

**BW - 6**

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

**2007 - 2010**

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**From:** Porter, Jodi, EMNRD  
**Sent:** Friday, October 15, 2010 10:01 AM  
**To:** EMNRD-DIV. DIRECTORS  
**Cc:** EMNRD-OCD - HOBBS; EMNRD-OCD - AZTEC; EMNRD-OCD - ARTESIA; EMNRD-OCD - SANTA FE; Gallegos, Gilbert, GOV; Ray-Garcia, Alarie, GOV  
**Subject:** Carlsbad-Argus story on Brine Well Collapse

## **Legislators receive report on brine well collapse**

By Tom Schneider  
Current-Argus City Editor  
Posted: 10/14/2010 09:14:43 PM MDT

CARLSBAD — State legislators meeting in Carlsbad were informed Thursday about two major issues concerning the South "Y" brine well where a collapse had been feared earlier this year, one geological and one economic.

Concerning the site of the brine well, near the intersection of U.S. Highways 285 and 62/180, there is the matter of nearly 6 million cubic feet of salt that geological information indicates should have been displaced. Tests conducted over the summer led the Brine Well Working Group to believe that there were two separate voids under the well, and while the first void proved to be empty as expected, the lower cavern proved to contain anhydrites, a carbonate-based rock.

"There is no large-extent cavern below the upper cavern," Ned Elkins, a member of the working group's technical subcommittee, told the state legislature's assembled Radioactive and Hazardous Materials Committee during the first day of a two-day meeting held at the Pecos River Village Conference Center.

That leaves the equivalent of about 1 million barrels of salt close to 6 million cubic feet unaccounted for, said Mark Fesmire of the state Oil Conservation Division.

"We know there's a million barrels of voidage that we can't explain," he said. "We can't say definitively there isn't a large cavern beneath where we stopped drilling."

Elkins, however, offered a possible alternative theory.

"More and more people are beginning to buy into the theory there is a thin void, maybe 6 inches to a foot deep, that goes for a large distance in any direction," he said.

It could also be "honeycombed" over a large area, he said.

There does not appear to be any threat of imminent collapse as earlier was thought possible, though established plans remain in place just in case.

The "scrambled geology" of the area raises more questions than it answers, Fesmire said, noting that the OCD has adopted a three-pronged plan to deal with the ongoing issue.

The plan calls for the agency to maintain and pay for the existing early detection/public warning system that will detect if a collapse is imminent and activate the county's in-place emergency plan to safely evacuate the area around the potential sink hole. It also calls for continued participation in a dialogue with the city in planning to prevent a collapse and to plan for "what ifs".

"We want to start planning for 'what if'," said Fesmire. "What if we have to move the canal?"

The OCD is also meeting with the city to negotiate a written agreement to clearly define the process the city must go through to deal with ongoing fiscal issues.

"The city is tapped out on this," Elkins told the committee. "It's more than tapped out the \$1.3 million fund established; we are into it \$1.7, \$1.8 million."

Rep. John Heaton, D-Carlsbad, pointed out that a bill already passed in the legislature should generate \$2 million per year toward expenses as long as oil stays above \$70 a barrel.

"OCD has the money," he said.

"How does that move efficiently and effectively for the purpose for which it was intended?" he asked Fesmire, who responded that attorneys are currently negotiating the memorandum of understanding between the OCD and the city of Carlsbad.

"That memo of understanding needs to be in place; that needs to be clear so they know what the process is," Heaton continued. "There needs to be a very clear, firm understanding and I and the committee charge you with making that happen."

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## Chavez, Carl J, EMNRD

**From:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, January 21, 2010 10:51 AM  
**To:** Macquesten, Gail, EMNRD  
**Subject:** FW: Preliminary BW C&E Evaluation  
**Attachments:** Class III Well C-E Preliminary Assessment10-9-2008.xls; BW Form 2008\_08\_01\_08 final.doc

Survey form was sent out 8/1/2008 and requested by 11/5/2008. As of 10/9/2008, OCD had not received I&W's Survey Form. Check w/ Glenn and Jim to make sure they never received the questionnaire form to be complete. Wayne Price spun the collapse issue and all record keeping responsibilities with the remediation guys in Env. Bureau. Thanks.

Carl J. Chavez, CHMM  
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(Pollution Prevention Guidance is under "Publications")

**From:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, October 09, 2008 3:46 PM  
**To:** Price, Wayne, EMNRD  
**Cc:** Sanchez, Daniel J., EMNRD  
**Subject:** Preliminary BW C&E Evaluation

FYI, please find attached the preliminary operator responses to the OCD questionnaire or information request subsequent to the BW-5 collapse and this preliminary OCD C&E evaluation..

### Permit Conditions:

In general, none of the operators have geophysical or subsidence monitoring on site. Many of the operators stopped reporting several years back; however, some of the operators continued to report on a quarterly basis, but not consistently. None of them provided annual reports. Sonar testing was conducted by only one operator ((I&W) at BW-6 near Carlsbad (voluntarily shut down on 7/21/2008 after BW-5 collapse) before the collapse of BW-5. One operator (Gandy) attempted sonar testing after the BW-5 collapse at 2 BWs, but had trouble completing the sonars because the sonar w/ centralizer got stuck in BW-22 (Quality Brine- Tatum) and they couldn't pull the tubing out of the casing in BW-4 (Eidson/Wasserhund at Buckeye).

Of the respondents, only 2 BWs have their casing shoe set into the salt: BW-27 (4 ft.) and BW-30 (55 ft.). The rest have casing shoes set just above the salt where fresh water is currently being injected into the top of the salt cavern and brine is being extracted through the tubing. Consequently, most of the operators are actively expanding the size of the salt cavern roofs.

BWs that appear to be at least 4 active brine wells that have reached their life expectancy (see attachment) based on Wayne's total volume of brine produced algorithm and the depth to the casing shoe (see table below):

BW-2	Basic Energy Services, LLC	Eunice #1	30-025-26884	N 32 25' 47" W 103 8' 58"	(UL-O)34-21S-37E	I
BW-5	JIMS WATER SERVICE	JIMS WATER SERVICE (State 24 Well #1) -LOCO HILLS	30-015-02036	N 32.73199 W 104.12791	(UL-J)24-18S-28E	E

BW-6	I & W INC	I & W EUGENIE Well # 001 BRINE - CARLSBAD	30-015- 22574	N 32.38813 W 104.21817	(UL-M)17- 22S-27E	E
BW-12	The Permian Corporation	SCURLOCK/PERMIAN -HOBBS (Saline #1 Well)	30-025- 12803	N 32.69825 W 103.21043	(UL-M)36- 18S-37E	
BW-25	Basic Energy Services, LLC.	SALADO BRINE WELL NO. 2	30-025- 32394	N 32.12093 W 103.18388	(UL-A) 20- 25S-37E	I
BW-27	MESQUITE SWD (Dunaway No. 2), INC	Mesquite-CARLSBAD	30-015- 28084	N 32.38160 W104.16210	(UL-F) 23- 22S-27E	E
	<i>Collapsed 7/16/08</i>					
	<i>Voluntary Shut-Down 7/21/2008</i>					

In conclusion, I am working to get information forms from Jims Water Service, Zia Transports, Key Energy Services and Loco Hills to complete the C&E evaluation. It appears that the OCD may have some Notice of Violations with fines on the reporting (annual reports) and lack of sonar testing and subsidence monitoring by most of the operators. Wayne, you verbally informed me today to begin work on the NOV for BW-5 and this could also be used and modified for any of the other operators that OCD decides to issue NOVs to. Most importantly, based on your (Wayne's) Algorithm (last question on attached OCD info. form) and brine well life expectancy, the OCD may want to proceed to issue notice for the PA of BWs 2, 12, 25 and 27 or immediately require the operators to conduct sonar testing to evaluate salt cavern size. Also, the general rule-of-thumb (50 ft overburden for 178,100 bbl. of produced brine) for produced brine and overburden coincides with your algorithm. Note that many of the operators (info. form completed by Eddy Seay) did not appear to use accurate total brine production figures; consequently, the OCD had to review the records to derive a more accurate total production estimate based on flow rate info. in the files in order to calculate brine well life expectancy.

