# RECEIVED

Form 3160-5 (April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR MAN-HUBBE BUREAU OF LAND MANAGEMENT

# 5. Lease Serial No.

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to the WELLS	871184
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160 - 3 (APD) for such proposals.	6. If Indian, Allottee or Tribe Name
SUBMIT IN TRIPLICATE- Other instructions on reverse side.	NA
1. Type of Well Co.	7. If Unit or CA/Agreement, Name and/or No.
Z Other	8. Well Name and No.
2. Name of Operator	F. a 'ca Coc DI
Targa Midstream Services LP  3a Address 1000 Louisiana, Suite 4300   3b Phone No. (include area code)	Eunice Gas Plant SWD # 1
	30-025-21497
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)	10. Field and Pool, or Exploratory Area
2580' FSL and 1200' FWL in Lea County	San Andres 11. County or Parish, State
h-29.225-37e	,
12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE,	REPORT OF CHIEF
TYPE OF SUBMISSION TYPE OF ACTION	REPORT, OR OTHER DATA
Acidize	The state of the s
Aller Casing	Start/Resume) Water Shut-Off
Subsequent Report Casing Repair	Well Integrity
Change Plane	Other Convert to
Convert to Injection Plug Back Water Diagram	Abandon acid gas injection
13. Describe Proposed or Completed Operation (Alaska	
If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and following completion of the involved operations. If the operation results in a multiple completion or recompletion testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclassing has been completed. Final abandonment Notices shall be filed only after all requirements, including reclassing has been completed. Final abandonment Notices shall be filed only after all requirements, including reclassing has been approved by the OCD - Case # 1457:  Work on this well O4-01-2011 and Should comp  Please find attacked a copy of our bond - RLB.  Copy of our prognosis.	in a new interval, a Form 3160-4 shall be filed once mation, have been completed, and the operator has a zone. It will be on to dispose of gas productive of oil and gas.  The work by UM-15-2011.
14. Thereby certify that the foregoing is true and correct Name (Printed/Typed)	K-12809-C
Denise Jones	0 1 5
Signature (1)	Analyst
Tue space 5-11	
TH'S SPACE FOR FEDERAL OR STATE OFFICE	MAETOTED FOR BEAGE
Approved by	CUEPHED FOR RECORDI
onditions of approval, if any, are attached. Approval of this notice does not warrant or	Date
Torrice 1	MAR a see
Ille X I S C Soution 1001 1 75 1 10	MAN Y 5 2011
lates any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.  (Instructions on page 2)	make to any department or agency of the United
7 1 1	DIDEAU OF LAND MANAGEMENT
103/29/11	BUREAU OF LAND MANAGEMENT CARLSBAD FIELD OFFICE



P.O. Box 272 Midland, Texas 79702 Off: 432-620-9181 Fax: 432-570-0102

# Emergency Sheet

Well:

Eunice Gas Plant SWD Well No. 1

Location:

2580' FSL 1200' FWL of Section 27, T22S, R37E,

Lea County, New Mexico

**Operator:** 

Targa Midstream Services, LP

TD:

4,850'

#### **Drilling Contractor:**

Lat. 32.362642" N / Long 103.155547" W

Sheriff and EMS Lea Co.

(575)396-3611

Lea Co. Hospital (Hobbs)

(575)396-8521

MedTrans Care Star Helicopter

(888) 624-3571

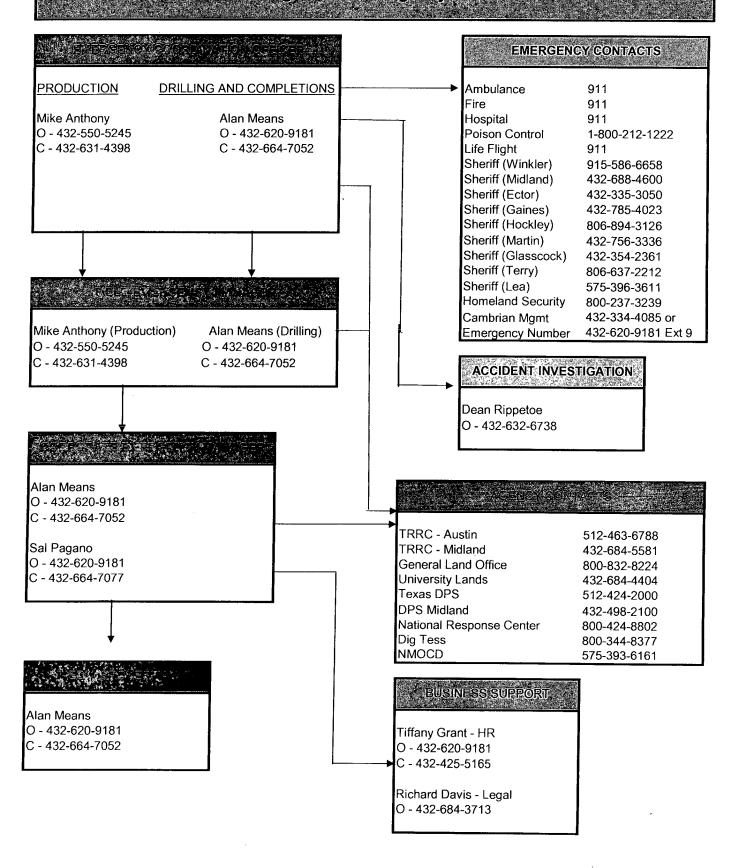
#### Directions to the Eunice Gas Plant SWD Well No. 1

From Eunice, NM go south on Loop 207 approximately 5 miles. Turn into Targa South Plant. Well is within plant facility.

