



Western Water & Land, Inc.

June 24, 2013

Mr. Brandon Danforth  
Environmental Specialist  
WPX Energy  
1058 County Road 215  
Parachute, Colorado 81635

**RE: RGU 42-26-198 Drill Pad Baseline Water Quality Evaluation**

Dear Mr. Danforth,

Western Water & Land, Inc. (WWL) has completed a hydrologic water source evaluation for the WPX Energy Rocky Mountain LLC (WPX) RGU 42-26-198 Drill Pad in accordance with COGCC Rule 609. Drill pad RGU 42-26-198 is located in SE1/4 NE1/4, Section 26, Township 1S, Range 98W, 6PM. The evaluation considered all water sources as defined in Rule 609 within a 0.5-mile radius of the referenced drill pad. Water sources located on the basis of section quarters were included in the evaluation if the any portion of the section quarter(s) lies within the 0.5-mile radius area. A preliminary screening of the water sources was completed to identify the sources considered to be potentially available for sampling pending results of the owner questionnaire and field inspections to verify sampling feasibility and the consent of the structure owners. Each potentially available water source was then evaluated to identify the preferred sources for the baseline program. If the resulting number of potentially available sources was four or less, all of the sources were included in the list of preferred sources. If more than four sources were potentially available, the sources were prioritized based on WWL's hydrologic knowledge of the region, general hydrologic rationale, and in accordance with the guidelines specified in Rule 609.

**Water Sources**

Water sources as defined in Rule 609 include water wells registered with the Colorado Division of Water Resources (DWR), permitted or adjudicated springs, and monitoring wells installed for baseline sampling and monitoring under COGCC Rules 318A.e(4), 608, or 609. Water sources located within a 0.5-mile radius of the RGU 42-26-198 Drill Pad are shown in Figure 1. Well permit files and/or water right files are included for all wells located within the 0.5-mile radius evaluation area in Attachment A. Structure owners are identified as reported in DWR databases. Property owners are identified as reported in county property records. The water sources within a 0.5-mile radius of the drill pad are summarized as follows:

- Natec Wells Alt Pt 7 (Non-existent structure with no contemporary or historical record)
  - Structure Owner:  
Natural Soda, Inc  
3200 County Road 31  
Rifle, CO 81650
  - Property Owner:  
BLM  
White River Field Office

220 E. Market Street  
Meeker, CO 81641

- Case No.: 88CW0420
- Decree Rate: 0.24 cfs (apex absolute) 44.76 cfs (apex conditional)
- Decreed Use(s): irrigation, municipal, industrial, domestic, storage
- Water Well Permit No. 74491-F
  - Applicant/Owner:  
Natural Soda, Inc  
3200 County Road 31  
Rifle, CO 81650
  - Property owner:  
BLM  
White River Field Office  
220 E. Market Street  
Meeker, CO 81641
  - Use(s): commercial, industrial
  - Well Depth: 1460 ft.
  - Well Yield: 110 gpm
- Water Well Permit No. 285229
  - Applicant/Owner:  
Natural Soda, Inc  
3200 County Road 31  
Rifle, CO 81650
  - Property owner:  
BLM  
White River Field Office  
220 E. Market Street  
Meeker, CO 81641
  - Use(s): monitoring well
  - Well Depth: 1978 ft.
  - Well Yield: unknown
- Water Well Permit No. 49177-MH
- Water Well Permit No. 49216-MH
- Water Well Permit No. 16203-MH
- Water Well Permit No. 62280-F (Permit issued; Completion status unknown)

### **Potentially Available Water Sources**

Each water source identified within the 0.5-mile radius area is considered to be a potentially available water source unless existing information suggests that the water source would not be suitable for the baseline water quality program. The following water source is considered potentially available for inclusion in the program:

- Water Well Permit No. 74491-F

- Water Well Permit No. 285229

### **Preferred Water Sources**

In accordance with Rule 609, all available water sources within a 0.5-mile radius of the drill pad, up to a maximum of four sources, must be included in the baseline and subsequent monitoring program. Because only two potentially available water sources were identified they are considered to be preferred water sources. Groundwater from these sources is expected to be produced from a shallow aquifer source. The preferred potentially available water source is as follows:

- Water Well Permit No. 74491-F
- Water Well Permit No. 285229

The preferred water sources will be incorporated into the baseline water quality monitoring program provided the structure owner, or land owner if the structure owner is not known, grants approval to sample the source and inspection of the structure confirms that a representative sample can be obtained from the structure.

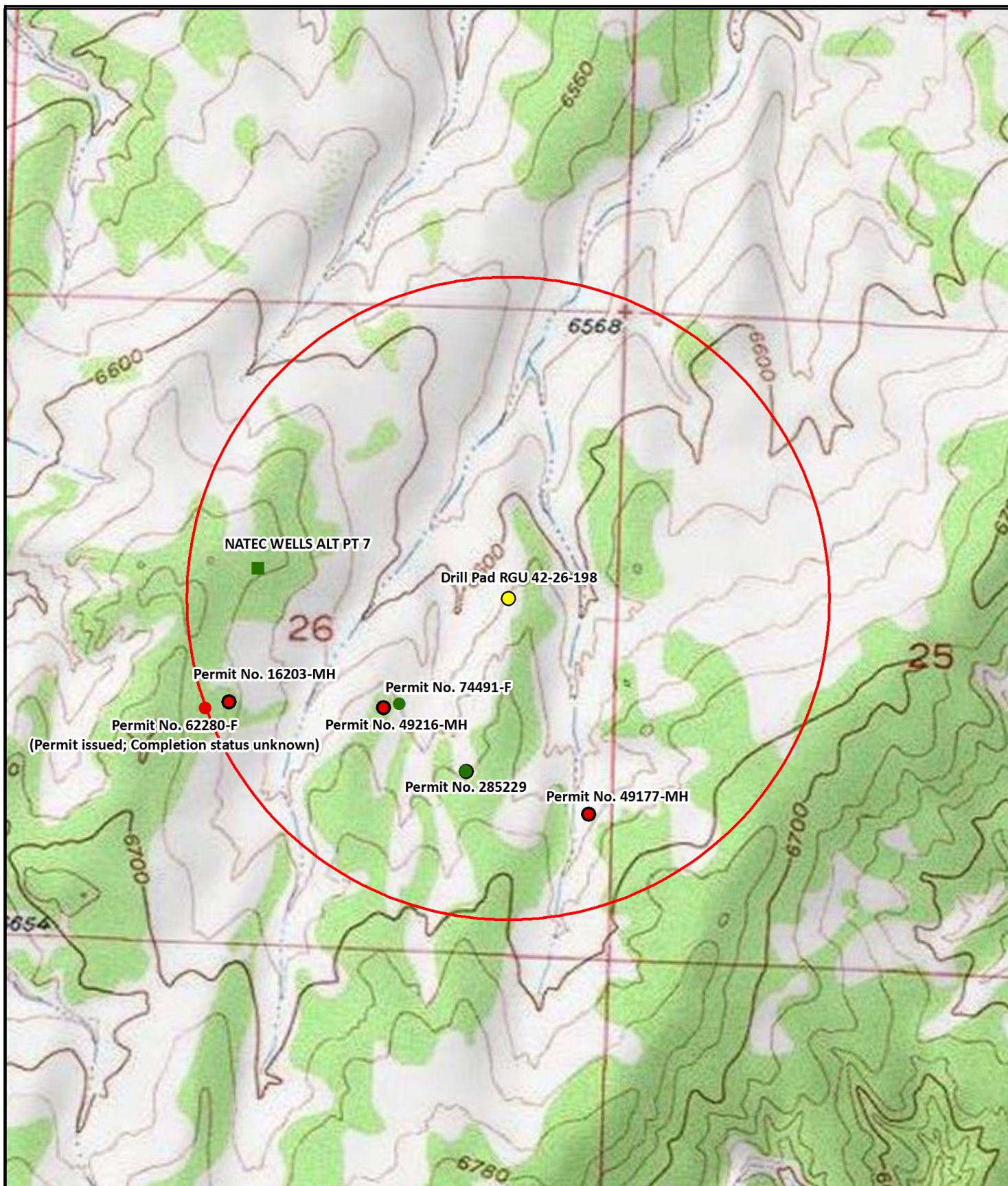
If you have any questions or concerns, please contact me at (970) 242-0170.

Sincerely,

A handwritten signature in black ink, appearing to read "Bruce D. Smith". The signature is fluid and cursive, with the first name "Bruce" being more legible than the last name "Smith".

Bruce D. Smith  
Principal Hydrogeologist  
WESTERN WATER & LAND, INC.

Attachments



#### Legend

- Decree
  - Constructed well
  - Monitoring hole
  - Drill Pad RGU 42-26-198
  - 0.5-Mile Radius Evaluation Area
  - No permit or not completed
- Feet
- 1,000 500 0 1,000
- 1:13,000

**Figure 1: Drill Pad Location RGU 42-26-198  
0.5 Mile Radius Water Source Evaluation  
SE1/4, NE1/4, S26, T1S, R98W, 6 PM**

Rio Blanco County, Colorado  
WPX Energy Rocky Mountain LLC

Basemap Source: Esri ArcGIS Online



Western Water & Land, Inc.  
Applications in Earth Science

## Attachment A

### Water Source Records



Structure Name:

NATEC WELLS ALT PT 7

Water District:

43

Structure ID Number:

5105

Source:

YELLOW CK

Location:

Q10

Q40

Q160

Section

Twنشp

Range

PM

SE

NW

26

1S

98W

S

Distance From Section Lines:

From N/S Line:

From E/W Line:

UTM Coordinates (NAD 83):

Northing (UTM y):

4426032

Easting (UTM x):

212731

Spotted from PLSS distances from section lines

Latitude/Longitude (decimal degrees):

39.935681

-108.361898

Water Rights Summary:

Total Decreed Rate(s) (CFS):

Absolute:

0.0000

Conditional:

0.0000

AP/EX:

0.2400

Total Decreed Volume(s) (AF):

Absolute:

0.0000

Conditional:

0.0000

AP/EX:

0.0000

Water Rights -- Transactions										
Case Number	Adjudication Date	Appropriation Date	Administration Number	Order Number	Priority Number	Decreed Amount	Adjudication Type	Uses	Action Comment	
88CW0420	1973-12-31	1967-02-28	44925.42792	0		5.0000	C S,C,AP	489	ALT PT FOR ID6017	
88CW0420	1973-12-31	1967-02-28	44925.42792	0		0.0600	C S,CA,AP	489	ALT PT FOR ID6017	
88CW0420	1973-12-31	1967-02-28	44925.42792	0		5.0000	C S,C,AP	489	ALT PT FOR ID6012	
88CW0420	1973-12-31	1967-02-28	44925.42792	0		0.0600	C S,CA,AP	489	ALT PT FOR ID6012	
88CW0420	1973-12-31	1967-02-28	44925.42792	0		5.0000	C S,C,AP	489	ALT PT FOR ID6072	
88CW0420	1973-12-31	1967-02-28	44925.42792	0		0.0600	C S,CA,AP	489	ALT PT FOR ID6072	
88CW0420	1973-12-31	1967-02-28	44925.42792	0		5.0000	C S,C,AP	489	ALT PT FOR ID6013	
88CW0420	1973-12-31	1967-02-28	44925.42792	0		0.0600	C S,CA,AP	489	ALT PT FOR ID6013	
88CW0420	1975-12-31	1974-11-08	45655.45602	0		5.0000	C S,C,AP	123489	ALT PT FOR ID6030	
88CW0420	1975-12-31	1974-11-08	45655.45602	0		5.0000	C S,C,AP	123489	ALT PT FOR ID6031	
88CW0420	1975-12-31	1974-11-08	45655.45602	0		5.0000	C S,C,AP	123489	ALT PT FOR ID6032	
88CW0420	1975-12-31	1974-11-08	45655.45602	0		5.0000	C S,C,AP	123489	ALT PT FOR ID6033	
88CW0420	1982-12-31	1981-01-31	48212.47878	0		1.0000	C S,C,AP	12480	ALT PT FOR ID5052	
88CW0420	1982-12-31	1981-01-31	48212.47878	0		1.0000	C S,C,AP	12480	ALT PT FOR ID5064	
88CW0420	1982-12-31	1981-03-31	48212.47937	0		1.0000	C S,C,AP	12480	ALT PT FOR ID5065	
88CW0420	1982-12-31	1981-04-30	48212.47967	0		1.0000	C S,C,AP	12480	ALT PT FOR ID5066	
88CW0420	1982-12-31	1981-05-31	48212.47998	0		1.0000	C S,C,AP	12480	ALT PT FOR ID5067	

Water Rights -- Net Amounts										
Adjudication Date	Appropriation Date	Administration Number	Order Number	Priority/Case Number	Rate (CFS)			Volume (Acre-Feet)		
					Absolute	Conditional	AP/EX	Absolute	Conditional	AP/EX
1973-12-31	1967-02-28	44925.42792	0	88CW0420	0	0	20.0000			
1975-12-31	1974-11-08	45655.45602	0	88CW0420	0	0	20.0000			
1982-12-31	1981-01-31	48212.47878	0	88CW0420	0	0	2.0000			
1982-12-31	1981-03-31	48212.47937	0	88CW0420	0	0	1.0000			
1982-12-31	1981-04-30	48212.47967	0	88CW0420	0	0	1.0000			
1982-12-31	1981-05-31	48212.47998	0	88CW0420	0	0	1.0000			

Irrigated Acres Summary -- Totals From Various Sources										
GIS Total (Acres):					Reported:					
No data available for this report										
Diversion Comments Total (Acres):					Reported:					
Structure Total (Acres):					Reported:					

Irrigated Acres From GIS Data							
Year	Land Use	Acres Flood	Acres Furrow	Acres Sprinkler	Acres Drip	Acres Groundwater	Acres Total
No data available for this report							

### Diversion Summary in Acre-Feet - Total Water Through Structure

Year	FDU	LDU	DWC	Maxq & Day	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
------	-----	-----	-----	------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	-----	-------

No data available for this report

*Minimum:*  
*Maximum:*  
*Average:*

Notes:     The average considers all years with diversion records, even if no water is diverted.  
              The above summary lists total monthly diversions.  
              \* = Infrequent Diversion Record. All other values are derived from daily records.  
              Average values include infrequent data if infrequent data are the only data for the year.

### Diversion Comments

IYR	NUC Code	Acres Irrigated	Comment
-----	----------	-----------------	---------

No data available for this report

Note: Diversion comments and reservoir comments may be shown for a structure, if both are available.

Form No.  
GWS-25

**OFFICE OF THE STATE ENGINEER**  
**COLORADO DIVISION OF WATER RESOURCES**  
818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203  
(303) 866-3581

LIC

WELL PERMIT NUMBER 74491 - F -  
DIV. 6 WD 43 DES. BASIN MD

APPLICANT

NATURAL SODA INC  
3200 RBC RD 31  
RIFLE, CO 81650-

(970) 878-3674

APPROVED WELL LOCATION

RIO BLANCO COUNTY  
NW 1/4 SE 1/4 Section 26  
Township 1 S Range 98 W Sixth P.M.

DISTANCES FROM SECTION LINES

3275 Ft. from North Section Line  
3307 Ft. from West Section Line

UTM COORDINATES (Meters, Zone: 13, NAD83)

Easting: Northing:

**PERMIT TO CONSTRUCT A WELL**

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

- 1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
- 2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
- 3) Approved pursuant to CRS 37-90-137(2), as an alternate point of diversion for the NaTec wells, on the condition that this well is operated in accordance with the NaTec Minerals, Inc., Augmentation Plan approved by the Division 5 Water Court in case no. 88CW0420. If this well is not operated in accordance with the terms of said decree, it will be subject to administration including orders to cease diverting water. This well is known as 2010-26-198-2C.
- 4) The use of ground water from this well, in combination with the other wells constructed pursuant to case no. 88CW0420, as part of an integrated water supply system in the mining operation, will be used for domestic, commercial, industrial, and irrigation purposes, in conjunction with the production of sodium bicarbonate from nahcolite solution mining.
- 5) The maximum pumping rate of this well shall not exceed 500 GPM, with the combined rate of all of the wells constructed pursuant to case no. 88CW0420 not to exceed 2,244 GPM (5 cfs).
- 6) The combined average annual amount of ground water to be appropriated from this well, in combination with the other wells constructed pursuant to case no. 88CW0420, shall not exceed 1,600 acre-feet.
- 7) The owner shall mark the well in a conspicuous place with well permit number(s), name of the aquifer, and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.
- 8) A totalizing flow meter must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (recorded at least annually) and submitted to the Division Engineer pursuant to case no. 88CW0420.
- 9) This well shall be constructed not more than 200 feet from the location specified on this permit and at least 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.

APPROVED  
JSG

State Engineer

Receipt No. 3646673

DATE ISSUED 09-23-2010

By

EXPIRATION DATE 09-23-2011



COLORADO DIVISION OF WATER RESOURCES  
DEPARTMENT OF NATURAL RESOURCES  
1313 SHERMAN ST, RM 818, DENVER, CO 80203  
phone - info: (303) 866-3587 main: (303) 866-3581  
fax: (303) 866-3589 http://www.water.state.co.us

Office Use Only

Form GWS-45 (07/2009)

## GENERAL PURPOSE

### Water Well Permit Application

Review instructions on reverse side prior to completing form.  
The form must be completed in black or blue ink or typed.

RECEIVED

JUL 30 2010

WATER RESOURCES  
STATE ENGINEER  
COLORADO

#### 1. Applicant Information

Name of applicant

Natural Soda, Inc.

Mailing address

3200 RBC Road 31

City

Rifle

State

CO

Zip code

81650

Telephone #

(970) 878-3674

E-mail (Optional)

#### 2. Type Of Application (check applicable boxes)

- ☒ Construct new well ☐ Change source (aquifer)  
☐ Replace existing well ☐ Reapplication (expired permit)  
☐ Use existing well ☐ COGCC well  
☐ Change or increase use ☒ Other: 88CW420 Decree

#### 3. Refer To (if applicable)

Well permit #

Water Court case #

88CW420

Designated Basin Determination #

Well name or #

2010-26-198-2C

#### 4. Location Of Proposed Well (Important! See Instructions)

County

Rio Blanco

NW

1/4 of the SE

1/4

Section

26

Township

N or S

☐ N ☒ S

Range

E or W

☐ E ☒ W

Principal Meridian

6th

Distance of well from section lines (section lines are typically not property lines)

3275.9

Ft. from ☒ N ☐ S

3307.4

Ft. from ☐ E ☒ W

For replacement wells only - distance and direction from old well to new well

feet

direction

Well location address (Include City, State, Zip)

☒ Check if well address is same as in Item 1.

Optional: GPS well location information in UTM format You must check GPS unit for required settings as follows:

Format must be UTM

☐ Zone 12 or ☐ Zone 13

Units must be Meters

Datum must be NAD83

Unit must be set to true north

Was GPS unit checked for above? ☐ YES

Easting

Northing

Remember to set Datum to NAD83

#### 5. Parcel On Which Well Will Be Located

(YOU MUST ATTACH A CURRENT DEED FOR THE SUBJECT PARCEL)

A. Legal Description (may be provided as an attachment):

The property where the well will be located is leased from the Bureau of Land Management. Copies of the Lease Agreements are attached as Exhibit A.

B. # of acres in parcel

8,244

C. Owner

United States

D. Will this be the only well on this parcel? ☐ YES ☒ NO (if no - list other wells)

See 88CW420 Decree

E. State Parcel ID# (optional):

#### 6. Use Of Well (check applicable boxes)

Attach a detailed description of uses applied for.

- ☒ Industrial ☐ Dewatering System  
☐ Municipal ☐ Geothermal (☐ production or ☐ reinjection)  
☒ Irrigation ☒ Other (describe): Pursuant to 88CW420  
☒ Commercial

#### 7. Well Data (proposed)

Maximum pumping rate

500

gpm

Annual amount to be withdrawn

300

acre-feet

Total depth

1430

feet

Aquifer

A Groove

#### 8. Land On Which Ground Water Will Be Used

Legal Description (may be provided as an attachment):

The water will be used pursuant to the decree entered in Case No. 88CW420.

(If used for crop irrigation, attach a scaled map that shows irrigated area.)

A. # Acres

B. Owner

C. List any other wells or water rights used on this land:

See 88CW420

#### 9. Proposed Well Driller License #(optional):

#### 10. Signature Of Applicant(s) Or Authorized Agent

The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.

Sign here (Must be original signature)

Date

Print name & title

Timothy R. Buchanan, Authorized Agent

#### Office Use Only

USGS map name

DWR map no.

Surface elev.

Typical Driller See

88CW420

Receipt area only

Unnamed Trk to Yellow Creek,  
Trk to White River

Trans Number: 3646673  
7/30/2010 11:18:33 AM  
Mike Corrigan (15)  
Total Trans Amt: \$100.00  
CHECK

Check Number: 3565

Check Amount: \$100.00

AQUAMAP - No oil/gas

WE - NW 1/4 - within 600'

WR

CWCB

TOPO

MYLAR

SB5

DIV 6 WD 43 BA MD

No wells within 600' - Statement Received  
Agency letter received

**BUCHANAN AND SPERLING, P.C.**

*ATTORNEYS AT LAW*

*Please send correspondence to:*

TIMOTHY R. BUCHANAN

[trb@tbvs.net](mailto:trb@tbvs.net)

VERONICA A. SPERLING

[vsperling@tbvs.net](mailto:vsperling@tbvs.net)

7703 RALSTON ROAD

ARVADA, CO 80002

TELEPHONE: (303) 431-9141

FACSIMILE: (800) 803-6648

EMAIL: [tbvs@tbvs.net](mailto:tbvs@tbvs.net)

ERIC R. POTYONDY

[erp@tbvs.net](mailto:erp@tbvs.net)

JOHN P. JUSTUS

[jjustus@tbvs.net](mailto:jjustus@tbvs.net)

**BOULDER OFFICE**

1113 SPRUCE STREET, SUITE 400

BOULDER, CO 80302

WEBSITE: [www.tbvs.net](http://www.tbvs.net)

July 30, 2010

Dick Wolfe, State Engineer  
Colorado Division of Water Resources  
1313 Sherman Street, Rm. 818  
Denver, CO 80203

Re: Natural Soda, Inc. - Case No. 88CW420, Application for New Well Permit

Dear Mr. Wolfe:

I am writing to you on behalf of Natural Soda, Inc. Natural Soda, Inc. is the owner of four (4) federal sodium leases located in Rio Blanco County. Water supply for the four (4) sodium leases is currently provided pursuant to water withdrawn pursuant to Well Permit No. 036778-F. Depletions to the stream system associated with Well Permit No. 036778-F are replaced pursuant to a plan for augmentation approved by the District Court, in and for Water Division No. 5 in Case No. 88CW420 on August 13, 1991. Pursuant to the terms of the decree entered in Case No. 88CW420, Natural Soda, Inc., is hereby filing with you a well permit application for an additional well to be constructed pursuant to the terms of Case No. 88CW420. Pursuant to paragraph 57.b. of the Case No. 88CW420 decree, Natural Soda, Inc. is also providing you with information indicating that if the proposed wells are operated pursuant to the terms and conditions of the Case No. 88CW420 decree, there will be adequate replacement water available under the terms of the decree to replace the depletions to Yellow Creek and Piceance Creek.

Since the decree was entered in Case No. 88CW420, Natural Soda, Inc. has maintained records of the volume of water withdrawn through the well. Submitted with this letter is a Water Well Production Summary for Well No. 26-90-1 (Permit No. 036778-F), which indicates the volume of water pumped from the well with Well Permit No. 036778-F. In addition, the Water Well Production Summary also contains a summary of stream depletion calculations through 2009. From 1990 through 2009, Natural Soda, Inc., or its predecessors, pumped an average of 92.13 acre-feet of water per year from the well and the amount of water pumped from the well in 2009 was 134.47

**BUCHANAN AND SPERLING, P.C.**

Dick Wolfe, State Engineer

July 30, 2010

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acre-feet. The depletions calculated pursuant to the decree entered in Case No. 88CW420 indicate the volume of depletions that occurred in every year. For the year 2009, a total of 1.228 acre-feet of depletions were calculated for Yellow Creek and 1.023 acre-feet of depletions were calculated for Piceance Creek with a total depletion of 2.251 acre-feet of depletions for the year 2009. The depletion calculations include both the depletions associated with prior years well pumping and current year well pumping. The calculated depletions were replaced each year in accordance with the decree entered in Case No. 88CW420 by termination of irrigation of land historically irrigated by senior water rights described in the decree entered in Case No. 88CW420, and allowing the water that would otherwise have been diverted for irrigation to remain in Piceance Creek to replace the depletions. As discussed below and in accordance with the Case No. 88CW420 decree, a total of 61 acres of land have been withdrawn from historical irrigation.

