 3650'.
7. List of formation tops applicable to AOR: Yates 1202, Grayburg 2750, San Andres 2897, Glorieta 4285, Bone Springs 4540, 1st BS sand 6292, 3rd BS sand 8142, Wolfcamp 8303, Cisco 9645, Canyon 10038, Strawn 10,340, Atoka 10,543, Morrow 11055, Miss ls 11708, Woodford shale 12290, Siluro-Devonian 12290.
8. Producing or non-P&A wells in proposed disposal AOR: Wells that penetrates proposed disposal interval: Only the target re-complete and EOG Sand Tank 31 Fed Com.
9. Is proposed SWD in a depleted zone/well? No.
10. Why is proposed interval non-productive? No production from this interval in greater AOR. Interval commonly used in general area for SWD.
11. Notification and related acreage is shown in **Item XIII**:
F-H, J-O Sec. 31 Southern Bay - Shallow
I & P Sec. 31 Yates - Shallow/deep ✓
F-P, Sec. 31 EOG-deep-Some joint Yates ✓
L-M Sec. 32 Yates ✓
D Sec. 5 T8S-R30E EOG-deep, Yates-shallow ✓
A-D F-H Sec. 6 T18S-R30E EOG-deep, Yates-shallow ✓
12. Surface owner, as shown in Item XIII, is: Federal - minerals and surface
13. Rule 5.9 status of applicant: Financial status in compliance. Inactive wells include: 1 inactive
- 14: Location of well as to Potash or other sensitive areas: Not within R-111-P

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance _____ Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes _____ No

II. OPERATOR: Havenor Operating Company

ADDRESS: 904 Moore Ave, Roswell, NM 88201

CONTACT PARTY: Kay Havenor PHONE: 575-626-4518

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.

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: Kay Havenor TITLE: Agent

SIGNATURE: Kay Havenor DATE: 5/11/2011

E-MAIL ADDRESS: KHavenor@georesources.com 575-626-4518

* 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.

INJECTION WELL DATA SHEET

OPERATOR: Havenor Operating Company

API 30-015-29104

WELL NAME & NUMBER: Sand Hills SWD #1WELL LOCATION: 660' FSL & 2220' FEL
FOOTAGE LOCATIONO
UNIT LETTER31
SECTION17S
TOWNSHIP30E
RANGEWELLBORE SCHEMATIC

See attached well diagram

WELL CONSTRUCTION DATASurface CasingHole Size: 14-3/4" Casing Size: 11-3/4"Cemented with: 225 sxs + 3 yds gravel sx. *or* _____ ft³Top of Cement: Surface Method Determined: VisualIntermediate CasingHole Size: 11" Casing Size: 8-5/8" 42# H-40Cemented with: 475 sx. *or* _____ ft³Top of Cement: Surface Method Determined: CirculatedProduction CasingHole Size: 7-7/8" Casing Size: 5-1/2" 17# L-80/CF-95Re-entry tie-in 5-1/2" 1,999' to surface w/265 sx
Cemented with: 1423 sx. *or* _____ ft³Top of Cement: 10,000' DV 8443'-2410' Method Determined: CBLTotal Depth: 13,600 TD 12,957' PBTDInjection IntervalPerforations 8358' - 8862'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 3-1/2" J-55 upset Lining Material: Fiberglass coated