**Cambrian Management (Operations)** 

		Office	Cell
Alan Means	Project Manager	(432) 620-9181	(432) 664-7052
Joe Goodrich	Wellsite Consultant		(575) 746 7082

# Cambrian Management - Emergency Notification Chart





P.O. Box 272 Midland, Texas 79702

Off: 432-620-9181 Fax: 432-570-0102

# Eunice Gas Plant SWD Well No. 1 Drilling Program Contact List

Company	Contact	Description	Contact No.	
Cambrian Management				
	Alan Means ameans@cambria	Project Manager anmgmt.com	(432) 664-7052 (432) 620-9181 (432) 570-0102	Office
Targa	Jim Lingnau		(575) 631-7095	
Geolex Geolex	Alberto Gutierrez David Lescinsky	Hydrology Consultant Hydrology Consultant	(505)-259-4283 (505)-918-7320 (505)-842-8000	Cell
EWC	Joe Goodrich	Wellsite Supervisor	(575) 746-7082	Cell
Key Energy Services		Drilling Rig - 115 Pusher Pusher		
Ellison Fluid Calipers		Fluid Caliper	(432)-634-0500	
Closed Loop Specialty		Closed Loop Pit System	(432)-296-0513	
Halliburton		Cementers	(800)-416-6081	Office
Catalyst	Heidi	Corrosion Chemicals	(432)-664-8776	
Targa	Jim Lingnau	Casing/Tubing	(505) 631-7095	
T3 Energy Services	Tommy Miller	Wellheads/Supplies	(432)381-2354	Office
NMOCD		Spud/Cementing Notices	(575)393-6161	
NOV		Mud	(575)392-4932	Cell
Knight Oil Tools		Rental Tools	(432) 684-8282	
Weatherford		Float Equipment	(575) 391-9811	Office
		Bits		
Halliburton		Packer	(800) 844-8451	
Halliburton		SSSV	(800) 844-8451	

## Eunice Gas Plant #1

	Location:	
Footage:	2500 FSL & 1200 FWL	
Section:	27	
Survey:	T22S R37E	
County:	Lea	
Elevations:		
GR:	3345	
TD:	4550	
PBTD:		

History	
History	
	Spud
	Completion
	Re-completion
1/1/1961	Well drilled and completed
	Tubing and packer ran into well as disposal
?	string.
	Metal in returns at 3985' to 4005' during
	workover. Returned to SWD w/ packer at
1/1/1978	3865'.
	Blew hole in 7" during compliance test. Details
	sketchy but casing was perforated at 550'.
	Unable to pump in. Perforated at 300'. Unable
1/1/1991	to pump in. Perforated at 100'. Hallib cmtd.
1/1/1995	Possible Workover. No records.
1/1/1995	Set CIBP @ 3925' & dump 20' cement on it.
	Dowell squeezed down 7" w/ 400 sxs + ? sxs
	(2 Jobs). Drilled cement from 291' to 355'.
	Repaired 10 3/4 & 7" @ 4' from GL. Drilled out
	cement and CIBP. Unable to c/o below 4430'.
4/1/1007	Pkr @ 3847'.
4/1/1997 1/1/99	Pkr found unset during w/o. No records.
1/1/99	Last time we pulled?
1/1/2000	Last time we pulled?
	· <del></del>
	Tubing Detail (top to bottom)
Joints	Description
125	3 1/2" IPC tbg
_1	X-over
1	Halliburton R-4 packer @ 3814
	Rod Tally
Joints	Description
	<u> </u>
	<del> </del>
ital	<del> </del>
nai	<u> </u>

			API No:	30-025-214
		Hole Size: Surf csg Set @ Cement w/ Circ:	15 10 3/4 300 300 sxs Surface	
X		Hole Size: Inter. csg Set @ Cement w/ Circ:	8 3/4 7" 20# 4010 1750 sxs Surface	
	OH fro	m 4010'-4550'		
Ь				

TD

4550

#### Eunice Gas Plant #1

	Location:	
Footage:	2500 FSL & 1200 FWL	
Section:	27	
Survey:	T22S R37E	
County:	Lea	
Elevations:		
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TD:	4550	
PBTD:		

L	
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1/1/19/0	3003.
	St. 1 1 2 70 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
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4/1/1997	Pkr @ 3847'.
1/1/99	Pkr found unset during w/o. No records.
1/1/2000	Last time we pulled?
	Tubing Detail (top to bottom)
Joints	Description
	2 7/8 FG lined tbg
	Halliburton SSSV
	2 7/8 FG lined tbg
	Halliburton pkr @ 4200
	Rod Tally
lointe	
Joints	Description
	1
	-+

