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Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

***SUBMIT IN TRIPLICATE*- Other instructions on reverse side.**

1 Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other	5 Lease Serial No: **NMNM94846**
2 Name of Operator: **Marbob Energy Corporation**	6 If Indian, Allottee or Tribe Name:
3a Address: **PO Box 227, Artesia, NM 88211-0227**	3b Phone No *(include area code)*: **575-748-3303**
4 Location of Well *(Footage, Sec., T., R., M., or Survey Description)*: **570 FNL 1700 FWL, Sec., 5-T20S-R32E, Lot 3**	7 If Unit or CA/Agreement, Name and/or No: **NMNM116244**
	8 Well Name and No.: **George Federal Com #2**
	9 API Well No: **30-025-38115**
	10 Field and Pool, or Exploratory Area: **Greenwood; Morrow, SE**
	11 County or Parish, State: **Lea Co., NM**

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☑ Water Disposal	

13 Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA Required subsequent reports shall be filed within 30 days following completion of the involved operations If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection)

MARBOB ENERGY REQUESTS APPROVAL FOR DISPOSAL OF WATER PRODUCTION.

ATTACHED, PLEASE FIND THE WATER PRODUCTION & DISPOSAL INFORAMATION SHEET, A WATER ANALYSIS AND A COPY OF THE STATE ISSUED PERMIT.

APPROVED
MAR 7 2009
/s/ JD Whitlock Jr
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

SUBJECT TO LIKE APPROVAL BY STATE

R-6811-B

14 I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)*: **JEANNIE M. SILLAS** Title **PRODUCTION ANALYST**

Signature: Jeannie M. Sillas Date: **02/27/2009**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by: PETROLEUM ENGINEER Title Date MAR 13 2009

Conditions of approval, if any, are attached Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon Office

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

(Instructions on page 2)

ATTACHMENT TO INCIDENT OF NON COMPLIANCE NUMBER __ -___-___

WATER PRODUCTION & DISPOSAL INFORMATION

In order to process your disposal request, the following information must be completed:

1. Names(s) of all formation(s) producing water on the lease.
GREENWOOD; MORROW, NE

2. Amount of water produced from all formations in barrels per day.
APPX 2 BBLS PER DAY

3. A Current water analysis of produced water from all zones showing at least the total dissolved solids, ph, and the concentrations of chlorides and sulfates.

4. How water is stored on the lease.
300 BBL FIBERGLASS TANK

5. How water is moved to the disposal facility.
TRUCKED

6. Identify the Disposal Facility by:
   A. Facility Operator Name LOCO HILLS WATER DISPOSAL COMPANY.

   B. Name of facility of well name & number LOCO HILLS WATER DISPOSAL

   C. Type of facility of well (WDW)(WIW), etc. WDW

   D. Location by ¼, ¼, Section, Township and Range SEC.5-T20S-R32E.

7. Attach a copy of the State issued permit for the Disposal Facility.

ATTACHED PERMIT #R-6811

Submit all of the above required information to this office, 414 West Taylor, Hobbs, NM 88240, on a Sundry Notice Form 3160-5, 1 Original and 5 copies, within the required time frame. (This form may be used as an attachment to the Sundry Notice.) Call (505) 393-3612 if you need to further discuss this matter.

Analytical Laboratory Report for:

BJ Chemical Services

MARBOB ENERGY CORPORATION

Account Representative:
Polk, Bill

Production Water Analysis

Listed below please find water analysis report from: Trapper Federal 13 Com, 2

Morrow

Lab Test No:	**2004123540**	**Sample Date:**	**06/10/2004**
Specific Gravity:	**1.042**		
TDS:	**63314**		
pH:	**6.16**		