Natural Soda is in the process of constructing an expansion to its sodium-bicarbonate processing facility and the expansion is anticipated to at least double the current production of sodium-bicarbonate associated with the leased properties. The expansion of the mining operation will require construction of an additional well to provide additional water supplies.

The well associated with Well Permit No. 036778-F is located in Zone D, as defined by the map attached to the Case No. 88CW420 decree and a copy of the map is included with this letter. The well designated as "2010-26-198-2C" is proposed to be constructed within Zone D.

Also enclosed for your review is printout of the depletion calculation for a 250-year period associated with pumping of the Well Permit No. 036778-F. Pursuant to the terms of the Case No. 88CW420 decree and based on past pumping of the well associated with Well Permit No. 036778-F, the maximum depletion to Yellow Creek over the 250-year period will be approximately 3.9 acre-feet in any year and the maximum depletion in any year for Piceance Creek will be approximately 3.4 acre-feet. The decree entered in Case No. 88CW420 provides several sources of water for replacing depletions associated with the operation of the wells on these properties. At the present time, Natural Soda has terminated irrigation on 61 acres of land historically irrigated by senior water rights on Piceance Creek. See paragraph 58.f. of the Case No. 88CW420 decree. The senior water rights included within the decree entered in Case No. 88CW420 will provide an average of 466 acre-feet of diversions, of which approximately 60% of the water or 280 acre-feet per year would be available from the senior water rights to replace the depletions. In addition, Natural Soda owns the other water rights described in the Case No. 88CW420 decree to which would provide several thousand acre feet of replacement water to replace the depletions. It is anticipated that the construction of the additional well could double the amount of pumping and depletions associated with the operation of the wells. In the event the maximum year depletions were doubled, the total replacement obligation would not exceed the available water supplies. Therefore, as required by paragraph 57.b. of the Case No. 88CW420 decree, there will be adequate replacement water

**BUCHANAN AND SPERLING, P.C.**

Dick Wolfe, State Engineer

July 30, 2010

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available to replace the depletions to Yellow Creek and Piceance Creek. The following documents are submitted with this letter:

1. Well Permit Application, including Exhibit A;
2. Authorization for Timothy R. Buchanan, as Agent to Execute Well Permit Application on behalf of Natural Soda, Inc.;
3. Water Well Production Summary to Well No. 26-90-1 (Permit No. 036778-F);
4. Map of zones as defined in Case No. 88CW420;
5. Stream Depletion Accounting Worksheet; and
6. Waiver of 600 Foot Well Spacing Statement.

Natural Soda, Inc. hereby requests that you issue the two (2) well permits transmitted with this letter. A one hundred dollar (\$100.00) filing fee is also included with this letter.

Please contact me if you have any comments or questions.

Sincerely,

**BUCHANAN AND SPERLING, P.C.**

Timothy R. Buchanan

TRB/cc  
Enclosures

cc: Brad Bunnett  
Bob Warneke, P.E.  
Bill Gunn

273945 B-578 P-284 11/25/2002 04:15P PG 1 OF 7 REC DOC NOT  
 Nancy R Amick State of Colorado County of Rio Blanco 36.00 0.00

Exhibit A

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT

Serial Number

C-0118327

### Sodium Lease Renewal

#### PART 1. LEASE RIGHTS GRANTED.

This lease renewal, entered into by and between the UNITED STATES OF AMERICA, through the Bureau of Land Management, hereinafter called lessor, and

White River Nahcolite Minerals, LLC  
 P.O. Drawer 72  
 Rifle, Colorado 81650

hereinafter called lessee, is effective July 1, 2001, for a period of 10 years, with preferential right in the lessee to renew for successive periods of 10 years under such terms and conditions as maybe prescribed by the Secretary of the Interior, unless otherwise provided by law at the expiration of any period, and provided that the sodium is being produced in paying quantities at the end of the 10-year renewal period and, if renewed, at the end of each successive 10-year period.

Sec. 1. This lease is issued pursuant and subject to the terms and provisions of the Mineral Leasing Act of 1920, as amended and supplemented, 41 Stat. 437, 30 U.S.C. 181-287, hereinafter referred to as the Act; and to the regulations and formal orders of the Secretary of the Interior which are now or hereafter in force, specifically including, but not limited to, 43 CFR 23 (to the same extent as if the operations under this lease were surface mining), 3500, and 3590, when not inconsistent with the express and specific provisions herein.

Sec. 2. Lessor, in consideration of rents and royalties to be paid, and the conditions and covenants to be observed as herein set forth, hereby grants and leases to lessee the exclusive right and privilege to explore for, drill for, mine, extract, remove, beneficiate, concentrate, or otherwise process and dispose of the sodium deposits in the Saline Zone, hereinafter referred to as "leased deposits," in, upon, or under the following described lands:

T. 1 S., R. 98 W., 6<sup>th</sup> P.M.  
 sec. 23, lots 1 to 16, inclusive;  
 sec. 24, lots 1 to 16, inclusive;  
 sec. 25, lots 1 to 16, inclusive;  
 sec. 26, lots 1 to 16, inclusive;

containing 2,483.36 acres, more or less, together with the right to construct such works, buildings, plants, structures, equipment, and appliances and the right to use such on-lease rights-of-way which may be necessary and convenient in the exercise of the rights and privileges granted, subject to the conditions herein provided.

Sec. 3. DEFINITIONS. The following definitions shall be used in the interpretation of this lease:

(a) "Oil Shale" is a fine-grained sedimentary rock containing organic matter which was derived chiefly from aquatic organisms or waxy spores or pollen grains, which is only slightly soluble in ordinary petroleum solvents, and of which a large proportion is distillable into artificial petroleum. This term is applicable to any argillaceous, carbonate, or siliceous sedimentary rock which will yield oil upon destructive distillation. In this lease, "destructive distillation" means the process of decomposition of oil shale where heat is applied to a temperature at which the hydrocarbons are converted to vapors and/or liquids.

(b) "Saline Zone" in this lease means the lower part of the Parachute Creek Member of the Green River Formation in the Piceance Creek Basin, the top of which zone is defined at any point by the characteristic "dissolution surface" and the bottom of which is defined at any point by the horizon marker designated as the "Blue Marker," which forms the approximate base of the Parachute Creek Member.

(c) "Leased deposits" means (1) all sodium compounds and any related products thereof in the Saline Zone not intermingled with oil shale averaging 25 gallons of shale oil or more per ton of rock mined (hereinafter referred to as "25 g.p.t. oil shale", such average to be determined monthly for each calendar month by modified Fischer assays of the rock mined by lessee for processing or beneficiation by any method, and (2) all sodium compounds and any related products within the Saline Zone which are intermingled with 25 g.p.t. oil shale and which can be mined, extracted, processed, beneficiated, used, and disposed of without the destructive distillation of the 25 g.p.t. oil shale and without significantly changing the composition of the 25 g.p.t. oil shale or rendering it more unsuitable in any material respect for development, retorting, processing, use, or disposition. As used herein, the term "related products" shall, in no event, include oil shale.

Sec. 4. PROTECTION OF OIL SHALE DEPOSITS. (a) Except as expressly provided in subsections (b), (c), and (d) below, the lessee shall not:

(1) utilize process solutions in excess of 300 degrees Fahrenheit for in situ solution mining of sodium compounds without the express permission of the authorized officer;

(2) mine, extract, retort, process, use, or dispose of any oil shale, or organic matter or the products thereof contained in or derived from any such oil shale, situated above or below the Saline Zone in the lands described in Sec. 2 above;

(3) mine, extract, retort, process, use, or dispose of any 25 g.p.t. oil shale, or organic matter or the products thereof contained in or derived from any such 25 g.p.t. oil shale, situated in the Saline Zone; or

(4) use, remove from the leased premises, or dispose of any oil shale, or organic matter or the products thereof contained in or derived from any such oil shale, averaging more than 10 gallons of shale oil per ton from the Saline Zone, such average to be determined by modified Fischer assays.

(5) It is expressly understood and agreed that the lessee shall not have any right to, and shall not, burn or otherwise use for fuel or energy production purposes any oil shale situated in or under the lands described in Sec. 2 above.

(b) The lessee shall have the right and privilege to:

(1) mine and extract oil shale or other material located above the Saline Zone for the sole purpose of emplacing shafts or other entries as are necessary, and are authorized by the authorized officer, to gain access to the leased deposits for mining, extraction, and removal operations, and

(2) mine, extract, and process by non-retorting methods, which are chemical or mechanical and do not require the use of heat, 25 g.p.t. oil shale intermingled with the leased deposits, but only to the extent necessary for and as an incident to the mining, extraction, processing, beneficiation and removal of the leased deposits, provided that the authorized officer determines there is no significant extraction or removal of 25 g.p.t. oil shale and determines that 25 g.p.t. oil shale is not rendered unfit or significantly lowered in quality for retorting purposes by such mining, extraction, processing, and beneficiation.

(c) As required by the terms of this lease or as directed by the authorized officer, the lessee shall have the right and the duty to store and to protect all 25 g.p.t. oil shale which has been mined and all other oil shale which, after mining, has become 25 g.p.t. oil shale as a result of processing or beneficiation.

(1) Except as otherwise provided herein or unless otherwise authorized in writing by the authorized officer, the lessee shall, prior to disposition, process or beneficiate any leased deposits in mined material to extract sodium compounds therefrom where that material contains oil shale averaging more than 10 gallons of shale oil per ton

of rock mined, but less than 25 gallons of shale oil per ton, such average to be determined by modified Fischer assays. The lessee shall perform any processing or beneficiation in such a manner that separates from the leased deposits that quantity of contained organic matter necessary to limit the shale oil content, if any, to not more than an average of 10 gallons per ton in the material removed from the leased premises.

(2) The lessee shall store or dispose of, as determined and directed by the authorized officer, residue and/or waste materials which have been separated from the leased deposits or products thereof during or as a result of mining, extraction, processing, beneficiation, retorting or other operations conducted under this lease, where the aforesaid storage or disposal is not otherwise provided for or authorized by Sec. 4(c) or Sec. 4(d), Part I, of this lease.

(3) It is expressly understood that the processed 25 g.p.t. oil shale or other processed oil shale and, upon the termination of this lease, any sodium compounds intermingled therewith, shall remain the sole property of the lessor and shall be subject to disposition at any time by the lessor as provided in Sec. 7 of this lease or as otherwise determined by the authorized officer.

(d) In the event that retorting or processing of the leased deposits results in the production of any shale oil whatsoever, all such shale oil shall be and shall remain the exclusive property of the lessor, any provision in this lease to the contrary notwithstanding, and shall be disposed of by the lessor.

(1) At lessor's option, and at the direction of the authorized officer given within a reasonable time after its production, the lessee shall dispose of such shale oil, if any, on terms that are just and reasonable and do not require lessee to bear the costs of disposing of the shale oil. It is understood that, if lessee is required by lessor to store such shale oil, the costs of such storage shall be initially borne by lessee but the lessor shall credit such costs against royalties payable under this lease by the lessee as those royalties become due and payable.

(2) Any contract or other agreement entered into by the lessee or its successors in interest for the sale, transfer, or disposal of all or part of the leased deposits or the products thereof shall specifically provide that the purchaser or transferee, and its successors in title, neither intends to, nor shall produce, shale oil therefrom. The lessee shall make no further sale or transfer of any leased deposit or any products thereof to any purchaser, or any of its successors in title, of any leased deposit or the products thereof who has violated such contractual provision. Moreover, the lessee shall take whatever action may be necessary either to recover for the lessor any shale oil so produced in any significant quantity which is then still in existence or to recover damages which shall be payable to the lessor if any such significant quantities of shale oil have been produced and are no longer in existence.



## PART II. TERMS AND CONDITIONS

Sec. 1. (a) **RENTAL RATE** - Lessee shall pay lessor rental annually and in advance at the rate of \$1 for each acre or fraction thereof during the continuance of the lease.

(b) **RENTAL CREDITS** - The rental for any year will be credited against the first royalties as they accrue under the lease during the year for which rental was paid

Sec. 2. (a) **PRODUCTION ROYALTIES** - Lessee shall pay lessor a production royalty of 5 percent of the gross value of the output of the leased deposits at the point of shipment to market. Such production royalty is due the last day of the month next following the month in which the minerals are sold or removed from the leased lands.

(b) **MINIMUM ANNUAL PRODUCTION AND MINIMUM ROYALTY** -

(1) For the current lease period, lessee shall produce on an annual basis a minimum amount of 4,000 tons of sodium or related products the first (through the fifth lease years, and 6,000 tons the sixth through the tenth lease years; or

(2) At the request of the lessee, made prior to initiation of the lease year, the authorized officer may allow in writing the payment of \$26,000 per year through the fifth lease year and \$39,000 per year thereafter for the remainder of the ten year lease in lieu of production for any particular lease year. Minimum royalty payments shall be credited to production royalties for that year only.

(3) The authorized officer shall not accept payment of minimum royalty in lieu of production for more than a total of six years during the lease term.

Sec. 3. **SUSPENSION** - Lessee shall notify the authorized officer when operations are interrupted by strikes, the elements, or casualties not attributable to the lessee. Upon application of lessee, lessor may approve suspension of operations under the lease when marketing conditions are such that the lease cannot be operated except at a loss. In the interest of conservation of natural resources, the lessor may waive, suspend, or reduce rental, or minimum royalty, or reduce royalty, and may direct or assent to the suspension of operations and production under this lease in accordance with section 39 of the Mineral Leasing Act, 30 U.S.C. 209.

Sec. 4. **BONDS** - Lessee shall maintain in the proper office a lease bond, or in lieu thereof, an acceptable statewide or nationwide bond in the amount of \$354,000. The authorized officer may adjust the bond amount as determined appropriate for operations under this lease. Lessor shall require a lease bond sufficient to satisfy rental and royalty payments as well as lessee's performance bond under 43 CFR 23 for operations and reclamation requirements in the event that lessee fails to fully comply with lease terms, conditions, and stipulations.

Sec. 5. **DOCUMENTS, EVIDENCE AND INSPECTION** - At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing the amounts and quality of all products removed and sold from the lease, the proceeds therefrom, and the amount used for production purposes or unavoidably lost.

Lessee shall keep open at all reasonable times, for the inspection of any duly authorized officer of less, the leased premises and all surface and underground improvements, works, machinery, ore stockpiles, equipment, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or under the leased lands.

Lessee either shall submit or shall provide less access to, and copying of, documents reasonably necessary to verify lessee compliance with terms and conditions of the lease.

While this lease remains in effect, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. **WATER RIGHTS** - All water rights developed by the lessee through operations on the lease lands shall immediately become the property of the lessor. Lessee shall have the right to use those water rights free of charge for operations under this lease.

Sec. 7. **CONDUCT OF OPERATIONS** - (a) Lessee shall exercise reasonable diligence, skill, and care in the operation of the property, and shall carry on all operations, having due regard for the prevention of injury to life, health, or property, and prevention of waste or damage or degradation to any land, water, or mineral resources.

(1) Lessee shall not conduct exploration or operations, other than casual use, prior to approval of plans of exploration or operations by lessor and the receipt of necessary permits.

(2) Lessee shall carry on all operations in accordance with approved methods and practices, and as provided in the operating regulations and in the approved mining plan, in a manner that minimizes adverse impacts to the land, air, water, cultural, biological, visual, and other resources, including mineral deposits and formations of mineral deposits not leased hereunder, and to other land uses or users. Lessee shall take measures deemed necessary by lessor to accomplish the intent of this lease term. Such measures may include, but are not limited to, modification to proposed siting or design of facilities, timing of operations, and specification of interim and final reclamation procedures.

(3) Lessor reserves to itself the right to lease, sell, or otherwise dispose of the surface or other mineral deposits in the lands and the right to continue existing uses and to

authorize future uses upon or in the leased lands, including issuing leases for mineral deposits not covered hereunder and approving of easements or rights-of-way. Lessor expressly reserves the right to issue oil shale leases for all or any part of the lands subject to this lease, including the Saline Zone. Lessor also reserves the right to issue sodium leases for all or any part of the lands subject to this lease, excluding the Saline Zone, giving due regard to the rights of lessee to the deposits leased herein. Lessor shall condition such uses to prevent unnecessary or unreasonable interference with rights of lessee as may be consistent with concepts of multiple use and multiple mineral development.

*(b) Exploration, Development, and Production of Leased Deposits and Other Operations in Oil Shale or Other Leasable Deposits* - Lessee shall not conduct exploration or mining operations that the authorized officer determines:

(1) would be hazardous to the concurrent or future production of mineral deposits under existing leases issued pursuant to the Act for the same lands, of oil shale not located in the Saline Zone, or of the 25 g.p.t. oil shale in the Saline Zone in the same lands;

(2) would interfere with the orderly concurrent or future development and production of mineral deposits under existing leases issued pursuant to the Act for the same lands, of oil shale not located in the Saline Zone, or of 25 g.p.t. oil shale in the Saline Zone in the same lands, unless the Secretary determines that the interest of the United States would be served thereby; or

(3) would result in undue waste of mineral deposits subject to existing leases issued pursuant to the Act for the same lands or of oil shale in the same lands. Operations conducted in conformity with the provisions of subsections 4(b), (c), and (d) of Part I of this lease shall not be deemed to cause undue waste of oil shale.

(4) Lessee shall make available for inspection by the holder of any oil shale lease issued for the same lands, or any zone thereof, maps of mine workings and surface installations and records of core analyses required to be filed pursuant to the applicable operations regulations insofar as such maps and records are pertinent to the development and protection of oil shale deposits.

**Sec. 8. PROTECTION OF DIVERSE INTERESTS, AND EQUAL OPPORTUNITY** - Lessee shall: pay when due all taxes legally assessed and levied under the laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; restrict the workday to not more than 8 hours in any one day for underground workers, except in emergencies; and take measures necessary to protect the health and safety of the public. No person under the age of 16 years shall be employed in any mine below the surface. To the extent that laws of the State in which the lands are situated are more restrictive than the provisions in this paragraph, then the State laws apply.

Lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and

relevant orders of the Secretary of Labor. Neither lessee nor lessee's subcontractors shall maintain segregated facilities.

**Sec 9. (a) TRANSFERS** - This lease may be transferred in whole or in part to any person, association or corporation qualified to hold such lease interest.

**(b) RELINQUISHMENT** - Lessee may relinquish in writing at any time all rights under this lease, or any portion thereof, as provided in the regulations. Upon lessor's acceptance of the relinquishment, lessee shall be relieved of all future obligations under the lease or the relinquished portion thereof, whichever is applicable.

**Sec. 10. DELIVERY OF PREMISES, REMOVAL OF MACHINERY, EQUIPMENT, ETC.** - At such time as all or portions of this lease are returned to lessor, lessee shall deliver up to lessor the land leased, underground timbering, and such other supports and structures necessary for the preservation of the mine workings on the leased premises or deposits and place all workings and wells in condition for suspension or abandonment. Within 180 days thereof, lessee shall remove from the premises all other structures, machinery, equipment, tools, and materials that it elects to or as required by the authorized officer. Any such structures, machinery, equipment, tools, and materials remaining on the leased lands beyond 180 days, or approved extension thereof, shall become the property of the lessor, but lessee shall either remove any or all such property or shall continue to be liable for the cost of removal and disposal in the amount actually incurred by the lessor. If the surface is owned by third parties, lessor shall waive the requirement for removal, provided the third parties do not object to such waiver.

Prior to the termination of bond liability or at any other time when required, and in accordance with all applicable laws and regulations, lessee shall reclaim all lands the surface of which has been disturbed, dispose of all debris or solid waste, repair the offsite and onsite damage caused by lessee's activity or activities on the leased lands, and reclaim access roads or trails. Lessee shall take all actions necessary to temporarily or permanently abandon the leased lands in accordance with the abandonment plan approved by the authorized officer.

**Sec. 11. PROCEEDINGS IN CASE OF DEFAULT** - If lessee fails to comply with applicable laws, existing regulations, or the terms, conditions and stipulations of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation by the lessor only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

**Sec. 12. HEIRS AND SUCCESSORS-IN-INTEREST** - Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors,

administrators, successors, or assigns of the respective parties hereto.

**Sec. 13. INDEMNIFICATION** - Lessee shall indemnify and hold harmless the United States from any and all claims arising out of the lessee's activities and operations under this lease.

**Sec. 14. SPECIAL STATUTES** - This lease is subject to the Federal Water Pollution Control Act (33 U.S.C. 1151-1175), the Clean Air Act (42 U.S.C. 1857 et seq.), and to all other applicable laws pertaining to exploration activities, mining operations and reclamation.

**Sec. 15. SPECIAL STIPULATIONS** - Special stipulations (a) Cultural Resources, (b) Paleontological Resources, (c) Threatened and Endangered Species (Plants), (d) Wildlife, (e) Access, and (f) Mine and Reclamation Plans are attached to and made a part of sodium lease C-0118327. These stipulations are also imposed upon lessee's employees and agents. The failure or refusal of any of these persons to comply with these stipulations shall be deemed a failure of the lessee to comply with the terms of the lease. Lessee shall require its agents, contractors, and subcontractors involved in activities on this lease to include these stipulations in the contracts between and among them. The special stipulations maybe revised or amended, in writing, by mutual consent of the lessor and the lessee.

(a) **Cultural Resources.** Lessee shall undertake measures in accordance with instructions from the authorized officer to protect cultural resources on the leased lands. The lessee shall not commence any surface disturbing activities until permission to proceed is given by the authorized officer. For this cultural resources stipulation, the authorized officer of the BLM will be the White River Field Office Manager.

(1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall conduct a cultural resource Class III inventory on those lands that have not been previously inventoried and that may be affected by lease-related activities. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archaeologist, historian, or historical architect, as appropriate) approved by the authorized officer of the BLM and in the manner specified by the authorized officer. Lessee shall submit a report of the inventory and recommendations for protecting any identified cultural resources to the authorized officer.

(2) Lessee shall protect all known cultural resource properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of an approved exploration plan or an approved mining plan.

(3) The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

(4) If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of the authorized officer. The lessee shall not disturb such resources except as subsequently authorized by the BLM. Within five (5) working days of notification, the authorized officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or to preserve such discoveries. The cost

of data recovery for cultural resources discovered during lease operations shall be borne by the lessee.

(b) **Paleontological Resources.** (1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall employ a qualified professional paleontologist to map the extent of the Class I and II geologic formations. The paleontological appraisal shall be conducted as directed by the authorized offices who may require a field survey of all outcrops within identified Class I and Class II areas. The BLM reserves the right to designate portions of any Class I or Class II areas as unsuitable for mining under this lease due to their sensitivity or to protect significant scientific value(s).

(2) Lessee shall not knowingly disturb, alter, destroy, or take any paleontological resources. Lessee shall immediately cease activities in the vicinity of any paleontological specimen that is discovered during its operations. Lessee shall protect the resource and report the discovery to the authorized officer. A paleontological specimen shall not be removed from the site until evaluated by a qualified professional paleontologist. Operations may not proceed until specifically authorized by the BLM. Lessor expressly reserves title to paleontological resources.

(3) Lessor reserves the right to conduct periodic compliance checks or to have these checks conducted by a qualified professional paleontologist during the stripping of overburden and the construction of appurtenant facilities in order to check for the existence of paleontological localities and to evaluate their significance.

(4) If a fossil is discovered which has projectile points or other human artifacts in or near it; is charred, split, or cut; or shows features indicative of human activity, all work, including construction work, excavation, and removal, shall immediately cease until a qualified professional archaeologist can evaluate on the fossil resource and determine its cultural affiliation and significance. If the archaeologist determines that a human association exists, the specimen shall be handled as a cultural resource under Sec. 15(a) as directed by the authorized officer.

(c) **Threatened and Endangered Plants.** (1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall have a qualified professional conduct an intensive field inventory for threatened, endangered, sensitive, and rare plants in the manner specified by the authorized officer on those portions of the exploration area, mine plan area, or adjacent areas that were not previously inventoried at such a level of intensity and which may be adversely affected by lease-related activities.