I'll keep you posted as we receive the final information forms (hopefully by October 20, 2008). Please contact me if you have questions or if we need to have a meeting to discuss penalties, etc. for the NOV.

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Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

Permit ID	Amd #	Applicant	Facility	API #	GPS	Location	County	Expir	3ond. A= active or Inactive	OGRID
BW-2	0	Basic Energy Services, LLC	Eunice #1	30-025-26884	N 32 25' 47" W 103 8' 58"	(UL-O)34-21S-37E	Lea	01/06/2014	A	
BW-4	0	GANDY CORP	WASSERHUND EIDSON BRINE	30-025-26883	N 32 52' 22.5" W 103 30' 16.67"	(UL-M) 31-16S-35E	Lea	06/11/2006	A	
BW-5	0	JIMS WATER SERVICE	JIMS WATER SERVICE (State 24 Well #1) - LOCO HILLS	30-015-02036	N 32 731.69 W 104 12791	(UL-J)24-18S-28E	Eddy	12/18/2005	A	
BW-6	0	1 & W INC	1 & W EUGENIE Well # 001 BRINE - CARLSBAD	30-015-22574	N 32 398.13 W 104 21817	(UL-M)17-22S-27E	Eddy	06/19/2006	A	
BW-8	0	ZIA TRANSPORTS INC	SALTY DOG - ARKANSAS JUNCTION (Brine Supply Well #1)	30-025-26307	N 32 688.54 W 103 37449	(UL-J)5-19S-36E	Lea	04/18/2009	A	
BW-9	A	KEY ENERGY SERVICES, LLC	SIMS-MCCASLAND BRINE - EUNICE (GP - Sims #2)	30-025-25525	N 32 441.52 W 103 17691	(UL-A)32-21S-37E	Lea	04/06/2009	A	
BW-12	0	The Permian Corporation	SCURLOCK/PERMIAN - HOBBS (Saline #1 Well)	30-025-12803	N 32 698.25 W 103 21043	(UL-M)36-18S-37E	Lea	07/18/2009	A	
BW-13	0	STEARNS	STEARNS TANK SERVICE-CROSSROAD	30-025-35702	N 33 29' 53.67" W 103 20' 24.45"	(UL-P) 27-19S-35E	Lea	07/15/2010	A	
BW-18	0	KEY ENERGY SERVICES, LLC.	KEY HOBBS TRUCKERS #2	30-025-07551	N 32 702.10 W 103 15557	(UL-K)33-18S-38E	Lea	07/18/2008	A	
BW-19	0	KEY ENERGY SERVICES, LLC.	KEY TRUCKERS BRINE - CARLSBAD	30-015-21842	N 32 20' 56.71" W 104 14' 12.93"	(UL-H)36-22S-26E	Eddy	12/19/2006	A	
BW-21	0	RAY WESTALL OPERATING (Loco Hills Brine Company) : P.O. Box 4, Loco Hills, NM 88255	LOCO HILLS BRINE - LOCO HILLS	30-015-32068 (To Be PA'd)	N 32 8289.9694 985 W - 103.9848541 87961	(UL-M) 16-17S-30E	Eddy	12/18/2005	A	
BW-21	0	RAY WESTALL OPERATING (Loco Hills Brine Company) : P.O. Box 4, Loco Hills, NM 88255	LOCO HILLS BRINE - LOCO HILLS	New Well: 30-015-36119	N 32 8289.9694 985 W - 103.9848541 87961	New Well: UL-L 16-17S-30E	Eddy	12/18/2010	A	
BW-22	0	GANDY CORP	QUALITY BRINE No. 2 - TATUM	30-025-28162	N 33 258.68 W 103 33275	(UL-M)20-12S-36E	Lea	03/11/2007	A	
BW-25	0	Basic Energy Services, LLC.	SALADO BRINE WELL NO. 2	30-025-32394	N 32 120.93 W 103 18388	(UL-A) 20-25S-37E	Lea	09/01/2008	A	



Bond No.	Ind Amt.	Bond Date	Bond Co.	Comments	Response to OCD Questionnaire	Stand still permit conditions?	Quarterly Report	Annual Report	Sonar Testin g	Subsidence Monitoring	Geophysical Monitoring	GW Monitoring	In Compliance?	Re G	Do you know what causes collapse?
RLB 0009792/ RLB0001564 (Bond Rider No. 3 \$45K)	5,000 + 45,000= \$50,000	12/20/2006; 12/28/2007	RLI Insurance Company	Original bond approved via OCD correspondence by William Lemay on 12/19/09.	08/30/08	Y	N	N	N	N	N	N	Y	Y	Y
RLB 69089833; LOC No. NZ5608366	5000; \$50,000	12/14/2000; 11/23/07	Western Surety Company; Wells Fargo		08/30/08	Y	Y	Y	Y (but was unsucc essful)	N	N	N (only from fresh water supply well)	?	Y	Y
<b>B001453</b>	<b>\$50,000.00</b>	<b>09/17/07</b>	<b>US Specialty Insurance Company</b>	<b>Replaces Bond 584554</b>											
Eugenie #1: B003278; Eugenie #2: B003279	\$5,000.00	02/13/07	US Specialty Insurance Company	Bond No. 584554 (Eugenie #1) exists in file. Another Bond No. 58 9029 (Eugenie #2) exists in the file & OCD records shows plugged in 2/1/2009.											
RLB0006628	\$50,000.00	04/23/08	RLI Insurance Company	Approval letter sent to Peter Bergstein on 6-19-08											
RLB0011065	\$50,000.00	12/18/07	RLI Insurance Company	One well plugging bond.											
BO 9286877	\$5,000.00	09/26/85	American Casualty Company of Reading Pennsylvania		09/05/08	Y	N	N	N+	N	N	N	N	Y	Y
RLB0001215	\$50,000.00	07/20/99	RLI Insurance Company	Blanket plugging bond	09/03/08	Y	Y	Y	N	N	N	Y	Y	N	Y
RLB0003249		06/01/01	RLI Insurance Company	See BW-19 Blanket Bond											
RLB0011064	\$50,000.00	12/18/07	RLI Insurance Company	New bond requirements effective 1/1/08											
Financial Assurance/Bond	5000 (New Well; \$50,000.00)	12/11/1985 (4/29/2008)	Loco Hills Brine Company	Bond & Financial Assurance signed by Ray Westall (President), Mary Maloney (Guarantor), Thomas E. Jennings (Guarantor), & James Maloney (Guarantor) received 3-12-7. Cash bond issued w/ no bond #. Approval letter to be mailed out. Ok.											
Financial Assurance/Bond	5000 (New Well; \$50,000.00)	12/11/1985 (4/29/2008)	Loco Hills Brine Company	Bond & Financial Assurance signed by Ray Westall (President), Mary Maloney (Guarantor), Thomas E. Jennings (Guarantor), & James Maloney (Guarantor) received 3-12-7. Cash bond issued w/ no bond #. Approval letter to be mailed out. Ok.											
RLB 68978440; LOC No. NZ5608564	5000; \$50,000	11/21/2000; 11/23/07	Western Surety Company; Wells Fargo		08/30/08	Y	Y	N	N+	N	N	N (only fresh water from supply well)	?	Y	Y
RLB0001564 (Bond Rider No. 4 \$45K)	5000 + 45,000= \$50,000	2/7/2007; 12/28/2007	RLI Insurance Company		08/30/08	Y	N	N	N	N	N	N (only fresh water from supply well)		Y	Y



[illegible]