	Hole Size: Surf csg Set @ Cement w/ Circ:	API No: 15 10 3/4 300 300 sxs Surface	30-025-21497
	Hole Size: Inter. csg Set @ Cement w/ Circ:	8 3/4 7" 20# 4010 1750 sxs Surface	- - - - -
Stage tool	Hole Size: 'Prod. Csg	6 1/4 5 1/2" 17# J-55	-
5 1/2" alloy	Set @ Cement w/ Circ: Stage tool @ csg @ 4187'-		-
OH from 42	250-4850		



P.O. Box 272 Midland, Texas 79702 Off: 432-620-9181 Fax: 432-570-0102

Well:

Eunice Gas Plant SWD Well No. 1

Location:

2580' FSL & 1200' FWL, Section 27, T22S, R37E, Lea County, New Mexico

Elevation:

3345' GL

AFE No.:

Permit No.:

API No.:

30-025-21497

**Operator:** 

Targa Midstream Services, LP

TD:

4850'

Drilling Contractor: Key Energy Services Rig No. 115 KB:

**Directions to the Eunice Gas Plant SWD Well No. 1:** From Eunice, New Mexico go south on Loop 207 approximately 5 miles. Turn into Targa South Plant. Well is within plant facility.

# RE-ENTRY & DRILLING PROGNOSIS (Steps 1-8 have been completed) E-mail reports by 7AM (Midland Time) to reports@cambrianmgmt.com

- 1. MI&RU Pulling unit.
- 2. NU BOP, set pipe racks and catwalk.
- 3. Unseat Halliburton R-4 packer and POH LD 3 ½" tbg. Move tubing to edge of location.
- 4. RU wireline company. Run GR and junk basket to 3800'. Set CIBP @ 3800'.
- 5. Load hole with clean water.
- 6. ND BOP's. RDMO pulling unit.
- 7. Remove old wellhead. Prep to install new wellhead equipment.
- 8. Install new T3 Energy wellhead equipment. Test same.
- 9. NU and test BOP's with 250/3000 psi test.
- 10. Install cellar. Repair location for Key 24 hr rig.

- 11. MI & RU Key Rig No. 115 & closed loop pit system.
  - Notify OCD of intent to spud well.
- 12. PU 6 1/4" bit, 4 3/4" DC's on 2 7/8" DP. TIH to CIBP @ 3800'.
- 13. Drill out CIBP.
- 14. TIH with bit to original TD of 4550'.
  - Mud up as necessary.
  - Circulate clean.
- 15. Drill new 6 ¼" hole to 4850' utilizing closed loop system.
- 16. Circulate hole clean to run open hole logs.
- 17. Strap out of hole to run logs.
- 18. RU Loggers and run open hole logs
  - Sidewall cores to be taken. Geolex will pick depths.
  - Adjust cement volumes based on caliper log.
- 19. TIH w/ bit and condition to run casing.
- 20. Circulate hole clean. Spot clean water from TD back to bottom of 7" casing.
- 21. TOH with bit. LDDC's.
- 22. TIH open ended with DP to bottom of casing.
- 23. Spot sand on bottom to PB to 4250'.
- 24. PUH to 3500' & wait for sand to settle out.
- 25. TIH & tag sand. Respot as necessary.
- 26. POH. LD DP.
- 27. Change BOP rams to 5 ½".
- 28. Run casing as below.
  - Notify OCD of upcoming cement job.

1.5'	Float Shoe
40'	1 jt. 5 ½" 17# J-55 SJ-2 casing
1.5'	Float collar
20'	5 ½" 17# alloy SJ-2 casing
237'	5 ½" 17# J-55 SJ-2 casing
1.5'	5 ½" LTC x 5 ½" SJ-2 crossover
5'	5 ½" Weatherford stage tool
3945'	5 ½" 17# J-55 LTC (turned down couplings) casing.

Install centralizers at 10' above shoe, middle of alloy casing, 5 on the steel casing above alloy in open hole, and 2 on casing just inside of 7" casing.