Cations:	**mg/L**	**as:**
Calcium	**1987**	**(Ca^{++})**
Magnesium	**278**	**(Mg^{++})**
Sodium	**18569**	**(Na^{+})**
Iron	**54.50**	**(Fe^{++})**
Barium	**1.10**	**(Ba^{++})**
Strontium	**157.20**	**(Sr^{++})**
Manganese	**1.13**	**(Mn^{++})**
Anions:	**mg/L**	**as:**
Bicarbonate	**566**	**(HCO_3^{-})**
Sulfate	**900**	**($SO_4^{=}$)**
Chloride	**40800**	**(Cl^{-})**
Gases:		
Carbon Dioxide		**(CO_2)**
Hydrogen Sulfide		**(H_2S)**

Lab Comments:
Potassium = 92.4 mg/L
Lab measured pH
Lab measured alkalinity

This water is out of the same formation that the George 14 2 water is coming from & therefore should represent these two leases

MARBOB ENERGY CORPORATION

Lab Test No: 2004123540

DownHole SAT™ Scale Prediction @ 100 deg. F

BJ Chemical Services

Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO3)	1.01	.00196
Aragonite (CaCO3)	.857	-.0293
Witherite (BaCO3)	< 0.001	-62.07
Strontianite (SrCO3)	.127	-1.77
Magnesite (MgCO3)	.161	-.769
Anhydrite (CaSO4)	.473	-653.6
Gypsum (CaSO4*2H2O)	.536	-492.39
Barite (BaSO4)	3.52	1.34
Celestite (SrSO4)	.489	-219.28
Silica (SiO2)	0	-146.94
Brucite (Mg(OH)2)	< 0.001	-2.28
Magnesium silicate	0	-345.93
Siderite (FeCO3)	43.81	.199
Halite (NaCl)	.0128	-496058
Thenardite (Na2SO4)	< 0.001	-209148
Iron sulfide (FeS)	0	-.0699

Interpretation of DHSat Results:

The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The scale is logarithmic, i.e. a Saturation Index of 3 is 10 times more saturated than a value of 2.

The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) infinity to positive (precipitating) infinity. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 7720
Order No. R-6811-B

APPLICATION OF LOCO HILLS WATER DISPOSAL COMPANY FOR AN AMENDMENT TO DIVISION ORDER No. R-6811-A, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 29, 1982, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 30th day of December, 1982, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Loco Hills Water Disposal Company, seeks an order amending Division Order No. R-6811-A to remove the present maximum disposal limit of 2,500 barrels per acre per month imposed upon the salt water disposal facility authorized, therein, in Section 16, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico.

(3) That said Order No. R-6811-A was issued by the Commission following the hearing of Case No. 7329 De Novo on July 14, 1982.

(4) That in said Order No. R-6811-A, the Commission made, among others, the following findings:

> "(6) That Order (3) of Division Order No. R-3221, as amended, prohibits in that area encompassed by Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, the disposal, subject to minor exceptions, of water produced

in conjunction with the production of oil or gas, or both, on the surface of the ground, or in any pit, pond, lake, depression, draw, streambed, or arroyo, or in any watercourse, or in any other place or in any manner which would constitute a hazard to any fresh water supplies and said disposal has not previously been prohibited.

(7) That the aforesaid Order No. R-3221 was issued in order to afford reasonable protection against contamination of fresh water supplies designated by the State Engineer through disposal of water produced in conjunction with the production of oil or gas, or both, in unlined surface pits.

(8) That the State Engineer has designated, pursuant to Section 65-3-11 (15), N.M.S.A., 1953 Compilation, all underground water in the State of New Mexico containing 10,000 parts per million or less of dissolved solids as fresh water supplies to be afforded reasonable protection against contamination; except that said designation does not include any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination.

(9) That the applicant seeks an exception to the provisions of the aforesaid Order (3) of Division Order No. R-3221, as amended, to permit the commercial disposal of produced salt water into the aforesaid pits at the site described above.

(10) That the applicant proposes to install and operate an effective system, composed of holding and separating tanks, and a skimming pit, for the removal of oily and solid wastes from the waters to be disposed of into said system.

(11) That there is no fresh water in the immediate vicinity of said disposal system, but there are wells producing fresh water some nine miles south of the proposed disposal pits.