SWL (ft)	Aquifer	Depth top salt (ft)	Depth bottom salt (ft)	Anhydrite Thick (ft)	Depth to casing shoe (ft)	Shoe set in anhydrite layer above salt	Casing shoe set into salt? If so, how far?	Depth to tubing (ft)	Suspect cavern partial cave in?	Well Op Start Date	Tot Vol Fresh Water Injected Date (bbls)	Total Line Date (bbls)	Ever lost casing/tubing?	Maintain surf pres. idle times	Notice lg. ams. bld. up @ pres. up.	Notice fluid/air/g as bubbling up at casing test/norm ops.?	Submitted all reports (mo./qty./annual)?	MIT failure?	Casing leak?	Cavern leak?	Exceed cavern fracture pressure?	How low to calc. max. pressure?	Inspect for cracks/fissures on ground surface?
715	Santa Rosa	1245	2355	90	1200	N	N	1489	?	Jul-80	6,720,000	960,000	N	Y	N	N	N	N	N	?	N	Y (SRT)	Y
	Ogallala	1895	2900	95	1895	Y	N	2461	?	1980	36,977,360	5,282,480	Y	Y	N	N	Y	N		?	N	N	Y
50	Ogallala	1750	?	120	1660	Y	N	2144	N	May-63	3,883,459	3,883,459	Y	N	N	N	N	N	N	?	?	Y	Y
125	Ogallala	2000	2800		2000	Y	N	2565	N	1968		975,000	Y	Y	N	N	N	Y	N	N	N	Y	Y

[illegible]

Any minor/major cracks, tk settlement, line break, subsidence?	Ground movement after open/shut valves, pumps, etc.?	Unexp. P +/- in cavern? If yes, was there a dif. in norm flow rate?	Past 5 yrs- notice any dif. in fresh H2O vol pump in prod.?	Concern about pulling & re-entry into hole?	Concern w/ sonar run & loss of tool downhole due to debris in hole?	Concern fl. rate of BW?	Is calc. No. in 1 > than 2?	Signed?	Comments
N	N	N	N	Y	Y	N	N		Brine production value seems too low. Five O&G Wells very close to well.
N	N	N	N	Y	Y	N	N	8/30/2008	Operates BGT's or pits.
N	N	N	N	Y	Y	N	N	9/5/2008	Water well 0.19 mi. NE. Well is currently idled after recent MIT resolved down hole plugging problem. Plains does not desire to continue brine sales and is actively pursuing selling this well site. Plains requests to suspend all well ops. While pursuing a potential purchase and sales agreement.
N	N	N	N	Y	Y	Y	N	8/29/2008	
N	N	N	N	Y	Y	N	N (should be Y)	8/30/2008	Didn't answer some ?s.
N	N	N	N	Y	Y	N		8/29/2008	Didn't answer ? About being deficient of any condition of permit. BGT's or pits are at the site. Well is near waters of the state w/ drainage into city limits of Jal.

[illegible]

Permit ID	Alt	Applicant	Facility	API #	Location	County	Expires	Bond: A= Active or Inactive	OGHD	Bond No.	Bond	Bond Date
BW-2	0	Basic Energy Services, LLC	Eunice #1	30-025-26884	N 32 25' 47" W 103 8' 58"	Lea	01/06/2014	A		RLB 0009792/RLB0001564 (Bond Rider No. 3 \$45K)	5,000 + 45,000 = \$50,000	12/20/2006; 12/28/2007
BW-4	0	GANDY CORP	WASSERHUND EIDSON BRINE	30-025-26883	N 32 52' 22 5" W 103 30' 16.67"	Lea	06/11/2006	A		RLB 69089833; LOC No. NZS608368	5000; \$50,000	12/4/2000; 11/23/07
BW-5	0	JIMS WATER SERVICE	JIMS WATER SERVICE (State 24 Well #1) - LOCO HILLS	30-015-020036	N 32 23' 09" W 104 3' 12 9"	Eddy	12/19/2009	A		B001493	\$50,000.00	09/17/07
BW-6	0	J&W INC	J & W EUGENIE Well # 001 BRINE - CARLSBAD	30-015-22574	N 32 388' 13" W 104 2' 18 17"	Eddy	06/19/2006	A		Eugenie #1: B003278; Eugenie #2 B003279	\$5,000.00	02/13/07
BW-8	0	ZIA TRANSPORTS INC	SALTY DOG - ARKANSAS JUNCTION (Brine Supply Well #1)	30-025-26307	N 32 688' 54" W 103 374 49"	Lea	04/18/2009	A		RLB0006628	\$50,000.00	04/23/08
BW-9	A	KEY ENERGY SERVICES, LLC	SIMS-MCCASLAND BRINE -EUNICE (GP- Sims #2)	30-025-25525	N 32 44' 152" W 103 17 69 11"	Lea	04/06/2009	A		RLB0011065	\$50,000.00	12/18/07
BW-12	0	The Permian Corporation	SCURLOCK/PERMIAN -HOBBS (Saline #1 Well)	30-025-12803	N 32 698' 25" W 103 2 104 3"	Lea	07/19/2009	A		BO 9286877	\$5,000.00	09/26/85
BW-13	0	STEARNS	STEARNS TANK SERVICE -CROSSROAD	30-025-35702	N 33 29' 53 67" W 103 20' 24 45"	Lea	07/15/2010	A		RLB0001215	\$50,000.00	07/20/99
BW-18	0	KEY ENERGY SERVICES, LLC	KEY HOBBS TRUCKERS #2	30-025-07551	N 32 702' 10" W 103 155 57"	Lea	07/19/2008	A		RLB0003249		06/01/01
BW-19	0	KEY ENERGY SERVICES, LLC	KEY TRUCKERS BRINE -CARLSBAD	30-015-21842	N 32 20' 56 71" W 104 14' 12 93"	Eddy	12/19/2006	A		RLB0011064	\$50,000.00	12/18/07
BW-20	0	RAY WESTALL OPERATING (Loco Hills Brine Company) : P.O. Box 4, Loco Hills, NM 88255	LOCO HILLS BRINE - LOCO HILLS	New Well: 30-015-36119	N 32 828' 99 66 94" W 103 985 W - 103 984 85 41" W 87 961"	Eddy	12/18/2010	A		Financial Assurance/Bond	5000 (New Well: \$50,000.00)	12/17/085 (12/29/2008)
BW-21	0	RAY WESTALL OPERATING (Loco Hills Brine Company) : P.O. Box 4, Loco Hills, NM 88255	LOCO HILLS BRINE - LOCO HILLS	New Well: 30-015-36119	N 32 828' 99 66 94" W 103 985 W - 103 984 85 41" W 87 961"	Eddy	12/18/2010	A		Financial Assurance/Bond	5000 (New Well: \$50,000.00)	12/11/1985 (4/29/2008)

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[illegible]



[illegible]



[illegible]



[illegible]

[illegible]







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## Chavez, Carl J, EMNRD

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**From:** lland@nckri.org  
**Sent:** Tuesday, July 28, 2009 9:16 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Carlsbad Story

Thanks for the update Jodi. I see that OCD is planning to conduct a seismic survey over the site of the I&W brine well in the near future. Would it be possible for me to tag along and observe the operation, assuming it hasn't already happened? Thanks.

–Lewis Land  
New Mexico Bureau of Geology  
National Cave & Karst Research Institute

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**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Tuesday, July 21, 2009 8:39 AM  
**To:** James\_Rutley@blm.gov; byrum.charles@epa.gov; Leissner.Ray@epamail.epa.gov; hugh.harvey@intrepidpotash.com; Imolleur@keyenergy.com; gveni@nckri.org; Jones, Brad A., EMNRD; Chavez, Carl J, EMNRD; VonGonten, Glenn, EMNRD; Griswold, Jim, EMNRD; Kostrubala, Thaddeus; balch@prrc.nmt.edu; leo.vansambeek@respec.com; rlbeauh@sandia.gov; grkirke@sandia.gov; reitze@socon.com; mcartwright@unitedbrine.com; dave.hughes@wipp.ws; Allen.Hains@wnr.com; ken.parker@wnr.com; Ron.Weaver@wnr.com; Veronica.Waldram@wipp.ws; RichardM@intrepidpotash.com; cgherri@sandia.gov; dwsnow@lotusllc.com; lyn.sockwell@basicenergyservices.com; dwpowers@evaporites.com; Sanchez, Daniel J., EMNRD  
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**Subject:** FW: Carlsbad Story

FYI.