Type of Packer: Lok-Set

Packer Setting Depth: Approx 8,330 ft

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

Additional Data

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

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

2. Name of the Injection Formation: Wolfcamp

3. Name of Field or Pool (if applicable): _____

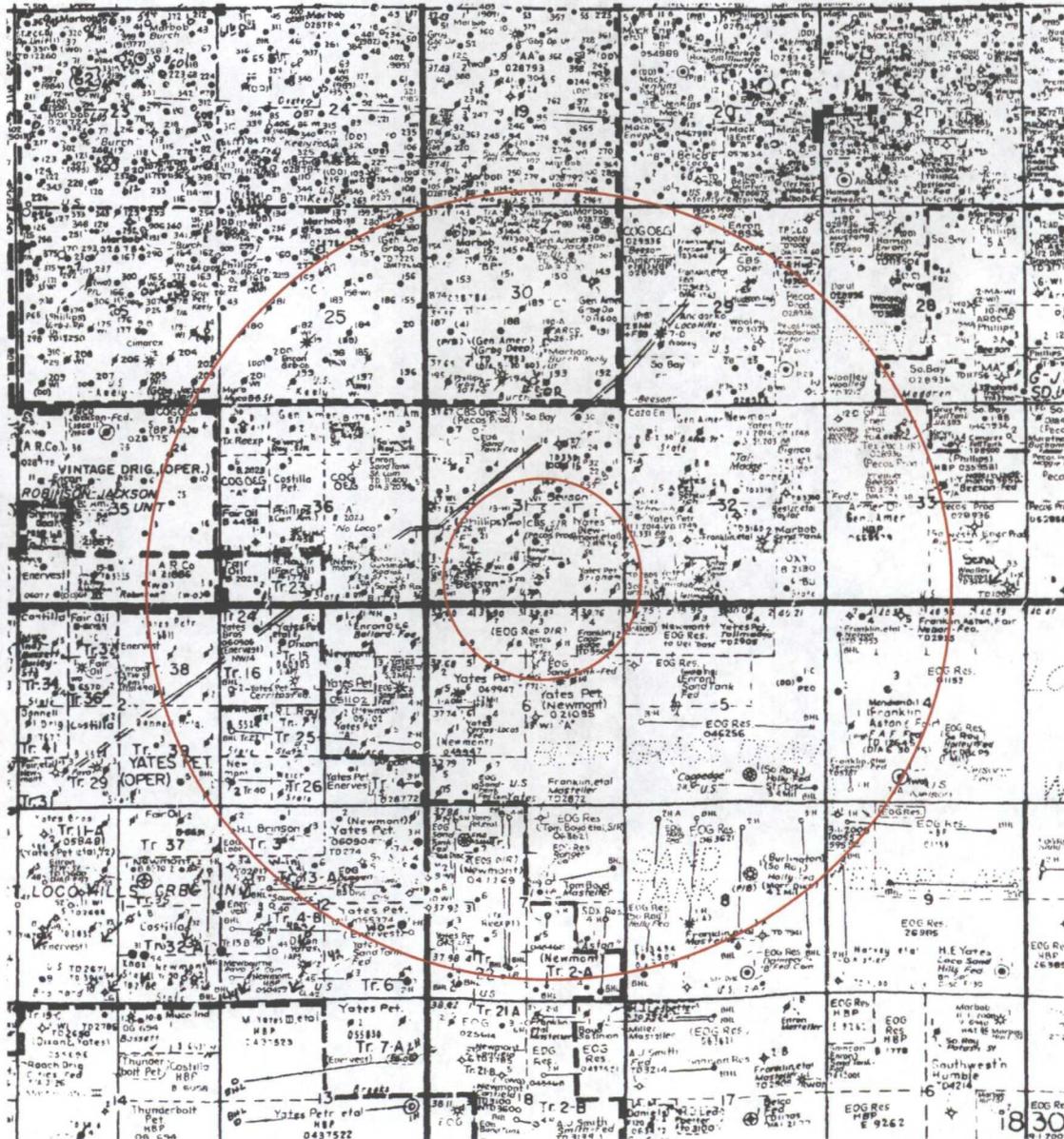
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. Yes. Siluro-Devonian 12,499'- 12,751', Morrow perfs 11011' to 11016' perfs sqzd.

Plugging details listed below in Item VI (a).

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Bone Springs above 8300' Morrow below 11,000'.

Item V:

Area of Review
½ Mile AOR and 2 Mile Radius



Havenor Operating Company
 Sand Hills SWD No. 1
 660' FSL & 2220' FEL
 Sec.31, T17S-R30E Eddy County, NM

API 30-015-29104

Item VI: Data on wells in AOR that penetrate the proposed injection interval:

API	WELL_NAME	STATUS	UL	SEC	TOWN	RANG	FTG	NS	FTG	EW	OPERATOR	LAND	TYPE	PLUG_DATE	SPUD_DATE	ELEVGL	TVD	Highest Perf
3001530033	Sand Tank 31 Fed Com	Active	M	31	17.0S	30E	990	S	1200	W	EOG Resources, Inc	F	G		21-Mar-58	3561	11460	11094
3001529104	Sand Hills SWD #1	SWD	O	31	17.0S	30E	660	S	2220	E	Havenor Operating Co	F	S	02-Nov-98	03-Oct-98	3585	13600	12458

30-015-29104 Havenor Operating Co Sand Hills SWD #1, OCD Unit O, 660' FSL & 2220' FEL Sec. 31, T17S-R30E, Eddy Co. Elev. 3561' GL. Spud 3/10/1998. TD 13,600' PBTB 12,957'. Well re-entered and completed as SWD-1182. Began injecting into perms 12,449-12,751' (OA) on 3/1/2011 in Siluro-Devonian. See well diagrams below.