(2) The inventory shall be conducted by a qualified professional approved by the authorized officer. A report of the inventory and recommendations for the protection of any species identified shall be submitted to the authorized officer. The lessee shall not commence any surface disturbing

activities until the authorized officer has reviewed the report, determined whether mitigation is required, and given approval to proceed.

(d) Wildlife. (1) Lessee shall develop, in consultation with the BLM, Colorado Division of Wildlife, and the U.S. Fish and Wildlife Service, a plan for replacing or offsetting impacts to animal populations and/ or habitats identified as being impaired or lost due to mining operations. Key target species and habitats include, but are not limited to, raptors and mule deer and their associated habitats and riparian/ wetland habitats and associated fauna:

(2) Lessee shall compensate for and/or offset the loss, displacement, or adverse modification of wildlife populations and/or associated habitats, on or off lease, which occur as the result of lease development and operation.

(3) Wildlife Recovery and Replacement Plan. At the time it submits its mine plan, lessee shall submit for approval by the authorized officer a wildlife recovery and replacement plan.

The final wildlife recovery and replacement plan shall indicate the methods lessee shall employ to ensure that the carrying capacity of the recovered or replaced lands will fully support populations of the indicator species as agreed upon by the BLM, the Colorado Division of Wildlife and the U.S. Fish and Wildlife Service. The wildlife recovery and replacement plan will include the following:

(A) A habitat and population analysis of the mine area that identifies which of these species occupy the mine area and shall include, but not be limited to, advance raptor nest surveys of woodland and cliff substrates within 1/4 mile of any proposed development. The survey shall be conducted by a qualified professional approved by BLM and shall include an analysis of the quality or carrying capacity of the habitat for each species identified

(B) A detailed description of the methods selected by the lessee to mitigate animal and/or habitat loss, together with comparative analysis of alternative methods that were considered but rejected by the lessee and the rationale for the decision to select the proposed methods. The methods utilized by the lessee for recovery and replacement may include, but are not limited to, the following techniques:

(i) Increasing the quantity and quality of forage available to these species;

(ii) Acquiring critical wildlife habitats;

(iii) Implementing mechanical manipulation of low quality wildlife habitat to increase its carrying capacity for selected wildlife species; and

(iv) Ensuring recovery, replacement, or protection of important wildlife habitat to increase its carrying capacity for selected wildlife species.

(C) A timetable giving the periods required to accomplish the habitat recovery or replacement plan and showing its relationship to the overall mining plan.

(e) Access. (1) Lessee shall maintain public access to public lands adjacent to the lease by means of existing roads, trails, or ways.

If the lessee must destroy or obstruct any existing route, lessee shall provide public access by means of an alternate route of equal quality.

(2) Lessee shall allow the public access to public lands within the lease and on roads, trails, and ways constructed by the lessee, unless the authorized officer determines that allowing such access would interfere with mining operations or would create a public safety hazard.

(f) Mine and Reclamation Plans. (1) Before any operations may commence, lessee shall file for approval by the authorized officer an exploration or mining and reclamation plan, as appropriate, that addresses the following items:

(A) A description of the location and the area affected by the operations together with two copies of a suitable map or aerial photograph showing the topography, the area covered by the lease, the name and location of major topographic and cultural features, and the drainage plan for the affected area.

(B) A statement of proposed methods of operating, including a description of the surface or underground mining methods, proposed roads or vehicular trails, the size and location of structures and facilities to be built, the timing for grading and backfilling areas affected by the operations, and the proposed manner and length of time required to reclaim areas disturbed by the operations.

(C) An estimate of the quantity of water to be used and the pollutants that may enter receiving waters together with a design for the necessary impoundment, treatment, or control of all runoff water and drainage from workings to reduce soil erosion and sedimentation and to prevent the pollution of receiving waters.

(D) A description of measures to be taken to prevent or control fire, soil erosion, pollution of surface and groundwater, pollution of air, damage to fish and wildlife or other natural resources, and hazards to public health and safety.

(E) A revegetation plan for areas affected by operations that describes:

(i) Proposed methods of preparation and fertilization of the soil prior to replanting;

(ii) Types and mixtures of shrubs, trees, or tree seedlings, grasses, or legumes to be planted;

(iii) Types and method of planting, including the amount of grasses, forbs, shrubs, or legumes per acre, or the number of spacing of trees, or tree seedlings, or combinations of the above.

(2) Lessee shall store or stockpile ore, by-products, or waste material in a manner to deter the production of leached products and other pollutants and to prevent downward percolation of such products or pollutants into aquifers. Oil shale ore shall be stockpiled to protect the mineral resources as determined by the authorized officer.

(3) Lessee shall develop, and submit as part of its mine plan, a reclamation plan specifically for those areas of disturbance defined as having low or very low reclamation potential. The plan must demonstrate to the complete satisfaction of the authorized officer that the lands can be reclaimed utilizing current technologies. The authorized officer shall deem the subject lands unsuitable for surface occupancy or disturbance if the plan does not adequately demonstrate a high probability for success of reclamation.

(4) As part of its mine plan, lessee shall submit social, economic and transportation impact data concerning offsite aspects of the proposed development including:

(A) The estimated number and type of employees the lease operations will require during phases of construction and operation and the specific years each number and type of employees will be required.

(B) The contemplated construction of transportation facilities

and the estimated transportation mode(s), route(s), and frequency of trips for the extracted resources; and the estimated effect of any truck movements on the rate of roadway pavement deterioration, on the design life of the transportation mode, on the level of surface repair, and on overall safety to the motoring public.

(C) The estimated effect of the influx of population on the transportation system at the county and local level resulting from the proposed development.

(D) Lessee shall update the data annually to the satisfaction of the authorized officer until its operations reach a full or stable level. Lessee then shall update its data whenever it plans a major change in its operations (such as expansion, transportation mode change, closing, etc.) and prior to implementation of the change(s).

THE UNITED STATES OF AMERICA

By

James E. Edwards, Jr.

(Signing Officer)

Chief, Branch of Solid Minerals

(Title)

7/02/01

(Date)

WILKIN RIVER PLASTER MINING CO.

(Company or Lessee Name)

(Signature of Lessee)

PRESIDENT

(Title)

6/00/01

(Date)

Title 18 U.S.C. Section 1001, makes 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.

#### NOTICE

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provides that you be furnished the following information in connection with information required under the terms of this lease.

AUTHORITY: 30 U.S.C. 181 et seq.; 43 CFR 3500.

PRINCIPAL PURPOSE: The information will be used to verify your compliance with the lease terms and in calculating royalty payments.

ROUTINE USES: (1) Evaluation of the effects of the operations on the environment. (2) Statistical reports to Congress. (3)(4) and (5) Information from the record and/or the record may be released or transferred to appropriate Federal, State or local agencies in allocating mineral revenue, for investigations of energy program and when relevant to civil, criminal or regulatory investigations or prosecutions, as well as

routine regulatory responsibility.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of this information is mandatory only if the lessee elects to mine, extract, remove and/or dispose of the leased deposits.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) requires us to inform you that:

This information is being collected for use in calculating royalty payments and in verification of compliance with lease terms.

Response to this request is mandatory only if the lessee elects to mine, extract, remove and/or dispose of the leased deposits.

273944 B-578 P-277 11/25/2002 04:15P PG 2 OF 8

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Serial Number

C-0118326

### Sodium Lease Renewal

#### PART 1. LEASE RIGHTS GRANTED.

This lease renewal, entered into by and between the UNITED STATES OF AMERICA, through the Bureau of Land Management, hereinafter called lessor, and

White River Nahcolite Minerals, LLC  
P.O. Drawer 72  
Rifle, Colorado 81650

hereinafter called lessee, is effective July 1, 2001, for a period of 10 years, with preferential right in the lessee to renew for successive periods of 10 years under such terms and conditions as maybe prescribed by the Secretary of the Interior, unless otherwise provided by law at the expiration of any period, and provided that the sodium is being produced in paying quantities at the end of the 10-year renewal period and, if renewed, at the end of each successive 10-year period.

Sec. 1. This lease is issued pursuant and subject to the terms and provisions of the Mineral Leasing Act of 1920, as amended and supplemented, 41 Stat. 437, 30 U.S.C.181-287, hereinafter referred to as the Act; and to the regulations and formal orders of the Secretary of the Interior which are now or hereafter in force, specifically including, but not limited to, 43 CFR 23 (to the same extent as if the operations under this lease were surface mining), 3500, and 3590, when not inconsistent with the express and specific provisions herein.

Sec. 2. Lessor, in consideration of rents and royalties to be paid, and the conditions and covenants to be observed as herein set forth, hereby grants and leases to lessee the exclusive right and privilege to explore for, drill for, mine, extract, remove, beneficiate, concentrate, or otherwise process and dispose of the sodium deposits in the Saline Zone, hereinafter referred to as "leased deposits," in, upon, or under the following described lands:

T. 1 S., R. 98 W., 6<sup>th</sup> P.M.  
sec. 13, lots 9 to 24, inclusive;  
sec. 14, lots 5, and 9 to 23, inclusive;  
sec. 15, lots 1 to 13, inclusive;  
sec. 21, NE $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{4}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ , and SE $\frac{1}{4}$ ;  
sec. 22, lots 12 to 14, inclusive;

containing 2,159.64 acres, more or less, together with the right to construct such works, buildings, plants, structures, equipment, and appliances and the right to use such on-lease rights-of-way which may be necessary and convenient in the exercise of the rights and privileges granted, subject to the conditions herein provided.

Sec. 3. DEFINITIONS. The following definitions shall be used in the interpretation of this lease:

(a) "Oil Shale" is a fine-grained sedimentary rock containing organic matter which was derived chiefly from aquatic organisms or waxy spores or pollen grains, which is only slightly soluble in ordinary petroleum solvents, and of which a large proportion is distillable into artificial petroleum. This term is applicable to any argillaceous, carbonate, or siliceous sedimentary rock which will yield oil upon destructive distillation. In this lease, "destructive distillation" means the process of decomposition of oil shale where heat is applied to a temperature at which the hydrocarbons are converted to vapors and/or liquids.

(b) "Saline Zone" in this lease means the lower part of the Parachute Creek Member of the Green River Formation in the Piceance Creek Basin, the top of which zone is defined at any point by the characteristic "dissolution surface" and the bottom of which is defined at any point by the horizon marker designated as the "Blue Marker," which forms the approximate base of the Parachute Creek Member.

(c) "Leased deposits" means (1) all sodium compounds and any related products thereof in the Saline Zone not intermingled with oil shale averaging 25 gallons of shale oil or more per ton of rock mined (hereinafter referred to as "25 g.p.t. oil shale", such average to be determined monthly for each calendar month by modified Fischer assays of the rock mined by lessee for processing or beneficiation by any method, and (2) all sodium compounds and any related products within the Saline Zone which are intermingled with 25 g.p.t. oil shale and which can be mined, extracted, processed, beneficiated, used, and disposed of without the destructive distillation of the 25 g.p.t. oil shale and without significantly changing the composition of the 25 g.p.t. oil shale or rendering it more unsuitable in any material respect for development, retorting, processing, use, or disposition. As used herein, the term "related products" shall, in no event, include oil shale.



Sec. 4. PROTECTION OF OIL SHALE DEPOSITS. (a) Except as expressly provided in subsections (b), (c), and (d) below, the lessee shall not:

(1) utilize process solutions in excess of 300 degrees Fahrenheit for in situ solution mining of sodium compounds without the express permission of the authorized officer;

(2) mine, extract, retort, process, use, or dispose of any oil shale, or organic matter or the products thereof contained in or derived from any such oil shale, situated above or below the Saline Zone in the lands described in Sec. 2 above;

(3) mine, extract, retort, process, use, or dispose of any 25 g.p.t. oil shale, or organic matter or the products thereof contained in or derived from any such 25 g.p.t. oil shale, situated in the Saline Zone; or

(4) use, remove from the leased premises, or dispose of any oil shale, or organic matter or the products thereof contained in or derived from any such oil shale, averaging more than 10 gallons of shale oil per ton from the Saline Zone, such average to be determined by modified Fischer assays.

(5) It is expressly understood and agreed that the lessee shall not have any right to, and shall not, burn or otherwise use for fuel or energy production purposes any oil shale situated in or under the lands described in Sec. 2 above.

(b) The lessee shall have the right and privilege to:

(1) mine and extract oil shale or other material located above the Saline Zone for the sole purpose of emplacing shafts or other entries as are necessary, and are authorized by the authorized officer, to gain access to the leased deposits for mining, extraction, and removal operations, and

(2) mine, extract, and process by non-retorting methods, which are chemical or mechanical and do not require the use of heat, 25 g.p.t. oil shale intermingled with the leased deposits, but only to the extent necessary for and as an incident to the mining, extraction, processing, beneficiation and removal of the leased deposits, provided that the authorized officer determines there is no significant extraction or removal of 25 g.p.t. oil shale and determines that 25 g.p.t. oil shale is not rendered unfit or significantly lowered in quality for retorting purposes by such mining, extraction, processing, and beneficiation.

(c) As required by the terms of this lease or as directed by the authorized officer, the lessee shall have the right and the duty to store and to protect all 25 g.p.t. oil shale which has been mined and all other oil shale which, after mining, has become 25 g.p.t. oil shale as a result of processing or beneficiation.

(1) Except as otherwise provided herein or unless otherwise authorized in writing by the authorized officer, the lessee shall, prior to disposition, process or beneficiate any leased deposits in mined material to extract sodium compounds therefrom where that

material contains oil shale averaging more than 10 gallons of shale oil per ton of rock mined, but less than 25 gallons of shale oil per ton, such average to be determined by modified Fischer assays. The lessee shall perform any processing or beneficiation in such a manner that separates from the leased deposits that quantity of contained organic matter necessary to limit the shale oil content, if any, to not more than an average of 10 gallons per ton in the material removed from the leased premises. .

(2) The lessee shall store or dispose of, as determined and directed by the authorized officer, residue and/or waste materials which have been separated from the leased deposits or products thereof during or as a result of mining, extraction, processing, beneficiation, retorting or other operations conducted under this lease, where the aforesaid storage or disposal is not otherwise provided for or authorized by Sec. 4(c) or Sec. 4(d), Part I, of this lease.

(3) It is expressly understood that the processed 25 g.p.t. oil shale or other processed oil shale and, upon the termination of this lease, any sodium compounds intermingled therewith, shall remain the sole property of the lessor and shall be subject to disposition at any time by the lessor as provided in Sec. 7 of this lease or as otherwise determined by the authorized officer.

(d) In the event that retorting or processing of the leased deposits results in the production of any shale oil whatsoever, all such shale oil shall be and shall remain the exclusive property of the lessor, any provision in this lease to the contrary notwithstanding, and shall be disposed of by the lessor.

(1) At lessor's option, and at the direction of the authorized officer given within a reasonable time after its production, the lessee shall dispose of such shale oil, if any, on terms that are just and reasonable and do not require lessee to bear the costs of disposing of the shale oil. It is understood that, if lessee is required by lessor to store such shale oil, the costs of such storage shall be initially borne by lessee but the lessor shall credit such costs against royalties payable under this lease by the lessee as those royalties become due and payable.

(2) Any contract or other agreement entered into by the lessee or its successors in interest for the sale, transfer, or disposal of all or part of the leased deposits or the products thereof shall specifically provide that the purchaser or transferee, and its successors in title, neither intends to, nor shall produce, shale oil therefrom. The lessee shall make no further sale or transfer of any leased deposit or any products thereof to any purchaser, or any of its successors in title, of any leased deposit or the products thereof who has violated such contractual provision. Moreover, the lessee shall take whatever action may be necessary either to recover for the lessor any shale oil so produced in any significant quantity which is then still in existence or to recover damages which shall be payable to the lessor if any such significant quantities of shale oil have been produced and are no longer in existence.

## PART II. TERMS AND CONDITIONS

Sec. 1. (a) **RENTAL RATE** - Lessee shall pay lessor rental annually and in advance at the rate of \$1 for each acre or fraction thereof during the continuance of the lease.

(b) **RENTAL CREDITS** - The rental for any year will be credited against the first royalties as they accrue under the lease during the year for which rental was paid

Sec. 2. (a) **PRODUCTION ROYALTIES** - Lessee shall pay lessor a production royalty of 5 percent of the gross value of the output of the leased deposits at the point of shipment to market. Such production royalty is due the last day of the month next following the month in which the minerals are sold or removed from the leased lands.

### (b) MINIMUM ANNUAL PRODUCTION AND MINIMUM ROYALTY -

(1) For the current lease period, lessee shall produce on an annual basis a minimum amount of 4,000 tons of sodium or related products the first through the fifth lease years, and 6,000 tons the sixth through the tenth lease years; or

(2) At the request of the lessee, made prior to initiation of the lease year, the authorized officer may allow in writing the payment of \$26,000 per year through the fifth lease year and \$39,000 per year thereafter for the remainder of the ten year lease in lieu of production for any particular lease year. Minimum royalty payments shall be credited to production royalties for that year only.

(3) The authorized officer shall not accept payment of minimum royalty in lieu of production for more than a total of six years during the lease term.

Sec. 3. **SUSPENSION** - Lessee shall notify the authorized officer when operations are interrupted by strikes, the elements, or casualties not attributable to the lessee. Upon application of lessee, lessor may approve suspension of operations under the lease when marketing conditions are such that the lease cannot be operated except at a loss. In the interest of conservation of natural resources, the lessor may waive, suspend, or reduce rental, or minimum royalty, or reduce royalty, and may direct or assent to the suspension of operations and production under this lease in accordance with section 39 of the Mineral Leasing Act, 30 U.S.C. 209.

Sec. 4. **BONDS** - Lessee shall maintain in the proper office a lease bond, or in lieu thereof, an acceptable statewide or nationwide bond in the amount of \$354,000. The authorized officer may adjust the bond amount as determined appropriate for operations under this lease. Lessor shall require a lease bond sufficient to satisfy rental and royalty payments as well as lessee's performance bond under 43 CFR 23 for operations and reclamation requirements in the event that lessee fails to fully comply with lease terms, conditions, and stipulations.

Sec. 5. **DOCUMENTS, EVIDENCE AND INSPECTION** - At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing the amounts and quality of all products removed and sold from the lease, the proceeds therefrom, and the amount used for production purposes or unavoidably lost.

Lessee shall keep open at all reasonable times, for the inspection of any duly authorized officer of less, the leased premises and all surface and underground improvements, works, machinery, ore stockpiles, equipment, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or under the leased lands.

Lessee either shall submit or shall provide less access to, and copying of, documents reasonably necessary to verify lessee compliance with terms and conditions of the lease.

While this lease remains in effect, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. **WATER RIGHTS** - All water rights developed by the lessee through operations on the lease lands shall immediately become the property of the lessor. Lessee shall have the right to use those water rights free of charge for operations under this lease.

Sec. 7. **CONDUCT OF OPERATIONS** - (a) Lessee shall exercise reasonable diligence, skill, and care in the operation of the property, and shall carry on all operations, having due regard for the prevention of injury to life, health, or property, and prevention of waste or damage or degradation to any land, water, or mineral resources.

(1) Lessee shall not conduct exploration or operations, other than casual use, prior to approval of plans of exploration or operations by lessor and the receipt of necessary permits.

(2) Lessee shall carry on all operations in accordance with approved methods and practices, and as provided in the operating regulations and in the approved mining plan, in a manner that minimizes adverse impacts to the land, air, water, cultural, biological, visual, and other resources, including mineral deposits and formations of mineral deposits not leased hereunder, and to other land uses or users. Lessee shall take measures deemed necessary by lessor to accomplish the intent of this lease term. Such measures may include, but are not limited to, modification to proposed siting or design of facilities, timing of operations, and specification of interim and final reclamation procedures.

(3) Lessor reserves to itself the right to lease, sell, or otherwise dispose of the surface or other mineral deposits in the lands and the right to continue existing uses and to authorize future uses upon or in the leased lands, including issuing leases for mineral deposits not covered hereunder and approving of easements or rights-of-way. Lessor expressly reserves the right to issue oil shale leases for all or any part of the lands subject to this lease, including the Saline Zone. Lessor also reserves the right to issue sodium leases for all or any part of the lands subject to this lease, excluding the Saline Zone, giving due regard to the rights of lessee to the deposits leased

herein. Lessor shall condition such uses to prevent unnecessary or unreasonable interference with rights of lessee as may be consistent with concepts of multiple use and multiple mineral development.

(b) *Exploration, Development, and Production of Leased Deposits and Other Operations in Oil Shale or Other Leasable Deposits* - Lessee shall not conduct exploration or mining operations that the authorized officer determines:

(1) would be hazardous to the concurrent or future production of mineral deposits under existing leases issued pursuant to the Act for the same lands, of oil shale not located in the Saline Zone, or of the 25 g.p.t. oil shale in the Saline Zone in the same lands;

(2) would interfere with the orderly concurrent or future development and production of mineral deposits under existing leases issued pursuant to the Act for the same lands, of oil shale not located in the Saline Zone, or of 25 g.p.t. oil shale in the Saline Zone in the same lands, unless the Secretary determines that the interest of the United States would be served thereby; or

(3) would result in undue waste of mineral deposits subject to existing leases issued pursuant to the Act for the same lands or of oil shale in the same lands. Operations conducted in conformity with the provisions of subsections 4(b), (c), and (d) of Part I of this lease shall not be deemed to cause undue waste of oil shale.

(4) Lessee shall make available for inspection by the holder of any oil shale lease issued for the same lands, or any zone thereof, maps of mine workings and surface installations and records of core analyses required to be filed pursuant to the applicable operations regulations insofar as such maps and records are pertinent to the development and protection of oil shale deposits.

**Sec. 8. PROTECTION OF DIVERSE INTERESTS, AND EQUAL OPPORTUNITY** - Lessee shall: pay when due all taxes legally assessed and levied under the laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; restrict the workday to not more than 8 hours in any one day for underground workers, except in emergencies; and take measures necessary to protect the health and safety of the public. No person under the age of 16 years shall be employed in any mine below the surface. To the extent that laws of the State in which the lands are situated are more restrictive than the provisions in this paragraph, then the State laws apply.

Lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor. Neither lessee nor lessee's subcontractors shall maintain segregated facilities.

**Sec 9. (a) TRANSFERS** - This lease may be transferred in whole or in part to any person, association or corporation qualified to hold such lease interest.

(b) **RELINQUISHMENT** - Lessee may relinquish in writing at any time all rights under this lease, or any portion thereof, as provided in the regulations. Upon lessor's acceptance of the relinquishment, lessee shall be relieved of all future obligations under the lease or the relinquished portion thereof, whichever is applicable.

**Sec. 10. DELIVERY OF PREMISES, REMOVAL OF MACHINERY, EQUIPMENT, ETC.** - At such time as all or portions of this lease are returned to lessor, lessee shall deliver up to lessor the land leased, underground timbering, and such other supports and structures necessary for the preservation of the mine workings on the leased premises or deposits and place all workings and wells in condition for suspension or abandonment. Within 180 days thereof, lessee shall remove from the premises all other structures, machinery, equipment, tools, and materials that it elects to or as required by the authorized officer. Any such structures, machinery, equipment, tools, and materials remaining on the leased lands beyond 180 days, or approved extension thereof, shall become the property of the lessor, but lessee shall either remove any or all such property or shall continue to be liable for the cost of removal and disposal in the amount actually incurred by the lessor. If the surface is owned by third parties, lessor shall waive the requirement for removal, provided the third parties do not object to such waiver.

Prior to the termination of bond liability or at any other time when required, and in accordance with all applicable laws and regulations, lessee shall reclaim all lands the surface of which has been disturbed, dispose of all debris or solid waste, repair the offsite and onsite damage caused by lessee's activity or activities on the leased lands, and reclaim access roads or trails. Lessee shall take all actions necessary to temporarily or permanently abandon the leased lands in accordance with the abandonment plan approved by the authorized officer.

**Sec. 11. PROCEEDINGS IN CASE OF DEFAULT** - If lessee fails to comply with applicable laws, existing regulations, or the terms, conditions and stipulations of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation by the lessor only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

**Sec. 12. HEIRS AND SUCCESSORS-IN-INTEREST** - Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

**Sec. 13. INDEMNIFICATION** - Lessee shall indemnify and hold harmless the United States from any and all claims arising out of the lessee's activities and operations under this lease.

**Sec. 14. SPECIAL STATUTES** - This lease is subject to the Federal Water Pollution Control Act (33 U.S.C. 1151-1175), the Clean Air Act (42 U.S.C. 1857 et seq.), and to all other applicable

laws pertaining to exploration activities, mining operations and reclamation.

