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		[E] 🛛 Fo	r all of the above, Pro	oof of Notification c	or Publication is A	Attached, and/	or,
		[F] 🗌 Wa	aivers are Attached				
[3]	SUBMI OF API	T ACCURATE PLICATION IN	AND COMPLET	E INFORMATION E.	REQUIRED T	O PROCESS	ТНЕ ТҮРЕ

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Billy E. Vruha Signature

Billy E. Prichard Print or Type Name Agent for Judah Qil, L.L.C. Title

<u>2/28/201</u>Z

billy@pwllc.net e-mail Address

ŝ	STATE OF NEW MEXICO
	ENERGY, MINERALS AND NATURAL
	RESOURCES DEPARTMENT

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

## **APPLICATION FOR AUTHORIZATION TO INJECT**

I.	PURPOSE:	X	_Pressure Maintenand	ce XNo	Disposal	Storage
II.	OPERATOR: Judah Oil,L.L.C.					
	ADDRESS: PO Box 568 Artesia, NM 88211					
	CONTACT PARTY: Blaise Campanella			PH	IONE: 5757485488	
III.	WELL DATA: Complete the data required on the reverse Additional sheets may be attached if nece	e side essary	of this form for each	well propose	d for injection.	
IV.	Is this an expansion of an existing project? If yes, give the Division order number authorizing the pr	_Yes oject:	No			
V.	Attach a map that identifies all wells and leases within tw drawn around each proposed injection well. This circle i	vo mi identit	les of any proposed in fies the well's area of	jection well review.	with a one-half mile r	adius circle
VI.	Attach a tabulation of data on all wells of public record v	vithin	the area of review wh	nich penetrate	e the proposed injection	on zone.

- Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
  - 1. Proposed average and maximum daily rate and volume of fluids to be injected;
    - 2. Whether the system is open or closed;
    - 3. Proposed average and maximum injection pressure;
    - 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
    - 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

JE. Prichard Billy E. Truchure NAME: Billy(Bill)E. Prichard SIGNATURE:

TITLE: Agent for Judah Oil,L.L.C.

DATE: 2/28/2012

E-MAIL ADDRESS: billy@pwllc.net

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

C108( Application for Authorization to Inject)

I.

The purpose of this application is for the administrative approval for the conversion of the Dow B 28 Federal # 001 from an abandoned or orphaned Morrow gas well to a Wolfcamp commercial salt water disposal well.

II.

Operator: Judah Oil, L.L.C.

Adress: PO Box 568 Artesia, New Mexico 88211

Blaise Campanella 5757485488

III.

Please see Exhibit "A" for well data.

## FV.

This is not an expansion of an existing project.

V.

Please see Exhibit"B" for map of .5 and 1 mile area of review.

## VI.

Please see Exhibit "C" for wells and tabulation of data for wells in AOR

10 wells were identified in the AOR. 8 of the wells do not penetrate the purposed disposal zone. See Exhibit"C" for data on the 2 wells that penetrate the purposed disposal

# zone.

## VII.

- 1. Anticipated average daily rate 10,000 BWPD with maximum of 20,000 BWPD.
- **2.** This will be an open system.
- 3. Anticipated average injection pressure is 0(Zero) with maximum of 1716 psig.
- 4. Please see Exhibit "D" of analysis of projected disposal fluid. Disposal fluid will be produced water trucked in numerous producing zones in southeastern New Mexico.

5. Please see Exhibit "E" for Wolfcamp water analysis.

### VIII.

## Please see Exhibit "F" for geological data.

## IX.

There is no stimulation planned unless pressure and rate dictate the need.

## Х.

Logs and completion data submitted to NMOCD by previous operator.

Previous operator added additional Wolfcamp perforations.

#### XI.

A review of the New Mexico state engineer web site found no water wells within the 1 mile AOR. Field survey found no active water wells.

# Judah Oil,L.L.C. Dow B 28 Federal # 001 API # 30-015-28676 1028 FSL X 1227 FEL Unit Letter "P", Section 28, T17S, R31E Eddy County, New Mexico C108( Application for Authorization to Inject)

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# XII.

Available geological data has been examined and shows no evidence of open faults or any hydrological connection between the proposed disposal zone and underground sources of drinking water.

# XIII.

Please see Exhibit "G" for "Proof of Notice" and affidavit of publication.

Enclosed is the inactive well list for Judah Oil,L.L.C.

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## <u>Well Data</u>

Well spudded by Texaco 11/19/1995 as Morrow test.

11 <sup>3</sup>⁄<sub>4</sub>" 42# WC-40 casing set in 14" hole at 614 feet. Cemented with 450 sacks of Class "C" cement. Cement circulated to surface.

8 5/8" 32# WC-50 casing set in 11" hole at 5040 feet. Cemented with 3000 sacks of Class "H" cement. Cement circulated to surface.

 $5 \frac{1}{2}$ "17#&20# P-110,L80,S95 casing set in 7 7/8"hole at 12725 feet. Cemented in 2 Stages. DV tool at 9283 feet.

Stage 1 - 350 sacks 35/65 Poz Class "H" w/ 6% gel, 3% FL-52, 3% R3, <sup>1</sup>/<sub>4</sub># Flocele. (Yield 1.85 cubic feet per sack with 12.7 ppg weight) followed by 580 sacks "H" ,1.1% FL-62, 1% BA-58, .3% CD-32, .25%R3, .2% SM (Yield 1.07 cubic feet per sack with 16.4 ppg weight) Cement circulated above DV tool Stage 2 - 250 sacks Super C Modified, .44% FL-52, .17#CD 32 (Yield 1.34 cubic feet per sack with 13.9 ppg weight) followed by 100 sacks Class"H" neat (Yield 1.18 cubic feet per sack with 15.6 ppg weight) Top of cement at 6900 feet.

Mississippi perforations 12118-12180 feet Morrow perforations 11764-11792 feet

# Well Data

Formation tops identified by NMOCD District II geologist Bryan Arrant Bone Springs – 5235 Wolfcamp – 8522 Cisco – 9760 Penn – 10076 Strawn – 10843 Atoka – 11105 Morrow – 11403 Chester – 11905 Devonian – 12280

# Well Data

The Dow B 28 Federal # 1 was taken over by the State of New Mexico for forced plugging. The well has not produced since 2006.

producing year	Oil	Gas	Water	Co2
1996	701	5817	0	0
1997	179	769	0	0
1998	434	6934	14	0
1999	34	537	21	0
2000	13	104	0	0
2001	0	69	0	0
2002	0	0	0	0
2003	0	0	0	0
2004	0	0	0	0
2005	0	0	0	0
2006	0	0	0	0
2007	0	0	0	0
SUMMERY	1381	14230	35	0

## Production Summary of api:3001528676 pool:WILDCAT CEDAR LAKE; MISSISSIPPIAN

## Production Summary of api:3001528676 pool:CEDAR LAKE;MORROW, EAST (GAS)

producing year	Oil	Gas	Water	Co2
1996	1802	44630	0	0
1997	132	8657	90	0
1998	142	11574	0	0
1999	188	13652	0	0
2000	86	8957	41	0
2001	130	5769	0	0
2002	52	2192	0	0
2003	304	48218	239	0
2004	42	28368	31	0
2005	0	15329	0	0
2006	0	920	0	0
2007	0	0	0	0
SUMMERY	2378	188266	401	





Exhibit"B"

Judah Oil,L.L.C. Dow B 28 Federal # 001 Unit Letter P, Section 28, T17S, R31E Eddy County, New Mexico Possible pools disposing in Dow B 28 Federal # 001

	Section	Township	Range	TDS	Chlorides
EMPIRE;ABO	27	17S	28E	224062	135900
ARTESIA;QUEEN-GRAYBURG-SAN ANDRES	28	17S	28E	237482	147300
ARTESIA; GLORIETA-YESO	33	17S	28E	206471	137940
EMPIRE; MORROW, SOUTH	31	17S	29E	35148	19800
EMPIRE; GLORIETA-YESO	19	17S	29E	213384	142829
CROW FLATS; MORROW	3	17S	27E	44318	27242
LOGAN DRAW; MORROW	11	17S	27E	8567	4604
RED LAKE;QUEEN-GRAYBURG-SA	3	18S	37E	217737	146435

Data obtained from http://octane.nmt.edu

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# Instructions: Click

For general information about this sample.

For scale calculation pages (Stiff-Davis or Oddo Tomson methods). To select this water sample for water mixing. It will lead to the main page, and add the sample ID to the mixing table. Click the hyperlinked sample number to make a .csv for that sample, or select several check boxes and click Submit for multiple samples.

The ions are in (mg/L) units.

	SampleID	TRS	<b>SO4</b>	CL CO3	HCO3	K Na	Ca	Mg
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New-Mexico Tech



This is the closest Wolfcamp water analysis available

Exhibit"E"

http://octane.nmt.edu/waterquality/data/SampleListResult.asp?API=3002533854&R=32&R... 8/6/2010

# **Geological Data**

The Wolfcamp formation in the Dow B 28 Federal # 001 is approximately 1200 feet thick and is a light to dark gray reefoid limestone of Permian age. Above the Wolfeamp is the Bone Springs formation and below the Wolfeamp is the Cisco or Canyon formation. The Wolfcamp in the area is usually a zone of lost circulation and is non productive of oil or gas.

