dugan production corp.

30-045-05598

April 22, 2003

Ms. Lori Wrotenbery, Director
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: West Bisti Unit #157 – Injection Well

Dear Ms. Wrotenbery,

We have received Administrative Order No. WFX-789 granting permission to convert the West Bisti Unit #157 to water injection. The order stipulates we perforate the 7" casing @ 4004' and circulate cement back to surface prior to running and cementing a 4-1/2" liner. We plan to run the 4-1/2" liner, but ask that the requirement to circulate cement behind the 7" casing be waived.

This well was drilled in 1956, and almost certainly the formation has sloughed in around the casing making it impossible to circulate, particularly over 4000'. It is also possible we would burst the 49 year old casing while trying to circulate cement. We would not have proposed running a 4-1/2" liner if we thought we could circulate cement behind the 7".

We assume the concern that prompted the requirement to cement the 7" back to surface is not being able to perforate through two strings of casing when the well is permanently plugged and abandoned. A copy of our planned perforating system is enclosed showing over 20" of total target penetration and over 18" of formation penetration with the casing and formation configuration we have in this well.

Our application to convert the West Bisti Unit #127 to injection was approved in 2001 under Administrative Order No. PMX-206. This well had a 3-1/2" liner run inside 5-1/2" casing and we were not required to attempt cementing the 5-1/2" casing back to surface. We realize this is smaller diameter pipe, but feel the perforation data presented clearly shows we can perforate through the 4-1/2" and 7" casings.

In summary, we feel we can properly plug and abandon this well by shooting through two strings of pipe and that it is extremely unlikely cement can be circulated behind the 7" casing.

If you need additional information, or have questions please contact me at (505)325-1821.

Sincerely,

Hank Baca
Petroleum Engineer

cc: OCD - Aztec

709 E. MURRAY DR. • P. O. BOX 420 • FARMINGTON, N.M. 87499-0420 • PHONE: (505) 325-1821 • FAX# (505) 327-4613

Engineered Perforator Analysis
EPA
Performance Report

Owen
A CORE LABORATORIES COMPANY

Owen
A CORE LABORATORIES COMPANY

Company: Blue Jet, Inc. **Engineer:** Danny L. Seip

GENERAL INFORMATION

Well:	Unknown	**Field:**	Unknown
Depth to Top Shot:	2000.0000 (ft)	**Borehole Dia:**	9.6250 (in)
Fluid Weight:	8.3380 (ppg)	**Fluid Description:**	Fresh Water
Casing Position:	Eccentered	**Gun Position:**	Eccentered
# of Strings:	2	**Prepared By:**	Unknown
Formation:	Consolidated Sandstone (CSS) .. (17-23% Por) .. (5-11K Cs) .. (2500.0000 psi)		
Special Notes:	If Preferred Explosive differs from Explosive Type please specify!		

GUN SYSTEM

System	3 1/8" HSC - 4 SPF 120 DEG., 12 GM. D.P.					
Gun Type:	Hollow Steel Carrier					
Gun Size (in)	**Spf**	**Phase**	**Charge Type**	**Charge Gram Wt**	**Charge PN**	**Explosive Type**
3.1250	4	S/120/120	DP	12.0000	HSC-3125-306	RDX
Recommended Detonating Cord:	80 ROUND					**RDX**

CHARGE DATA

API Test Ed	API Sec 1 Concrete Penetration (in)	API Sec 1 Concrete Strength (psi)	Mild Steel Penetration (in)	Mild Steel Hole (in)
5	21.1900	6911.0000	5.9300	0.3200

TUBULAR DATA

Casing #	Size (in)	Weight (lb/ft)	Grade	Sheath Mat	Fluid Weight (ppg)	Cem Str (psi)
1	7.0000	23.0000	J-55	Fluid		
2	4.5000	10.5000	J-55	Fluid		

Results apply to Owen systems only. Do not substitute components.