**Sec. 15. SPECIAL STIPULATIONS** - Special stipulations (a) Cultural Resources, (b) Paleontological Resources, (c) Threatened and Endangered Species (Plants), (d) Wildlife, (e) Access, and (f) Mine and Reclamation Plans are attached to and made a part of sodium lease C-0118326. These stipulations are also imposed upon lessee's employees and agents. The failure or refusal of any of these persons to comply with these stipulations shall be deemed a failure of the lessee to comply with the terms of the lease. Lessee shall require its agents, contractors, and subcontractors involved in activities on this lease to include these stipulations in the contracts between and among them. The special stipulations may be revised or amended, in writing, by mutual consent of the lessor and the lessee.

(a) Cultural Resources. Lessee shall undertake measures in accordance with instructions from the authorized officer to protect cultural resources on the leased lands. The lessee shall not commence any surface disturbing activities until permission to proceed is given by the authorized officer. For this cultural resources stipulation, the authorized officer of the BLM will be the White River Field Office Manager.

(1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall conduct a cultural resource Class III inventory on those lands that have not been previously inventoried and that may be affected by lease-related activities. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archaeologist, historian, or historical architect, as appropriate) approved by the authorized officer of the BLM and in the manner specified by the authorized officer. Lessee shall submit a report of the inventory and recommendations for protecting any identified cultural resources to the authorized officer.

(2) Lessee shall protect all known cultural resource properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of an approved exploration plan or an approved mining plan.

(3) The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

(4) If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of the authorized officer. The lessee shall not disturb such resources except as subsequently authorized by the BLM. Within five (5) working days of notification, the authorized officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or to preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the lessee.

(b) Paleontological Resources. (1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall employ a qualified professional paleontologist to map the extent of the Class I and II geologic formations. The paleontological appraisal shall be conducted as directed by the authorized offices

who may require a field survey of all outcrops within identified Class I and Class II areas. The BLM reserves the right to designate portions of any Class I or Class II areas as unsuitable for mining under this lease due to their sensitivity or to protect significant scientific value(s).

(2) Lessee shall not knowingly disturb, alter, destroy, or take any paleontological resources. Lessee shall immediately cease activities in the vicinity of any paleontological specimen that is discovered during its operations. Lessee shall protect the resource and report the discovery to the authorized officer. A paleontological specimen shall not be removed from the site until evaluated by a qualified professional paleontologist. Operations may not proceed until specifically authorized by the BLM. Lessor expressly reserves title to paleontological resources.

(3) Lessor reserves the right to conduct periodic compliance checks or to have these checks conducted by a qualified professional paleontologist during the stripping of overburden and the construction of appurtenant facilities in order to check for the existence of paleontological localities and to evaluate their significance.

(4) If a fossil is discovered which has projectile points or other human artifacts in or near it; is charred, split, or cut; or shows features indicative of human activity, all work, including construction work, excavation, and removal, shall immediately cease until a qualified professional archaeologist can evaluate on the fossil resource and determine its cultural affiliation and significance. If the archaeologist determines that a human association exists, the specimen shall be handled as a cultural resource under Sec. 15(a) as directed by the authorized officer.

(c) Threatened and Endangered Plants. (1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall have a qualified professional conduct an intensive field inventory for threatened, endangered, sensitive, and rare plants in the manner specified by the authorized officer on those portions of the exploration area, mine plan area, or adjacent areas that were not previously inventoried at such a level of intensity and which may be adversely affected by lease-related activities.

(2) The inventory shall be conducted by a qualified professional approved by the authorized officer. A report of the inventory and recommendations for the protection of any species identified shall be submitted to the authorized officer. The lessee shall not commence any surface disturbing activities until the authorized officer has reviewed the report, determined whether mitigation is required, and given approval to proceed.

(d) Wildlife. (1) Lessee shall develop, in consultation with the BLM, Colorado Division of Wildlife, and the U.S. Fish and Wildlife Service, a plan for replacing or offsetting impacts to animal populations and/or habitats identified as being impaired or lost due to mining operations. Key target species and habitats include, but are not limited to, raptors and mule deer and their associated habitats and riparian/ wetland habitats and associated fauna:

(2) Lessee shall compensate for and/or offset the loss, displacement, or adverse modification of wildlife populations and/or associated habitats, on or off lease, which occur as the result of lease development and operation.

(3) *Wildlife Recovery and Replacement Plan.* At the time it submits its mine plan, lessee shall submit for approval by the authorized officer a wildlife recovery and replacement plan.

The final wildlife recovery and replacement plan shall indicate the methods lessee shall employ to ensure that the carrying capacity of the recovered or replaced lands will fully support populations of the indicator species as agreed upon by the BLM, the Colorado Division of Wildlife and the U.S. Fish and Wildlife Service. The wildlife recovery and replacement plan will include the following:

(A) A habitat and population analysis of the mine area that identifies which of these species occupy the mine area and shall include, but not be limited to, advance raptor nest surveys of woodland and cliff substrates within ½ mile of any proposed development. The survey shall be conducted by a qualified professional approved by BLM and shall include an analysis of the quality or carrying capacity of the habitat for each species identified

(B) A detailed description of the methods selected by the lessee to mitigate animal and/or habitat loss, together with comparative analysis of alternative methods that were considered but rejected by the lessee and the rationale for the decision to select the proposed methods. The methods utilized by the lessee for recovery and replacement may include, but are not limited to, the following techniques:

- (i) Increasing the quantity and quality of forage available to these species;
- (ii) Acquiring critical wildlife habitats;
- (iii) Implementing mechanical manipulation of low quality wildlife habitat to increase its carrying capacity for selected wildlife species; and
- (iv) Ensuring recovery, replacement, or protection of important wildlife habitat to increase its carrying capacity for selected wildlife species.

(C) A timetable giving the periods required to accomplish the habitat recovery or replacement plan and showing its relationship to the overall mining plan.

(e) Access. (1) Lessee shall maintain public access to public lands adjacent to the lease by means of existing roads, trails, or ways. If the lessee must destroy or obstruct any existing route, lessee shall provide public access by means of an alternate route of equal quality.

(2) Lessee shall allow the public access to public lands within the lease and on roads, trails, and ways constructed by the lessee, unless the authorized officer determines that allowing such access would interfere with mining operations or would create a public safety hazard.

(f) Mine and Reclamation Plans. (1) Before any operations may commence, lessee shall file for approval by the authorized

officer an exploration or mining and reclamation plan, as appropriate, that addresses the following items:

(A) A description of the location and the area affected by the operations together with two copies of a suitable map or aerial photograph showing the topography, the area covered by the lease, the name and location of major topographic and cultural features, and the drainage plan for the affected area.

(B) A statement of proposed methods of operating, including a description of the surface or underground mining methods, proposed roads or vehicular trails, the size and location of structures and facilities to be built, the timing for grading and backfilling areas affected by the operations, and the proposed manner and length of time required to reclaim areas disturbed by the operations.

(C) An estimate of the quantity of water to be used and the pollutants that may enter receiving waters together with a design for the necessary impoundment, treatment, or control of all runoff water and drainage from workings to reduce soil erosion and sedimentation and to prevent the pollution of receiving waters.

(D) A description of measures to be taken to prevent or control fire, soil erosion, pollution of surface and groundwater, pollution of air, damage to fish and wildlife or other natural resources, and hazards to public health and safety.

(E) A revegetation plan for areas affected by operations that describes:

- (i) Proposed methods of preparation and fertilization of the soil prior to replanting;
- (ii) Types and mixtures of shrubs, trees, or tree seedlings, grasses, or legumes to be planted;
- (iii) Types and method of planting, including the amount of grasses, forbs, shrubs, or legumes per acre, or the number of spacing of trees, or tree seedlings, or combinations of the above.

(2) Lessee shall store or stockpile ore, by-products, or waste material in a manner to deter the production of leached products and other pollutants and to prevent downward percolation of such products or pollutants into aquifers. Oil shale ore shall be stockpiled to protect the mineral resources as determined by the authorized officer.

(3) Lessee shall develop, and submit as part of its mine plan, a reclamation plan specifically for those areas of disturbance defined as having low or very low reclamation potential. The plan must demonstrate to the complete satisfaction of the authorized officer that the lands can be reclaimed utilizing current technologies. The authorized officer shall deem the subject lands unsuitable for surface occupancy or disturbance if the plan does not adequately demonstrate a high probability for success of reclamation.

(4) As part of its mine plan, lessee shall submit social, economic and transportation impact data concerning offsite aspects of the proposed development including:

(A) The estimated number and type of employees the lease operations will require during phases of construction and operation

and the specific years each number and type of employees will be required.

(B) The contemplated construction of transportation facilities and estimated transportation mode(s), route(s), and frequency of trips for the extracted resources; and the estimated effect of any truck movements on the rate of roadway pavement deterioration, on the design life of the transportation mode, on the level of surface repair, and on overall safety to the motoring public.

(C) The estimated effect of the influx of population on the transportation system at the county and local level resulting from the proposed development.

(D) Lessee shall update the data annually to the satisfaction of the authorized officer until its operations reach a full or stable level. Lessee then shall update its data whenever it plans a major change in its operations (such as expansion, transportation mode change, closing, etc.) and prior to implementation of the change(s).

THE UNITED STATES OF AMERICA

By James E. Edwards, Jr.

James E. Edwards, Jr.  
(Signing Officer)

Chief, Branch of Solid Minerals  
(Title)

7/02/01  
(Date)

WHITE RIVER MINERAL MINERALS LLC

(Company or Lessee Name)

[Signature]

(Signature of Lessee)

PRESIDENT

(Title)

6/20/01

(Date)

Title 18 U.S.C. Section 1001, makes 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.

NOTICE

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provides that you be furnished the following information in connection with information required under the terms of this lease.

AUTHORITY: 30 U.S.C. 181 et seq.; 43 CFR 3500.

PRINCIPAL PURPOSE: The information will be used to verify your compliance with the lease terms and in calculating royalty payments.

ROUTINE USES: (1) Evaluation of the effects of the operations on the environment. (2) Statistical reports to Congress. (3)(4) and (5) Information from the record and/or the record may be released or transferred to appropriate Federal, State or local agencies in allocating mineral revenue, for investigations of energy program; and when relevant to civil, criminal or regulatory investigations or

prosecutions, as well as routine regulatory responsibility.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of this information is mandatory only if the lessee elects to mine, extract, remove and/or dispose of the leased deposits.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) requires us to inform you that:

This information is being collected for use in calculating royalty payments and in verification of compliance with lease terms.

Response to this request is mandatory only if the lessee elects to mine, extract, remove and/or dispose of the leased deposits.



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Serial Number

C-37474

Sodium Lease Renewal

PART 1. LEASE RIGHTS GRANTED.

This lease renewal, entered into by and between the UNITED STATES OF AMERICA, through the Bureau of Land Management, hereinafter called lessor, and

White River Nahcolite Minerals, LLC  
P.O. Drawer 72  
Rifle, Colorado 81650

hereinafter called lessee, is effective July 1, 2001, for a period of 10 years, with preferential right in the lessee to renew for successive periods of 10 years under such terms and conditions as maybe prescribed by the Secretary of the Interior, unless otherwise provided by law at the expiration of any period, and provided that the sodium is being produced in paying quantities at the end of the 10-year renewal period and, if renewed, at the end of each successive 10-year period.

Sec. 1. This lease is issued pursuant and subject to the terms and provisions of the Mineral Leasing Act of 1920, as amended and supplemented, 41 Stat. 437, 30 U.S.C.181-287, hereinafter referred to as the Act; and to the regulations and formal orders of the Secretary of the Interior which are now or hereafter in force, specifically including, but not limited to, 43 CFR 23 (to the same extent as if the operations under this lease were surface mining), 3500, and 3590, when not inconsistent with the express and specific provisions herein.

Sec. 2. Lessor, in consideration of rents and royalties to be paid, and the conditions and covenants to be observed as herein set forth, hereby grants and leases to lessee the exclusive right and privilege to explore for, drill for, mine, extract, remove, beneficiate, concentrate, or otherwise process and dispose of the sodium deposits in the Saline Zone, hereinafter referred to as "leased deposits," in, upon, or under the following described lands:

T. 1 S., R. 98 W., 6<sup>th</sup> P.M.  
sec. 16, NE $\frac{1}{4}$ NB $\frac{1}{4}$ , W $\frac{1}{2}$ NB $\frac{1}{4}$ , W $\frac{1}{2}$ , and NW $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 17, all;  
sec. 20, NE $\frac{1}{4}$ NB $\frac{1}{4}$ ;  
sec. 21, NW $\frac{1}{4}$ NW $\frac{1}{4}$ ;

containing 1,200 acres, more or less, together with the right to construct such works, buildings, plants, structures, equipment, and appliances and the right to use such on-lease rights-of-way which may be necessary and convenient in the exercise of the rights and privileges granted, subject to the conditions herein provided.

Sec. 3. DEFINITIONS. The following definitions shall be used in the interpretation of this lease:

(a) "Oil Shale" is a fine-grained sedimentary rock containing organic matter which was derived chiefly from aquatic organisms or waxy spores or pollen grains, which is only slightly soluble in ordinary petroleum solvents, and of which a large proportion is distillable into artificial petroleum. This term is applicable to any argillaceous, carbonate, or siliceous sedimentary rock which will yield oil upon destructive distillation. In this lease, "destructive distillation" means the process of decomposition of oil shale where heat is applied to a temperature at which the hydrocarbons are converted to vapors and/or liquids.

(b) "Saline Zone" in this lease means the lower part of the Parachute Creek Member of the Green River Formation in the Piceance Creek Basin, the top of which zone is defined at any point by the characteristic "dissolution surface" and the bottom of which is defined at any point by the horizon marker designated as the "Blue Marker," which forms the approximate base of the Parachute Creek Member.

(c) "Leased deposits" means (1) all sodium compounds and any related products thereof in the Saline Zone not intermingled with oil shale averaging 25 gallons of shale oil or more per ton of rock mined (hereinafter referred to as "25 g.p.t. oil shale", such average to be determined monthly for each calendar month by modified Fischer assays of the rock mined by lessee for processing or beneficiation by any method, and (2) all sodium compounds and any related products within the Saline Zone which are intermingled with 25 g.p.t. oil shale and which can be mined, extracted, processed, beneficiated, used, and disposed of without the destructive distillation of the 25 g.p.t. oil shale and without significantly changing the composition of the 25 g.p.t. oil shale or rendering it more unsuitable in any material respect for development, retorting, processing, use, or disposition. As used herein, the term "related products" shall, in no event, include oil shale.

Sec. 4. PROTECTION OF OIL SHALE DEPOSITS. (a) Except as expressly provided in subsections (b), (c), and (d) below, the lessee shall not:

(1) utilize process solutions in excess of 300 degrees Fahrenheit for in situ solution mining of sodium compounds without the express permission of the authorized officer;

(2) mine, extract, retort, process, use, or dispose of any oil shale, or organic matter or the products thereof contained in or derived from any such oil shale, situated above or below the Saline Zone in the lands described in Sec. 2 above;

(3) mine, extract, retort, process, use, or dispose of any 25 g.p.t. oil shale, or organic matter or the products thereof contained in or derived from any such 25 g.p.t. oil shale, situated in the Saline Zone; or

(4) use, remove from the leased premises, or dispose of any oil shale, or organic matter or the products thereof contained in or derived from any such oil shale, averaging more than 10 gallons of shale oil per ton from the Saline Zone, such average to be determined by modified Fischer assays.

(5) It is expressly understood and agreed that the lessee shall not have any right to, and shall not, burn or otherwise use for fuel or energy production purposes any oil shale situated in or under the lands described in Sec. 2 above.

(b) The lessee shall have the right and privilege to:

(1) mine and extract oil shale or other material located above the Saline Zone for the sole purpose of emplacing shafts or other entries as are necessary, and are authorized by the authorized officer, to gain access to the leased deposits for mining, extraction, and removal operations, and

(2) mine, extract, and process by non-retorting methods, which are chemical or mechanical and do not require the use of heat, 25 g.p.t. oil shale intermingled with the leased deposits, but only to the extent necessary for and as an incident to the mining, extraction, processing, beneficiation and removal of the leased deposits, provided that the authorized officer determines there is no significant extraction or removal of 25 g.p.t. oil shale and determines that 25 g.p.t. oil shale is not rendered unfit or significantly lowered in quality for retorting purposes by such mining, extraction, processing, and beneficiation.

(c) As required by the terms of this lease or as directed by the authorized officer, the lessee shall have the right and the duty to store and to protect all 25 g.p.t. oil shale which has been mined and all other oil shale which, after mining, has become 25 g.p.t. oil shale as a result of processing or beneficiation.

(1) Except as otherwise provided herein or unless otherwise authorized in writing by the authorized officer, the lessee shall, prior to disposition, process or beneficiate any leased deposits in mined material to extract sodium compounds therefrom where that material contains oil shale averaging more than 10 gallons of shale oil per ton of rock mined, but less than 25 gallons of shale oil per ton, such average to be determined by modified Fischer assays. The lessee shall perform any processing or beneficiation in such a manner that sepa-

rates from the leased deposits that quantity of contained organic matter necessary to limit the shale oil content, if any, to not more than an average of 10 gallons per ton in the material removed from the leased premises. .

(2) The lessee shall store or dispose of, as determined and directed by the authorized officer, residue and/or waste materials which have been separated from the leased deposits or products thereof during or as a result of mining, extraction, processing, beneficiation, retorting or other operations conducted under this lease, where the aforesaid storage or disposal is not otherwise provided for or authorized by Sec. 4(c) or Sec. 4(d), Part I, of this lease.

(3) It is expressly understood that the processed 25 g.p.t. oil shale or other processed oil shale and, upon the termination of this lease, any sodium compounds intermingled therewith, shall remain the sole property of the lessor and shall be subject to disposition at any time by the lessor as provided in Sec. 7 of this lease or as otherwise determined by the authorized officer.

(d) In the event that retorting or processing of the leased deposits results in the production of any shale oil whatsoever, all such shale oil shall be and shall remain the exclusive property of the lessor, any provision in this lease to the contrary notwithstanding, and shall be disposed of by the lessor.

(1) At lessor's option, and at the direction of the authorized officer given within a reasonable time after its production, the lessee shall dispose of such shale oil, if any, on terms that are just and reasonable and do not require lessee to bear the costs of disposing of the shale oil. It is understood that, if lessee is required by lessor to store such shale oil, the costs of such storage shall be initially borne by lessee but the lessor shall credit such costs against royalties payable under this lease by the lessee as those royalties become due and payable.

(2) Any contract or other agreement entered into by the lessee or its successors in interest for the sale, transfer, or disposal of all or part of the leased deposits or the products thereof shall specifically provide that the purchaser or transferee, and its successors in title, neither intends to, nor shall produce, shale oil therefrom. The lessee shall make no further sale or transfer of any leased deposit or any products thereof to any purchaser, or any of its successors in title, of any leased deposit or the products thereof who has violated such contractual provision. Moreover, the lessee shall take whatever action may be necessary either to recover for the lessor any shale oil so produced in any significant quantity which is then still in existence or to recover damages which shall be payable to the lessor if any such significant quantities of shale oil have been produced and are no longer in existence.

## PART II TERMS AND CONDITIONS

Sec. 1. (a) RENTAL RATE - Lessee shall pay lessor rental annually and in advance at the rate of \$1 for each acre or fraction thereof during the continuance of the lease.

(b) **RENTAL CREDITS** - The rental for any year will be credited against the first royalties as they accrue under the lease during the year for which rental was paid

Sec. 2. (a) **PRODUCTION ROYALTIES** - Lessee shall pay lessor a production royalty of 5 percent of the gross value of the output of the leased deposits at the point of shipment to market. Such production royalty is due the last day of the month next following the month in which the minerals are sold or removed from the leased lands.

(b) **MINIMUM ANNUAL PRODUCTION AND MINIMUM ROYALTY** -

(1) For the current lease period, lessee shall produce on an annual basis a minimum amount of 4,000 tons of sodium or related products the first through the fifth lease years, and 6,000 tons the sixth through the tenth lease years; or

(2) At the request of the lessee, made prior to initiation of the lease year, the authorized officer may allow in writing the payment of \$26,000 per year through the fifth lease year and \$39,000 per year thereafter for the remainder of the ten year lease in lieu of production for any particular lease year. Minimum royalty payments shall be credited to production royalties for that year only.

(3) The authorized officer shall not accept payment of minimum royalty in lieu of production for more than a total of six years during the lease term.

Sec. 3. **SUSPENSION** - Lessee shall notify the authorized officer when operations are interrupted by strikes, the elements, or casualties not attributable to the lessee. Upon application of lessee, lessor may approve suspension of operations under the lease when marketing conditions are such that the lease cannot be operated except at a loss. In the interest of conservation of natural resources, the lessor may waive, suspend, or reduce rental, or minimum royalty, or reduce royalty, and may direct or assent to the suspension of operations and production under this lease in accordance with section 39 of the Mineral Leasing Act, 30 U.S.C. 209.

Sec. 4. **BONDS** - Lessee shall maintain in the proper office a lease bond, or in lieu thereof, an acceptable statewide or nationwide bond in the amount of \$354,000. The authorized officer may adjust the bond amount as determined appropriate for operations under this lease. Lessor shall require a lease bond sufficient to satisfy rental and royalty payments as well as lessee's performance bond under 43 CFR 23 for operations and reclamation requirements in the event that lessee fails to fully comply with lease terms, conditions, and stipulations.

Sec. 5. **DOCUMENTS, EVIDENCE AND INSPECTION** - At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing the amounts and quality of all products removed and sold from the lease, the proceeds therefrom, and the amount used for production purposes or unavoidably lost.

Lessee shall keep open at all reasonable times, for the inspection of any duly authorized officer of less, the leased premises and all surface and underground improvements, works, machinery, ore stockpiles, equipment, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or under the leased lands.

Lessee either shall submit or shall provide less access to, and copying of, documents reasonably necessary to verify lessee compliance with terms and conditions of the lease.

While this lease remains in effect, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. **WATER RIGHTS** - All water rights developed by the lessee through operations on the lease lands shall immediately become the property of the lessor. Lessee shall have the right to use those water rights free of charge for operations under this lease.

Sec. 7. **CONDUCT OF OPERATIONS** - (a) Lessee shall exercise reasonable diligence, skill, and care in the operation of the property, and shall carry on all operations, having due regard for the prevention of injury to life, health, or property, and prevention of waste or damage or degradation to any land, water, or mineral resources.

(1) Lessee shall not conduct exploration or operations, other than casual use, prior to approval of plans of exploration or operations by lessor and the receipt of necessary permits.

(2) Lessee shall carry on all operations in accordance with approved methods and practices, and as provided in the operating regulations and in the approved mining plan, in a manner that minimizes adverse impacts to the land, air, water, cultural, biological, visual, and other resources, including mineral deposits and formations of mineral deposits not leased hereunder, and to other land uses or users. Lessee shall take measures deemed necessary by lessor to accomplish the intent of this lease term. Such measures may include, but are not limited to, modification to proposed siting or design of facilities, timing of operations, and specification of interim and final reclamation procedures.

(3) Lessor reserves to itself the right to lease, sell, or otherwise dispose of the surface or other mineral deposits in the lands and the right to continue existing uses and to authorize future uses upon or in the leased lands, including issuing leases for mineral deposits not covered hereunder and approving of easements or rights-of-way. Lessor expressly reserves the right to issue oil shale leases for all or any part of the lands subject to this lease, including the Saline Zone. Lessor also reserves the right to issue sodium leases for all or any part of the lands subject to this lease, excluding the Saline Zone, giving due regard to the rights of lessee to the deposits leased herein. Lessor shall condition such uses to prevent unnecessary or unreasonable interference with rights of lessee as may be consistent with concepts of multiple use and multiple mineral development.

(b) *Exploration, Development, and Production of Leased Deposits and Other Operations in Oil Shale or Other Leasable Deposits* - Lessee shall not conduct exploration or mining operations that the authorized officer determines:

(1) would be hazardous to the concurrent or future production of mineral deposits under existing leases issued pursuant to the Act for the same lands, of oil shale not located in the Saline Zone, or of the 25 g.p.t. oil shale in the Saline Zone in the same lands

(2) would interfere with the orderly concurrent or future development and production of mineral deposits under existing leases issued pursuant to the Act for the same lands, of oil shale not located in the Saline Zone, or of 25 g.p.t. oil shale in the Saline Zone in the same lands, unless the Secretary determines that the interest of the United States would be served thereby; or

(3) would result in undue waste of mineral deposits subject to existing leases issued pursuant to the Act for the same lands or of oil shale in the same lands. Operations conducted in conformity with the provisions of subsections 4(b), (c), and (d) of Part I of this lease shall not be deemed to cause undue waste of oil shale.