There is no known fresh water strata underlying the Wolfcamp formation.

No fresh water wells were identified or found in the 1 mile area of view. Fresh water is contained in the alluvial fill from surface to the top of the Red Bed. Surface casing on oil and gas wells in the area average 616 feet.

Exhibit"F"

## LEGAL NOTICE

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Judah Oil,L.L.C. PO Box 568, Artesia, New Mexico 88211 has filed form C108(Application for Authorization to Inject) seeking administrative approval for the conversion of the Dow B 28 Federal # 001, API # 30-015-28676, 1028 FSL X 1227 FEL, Unit Letter"P", Section 28, T17S, R31E, Eddy County, New Mexico from a shut in Cedar Lake Morrow gas well to a Wolfcamp commercial salt water disposal well. The disposal interval is the Wolfcamp formation through perforations 8584 feet to 9580 feet. Disposed fluid would be produced water trucked in from numerous producing formations in southwould be produced water trucked in from numerous producing formations in southeastern New Mexico. Anticipated disposal pressure of 0 psig with a maximum dis-posal pressure of 1716 psig. Anticipated disposal rate of 10000 barrels of water per day with a maximum disposal rate of 20000 barrels of water per day. Well is located approximately 31.1 miles east of Artesia, New Mexico

All interested parties opposing the aforementioned must file objections with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico

87505 with in 15 days. Additional information can be obtained by contacting Blaise Campanella 5757485488 Published in the Artesia Daily Press, Artesia, N.M., Feb. 29, 2012. Legal No 22042.

Affidavit of Publication	Сору
STATE OF NEW MEXICO	Judah Oil,L.L.C. PC
County of Eddy:	of the Dow B 28 Fe 1028 FSL X 1227 F
Danny Scott annu Cut	Eddy County, New M commercial salt wat through perforations
being duly sworn, says that he is the <u>Publisher</u> of the Artesia Daily Press, a daily newspaper of general	Trucked in from num ipated disposal pres Anticipated disposal rate of 20000 barrel Well is located appre All interested parties
circulation, published in English at Artesia, said county	ico 87505 with in 15 day
and state, and that the hereto attached	Published in the Arte
Legal Notice	
was published in a regular and entire issue of the said	
Artesia Daily Press, a daily newspaper duly qualified	
for that purpose within the meaning of Chapter 167 of	
the 1937 Session Laws of the state of New Mexico for	
1 Consecutive weeks/days on the same	
day as follows:	
First Publication February 29, 2012	
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	
Subscribed and sworn to before me this	
29th day of Feburary 2012	
AFFIGIAL SEAL Latisha Romine NOTARY PUBLIC-STATE OF NEW MEXICO My commission expires: 5/12/2015 Autuat & Romine Latisha Romine Notary Public, Eddy County, New Mexico	

# Copy of Publication:

LEGAL NOTICE Judah Oil, L.L.C. PO Box 568, Artesia, New Mexico 88211 has filed form C108(Application for Authorization to Inject) seeking administrative approval for the conversion of the Dow B 28 Federal # 001, API # 30-015-28676, 1028 FSL X 1227 FEL, Unit Letter"P", Section 28, T17S, R31E, Eddy County, New Mexico from a shut in Cedar Lake Morrow gas well to a Wolfcamp through perforations 8584 feet to 9580 feet. Disposed fluid would be produced water through perforations 8584 feet to 9580 feet. Disposed fluid would be produced water ipated disposal pressure of 0 psig with a maximum disposal pressure of 1716 psig. Anticipated disposal rate of 10000 barrels of water per day with a maximum disposal rate of 20000 barrels of water per day. Well is located approximately 31.1 miles east of Artesia, New Mexico All interested parties opposing the aforementioned must file objections with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mextor

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## **Notified Parties**

Section 27, T17S, R31E Eddy County, New Mexico

Chevron USA Inc. PO Box 1635 Houston, TX 77251-1635

Sandridge Exploration and Production, LLC 123 Robert S. Kerr Ave Oklahoma City, OK 73102

> Jean Long Trust NO known address

Ernest Closuit Sr. NO Known address

Estate of Ernest Closuit Jr. 616 Texas Street Fort Worth, TX 76102

JCL Family LP 15 Greenway Plaza Suite G Houston, TX 77046

> R.M. Williams PO Box 854 Hobbs, NM 88241

B.G. Davis 2021 N. Vega Hobbs, NM 88241 *Notified Parties* 

Section 27, T17S, R31E Eddy County, New Mexico

# Barry Antwell PO Box 250 Hobbs, NM 88241

# **Notified Parties**

Section 27, T17S, R31E Eddy County, New Mexico

Mary Antwell 5410 Ledgestone Drive Ft.Worth, TX 76132

Melanie and Larry Parker 13 Havenhill Rd Artesia, NM 88210

> Perry L. Hughes 1724 N. Guadalupe Carlsbad, NM 88220

COG Operating,LLC 550 W. Texas Suite 1300 Midland,TX 79701

James D. Brown 321 West Grand Ave Artesia, NM 88210

Mack C. Chase Trustee of the Mack C. & Marilyn Y. Chase Trust P.O. Box 693 Artesia, NM 88210

> Robert C. Chase & wife Deb E. Chase 2306 Sierra Vista Dr. Artesia, NM 88210

> > Gerene Dianne Chase Crouch P. O. Box 693 Artesia, NM 88210

Richard L. Chase & Karla Chase 505 S. Bolton Rd. Artesia, NM 88210

> Yeso Energy,Inc PO Box 8280 Roswell, NM 88202

## **Notified Parties**

Section 28, T17S, R31E Eddy County, New Mexico

Bureau of Land Management 602 E Green Street Carlsbad, NM 88220

New Mexico Oil Conservation Division District 2 811 S. First Artesia, NM 88210

> Chevron USA Inc. PO Box 1635 Houston, TX 77251-1635

Levi Oil and Gas, LLC PO Box 568 Artesia, NM 88210

Prizm Properties NO known address

Sandridge Exploration and Production, LLC 123 Robert S. Kerr Ave Oklahoma City, OK 73102

> Jean Long Trust NO known address

Ernest Closuit Sr. NO Known address

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JCL Family LP 15 Greenway Plaza Suite G Houston, TX 77046

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> Perry L. Hughes 1724 N. Guadalupe Carlsbad, NM 88220

David Brown Jr. 321 W. Grand Ave. Artesia, NM 88210

COG Operating,LLC 550 W. Texas Suite 1300 Midland,TX 79701

## **Notified Parties**

Section 33, T17S, R31E Eddy County, New Mexico Chevron USA Inc. 15 Smith Rd Midland, TX 79705

> Fuel Products Inc. P.O. Box 3098 Midland, TX 79701

Samson Resources Inc. Joint Interest Accounting Two West Second St. Tulsa, OK 74103-3103

> J. M. Gahr P.O. Box 1889 Midland, TX 79702

Larry Brazile 4406 Cherrywood Midland, TX 79707

Marcus Luna P.O. Box 1889 Midland, TX 79702

Sandra Lawlis P.O. Box 1889 Midland, TX 79702

John A Mills Investments Inc. P.O. Box 3821 Midland, TX 79702

> Thomas Beall P.O. Box 3098 Midland, TX 79701

Gahr Ranch & Investment Partnership LP P.O. Box 1889 Midland, TX 79702

> Legacy Reserves Operating,LP P. O. Box 10848 Midland TX 79702

> > VF Petroleum Inc PO Box 1889 Midiand, TX 79702

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□ Street PO BOX 1889 C city S MIDLAND TX 79702	or PO Bc TWO WEST SECOND ST
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Formation	Ton	Bottom	Descriptions Contents ats	Nome	Top Meas. Depth		
Formation	Top	Bottom	Descriptions, Contents, etc.	INAME			
ORROW CLASTICS	11,566'	11,900'	SANDSTONE & SHALE	RUSTLER	690'		
				YATES	1,925'		
				SEVEN RIVERS	2,272'		
				BOWERS SAND	2,696'		
				QUEEN	2,914'		
				PENROSE	3,081'		
				GRAYBURG	3,282'		
				SAN ANDRES	3,653'		
				BONE SPRING	6,760'		
				2 <sup>ND</sup> SAND	7,370'		
				3 <sup>RD</sup> SAND	8,160'		
				WOLFCAMP	8,338'		
				STRAWN	10,806'		
				ATOKA	10,968'		
				MORROW	11,310'		
				MISSISSIPPIAN	11,900'		
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MORROW CLASTICS 11566' 11900' SANDSTONE & SHALE RUSTLER 690' YATES 1225' SEVEN RIVERS 2272' BOWERS SAND 2696' QUEEN 2214' PENNOSE 3081' GRAYBURG 3282' SAN ANDRES 3653' BONE SPRING 6760' 2ND SAND 7370' 3RD SAND 8160' WOLFCAMP 838' STRAWN 10988' MORROW 11310' MISSISSIPPIAN 11900'		FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS. ETC.				
RUSTLER     660'       YATES     1925'       SEVEN RIVERS     2272'       BOWERS SAND     2566'       QUEN     2914'       PENROSE     3081'       GRATBURG     3282'       SAN ANDRES     3663'       BONE SPRING     6760'       2ND SAND     8160'       WOLFCAMP     8338'       STRAWN     10806'       ATOKA     10968'       MORROW     11310'       MISSISSIPJIAN     11900'	MORR	OW CLASTICS	11566'	11900'	SANDSTONE & SHALE	NAME	MEAS. DEPTH		
YATES   1925'     SEVEN RIVERS   2272'     BOWERS SAND   2566'     QUEN   2914'     PENROSE   3081'     GRAYBURG   3282'     SAN ANDRES   3653'     BOWE SPRING   6760'     2ND SAND   8160'     WOLFCAMP   8384'     STRAWN   10968'     MORROW   11310'     MISSISSIPPIAN   11900'						RUSTLER	690'		
SEVEN RIVERS     2272'       BOWERS SAND     2694'       QUEEN     2914'       PENROSE     3081'       GRAYBURG     3282'       SAN ANDRES     3660'       BOME SPRING     6760'       2ND SAND     8160'       WOLFCAMP     8338'       STRAWN     10808'       ATOKA     10968'       MORROW     11310'       MISSISSIPPIAN     11900'						YATES	1925'		
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DOW "B" -33- FEDERAL WELL No. 2

## CASING AND CEMENT PROGRAM:

The casing and cementing programs are detailed on Form 3160-3. All casing will be new.