30-015-30033 EOG Resources, Inc. Sand Tank 31 Federal Com. #1, OCD Unit M, 990' FSL & 1200' FWL Sec. 31, T17S-R30E Eddy Co., Elev. 3561' GL. Spud 3/30/1982. TD 11,460 14-3/5" hole 11-3/4" H-40 42# @651' w/430 sx cmt, circ 47 sx to surface. 11" hole 8-5/8" J-55 32# LTC @2999' w/1350 sx cmt circ 150 sx to surface. 7-7/8" hole to TD 11460'. Ran 7" P-110 29# set @9545' w/325 sx cmt TOC 4575'. Ran 3-1/2" L-80 9.3# as csg w/325 sx cmt TOC 8514' TS. Perf 11094-11108 w/6 spft 84 holes, 11112-11122' w/6 spf 60 holes. Acid 1000 gal 7.5%. PBTB 11392'. Completed gas well. ✓

Havenor Operating Company
 Sand Hills SWD No. 1
 660' FSL & 2220' FEL
 Sec.31, T17S-R30E Eddy County, NM

API 30-015-29104

Item VI (b): All known wells in AOR:

API	WELL_NAME	MPL_STAT	SEC	TOWN	RANG	FTG_NS	NS	FTG_EW	EW	OCD	OPERATOR	LAND	WELL	PLUG_DATE	SPUD_DATE	ELEVGL	TVD_DEPTH
3001504405	FEDERAL L 001	Plugged	31	17.0S	30E	2310 N		2310 W	F		ANADARKO PRODUCTION	F	O	2/15/1984	15-Apr-51	3061	3552
3001504399	BEESON F FEDERAL 005	Plugged	31	17.0S	30E	2297 N		1646 E	G		SOUTHERN BAY OPERATING, L.L.C.	F	O	26-Jan-10	4-Apr-00	3568	3214
3001504412	BEESON F FEDERAL 014	Active	31	17.0S	30E	2310 N		2310 E	G		SOUTHERN BAY OPERATING, L.L.C.	F	I	21-Apr-00	10-May-62	3574	3136
3001504396	BRIGHAM 002	Plugged	31	17.0S	30E	2310 S		990 E	I		YATES PETROLEUM CORPORATION	f	O	10/10/2007	<6/16/42	3134	3579
3001504413	BRIGHAM 005	Plugged	31	17.0S	30E	1320 S		990 E	I		YATES PETROLEUM CORPORATION	F	O	9/12/1961	16-Jun-03	3561	2883
3001504460	BRIGHAM 004	Plugged	31	17.0S	30E	1320 S		5 E	I		YATES PETROLEUM CORPORATION	f	O	13-Apr-87	22-Apr-61	3567	2889
3001504404	FEDERAL M 002	Plugged	31	17.0S	30E	1650 S		2310 E	J		ANADARKO PETROLEUM CORP	F	O	15-Feb-84	5-Feb-54	3571	3098
3001504408	FEDERAL M 004	Plugged	31	17.0S	30E	2257 S		1703 E	J		AMBASSADOR OIL CORP	F	O	15-Feb-84	5-Feb-54	3576	3120
3001504410	FEDERAL M 005	Active	31	17.0S	30E	2310 S		2310 E	J		CBS OPERATING CORP	F	O		15-Feb-62	3560	3120
3001504457	FEDERAL M 006	Plugged	31	17.0S	30E	1650 S		1650 E	J		ANADARKO PRODUCTION	F	O	20-Sep-83	31-Dec-61	3563	3513
3001504402	BEESON F FEDERAL 013	Active	31	17.0S	30E	2310 S		2232 W	K		SOUTHERN BAY OPERATING, L.L.C.	F	I		2-May-62	3562	3200
3001504416	BEESON F FEDERAL 004	Active	31	17.0S	30E	1650 S		2310 W	K		SOUTHERN BAY OPERATING, L.L.C.	F	O		27-Oct-00	3566	3083
3001529839	BEESON F FEDERAL 021	Active	31	17.0S	30E	1653 S		1287 W	K		SOUTHERN BAY OPERATING, L.L.C.	F	O		29-Dec-97	3568	3350
3001504458	BEESON F FED 016	Plugged	31	17.0S	30E	2310 S		1300 W	L		PHILLIPS PETROLEUM CO	F	O	19-Dec-84	11-Apr-62	3568	2826
3001530015	BEESON F FEDERAL 026	Active	31	17.0S	30E	1976 S		820 W	L		SOUTHERN BAY OPERATING, L.L.C.	F	I		18-Aug-39	3567	3300
3001529838	BEESON F FEDERAL 020	Active	31	17.0S	30E	985 S		770 W	M		SOUTHERN BAY OPERATING, L.L.C.	F	O		11-Apr-98	3569	3250
3001530033	SAND TANK 31 FEDERAL COM	Active	31	17.0S	30E	990 S		1200 W	M		EOG RESOURCES INC	F	G		28-Mar-98	3561	11460
3001504415	BEESON F FEDERAL 003	Active	31	17.0S	30E	345 S		2310 W	N		SOUTHERN BAY OPERATING, L.L.C.	F	I		30-Nov-39	3572	3650
3001504419	BEESON F FEDERAL 012	Active	31	17.0S	30E	990 S		1571 W	N		SOUTHERN BAY OPERATING, L.L.C.	F	I		11-Oct-47	3572	3082
3001529829	BEESON F FEDERAL 019	Active	31	17.0S	30E	337 S		1279 W	N		SOUTHERN BAY OPERATING, L.L.C.	F	O		24-Nov-97	3563	3250
3001529830	BEESON F FEDERAL 018	Active	31	17.0S	30E	1000 S		2225 W	N		SOUTHERN BAY OPERATING, L.L.C.	F	O		4-Dec-97	3574	3300
3001504403	FEDERAL M 001	Plugged	31	17.0S	30E	330 S		2310 E	O		ANADARKO PETROLEUM CORP	F	I	21-Nov-88	30-Jun-82	3571	3650
3001529104	SAND HILLS SWD 001	Plugged	31	17.0S	30E	660 S		2220 E	O		HAVENOR OPERATING CO	F	S	9/30/2003	19-Oct-96	3595	13600
3001504395	BRIGHAM 001	Plugged	31	17.0S	30E	330 S		990 E	P		YATES PETROLEUM CORPORATION	f	O	10-Apr-87	<6/8/42	3553	2850
3001504397	BRIGHAM 003	Plugged	31	17.0S	30E	250 S		250 E	P		YATES PETROLEUM CORPORATION	F	O	01-Nov-02	16-Jan-57	3550	2870
3001504479	Yates A 004	P&A	6	18S	30E	330 N		990 E	A		YATES PETROLEUM CORPORATION	F	O	10/20/1939	31-Oct-01	3548	2850
3001504487	Yates A 012	P&A	6	18S	30E	990 N		330 E	A		YATES PETROLEUM CORPORATION	F	O	6-Jan-40	27-Dec-82	3549	2816
3001504478	Yates A 003	P&A	6	18S	30E	330 N		2310 E	B		YATES PETROLEUM CORPORATION	F	O	<8/17/49	11-Nov-02	3556	2845
3001504486	Yates A 011	P&A	6	18S	30E	990 N		1650 E	B		YATES PETROLEUM CORPORATION	F	O	6/19/550	6-Nov-82	3546	2841
3001504477	Yates A 002	P&A	6	18S	30E	330 N		1650 W	C		YATES PETROLEUM CORPORATION	F	I	24-Jul-39	27-Oct-83	3564	2834
3001504483	Yates A 008	P&A	6	18S	30E	990 N		2231 W	C		YATES PETROLEUM CORPORATION	F	O	<8/17/49	15-Nov-02	3557	2872
3001504481	Yates A 006	P&A	6	18S	30E	1650 N		2310 E	G		YATES PETROLEUM CORPORATION	F	O	5/12/1940	28-Oct-02	3549	2855