(4) Lessee shall make available for inspection by the holder of any oil shale lease issued for the same lands, or any zone thereof, maps of mine workings and surface installations and records of core analyses required to be filed pursuant to the applicable operations regulations insofar as such maps and records are pertinent to the development and protection of oil shale deposits.

**Sec. 8. PROTECTION OF DIVERSE INTERESTS, AND EQUAL OPPORTUNITY** - Lessee shall: pay when due all taxes legally assessed and levied under the laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; restrict the workday to not more than 8 hours in any one day for underground workers, except in emergencies; and take measures necessary to protect the health and safety of the public. No person under the age of 16 years shall be employed in any mine below the surface. To the extent that laws of the State in which the lands are situated are more restrictive than the provisions in this paragraph, then the State laws apply.

Lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor. Neither lessee nor lessee's subcontractors shall maintain segregated facilities.

**Sec 9. (a) TRANSFERS** - This lease may be transferred in whole or in part to any person, association or corporation qualified to hold such lease interest.

**(b) RELINQUISHMENT** - Lessee may relinquish in writing at any time all rights under this lease, or any portion thereof, as provided in the regulations. Upon lessor's acceptance of the relinquishment, lessee shall be relieved of all future obligations under the lease or the relinquished portion thereof, whichever is applicable.

**Sec. 10. DELIVERY OF PREMISES, REMOVAL OF MACHINERY, EQUIPMENT, ETC.** - At such time as all or portions of this lease are returned to lessor, lessee shall deliver up to lessor the land leased, underground timbering, and such other supports and structures necessary for the preservation of the mine workings on the leased premises or deposits and place all workings and wells in condition for

suspension or abandonment. Within 180 days thereof, lessee shall remove from the premises all other structures, machinery, equipment, tools, and materials that it elects to or as required by the authorized officer. Any such structures, machinery, equipment, tools, and materials remaining on the leased lands beyond 180 days, or approved extension thereof, shall become the property of the lessor, but lessee shall either remove any or all such property or shall continue to be liable for the cost of removal and disposal in the amount actually incurred by the lessor. If the surface is owned by third parties, lessor shall waive the requirement for removal, provided the third parties do not object to such waiver.

Prior to the termination of bond liability or at any other time when required, and in accordance with all applicable laws and regulations, lessee shall reclaim all lands the surface of which has been disturbed, dispose of all debris or solid waste, repair the offsite and onsite damage caused by lessee's activity or activities on the leased lands, and reclaim access roads or trails. Lessee shall take all actions necessary to temporarily or permanently abandon the leased lands in accordance with the abandonment plan approved by the authorized officer.

**Sec. 11. PROCEEDINGS IN CASE OF DEFAULT** - If lessee fails to comply with applicable laws, existing regulations, or the terms, conditions and stipulations of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation by the lessor only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

**Sec. 12. HEIRS AND SUCCESSORS-IN-INTEREST**-Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

**Sec. 13. INDEMNIFICATION** - Lessee shall indemnify and hold harmless the United States from any and all claims arising out of the lessee's activities and operations under this lease.

**Sec. 14. SPECIAL STATUTES** - This lease is subject to the Federal Water Pollution Control Act (33 U.S.C. 1151-1175), the Clean Air Act (42 U.S.C. 1857 et seq.), and to all other applicable laws pertaining to exploration activities, mining operations and reclamation.

**Sec. 15. SPECIAL STIPULATIONS** - Special stipulations (a) Cultural Resources, (b) Paleontological Resources, (c) Threatened and Endangered Species (Plants), (d) Wildlife, (e) Floodplains, (f) Access, and (g) Mine and Reclamation Plans are attached to and made a part of sodium lease C-37474. These stipulations are also imposed upon lessee's employees and agents. The failure or refusal of any of these persons to comply with these stipulations shall be deemed a failure of the lessee to comply with the terms of the lease. Lessee shall require its agents, contractors, and subcontractors involved in

activities on this lease to include these stipulations in the contracts between and among them. The special stipulations maybe revised or amended, in writing, by mutual consent of the lessor and the lessee.

(a) Cultural Resources. Lessee shall undertake measures in accordance with instructions from the authorized officer to protect cultural resources on the leased lands. The lessee shall not commence any surface disturbing activities until permission to proceed is given by the authorized officer. For this cultural resources stipulation, the authorized officer of the BLM will be the White River Field Office Manager.

(1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall conduct a cultural resource Class III inventory on those lands that have not been previously inventoried and that may be affected by lease-related activities. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archaeologist, historian, or historical architect, as appropriate) approved by the authorized officer of the BLM and in the manner specified by the authorized officer. Lessee shall submit a report of the inventory and recommendations for protecting any identified cultural resources to the authorized officer.

(2) Lessee shall protect all known cultural resource properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of an approved exploration plan or an approved mining plan.

(3) The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

(4) If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of the authorized officer. The lessee shall not disturb such resources except as subsequently authorized by the BLM. Within five (5) working days of notification, the authorized officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or to preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the lessee.

(b) Paleontological Resources. (1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall employ a qualified professional paleontologist to map the extent of the Class I and II geologic formations. The paleontological appraisal shall be conducted as directed by the authorized offices who may require a field survey of all outcrops within identified Class I and Class II areas. The BLM reserves the right to designate portions of any Class I or Class II areas as unsuitable for mining under this lease due to their sensitivity or to protect significant scientific value(s).

(2) Lessee shall not knowingly disturb, alter, destroy, or take any paleontological resources. Lessee shall immediately cease activities in the vicinity of any paleontological specimen that is discovered during its operations. Lessee shall protect the resource and report the discovery to the authorized officer. A paleontological specimen shall not be removed from the site until evaluated by a qualified professional paleontologist. Operations may not proceed until specifically authorized by the BLM. Lessor expressly reserves title to paleontological resources.

(3) Lessor reserves the right to conduct periodic compliance checks or to have these checks conducted by a qualified professional paleontologist during the stripping of overburden and the construction of appurtenant facilities in order to check for the existence of paleontological localities and to evaluate their significance.

(4) If a fossil is discovered which has projectile points or other human artifacts in or near it; is charred, split, or cut; or shows features indicative of human activity, all work, including construction work, excavation, and removal, shall immediately cease until a qualified professional archaeologist can evaluate on the fossil resource and determine its cultural affiliation and significance. If the archaeologist determines that a human association exists, the specimen shall be handled as a cultural resource under Sec. 15(a) as directed by the authorized officer.

(c) Threatened and Endangered Plants. (1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall have a qualified professional conduct an intensive field inventory for threatened, endangered, sensitive, and rare plants in the manner specified by the authorized officer on those portions of the exploration area, mine plan area, or adjacent areas that were not previously inventoried at such a level of intensity and which may be adversely affected by lease-related activities.

(2) The inventory shall be conducted by a qualified professional approved by the authorized officer. A report of the inventory and recommendations for the protection of any species identified shall be submitted to the authorized officer. The lessee shall not commence any surface disturbing activities until the authorized officer has reviewed the report, determined whether mitigation is required, and given approval to proceed.

(d) Wildlife. (1) Lessee shall develop, in consultation with the BLM, Colorado Division of Wildlife, and the U.S. Fish and Wildlife Service, a plan for replacing or offsetting impacts to animal populations and/ or habitats identified as being impaired or lost due to mining operations. Key target species and habitats include, but are not limited to, raptors and mule deer and their associated habitats and riparian/ wetland habitats and associated fauna:

(2) Lessee shall compensate for and/or offset the loss, displacement, or adverse modification of wildlife populations and/or associated habitats, on or off lease, which occur as the result of lease development and operation.

(3) Wildlife Recovery and Replacement Plan. At the time it submits its mine plan, lessee shall submit for approval by the authorized officer a wildlife recovery and replacement plan.

The final wildlife recovery and replacement plan shall indicate the methods lessee shall employ to ensure that the carrying capacity of the recovered or replaced lands will fully support populations of the indicator species as agreed upon by the BLM, the Colorado Division of Wildlife and the U.S. Fish and Wildlife Service. The wildlife recovery and replacement plan will include the following:

(A) A habitat and population analysis of the mine area that identifies which of these species occupy the mine area and shall include, but not be limited to, advance raptor nest surveys of woodland and cliff substrates within ½ mile of any proposed development. The survey shall be conducted by a qualified professional approved by BLM and shall include an analysis of the quality or carrying capacity of the habitat for each species identified

(B) A detailed description of the methods selected by the lessee to mitigate animal and/or habitat loss, together with comparative analysis of alternative methods that were considered but rejected by the lessee and the rationale for the decision to select the proposed methods. The methods utilized by the lessee for recovery and replacement may include, but are not limited to, the following techniques:

(i) Increasing the quantity and quality of forage available to these species;

(ii) Acquiring critical wildlife habitats;

(iii) Implementing mechanical manipulation of low quality wildlife habitat to increase its carrying capacity for selected wildlife species; and

(iv) Ensuring recovery, replacement, or protection of important wildlife habitat to increase its carrying capacity for selected wildlife species.

(C) A timetable giving the periods required to accomplish the habitat recovery or replacement plan and showing its relationship to the overall mining plan.

(4) Raptors. (A) To protect significant raptor nesting sites, no surface occupancy shall be permitted within the following described area:

T. 1 S. R. 98 W., 6<sup>th</sup> P.M.  
sec. 16, NE¼NE¼.

(B) Major permanent and ancillary facilities will not be allowed within the following described raptor nesting buffer zones, if the authorized officer determines the facilities will adversely impact raptor nest(s) by jeopardizing continued use of established nests or by preventing successful reproduction:

T. 1 S., R. 98 W., 6<sup>th</sup> P.M.  
sec. 16, W¼NE¼.

(e) Floodplains. Lessee shall not construct facilities or conduct operations in the 100-year floodplain described below without the express written permission of the authorized officer.

T. 1 S., R. 98 W., 6<sup>th</sup> P.M.  
sec. 16, NW¼SE¼.

If facilities are allowed, lessee shall provide adequate protection for any building or improvement against flooding.

f) Access. (1) Lessee shall maintain public access to public lands adjacent to the lease by means of existing roads, trails, or ways. If the lessee must destroy or obstruct any existing route, lessee shall provide public access by means of an alternate route of equal quality.

(2) Lessee shall allow the public access to public lands within the lease and on roads, trails, and ways constructed by the lessee, unless

the authorized officer determines that allowing such access would interfere with mining operations or would create a public safety hazard.

(g) Mine and Reclamation Plans. (1) Before any operations may commence, lessee shall file for approval by the authorized officer an exploration or mining and reclamation plan, as appropriate, that addresses the following items:

(A) A description of the location and the area affected by the operations together with two copies of a suitable map or aerial photograph showing the topography, the area covered by the lease, the name and location of major topographic and cultural features, and the drainage plan for the affected area.

(B) A statement of proposed methods of operating, including a description of the surface or underground mining methods, proposed roads or vehicular trails, the size and location of structures and facilities to be built, the timing for grading and backfilling areas affected by the operations, and the proposed manner and length of time required to reclaim areas disturbed by the operations.

(C) An estimate of the quantity of water to be used and the pollutants that may enter receiving waters together with a design for the necessary impoundment, treatment, or control of all runoff water and drainage from workings to reduce soil erosion and sedimentation and to prevent the pollution of receiving waters.

(D) A description of measures to be taken to prevent or control fire, soil erosion, pollution of surface and groundwater, pollution of air, damage to fish and wildlife or other natural resources, and hazards to public health and safety.

(E) A revegetation plan for areas affected by operations that describes:

(i) Proposed methods of preparation and fertilization of the soil prior to replanting;

(ii) Types and mixtures of shrubs, trees, or tree seedlings, grasses, or legumes to be planted;

(iii) Types and method of planting, including the amount of grasses, forbs, shrubs, or legumes per acre, or the number of spacing of trees, or tree seedlings, or combinations of the above.

(2) Lessee shall store or stockpile ore, by-products, or waste material in a manner to deter the production of leached products and other pollutants and to prevent downward percolation of such products or pollutants into aquifers. Oil shale ore shall be stockpiled to protect the mineral resources as determined by the authorized officer.

(3) Lessee shall develop, and submit as part of its mine plan, a reclamation plan specifically for those areas of disturbance defined as having low or very low reclamation potential. The plan must demonstrate to the complete satisfaction of the authorized officer that the lands can be reclaimed utilizing current technologies. The authorized officer shall deem the subject lands unsuitable for surface occupancy or disturbance



if the plan does not adequately demonstrate a high probability for success of reclamation.

(4) As part of its mine plan, lessee shall submit social, economic and transportation impact data concerning offsite aspects of the proposed development including:

(A) The estimated number and type of employees the lease operations will require during phases of construction and operation and the specific years each number and type of employees will be required.

(B) The contemplated construction of transportation facilities and the estimated transportation model(s), route(s), and frequency, of trips for the extracted resources; and the estimated effect of any truck

movement on the rate of roadway pavement deterioration, on the design life of the transportation mode, on the level of surface repair, and on overall safety to the motoring public.

(C) The estimated effect of the influx of population on the transportation system at the county and local level resulting from a proposed development.

(D) Lessee shall update the data annually to the satisfaction of the authorized officer until its operations reach a full or stable level. Lessee then shall update its data whenever it plans a major change in its operations (such as expansion, transportation mode change, closing, etc.) and prior to implementation of the change(s).

THE UNITED STATES OF AMERICA  
By James E. Edwards, Jr.  
James E. Edwards, Jr.  
(Signing Officer)  
Chief, Branch of Solid Minerals  
(Title)  
7/22/01  
(Date)

WHITE RIVER PACKAGING MINERALS  
(Company or Lessee Name)  
[Signature]  
(Signature of Lessee)  
PRESIDENT  
(Title)  
6/20/01  
(Date)

Title 18 U.S.C. Section 1001, makes 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.

#### NOTICE

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provides that you be furnished the following information in connection with information required under the terms of this lease.

**AUTHORITY:** 30 U.S.C. 181 et seq.; 43 CFR 3500.

**PRINCIPAL PURPOSE:** The information will be used to verify your compliance with the lease terms and in calculating royalty payments.

**ROUTINE USES:** (1) Evaluation of the effects of the operations on the environment. (2) Statistical reports to Congress. (3)(4) and (5) Information from the record and/or the record may be released or transferred to appropriate Federal, State or local agencies in allocating mineral revenue, for investigations of energy program; and when relevant to civil, criminal or regulatory investigations or prosecutions, as well

as routine regulatory responsibility.

**EFFECT OF NOT PROVIDING INFORMATION:** Disclosure of this information is mandatory only if the lessee elects to mine, extract, remove and/or dispose of the leased deposits.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) requires us to inform you that:

This information is being collected for use in calculating royalty payments and in verification of compliance with lease terms.

Response to this request is mandatory only if the lessee elects to mine, extract, remove and/or dispose of the leased deposits.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Serial Number  
C-0119986

Sodium Lease Renewal

PART 1. LEASE RIGHTS GRANTED.

This lease renewal, entered into by and between the UNITED STATES OF AMERICA, through the Bureau of Land Management, hereinafter called lessor, and

White River Nahcolite Minerals, LLC  
P.O. Drawer 72  
Rifle, Colorado 81650

hereinafter called lessee, is effective July 1, 2001, for a period of 10 years, with preferential right in the lessee to renew for successive periods of 10 years under such terms and conditions as maybe prescribed by the Secretary of the Interior, unless otherwise provided by law at the expiration of any period, and provided that the sodium is being produced in paying quantities at the end of the 10-year renewal period and, if renewed, at the end of each successive 10-year period.

Sec. 1. This lease is issued pursuant and subject to the terms and provisions of the Mineral Leasing Act of 1920, as amended and supplemented, 41 Stat. 437, 30 U.S.C. 181-287, hereinafter referred to as the Act; and to the regulations and formal orders of the Secretary of the Interior which are now or hereafter in force, specifically including, but not limited to, 43 CFR 23 (to the same extent as if the operations under this lease were surface mining), 3500, and 3590, when not inconsistent with the express and specific provisions herein.

Sec. 2. Lessor, in consideration of rents and royalties to be paid, and the conditions and covenants to be observed as herein set forth, hereby grants and leases to lessee the exclusive right and privilege to explore for, drill for, mine, extract, remove, beneficiate, concentrate, or otherwise process and dispose of the sodium deposits in the Saline Zone, hereinafter referred to as "leased deposits," in, upon, or under the following described lands:

T. 1 S., R. 98 W., 6<sup>th</sup> P.M.  
sec. 21, S $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
sec. 27, lots 1 to 16, inclusive;  
sec. 28, all;  
sec. 29, SE $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ S $\frac{1}{2}$ , and NE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 33, all;  
sec. 34, lots 3 to 6, inclusive;

containing 2379.60 acres, more or less, together with the right to construct such works, buildings, plants, structures, equipment, and appliances and the right to use such on-lease rights-of-way which may be necessary and convenient in the exercise of the rights and privileges granted, subject to the conditions herein provided.

Sec. 3. DEFINITIONS. The following definitions shall be used in the interpretation of this lease:

(a) "Oil Shale" is a fine-grained sedimentary rock containing organic matter which was derived chiefly from aquatic organisms or waxy spores or pollen grains, which is only slightly soluble in ordinary petroleum solvents, and of which a large proportion is distillable into artificial petroleum. This term is applicable to any argillaceous, carbonate, or siliceous sedimentary rock which will yield oil upon destructive distillation. In this lease, "destructive distillation" means the process of decomposition of oil shale where heat is applied to a temperature at which the hydrocarbons are converted to vapors and/or liquids.

(b) "Saline Zone" in this lease means the lower part of the Parachute Creek Member of the Green River Formation in the Piceance Creek Basin, the top of which zone is defined at any point by the characteristic "dissolution surface" and the bottom of which is defined at any point by the horizon marker designated as the "Blue Marker," which forms the approximate base of the Parachute Creek Member.

(c) "Leased deposits" means (1) all sodium compounds and any related products thereof in the Saline Zone not intermingled with oil shale averaging 25 gallons of shale oil or more per ton of rock mined (hereinafter referred to as "25 g.p.t. oil shale", such average to be determined monthly for each calendar month by modified Fischer assays of the rock mined by lessee for processing or beneficiation by any method, and (2) all sodium compounds and any related products within the Saline Zone which are intermingled with 25 g.p.t. oil shale and which can be mined, extracted, processed, beneficiated, used, and disposed of without the destructive distillation of the 25 g.p.t. oil shale and without significantly changing the composition of the 25 g.p.t. oil shale or rendering it more unsuitable in any material respect for development, retorting, processing, use, or disposition. As used herein, the term "related products" shall, in no event, include oil shale.

Sec. 4. PROTECTION OF OIL SHALE DEPOSITS. (a) Except as expressly provided in subsections (b), (c), and (d) below, the lessee shall not:

(1) utilize process solutions in excess of 300 degrees Fahrenheit for in situ solution mining of sodium compounds without the express permission of the authorized officer;

(2) mine, extract, retort, process, use, or dispose of any oil shale, or organic matter or the products thereof contained in or derived from any such oil shale, situated above or below the Saline Zone in the lands described in Sec. 2 above;

(3) mine, extract, retort, process, use, or dispose of any 25 g.p.t. oil shale, or organic matter or the products thereof contained in or derived from any such 25 g.p.t. oil shale, situated in the Saline Zone; or

(4) use, remove from the leased premises, or dispose of any oil shale, or organic matter or the products thereof contained in or derived from any such oil shale, averaging more than 10 gallons of shale oil per ton from the Saline Zone, such average to be determined by modified Fischer assays.

(5) It is expressly understood and agreed that the lessee shall not have any right to, and shall not, burn or otherwise use for fuel or energy production purposes any oil shale situated in or under the lands described in Sec. 2 above.

(b) The lessee shall have the right and privilege to:

(1) mine and extract oil shale or other material located above the Saline Zone for the sole purpose of emplacing shafts or other entries as are necessary, and are authorized by the authorized officer, to gain access to the leased deposits for mining, extraction, and removal operations, and

(2) mine, extract, and process by non-retorting methods, which are chemical or mechanical and do not require the use of heat, 25 g.p.t. oil shale intermingled with the leased deposits, but only to the extent necessary for and as an incident to the mining, extraction, processing, beneficiation and removal of the leased deposits, provided that the authorized officer determines there is no significant extraction or removal of 25 g.p.t. oil shale and determines that 25 g.p.t. oil shale is not rendered unfit or significantly lowered in quality for retorting purposes by such mining, extraction, processing, and beneficiation.

(c) As required by the terms of this lease or as directed by the authorized officer, the lessee shall have the right and the duty to store and to protect all 25 g.p.t. oil shale which has been mined and all other oil shale which, after mining, has become 25 g.p.t. oil shale as a result of processing or beneficiation.

(1) Except as otherwise provided herein or unless otherwise authorized in writing by the authorized officer, the lessee shall, prior to disposition, process or beneficiate any leased deposits in mined material to extract sodium compounds therefrom where that material contains oil shale averaging more than 10 gallons of shale oil per ton of rock mined, but less than 25 gallons of shale oil per ton, such

average to be determined by modified Fischer assays. The lessee shall perform any processing or beneficiation in such a manner that separates from the leased deposits that quantity of contained organic matter necessary to limit the shale oil content, if any, to not more than an average of 10 gallons per ton in the material removed from the leased premises. :

(2) The lessee shall store or dispose of, as determined and directed by the authorized officer, residue and/or waste materials which have been separated from the leased deposits or products thereof during or as a result of mining, extraction, processing, beneficiation, retorting or other operations conducted under this lease, where the aforesaid storage or disposal is not otherwise provided for or authorized by Sec. 4(c) or Sec. 4(d), Part I, of this lease.

(3) It is expressly understood that the processed 25 g.p.t. oil shale or other processed oil shale and, upon the termination of this lease, any sodium compounds intermingled therewith, shall remain the sole property of the lessor and shall be subject to disposition at any time by the lessor as provided in Sec. 7 of this lease or as otherwise determined by the authorized officer.

(d) In the event that retorting or processing of the leased deposits results in the production of any shale oil whatsoever, all such shale oil shall be and shall remain the exclusive property of the lessor, any provision in this lease to the contrary notwithstanding, and shall be disposed of by the lessor.

(1) At lessor's option, and at the direction of the authorized officer given within a reasonable time after its production, the lessee shall dispose of such shale oil, if any, on terms that are just and reasonable and do not require lessee to bear the costs of disposing of the shale oil. It is understood that, if lessee is required by lessor to store such shale oil, the costs of such storage shall be initially borne by lessee but the lessor shall credit such costs against royalties payable under this lease by the lessee as those royalties become due and payable.

(2) Any contract or other agreement entered into by the lessee or its successors in interest for the sale, transfer, or disposal of all or part of the leased deposits or the products thereof shall specifically provide that the purchaser or transferee, and its successors in title, neither intends to, nor shall produce, shale oil therefrom. The lessee shall make no further sale or transfer of any leased deposit or any products thereof to any purchaser, or any of its successors in title, of any leased deposit or the products thereof who has violated such contractual provision. Moreover, the lessee shall take whatever action may be necessary either to recover for the lessor any shale oil so produced in any significant quantity which is then still in existence or to recover damages which shall be payable to the lessor if any such significant quantities of shale oil have been produced and are no longer in existence.

## PART II. TERMS AND CONDITIONS

Sec. 1. (a) RENTAL RATE - Lessee shall pay lessor rental

annually and in advance at the rate of \$1 for each acre or fraction thereof during the continuance of the lease.

(b) **RENTAL CREDITS** - The rental for any year will be credited against the first royalties as they accrue under the lease during the year for which rental was paid

**Sec. 2. (a) PRODUCTION ROYALTIES** - Lessee shall pay lessor a production royalty of 5 percent of the gross value of the output of the leased deposits at the point of shipment to market. Such production royalty is due the last day of the month next following the month in which the minerals are sold or removed from the leased lands.