Centralizer Program:

Surface Casing - Centralize the bottom 3 joints and every 4th to surface.

Intermediate Casing - Centralize the bottom 3 joints.

Production Casing - Centralize every other joint from TD to 10675' and above and below the DV Tool at 8850'.

## MUD PROGRAM:

Depth	Type	Weight	<u>Viscosity</u>
0'-600'	Fresh Water	8.34	28
600'-5100'	Brine	10.0	29
5100'-10500'	Fresh Water	8.34	28
10500'-12100'	FW-Pac	9.0-9.5	30-35

## LOGGING, TESTING:

GR-CAL-CNL-LDT, GR-CAL-DLL-MSFL, and GR-BHC-SONIC surveys will be run.

A two-man Mud Logging Unit will be used from 2500' to 12100'.

Drill stem tests may be conducted in the Wolfcamp and Morrow, if needed.

No cores will be taken.

Skelly Unit # 161 API # 30-015-28140 UL"K", Sec.28,T17S,R31E Eddy, County, NM Current well bore

This well = 150' UP STRUCTURE 250' UP STRUCTURE COMPARENTO DOWBERFA





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	RAD	API	OPERATOR	LEASE	NUM	Т	S	TWN	RNG	SEC	UL	TVD	
		3001528676	YESO ENERGY INC	DOW B 28 FEDERAL	#1	0	A	17S	31E	28	P	12725	
1	1216	3001505440	SKELLY	NRI	#98	0	Ρ	175	31E	28	J	3780	-
2	1837	3001528140	WISER	SU	#161	G	Ρ	175	31E	28	K	12080	
3	2040	3001529314	FOREST	SU	#284	0	Α	175	31E	28	J	4025	
4	2127	3001528976	WISER	SU	#284Q	0	P	17S	31E	28	G	4150	
5	2273	3001504829	TEXACO	NRI	#99	0	Ρ	175	31E	28	K	3780	
6	2335	3001505441	FOREST	SU	#95	T.	Α	17S	31E	28	н	3783	
7	2339	3001522533	TEXACO	NRI	#155	0	Ρ	175	31E	28	K	2680	
8	2391	3001504884	FOREST	SU	#94	1	A	175	31E	28	G	3767	
9	2413	3001527675	V-F	<b>DOW B 33 FEDERAL</b>	#2	G	A	17S	31E	33	С	12100-	_
10	2456	3001522265	FOREST	SU	#131	0	A	175	31E	28	G	2600	
11	2812	3001529210	FOREST	SU	#274	0	A	17S	31E	28	G	3950	
12	3044	3001522268	FOREST	SU	#134	0	Α	17S	31E	27	Е		
13	3065	3001504885	FOREST	SU	#93	I	А	17S	31E	28	F		
14	3125	3001520410	FOREST	SU	#107	1	Α	17S	31E	27	Е		
15	3144	3001529239	FOREST	SU	#273	0	Α	17S	31E	28	G	3950	
16	3174	3001528881	FOREST	SU	#275	0	Α	17S	31E	28	A	4000	
17	3223	3001529227	FOREST	SU	#283	0	Α	17S	31E	28	E	4000	
18	3516	3001522264	FOREST	SU	#130	0	Α	17S	31E	28	А		
19	3520	3001505432	FOREST	SU	#100	1	Α	17S	31E	28	L		
20	3557	3001505486	SUNRAY	NRI	#1	0	Ρ	17S	31E	34	н		
21	3631	3001505426	FOREST	SU	#88	1	Α	17S	31E	28	А		
22	3665	3001505429	FOREST	SU	#89	I.	А	17S	31E	28	В		
23	3744	3001532437	CHEVRON	SU	#950	G	А	17S	31E	28	С	12095	
24	3937	3001505424	FOREST	SU	#96	1	А	17S	31E	27	F		
25	3959	3001522506	FOREST	SU	#137	0	А	17S	31E	28	С		
26	4009	3001529064	FOREST	SU	#272	0	А	17S	31E	28	С	3987	
27	4080	3001505431	TEXACO	NRI	#92	0	Ρ	17S	31E	28	Е		
28	4139	3001505428	FOREST	SU	#90	I	А	17S	31E	28	С		
29	4153	3001529860	FOREST	SU	#402	0	А	17S	31E	28	E	3988	
30	4162	3001529496	FOREST	SU	#301	I.	А	17S	31E	28	E	3950	
31	4165	3001522481	FOREST	SU	#136	0	Α	17S	31E	28	Е		
32	4189	3001527068	OXY	DOW 33	#1	G	Ρ	17S	31E	33	J	12050	
33	4192	3001532164	V-F	DENALI	#2	0	А	17S	31E	33	E	11950	
34	4215	3001505420	FOREST	SU	#87	1	Ρ	17S	31E	27	D		

35	4221	3001528812 FOREST	SU	#261	0	A	17S	31E	28	В	3950	
36	4302	3001529225 FOREST	SU	#276	0	Α	17S	31E	27	D	3950	
37	4487	3001528789 FOREST	SU	#262	0	Α	17S	31E	21	Ρ	3950	
38	4525	3001531723 EOG	DENALI	#1	G	Ρ	17S	31E	33	E	11925	
39	4547	3001522269 FOREST	SU	#135	0	Α	17S	31E	27	G		
40	4603	3001528811 FOREST	SU	#260	0	Α	17S	31E	21	N	3950	
41	4610	3001505340 FOREST	SU	#77	1	Α	17S	31E	21	Ρ		
42	4688	3001522266 FOREST	SU	#132	0	А	17S	31E	27	С		
43	4720	3001530318 DEVON	MESQUITE	#2	G	Ρ	17S	31E	34	L	12200	
44	4728	3001505452 MERIT	TURNER B	#68	1	А	17S	31E	29	Ρ		
45	4764	3001505421 FOREST	SU	#86	T	А	<b>17S</b>	31E	27	С		
46	4775	3001532585 OXY	DOC SLAWIN	#2	G	А	17S	31E	29	1	11880	
47	4810	3001505449 MERIT	TURNER B	#62		А	17S	31E	29	1		
48	4845	3001528967 FOREST	SU	#277	0	А	17S	31E	27	G	4100	
49	4860	3001529142 V-F	PANTHER	#1	G	А	17S	31E	33	κ	11940	
50	4910	3001505483 WESTERN	NRI	#1	0	Ρ	17S	31E	34	Н		
51	4912	3001529184 FOREST	SU	#263	0	A	17S	31E	27	D	3900	
52	4936	3001505427 TEXACO	NRI	#91	0	Ρ	17S	31E	28	D		
53	4939	3001528975 FOREST	SU	#259	0	А	17S	31E	28	D	4000	
54	4962	3001529817 FOREST	SU	#401	0	Α	17S	31E	28	D	3950	
55	4989	3001529712 FOREST	SU	#302	0	A	17S	31E	28	D	3800	
56	5026	3001505336 TEXACO	NRI	#76	0	P	<b>17S</b>	31E	21	0		
57	5058	3001505425 WISER	SU	#97	0	Ρ	17S	31E	27	G		
58	5165	3001522257 FOREST	SU	#123	0	A	17S	31E	22	Μ		
59	5232	3001505444 MERIT	TURNER B	#55	L	Α	17S	31E	29	н		
60	5257	3001505349 FOREST	SU	#55	1	Α	17S	31E	22	Μ		

SU=SKELLY UNIT NRI= NORINS REALTY INC Wells in 0.5 mile AOR


Exhibit "C"

Proposals by Judah Oil, L.L.C. for commercial SWD conversions

# Oxy Doc Slawin Federal #2 \_ 30-015-32585

- 1. Judah Oil 1. L.C. is not the operator of this well. Therefore, until they are operator, BLM will object to the application.
- 24 Well is showing shut-in since July 2011.
- 3. The well is still operated by OXY-USA WTP, Ltd.
- 4. The current or future operator will need to verify that there is no production in paying quantities in the zones up to the base of the San Andres as the well was drilled for hydrocarbons and all zones shall be depleted prior to conversion. The San Andres and formations above are in a lease waterflood.
- 5. In addition, the production casing cement job would require remedial cementing as the top of cement is within 460' of the proposed upper perforation and does not tie back to the intermediate casing.
- 6. The proposed plug back schematic does not meet BLM requirements.
- 7. According to the completion report, the Wolfcamp'Starts at 8544', 384' below what operator has proposed for perforations. Perforation zone would need to be verified that it is all Wolfcamp.
- 8. Application references the Fracey 29 Federal 1, which was renamed the Biscuit
- Hills SWD and this well was not plugged to rectly as the top of Morrow and
- DV tool were not covered final plugging requirements will need to address this.