- ➤ Limit running speed to 1200 fph. Use cementing swedge to fill casing. KEEP PIPE MOVING IN THE OPEN HOLE EVEN WHILE FILLING UP CASING.
- ➤ Make sure cementing company has proper swedge for casing. (Need 5 ½" LTC and 5 ½" SJ-2 swedges)
- ➤ Limit pipe tension at surface to 75,000 lbs. (Pipe Tension = Weight Indicator Traveling block/hook weight). Air weight of casing = 72,250 lbs. Do not exceed without discussing with engineer.
- Use thread lock on casing shoe and on pin end of 2<sup>nd</sup> and 3<sup>rd</sup> joints.
- > Use Best-O-Life 2000 pipe dope
- 29. Circulate 1.5 casing volumes. Mix and pump 1<sup>st</sup> stage cement per attached 2 stage cementing proposal. **Do not reciprocate casing.** Catch wet and dry surface samples of all slurries. Drop wiper plug. Flush cement lines.
- 30. Monitor returns throughout the job. Note estimated percentage of returns on the morning reports. Reduce displacement rate to 2 bpm for the last 10 bbls. Calculate exact displacement volume on location. Verify floats are holding. If floats do not hold, rock floats in an attempt to get them to hold. If floats still do not hold, shut-in casing for 6 hours while WOC to prevent U-tubing. Check surface samples prior to releasing pressure. Calculate U-tube pressure and apply to casing if float does not hold.
- 31. Open stage tool @ 3950'.
- 32. Circulate 4 hours between stages.
- 33. Pump 2<sup>nd</sup> stage cement per attached cementing proposal.
- 34. Close stage tool.

Note the number of sacks of cement used, slurry recipe, slurry yield, slurry density, and number of centralizers on the morning report. If there is problem on cement job discuss running a temperature survey with operations coordinator.

- 35. Verify annulus is static. PU BOP. Set slips on 5 ½" casing. Hang off full string weight on slips. Record hanging weight on the morning report.
- 36. Cut off 5 1/2" casing. Install and test head.
- 37. RD&MO Key 115.

### **Completion Procedure**

- 1. MI&RU completion unit.
  - WOC at least 72 hours prior to commencing completion work
- 2. NU BOP's with 2 7/8" and blind rams. Test with 1500 psi.
- 3. PU 4 3/4" bit and 3 1/8" DC's on 2 7/8" work string and TIH.
- 4. Tag cement on stage tool. Test casing with 1500 psi. Drill out cement and stage tool.
- 5. Circ clean and TIH to cement on float collar. Test casing with 1500 psi.
- 6. Drill out cement and float equipment. Continue in hole washing circulating out sand from open hole.
- 7. Circ hole clean. PUH into 5 ½" casing. Trip back to TD to check for fill.
- 8. Circ hole clean. Spot 10% acetic acid cross open hole interval.
- 9. TOH LD workstring & DC's.
- 10. RU Halliburton wireline truck. Run GR/CCL/CBL from bottom of 5 1/2" casing to surface.
- 11. Run and set Halliburton packer approximately 5' from bottom of alloy casing.
  - Notifiy OCD of intent to set packer and run tubing.
- 12. RU and run packer seal assembly on 2 7/8" fiberglass lined tubing.
  - Run SSSV at 250'+
- 13. Space out seals in packer. Set with 10,000# weight on packer displace with packer fluid.
- 14. Set in packer. Test packer with 1500#. Remove BOP's and install tree.
- 15. RD & MO completion rig.
- 16. Clean and level location.
- 17. RU pump truck. Pump 200 bbl of water into well.
- 18. Stimulate additionally if required.
- 19. Notify OCD and run MIT, step rate test, and injection survey per injection permit.
  - Testing to be conducted prior to injecting H<sub>2</sub>S or CO<sub>2</sub>.
- 20. Await installation of disposal lines.

Original Date Prepared: July 16, 2008

Date Revised: February 15, 2011

#### Customer Information

Prepared For: TARGA RESOURCES INC

Field Name: Widcat

Well Number: Versado "AGI" #1

Location: Lea County, New Mexico

Attention of: Mr. W.A. Baker Direct Phone: 432-620-9181

E-Mail: wbaker@cambrianmgmt.com

#### Formation Information

Zone Of Interest Number 1: 4500 Zone Service (Std,H2S,CO2): Acid Injection Open Hole: 4250' - 4850' Plug Back T.D. 4,850 Ft.

lug Back T.D. 4,850 Ft. BHT: 110° F

Injection Pressure: 2500 Psi

Completion Fluid: Treated Fresh Water

#### Vell Bore Information

Casing: 5.5" 17# J-55 ( ID: 4.892"/ Drift: 4.767") @ 0-4250'

LS Upper Production Tubing: 2.875" 6.5# J-55 Duo-Lined EUE(ID: 1.950" / Drift: ")

#### Completion Equipment

Job Description: Permanent Packer

Packer Material: Incoly 725 Packer Elastomer: Aflas

Seal Mandrel Material: Incoloy 725

Seal Elastomer: Aflas

#### Sales Information

HBD File Name 170658

Option Number: Version 8/ Option A

Version Name: 170658V8A

Submitted By: Mike Larpenter - 121949

Location: Houston, Texas Main Phone: (281) 988-2500 Direct Phone: (713) 420-5169

E-Mail: mike.larpenter@halliburton.com

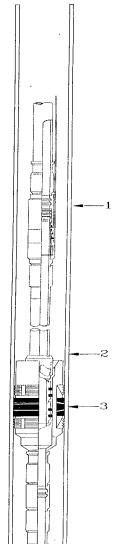
#### Field Information

Halliburton Service Contact: Steve Engleman - 104368

Halliburton Service Location: Odessa, Tx -

Main Phone: (800) 844-8451 Direct Phone: (432) 580-2960

Fax: (432) 337-0751



Prepared For: TARGA RESOURCES INC
Field Name: Widcat
Lease:
Well Number: Versado "AGI" #1
Well Location: Lea County, New Mexico