(b) **MINIMUM ANNUAL PRODUCTION AND MINIMUM ROYALTY** -

(1) For the current lease period, lessee shall produce on an annual basis a minimum amount of 4,000 tons of sodium or related products the first through the fifth lease years, and 6,000 tons the sixth through the tenth lease years; or

(2) At the request of the lessee, made prior to initiation of the lease year, the authorized officer may allow in writing the payment of \$26,000 per year through the fifth lease year and \$39,000 per year thereafter for the remainder of the ten year lease in lieu of production for any particular lease year. Minimum royalty payments shall be credited to production royalties for that year only.

(3) The authorized officer shall not accept payment of minimum royalty in lieu of production for more than a total of six years during the lease term.

**Sec. 3. SUSPENSION** - Lessee shall notify the authorized officer when operations are interrupted by strikes, the elements, or casualties not attributable to the lessee. Upon application of lessee, lessor may approve suspension of operations under the lease when marketing conditions are such that the lease cannot be operated except at a loss. In the interest of conservation of natural resources, the lessor may waive, suspend, or reduce rental, or minimum royalty, or reduce royalty, and may direct or assent to the suspension of operations and production under this lease in accordance with section 39 of the Mineral Leasing Act, 30 U.S.C. 209.

**Sec. 4. BONDS** - Lessee shall maintain in the proper office a lease bond, or in lieu thereof, an acceptable statewide or nationwide bond in the amount of \$354,000. The authorized officer may adjust the bond amount as determined appropriate for operations under this lease. Lessor shall require a lease bond sufficient to satisfy rental and royalty payments as well as lessee's performance bond under 43 CFR 23 for operations and reclamation requirements in the event that lessee fails to fully comply with lease terms, conditions, and stipulations.

**Sec. 5. DOCUMENTS, EVIDENCE AND INSPECTION** - At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing the amounts and quality of all products removed and sold from the lease, the proceeds therefrom, and the amount used for production purposes or unavoidably lost.

Lessee shall keep open at all reasonable times, for the inspection of any duly authorized officer of less, the leased premises and all surface and underground improvements, works, machinery, ore stockpiles, equipment, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or under the leased lands.

Lessee either shall submit or shall provide less access to, and copying of, documents reasonably necessary to verify lessee compliance with terms and conditions of the lease.

While this lease remains in effect, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

**Sec. 6. WATER RIGHTS** - All water rights developed by the lessee through operations on the lease lands shall immediately become the property of the lessor. Lessee shall have the right to use those water rights free of charge for operations under this lease.

**Sec. 7. CONDUCT OF OPERATIONS** - (a) Lessee shall exercise reasonable diligence, skill, and care in the operation of the property, and shall carry on all operations, having due regard for the prevention of injury to life, health, or property, and prevention of waste or damage or degradation to any land, water, or mineral resources.

(1) Lessee shall not conduct exploration or operations, other than casual use, prior to approval of plans of exploration or operations by lessor and the receipt of necessary permits.

(2) Lessee shall carry on all operations in accordance with approved methods and practices, and as provided in the operating regulations and in the approved mining plan, in a manner that minimizes adverse impacts to the land, air, water, cultural, biological, visual, and other resources, including mineral deposits and formations of mineral deposits not leased hereunder, and to other land uses or users. Lessee shall take measures deemed necessary by lessor to accomplish the intent of this lease term. Such measures may include, but are not limited to, modification to proposed siting or design of facilities, timing of operations, and specification of interim and final reclamation procedures.

(3) Lessor reserves to itself the right to lease, sell, or otherwise dispose of the surface or other mineral deposits in the lands and the right to continue existing uses and to authorize future uses upon or in the leased lands, including issuing leases for mineral deposits not covered hereunder and approving of easements or rights-of-way. Lessor expressly reserves the right to issue oil shale leases for all or any part of the lands subject to this lease, including the Saline Zone. Lessor also reserves the right to issue sodium leases for all or any part of the lands subject to this lease, excluding the Saline Zone, giving due regard to the rights of lessee to the deposits leased herein. Lessor shall condition such uses to prevent unnecessary or unreasonable interference with rights of lessee

as may be consistent with concepts of multiple use and multiple mineral development.

*(b) Exploration, Development, and Production of Leased Deposits and Other Operations in Oil Shale or Other Leasable Deposits* - Lessee shall not conduct exploration or mining operations that the authorized officer determines:

(1) would be hazardous to the concurrent or future production of mineral deposits under existing leases issued pursuant to the Act for the same lands, of oil shale not located in the Saline Zone, or of the 25 g.p.t. oil shale in the Saline Zone in the same lands;

(2) would interfere with the orderly concurrent or future development and production of mineral deposits under existing leases issued pursuant to the Act for the same lands, of oil shale not located in the Saline Zone, or of 25 g.p.t. oil shale in the Saline Zone in the same lands, unless the Secretary determines that the interest of the United States would be served thereby; or

(3) would result in undue waste of mineral deposits subject to existing leases issued pursuant to the Act for the same lands or of oil shale in the same lands. Operations conducted in conformity with the provisions of subsections 4(b), (c), and (d) of Part I of this lease shall not be deemed to cause undue waste of oil shale.

(4) Lessee shall make available for inspection by the holder of any oil shale lease issued for the same lands, or any zone thereof, maps of mine workings and surface installations and records of core analyses required to be filed pursuant to the applicable operations regulations insofar as such maps and records are pertinent to the development and protection of oil shale deposits.

**Sec. 8. PROTECTION OF DIVERSE INTERESTS, AND EQUAL OPPORTUNITY** - Lessee shall: pay when due all taxes legally assessed and levied under the laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; restrict the workday to not more than 8 hours in any one day for underground workers, except in emergencies; and take measures necessary to protect the health and safety of the public. No person under the age of 16 years shall be employed in any mine below the surface. To the extent that laws of the State in which the lands are situated are more restrictive than the provisions in this paragraph, then the State laws apply.

Lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor. Neither lessee nor lessee's subcontractors shall maintain segregated facilities.

**Sec. 9. (a) TRANSFERS** - This lease may be transferred in whole or in part to any person, association or corporation qualified to hold such lease interest.

**(b) RELINQUISHMENT** - Lessee may relinquish in writing at any time all rights under this lease, or any portion thereof, as provided in the regulations. Upon lessor's acceptance of the relinquishment, lessee

shall be relieved of all future obligations under the lease or the relinquished portion thereof, whichever is applicable.

**Sec. 10. DELIVERY OF PREMISES, REMOVAL OF MACHINERY, EQUIPMENT, ETC.** - At such time as all or portions of this lease are returned to lessor, lessee shall deliver up to lessor the land leased, underground timbering, and such other supports and structures necessary for the preservation of the mine workings on the leased premises or deposits and place all workings and wells in condition for suspension or abandonment. Within 180 days thereof, lessee shall remove from the premises all other structures, machinery, equipment, tools, and materials that it elects to or as required by the authorized officer. Any such structures, machinery, equipment, tools, and materials remaining on the leased lands beyond 180 days, or approved extension thereof, shall become the property of the lessor, but lessee shall either remove any or all such property or shall continue to be liable for the cost of removal and disposal in the amount actually incurred by the lessor. If the surface is owned by third parties, lessor shall waive the requirement for removal, provided the third parties do not object to such waiver.

Prior to the termination of bond liability or at any other time when required, and in accordance with all applicable laws and regulations, lessee shall reclaim all lands the surface of which has been disturbed, dispose of all debris or solid waste, repair the offsite and onsite damage caused by lessee's activity or activities on the leased lands, and reclaim access roads or trails. Lessee shall take all actions necessary to temporarily or permanently abandon the leased lands in accordance with the abandonment plan approved by the authorized officer.

**Sec. 11. PROCEEDINGS IN CASE OF DEFAULT** - If lessee fails to comply with applicable laws, existing regulations, or the terms, conditions and stipulations of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation by the lessor only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

**Sec. 12. HEIRS AND SUCCESSORS-IN-INTEREST** - Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

**Sec. 13. INDEMNIFICATION** - Lessee shall indemnify and hold harmless the United States from any and all claims arising out of the lessee's activities and operations under this lease.

**Sec. 14. SPECIAL STATUTES** - This lease is subject to the Federal Water Pollution Control Act (33 U.S.C. 1151-1175), the Clean Air Act (42 U.S.C. 1857 et seq.), and to all other applicable laws pertaining to exploration activities, mining

operations and reclamation.

Sec. 15. SPECIAL STIPULATIONS - Special stipulations (a) Cultural Resources, (b) Paleontological Resources, (c) Threatened and Endangered Species (Plants), (d) Wildlife, (e) Floodplains, (f) Access, and (g) Mine and Reclamation Plans are attached to and made a part of sodium lease C-0119986. These stipulations are also imposed upon lessee's employees and agents. The failure or refusal of any of these persons to comply with these stipulations shall be deemed a failure of the lessee to comply with the terms of the lease. Lessee shall require its agents, contractors, and subcontractors involved in activities on this lease to include these stipulations in the contracts between and among them. The special stipulations may be revised or amended, in writing, by mutual consent of the lessor and the lessee.

(a) Cultural Resources. Lessee shall undertake measures in accordance with instructions from the authorized officer to protect cultural resources on the leased lands. The lessee shall not commence any surface disturbing activities until permission to proceed is given by the authorized officer. For this cultural resources stipulation, the authorized officer of the BLM will be the White River Field Office Manager.

(1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall conduct a cultural resource Class III inventory on those lands that have not been previously inventoried and that may be affected by lease-related activities. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archaeologist, historian, or historical architect, as appropriate) approved by the authorized officer of the BLM and in the manner specified by the authorized officer. Lessee shall submit a report of the inventory and recommendations for protecting any identified cultural resources to the authorized officer.

(2) Lessee shall protect all known cultural resource properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of an approved exploration plan or an approved mining plan.

(3) The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

(4) If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of the authorized officer. The lessee shall not disturb such resources except as subsequently authorized by the BLM. Within five (5) working days of notification, the authorized officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or to preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the lessee.

(b) Paleontological Resources. (1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall employ a qualified professional paleontologist to map the extent of the Class I and II geologic formations. The paleontological appraisal shall be conducted as directed by the authorized officer who may require a field survey of all outcrops within identified Class I and Class II areas. The BLM reserves the right to designate portions of any Class I or

Class II areas as unsuitable for mining under this lease due to their sensitivity or to protect significant scientific value(s).

(2) Lessee shall not knowingly disturb, alter, destroy, or take any paleontological resources. Lessee shall immediately cease activities in the vicinity of any paleontological specimen that is discovered during its operations. Lessee shall protect the resource and report the discovery to the authorized officer. A paleontological specimen shall not be removed from the site until evaluated by a qualified professional paleontologist. Operations may not proceed until specifically authorized by the BLM. Lessor expressly reserves title to paleontological resources.

(3) Lessor reserves the right to conduct periodic compliance checks or to have these checks conducted by a qualified professional paleontologist during the stripping of overburden and the construction of appurtenant facilities in order to check for the existence of paleontological localities and to evaluate their significance.

(4) If a fossil is discovered which has projectile points or other human artifacts in or near it; is charred, split, or cut; or shows features indicative of human activity, all work, including construction work, excavation, and removal, shall immediately cease until a qualified professional archaeologist can evaluate the fossil resource and determine its cultural affiliation and significance. If the archaeologist determines that a human association exists, the specimen shall be handled as a cultural resource under Sec. 15(a) as directed by the authorized officer.

(c) Threatened and Endangered Plants. (1) Before undertaking any activities that may disturb the surface of the leased lands, lessee shall have a qualified professional conduct an intensive field inventory for threatened, endangered, sensitive, and rare plants in the manner specified by the authorized officer on those portions of the exploration area, mine plan area, or adjacent areas that were not previously inventoried at such a level of intensity and which may be adversely affected by lease-related activities.

(2) The inventory shall be conducted by a qualified professional approved by the authorized officer. A report of the inventory and recommendations for the protection of any species identified shall be submitted to the authorized officer. The lessee shall not commence any surface disturbing activities until the authorized officer has reviewed the report, determined whether mitigation is required, and given approval to proceed.

(d) Wildlife. (1) Lessee shall develop, in consultation with the BLM, Colorado Division of Wildlife, and the U.S. Fish and Wildlife Service, a plan for replacing or offsetting impacts to animal populations and/or habitats identified as being impaired or lost due to mining operations. Key target species and habitats include, but are not limited to, raptors and mule deer and their associated habitats and riparian/ wetland habitats and associated fauna:

(2) Lessee shall compensate for and/or offset the loss, displacement, or adverse modification of wildlife populations and/or associated habitats, on or off lease, which occur as the result of lease development and operation.

(3) Wildlife Recovery and Replacement Plan. At the time it submits its mine plan, lessee shall submit for approval by the authorized officer a wildlife recovery and replacement plan.

The final wildlife recovery and replacement plan shall indicate the methods lessee shall employ to ensure that the carrying capacity of the recovered or replaced lands will fully support populations of the indicator species as agreed upon by the BLM, the Colorado Division of Wildlife and the U.S. Fish and Wildlife Service. The wildlife recovery and replacement plan will include the following:

(A) A habitat and population analysis of the mine area that identifies which of these species occupy the mine area and shall include, but not be limited to, advance raptor nest surveys of woodland and cliff substrates within ½ mile of any proposed development. The survey shall be conducted by a qualified professional approved by BLM and shall include an analysis of the quality or carrying capacity of the habitat for each species identified

(B) A detailed description of the methods selected by the lessee to mitigate animal and/or habitat loss, together with comparative analysis of alternative methods that were considered but rejected by the lessee and the rationale for the decision to select the proposed methods. The methods utilized by the lessee for recovery and replacement may include, but are not limited to, the following techniques:

(i) Increasing the quantity and quality of forage available to these species;

(ii) Acquiring critical wildlife habitats;

(iii) Implementing mechanical manipulation of low quality wildlife habitat to increase its carrying capacity for selected wildlife species; and

(iv) Ensuring recovery, replacement, or protection of important wildlife habitat to increase its carrying capacity for selected wildlife species.

(C) A timetable giving the periods required to accomplish the habitat recovery or replacement plan and showing its relationship to the overall mining plan.

(e) Floodplains. Lessee shall not construct facilities or conduct operations in the 100-year floodplain described below without the express written permission of the authorized officer.

T. 1 S., R. 98 W., 6th P.M.  
sec. 29, SE¼NE¼ and S¼SW¼.

If facilities are allowed, lessee shall provide adequate protection for any building or improvement against flooding.

(f) Access. (1) Lessee shall maintain public access to public lands adjacent to the lease by means of existing roads, trails, or ways. If the lessee must destroy or obstruct any existing route, lessee shall provide public access by means of an alternate route of equal quality.

(2) Lessee shall allow the public access to public lands within the lease and on roads, trails, and ways constructed by the lessee, unless the authorized officer determines that allowing such access would interfere with mining operations or would create a public safety hazard.

(g) Mine and Reclamation Plans. (1) Before any operations may commence, lessee shall file for approval by the authorized officer an exploration or mining and reclamation plan, as appropriate, that addresses the following items:

(A) A description of the location and the area affected by the operations together with two copies of a suitable map or aerial photograph showing the topography, the area covered by the lease, the name and location of major topographic and cultural features, and the drainage plan for the affected area.

(B) A statement of proposed methods of operating, including a description of the surface or underground mining methods, proposed roads or vehicular trails, the size and location of structures and facilities to be built, the timing for grading and backfilling areas affected by the operations, and the proposed manner and length of time required to reclaim areas disturbed by the operations.

(C) An estimate of the quantity of water to be used and the pollutants that may enter receiving waters together with a design for the necessary impoundment, treatment, or control of all runoff water and drainage from workings to reduce soil erosion and sedimentation and to prevent the pollution of receiving waters.

(D) A description of measures to be taken to prevent or control fire, soil erosion, pollution of surface and groundwater, pollution of air, damage to fish and wildlife or other natural resources, and hazards to public health and safety.

(E) A revegetation plan for areas affected by operations that describes:

(i) Proposed methods of preparation and fertilization of the soil prior to replanting;

(ii) Types and mixtures of shrubs, trees, or tree seedlings, grasses, or legumes to be planted;

(iii) Types and method of planting, including the amount of grasses, forbs, shrubs, or legumes per acre, or the number of spacing of trees, or tree seedlings, or combinations of the above.

(2) Lessee shall store or stockpile ore, by-products, or waste material in a manner to deter the production of leached products and other pollutants and to prevent downward percolation of such products or pollutants into aquifers. Oil shale ore shall be stockpiled to protect the mineral resources as determined by the authorized officer.

(3) Lessee shall develop, and submit as part of its mine plan, a reclamation plan specifically for those areas of disturbance defined as having low or very low reclamation potential. The plan must demonstrate to the complete



satisfaction of the authorized officer that the lands can be reclaimed utilizing current technologies. The authorized officer shall deem the subject lands unsuitable for surface occupancy or disturbance if the plan does not adequately demonstrate a high probability for success of reclamation.

(4) As part of its mine plan, lessee shall submit social, economic and transportation impact data concerning offsite aspects of the proposed development including:

(A) The estimated number and type of employees the lease operations will require during phases of construction and operation and the specific years each number and type of employees will be required.

(B) The contemplated construction of transportation facilities and the estimated transportation models), route(s), and

frequency, of trips for the extracted resources; and the estimated effect of any truck movement on the rate of roadway pavement deterioration, on the design life of the transportation mode, on the level of surface repair, and on overall safety to the motoring public.

(C) The estimated effect of the influx of population on the transportation system at the county and local level resulting from the proposed development.

(D) Lessee shall update the data annually to the satisfaction of the authorized officer until its operations reach a full or stable level. Lessee then shall update its data whenever it plans a major change in its operations (such as expansion, transportation mode change, closing, etc.) and prior to implementation of the change(s).

THE UNITED STATES OF AMERICA

By James E. Edwards, Jr.

James E. Edwards, Jr.

(Signing Officer)

Chief, Branch of Solid Minerals

(Title)

7/02/01

(Date)

WHITE RIVER MINERAL MINING CO.

(Company or Lessee Name)

[Signature]

(Signature of Lessee)

PRESIDENT

(Title)

6/00/01

(Date)

Title 18 U.S.C. Section 1001, makes 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.

NOTICE

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provides that you be furnished the following information in connection with information required under the terms of this lease.

AUTHORITY: 30 U.S.C. 181 et seq.; 43 CFR 3500.

PRINCIPAL PURPOSE: The information will be used to verify your compliance with the lease terms and in calculating royalty payments.

ROUTINE USES: (1) Evaluation of the effects of the operations on the environment. (2) Statistical reports to Congress. (3)(4) and (5) Information from the record and/or the record may be released or transferred to appropriate Federal, State or local agencies in allocating mineral revenue, for investigations of energy programs and when relevant to civil, criminal or regulatory investigations or prosecutions, as

well as routine regulatory responsibility.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of this information is mandatory only if the lessee elects to mine, extract, remove and/or dispose of the leased deposits.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) requires us to inform you that:

This information is being collected for use in calculating royalty payments and in verification of compliance with lease terms.

Response to this request is mandatory only if the lessee elects to mine, extract, remove and/or dispose of the leased deposits.

**Authorization for Timothy R. Buchanan, as Agent, to Execute Well Permit Applications on  
Behalf of Natural Soda, Inc.**

The undersigned, acting as Manufacturing Director of Natural Soda Inc, hereby authorizes Timothy R. Buchanan, as agent of Natural Soda Inc, to execute on behalf of Natural Soda, Inc., any and all documents necessary to effectuate the filing of well permit applications on behalf of Natural Soda, Inc., and to serve as the primary contact for Natural Soda, Inc. with respect to the Well Permit applications.

**Natural Soda, Inc.**

By: 

Bob Warneke  
Manufacturing Director

# WATER WELL PRODUCTION SUMMARY FOR WELL NO. 26-90-1 (PERMIT NO. 036778-F)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	TOTAL	TOTAL
	(gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(AF)	(CFS)
1990													20,800	13,825,000	42.42
1991	278,400	560,900	1,352,700	1,410,914	1,170,861	3,787,100	2,255,300	2,009,520	1,415,380	4,200,520	136,380	48,300	8,392,467	25.75	0.036
1992	1,021,000	1,471,400	1,474,500	1,276,750	1,037,800	1,701,350	2,212,200	1,001,600	148,400	2,495,350	1,517,800	2,761,900	17,445,700	53.53	0.074
1993	5,448,800	2,636,600	1,940,000	2,751,450	3,704,750	4,664,300	3,772,900	4,224,800	3,248,100	4,697,500	4,423,600	3,637,620	45,150,420	138.54	0.191
1994	4,555,180	3,628,800	3,399,700	3,210,800	4,084,100	3,203,468	3,322,732	4,344,262	3,446,138	2,899,060	2,958,030	4,065,150	43,117,220	132.3	0.183
1995	2,329,886	2,798,072	2,083,900	2,661,583	1,454,576	2,354,022	3,252,883	4,405,675	3,767,222	2,902,514	2,282,186	2,015,882	32,308,411	99.14	0.137
1996	2,223,320	1,818,113	2,240,552	2,168,793	2,652,839	2,199,207	3,062,304	3,301,791	3,457,720	2,966,100	1,867,065	1,944,586	29,902,390	91.75	0.127
1997	2,139,388	2,089,731	2,709,916	3,275,400	3,049,676	3,325,773	4,045,800	3,452,431	3,881,724	3,103,000	3,492,300	2,344,131	36,889,270	113.19	0.156
1998	2,221,023	1,987,608	2,305,238	1,787,000	2,403,250	2,508,444	2,478,800	2,401,632	2,248,410	2,084,584	2,122,000	1,830,240	26,378,229	80.94	0.112
1999	2,033,527	1,858,100	2,199,700	2,104,034	1,994,750	2,599,200	2,614,850	2,260,417	2,480,500	2,355,500	2,592,300	2,752,732	27,845,610	85.44	0.118
2000	2,583,066	2,140,200	2,260,108	2,262,894	2,770,000	2,931,240	3,294,817	3,058,600	2,763,550	2,822,450	2,525,100	2,514,972	31,926,997	97.97	0.135
2001	2,413,400	1,990,000	2,032,244	2,285,956	2,672,400	2,548,500	2,900,670	3,276,335	3,226,564	2,934,400	2,485,233	2,260,557	31,026,259	95.2	0.131
2002	2,459,121	1,986,100	2,431,000	2,731,000	3,073,100	3,111,678	3,053,871	2,775,856	2,749,520	2,436,358	1,831,790	2,290,550	30,929,944	94.91	0.131
2003	2,788,692	1,696,950	2,184,098	2,193,800	2,127,200	2,418,214	2,341,200	2,245,072	2,549,419	2,588,959	1,821,696	1,844,453	26,569,964	81.53	0.113
2004	1,423,500	1,554,000	1,802,539	1,999,393	1,934,570	2,206,875	2,408,216	2,335,900	2,258,900	1,856,100	1,603,100	1,614,664	23,227,546	71.27	0.098
2005	1,578,850	1,583,300	2,356,900	1,929,900	2,176,717	2,101,000	1,890,500	2,341,500	2,990,700	2,080,500	2,589,100	3,256,900	26,875,867	82.47	0.114
2006	2,362,100	2,237,900	2,680,400	2,722,200	2,594,600	3,349,700	3,711,700	2,346,500	2,639,200	2,483,900	2,616,700	2,729,200	32,474,100	48.93	0.068
2007	1,755,600	2,672,500	1,982,200	2,549,400	3,614,100	3,124,700	4,180,400	3,325,700	3,049,700	3,562,500	3,337,000	2,213,900	35,367,700	108.52	0.150
2008	2,396,000	2,618,000	2,779,300	2,749,600	3,003,300	3,424,000	3,411,100	2,928,000	3,532,600	3,585,600	3,635,700	2,985,800	37,049,000	113.68	0.157
2009	3,584,200	2,924,800	3,523,300	2,879,900	3,494,000	3,066,600	4,129,300	3,945,300	4,195,200	4,529,600	3,817,000	3,734,600	43,823,800	134.47	0.186
AVE.	2,399,792	2,118,583	2,302,016	2,365,819	2,579,610	2,804,633	2,964,582	2,806,307	2,717,967	2,829,225	2,382,704	2,343,347	30,026,295	92.13	0.127