Item VII:

1. The maximum injected volume anticipated is 10,000 BWPD. Average anticipated is 5,000 BWPD.
2. Injection will be through a closed system.
3. Maximum injection pressure is expected to be 1,672 PSI.
4. Sources will be produced water. These will be compatible with waters in the disposal zone.
5. Water sample analysis from the Freedom Energy, LLC Aston Federal #, Unit I, Sec. 7, T18S-R30E, Eddy Co., shown below, is TDS 87,271 mg/l (Source: NM WAIDS):

NM WAIDS



Water Samples for Well ASTON FEDERAL 001

API = 3001510043

Formation = ARTES

Field = LOCO HILLS

Current Water Production Information

Instructions:

- Click For general information about this sample.
- Click For scale calculation pages (Stiff-Davis or Odde Tomson methods).
- Click To select this water sample for water mixing. It will lead to the main page, and add the sample ID to the mixing table.
- Click **664** Click the hyperlinked sample number to make a .csv for that sample, or select several check boxes and click Submit for multiple samples
The ions are in (mg/L) units.

	SampleID	T	R	S	SO4	CL	CO3	HCO3	K	Na	Ca	Mg
<input type="checkbox"/>	5564											
<input type="checkbox"/>		18S	30E	07	4096	83010	mill	165	mill	mill	mill	mill

SELECT/DESELECT ALL

Submit

Item VIII:

Disposal will be into the Permian Wolfcamp. The lithology is predominately dolomites, sandstones and shales. The interbedded members, both porous and non-porous, are effectively separated by very-low vertical permeability shale beds and/or carbonates. The majority of the beds are tight and form excellent barriers to the vertical movement of water. The Wolfcamp is overlain by sandstones, bounding shales and dolomites of the Bone Springs and underlain by lower Cisco/Canyon and Strawn limestones and shales respectively. No zones in, above or below the Wolfcamp are known to contain waters less than 10,000 mg/l.