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Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Porter, Jodi, EMNRD  
**Sent:** Monday, July 20, 2009 10:56 PM  
**To:** Prukop, Joanna, EMNRD; Leach, Carol, EMNRD; Fesmire, Mark, EMNRD; Macquesten, Gail, EMNRD; James, Brian, EMNRD; VonGonten, Glenn, EMNRD; Sanchez, Daniel J., EMNRD; Noel, Jim, EMNRD; Griswold, Jim, EMNRD  
**Cc:** EMNRD-OCD - SANTA FE; Perrin, Charlie, EMNRD  
**Subject:** Carlsbad Story

FYI-

## Carlsbad brine well is subsiding, expert says

By Stella Davis  
Current-Argus Staff Writer

CARLSBAD — Monitoring data for two brine wells inside the city limits indicates subsidence is occurring above the brine well cavern, a hydrologist with the state's Oil and Conservation Division said.

Jim Griswold said if the subsidence continues at the current rate, in a year's time the surface will have moved 1 to 2 inches vertically and tilted as much as 6 degrees in some areas.

In April, the OCD put Carlsbad brine operator I&W Trucking Inc. on notice for unsafe conditions that pose a serious risk to human life and property. The company has since moved its trucking operation to a new location in south Carlsbad, and has lost access to its local source for brine water.

OCD Chairman Mark Fesmire said the location of the company's former operation at 3005 S. Canal St. poses special danger in the event of a collapse. The two brine wells are located at a site between U.S. Highways 285 and 62-180 where they converge at an intersection commonly known as the South "Y".

The site is close to a Carlsbad Irrigation District canal that delivers water to farmers south of the city, a pecan orchard, a church, businesses and residences.

OCD officials said the next step will be to conduct a seismic survey to determine the size and shape of the brine well cavern at the site, and OCD will continue to work with the owners, making suggestions to them about possible solutions or remedies to stabilize the brine well they own and for which they are responsible.

Griswold told community leaders and concerned residents last week that movement of the ground, buildings, sub surface utilities and/or roadways may become visibly apparent.

OCD officials said certain aspects of the Carlsbad facility such as the shallow depth and length of time in service are similar to the two wells that collapsed last year in the north part of Eddy County; thus the Carlsbad site poses serious risk to human life and property.

"The Oil Conservation Division regulates brine wells to keep salt and other contaminate out of the ground water," Fesmire said. "We will continue working to reduce the potential threat from another brine well collapse and to protect human health and the environment."

Griswold explained that two of the 34 brine facilities in New Mexico have collapsed, which amounts to a failure rate of 6 percent.

"If you consider only shallow brine wells in New Mexico those wells with a depth to bottom of casing less than 500 feet you are looking at five facilities, including the Carlsbad facility," he said. "Two of those five have collapsed, for a failure rate of 40 percent. And if you consider only shallow brine wells that have produced a large amount of brine, you are looking at three facilities, including the Carlsbad facility. The two other shallow brine facilities with high production volume have already collapsed, for a failure rate of 67 percent."

To address the problem of the two brine wells inside the city limits, the OCD formed a brine well evaluation work group that consists of experts from the OCD, brine and oil and gas industry, national labs, the Environmental Protection Agency, the Waste Isolation Pilot Plant, the National Cave and Karst Research Institute located in Carlsbad and other organizations.

The group has met several times and has expressed concern that any brine well operation that had produced large volumes of brine from a shallow salt bed was subject to collapse and needed to be heavily scrutinized.

Joel Arnwine, Eddy County emergency manager, said his office has developed an initial incident action plan and is working with the New Mexico Highway Department and the New Mexico Department of Homeland Security and Emergency Management.

Arnwine said an early warning system has been designed to automatically contact the Eddy County Emergency Office in the event a collapse is imminent. He noted that Eddy County would be the first responders and implement its emergency response plan.

Residents, business owners and member of the agriculture community left the informational meeting last week with more questions than answers. Residents voiced concern about declining property values around the brine well site, while farmers

worried about the loss of their irrigation water if the brine wells were to collapse. The irrigation canal that delivers water to farmers south of the city is near.

Jerry Calvani, whose family pecan orchard and associated businesses are close by, said everyone who obtains water from the CID canal system is concerned about the possibility of a sinkhole occurring as a result of the brine wells collapsing.

"I would say it is a grave concern," Calvani said.

James Walterscheid, who farms in Otis, said although good information was presented at the meeting, he believes the seismic survey must be conducted to get a better handle on the problem.

"The concern I have is the salt in the brine well. What will happen if there is a collapse and the heavy salt water gets into the irrigation canal when we are running water to our fields?" he said.

Eugene and Lowell Irby, owners of I&W said they have fully cooperated with the OCD. They said they too, are concerned about public health and safety.

The Irbys said they consented to cap the wells and move I&W's operations, although it has resulted in lost revenue.

The Irby's purchased the site and wells in 1997 from B&E Trucking. They said they have been a responsible company from day one.

OCD officials have conceded that they do not know the actual size of the cavernous area created by the wells. They said the seismic survey has to be done to get a better idea of what they are facing. They also noted that in order to do that, a different method will have to be used to avoid a potential collapse at the site.

The survey is expected to be conducted in about two weeks.

Mayor Bob Forrest, who attended the meeting thanked all the agencies for their work thus far and added, "We are preparing for the worst and hoping for the best."

For more information and to read the brine well collapse evaluation report, visit the website <http://www.enmrd.state.nm.us/ocd/BrineWells.htm>.

## Jodi

Jodi McGinnis Porter  
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Energy, Minerals and Natural Resources Department (EMNRD)  
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Santa Fe, NM 87505  
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Website: [www.emnrd.state.nm.us](http://www.emnrd.state.nm.us)

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## Chavez, Carl J, EMNRD

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, October 08, 2008 3:52 PM  
**To:** 'iwcarlsbad@plateautel.net'  
**Cc:** Price, Wayne, EMNRD  
**Subject:** I & W Eugenie Well No. 1 (BW-6) Oil Conservation Division Brine Well Information Request Form Status of Submittal

Mr. Wilson

Re:

BW-6	INC	I & W	I & W EUGENIE Well # 001 BRINE - CARLSBAD	30-015-22574	N 32.38813  104.21817	W	(UL-M)17-22S-27E	Eddy
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Good afternoon. The New Mexico Oil Conservation Division (NMOCD) has yet to receive brine well information from the request form mailed to you on 8/6/2008 (via certified mail: article no. 7001 1940 0004 7923 0902).

The information is crucial to the NMOCD's EPA Underground Injection Control Program evaluation of potential public health threats from brine wells in New Mexico. Please submit the information for the above listed well by October 22, 2008.

Please contact me if you have questions. Thanks in advance for your cooperation in this matter.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")



# New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**  
Governor

Joanna Prukop  
Cabinet Secretary  
Reese Fullerton  
Deputy Cabinet Secretary

Mark Fesmire  
Division Director  
Oil Conservation Division



Certified Receipt/Return Requested:

August 01, 2008

Attention Brine Well Operator(s):

One of the permitted brine wells has experienced a total collapse and created an enormous sinkhole. The well was located approximately 17 miles SE of Artesia, NM, on State Trust Land. The operator was Jim's Water Service and the brine well permit is BW-005. OCD has enclosed a press release with photos of the event.

The magnitude of this event warrants an immediate investigation of all brine wells in the state. Therefore, please find enclosed a "BRINE WELL INFORMATION REQUEST" form to be filled out and returned to this office no later than September 05, 2008. Failure to properly fill out and return the form in a timely manner may result in OCD requesting you shut down your operations until further notice. If you have any questions please do not hesitate to call me at 505-476-3490 or E-mail [wayne.price@state.nm.us](mailto:wayne.price@state.nm.us).