HBD File Name 170658 Version 8/ Option A 170658V8A

	Well Location: Lea County, New Mexico				
	TEM DESCRIPTION*	L.D.	0.D.	LENGTH	DEPTH
	A Production Tubing,2 7/8 6.5# Eue J-55 Duo-Lined W 2.44 ID	1.950	2.875	244.00	0.00
	1 Safety Valve Assembly a X over Pup W/Clp, 2 7/8"6.5# Eue x 2 7/8" 6.4# Vam-Top J-55 Duo-Lined	1.950	3.660	6.00	244.00
	Targa Resources  b Halliburton "NE" Tubing Retrievable Safety Valve,  10,000# Pressure Rating, Égualizing Type Nickel Alloy 725.	2.313	4.650	4.00	250.00
	10,000# Pressure Rating, Equalizing Type, Nickel Alloy 725, "X" Profile, 2 7/8" Vam-Top Box x Pin (781HXE23704-U) (101918658) c Xover Pup with Clp, 2 7/8"6.4# Vam-top x 2 7/8" 6.5# Eue J-55 Targa Resources d Control Line, .065" Wall. Incoloy 825, 1/4" x 400' (22SNS54040) (101309359) Customer Stock	1.950	3.222	6.00	254.00
	B Production Tubing,2 7/8 6.5# Eue J-55 Duo-Lined W 2.44 ID	1.950	2.875	3,940.00	260.00
	2 <u>Seal Assembly</u> a Loc J-Slot 2 7/8 API-Eue x 2 11/16 12UNS B-P 725 Material	2.330	3.430	0.50	4,200.00
	( 212J30034-Z ) ( 101914095 )  b Seal Assy,3.00 X 2 11/16 12UNS ( 8in makeup) 725 material  Molded Affas seal, Pressure rating 8000psi	2.330	3.000	1.33	4,200.50
	( 212MSA3009-Z )( 101914392 ) Qty (2) c MS Guide,2 11/16 12UNS 725 Material (212G30013-Z )(101913527)	2.330	2.970	0.50	4,201.83 <b>4,202.33</b>
	3 Packer Assembly a Halliburton "TWB" Perma-Series™ Packer 5 1/2" 14-20#,3.00 ,2 7/8 Eue Pin 725 Material (AFLAS Elements) Pressure Rating 9,800psi (212TWB5502-Z) (101922999)	3.000	4.540	3.00	4,200 <u>.</u> 00
2 -2	b Coulpling 2 7/8" 6.5# EueJ-55 Targa Resources		3.660	0.44	4,203.00
	c Pup Joint, 2 7/8"6.5# Eue J-55 Duo-Lined Targa Resources	2.440	2.875	6.00	4,203.44
з - з	d Landing Nipple 1.875 X 2 7/8" Eue BXP 725 Material ( 711X18875 ) ( 102003377 )	1.875	3.705	1.50	4,209.44
	e Pup Joint, 2 7/8"6.5# Eue J-55 Duo-Lined Targa Resources	2.440	2.875	6.00	4,210.94
	f WL-Rentry Guide, 2 7/82" Eue 6.5# 725 Material ( 212M950 ) ( 101913511 )	2.440	3.705	0.50	4,216.94
					4,217.44

## **Proposed Completion Data Guide**

Original Date Prepared: July 16, 2008 Date Revised: February 15, 2011

## Permanent Packer

Prepared For: TARGA RESOURCES INC

Field Name: Widcat

Lease:

Well Location: Lea County, New Mexico

Well Number: Versado "AGI" #1

HBD File Name

170658

Version 8/ Option A

170658V8A

ILEM	# DESCRIPTION #1.D. ** LENGTH \ DEPTH \	FRICE	y.
1	Safety Valve Assembly	\$99,400.00	
2	Seal Assembly \$	24,512.03	
3	Packer Assembly \$	44,691.56	