There is no known fresh, potable or stock water within a 2-mile radius. Records from the New Mexico Office of the State Engineer on 4/30/2011 show no known water wells within the 2-mile radius of the proposed SWD disposal well.



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

UTMNA083 Radius Search (in meters):

Easting (X): 584473

Northing (Y): 3625333

Radius: 3300

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

4/30/11 8:06 PM

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WATER COLUMN/ AVERAGE
DEPTH TO WATER

Havenor Operating Company
Sand Hills SWD No. 1
660' FSL & 2220' FEL
Sec.31, T17S-R30E Eddy County, NM

API 30-015-29104

The surface geology of the greater area, including the 2-mile radius as shown in Item V above, is Quaternary eolian and piedmont deposits of Holocene to middle Pleistocene age. These are underlain by the Permian Rustler Formation and evaporites. Nearby, the top of the Salt is 567', base Salt 1322', Seven Rivers 1882', Queen 2545', Grayburg 3008', San Andres 3485'. In the target re-entry the Bone Springs is 5694, 3rd Bone Springs sand 8803', Wolfcamp 8915' and Cisco 9310'.

Item IX:

Acidize perforations in the Wolfcamp between 8,358' and 8,862' in 5-1/2" casing with approximately 20,000 gal 20% HCl.

Item X:

Logs are on file with the OCD.

Item XI:

No water wells located in the 2-mile area surrounding the proposed disposal. Please note Item VIII above.

Item XII:

There is no geological evidence of open faults nor hydrologic connection between the disposal zone and any possible underground sources of protectable water.

Havenor Operating Company
 Sand Hills SWD No. 1
 660' FSL & 2220' FEL
 Sec.31, T17S-R30E Eddy County, NM

API 30-015-29104

Original P&A diagram of EOG Resources, Inc..Sand Tank 31 Federal Com. #1

**Enron Oil & Gas Company #1 Sand Tank 31 Federal Com
 30-015-29104**

**Unit O, Sec 31, T17S-R30E
 Eddy Co., New Mexico
 DATE Foreman**

Casing Installation					
Well Bore Casing	Length	Depth	Description	OD	ID
	650'	650'	P&A 50' to surface 20 sxs 15 Joints 42# H-40 225 sx topped w/100 sx + 3 yds pea gravel" P&A 704-544 50 sxs P&A cut/pulled 5-12" 1909 25 sxs 1959-1841 tagged	11-3/4"	
	3,981'	3,981'	32# J-55 ST&C (cement circulated) P&A 25 sxs 4031-3931	8-5/8"	
		7,700'	CIBP + 15 sxs cement		
		7,766-7834	Perf Bone Spring .35" 46 shots. Acid 4800 gal		
		8,000'	CIBP + 4 sxs cement		
		8,443'	Multi-Stage cementer circulated 5-1/2" to surface filled 5-1/2" annulus w/ 9.5 ppg mud		
		10,000'	Top 1st stage 5-1/2" cement job (CBL)		
		10,950'	CIBP 10950' + 2 sxs cement		
		11,011-16'	Perf upper Morrow .34" 31 shots		
		12,290'	Top Devonian		
		12,720-12,751'	CIBP 12615 w/20' cement Perf Siluro-Devonian 187 holes		
		12,957'	5-1/2" set 12,957 w/DV tool @ 8,443' w/1423 sxs	5-1/2"	
		13,600'	TD		

Filename:

Havenor Operating Company
 Sand Hills SWD No. 1
 660' FSL & 2220' FEL
 Sec.31, T17S-R30E Eddy County, NM

API 30-015-29104

Present completion diagram Havenor Operating Co. Sand Hills SWD #1

PRESENT COMPLETION

API: 3001529104
 Operator: Havenor Operating Company
 Lease: Sand Hills SWD
 Location: Sec 31, T17S-R30E Eddy Co., NM
 Footage: 660 FSL, 2310 FEL