Sincerely,

Wayne Price  
Environmental Bureau Chief  
Oil Conservation Division

Attachments: (2)

Cc: EMNRD Cabinet Secretary-Joanna Prukop  
OCD Director-Mark Fesmire  
NMSLO- Brian Henington SF, Jim Carr-Carlsbad  
BLM-Carlsbad Office- Dave Herrell  
Eddy Co. Emergency Management-Joel Arnwine  
NM State Police -Roswell Sgt. Les Clements  
National Cave and Karst Research Institute- Dr. George Veni  
NMOSE-John Stewart  
Solution Mining Research Institute-John Voigt

Oil Conservation Division • 1220 South St. Francis Drive

• Santa Fe, New Mexico 87505

• Phone: (505) 476-3440 • Fax (505) 476-3462 • <http://www.emnrd.state.nm.us>



## Price, Wayne, EMNRD

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**From:** Porter, Jodi, EMNRD  
**Sent:** Wednesday, July 23, 2008 5:00 PM  
**Subject:** PR-Secretary Prukop Proposes Stricter Conditions on Brine Wells State-wide  
**Attachments:** PR-OCD.Brine.Wells07.23.08.pdf



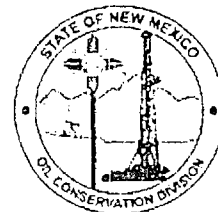
## New Mexico Energy, Minerals and Natural Resources Department

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**Bill Richardson**  
Governor

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Cabinet Secretary  
**Reese Fullerton**  
Deputy Cabinet Secretary

**Mark Fesmire**  
Division Director  
Oil Conservation Division



July 23, 2008

### NEWS RELEASE

**Contact:** Jodi McGinnis Porter,  
Public Information Officer 505.476.3226

## Energy, Minerals and Natural Resources Cabinet Secretary Joanna Prukop Proposes Stricter Conditions on Brine Wells State-wide

### Artesia brine well collapse prompts statewide review

SANTA FE, NM – Secretary Joanna Prukop has directed the Oil Conservation Division (OCD) to conduct a complete evaluation of the rules and regulations concerning brine wells, a method of creating saturated salt water used in oil and gas production. The OCD evaluation will include an internal audit and inspection of all existing brine wells in New Mexico. Secretary Prukop is considering strengthening oversight of brine wells to protect against well failures such as the recent collapse in Artesia that created a huge sinkhole and forced the closure of an Eddy County road.

"There are several brine wells in New Mexico and we must ensure that they are all properly monitored to ensure safety and stability," stated Cabinet Secretary Joanna Prukop. "We have now seen that these wells can collapse and the extensive damage such a collapse can generate."

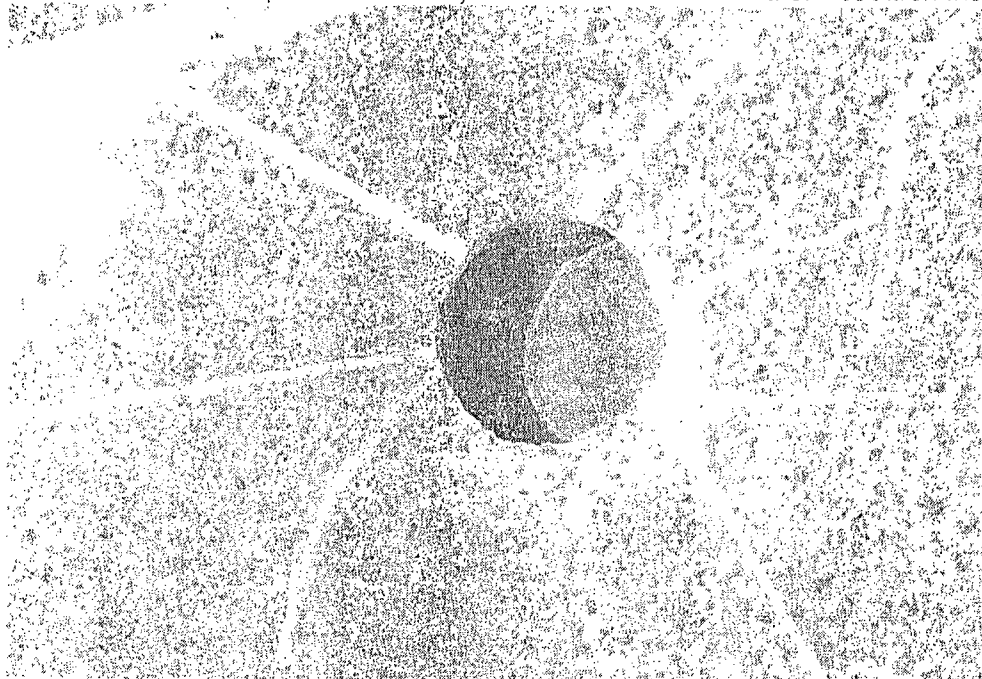
The Oil Conservation Division is continuing to monitor and investigate the collapse of the brine well, located on state trust land 17.3 miles southeast of Artesia, which is still active. The well is owned by Jim's Water Service. County Road 217 remains closed as a safety precaution, and a command center is on site. Division engineers estimate that the well is approximately 300 to 400 feet in diameter, 70 feet to the water level, and the actual depth to the bottom is unknown.

Scientists from the Oil Conservation Division, the Bureau of Land Management, State Land Office, the New Mexico

Bureau of Geology and Mineral Resources, and the National Cave & Karst Research Institute are all working together to assess horizontal and vertical movements to project any future subsidence. Work on a protective fence and keep-out signage began yesterday with completion expected on Friday.

In a related issue, the Oil Conservation Division has also been closely monitoring a brine well operated by I & W, Inc located in Carlsbad, NM. Yesterday, following ongoing inquiries from OCD the operator decided voluntarily to stop operation of the well. The division will work with I & W, Inc. to ensure that the well is properly plugged, permanently abandoned, and monitored for the long term.

Images provided on the brine well collapse are courtesy of National Cave and Karst Research Institute:



Morning, July 20, 2008 at 10:44 am.  
courtesy of National Cave and Karst Research Institute





# New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**  
Governor

**Joanna Prukop**  
Cabinet Secretary  
**Reese Fullerton**  
Deputy Cabinet Secretary

**Mark Fesmire**  
Division Director  
Oil Conservation Division



## OIL CONSERVATION DIVISION BRINE WELL INFORMATION REQUEST

### GENERAL INFORMATION:

Operator Name \_\_\_\_\_ Well Name(s) \_\_\_\_\_  
API Number \_\_\_\_\_ Brine Well Permit # \_\_\_\_\_  
Date Permit Expires? \_\_\_\_\_  
Location: Section \_\_\_\_\_ Ts \_\_\_\_\_ Rg \_\_\_\_\_  
FNL \_\_\_\_\_ FSL \_\_\_\_\_ FEL \_\_\_\_\_ FWL \_\_\_\_\_  
GPS of well(s): Lat: \_\_\_\_\_ Long: \_\_\_\_\_

Have you reviewed and understand all of your permit conditions? Yes ☐ No ☐  
Are you presently deficient of any condition in your permit? Yes ☐ No ☐ Don't know ☐  
Do you operate below grade tanks or pits at the site? Yes ☐ No ☐  
Do all tanks, including fresh water tanks, have secondary containment? Yes ☐ No ☐  
Do you think you have the expertise, knowledge and general understanding of what causes a brine well to collapse? Yes ☐ No ☐  
Do you think OCD should provide guidelines on subsidence and collapse issues? Yes ☐ No ☐

### SITING INFORMATION: *Please provide the following information and depict on 7.5 minute (1": 2000') USGS Quad Map. Limit search to one mile radius.*

Is the brine well located within a municipality or city limits? Yes ☐ No ☐

Distance and direction to nearest permanent structure, house, school, etc. if less than one mile:

Distance and direction to nearest water well if less than one mile:

Distance to nearest watercourse(s), floodplain, playa lake(s), or man-made canal(s) or pond(s) if less than one mile:

Distance and direction to nearest known karst features or mines if less than one mile:

Oil Conservation Division \* 1220 South St. Francis Drive

\* Santa Fe, New Mexico 87505

\* Phone: (505) 476-3440 \* Fax (505) 476-3462 \* <http://www.emnrd.state.nm.us>



Distance and direction to nearest producing oil or gas well(s) <i>if less than one mile:</i> Provide API Number:
Distance and direction to nearest tank battery(ies) <i>if less than one mile:</i>
Distance and direction to nearest pipeline(s), including fresh water pipelines <i>if less than one mile:</i>
Distance and direction to nearest paved or maintained road or railroad <i>if less than one mile:</i>
Depth to ground water found above the Salado (salt section), regardless of yield:
Name of aquifer(s):
<b>WELL CONSTRUCTION:</b> <i>Please provide the following information and attach a diagram depicting the brine well. Check box if attached:</i> Copy of a current well diagram: Attached <input type="checkbox"/> Copy of formation record with tops: Attached <input type="checkbox"/> Copy of geophysical well logs if available: Attached <input type="checkbox"/> If not, well logs within one mile <input type="checkbox"/>
Depth of the top of the salt below ground surface (feet):
Depth to the bottom of the salt below ground surface (feet):
Depth(s) to and thickness(es) of any anhydrite section(s) (located above the salt):
Depth of casing(s) shoe below ground surface (feet): _____ Is the casing shoe set in the anhydrite or other layer above the salt? Yes <input type="checkbox"/> No <input type="checkbox"/> Is the casing shoe set into the salt? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, how far into the salt? _____
Depth of tubing(s):
Do you suspect that your cavern has partially caved in? Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/>
<b>OPERATIONS:</b> <i>Please provide the following information.</i>
Start date of brine well operation:
Total volume of fresh water injected into the brine well to date (bbls) and how determined:

Total volume of brine water produced (bbls) to date and how determined:
Have you ever lost casing or tubing? If yes, please provide details. Document attached <input type="checkbox"/>
Do you maintain a surface pressure on your well during idle times? Yes <input type="checkbox"/> No <input type="checkbox"/>
Have you noticed large amounts of air built up during cavity pressurization? Yes <input type="checkbox"/> No <input type="checkbox"/>
Have you ever noticed fluids or air/gas bubbling up around the casing during testing or normal operations? Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>MONITORING: Please provide the following information.</b>
Are you currently monitoring ground water contamination from your brine well or system? Yes <input type="checkbox"/> No <input type="checkbox"/>
Have you ever run a sonar log? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please provide last date: _____
Provide cavern configuration (dimensions and volume) and method(s) used to estimate: If sonar report please attach <input type="checkbox"/> If other, please specify and provide a sketch of cavern: <input type="checkbox"/>
Do you have a subsidence monitoring program in place? Yes <input type="checkbox"/> No <input type="checkbox"/>
Do you have any geophysical monitoring devices, such as a seismic device positioned near your brine well? Yes <input type="checkbox"/> No <input type="checkbox"/>
Have you submitted all of your monthly, quarterly, or annual reports to the OCD? Yes <input type="checkbox"/> No <input type="checkbox"/>
Have you failed a brine well mechanical integrity test (MIT)? If yes, please attach details and results. Attached <input type="checkbox"/>
Have you ever had a casing leak? Yes <input type="checkbox"/> No <input type="checkbox"/> Have you ever had a cavern leak? Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Have you ever exceeded the cavern fracture pressure? Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Do you know how to calculate your maximum pressure? Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/>
Have you routinely looked for cracks or fissures in the ground surface around your brine well? Yes <input type="checkbox"/> No <input type="checkbox"/>
Do you have any minor or major cracks, fissures, tank settlement, line breakage from settlement or any minor subsidence. Yes <input type="checkbox"/> No <input type="checkbox"/>
During operations have you experienced any ground vibration, ground movement, or well movement after opening or shunting valves, pump start-up, shut-down, etc.? Yes <input type="checkbox"/> No <input type="checkbox"/>

Have you ever experienced unexpected pressure gain or loss in the cavern? Yes <input type="checkbox"/> No <input type="checkbox"/>
If Yes, was there a difference in your normal flow rate? Yes <input type="checkbox"/> No <input type="checkbox"/>
Anytime during the past 5 years, have you experienced a noticeable difference between fresh water volume pumped into the well verses brine water produced? Yes <input type="checkbox"/> No <input type="checkbox"/>
Are you concerned about pulling the tubing due to the fact it may be difficult to re-enter the hole? Yes <input type="checkbox"/> No <input type="checkbox"/>
Are you concerned about running a sonar tool in fear of losing tool because of debris in hole? Yes <input type="checkbox"/> No <input type="checkbox"/>
Have you ever conducted a fly over of your well site? No <input type="checkbox"/> Yes <input type="checkbox"/> if yes, please provide photo. <input type="checkbox"/> Photo(s) attached
<b>Calculation:</b> Please divide your estimated total volume of produced brine by 180,000 and multiply by 50. <b>Example:</b> If you have produced a total of 18,000,000 bbls of brine in the life time of the well then your calculation would be $18,000,000/180,000 = 100 \times 50 = 5000$ .
1. Provide the calculated number above here: _____.
2. Now provide the depth (ft) from the surface to your casing shoe: _____.
Is the calculated number found in #1 above greater than #2? Yes <input type="checkbox"/> No <input type="checkbox"/>
Comments or recommendations for OCD:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

Company Name-print name above

Company Representative- print name

Company Representative- Signature

Title \_\_\_\_\_

Date: \_\_\_\_\_

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p> <input checked="" type="checkbox"/> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  <input checked="" type="checkbox"/> Print your name and address on the reverse so that we can return the card to you.  <input checked="" type="checkbox"/> Attach this card to the back of the mailpiece, or on the front if space permits. </p>		<p>A. Signature</p> <p><b>X</b></p> <p><input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p>	
<p>1. Article Addressed to:</p> <p>Mr. Kevin Wilson P.O. Box 98 Loco Hills, NM 88255</p>		<p>B. Received by (Printed Name)</p> <p>Jackie Morgan</p>	<p>C. Date of Delivery</p> <p>08/06/03</p>
		<p> <input type="checkbox"/> Is delivery address different from item 1? <input type="checkbox"/> Yes          If YES, enter delivery address below: <input type="checkbox"/> No </p>	
		<p>3. Service Type</p> <p> <input checked="" type="checkbox"/> Certified Mail    <input type="checkbox"/> Express Mail  <input type="checkbox"/> Registered    <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Insured Mail    <input type="checkbox"/> C.O.D. </p>	
		<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>	
<p>2. Article Number</p> <p>(Transfer from service label)</p>		<p>7001 1940 0004 7923 0902</p>	
<p>PS Form 3811, August 2001      Domestic Return Receipt      102595-01-M-2509</p>			



## Chavez, Carl J, EMNRD

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**From:** Shallon Finkbone [shallon@iandwinc.com]  
**Sent:** Tuesday, December 23, 2008 10:43 AM  
**To:** Price, Wayne, EMNRD; Chavez, Carl J, EMNRD  
**Subject:** FW:  
**Attachments:** kevinocdstuff.tif

Mr. Wilson was concerned that you did not receive these back in October when we had originally sent them to you. Please let us know if you are having any problems opening the attachment.

Merry Christmas to you and your families.

Thank you

---

**From:** Shallon Finkbone [mailto:shallon@iandwinc.com]  
**Sent:** Friday, October 31, 2008 9:28 AM  
**To:** 'wayne.price@state.nm.us'; 'carlj.chavez@state.nm.us'  
**Subject:**

I was asked by Mr. Kevin Wilson with I&W Inc. to send this to you. If you have any replies please send them to [iwcarlsbad@plateautel.net](mailto:iwcarlsbad@plateautel.net).

Thank you

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Submit 3 Copies To Appropriate District Office  
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1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
June 19, 2008

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. <b>30-015-22574</b>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name <b>Eugenie</b>
8. Well Number <b>1</b>
9. OGRID Number
10. Pool name or Wildcat

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other **BRINE Supply**

2. Name of Operator  
**I+W INC.**

3. Address of Operator  
**P.O. Box 1685, Carlsbad NM 88220**

4. Well Location  
Unit Letter **M** : **995** feet from the **South** line and **641** feet from the **West** line  
Section **17** Township **22S** Range **27E** NMPM County **Eddy**

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
**3126 GL**

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL. <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

**Pulled all tubing out of well. RAN CIBP IN 7" CASING AND Set At 456'. Circulated cement to surface. Installed DRY hole marker to complete operation.**

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE **Kevin Wilson** TITLE **Operations Manager** DATE **10/31/08**  
Type or print name **Kevin Wilson** E-mail address: \_\_\_\_\_  
For State Use Only  
APPROVED BY: **[Signature]** TITLE **EPC** DATE **1/8/09**  
Conditions of Approval (if any): \_\_\_\_\_  
office  
PHONE: **575-885-6663**  
cell **575-703-2041**

3710 S. FM 303 (808) 228-2087  
Sundown, TX 79372

# KENICO

## ON TOOLS

410 East Main (505) 748-1372  
Artesia, NM 88210-2173

Date 10/01/2008

Company I&W Inc. Company Man Kevin

Well Name Eugenie No.1 Csg. Size & Wt. 7"

Job Description Set 7" C.I.B.P. at 456.0' with 14 joints.