# Dow B 28 Federal 2 - 30-015-28676

- The following would have to be addressed prior to BLM approving this well as an injection well.
  - 1. The production casing cement job would require remedial cementing as the top of \_\_\_\_\_\_ cement does not tie back to the intermediate casing.
  - 2. The operator will need to verify that there is no production in paying quantities in any formation from the top of the Morrow to surface. This well was drilled for hydrocarbons and all zones shall be depleted prior to conversion.
  - 3. The proposed plug back schematic does not meet BLM requirements.
    - The Skelly Unit #161 plugging would be more acceptable if the stub plug extended to below the TOC by TS. This could be a potential problem in the long term.

#### Jones, William V., EMNRD

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 From:
 Jones, William V., EMNRD

 Sent:
 Friday, October 21, 2011 4:41 PM

 To:
 'billy@pwllc.net'; Blaise Campanella

 Cc:
 Ezeanyim, Richard, EMNRD; Sanchez, Daniel J., EMNRD; 'Wesley\_Ingram@blm.gov'; Dade, Randy, EMNRD

 Subject:
 Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp from 8725 to 9580 feet

Hello Bill and Blaise,

The SKU #161 30-015-28140 which is the plugged AOR well, has about 700 feet uncovered section just above your intended disposal interval. It seems unproductive to me, but we need an opinion from a petrophysicist (log analyst) for our records. Please ask that person to also evaluate the entire proposed disposal interval. Next time there is an uncemented AOR well similar to this, just include the increased depth range in the formal notices and newspaper notice even if you intend not to utilize the entire interval. That means more eyes will be looking for any possible interest.

V-F Petroleum operates the active deep gas well in the  $\sqrt{9}$  - would you please send them a notice? Druc 1/3/11

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Please also obtain a Change of Operator from Yeso to Judah – our records still show that entity as operator and they have 5.9 issues. So I can't issue the disposal permit until that happens.

The BLM sent a note with some concerns. As you know, the OCD can issue a permit for disposal, but since this is a federal well – the actual use of this well is subject to BLM terms and requirements.

Thank You,

-malle 12/21/11

William V Jones, P.E. Engineering. Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, NM 87505 Tel 505.476.3448 ~ Fax 505.476.3462



# Jones, William V., EMNRD

From:james campanella [judahoil@yahoo.com]Sent:Tuesday, October 25, 2011 10:28 AMTo:Jones, William V., EMNRDSubject:Re: Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp<br/>from 8725 to 9580 feet

Hello Will,

I am having an Independent Geologist look over the logs on the SKU 161 well and write up a report. I will send it to you when it is finished.

I will make sure VF Pet receives a copy of the permit. They have already contacted me to see if they can dispose of there lease water with us.

I will speak with Dorthy Phillips and get our CO finished up. I think I have to enter into an Agreed Compliance Order. The State has removed Yeso as Operator.

Could you let me know who I need to contact with the BLM office. I need to know who sent you their request.

Thanks a bunch and have a Great day,

Blaise

James B. Campanella Judah Oil, LLC PO Box 568 Artesia, NM 88211 575-746-1280 575-746-1290 (fax)

From: "Jones, William V., EMNRD" <<u>William.V.Jones@state.nm.us</u>> To: "<u>billy@pwllc.net</u>" <<u>billy@pwllc.net</u>>; Blaise Campanella <<u>judahoil@yahoo.com</u>> Cc: "Ezeanyim, Richard, EMNRD" <<u>richard.ezeanyim@state.nm.us</u>>; "Sanchez, Daniel J., EMNRD" <<u>daniel.sanchez@state.nm.us</u>>; "<u>Wesley\_Ingram@blm.gov</u>" <<u>Wesley\_Ingram@blm.gov</u>>; "Dade, Randy, EMNRD" <<u>Randy.Dade@state.nm.us</u>> Sent: Friday, October 21, 2011 4:40 PM Subject: Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp from 8725 to 9580 feet

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Thanks for the reply back.

Go Sooners!!

<u>Will Jones</u> New Mexico Oil Conservation Division Images Contacts

From: james campanella [mailto:judahoil@yahoo.com]
Sent: Tuesday, October 25, 2011 10:28 AM
To: Jones, William V., EMNRD
Subject: Re: Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp from 8725 to 9580 feet

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Blaise

James B. Campanella Judah Oil, LLC PO Box 568 Artesia, NM 88211 575-746-1280 575-746-1290 (fax)

From: "Jones, William V., EMNRD" <<u>William.V.Jones@state.nm.us</u>>

To: "billy@pwllc.net" <billy@pwllc.net>; Blaise Campanella <judahoil@yahoo.com>

Cc: "Ezeanyim, Richard, EMNRD" <<u>richard.ezeanyim@state.nm.us</u>>; "Sanchez, Daniel J., EMNRD" <<u>daniel.sanchez@state.nm.us</u>>; "<u>Wesley Ingram@blm.gov</u>" <<u>Wesley Ingram@blm.gov</u>>; "Dade, Randy, EMNRD" <<u>Randy.Dade@state.nm.us</u>> Sent: Friday, October 21, 2011 4:40 PM

Subject: Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp from 8725 to 9580 feet

Hello Bill and Blaise,

#### Jones, William V., EMNRD

From:	james campanella [judahoil@yahoo.com]
Sent:	Monday, December 05, 2011 3:39 PM
То:	Jones, William V., EMNRD
Subject:	Re: Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp from 8725 to 9580 feet

Hello Will,

We have met with Wesley Ingram with the BLM and we have addressed their issues. He said he has no problem with our permits with the information we gave him. We are writing up a formal report for him and will send you a copy for your records.

We are going to reduce our injection interval on the Oxy Doc Slawin #2. We are going to remove the perfs 8072-8320. Will we need to send out a revised permit or can this be handled by a letter from us to you stating our intentions? We have also identified the top of the Wolfcamp formation and it covers all of our proposed perfs. This top was identified by Bryan Arrant who was working for the NMOCD at the time.

We have the CO from Yeso Energy for the Dow B 28 Fed #1 well and have sent it to the Artesia NMOCD office for approval.

Bill Prichard has sent VF Pet a copy of our Dow B permit for required notification.

Please let me know if you have any ferther question concerning the Dow B 28 Fed #1 or the Oxy Doc Slawin Fed #2 wells.

Thanks for your time.

Blaise

James B. Campanella Judah Oil, LLC PO Box 568 Artesia, NM 88211 575-746-1280 575-746-1290 (fax)

From: "Jones, William V., EMNRD" <<u>William.V.Jones@state.nm.us</u>> To: james campanella <judahoil@yahoo.com> Sent: Tuesday, October 25, 2011 10:35 AM Subject: RE: Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp from 8725 to 9580 feet

Hello Blaise,

Wesley Ingram sent me an email with an evaluation of the application. So probably someone in his group looked at this...

#### Jones, William V., EMNRD

From:	billy@pwllc.net
Sent:	Thursday, November 03, 2011 12:57 PM
То:	Jones, William V., EMNRD
Cc:	Blaise Campanella
Subject:	RE: Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp
	from 8725 to 9580 feet
Attachments:	Proof of Notify VF.tif

Will, attached is copy of certified mail that was sent to V-F Petroleum today 11/3/2011. Thanks Billy (Bill) E. Prichard Pueblo West Consulting 125 Greathouse Village Decatur,TX 76234 432-934-7680 cellular 940-627-5449 fax

------ Original Message ------Subject: Disposal application from Judah Oil LLC: Dow B 28 Federal #1 30-015-28676 Wolfcamp from 8725 to 9580 feet From: "Jones, William V., EMNRD" <William.V.Jones@state.nm.us> Date: Fri, October 21, 2011 5:40 pm To: "billy@pwllc.net" <billy@pwllc.net>, Blaise Campanella <judahoil@yahoo.com> Cc: "Ezeanyim, Richard, EMNRD" <richard.ezeanyim@state.nm.us>, "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>, "Wesley\_Ingram@blm.gov" <Wesley\_Ingram@blm.gov>, "Dade, Randy, EMNRD" <Randy.Dade@state.nm.us>

Hello Bill and Blaise,

email: billy@pwllc.net

The SKU #161 30-015-28140 which is the plugged AOR well, has about 700 feet uncovered section just above your intended disposal interval. It seems unproductive to me, but we need an opinion from a petrophysicist (log analyst) for our records. Please ask that person to also evaluate the entire proposed disposal interval. Next time there is an uncemented AOR well similar to this, just include the increased depth range in the formal notices and newspaper notice even if you intend not to utilize the entire interval. That means more eyes will be looking for any possible interest.

V-F Petroleum operates the active deep gas well in the AOR – would you please send them a notice?

Please also obtain a Change of Operator from Yeso to Judah – our records still show that entity as operator and they have 5.9 issues. So I can't issue the disposal permit until that happens.