*The results in this report are based on the **Method of Equivalents** (E.A. Colle, K.D. Honeycutt), which uses both observed and calculated data. The results are provided **"as is"** and without warranty of any kind, expressed, or implied.*

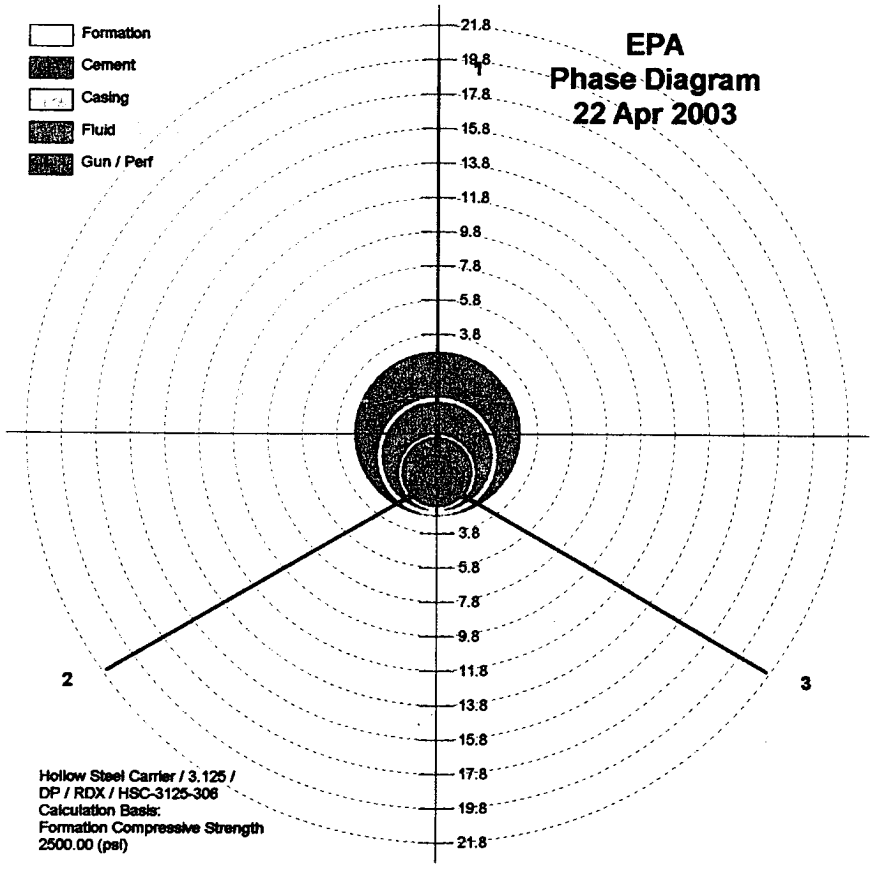
Owen Oil Tools
PO Box 40666
Fort Worth, TX 76140
Phone: 1-817-551-0540
Fax: 1-817-551-0795
Email: epa@corelab.com

22 April, 2003
Reference:
Print: 0021

Owen
A CORE LABORATORIES COMPANY

Engineered Perforator Analysis
EPA
Performance Report

Owen
A CORE LABORATORIES COMPANY



		Entrance Hole Size (in)			Penetration (in)	
Pos	Clearance (in)	Casing #1	Casing #2	Casing #3	Formation Penetration	Total Target Penetration
1	0.9270	0.3402	0.1746	0.0000	17.0679	22.0999
2	0.1916	0.3534	0.2277	0.0000	19.2337	20.3270
3	0.1916	0.3534	0.2277	0.0000	19.2337	20.3270
AVG	**0.4367**	**0.3490**	**0.2100**	**0.0000**	**18.5118**	**20.9180**

Results apply to Owen systems only. Do not substitute components.

*The results in this report are based on the **Method of Equivalents** (E.A. Colle, K.D. Honeycutt), which uses both observed and calculated data. The results are provided **"as is"** and without warranty of any kind, expressed, or implied.*

Owen Oil Tools
PO Box 40666
Fort Worth, TX 76140
Phone: 1-817-551-0540
Fax: 1-817-551-0795
Email: epa@corelab.com

22 April, 2003
Reference:
Print: 0021