Personnel and Mileage:			
CPS-Retrievable Packer - BOM -20474 / Land Alternate			
Completion Serviceman (Land) - 8 Hr. Min. / Per Day (16328)	\$	1,096.20	1
Use of Hydraulic Setting Tool - Per Packer - 5 Day (16320)	\$	1,468.60	1
Assembly Make Up - Per Unit (21097)	\$	1,108.80	11
Completion Assy. Test /Unit (18701)	\$	378.00	3
Environmental Clean-Up (2311) \$ 250.00 Max	\$	100.00	1
Brass Ball (1.312") (93B108) (101014253)	\$	244.30	1
Steel Ball (.875") (93B4) (100006745)	\$	68.60	2
Control Line Test - Per Test (72113)	\$	74.90	1
Hydraulic Hand Pump and Manifold - Use / First Day (3539)	\$	132.30	1
Completion Tool Box - Per Job (3438)	\$	281.40	1
Safety Valve Toolbox - Use / 3 Days (72118)Over 10K Valves	\$	1,488.20	1
9/16-18UNF Autoclave Fitting with Anti-Vibration Gland (78Q6329) (101365964)	\$	1,162.00	2
TRSV Fitting Kit - 374431	\$	315.70	1
Nylon Tie Wraps (50761) Buckles - Min. 1 Box (100 Each Buckles) (94S102) (101087308) Bands per 1200 in. Roll (94S98) (101087320)  Estimated Sub Suface Safety To Estimated Packer and Seal Assembly To Estimated Service and Rental To Estimated Mercandise Total for J	otal \$	266.00 497.00 144.20 \$99,400.00 69,203.59 8,826.20 168,603.59	100 1 1
Note: Items below will be charged as used  Completion Serviceman (Land) - Add'l. Hours, after 8 hr min (16328)	\$	137.20	1
Serviceman Mileage - Per Mile/Round Trip, from nearest Halliburton camp (3327)	\$	4.03	1
Fuel Surcharge - Per Mile (87098)	\$	0.11	1

Page 1 of 1 2/15/2011

Company: Phone No:

Targa

432-557-0120

Well No.: Contact: AGI 1

Mr. WA Baker

Well API No.:

Lease Name:



#### **OVERVIEW**

#### **PURPOSE:**

This Tubing Movements report analyzes the effects of movements, forces, temperatures, and stresses occurring in the tubing string and down-hole tools during the specified operating scenarios. CyberString utilizes EnerTech engineering technology.

#### **PROJECT:**

Name:

Targa Resources

Date:

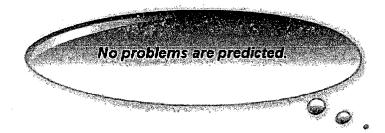
Feb 15, 2011

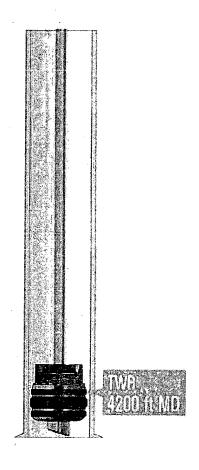
Field location:

Versado AGI 1

New Mexico, USA

# **Comments: Injection**





Company:

Targa

Well No.:

AGI 1

Phone No: 432-557-0120
Well API No.:

Contact: Mr. WA Baker

Lease Name:

CYBERSTANG

Parameter	Unit	Injection
Maximum Stress	psi.	10720.41
Max Stress Location	fil	0.10
Buckling Length	Es.	0.00
Force on Shear Pins/Lug	Ъ.	21922.00

Sign Conventions:

Movement: + Elongation, - Contraction

Force:

+ Tension (Upward), - Compression (Downward)

Company: Phone No: Targa

432-557-0120

Well No.:

Contact:

Mr. WA Baker

Well API No.:

Lease Name:



#### **INITIAL CONDITION**

AGI 1

#### Packer (TWB):

Seal Bore Packer - tubing is tied to packer.

Bore diameter is 3.00 in Latch rating of 60000.00 lb Slackoff Force: 10000.00 lb Packer Depth: 4200.00 ft

Measure	d Depth	inger ent		Tubing	1 27.5	
From	/ To	OD.	. ID	WI	Min. Yield	Fluid Friction
ft 🤼		'n	in to	3 IB/ft ·	psi	psi/100ft
. 0	4200	2.875	1.950	6.500	55000	0.00

Measure	ed Depth		Car	ing	
From	To	OD.	iD.	WT	Min. Yield
ft si	Safficial .	ξ, , in	in at	» Б/ft,	psi ,
	4250	5.500	4.892	17.000	55000

Measured Depth			Tut	ing			Annulu	s Fluid
(M.D.)	Pressure	Temp	Density	Axial Force	Stress	Dogleg	Pressure	Density
il (	psi .	*F. **	lb/gal	Ь	PSI .	deg/100ft	DSI.	lb/gal
Q	0	65.00	8.34	10921	3115	0.00	0	8.34
4200	1820	110.00	8.34	-16378	5594	4.37	1820	8.34

Sign Conventions:

Force: + Tension (Upward), - Compression (Downward)

Company: Phone No:

Targa

432-557-0120

. . .

Well No.:
Contact:

AGI 1

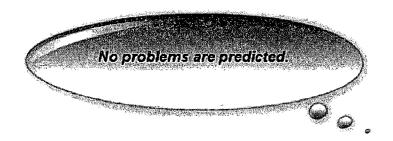
Mr. WA Baker

Well API No.:

Lease Name:

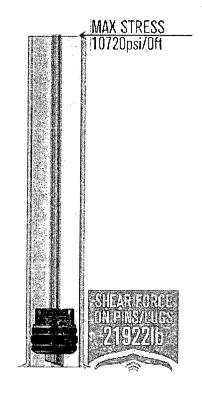


#### **RESULTS FOR INJECTION SCENARIO**



Tubing fluid: Brine
Tubing fluid density: 8.6 lb/gal
Annulus fluid: Fresh Water
Annulus fluid density: 8.3 lb/gal
Injection rate: 168.0 gal/min
Injection duration: 24.0 hour
Injection pressure: 2500.0 psi
Injection temperature: 60.00 °F
Annulus surface pressure: 0.0 psi