# JUDAH OIL, LLC

# Cedar Lake Salt Water Disposal Project Sections 28 and 29 T17S-R31E, Eddy Co. NM

Date : December 2011

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Prepared by:

VSW2 E&P, LLC

Van S. Welch II, PE # 66291 State of Texas

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# **Executive Summary**

#### Preface

This review of the Cedar Lake SWD Project was prepared for Judah Oil, LLC (Judah) by VSW2 E&P, LLC (VSW2) of Duncan, Oklahoma. The project being developed includes installing SWD facilities (28-T17S-R31E) capable of injecting up to 30,000 BWPD. The project contemplates connecting three or four SWD wells to the injection facility. The current wells being considered are the Jamoca Federal SWD No 1 (Jamoca), Doc Slawin Federal No 2 (Doc 2) and Dow "B" 28 Federal No 1 (Dow B).

**Disclaimer** – This document was prepared under the supervision of VSW2. VSW2 does not accept any responsibility for any decisions or actions taken by Judah Oil (its Partners, any associates of Judah Oil, third-parties or governmental agencies) relative to this "Project Review". Due to the many uncertainties, relative data available, individual wells and reservoirs, VSW2 cannot make any guarantees or warrantees as to the best practices for future reservoir performance of the SWD wells as presented in this document. All surface facility designs (wellhead, transportation and SWD injection facilities) are as specified by Judah Oil, LLC.

#### Summary of Results

As discussed in the review, surface wellhead, transportation and injection facilities have significant environmental and safety protection mechanisms. All Federal and State Regulations have been complied with; in addition, several non-requirement environmental and safety mechanisms are designed to be installed, as filed with the Regulatory Permits. VSW2 has reviewed each of the three wells being considered for water disposal. Based on all available information, the injection intervals to be perforated in each well should not cause any loss in current or future reservoir hydrocarbon recovery or any damages to any surrounding wells or surface/shallow water reservoirs.

# Scope and Objectives

#### Scope

This review of the Cedar Lake SWD Project is to summarize the basic surface facility design and outline the environmental and safety mechanisms to be installed. The surface facilities are currently under construction and the status of this work will be reviewed. Each of the three wells proposed for salt water disposal are discussed. The Jamoca Federal SWD No 1 has already been completed and awaiting connection to the central water injection facilities. The Doc Slawin Federal No 2 and Dow "B" 28 Federal No 1 are discussed relative to their proposed injection perforation, hydrocarbon potential within the injection interval and any possibilities to cause damage to surrounding wells and/or shallow/surface fresh water reservoirs.

#### Objective

The objective is to demonstrate that all required Federal and State Regulatory Regulations have been complied with and provide technical assurance that the proposed injection will protect any and all potential hydrocarbon recovery and preserve the integrity of shallow/surface fresh water sources.

### Cedar Lake SWD Project Review

#### **Surface Facilities**

#### Water Injection Facilities

The Cedar Lake SWD Water Injection Facilities are located in A-29-T17S-R31E approximately one-quarter mile south of State Highway 82 on County Road 222. The facilities were permitted under Federal ROW Serial Number: NM 125972. The basic design facilities being constructed include:

- a. The water and oil storage tanks and separation facilities are contained within a 125' X 235' "Tank Facility" area which is 6' below grade and is lined with 2-40 mil poly liners. The reservoir is capable of containing 100% of all storage capacity. It is a sump drainage system capable of removing any spillage and/or natural water accumulations. Should the fluid level rise over 12" inside this area, a high level shut-off will shut off all electricity in the "Tank Facility" area and will send an alarm to a Judah Oil, on call, employee.
- b. Water collection and storage consists of six 500 barrel fiberglass tanks with internal grounding, ten 1000 barrel fiberglass tanks with internal grounding, four 500 barrel steel unloading tanks, two 1000 barrel gunbarrel separators with internal grounding, and two 500 barrel skim oil storage tanks.
- c. The system will be run by various transfer pumps located inside the "Tank Facility" area. These pumps will be operated by electronic Head Sensors and will have manual Head Switches for safety backup. Any tank levels that are too high or too low will shut off the transfer pumps and will send an alarm to a Judah Oil, on-call employee.
- d. There will be a total of 7 commercial truck off-loading stations at ground level. Each station will have a 20 X 25 cement pad. The pads are on a +3 % grade so any spills will run into a channel and down into a cement ditch located in the "Tank Facility" area. It will then be pumped by a sump pump into the steel unloading tanks.
- e. Two Lightning Static Lines will be installed over the Tank Facility along with four Lightning Rods to help protect the facility from lightning strikes. Should there be a loss of electrical power to the facility, an alarm will be sent to a Judah Oil, on call employee.

#### Water Transportation System Between Injection Facility and Wellhead

The injection water will flow to the injection wells via a four-inch high pressure, non-corrosive fiberglass pipeline with an API rating of 2500 psi. This line will be buried four feet below the surface. A high or low pressure kill safety switch will automatically shut down the injection pump should the pressure exceed or drop below the pressure settings. An alarm will then be sent to a Judah Oil, on call employee.

#### Injection Location and Well

Each injection well will be completed in accordance with the Federal and State Injection Permits and with any Federal and/or State special conditions. Sub-surface evaluations and completions are discussed in later sections. Each injection well's casing-tubing annuals will be tested in accordance to federal and state regulations prior to any injection.

At each well location there will be a 210 barrel tank set in a lined reservoir capable of holding the total fluid capacity of the tank. This tank will be filled with approximately four feet of packer fluid. A two-inch line will connect the tank and the 5-½ casing valve at the well so the 5-1/2 casing annulus will be constantly kept full with packer fluid. There will be only hydrostatic pressure on the casing annulus. A tank sensor gauge will monitor any (±2 feet) gain or loss of the tank volume, if either a high or low level are indicated, the disposal pump will automatically be shut off at the central facility and an alarm will be sent to a Judah Oil, on call employee. If a casing, packer, or tubing leak is detected, all appropriate governmental agencies will be immediately notified as required.

#### Cedar Lake Geology

#### General Geology of Local Injection Intervals

The Cedar Lake Project is located in Section 28 and 29 of T17S-R31E, Eddy County New Mexico, as shown in the location map, **Figure 1**. Within these two sections, the Biscuit Hill (Tracey 29 Fed on map) and Jamoca Fed 1 have been permitted for water injection. The Wolfcamp is the primary target for water injection in this area, although the Jamoca Fed. No. 1 was permitted for injection into the Wolfcamp and Cisco formations (which will be discussed in more detail later).



Figure 1: Location Map Sections 28 and 29 T17S-R31E

Project Review

Figure 2, (x-sect Doc 1-Biscuit Hill-Doc 2), shows the top of the Wolfcamp is elusive to pick and within the review area it ranges from 8000 to 9000 feet. (Although, not technically studied, the Wolfcamp tops appear to be dependent on the geologist selecting the top and not on paleontology or faulting.) The Canyon and Cisco formations are easily correlated across the entire area as seen in Figure 2. (Note that the red correlation lines on figure 2 are drawn from gamma-ray to gamma-ray and not wellbore-to-wellbore.) Based on the major red gamma-ray correlation sections, the top of the Wolfcamp has been selected at three totally different stratigraphic events as compared to the Cisco and Canyon which are consistent.



Figure 2: Correlations Canyon, Cisco and Wolfcamp Formations

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#### Jamoca Fed SWD No 1 (A-29-T17S-R31E; API# 3001532265) Geology

At the time this report was published, the Jamoca Federal SWD No 1 (Jamoca) had been permitted, tested, completed (including mechanical integrity tested) and temporarily shut-in awaiting connection to injection facilities. Injection will commence prior to January 1<sup>st</sup>, 2012. **Figure 3** is the Density-Neutron log showing the perforated injection intervals.



Figure 3: Jamoca Fed No 1 Log and Injection Perforations.

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During completion, the Cisco formation was perforated and stimulated with 6000 gallons 28% FE acid and tested. The Cisco flowed slightly, gassy sulfur water and was isolated with a RBP. The Wolfcamp was perforated and stimulated with 6000 gallons 28% FE acid and didn't produce any fluids. The total perforated interval was step-rate-tested and showed a continuous straight-line pressure build-up with the rate ending at 5 BPM and 3000 psi. This testing confirmed that the well has low permeability and non-productive of hydrocarbons. The well is expected to have limited capacity and not impact any offsetting wells or potential hydrocarbon potential. Judah will be submitting a technical report to the BLM and OCD requesting a 2500 psi surface limiting pressure.

#### Doc Slawin Fed No 2 (A-29-T17S\*R31E; API# 30-015-32585) Geology

#### Doc Slawin Fed No 2 Potential Upper Wolfcamp Interval

In the Doc Slawin Fed No. 2 (Doc 2) IIC's C-108 SWD Application, it was proposed to inject into the Wolfcamp interval from 8160-9440 feet. As shown in **Figure 2**, at the time the original application was made, it was recognized that the Wolfcamp top in the Biscuit Hill (Tracey 29) was stratigraphically, significantly higher (8083 ft) than the questionable top picked by Brian Arrant, OCD (ref **Table 1**) at 8544 (???) feet and that water was being injecting into the higher stratigraphic section. Judah had George Scott III (GS), Petroleum Geologist, who has previously provided expert testimony in various NMOCD hearings (in Santa Fe), reviewed the Doc 2 and other wells in the area and he concluded that picking the top of the Wolfcamp in the absence of paleontology analysis was very difficult and subjective (he observes that this formation top varies regionally due to in part to a regional unconformity). As a result of the variations in stratigraphic picks of the Wolfcamp formation top, Judah is confining the injection interval from 8740 feet (approximately 200 feet below the 8544 feet top) to 9440 feet.