## NOTES

GAL = U.S. GALLONS

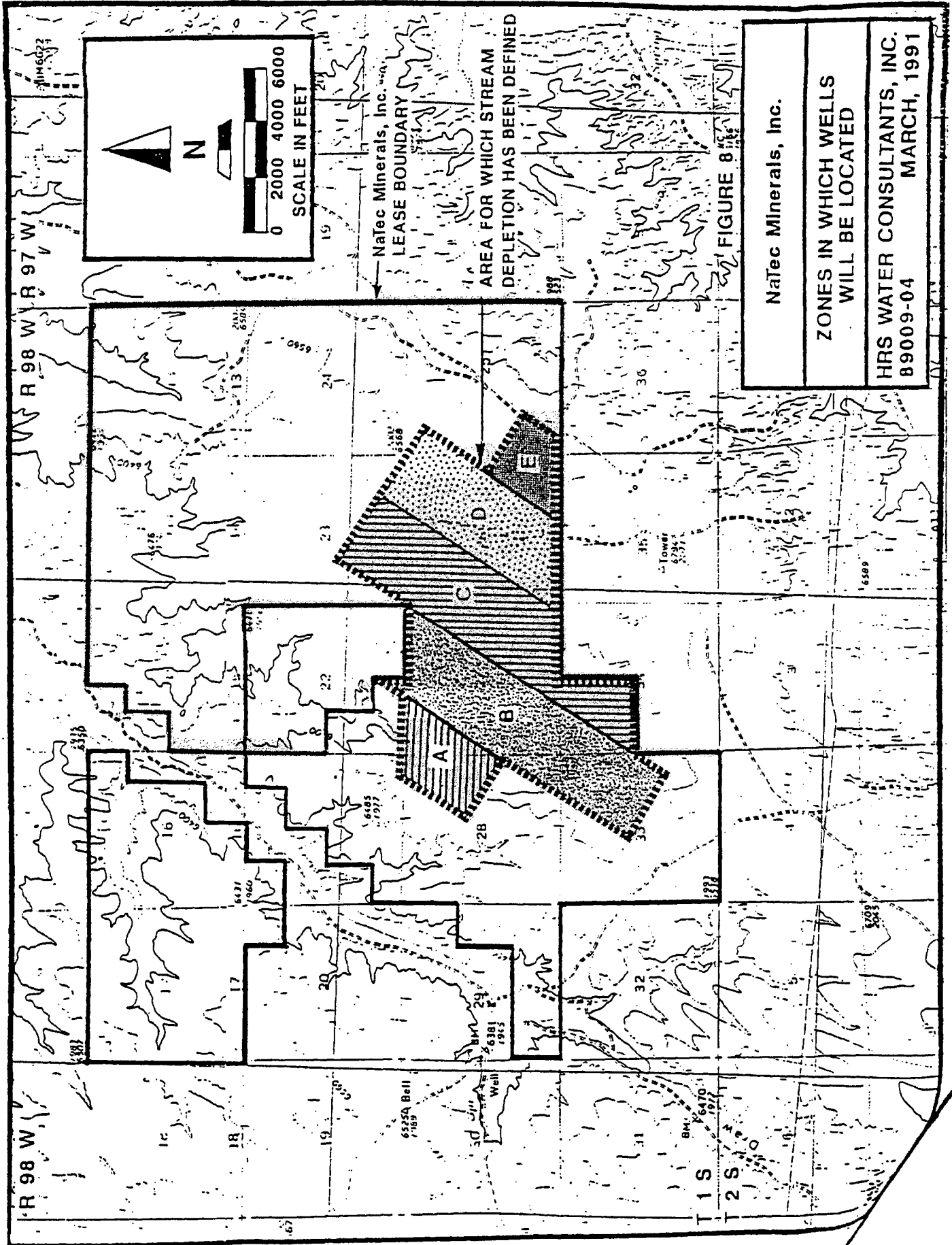
AF = ACRE FEET

DEPLETIONS WERE DETERMINED IN ACCORDANCE WITH THE DECREE ENTERED BY THE WATER COURT IN AND FOR WATER DIVISION NO. 5 IN CASE NO. 88CW420

CFS = CUBIC FEET OF WATER PER SECOND OF TIME OVER THE ENTIRE YEAR

# STREAM DEPLETION SUMMARY FOR WELL NO. 26-90-1 (PERMIT NO. 036778-F)

YEAR	TOTAL			STREAM DEPLETIONS			STREAM DEPLETIONS			TOTAL
	(gal)	(AF)	(CFS)	YELLOW CREEK (CFS)	PICEANCE CREEK (CFS)	TOTAL (CFS)	YELLOW CREEK (AF)	PICEANCE CREEK (AF)	TOTAL (AF)	
1990	13,825,000	42.42	0.059	0.0000629	0	0.00006286	0.046	0	0.046	
1991	8,392,467	25.75	0.036	0.0000921	0	0.00009214	0.067	0	0.067	
1992	17,445,700	53.53	0.074	0.0000419	0	0.00004189	0.03	0	0.03	
1993	45,150,420	138.54	0.191	0.0002761	0	0.0002761	0.2	0	0.2	
1994	43,117,220	132.30	0.183	0.00032	0.0000236	0.00034371	0.232	0.017	0.249	
1995	32,308,411	99.14	0.137	0.00022	0.0001027	0.00032226	0.159	0.074	0.233	
1996	29,802,390	91.75	0.127	0.00028	0.0001241	0.0004041	0.201	0.09	0.291	
1997	36,889,270	113.19	0.156	0.00038	0.00025	0.00063	0.275	0.182	0.457	
1998	26,378,229	80.94	0.112	0.00052	0.00045	0.00097	0.38	0.323	0.703	
1999	27,845,610	85.44	0.118	0.0006	0.00056	0.00116	0.432	0.404	0.836	
2000	31,926,997	97.97	0.135	0.00066	0.00057	0.00123	0.478	0.425	0.903	
2001	31,026,259	95.20	0.131	0.00076	0.0006	0.00136	0.554	0.439	0.993	
2002	30,929,944	94.91	0.131	0.00082	0.00066	0.00148	0.595	0.48	1.074	
2003	26,569,964	81.53	0.113	0.00093	0.00077	0.0017	0.671	0.561	1.231	
2004	23,227,546	71.27	0.098	0.001	0.00085	0.00185	0.725	0.618	1.342	
2005	26,875,867	82.47	0.114	0.00114	0.00096	0.00209	0.824	0.692	1.516	
2006	32,474,100	48.93	0.068	0.00125414	0.001099025	0.00235316	0.908	0.796	1.704	
2007	35,367,700	108.52	0.150	0.00139041	0.001189088	0.00257948	1.007	0.861	1.868	
2008	37,049,000	113.68	0.157	0.00165124	0.001293266	0.00294451	1.195	0.936	2.132	
2009	43,823,800	134.47	0.186	0.0016967	0.001412376	0.00310908	1.228	1.023	2.251	
AVE.	30,026,295	92.13	0.127							



89009-03

01/05/10

file: A-ZON-D.wk1

All cells are protected except those highlighted.

Layer	A-Groove
Depletion Functions	P28 0-100 years
Zone	P44 101-150 years
	D

## 1 Calculate yearly pumping rate in cfs.

If rate is in acre-feet per year, convert to determine the cfs rate which will produce the yearly volume if used for one year.

Enter af/y to calculate cfs.

>>>>>	af/y	cfs for 1 year
	724	0.99937485

If the rate is in gpm for a specific number of days, convert to the equivalent cfs for one year.

Enter gpm and # days to calculate cfs

>>>>>	gpm	# days	cfs for 1 year
	448.8	365.245	1

Recalculate after entry of values (key F9).

## 2 Enter value for year of interest into column 2.

Year 1 is the first year of operation.

Enter zero for years with no pumping.

Hit recalc (F9) to calculate the total depletion.

This set of calculations takes all entered pumping rates for years 1 through 30 into account.

Different pumping rates can be entered for each year.

## 3 A graph of the total calculated depletion can be seen in the graph section.

This graph is named DEPL.

The unit response graph can be seen in the UNIT graph.

## 4 Calculations are performed in columns 7 through 10.

The data used for the calculations is in columns 1, 2, 5, and 6.

You will only want to make changes in column 2.

When pumping rates are input in cfs, the calculated total depletion is in cfs. The method depends on these units.

## 5 Calculations can be performed for pumping periods longer than 30 years.

This would require changes to some of the formulas in columns 7 through 10.

year	pumping rate cfs	Total Depletion			Unit Response		Calculation of Depletion in cfs				Calculation of Depletion (AF)			
		Yellow Basin cfs	Piceance Basin cfs		Yellow Basin cfs	Piceance Basin cfs	Yellow Basin years 1-25 (7)	Piceance Basin (8)	Yellow Basin years 26-30 (9)	Piceance Basin (10)	Yellow Basin (11)	Piceance Basin (12)	Calendar Year (13)	
(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1	0.059	6.286E-05	0		0.00106546	0	6.286E-05	0			0.04551208	0	1990	
2	0.036	9.214E-05	0		0.00091157	0	9.214E-05	0			0.06670876	0	1991	
3	0.074	4.189E-05	0		-0.0011825	0	4.189E-05	0			0.03033114	0	1992	
4	0.191	0.0002761	0		0.00080868	0	0.0002761	0			0.1998975	0	1993	
5	0.183	0.0003201	2.361E-05		0.00015931	0.00040014	0.0003201	2.361E-05			0.23175001	0.01709228	1994	
6	0.137	0.0002196	0.00010266		0.00113719	0.00149579	0.0002196	0.00010266			0.15899212	0.07432323	1995	
7	0.127	0.0002779	0.00012408		0.00045613	0.00068847	0.0002779	0.00012408			0.20120078	0.08983274	1996	
8	0.118	0.00037975	0.00025158		0.00036044	0.00067256	0.00037975	0.00025158			0.27493793	0.18214423	1997	
9	0.112	0.00052483	0.00044607		0.0007498	0.00020325	0.00052483	0.00044607			0.37998047	0.32295571	1998	
10	0.118	0.00059705	0.00055806		0.00059906	0.00069376	0.00059705	0.00055806			0.43226547	0.4040386	1999	
11	0.135	0.00065995	0.0005867		0.00068078	0.0006185	0.00065995	0.0005867			0.47780325	0.42476833	2000	
12	0.131	0.00076598	0.00060685		0.00082334	0.00067528	0.00076598	0.00060685			0.5545671	0.43935704	2001	
13	0.131	0.00082143	0.00066235		0.00060435	0.00036727	0.00082143	0.00066235			0.59471482	0.47953837	2002	
14	0.113	0.00092621	0.00077449		0.00103898	0.00096551	0.00092621	0.00077449			0.67057311	0.56073277	2003	
15	0.098	0.00100075	0.00085322		0.00087666	0.00069954	0.00100075	0.00085322			0.72454542	0.61773283	2004	
16	0.114	0.00113798	0.00095546		0.00091382	0.00097234	0.00113798	0.00095546			0.82389925	0.69175587	2005	
17	0.068	0.00125414	0.00109902		0.00114549	0.00108933	0.00125414	0.00109902			0.90799618	0.79569374	2006	
18	0.15	0.00139041	0.00118907		0.00100123	0.00058825	0.00139041	0.00118907			1.00665755	0.86088517	2007	
19	0.157	0.00165122	0.00129327		0.00108736	0.00091593	0.00165122	0.00129327			1.19548205	0.93632479	2008	
20	0.186	0.0016967	0.00141238		0.00127399	0.00103517	0.0016967	0.00141238			1.22841344	1.02255986	2009	
21	0	0.00172084	0.00146577		0.00118587	0.0008478	0.00172084	0.00146577			1.24588619	1.06121814		
22	0	0.00164325	0.00155321		0.00156199	0.0010947	0.00164325	0.00155321			1.18971488	1.12452718		
23	0	0.00211974	0.00179056		0.00142818	0.00117081	0.00211974	0.00179056			1.53469385	1.29636758		
24	0	0.00217526	0.00196333		0.00139035	0.00139646	0.00217526	0.00196333			1.57488992	1.42144962		
25	0	0.00237271	0.00213088		0.00143834	0.00134558	0.00237271	0.00213088	0		0	1.71784279	1.54275932	
26	0	0.00240139	0.00202413		0.00157097	0.00100662	0.00240139	0.00202413	0		0	1.73860916	1.46546932	
27	0	0.00251813	0.00214154		0.00157236	0.00138431	0.00251813	0.00214154	0		0	1.82312793	1.55047443	
28	0	0.00266983	0.00218246		0.00163594	0.00121424	0.00266983	0.00218246	0		0	1.93295676	1.58009853	
29	0	0.00279989	0.00233802		0.00175444	0.00140271	0.00279989	0.00233802	0		0	2.02711998	1.69272793	
30	0	0.00291012	0.00236047		0.00168375	0.00122512	0.00291012	0.00236047	0		0	2.10692525	1.70989283	
31	0	0.00306855	0.00247481		0.00185071	0.00132207	0.00306855	0.00247481	0		0	2.22163272	1.7917659	
32	0	0.00319189	0.00255548		0.00175314	0.00144998	0.00319189	0.00255548	0		0	2.31092479	1.85017075	
33	0	0.00334322	0.00270934		0.00174348	0.00163606	0.00334322	0.00270934	0		0	2.42049269	1.96156098	
34	0	0.00345443	0.00279764		0.00190396	0.00170074	0.00345443	0.00279764	0		0	2.50101047	2.02549001	
35	0	0.00356692	0.00290574		0.00190726	0.0016323	0.00356692	0.00290574	0		0	2.58245029	2.10375216	
36	0	0.00366341	0.00298211		0.00177243	0.00142369	0.00366341	0.00298211	0		0	2.65230548	2.15904673	
37	0	0.0037852	0.00304992		0.00209824	0.00141766	0.0037852	0.00304992	0		0	2.74048758	2.20814177	
38	0	0.00389886	0.00316598		0.00209108	0.0014501	0.00389886	0.00316598	0		0	2.82277725	2.29216852	
39	0	0.00401955	0.00324633		0.00199434	0.00186459	0.00401955	0.00324633	0		0	2.91015183	2.35033991	
40	0	0.00412588	0.00327629		0.00184807	0.00173988	0.00412588	0.00327629	0		0	2.98713565	2.37203657	
41	0	0.00427048	0.00339451		0.00206329	0.00171814	0.00427048	0.00339451	0		0	3.09182582	2.45762491	
42	0	0.00428975	0.00353936		0.00194115	0.00176311	0.00428975	0.00353936	0		0	3.10578052	2.56249361	



43	0.00434735	0.00360845	0.00208976	0.00168865	0.00434735	0.00360845	0	0	0	3.14747919	2.61251629
44	0.00442239	0.00367212	0.00187747	0.00192479	0.00442239	0.00367212	0	0	0	3.20181121	2.65861198
45	0.00450688	0.00368295	0.00217762	0.00155639	0.00450688	0.00368295	0	0	0	3.26298385	2.6664556
46	0.00458975	0.00382184	0.00234302	0.00209798	0.00458975	0.00382184	0	0	0	3.32297896	2.76700867
47	0.00462818	0.00383267	0.00196944	0.00154301	0.00462818	0.00383267	0	0	0	3.35080297	2.77485393
48	0.00473446	0.00391538	0.0022772	0.0021427	0.00473446	0.00391538	0	0	0	3.42774742	2.83473433
49	0.00480995	0.0039705	0.00216662	0.00175287	0.00480995	0.0039705	0	0	0	3.48240073	2.87464492
50	0.00483686	0.00404713	0.00199669	0.00169791	0.00483686	0.00404713	0	0	0	3.50188828	2.93012304
51	0.00488018	0.00416913	0.00219399	0.0019559	0.00488018	0.00416913	0	0	0	3.53325223	3.01844849
52	0.00494509	0.00423071	0.00225168	0.00191525	0.00494509	0.00423071	0	0	0	3.58024812	3.06303269
53	0.00495541	0.00420866	0.00201105	0.00169778	0.00495541	0.00420866	0	0	0	3.58771789	3.04706763
54	0.00500769	0.0042272	0.0022601	0.00168594	0.00500769	0.0042272	0	0	0	3.62556861	3.06049599
55	0.00506142	0.00423811	0.00221881	0.00200826	0.00506142	0.00423811	0	0	0	3.66446925	3.06839175
56	0.00511915	0.00428479	0.0021372	0.00190516	0.00511915	0.00428479	0	0	0	3.70626516	3.10218672
57	0.00512684	0.00433581	0.00230551	0.00193773	0.00512684	0.00433581	0	0	0	3.71183219	3.13912576
58	0.00515073	0.0044492	0.0021915	0.00206611	0.00515073	0.0044492	0	0	0	3.72913169	3.22121789
59	0.00515304	0.00444426	0.00229262	0.00172794	0.00515304	0.00444426	0	0	0	3.73080126	3.2176463
60	0.00522738	0.00447566	0.00220422	0.00219381	0.00522738	0.00447566	0	0	0	3.78461963	3.24037446
61	0.00523498	0.00452178	0.00229516	0.00166698	0.00523498	0.00452178	0	0	0	3.79012385	3.27377112
62	0.00527061	0.00458536	0.00222892	0.00190245	0.00527061	0.00458536	0	0	0	3.81591812	3.25065861
63	0.00530301	0.00458598	0.00210249	0.00193656	0.00530301	0.00458598	0	0	0	3.83937911	3.31980175
64	0.00535413	0.00450407	0.00218352	0.0018885	0.00535413	0.00450407	0	0	0	3.87639168	3.26094428
65	0.00535903	0.00458598	0.00215095	0.00189025	0.00535903	0.00458598	0	0	0	3.87993764	3.3202513
66	0.00532593	0.00456711	0.00232465	0.00211677	0.00532593	0.00456711	0	0	0	3.85597424	3.30658648
67	0.00534698	0.00460893	0.00214478	0.00168613	0.00534698	0.00460893	0	0	0	3.87121691	3.33686851
68	0.00531269	0.00457607	0.00196082	0.00195449	0.00531269	0.00457607	0	0	0	3.84638979	3.31307602
69	0.00534939	0.00461934	0.00221313	0.00191598	0.00534939	0.00461934	0	0	0	3.87296029	3.3443991
70	0.00535683	0.00462485	0.00223055	0.00181259	0.00535683	0.00462485	0	0	0	3.87834665	3.34838966
71	0.00533254	0.00459634	0.00225538	0.00212238	0.00533254	0.00459634	0	0	0	3.86075854	3.32775228
72	0.00533452	0.00459301	0.00232493	0.00179973	0.00533452	0.00459301	0	0	0	3.86218911	3.32534226
73	0.0053626	0.00464344	0.00204947	0.00225153	0.0053626	0.00464344	0	0	0	3.88252509	3.36185054
74	0.00537866	0.00469342	0.00224374	0.00190939	0.00537866	0.00469342	0	0	0	3.89414673	3.39803538
75	0.00538202	0.00470762	0.00230867	0.00187711	0.00538202	0.00470762	0	0	0	3.89658534	3.40831659
76	0.00539325	0.0047184	0.00228982	0.00200549	0.00539325	0.0047184	0	0	0	3.90471173	3.4161226
77	0.00535649	0.00473445	0.00195287	0.00175417	0.00535649	0.00473445	0	0	0	3.87810212	3.42774488
78	0.00538768	0.00469639	0.00216872	0.00230906	0.00538768	0.00469639	0	0	0	3.90067744	3.40018902
79	0.00537492	0.00471089	0.00217005	0.00170168	0.00537492	0.00471089	0	0	0	3.89144518	3.41068435
80	0.00533673	0.00465265	0.00224565	0.00187352	0.00533673	0.00465265	0	0	0	3.86379308	3.36851805
81	0.00531031	0.0047358	0.00203222	0.00181812	0.00531031	0.0047358	0	0	0	3.8446647	3.42871869
82	0.00530099	0.00471113	0.00209361	0.00208146	0.00530099	0.00471113	0	0	0	3.8379175	3.41085827
83	0.00531767	0.00470952	0.00202833	0.00182189	0.00531767	0.00470952	0	0	0	3.84999395	3.40969519
84	0.00530928	0.00469876	0.00217599	0.00200727	0.00530928	0.00469876	0	0	0	3.84392086	3.40190221
85	0.00526499	0.00471314	0.00187896	0.0017316	0.00526499	0.00471314	0	0	0	3.81184916	3.4123139
86	0.00523624	0.00466964	0.00222988	0.00185626	0.00523624	0.00466964	0	0	0	3.79104126	3.38081657
87	0.00522708	0.00470893	0.00214424	0.00219343	0.00522708	0.00470893	0	0	0	3.7844051	3.40926633
88	0.00523151	0.00468906	0.00203138	0.00158845	0.00523151	0.00468906	0	0	0	3.7876125	3.39487909
89	0.00524904	0.00465909	0.00205731	0.00182705	0.00524904	0.00465909	0	0	0	3.80030686	3.37318187
90	0.00523388	0.00474064	0.00203671	0.00189686	0.00523388	0.00474064	0	0	0	3.78933072	3.43222375
91	0.00520985	0.00467099	0.00221604	0.00210885	0.00520985	0.00467099	0	0	0	3.77193319	3.38179718

92	0.00192717	0.0016822	0.00514951	0.00465521	0	0	0	3.72824171	3.37037234
93	0.0020323	0.00173383	0.00518375	0.00463004	0	0	0	3.75303764	3.35215072
94	0.00211897	0.00180866	0.00516124	0.00461613	0	0	0	3.73674133	3.34207767
95	0.0020831	0.00189931	0.00510803	0.00462958	0	0	0	3.69821674	3.35181934
96	0.00198021	0.00185993	0.00505524	0.00456205	0	0	0	3.65999413	3.3029246
97	0.00176908	0.00157197	0.00509254	0.00458726	0	0	0	3.68700112	3.32117825
98	0.00189659	0.00215984	0.00507075	0.00451341	0	0	0	3.6712208	3.26770681
99	0.00210186	0.00157433	0.0050446	0.00453668	0	0	0	3.65228962	3.28455303
100	0.00173608	0.0019327	0.00493487	0.00450831	0	0	0	3.57284295	3.26401688
101	0.00192182	0.00204793	0.00494972	0.00457986	0	0	0	3.58359418	3.31581513
102	0.00186068	0.00154421	0.00491841	0.00449065	0	0	0	3.5609277	3.25123026
103	0.00195027	0.00185726	0.0049025	0.0044931	0	0	0	3.54940875	3.25300196
104	0.00187463	0.00158541	0.00485708	0.0045021	0	0	0	3.51652505	3.25951936
105	0.00168563	0.00200258	0.00486689	0.0044831	0	0	0	3.52362791	3.24576566
106	0.00192249	0.00162146	0.00483259	0.00446002	0	0	0	3.49879316	3.22905358
107	0.00180131	0.00171661	0.00476468	0.00436239	0	0	0	3.44962915	3.15837146
108	0.00174542	0.00151038	0.00473564	0.00443701	0	0	0	3.42860114	3.21239366
109	0.0016323	0.0020365	0.00469972	0.00442847	0	0	0	3.40259383	3.20621365
110	0.00204771	0.00151463	0.00469221	0.00437444	0	0	0	3.39715855	3.16709473
111	0.00186189	0.00174117	0.00461669	0.00429594	0	0	0	3.34248453	3.11026328
112	0.00186958	0.00182624	0.00460321	0.00433853	0	0	0	3.33272284	3.14109787
113	0.00170529	0.00156094	0.00461593	0.00433698	0	0	0	3.34193329	3.13997127
114	0.00186917	0.00147441	0.00458435	0.00426721	0	0	0	3.31908699	3.08946249
115	0.0018123	0.00167312	0.00451923	0.00430334	0	0	0	3.2719232	3.11561767
116	0.00185973	0.0016992	0.00450481	0.0042275	0	0	0	3.26148216	3.06071266
117	0.00156293	0.001783	0.00449012	0.00423556	0	0	0	3.25084939	3.06654752
118	0.00182875	0.00150293	0.00450099	0.0041722	0	0	0	3.25871571	3.02067382
119	0.00151501	0.00164383	0.00441864	0.00420004	0	0	0	3.1990934	3.04082805
120	0.00175006	0.00145142	0.0044206	0.00417823	0	0	0	3.20051236	3.0250412
121	0.00174452	0.00176619	0.00440491	0.00407783	0	0	0	3.18915682	2.95234863
122	0.00173212	0.00145186	0.0043593	0.00410437	0	0	0	3.15613348	2.97156438
123	0.00151463	0.00143881	0.0043179	0.00403033	0	0	0	3.12615799	2.91795583
124	0.00169798	0.00145858	0.00430476	0.00406981	0	0	0	3.11664766	2.94654459
125	0.00162739	0.0016619	0.00431504	0.00395202	0	0	0	3.12408797	2.86126124
126	0.0018689	0.00119127	0.00424472	0.00393938	0	0	0	3.07317542	2.85111475
127	0.00151049	0.00159616	0.00422733	0.00391437	0	0	0	3.0605894	2.83400446
128	0.00168267	0.0015269	0.00423076	0.00393939	0	0	0	3.06307288	2.85183761
129	0.00159508	0.00131009	0.00427176	0.00381659	0	0	0	3.0927553	2.76321209
130	0.00163973	0.00180773	0.00418886	0.00385528	0	0	0	3.03273264	2.79122176
131	0.00143552	0.0012117	0.00415082	0.00379796	0	0	0	3.00519448	2.74972535
132	0.0015629	0.0012299	0.0041122	0.00372096	0	0	0	2.97723289	2.69397387
133	0.0015634	0.00157828	0.00411739	0.00374809	0	0	0	2.98099265	2.71361375
134	0.00164548	0.00141316	0.00403885	0.00373715	0	0	0	2.92412399	2.70570001
135	0.00169314	0.00151036	0.00402689	0.00366671	0	0	0	2.91546524	2.65469709
136	0.00145763	0.00149118	0.00396494	0.00367167	0	0	0	2.87061614	2.65828881
137	0.00152938	0.00139858	0.00399434	0.00360532	0	0	0	2.8919051	2.61025429
138	0.00163411	0.00130257	0.00396662	0.00362042	0	0	0	2.8718314	2.62118258
139	0.00143859	0.00163178	0.00396789	0.00360868	0	0	0	2.87275335	2.61268698
140	0.00156425	0.00143117	0.0039229	0.00360666	0	0	0	2.84018138	2.61122083