Well No: 1

Originally: EOG Sand Tank 31 Federal Com No. 1

KB: 3595
 GL: 3576

Original Surface Csg

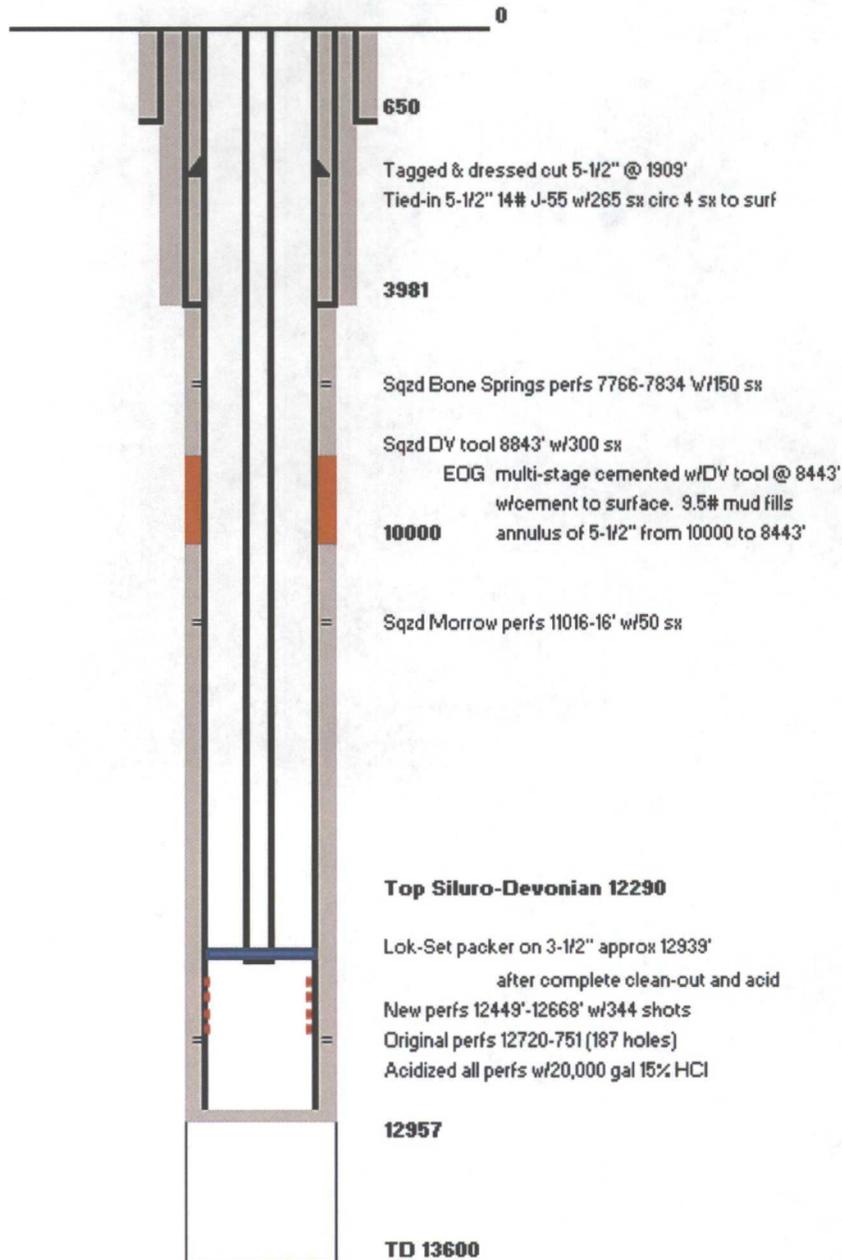
Size: 11-3/4"
 Set @: 650
 Sxs cmt: 225 sx + 3 yds gravel
 Circ: Topped from surface
 TOC:
 Hole Size: 14-3/4"

Original Intermediate Csg

Size: 8-5/8"
 Set @: 3981
 Sxs cmt: 475
 Circ: Circulated
 TOC:
 Hole Size: 11"

Original Production Csg

Size: 5-1/2" L80 17#
 Set @: 12957
 Sxs cmt: 2-Stage 12957
 Circ: Yes
 TOC:
 Hole Size: 7-7/8"



Not to Scale

Havenor Operating Company
Sand Hills SWD No. 1
660' FSL & 2220' FEL
Sec.31, T17S-R30E Eddy County, NM

API 30-015-29104

SPOT10 Satellite and Matching Topographic Map



Delorme Xmap6

Havenor Operating Company

API 30-015-29104

Sand Hills SWD No. 1
660' FSL & 2220' FEL
Sec.31, T17S-R30E Eddy County, NM

Item XIII:

Surface and Minerals Owner:

Bureau of Land Management
c/o Carlsbad Field Office
620 E. Greene Street
Carlsbad, NM 88220

Operators:

CBS Operating Corp
P.O. Box 2236
Midland, TX 79702

EOG Resources Inc.
P.O. Box 2267
Midland, TX 79702

Southern Bay Operating, L.L.C.
110 Cypress Station Dr. #220
Houston, TX 77090

Yates Petroleum Corp
105 S. 4th Street
Artesia, NM 88210

BLM Surface Lessee

Steve Haines
11032 #2 Lovington Hwy
Artesia, NM 88210

Item XIII:

Legal Publication

Affidavit of Publication

NO. 21670

STATE OF NEW MEXICO

County of Eddy:

Tim Menicutch



being duly sworn, says that he is the Editor

of the Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 consecutive weeks/days on the same

day as follows:

- First Publication May 11, 2011
- Second Publication _____
- Third Publication _____
- Fourth Publication _____
- Fifth Publication _____

Subscribed and sworn to before me this
11th day of May 2011



OFFICIAL SEAL
Danny Scott
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 3/18/2014

10th Danny Scott
Notary Public, Eddy County, New Mexico

Copy of Publication:

LEGAL NOTICE

Havenor Operating Company, 904 Moore Ave, Roswell, NM 88201, (575) 626-4518 is seeking approval from the New Mexico Oil Conservation Division to re-complete for commercial produced water disposal the Havenor Operating Company Sand Hills SWD No. 1 (SWD-1182) well located 660 from the south line and 2,200 feet from the east line of Section 31, T17S, R30E, Eddy County, N.M.. The well is located 2.5 miles southwest of Loco Hills junction of CR-217 and US-82. The new proposed disposal interval is in the Wolf-camp through perforation from 8,358 feet to 8,862 feet (QA). The present Siluro-Devonian disposal interval from 12,444 to 12,751 feet will then be abandoned. Havenor Operating Company plans to dispose of a maximum of 10,000 BWPDP with a maximum pressure of 1,672 psi. Parties with questions regarding this proposal can contact Kay Havenor with Havenor Operating Company at the address or phone number above. Interested parties must file objections or requests for hearing within 15 days to the Oil Conservation Division: 1220 S. St. Francis Dr., Santa Fe, NM 87505. Published in the Artesia Daily Press, Artesia, N.M., May 11, 2011. Legal No. 21670.

Havenor Operating Company
 Sand Hills SWD No. 1
 660' FSL & 2220' FEL
 Sec.31, T17S-R30E Eddy County, NM

API 30-015-29104

Item XIII:

Certified Mail Receipts

7010 0780 0002 2613 4324

U.S. Postal ServiceTM
CERTIFIED MAILTM RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

OFFICIAL USE

Carlsbad, NM 88220

Postage	\$	\$1.48
Certified Fee		\$2.85
Return Receipt Fee (Endorsement Required)		\$2.30
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$6.63

0602
 08 MAY 11 2011
 ROSWELL, NM
 Postmark Here

Sent To
Bureau of Land Management
 Street, Apt. No., or PO Box No.: 620 E. Greene St
 City, State, ZIP+4: Carlsbad, NM 88220

PS Form 3800, August 2006 See Reverse for Instructions

7010 0780 0002 2613 4331

U.S. Postal ServiceTM
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OFFICIAL USE

Midland, TX 79702

Postage	\$	\$1.48
Certified Fee		\$2.85
Return Receipt Fee (Endorsement Required)		\$2.30
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$6.63

0602
 08 MAY 11 2011
 ROSWELL, NM
 Postmark Here

Sent To
CBS Operating Corp
 Street, Apt. No., or PO Box No.: P.O. Box 2236
 City, State, ZIP+4: Midland, TX 79702

PS Form 3800, August 2006 See Reverse for Instructions

7010 0780 0002 2613 4355

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Midland, TX 79702

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Certified Fee		\$2.85
Return Receipt Fee (Endorsement Required)		\$2.30
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$6.63

0602
 08 MAY 11 2011
 ROSWELL, NM
 Postmark Here

Sent To
EOG Resources, Inc.
 Street, Apt. No., or PO Box No.: P.O. Box 2267
 City, State, ZIP+4: Midland, TX 79702

PS Form 3800, August 2006 See Reverse for Instructions

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OFFICIAL USE

Artesia, NM 88210

Postage	\$	\$1.48
Certified Fee		\$2.85
Return Receipt Fee (Endorsement Required)		\$2.30
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$6.63

0602
 08 MAY 11 2011
 ROSWELL, NM
 Postmark Here

Sent To
Mr. Steve Haines
 Street, Apt. No., or PO Box No.: 11032 #2 Lovington Hwy
 City, State, ZIP+4: Artesia, NM 88210

PS Form 3800, August 2006 See Reverse for Instructions

7010 0780 0002 2613 4317

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OFFICIAL USE

Houston, TX 77090

Postage	\$	\$1.48
Certified Fee		\$2.85
Return Receipt Fee (Endorsement Required)		\$2.30
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$6.63

0602
 08 MAY 11 2011
 ROSWELL, NM
 Postmark Here

Sent To
Southern Bay Operating LLC
 Street, Apt. No., or PO Box No.: 110 Cypress Station Dr #220
 City, State, ZIP+4: Houston, TX 77090

PS Form 3800, August 2006 See Reverse for Instructions

7010 0780 0002 2613 4362

U.S. Postal ServiceTM
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For delivery information visit our website at www.usps.com