#### Table 1: Top Wolfcamp by OCD in Doc Slawin Fed No 2

	NEW MEXICO ENE NATURAL RESOL	RGY, MINERALS and JRCES DEPARTMENT
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	GEOLOGICA	L TOPS
OXY USA WTP	Limited Partpership	
<b>DOC Slawin Fed</b>	eral #2	
Unit I, Sec. 19, 1	-17-5 R-31-E	
1780' FSL & 660	" FEL	
(G.13749'; K.	33768')	
Eddy Co., N.M.		
30-015-32585		-
Geniogical Tops	per/Bryas G. Arrant-OCD	
Salado	707	
Base of Salt	1430	•
Yates	1778*	
Bowers	2577*	
Queen	2814'	
Sau Audres	3591'	
Welfcomp	8544'??	
Summa	10764*	

Of Concrusing Division \* 1235 State & Francis Unive \* State Fe, New Meeters #7505

**Project Review** 

#### Doc Slawin Fed No 2 Wolfcamp Injection Interval from 8740-9440 feet

The Doc 2 injection interval from 8740-9440 feet (ref. Figure 4) Density/Neutron and Lateral Log) and surrounding wells were reviewed by GS for production potential.



Figure 4: Doc Slawin Fed No 2 Density/Neutron and Lateral Logs

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The Doc 2 Mud Log over the injection interval (ref. **Figure 5**) was reviewed. There was only one very minor gas show from 8920-8960 feet that averaged 50 total Gas Units. It had a sulfur water smell and didn't have any fluorescence or shows. GS ran log analysis to determine water saturation values over the proposed disposal interval 8740-9440 feet in the Wolfcamp formation.



Figure 5: Doc Slawin No 2 Mud Log

This area is known to produce sulfur water throughout the Wolfcamp and Cisco formations. This is based on the mud log on Doc 2 (previously discussed), the Jamoca Cisco tested produced sulfur water and sulfur water was produced in DST #6 from 8180-8210 ft in the Turner 58 Well (API#30015-05445). Considering sulfur water corrections, a Rw value of 0.180 was used to calculate water saturations; however, this Rw value for known sulfur water is considered to be conservative; higher values will produce even higher water saturation values. Matrix porosities ranged from 4% to over 16% and water saturation values as determined from log analysis calculations from the Oxy Doc Slawin Federal #2 well for the proposed injection interval in the Wolfcamp range from approximately 70% to 90%. No DLL-msfl corrections were made for drilling fluid filtrate invasion that would further increase calculated water saturation that would indicate all intervals were water-productive. Due to drilling fluid invasion, a "Tornado" chart correction should have been made to the deep resistivity measurements. An Rmf of 0.046 was reported on the logs at the time of logging and again, this would increase water saturation.

#### Dow "B" 28 Fed No 1 (P-28-T17S\*R31E; API# 30-015-28676) Geology

As shown in Figure 6, the Dow "B" 28 Federal No 1(Dow B); API# 30-015-28676 is located in P-28-T17S-R31E.



Figure 6: Location Map Dow "B" 28 Federal No 1

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ZZUI Failway	γ UI,		л.	10000		00.1/10	rax	309.	302.	9004

**Project Review** 

The proposed disposal interval on the C-108 Application is from 8725-9580 feet in the Wolfcamp formation and the proposed perforations are shown on Figure 7.



Figure 7: Dow "B" 28 No 1 Borehole Sonic and Duel Lateral Logs

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George Scott (GS), Petroleum Geologist, calculated water saturation form the above logs. The log-apparent Wolfcamp porosities range from below 4% to as high as 16%. The best indicator of permeable section is acquired from DLL-msfl readings that from separation of deep, medium and near-wellbore resistivity curves reflect fair-good permeability in the interval from 8900-9580 feet. Using a Rw value of 0.04 (based on comparison of Rw values for this immediate region of Permian Basin) the water saturation values where matrix porosities are present, range from 72% to 92%, which indicates a water-productive formation. At 9022-24 feet for example, the measured Rt value is 30 (ohms-m) and Porosity is 4%, which yields a calculated water saturation value of 91%. And at 9316-18 feet; water saturation value of 74%. In conclusion, the proposed Wolfcamp disposal interval has high water saturation values that are characteristic of water-productive formations.

As discussed in the next section and shown in **Figure 8**, there is concern that the injection perforations in the Dow B may impact the correlative interval in the abandoned Skelly Unit Well 161 (SKU 161); which doesn't have cement behind pipe over this interval. (Note: for correlation, the red correlation lines on figure 8 are drawn from gamma-ray to gamma-ray.)



Figure 8: Borehole Sonic Log Correlation SKU 161 and Dow B

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**Project Review** 

Also, as shown in **Figure 8**, GS correlated (**dashed blue lines**) the proposed porosity interval to be perforated in the Dow B with the adjacent, permanently abandoned SKU 161 Well (K-28-T17S-R31E). As shown on the figure, the porosity interval in the Dow B pinches-out and is not present in the SKU 161 Well. It was further noted that the major stratigraphic sections (**correlated by the red lines**) are very definitive, but the top of the Wolfcamp in the two wells were picked (**solid straight blue lines**) differently, further emphasizing that picking the top of Wolfcamp is very subjective in this area.

#### Cedar Lake Engineering; Dow "B" 28 No 1 and Skelly Unit No 161

#### Summary

The Skelly Unit Well 161 (K-28-T17S-R31E, API# 30-015-28140) is located approximately onehalf mile from the Dow "B" 28 Federal No 1 (P-28-T17S-R31E, API# 30-015-28676) and was abandoned in 1995. There is a section (8054'-8750') in the SKU 161 wellbore which doesn't have cement behind casing. Both the wellbore and the annulus in SKU 161 are filled with 9# mud and this uncemented interval is sealed on top with a 60 sack cement plug (7820'-8054') and bonded cement behind casing at 8750' (there is a capped CIBP in the casing at 11165 ft. This technical section addresses all possibility for potential damage of SKU 161 by injection to the Dow B Well.

#### Verification of Log Correlations and Injection Interval

As discussed in the previous section, it doesn't appear that the upper 40 feet of proposed perforations the in the Dow B from 8730' to 8750' and from 8760' to 8780' are present in the SKU 161 Well. However, for this analysis it is hypothetically assumed that the 8730' to 8780' porosity interval in the Dow B is equivalent to the 8480' to 8530' interval in the SKU 161 which is 250 feet above the Dow B interval. This correlation is shown in **Figure 9**. The uncemented section in SKU 161 is from 8054 ft to 8750 ft. Currently the only proposed perforations for injection in the Dow "B" 28-1 are 20 feet from 8730' to 8750' and 20 feet from 8760' to 8780'. The major injection correlation (reservoir between major shale breaks) is from 8400 ft to 8625 ft in SKU 161 and 8520 ft to 8800 ft in Dow "B" 28-1.

**Figure 9** shows the only potential correlation for communication between the SKU 161 and Dow B. The reality of any adverse communication and/or interference between the wells is directly dependent on the wellbore condition in SKU 161, the reservoir characteristics between the wells and the differential injection pressure in the Dow B and SKU 161. Each of these parameters is technically addressed.



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#### Skelly Unit Well No 161 Wellbore Condition

The well file on SKU 161 isn't very complete. The well was apparently drilled in January 1995 as an unsuccessful Atoka/Morrow completion. Five and one-half inch (5-1/2") casing was run to TD and cemented. The Cement Bond log shows the top of good cement at 8750 feet. After failing to complete the deep zones in 1995, the 5-1/2" casing was cut at 8000 ft. A 60 sack cement plug was set at 8054 feet and the top of the plug was tagged at 7820 ft. The result is 180 ft of cement in the open hole above the 5-1/2" casing and 54 ft of cement inside the casing. This plug should be an excellent barrier to prevent any mud or fluids from flowing up the 5-1/2" casing or the casing-hole annulus. **Figure 10** is the best representation of the final and current wellbore condition.

		Ske	lly	Unit 16	1		
		API	#	30-015-2	814	0	
			Γ			1	· · · · · · · · · · · · · · · · · · ·
ALL	DEPTHS KB		Dr	illed Jan 19	95		
KB	3788'		160	) sx surf pa			
GL	3771'	1	ť	Perf @ 50'			
							14-3/4" hole
				lo svot 70.			11-3/4", 47# csg @ 635'
		p.	$\square$	is sy al ciù			w/795 sx to Surf Circ
							CIBP @3586 w/25' cmt
				3575X at 20			
			L				
			L			1	CIBP @3588 w/25' cmt
				Perfs	1		3768-3821'
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	<u> </u>			110 12000		1	WITUU DA

Figure 10: Current Wellbore Schematic Skelly Unit Well 161

Project Review

Based on the wellbore conditions above, the 9# drilling mud is trapped by cement in the 5-1/2" casing and the 5-1/2" open-hole annulus and is completely sealed. The records available on the two wells do not reference any unusual presence of fractures and/or intervals of very high permeability (>1 Darcy) where any fluid losses occurred. From this, it is concluded that the reservoir has normal Wolfcamp porosity and permeability (as discussed in the geological section). The #9 drilling mud sealed-off the normal, expected wellbore permeability during drilling.