141	0.00388912	0.00349236	0.00121761	0.00112011	0.00388912	0.00349236	0	0	2.81572387	2.52847063
142	0.00384003	0.00355496	0.00157168	0.00147188	0.00384003	0.00355496	0	0	2.78017938	2.57378762
143	0.00386574	0.00351689	0.00155024	0.00139002	0.00386574	0.00351689	0	0	2.79879595	2.54622693
144	0.00380776	0.0034798	0.00161288	0.00142839	0.00380776	0.0034798	0	0	2.75681975	2.51937425
145	0.00380695	0.00345109	0.00134325	0.00120691	0.00380695	0.00345109	0	0	2.75623109	2.49858595
146	0.00375506	0.00347684	0.00137982	0.00130183	0.00375506	0.00347684	0	0	2.71866137	2.51722286
147	0.00378141	0.00349118	0.00150123	0.00167362	0.00378141	0.00349118	0	0	2.73773772	2.52761241
148	0.00371345	0.00341979	0.00146651	0.00122954	0.00371345	0.00341979	0	0	2.68853612	2.47592538
149	0.00367067	0.00344284	0.0012746	0.00160913	0.00367067	0.00344284	0	0	2.65756502	2.49261553
150	0.00364857	0.00339773	0.00139421	0.00131951	0.00364857	0.00339773	0	0	2.64156641	2.45995627
151	0.00364505	0.00342203	0.00135788	0.00147225	0.00364505	0.00342203	0	0	2.63901699	2.47755094
152	0.00361945	0.00345218	0.00130037	0.00102321	0.00361945	0.00345218	0	0	2.62048533	2.49937845
153	0.00360019	0.00343969	0.001144	0.00157606	0.00360019	0.00343969	0	0	2.60653686	2.49033599
154	0.00356758	0.00342384	0.00149272	0.00122722	0.00356758	0.00342384	0	0	2.58293132	2.4788571
155	0.0035306	0.00334829	0.00154943	0.00129959	0.0035306	0.00334829	0	0	2.55615147	2.42416293
156	0.00351399	0.00335733	0.00127342	0.00136271	0.00351399	0.00335733	0	0	2.5441296	2.43070606
157	0.00353548	0.00337213	0.0012787	0.00146785	0.00353548	0.00337213	0	0	2.55968531	2.44142443
158	0.00349231	0.00333908	0.0015096	0.00115992	0.00349231	0.00333908	0	0	2.52843326	2.41749692
159	0.00346292	0.00332092	0.00125749	0.00135072	0.00346292	0.00332092	0	0	2.50715118	2.40434544
160	0.00340381	0.0032937	0.00120646	0.00121959	0.00340381	0.0032937	0	0	2.46435754	2.38463583
161	0.00346311	0.00331559	0.00118848	0.00111299	0.00346311	0.00331559	0	0	2.50728806	2.40048896
162	0.00340909	0.00328003	0.00121862	0.00134218	0.00340909	0.00328003	0	0	2.46818134	2.37474117
163	0.00334432	0.00323993	0.00119635	0.00138561	0.00334432	0.00323993	0	0	2.42129058	2.34571129
164	0.00327578	0.00321605	0.00113811	0.00119866	0.00327578	0.00321605	0	0	2.37166761	2.32842054
165	0.00326746	0.00323769	0.00101375	0.00134793	0.00326746	0.00323769	0	0	2.36564421	2.34409095
166	0.00324183	0.00327612	0.00126027	0.00105332	0.00324183	0.00327612	0	0	2.34708351	2.37191353
167	0.00319068	0.00319747	0.00135509	0.00142274	0.00319068	0.00319747	0	0	2.31005409	2.31497096
168	0.00312602	0.003223	0.00115132	0.0009892	0.00312602	0.003223	0	0	2.2632364	2.33344864
169	0.00312036	0.00311902	0.00099747	0.00132339	0.00312036	0.00311902	0	0	2.25913853	2.25817146
170	0.00312803	0.00315067	0.00119717	0.00148851	0.00312803	0.00315067	0	0	2.26469106	2.28108313
171	0.0030859	0.00306455	0.00112047	0.0011497	0.0030859	0.00306455	0	0	2.23419287	2.21873099
172	0.00305674	0.00312673	0.00097249	0.00107347	0.00305674	0.00312673	0	0	2.21308108	2.26375603
173	0.00303714	0.00309017	0.0012589	0.00105094	0.00303714	0.00309017	0	0	2.19889081	2.23728494
174	0.00297502	0.00309289	0.00123088	0.00110628	0.00297502	0.00309289	0	0	2.15391174	2.23925321
175	0.0029033	0.00303057	0.00108575	0.00104249	0.0029033	0.00303057	0	0	2.10198709	2.19413261
176	0.00292967	0.00300164	0.00137876	0.00130487	0.00292967	0.00300164	0	0	2.1210803	2.17318572
177	0.00292872	0.00294287	0.00107262	0.00116201	0.00292872	0.00294287	0	0	2.12039032	2.13063528
178	0.00286709	0.00294127	0.00116751	0.00135562	0.00286709	0.00294127	0	0	2.07577395	2.12947606
179	0.00286673	0.00293114	0.00107847	0.00109487	0.00286673	0.00293114	0	0	2.07551463	2.12214404
180	0.00285362	0.00294685	0.00121907	0.00099351	0.00285362	0.00294685	0	0	2.06601914	2.1335227
181	0.00282904	0.00297325	0.00099686	0.00118639	0.00282904	0.00297325	0	0	2.04822556	2.15263053
182	0.00279601	0.00294531	0.00101368	0.00104505	0.00279601	0.00294531	0	0	2.02431474	2.13240435
183	0.00278121	0.00285462	0.00092515	0.00128751	0.00278121	0.00285462	0	0	2.0135941	2.06674132
184	0.00277291	0.00286974	0.00104853	0.00105193	0.00277291	0.00286974	0	0	2.00758519	2.07769152
185	0.00278663	0.00282161	0.00107144	0.00120769	0.00278663	0.00282161	0	0	2.0175217	2.04284242
186	0.00272877	0.00286575	0.00094377	0.00122112	0.00272877	0.00286575	0	0	1.97563121	2.07480208
187	0.00268155	0.00283408	0.00107352	0.00110074	0.00268155	0.00283408	0	0	1.94144218	2.05187702
188	0.002688	0.0028885	0.00123414	0.00124551	0.002688	0.0028885	0	0	1.94610996	2.09127453
189	0.00267195	0.00287812	0.00108214	0.00133542	0.00267195	0.00287812	0	0	1.93449064	2.08376108

190	0.00265069	0.00276059	0.00084487	0.00062155	0.00265069	0.00276059	0	0	1.91909694	1.99866642
191	0.00267992	0.00280416	0.00098555	0.00136046	0.00267992	0.00280416	0	0	0.194025924	2.03021192
192	0.00267829	0.00279427	0.00098417	0.0011562	0.00267829	0.00279427	0	0	0.193907914	2.02305056
193	0.00264395	0.00276238	0.00121525	0.00099405	0.00264395	0.00276238	0	0	0.191421783	1.99996227
194	0.00258909	0.00277591	0.00095882	0.00104421	0.00258909	0.00277591	0	0	0.187450452	2.0097567
195	0.00262818	0.00282055	0.00130976	0.00085503	0.00262818	0.00282055	0	0	0.190280538	2.04208
196	0.00256543	0.00277662	0.00084868	0.0011876	0.00256543	0.00277662	0	0	0.185737008	2.01027647
197	0.0025872	0.00272839	0.00096483	0.00093654	0.0025872	0.00272839	0	0	0.187313009	1.97535582
198	0.00257981	0.00268779	0.00094803	0.00124991	0.00257981	0.00268779	0	0	0.1867782	1.94595709
199	0.00256178	0.00267398	0.00109795	0.00111296	0.00256178	0.00267398	0	0	0.185473063	1.93596233
200	0.00248377	0.00270501	0.00093728	0.00111888	0.00248377	0.00270501	0	0	0.179824903	1.95842412
201	0.00247936	0.00270429	0.0009673	0.00110128	0.00247936	0.00270429	0	0	0.179505702	1.95790345
202	0.00249415	0.00271399	0.00104441	0.00089778	0.00249415	0.00271399	0	0	0.180576419	1.96493173
203	0.00250618	0.00269724	0.00106026	0.00112692	0.00250618	0.00269724	0	0	0.181447721	1.95279926
204	0.00249617	0.00269733	0.00106212	0.00108321	0.00249617	0.00269733	0	0	0.180722937	1.95286746
205	0.0024842	0.00263797	0.00058588	0.0010265	0.0024842	0.00263797	0	0	0.179856226	1.90988925
206	0.00252235	0.00266001	0.00096261	0.00094648	0.00252235	0.00266001	0	0	0.182617961	1.92584771
207	0.00248928	0.00261352	0.00096904	0.00093272	0.00248928	0.00261352	0	0	0.180223924	1.89218798
208	0.00238516	0.00258697	0.00087229	0.00078182	0.00238516	0.00258697	0	0	0.172685843	1.87296738
209	0.00234682	0.00252281	0.00094549	0.00102124	0.00234682	0.00252281	0	0	0.169909769	1.82651454
210	0.00240885	0.00259759	0.00095357	0.00127089	0.00240885	0.00259759	0	0	0.174400911	1.88065643
211	0.00237301	0.00250748	0.0008272	0.00086081	0.00237301	0.00250748	0	0	0.171806147	1.81541381
212	0.00241065	0.00247629	0.00090959	0.00109847	0.00241065	0.00247629	0	0	0.174530757	1.792836
213	0.00236213	0.002539	0.00103003	0.00108135	0.00236213	0.002539	0	0	0.171018482	1.83823716
214	0.00233917	0.00249854	0.00066452	0.00104303	0.00233917	0.00249854	0	0	0.169356101	1.80894552
215	0.00226205	0.00255505	0.00098368	0.00104755	0.00226205	0.00255505	0	0	0.163772115	1.8498595
216	0.002292	0.00253669	0.00086743	0.00098806	0.002292	0.00253669	0	0	0.165940701	1.8365657
217	0.00226071	0.00253981	0.00099178	0.00074073	0.00226071	0.00253981	0	0	0.163675262	1.8388245
218	0.00226094	0.00251039	0.00083888	0.00095469	0.00226094	0.00251039	0	0	0.163692079	1.81752498
219	0.00225584	0.00247099	0.00103588	0.00100586	0.00225584	0.00247099	0	0	0.163322846	1.78899528
220	0.00225913	0.00241103	0.00099599	0.00071632	0.00225913	0.00241103	0	0	0.163560925	1.74558439
221	0.00225535	0.00241123	0.00055323	0.00119616	0.00225535	0.00241123	0	0	0.163287009	1.74573036
222	0.00223509	0.00243874	0.00094658	0.00096532	0.00223509	0.00243874	0	0	0.161820339	1.76565104
223	0.0021995	0.002387	0.00079008	0.00097421	0.0021995	0.002387	0	0	0.159244117	1.72818492
224	0.00211149	0.00240939	0.00073014	0.00110845	0.00211149	0.00240939	0	0	0.1528722	1.74439746
225	0.0021662	0.00237799	0.00076815	0.00071788	0.0021662	0.00237799	0	0	0.156832906	1.72166524
226	0.00215835	0.00237221	0.0010226	0.00106228	0.00215835	0.00237221	0	0	0.156264897	1.71747805
227	0.00213908	0.00239431	0.00106475	0.00081885	0.00213908	0.00239431	0	0	0.154869136	1.73348283
228	0.0021243	0.00239055	0.00068523	0.0009128	0.0021243	0.00239055	0	0	0.153799011	1.73075741
229	0.0021385	0.00238598	0.00074661	0.00083601	0.0021385	0.00238598	0	0	0.154827543	1.72744668
230	0.00216616	0.00233329	0.00084668	0.00104969	0.00216616	0.00233329	0	0	0.156830064	1.68902178
231	0.00211056	0.00235093	0.00077805	0.00092515	0.00211056	0.00235093	0	0	0.152804331	1.70206978
232	0.00209405	0.00231664	0.0008218	0.00078491	0.00209405	0.00231664	0	0	0.151609346	1.67724953
233	0.00203979	0.00233585	0.00074426	0.00101671	0.00203979	0.00233585	0	0	0.147681156	1.69115715
234	0.00208628	0.00228495	0.0007756	0.00069409	0.00208628	0.00228495	0	0	0.151046797	1.65430415
235	0.002068	0.0022398	0.0010707	0.00095293	0.002068	0.0022398	0	0	0.149723059	1.62161533
236	0.00206261	0.00223038	0.00086094	0.0006502	0.00206261	0.00223038	0	0	0.149332758	1.61479478
237	0.00205971	0.00222336	0.00063563	0.00104704	0.00205971	0.00222336	0	0	0.149122668	1.60971241
238	0.00206166	0.002216	0.00062368	0.00070731	0.00206166	0.002216	0	0	0.149264539	1.60438667

239	0.00203657	0.00216697	0.00084701	0.00055266	0.00203657	0.00216697	0	0	1.47447768	1.5688893	
240	0.00194553	0.00223369	0.00073596	0.00104927	0.00194553	0.00223369	0	0	0	1.40856521	1.61718833
241	0.00196785	0.00217496	0.00073706	0.00079819	0.00196785	0.00217496	0	0	0	1.42472435	1.5746721
242	0.00193404	0.00209588	0.00062125	0.00069892	0.00193404	0.00209588	0	0	0	1.40024696	1.51741371
243	0.00193475	0.00212765	0.00074344	0.00079434	0.00193475	0.00212765	0	0	0	1.40076035	1.54041883
244	0.00197032	0.00206784	0.00090688	0.00086534	0.00197032	0.00206784	0	0	0	1.42651165	1.49711422
245	0.00194543	0.00208685	0.00049579	0.00091972	0.00194543	0.00208685	0	0	0	1.40849065	1.51087937
246	0.00191926	0.00203022	0.00089405	0.00084152	0.00191926	0.00203022	0	0	0	1.38954173	1.46987822
247	0.00185598	0.00207035	0.0004427	0.00092788	0.00185598	0.00207035	0	0	0	1.34372652	1.49893102
248	0.00185109	0.00205897	0.00087728	0.00055744	0.00185109	0.00205897	0	0	0	1.34018589	1.49069566
249	0.00183827	0.0020532	0.00046801	0.00072093	0.00183827	0.0020532	0	0	0	1.33090659	1.48651609
250	0.00181339	0.00204471	0.0008083	0.00087786	0.00181339	0.00204471	0	0	0	1.31289294	1.48036916
								TOTAL	618.555083	575.97717	
								max	3.90471173	3.43222375	

600 FOOT WELL SPACING STATEMENT  
NO EXISTING WELLS

I, Timothy R. Buchanan, Authorized Agent and Attorney-in-Fact of Natural Soda, Inc., states as follows:

Natural Soda, Inc., leases the real property described in Exhibit A to the attached well permit application. Natural Soda, Inc., has verified that there are no wells that exist within 600 feet of the proposed well location as indicated on the attached well permit application.

Dated this 30 day of July, 2010.

Signature: 

Print Name: Timothy R. Buchanan

2010-26-198-2C

88CW420

- alternate point of diversion
- not listed as one of the wells in the dug plan that has a decreed location.

Uses:

The use of ground water from this well, in combination with the other wells constructed pursuant to case no. 88CW420, as part of an integrated water supply system in a mining operation, will be used for domestic, commercial, industrial, and irrigation purposes in conjunction with the (production of sodium bicarbonate from nahcoliter solution mining.) pg 14  
Meter / Annually filed

The maximum pumping rate of this well shall not exceed (as applied to) 500 gpm, with the combined rate of all of the wells constructed pursuant to case no. 88CW420 not to exceed 2,244 gpm. -pg 29 (sects)

The combined average annual amount of ground water to be appropriated from this well, in combination with the other wells constructed pursuant to case no. 88CW420, shall not exceed 1,600 acre-feet. -pg 29



[illegible]

[illegible]

**OFFICE OF THE STATE ENGINEER  
COLORADO DIVISION OF WATER RESOURCES**

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203  
(303) 866-3581

EXST

**WELL PERMIT NUMBER** 285229  
DIV. 6 WD 43 DES. BASIN MD

APPLICANT

NATURAL SODA INC  
3200 CR 31  
RIFLE, CO 81650-

(970) 878-3674

APPROVED WELL LOCATION

RIO BLANCO COUNTY

NE 1/4 SE 1/4 Section 26

Township 1 S Range 98 W Sixth P.M.

DISTANCES FROM SECTION LINES

1485 Ft. from South Section Line

1210 Ft. from East Section Line

UTM COORDINATES (Meters, Zone: 13, NAD83)

Easting:

Northing:

**PERMIT TO USE AN EXISTING WELL**

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

- 1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
- 2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
- 3) Approved pursuant to CRS 37-92-602(3)(b)(I) for uses as described in CRS 37-92-602(1)(f). Use of this well is limited to monitoring water levels and/or water quality sampling.
- 4) Approved for the use of an existing well acknowledged for construction under monitoring hole notice MH-49223, and known as BG-5 (2010-26-198-6C).
- 5) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
- 6) Records of water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Division of Water Resources upon request.
- 7) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
- 8) The owner shall mark the well in a conspicuous place with the well permit number and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
- 9) This well must have been constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules.
- 10) This well must be located not more than 200 feet from the location specified on this permit.

NOTE: Issuance of this permit does not guarantee that this well can be converted to a production well under a future permit. Additionally, pursuant to Rule 14.2 of the Water Well Construction Rules (2 CCR 402-2), monitoring holes constructed pursuant to a monitoring hole notice shall not be converted to a production well. (Upon obtaining a permit from the State Engineer, a monitoring hole may be converted to a monitoring well, recovery well for remediation of the aquifer, or a dewatering system for dewatering the aquifer.) *3/11/11*

APPROVED  
JSG

*Dan Wolfe*  
State Engineer

DATE ISSUED 03-11-2011

By *[Signature]*

EXPIRATION DATE N/A

Receipt No. 3648557A

<b>COLORADO DIVISION OF WATER RESOURCES</b> <b>DEPARTMENT OF NATURAL RESOURCES</b> <b>1313 SHERMAN ST., RM 818, DENVER CO 80203</b> phone – info: (303) 866-3587 main: (303) 866-3581 Fax: (303) 866-3589 http://www.water.state.co.us		Office Use Only <div style="text-align: right;">Form GWS-46 (07/2009)</div> <div style="text-align: center; margin-top: 20px;"> </div>							
<b>MONITORING/OBSERVATION</b> <b>Water Well Permit Application</b> Review instructions on reverse side prior to completing form. The form must be completed in black or blue ink or typed.		<b>6. Use Of Well</b> Use of this well is limited to monitoring water levels and/or water quality sampling							
<b>1. Well Owner Information</b> Name of well owner <b>Natural Soda, Inc.</b> Mailing address <b>3200 County Rd. 31</b> City State Zip code <b>Rifle CO 81650</b> Telephone # E-Mail (Optional) <b>(970) 878-3674</b>		<b>7. Well Data (proposed)</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Total depth</td> <td>Aquifer</td> </tr> <tr> <td><b>1978</b> feet</td> <td><b>B-Groove</b></td> </tr> </table>		Total depth	Aquifer	<b>1978</b> feet	<b>B-Groove</b>		
Total depth	Aquifer								
<b>1978</b> feet	<b>B-Groove</b>								
<b>2. Type Of Application</b> (check applicable boxes) <input checked="" type="checkbox"/> Use existing well <input type="checkbox"/> Replacement for existing monitoring well: <input type="checkbox"/> Construct new well      Permit no.: <input type="checkbox"/> Other:		<b>8. Consultant Information</b> (if applicable) Name of contact person <b>Gerald J. Daub</b> Company name <b>Daub &amp; Associates, Inc.</b> Mailing address <b>1985 1/2 S. Broadway</b> City State Zip Code <b>Grand Junction CO 81507</b> Telephone # <b>(970) 254-1224</b>							
<b>3. Refer To</b> (if applicable) Monitoring hole acknowledgment Well name or # <b>MH- 49223 BG-5 (2010-26-198-6C)</b>		<b>9. Proposed Well Driller License #</b> (optional): <b>10. Signature Of Well Owner Or Authorized Agent</b> The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge. Sign here (Must be original signature) Date <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Print name &amp; title</span> <span><b>17/20/10</b></span> </div> <div style="text-align: center; margin-top: 10px;"> <b>Gerald J. Daub president</b> </div>							
<b>4. Location Of Proposed Well (Important! See Instructions)</b> County <b>Rio Blanco</b> Section Township N or S Range E or W Principal Meridian <b>26 1 <input type="checkbox"/> N <input checked="" type="checkbox"/> S 98 <input type="checkbox"/> E <input checked="" type="checkbox"/> W 6th</b> Distance of well from section lines (section lines are typically not property lines) <b>1485'</b> Ft. from <input type="checkbox"/> N <input checked="" type="checkbox"/> S <b>1210'</b> Ft. from <input checked="" type="checkbox"/> E <input type="checkbox"/> W For replacement wells only – distance and direction from old well to new well feet direction Well location address (include City, State, Zip) <input checked="" type="checkbox"/> Check if well address is same as Item 1.		<b>Office Use Only</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>USGS map name</td> <td>DWR map no.</td> <td>Surface elev.</td> </tr> <tr> <td><b>USE EXISTING</b></td> <td></td> <td></td> </tr> </table> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 60%;"> <b>MH - ✓</b>  <b>Cast Date P</b>  <b>Noting - ✓</b>  <b>W. 40' 1 1/2'</b>  <b>Cast ✓</b> </div> <div style="width: 35%; border: 1px solid black; padding: 5px;"> <b>Receipt area only</b>             Trans Number: 3848557 <b>A</b>            1/3/2011 12:46:58 PM            Geoff Davis (21)            Total Trans Amt: \$200.00  <b>CHECK</b>            Check Number: 5230            Check Amount: \$200.00         </div> </div> <div style="text-align: right; margin-top: 20px;">           DIV <u>6</u> WD <u>43</u> BA ____ MD ____         </div>		USGS map name	DWR map no.	Surface elev.	<b>USE EXISTING</b>		
USGS map name	DWR map no.	Surface elev.							
<b>USE EXISTING</b>									
<b>Optional: GPS well location information in UTM format</b> You must check GPS unit for required settings as follows: Format must be UTM <input type="checkbox"/> Zone 12 or <input type="checkbox"/> Zone 13 Units must be Meters Datum must be NAD83 Unit must be set to true north Was GPS unit checked for above? <input type="checkbox"/> YES <input type="checkbox"/> NO Remember to set Datum to NAD83		<b>5. Property Owner Information</b> Name of property owner <b>Bureau of Land Management, White River Field Office</b> Mailing address <b>220 E. Market St.</b> City State Zip Code <b>Meeker CO 81641</b> Telephone # <b>(970) 878-3800</b>							