Category	Parameter	Unit	Value
Slack-off.		b	10000.000
Total Compression	Force	Ь	10000
rotal Complession	Length + Stretch	ft.	0.399
Tool Passage Check: NO			
Diff. Pressure across Pkr fi	<b>om</b>	psi	below 2557



Measured Depth	September 1		Tüt	ing			Annulu	s Fluid
(M.D.)	Pressure	Temp.	Density	Axial Force	Stress	Dogleg	Pressure	Density
t t	psi	*	lb/gal	Ь	psi	deg/100ft	psi	lb/gal
	2500	60.04	8.60	32406	10720	0.00	0	8.34
4200	4376	66.92	8.60	5107	8274	0.00	1820	8.34

Sign Conventions:

Force:

+ Tension (Upward), - Compression (Downward)



#### PREPARED FOR:

Mr. W.A. Baker
TARGA MIDSTREAM SERVICES
(CAMBRIAN MANAGEMENT)
Midland, Texas

Versado AGI #1 (Re-entry) Section 27

Section 27 T-22-S R-37-E Lea County, New Mexico

Prepared by: Gary Brown April 7, 2010



Fluids Services 415 W. Wall, Suite 530 Midland TX 79701 Phone: 432-684-7446 Fax: 432-684-7473

April 7, 2010

Mr. W.A. Baker TARGA Midstream Services c/o Cambrian Management, LTD 303 W. Wall Street, Ste 500 Midland, Texas 79702-0272

Dear Mr. Baker,

Thank you for the opportunity to submit our drilling fluid recommendations for your Versado AGI #1 re-entry, in Lea County, New Mexico. These recommendations are based on information from your office, offset well data, and our knowledge of the area.

Of particular concern in this area is the potential for abnormal pressure, water flows and H<sub>2</sub>S in the disposal interval. However, it has been our experience on re-entries that almost anything can happen:

- Plugs can be at the wrong depth, or missing completely
- Casing can be compromised or collapsed
- Pressure can be from water flows or gas
- Pressure can be abnormally high or low
- High pressure can be low volume, or high volume,
- Lost circulation can occur in the most unlikely zones as well as the expected ones

Therefore, we hope for the best but plan for the worst and recommend you have:

- an adequate sized pre-mix pit to mix re-entry fluid and/or kill mud
- a supply of fresh & brine water to kill the well with weights between 8.4 and 10.0ppg
- a supply of sack barite for kill weights above 10.0ppg
- a supply of Star Hib TSW in case there is the presence of H<sub>2</sub>S
- a supply of liquid Xanthan Gum and starch on location for viscosity and/or fluid loss control
- a supply of various sized lost circulation material

All support services, including warehousing and trucking for this well, are in Hobbs, New Mexico. Thank you for considering us to be a part of your drilling team, and we look forward to working with you in the future.

Sincerely,

Gary Brown NOV® Fluids Services Permian District

## **DRILLING FLUID SYNOPSIS**

TARGA Midstream Services
Versado AGI #1 (Re-entry)
Section 27
T-22-S
R-37-E
Lea County, New Mexico

#### Recommended Casing

7"	at	4,000'
5 ½"	at	4,500'

DEPTH	MUD WEIGHT	VISCOSITY	FLUID LOSS	DRILL SOLIDS	COMMENTS
4,000'-5,000'	9.5 to 10.0	28 to 29	No Control	<1%	Cut Brine, Star NP-110, Paper, Lime

# **ESTIMATED FORMATION TOPS**

ANHYDRITE	1,122'
YATES	2,560'
SEVEN RIVERS	2,815'
QUEEN	3,320'
PENROSE	3,430'
GRAYBURG	3,590'
SAN ANDRES	3,816'
7" CASING SET AT	4:000
GLORIETA	4,945'
TD	5,000'

#### RECOMMENDED DRILLING FLUID PROGRAM

DEPTH	WEIGHT	VISCOSITY	FILTRATE
4,000'-5,000'	9.5-10.0	28-29	No Control

Drill out from under casing with cut brine, circulating the closed loop. Hopefully, the "rat hole" should be easily cleaned since the well has been used as a disposal well. However, if drilling is required, take care to not "walk out" of the original well bore. Lime should be used to control the pH at 9.0 to 10. Utilize Star NP-110 for hole sweeps and to control solids. Paper should be used to control seepage and for sweeps. If lost circulation is encountered in this interval, please refer to NOV® Fluids Services' Lost Circulation Procedures. There is a potential for H<sub>2</sub>S in this interval. If H<sub>2</sub>S is encountered, we recommend additions of an H<sub>2</sub>S scavenger for personnel safety and a filming amine to protect the drill pipe. We recommend sweeping the hole with a viscous, 50-60 sec/1,000cc's viscosity, Salt Gel pill and then spotting a viscous Salt Gel pill in the open hole prior to evaluation and running pipe. This should be sufficient for logging and casing operations.