Drilling mud is used to drill with so that it will seal off any normal reservoir permeability and prevent any significant fluid losses. Barring extreme conditions (fractures, very high permeability, cavities/significant vuggs, etc), drilling mud cannot flow through normal matrix permeability. As such, no mud in the injection interval, annular space in the SKU 161 can be displaced, as it has nowhere to flow. It is simply trapped. Even if water from the Dow B were to flow to the SKU 161 wellbore, it would simply by-pass the wellbore since it cannot displace the mud.

In addition to the mud being essentially immobile, there are three reservoir conditions which further support the unlikelihood of the SKU 161 wellbore being impacted by water injection into the Dow B.

#### Fill-Up Time Required to Reach SKU 161

The first technical calculation is to estimate how long it will require water to reach SKU 161. Figure 11 is a map showing the distance between the wellbores to be 1852 feet.



Figure 11: Location Map Wells SKU 161 and Dow "B" 28-1

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For the following technical calculations, reasonable reservoir parameters have been assumed for the Wolfcamp in the interval of interest. As will be demonstrated, the reservoir parameters could be off by a factor of 1,000 and still not affect the conclusions drawn. The time required for water injected in the Dow "B" 28-1 to reach the SKU 161 is based on an injection of 50 BWPD into each one foot of pay open. In this example, the 40 feet of perorations will take (50 x 40) 2,000 BWPD. Using the 1852 ft radial flow area from the Dow "B" 28-1, with a porosity of 10% the reservoir fill-up volume to SKU 161 is 7,672,440 barrels. Table 2 below shows all the calculations for this analysis.

Now let us consider the momentum (mass-velocity) that might be required to displace #9 mud in SKU 161, if the mud could be displaced. It is well documented that erosion by water has shaped much of the earth. One of the best examples is the Colorado River whose flow rate is  $623 \text{ m}^3/\text{s}$  ( $15.5 \times 10^6 \text{ B/hr}$ ) varying from 5 to 40 mph. Now, think of the momentum of water moving at a rate of only 1 mile per hour. You're standing in the stream; do you feel its flow past your legs or feel it washing away the sand from under your feet? Keep in mind, water flowing at one mile per hour.

Assuming piston displacement of injection water to formation water, then the time for injection water to reach SKU 161 is (7,672,440 BW/2000 BWPD/365d) 10.5 years. Thus, the average velocity of fluid flowing over this 10.5 year period of time is 0.00000381 miles per hour or  $3.7 \times 10^{-3}$  m<sup>3</sup>/s. This essentially implies the water has no real momentum to displace the mud in SKU 161.

$Area = r x r x \pi / 43560 = A$	4c		
lnj H = 40 ft	R=	1852 Ft	
Por. = 0.1 frac	Area =	247.2428503 Ac	
Vol = 7758xAcxHxPorxSv	w=	7.672440131 MMBW	
Inj Rate Assume (50 BWPD/	Ft) =	2000 BWPD	
Fillup Time = 3836.22 D	)ays =	10.51019196 Yrs	
Avg Fluid Velocity Over 10.	5 Yrs =	0.000003810 Mi/Hr	

Table 2: Fill-Up Volur	e and Time	To Reach	SKU 161
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#### True Velocity of Injection Water When It Reaches SKU 161

The next calculation is to determine the true velocity at the time injection water reaches SKU 161. The same reservoir parameters apply. The true velocity is based on the flow rate through the last one-foot radius (from 1851' to 1852') of flow at 2000 BWPD. **Table 3** below shows all the calculations for this analysis. The last one-foot radial volume over the 40-foot injection interval is 82,860 barrels. At 2000 BWPD, this final volume is injected over a 41.4 day period, or a true velocity of 0.00000019 miles per hour. Even if the cumulative effect of all the parameters used in this estimate were off by a factor of 1,000 the true velocity would still only be 0.00019 miles per hour. The velocity of the water at this location can not displace the mud in SKU 161.

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Inj Rate Assume (50 BWPD/Ft) =	2000 BWPD
Circumference= 2 x R x π =	11630.56 Ft
X-Sect Area at Skelly #161 =	465222.4 SqFt
X-Sect Area at Skelly #161 =	10.68003673 Ac
Last 1 Ft Radial Volume to SKU16	1 0.082855725 MMBW
Days to Displace 1 Ft Volume =	41.42786248 Days
Avg Velocity at Contact =	0.000000190 Mi/Hr

Table 3: True Velocity of Injection Water When It Reaches SKU 161

#### Permeability and Pressure Differential Required to Flow Water to SKU 161

It is assumed that any contiguous permeable intervals between the two wells would be in hydrostatic equilibrium, although there is a 250 foot-head of water between the SKU 161 and the lower Dow B. The final calculations determine what reservoir permeability and surface injection pressure (excluding the 250 foot-head) is required to physically flow water from the Dow B to SKU 161. For this calculation, normal radial Darcy flow is used to calculate the surface injection pressure required to flow water to SKU based on assumed average reservoir permeability and vice versa. **Table 4** shows the calculations used in estimating these values.

As shown below, if the average permeability is only 10 Md, it would require a surface injection pressure of 5969 psi. Therefore, if the reservoir permeability is this low, water will never reach SKU 161 as this high an injection pressure would never be approved, as the reservoir would surely fracture at this pressure. Conversely, if the average permeability is 100 Md, then a surface pressure of only 597 psi would be required. It is unlikely that the Wolfcamp in this interval is 100 Md.

More realistically, if the surface injection pressure were 1000 to 2000 psi (and ignoring the 250 feet hydrostatic pressure differential), then an average permeability of 30 Md to 60 Md would be required to reach SKU 161. The 30 md value is probably most realistic and this would imply that injection water could eventually reach SKU 161, if the two zones were correlative. However, at this permeability, the water velocity (based on Darcy flow) at SKU 161 would be 0 miles per hour as this is the boundary flow limit at 2000 psi surface injection pressure.

Pern	neability	and Pre	ssure Diff	erential	o Flow to	Skelly #	161
	Q =	7.07 x 1	0-3 x Md x	H x dP /	Visc / In	(re/rw)	
	Q =	2000	BWPD	Visc =	1	Ср	
	rw =	0.4	re =	1852	In (re/rw	8.44031	
	Solve Fo	or			K - Md	dP - psi	
	Q=	2000	H≈	40	10	5969	
[					100	597	
					60	1000	
					30	2000	

Table 4: Permeability and Surface Pressures Required to Flow Water to SKU 161

#### Conclusions

In conclusion, it is possible that injection water can reach SKU 161, but if it does reach the SKU 161 wellbore, it is very unlikely that it can effect the wellbore condition and the injection water will almost positively move around the mud filled annulus, plus the mud has a higher density (higher pressure) and significantly higher viscosity which haven't been taken into account. Furthermore, as indicated by Petroleum Geologist, George Scott, from his studies of regional fracturing in this portion of the Permian Basin based on Formation Micro-Imaged well logging data and orientated post-fracture stimulation gamma tracer logs, the natural and hydraulically-induced fractures in this region trend in a northeast-to-southwest direction, which would further indicate that movement of injected water towards the SKU 161 wellbore is not geologically feasible.

Nos Wilch

Van S. Welch II, PE VSW2 E&P, LLC. President Professional Engineer State of Texas (PE No. 66291) Seal

2207 Fairway Dr, Duncan OK, 73533 Cell 281.635.1718 Fax 509.562.9684

#### · · · · · ·

## Jones, William V., EMNRD

From:Jones, William V., EMNRDSent:Monday, March 19, 2012 5:36 PMTo:'billy@pwllc.net'; Blaise CampanellaCc:Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD; 'Wesley\_Ingram@blm.gov'Subject:Disposal application from Judah Oil, LLC: Dow B 28 Fed #1 30-015-28676 Requested amendment to add perforations above previously permitted interval.

Billy and Blaise,

Please remind me what Case file/Hearing Order resulted from this well and the contested ownership between Concho and Judah? SWD-1313 granted disposal into the Wolfcamp from 8725 to 9580 feet. This application asks for disposal from 8584 to 9580 feet – adding 141 feet of Wolfcamp porosity uphole.

There is a wellbore diagram in our well file showing the 8584 to 9580 "Proposed Wolfcamp Perfs" when Yeso operated this well in 2009 – but | didn't see what were the results of that test. If you obtained the well file, it should have something in it or maybe the BLM files have something – please let me know what happened when this interval was tested.

I assume they did perforate these intervals and you don't want your packer below the top set of perfs?

The engineering report sent earlier analyzed the possible affect this well being used for disposal would have on the 700 feet of uncemented annulus (8000 to 8750 feet) within the Skelly Unit #161. Of course at that time, this upper interval was not being proposed.

From what I see, the Skelly Unit #161 is up-structure anywhere from 150 to 250 feet from your proposed disposal well and this new proposed interval was never tested in the Skelly Unit #161.