Directions Go to carlsbad then turn towards loving to I&W yard to location.

Tool Type No. 1	7" setting tool	Length of Tools	4.11"	% Tool
Tool Type No. 2		KB		X/O
Tool Type No. 3		KBC		Tbg. Grade
Tool Type No. 4		SN		Tbg. Size

Services	Description	Cost	Jts. On Loc.	17
Service Man	10/1/2008	\$ 550.00	Jts. In	14
Mileage \$1.25/m	70 Miles r/t	\$ 87.50	Tailpipe	
RENTAL	7" setting tool	\$ 400.00	Jts. Out	3
RENTAL			Average	
SALE	Bucket of thread dope	\$ 55.00	Subs	
sale	7" C.I.B.P.	\$ 1,670.00	Tbg. Tally	
			[1] jt bellow pkr	
			% Tool	
			Top Pkr.	
			Btm Pkr.	456.0'
			BOTT. OF	
			landing nippt	
	Sub Total	\$ 2,762.50		
	7.0625% Tax	\$ 195.10		
	Total	\$ 2,957.60		

Comments	Old Perfs	
	New Perfs	0
		0
Billing Invoice #		
Serviceman Jerry Knapp	TD	0
Company Rep.		
	PBTD	0
Sign		
AFE #	DV/T	0

Submit 3 Copies To Appropriate District  
Office

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103

May 27, 2004

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-015-22574

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

Eugenie

8. Well Number 1

9. OGRID Number

10. Pool name or Wildcat

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A  
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH  
PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other Brine Supply

2. Name of Operator

I & W, Inc

3. Address of Operator

P.O. Box 1685, Carlsbad, NM 88220

4. Well Location

Unit Letter M : 995 feet from the South line and 641 feet from the West line

Section Township Range NMPM County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

3126 GL

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type: Depth to Groundwater Distance from nearest fresh water well Distance from nearest surface water

Pit Liner Thickness: mil Below-Grade Tank: Volume bbls; Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☒

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ - P AND A ☐

CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Will set CIBP at base of casing 7" casing 456' circulate cement from CIBP to surface with approximately 80 sxs Class C 2% CaCl 1.32 CuFt per sack. This plan verbally approved by Wayne Price OCD District IV, Santa Fe.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed/maintained according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE

TITLE Geologist/Agent for I & W DATE 07/24/2008

Type or print name Randall L. Harris

E-mail address: rharrisnm@aol.com Telephone No. 575.365.7747

For State Use Only

APPROVED BY:

TITLE

DATE

Accepted for record  
NMOCD

**C-103 Eugenie Well No. 1 (BW-6)**  
**Conditions of Approval**

- 1) Cement must be circulated back to surface under adequate pressure.**
- 2) A plug and abandonment marker shall be set.**
- 3) Final C-103 Form shall be submitted within 30 days of plug and abandonment with specific details.**

**Chavez, Carl J, EMNRD**

---

**From:** Price, Wayne, EMNRD  
**Sent:** Friday, October 31, 2008 10:06 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** FW:  
**Attachments:** kevinocdstuff.tif

---

**From:** Shallon Finkbone [mailto:shallon@iandwinc.com]  
**Sent:** Friday, October 31, 2008 9:28 AM  
**To:** Price, Wayne, EMNRD; Chavez, Carl J, EMNRD  
**Subject:**

I was asked by Mr. Kevin Wilson with I&W Inc. to send this to you. If you have any replies please send them to [iwcarlsbad@plateautel.net](mailto:iwcarlsbad@plateautel.net).

Thank you

---

This inbound email has been scanned by the MessageLabs Email Security System.

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Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
June 19, 2008

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. <b>30-015-22574</b>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name <b>Eugenie</b>
8. Well Number <b>1</b>
9. OGRID Number
10. Pool name or Wildcat

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <b>BRINE Supply</b>
2. Name of Operator <b>I+W INC.</b>
3. Address of Operator <b>P.O. Box 1685, Carlsbad NM 88220</b>
4. Well Location Unit Letter <b>M</b> : <b>995</b> feet from the <b>South</b> line and <b>641</b> feet from the <b>West</b> line Section <b>17</b> Township <b>22S</b> Range <b>27E</b> NMPM County <b>Eddy</b>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) <b>3126 GL</b>

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL. <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

**Pulled all tubing out of well. RAN CIBP IN 7" CASING AND Set at 456'. Circulated cement to surface. Installed dry hole marker to complete operation.**

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE **Kevin Wilson** TITLE **Operations Manager** DATE **10/31/08**  
Type or print name **Kevin Wilson** E-mail address: \_\_\_\_\_  
For State Use Only  
PHONE: **office 575-885-6663**  
**cell 575-703-2041**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
Conditions of Approval (if any): \_\_\_\_\_

# CEMENT JOB REPORT



CUSTOMER I & W Inc		DATE 01-OCT-08		F.R. # 526110219		SERV. SUPV. JUSTIN L CARTWRIGHT	
LEASE & WELL NAME		LOCATION		COUNTY-PARISH-BLOCK			
EUGINE #1				Eddy New Mexico			
DISTRICT		DRILLING CONTRACTOR RIG #		TYPE OF JOB			
Artesia		PULLING UNIT		Plug & Abandon			

SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE		PHYSICAL SLURRY PROPERTIES						
				SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT <sup>3</sup>	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
MATERIALS FURNISHED BY BJ										
C+2%CACL2				95	14.8	1.34	6.34		22	13.92
Available Mix Water 130 Bbl.		Available Displ. Fluid 130 Bbl.		TOTAL					22	13.92

HOLE				TBG-CSG-D.P.				COLLAR DEPTHS			
SIZE	% EXCESS	DEPTH		SIZE	WGT.	TYPE	DEPTH	GRADE	SHOE	FLOAT	STAGE
7		456		2.875	6.48	TBG	456	J-55			

LAST CASING				PKR-CMT RET-BR PL-LINER		PERF. DEPTH		TOP CONN		WELL FLUID	
SIZE	WGT.	TYPE	DEPTH	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.
				NO PACKER	0			2.875	11V	FRESH WATER	8.34

DISPL. VOLUME		DISPL. FLUID		CAL. PSI		CAL. MAX PSI		OP. MAX		MAX TBG PSI		MAX CSG PSI		MX WATER	
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI		RATED	Operator	RATED	Operator				
0	BBLs			0	0	0		3300	2640	0	0			0	TRANSPORT

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING: NONE

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES	3300 PSI
04:30						CIRCULATING WELL - RIG BJ	
05:00						YARD TIME	
06:00						DEPART FOR LOCTION	
06:15						ARRIVE ON LOCTION	
10:30						SPOT TRUCKS ON LOCTION	
11:04	3300	0	1	1	H2O	SAFETYE MEETING	
11:07	124	0	2	2	H2O	LINE TEST	
11:09	175	0	2	3	CMT	FRESH WATER SPACER	
11:11	0	0	0	0		FRIST PLUG @14.8	
11:15	175	0	2	3	CMT	SHUT DOWN	
11:17						SECOND PLUG @14.8	
11:22	124	0	2	3	CMT	SHUT DOWN	
11:23	0	0	0	0		THRID PLUG @14.8	
11:27	124	0	2	3	CMT	SHUT DOWN	
11:29		0	0	0		FOUR PLUG @14.8	
11:33	100	0	2	3	CMT	SHUT DOWN	
11:36						CMT TO SURFACE	
						SHUT DOWN	
						THANK YOU JUSTIN AND CREW	
						CIRCULATED TO PIT SKS4	

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:
Y N		Y N	1	17	0	Y N	



3710 S. FM 303 (806) 229-2087  
Sundown, TX 79372

# KENICO

## OIL TOOLS

410 East Main (505) 748-1372  
Artesia, NM 88210-2173

Date 10/01/2008

Company I&W Inc. Company Man Kevin

Well Name Eugenie No.1 Csg. Size & Wt. 7"

Job Description Set 7" C.I.B.P. at 456.0' with 14 joints.