John Hendrix Corp., Elliott B-15 #5, Section 15, T-22-S, R-37-E, reported moderate seepage @ 4,209'

John Hendrix Corp., Parks #13, Section 14, T-22-S, R-37-E, reported 60bbls/hour water flow @ 4,950'



#### LOST CIRCULATION PROCEDURES

Loss of circulation is a possibility on this well. Although each well is different, there are some basic procedures and drilling practices that can aid in reducing the severity or, in some cases, prevent lost circulation. Below is a list, which may prove helpful.

- 1. Maintain viscosities as low as possible and still clean the hole.
- 2. Maintain mud weights as low as possible without jeopardizing safety.
- 3. Use slow trip speeds to prevent swabbing and surging.
- 4. Break circulation in stages with reduced pump strokes while tripping in the hole.
- 5. Rotate pipe prior to and while tripping in the hole.
- 6. Use an optimum hydraulics program.

Severe seepage to total loss of circulation may occur even when the above procedures are followed. For severe seepage, we recommend circulating pills (50-100bbls. depending on hole size) containing 10-30 ppb of various (fibrous and flake) lost circulation material. It would be helpful to reduce pump rates until full returns are established. Once full returns are regained, normal pump rates should be returned to in stages. The inclusion of lost circulation material in the entire system is recommended only if the above procedures do not adequately seal off the loss zone.

For total loss of circulation, we recommend pulling enough stands to place the bit above the loss zone. A viscous pill containing the appropriate type of loss circulation material should be spotted. The size of the pill should be determined by hole size and should contain at <u>least</u> 30 ppb lost circulation material. Several attempts should be made before considering other alternatives. After returns are regained, we recommend staging back to bottom using the procedure outlined above.

If returns are not fully re-established, consideration should be given to dry drilling while pumping periodic sweeps to ensure hole cleaning.



# PERMIAN DISTRICT PERSONNEL

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Weatherford

WEATHERFORD DRILLING AND WELL SERVICES 3000 WEST COUNTY RD HOBBS NM 88240 **UNITED STATES** 

76-0486916

TO: 1588331

TARGA RESOURCES INC 1000 LOUISIANA ST SUITE 4300 HOUSTON TX 77002-5050 UNITED STATES

**QUOTATION** 

**Quote Number:** Order Date:

187114 SQ MAY 03 2010

**Customer Reference: VERBAL** Location:

80026 HOBBS

Phone No.: Fax No.:

575.391 9811 575.393 1244

FDC Number:

FDC # 4070 E10023

LOCATION: 1588331 TARGA RESOURCES INC 1000 LOUISIANA ST SUITE 4300 HOUSTON TX 77002-5050 UNITED STATES

76-0486916

	TERMS Net 30 days	QUOTEVALIDITY			<b>ENTER</b> SHIFFLET	
	SHIPPING TERMS  EXW Ex Works	price group 5	SHIR	PINGINSTRUC		17-1
LINE NO.		TEM NUMBER DESCRIPTION	UOM	QTY SHIPPED	UNIT PRICE	EXTENDED PRICE
1.000	Legacy #: 3030051BHDLPG SHOE, FLOAT 5-1/2 303 CON	00170 Part #: 573253 C CONCRETE P110 AB HDL BLANK 17.0	EA	1.00	677.1200	677.
2.000	Legacy #: 4020051BHDLPG COLLAR, FLOAT 5-1/2 402 P1		EA	1.00	886.4400	886.
3.000	Legacy #: 751E051ER00PG STAGE TOOL, MECHANICAL !		EA	1.00	4,716.1800	4,716.1
1	Legacy #: 823355 Machine charge to cut sj2 thre	Part #: 823355	EA	3.00	710.0000	2,130.0
i	Legacy #: 823355 Machine charge to mill dv tool	Part #: 823355	EA	1.00	250.0000	250.0
1	Legacy #: B1102551 CENTRALIZER, BOW SPRING	Part #: 472228 5-1/2STR LO LPWLD B-SERIES 25B CS	EA	10.00	28.7000	287.0
- 1	Legacy #: 6020051 COLLAR, STOP 5-1/2 LO STD \$	Part #: 582379 STSCR 10 GA X 2 CS	EA	8.00	37.0500	296.4
1	Legacy #: 7010010 THREAD, COMPOUND TUBE-L	Part #: 472158 OK 1/2LB KITS	EA	2.00	37.0500	74.1
	Legacy #: 178173 DELIVERY CHARGES	Part #: 178173	EA	1.00	100.0000	100.0
ested eque current ement, W be applic	uipment, materials or services to it applicable master service agreem /eatherford' s standard terms and	liary, division or affiliate of Weatherford Interns customer. Such provision shall be governed ent between the parties. In the event that the conditions, a copy of which can be found at woment, materials or services. [A paper copy of which can be supposed to the copy of the co	by the terms re is no such	and conditions master service	TOTAL (USD)	9,417.24