I still must wait on the bond for the other well prior to releasing any disposal permits for Judah Oil LLF. Deven

Thank You,

William V Jones, P.E. Engineering, Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, NM 87505 Tel 505.476.3448 ~ Fax 505.476.3462



#### Jones, William V., EMNRD

 From:
 Jones, William V., EMNRD

 Sent:
 Friday, April 13, 2012 5:08 PM

 To:
 'billy@pwllc.net'; 'Blaise Campanella'

 Subject:
 RE: Disposal application from Judah Oil, LLC: Dow B 28 Fed #1 30-015-28676 Requested amendment to add perforations above previously permitted interval.

Blaise or Bill,

I understand the bond is in place for the well requiring a single well bond.

But, still haven't heard about the other questions below...

If you prefer, you could ask the engineer that looked at this area earlier and wrote up the nice report to comment on the effects of adding the 141 additional feet uphole?

Will Jones New Mexico Oil Conservation Division Images Contacts

From: Jones, William V., EMNRD
Sent: Monday, March 19, 2012 5:36 PM
To: 'billy@pwllc.net'; Blaise Campanella
Cc: Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD; 'Wesley\_Ingram@blm.gov'
Subject: Disposal application from Judah Oil, LLC: Dow B 28 Fed #1 30-015-28676 Requested amendment to add perforations above previously permitted interval.

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I still must wait on the bond for the other well prior to releasing any disposal permits for Judah Oil LLC.

Thank You,

William V Jones, P.E. Engineering, Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, NM 87505 Tel 505.476.3448 ~ Fax 505.476.3462



### Jones, William V., EMNRD

From:	james campanella [judahoil@yahoo.com]
Sent:	Sunday, April 15, 2012 8:47 AM
То:	Jones, William V., EMNRD
Cc:	vanwelch2@aol.com; Bill Pritchard
Subject:	Fw: Fw: Disposal application from Judah Oil, LLC: Dow B 28 Fed #1 30-015-2867
Attachments:	Dow; Dow B 28 Upper Perfs by Yeso.doc

Will,

This is the information I recieved from Mr Welch addressing your concerns. Please let me know if you need more detail or have additional questions, I will jump right on it.

Thank you

Blaise

James B. Campanella Judah Oil, LLC PO Box 568 Artesia, NM 88211 575-746-1280 575-746-1290 (fax) ----- Forwarded Message -----From: "Vanwelch2@aol.com" <Vanwelch2@aol.com> To: judahoil@yahoo.com Sent: Tuesday, March 20, 2012 8:12 PM Subject: Re: Fw: Disposal application from Judah Oil, LLC: Dow B 28 Fed #1 30-015-2867...

Proposed response to BIII.

Bill my responses are shown below in RED

James B. Campanella Judah Oil, LLC PO Box 568 Artesia, NM 88211 575-746-1280 575-746-1290 (fax)

In a message dated 3/20/2012 6:40:35 P.M. Central Daylight Time, judahoil@yahoo.com writes:

James B. Campanella Judah Oil, LLC

PO Box 568	
Artesia, NM 88211	
575-746-1280	
575-746-1290 (fax)	
Forwarded Messa	ge
From: "Jones, William	V., EMNRD" < <u>William.V.Jones@state.nm.us</u> >
To: "billy@pwllc.net" <	billy@pwllc.net>; Blaise Campanella <judahoil@yahoo.com></judahoil@yahoo.com>
Cc: "Ezeanyim, Richar	d, EMNRD" <richard.ezeanyim@state.nm.us>; "Shapard, Craig, EMNRD" <craig.shapard@state.nm.us>;</craig.shapard@state.nm.us></richard.ezeanyim@state.nm.us>
"Wesley Ingram@blm	.gov" <wesley ingram@blm.gov=""></wesley>
Sent: Monday, March	19, 2012 5:35 PM
Subject: Disposal app	lication from Judah Oil, LLC: Dow B 28 Fed #1 30-015-28676 Requested amendment to add perforations above previously
permitted interval.	
CASE NO. 14547	CASE NO. 14472 De Novo
Order No. R-13309-C	Order No. R-13294-C
Billy and Blaise,	
D1	

Please remind me what Case file/Hearing Order resulted from this well and the contested ownership between Concho and Judah? This was CASE NO 14472, Order No. R-13294-C and CASE NO 14547; Order No. R-13309-C (attached)

SWD-1313 granted disposal into the Wolfcamp from 8725 to 9580 feet.

This application asks for disposal from 8584 to 9580 feet – adding 141 feet of Wolfcamp porosity uphole.

There is a wellbore diagram in our well file showing the 8584 to 9580 "Proposed Wolfcamp Perfs" when Yeso operated this well in 2009 – but I didn't see what were the results of that test. If you obtained the well file, it should have something in it or maybe the BLM files have something – please let me know what happened when this interval was tested. As you know, we only recently learned of these upper perforations from 8584-8594 and 8610-8615 ft. There is nothing in the file showing any testing. Judah has subsequently flowed tested the well. It had approximately a 300 psi surface pressure with water to surfaced and was flow tested for one hour and recovered 70 BW and no oil or gas.

I assume they did perforate these intervals and you don't want your packer below the top set of perfs? Yes, we definitely can't have open perfs above the packer.

The engineering report sent earlier analyzed the possible affect this well being used for disposal would have on the 700 feet of uncemented annulus (8000 to 8750 feet) within the Skelly Unit #161. Of course at that time, this upper interval was not being proposed. From what I see, the Skelly Unit #161 is up-structure anywhere from 150 to 250 feet from your proposed disposal well and this new proposed interval was never tested in the Skelly Unit #161. Attached is a revised log interpretation of the new proposed perforations. First, there is no apparent porosity in these two top set of perforations and no logical reason as to why they were perforated. And you are correct the Skelly is approximately 200 ft up dip. As shown on the attachment, the perforated zone in the Dow 28 is not present in the Skelly 161 as it has been eroded or truncated. (reference the thick shale section that separates this Wolfcamp interval from higher intervals.)

I still must wait on the bond for the other well prior to releasing any disposal permits for Judah Oil LLC. Putting in place today.

Please advise if you have any further questions or needs. James B. Campanella Judah Oil, LLC PO Box 568

#### Jones, William V., EMNRD

From:	james campanella [judahoil@yahoo.com]
Sent:	Sunday, April 15, 2012 8:47 AM
To:	Jones, William V., EMNRD
Cc:	vanwelch2@aol.com; Bill Pritchard
Subject:	Fw: Fw: Disposal application from Judah Oil, LLC: Dow B 28 Fed #1 30-015-2867
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#### Thank you

#### Blaise

James B. Campanella Judah Oil, LLC PO Box 568 Artesia, NM 88211 575-746-1280 575-746-1290 (fax) ----- Forwarded Message -----From: "Vanwelch2@aol.com" <Vanwelch2@aol.com> To: judahoil@yahoo.com Sent: Tuesday, March 20, 2012 8:12 PM Subject: Re: Fw: Disposal application from Judah Oil, LLC: Dow B 28 Fed #1 30-015-2867...

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James B. Campanella Judah Oil, LLC PO Box 568 Artesia, NM 88211 575-746-1280 575-746-1290 (fax)

In a message dated 3/20/2012 6:40:35 P.M. Central Daylight Time, judahoil@yahoo.com writes:

James B. Campanella Judah Oil, LLC


ONCHE/JUDAH FIGHT? Injection Permit Checklist (11/15/2010) 1313 SWD WFX Permit Date UIC Qtr PMX 28 B Ŧ1 ED # Wells Well Name(s): API Num: 30-0 15-28676 9 75 New/Old: N(UIC primacy March 7, 1982) Spud Date: 7 FELUnit P Sec 28 Tsp 175 DZ8 Rge 31E EDD Footages County MLE, of ARTES A General Location PRICHARE 61 DA" Operator: Contact BILL 2 OGRID: CHSRIC RULE 5.9 Compliance (Wells) 5.9 OK? (Finan Assur) ual O OR PEAD Well File Reviewed Current Status: MORROW Planned Work to Well Diagrams: Before Conversion After Conversion Elogs in Imaging File: Setting Sizes Stage Cement Determination Well Details: Hole ..... Pipe Depths Method Tool Sx or Cf 13/4 450 IRC 614 New \_\_Existing \_\_Surface ? IRC(2) 5040 3000 New\_Existing \_Interm 8 725 9283 900 - 3! E 350 H +580+1 New\_\_\_Existing \_\_ LongSt + New\_Existing \_\_ Line New\_Existing \_ OpenHole HICK in THE BS **Depths/Formations:** Depths, Ft. Formation Tops? 6769 Formation(s) Above Injection TOP \_OpenHole\_ Max. PSI Perfs F 8534 WC Tubing Size 🗾 12 Injection BOTTOM: 9580 Packer Depth CUS 760 076 Formation(s) Below Salado Top/Bot Gapitan-Reef Cliff House ve Formation A LLU VIAL Wells? Nove 616 Fresh Water: Depths: Analysis? Affirmative Statement COMMER CIAI Disposal Fluid Analysis? Sources Production Potential/Testing **Disposal Interval: Analysis?** bim 2 Mineral Owner(s) Notice: Newspaper Date Surface Owner 2a 15 RULE 26.7(A) Affected Persons: Producing in Interval? No Wellbore Diagrams? Well List? AOR: Maps? WhichWells? **Repairs?** ..Active Wells Which Wells? P&A Wells Repairs? 20 8 8 ୬୪୦ 60 Request Sent Reply 3/8/2012/1:44 PM SWD\_Checklist.xls/ReviewersList Page 1 of 1