(12) That the native soils underlying said pits will permit the vertical percolation of some of the waters disposed of in said system.

(13) That the vertical percolation of waters from said system should not endanger any fresh waters.

(14) That to ensure that waters percolating from said pits move only vertically, monitor wells should be

drilled in a pattern as shown on Exhibit "A" designed to detect horizontal movement of water from said disposal area.

(15) That in the event salt water is detected in any monitor well, Case No. 7329 should be reopened within 90 days to permit applicant to appear and show cause why the authority to use said pits for water disposal should not be rescinded.

(16) That the maximum volume of produced water to be disposed of through said system should not exceed 2500 barrels per acre per month.

(17) That a freeboard of a minimum of three feet should be maintained at all times."

(5) That said Order No. R-6811-A did contain provisions limiting the maximum disposal volume to 2500 barrels per acre per month, requiring maintenance of a minimum three foot freeboard in all pits and the drilling and equiping of monitor wells.

(6) That the applicant now seeks the amendment of said Order No. R-6811-A to remove only the 2500 barrels per acre per month disposal volume limitation.

(7) That the application was opposed by a surface and ground water interest owner in the area which might be affected by the disposal operation.

(8) That the applicant presented evidence designed to demonstrate that the change in disposal volume would not significantly alter the hydrologic regime established by institution of the disposal operation nor threaten contamination of any fresh water supplies.

(9) That the protestant presented new evidence which tended to show that there were both southeast and southwest trending slopes on the interface between the Santa Rosa formation and the Rustler formation under the disposal pits.

(10) That the protestant further presented testimony tending to show that an impermeable clay barrier exists at the base of the Santa Rosa formation which would effectively stop the vertical infiltration of the disposed waters into the Rustler formation.

(11) That if the disposed water which percolates through the Santa Rosa formation from said pits cannot move into the Rustler formation, it may move laterally through the Santa Rosa formation where it may endanger fresh water supplies.

(12) That in order to verify that any water percolating from said pits ultimately enters the Rustler formation and does not move laterally within the Santa Rosa formation, the well monitoring system provided for in said Order No. R-6811-A should be expanded.

(13) That the additional monitor wells should be drilled to the Rustler formation and should be located at points approximately 250 feet north of the present monitor well No. 9 located to the east of the disposal facility, approximately 150 feet from monitor well No. 2 along a line connecting monitor well 2 and monitor well 3, and at a third location approximately midway between the present monitor holes No. 4 and 5 all as depicted on Exhibit "A" to said Order No. R-6811-A.

(14) That provided that these additional monitor wells are drilled and utilized in the same manner as the original monitor wells, no increased threat to fresh water supplies should result from lifting the 2500 barrels-per-acre disposal limitation contained in Order No. R-6811-A.

(15) That the application should be approved and the additional monitor wells should be required.

(16) That the granting of this application restricted in the manner set forth above will not cause waste, or impair correlative rights, or endanger designated fresh water supplies.

IT IS THEREFORE ORDERED:

(1) That the application of Loco Hills Water Disposal Company for an amendment of Division Order No. R-6811-A to remove the 2500 barrel per acre per month disposal limitation included in Order No. (1), thereof, is hereby approved.

PROVIDED HOWEVER, that this order shall not become effective until the applicant has drilled and completed three additional monitor wells located approximately (1) 250 feet to the North of present monitor hole No. 9, (2) 150 feet from present monitor well No. 2 along a line connecting monitor well No. 2 and 3 and (3) midway between the present monitor holes Nos. 4 and 5.

PROVIDED FURTHER, that each of said monitor wells shall be drilled to the top of the Rustler formation and that such wells

shall be cased and operated in the same manner as those monitor wells required by Order No. R-6811-A.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

OIL CONSERVATION COMMISSION

ALEX J. ARMIJO, Member

ED KELLEY, Member

JOE D. RAMEY, Member & Secretary