OFFICIAL USE

Artesia, NM 88210

Postage	\$	\$1.48
Certified Fee		\$2.85
Return Receipt Fee (Endorsement Required)		\$2.30
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$6.63

0602
 08 MAY 11 2011
 ROSWELL, NM
 Postmark Here

Sent To
Yates Petroleum Corp
 Street, Apt. No., or PO Box No.: 105 S. 4th St.
 City, State, ZIP+4: Artesia, NM 88210

PS Form 3800, August 2006 See Reverse for Instructions

28b. Production - Interval C									
Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

28c. Production - Interval D									
Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

29. Disposition of Gas (Sold, used for fuel, vented, etc.)

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof. Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time-tool open, flowing and shut-in pressures and recoveries

31. Formation (Log) Markers

All reported by original operator. (EOG)

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth

32. Additional remarks (include plugging procedure):

Sqz original Bone Springs perms 7766-7834 twice w/total 250 sxs. Sqz leaking DV tool (from orig drilling) @8843' w/300 sxs. Sqz original Morrow perms 11011-11016' w/50 sxs. Csg tested OK after each plug-drilled and each squeeze. Final MIT witnessed and approved by OCD:12/21/10.

33. Indicate which items have been attached by placing a check in the appropriate boxes:

- Electrical/Mechanical Logs (1 full set req'd)
 Geologic Report
 DST Report
 Directional Survey
 Sundry Notice for plugging and cement verification
 Core Analysis
 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (please print) Kay Havenor

Title Geologist

Signature Kay Havenor

Date 01/11/2011

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Injection Permit Checklist (11/15/2010)

WFX _____ PMX _____ SWD 182-A Permit Date 6/27/11 UIC Qtr (A/M/J)

Wells 1 Well Name(s): SAND HILLS SWD #1

API Num: 30-015-29104 Spud Date: 3/0ct/98 New/Old: N (UIC primacy March 7, 1982)

Footages 66 FSL/2220 FEL Unit 0 Sec 31 Tsp 17S Rge 30E County EDDY

General Location: 2.5 mi SW of LOO HILLS

Operator: HAVENOR OPERATING COMPANY Contact Kay Havenor

OGRID: 10216 RULE 5.9 Compliance (Wells) 0/2 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed Current Status: P&A Ready Completed a DEN SWD

Planned Work to Well: PLUG BACK TO 10,100, Perf SQZ / Perf INJECT

Diagrams: Before Conversion After Conversion Elogs in Imaging File:

Well Details:	Sizes		Setting Depths	Stage Tool	Cement Sx or Cf	Determination Method
	Hole.....	Pipe				
New ___ Existing ___ Surface	<u>1 3/4</u>	<u>1 3/4</u>	<u>650</u>	<u>—</u>	<u>225 +</u>	<u>CIRC</u>
New ___ Existing ___ Intern	<u>1 1/2</u>	<u>8 5/8</u>	<u>3981</u>		<u>475</u>	<u>CIRC</u>
New ___ Existing ___ LongSt	<u>7 7/8</u>	<u>5 1/2</u>	<u>12957</u>	<u>8443</u>	<u>1423+265</u>	<u>10,000' Stage A CBL</u>
New ___ Existing ___ Liner			<u>13600 TD</u>			
New ___ Existing ___ OpenHole						

Depths/Formations: _____ Depths, Ft. _____ Formation _____ Tops? (See SWD-1182 DENOVIAN)

Formation(s) Above	<u>8142</u>	<u>3rd BS.</u>	<input checked="" type="checkbox"/>
Injection TOP:	<u>8358</u>	<u>W.C.</u>	<input checked="" type="checkbox"/>
Injection BOTTOM:	<u>8862</u>	<u>W.C.</u>	
Formation(s) Below	<u>9645</u>	<u>TO PENN</u>	<input checked="" type="checkbox"/>

Max. PSI 1672 Open Hole _____ Perfs
 Tubing Size 3/2 Packer Depth 8330'

Capitan Reef? (Botash? Noticed? [WIPP? Noticed? Salado Top/Bot (567-1322) Cliff House?

Fresh Water: Depths: None Formation QAL/Holocene Wells? 0 Analysis? Affirmative Statement

Disposal Fluid Analysis? Sources: Commercial/COMPATIBLE COMMON

Disposal Interval: Analysis? Production Potential/Testing: SWD, Internal

Notice: Newspaper Date 5/11/11 Surface Owner BLM/State Affairs Mineral Owner(s) BLM

RULE 26.7(A) Affected Persons: SOUTHERN BAY / Y22 / EOG / CBS

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

.....Active Wells 1 Repairs? 0 Which Wells? —

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

Issues: SQZ interval below 8862' Request Sent _____ Reply: _____