Directions Go to carlsbad then turn towards loving to I&W yard to location.

Tool Type No. 1	7" setting tool	Length of Tools	4.11"	% Tool
Tool Type No. 2		KB		X/O
Tool Type No. 3		KBC		Tbg. Grade
Tool Type No. 4		SN		Tbg. Size

Services	Description	Cost		
Service Man	10/1/2008	\$ 550.00	Jts. On Loc.	17
Mileage \$1.25/m	70 Miles r/t	\$ 87.50	Jts. In	14
RENTAL	7" setting tool	\$ 400.00	Tailpipe	
RENTAL			Jts. Out	3
SALE	Bucket of thread dope	\$ 55.00	Average	
sale	7" C.I.B.P.	\$ 1,670.00	Subs	
			Tbg. Tally	
			[1] jt bellow pkr	
			% Tool	
			Top Pkr.	
			Btm Pkr.	456.0'
			BOTT. OF	
			landing nipple	
		Sub Total	\$ 2,762.50	
		7.0625% Tax	\$ 195.10	
		Total	\$ 2,957.60	

Comments		
	Old Perfs	
	New Perfs	0
		0
Billing Invoice #		
Serviceman Jerry Knapp	TD	0
Company Rep.		
	PBTD	0
Sign		
AFE #	DV/T	0

**Chavez, Carl J, EMNRD**

---

**From:** Price, Wayne, EMNRD  
**Sent:** Monday, November 17, 2008 4:38 PM  
**To:** Price, Wayne, EMNRD; VonGonten, Glenn, EMNRD; 'iwcarlsbad@plateautel.net'  
**Cc:** Chavez, Carl J, EMNRD; Sanchez, Daniel J., EMNRD  
**Subject:** RE: Contingency Plan for BW006

In addition, it appears your plan is reactionary, which is good, but you should anticipate other scenarios, such as the canal, highway, power lines, flooding, etc. I would recommend your hire a safety consultant to put together a plan that is reactionary and anticipates planned events. Are you concerned about your employees on site with heavy truck traffic over the wells?

---

**From:** Price, Wayne, EMNRD  
**Sent:** Monday, November 17, 2008 4:29 PM  
**To:** VonGonten, Glenn, EMNRD; 'iwcarlsbad@plateautel.net'  
**Cc:** Chavez, Carl J, EMNRD; Sanchez, Daniel J., EMNRD  
**Subject:** RE: Contingency Plan for BW006

Dear Kevin, about a week ago I E-mailed you to indicate that your plan may be deficient. I did not hear back from you. Let me know if you get this E-mail.

I did not see the Carlsbad Irrigation District on your list, did I miss that. What I want you to do is get an aerial photo, maybe from Google and draw a worst case scenario around your facility and supply us with it. Also, when we were there last we saw a lot of water over the site and some problems with containment. Please make sure those items are corrected before our next inspection. You should provide a plan to keep water off of the site, especially over the well cavity.

---

**From:** VonGonten, Glenn, EMNRD  
**Sent:** Tuesday, November 04, 2008 1:20 PM  
**To:** iwcarlsbad@plateautel.net  
**Cc:** Price, Wayne, EMNRD; Chavez, Carl J, EMNRD; Sanchez, Daniel J., EMNRD  
**Subject:** Contingency Plan for BW006

Lisa Rice, Kevin Wilson:

As we discussed, OCD is requiring I & W to submit a contingency plan for its brine well in Carlsbad by close of business on Friday, November 7, 2008 to both the Eddy County Emergency Management Service and to OCD. The contingency plan should include the following:

- 1) Contact list with phone numbers and email addresses for all organizations that I & W would need to contact if it were to detect subsidence or collapse at its brine well, including the Eddy County EMS, State Police, Carlsbad Police and Fire Departments, OCD District II office in Artesia and OCD Santa Fe office, etc.
- 2) Daily surveillance plan, including a log, that records I & W's daily inspections of the brine well and vicinity.
- 3) Weekly monitoring plan, including a log, that records I & W's weekly survey of its survey points.
- 4) Action plan for decommission the brine well by disconnecting all power, plumbing, and supply and production pipelines, etc. so that if a collapse occurs, the damage to surrounding infrastructure is minimized.

The intent of these additional requirements is so that if a collapse occurs, I & W will already have gone the process of preparing lists for contacting the appropriate organizations and plans for monitoring the brine well.

If you have any questions, please contact me - Wayne Price and Carl Chavez will be out of the office for several days.

*Glenn von Gonten  
Senior Hydrologist  
Environmental Bureau  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505  
505-476-3488  
fax -476-3462  
glenn.vongonten@state.nm.us*

**Chavez, Carl J, EMNRD**

---

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*Glenn von Gonten  
Senior Hydrologist  
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1000 Rio Brazos Rd., Aztec, NM 87410

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CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-015-22574

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

Eugenie

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9. OGRID Number

10. Pool name or Wildcat

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(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

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2. Name of Operator

I & W, Inc

AUG - 6 2008

3. Address of Operator

P.O. Box 1685, Carlsbad, NM 88220

OCD-ARTESIA

4. Well Location

Unit Letter M : 995 feet from the South line and 641 feet from the West line

Section Township Range NMPM County

1i. Elevation (Show whether DR, RKB, RT, GR, etc.)

3126 GL

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type Depth to Groundwater Distance from nearest fresh water well Distance from nearest surface water

Pit Liner Thickness: mil Below-Grade Tank: Volume bbls; Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☒

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ P AND A ☐

CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

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I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed in/used according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE TITLE Geologist/Agent for I & W DATE 07/24/2008

Type or print name Randall L Harris

E-mail address: rharrisnm@aol.com Telephone No. 575.365.7747

For State Use Only  
APPROVED BY:

TITLE

ERC 9/29/08

DATE

8/6/08

Accepted for record  
NMOCD

**C-103 Eugenie Well No. 1 (BW-6)**  
**Conditions of Approval**

- 1) Cement must be circulated back to surface under adequate pressure.**
- 2) A plug and abandonment marker shall be set.**
- 3) Final C-103 Form shall be submitted within 30 days of plug and abandonment with specific details.**



P.O. BOX 98  
LOCO HILLS, NEW MEXICO 88255

Carl J. Chavez, CHMM  
Oil Conservation Division, Environmental Bureau  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

December 11, 2007

Re: Eugenie #1 Brine Well  
Subsidence Monitoring System

Attn: Mr. Carl J Chavez

In regards to our conversation Tuesday, 12/11/07 concerning I & W's progress on the subsidence monitoring of the Eugenie #1 Brine well. I & W has been in contact with The Dan R. Reddy Consulting and Engineering firm. We decided after visiting with this firm to wait for the completion of the cavern survey, so we would have a better idea of what monitoring points to use. The cavern survey was completed the 1<sup>st</sup> of September.

I & W's yard surrounding the brine well is in much need of repair due to all the rain in the last year. We finally received the fill material & are awaiting the road grader to level our yard. The fill material was very difficult to obtain, as there is only one place in production of this and they have been down.

However, we will be setting the monitoring points in the ground within the next few weeks. Before setting them we will contact you with our plan so you can review it before we get started. Thank you for all your help and information regarding this matter and we will be in contact with you soon. If you have any questions or need additional information, please contact me at (575)885-6663.

Sincerely,

A handwritten signature in cursive script that reads 'Kevin Wilson'.

Kevin Wilson  
Operations Manager

ARTESIA  
(505) 746-4214  
1 (800) 748-1972

CARLSBAD  
(505) 885-6663  
1 (800) 858-2739

LOCO HILLS  
(505) 677-2111  
1 (800) 748-1972