COUNTY PINAL AREA PICACHO LEASE NO. FEE

WELL NAME EL PASO NATURAL GAS #1-21 ARIZONA GAS STORAGE

LOCATION SW NW SEC 21 TWP 7S RANGE 8E FOOTAGE 1980' FNL & 660 ' FWL

ELEV 1527' GR _____ KB SPUD DATE 7-31-06 STATUS P&A TOTAL DEPTH 8784'

COMP. DATE 12-6-11

CONTRACTOR UNITED DRILLING INC, ROSWELL NM ~~TA 10-18-06~~

CASING IZE	DEPTH	CEMENT	LINER SIZE & DEPTH

DRILLED BY ROTARY _____

DRILLED BY CABLE TOOL _____

PRODUCTIVE RESERVOIR _____

INITIAL PRODUCTION _____

FORMATION TOPS	DEPTHS	SOURCE L.L.	SOURCE E.L.	REMARKS

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS

SAMPLE LOG _____

SAMPLE DESCRP. _____

SAMPLE NO. 1908

CORE ANALYSIS _____

DSTs _____

REMARKS TA 10-18-06

P&A 12-6-11

APP. TO PLUG _____

PLUGGING REP. _____

COMP. REPORT _____

WATER WELL ACCEPTED BY _____

BOND CO. LIBERTY MUTUAL INSURANCE COMPANY BOND NO. 23-007-048

DATE 3/21/2005

BOND AMT. $ 25,000.00 CANCELLED 12-16-2011 ORGANIZATION REPORT YES 2/16/2005

FILING RECEIPT 3139 LOC. PLAT X WELL BOOK X PLAT BOOK X

API NO. 02-021-20009 DATE ISSUED 3/21/2006 DEDICATION N/A - STRAT TEST

PERMIT NUMBER 933

(over)

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

P+A 12-6-2011 — DESIGNATE TYPE OF COMPLETION — Strat test

New Well ☐ Temporary Abandon ☒ Work-Over ☐ Deepen ☐ Plug Back ☐ Same Reservoir ☐ Different Reservoir ☐ Oil ☐ Gas ☐ Dry ☐

DESCRIPTION OF WELL AND LEASE

Operator: El Paso Natural Gas	Address & Phone No.: 2 N Nevada Colo Spgs Co 80903 719-520-4533	
Federal, State or Indian Lease Number or name of lessor if fee lease: AGS - Owned	Well Number: 1-21	Field & Reservoir: NA
Location: 1980' FNL + 660' FWL	County: Pinal	
Sec. Township-Range or Block & Survey: Sec 21, T7S, R8E		

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, KB, RT or Gr.)	Elevation of casing head flange
7-31-2006	10-15-2006	NA	1527 GL 1539 KB feet	0 feet

Total depth	P.B.T.D.	Single, dual, or triple completion?	If this is a dual or triple completion furnish separate report for each completion
8,784'	—	—	—

Producing interval(s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
Open Hole 5,640' 8,784'	0 - 8,784'	—

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No	Yes	Yes	10-18-2006

Type of electric or other logs run (check logs filed with the Commission) — Date filed: 10-18-2006

Laterlog Array, Gamma Ray, Dipole Sonic, Density-Compensated Neutron, Elemental Capture, Cement Bond, CASING RECORD Combinable Magnetic Resonance

Casing (report all strings set in well -- conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amount pulled
Conductor	30"	20"		94'	14 yards	0
Surface	17½"	13 3/8"	54.5 lb/ft	1610 KB	880 sx	0
Intermediate	12¼"	9 5/8"	4840'- 40# 800' - 36#	5640' KB	1725 sx	0

TUBING RECORD

Size in.	Depth set ft.	Packer set at ft.

LINER RECORD

Size in.	Top ft.	Bottom ft.	Sacks cement	Screen (ft.)

PERFORATION RECORD / ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth interval	Amount & kind of material used	Depth interval
NA				

INITIAL PRODUCTION

Date of first production	Producing method (indicate if flowing, gas lift or pumping -- if pumping, show size & type of pump)
NA	

Date of test	Hours tested	Choke size	Oil prod. during test bbls.	Gas prod. during test MCF	Water prod. during test bbls.	Oil gravity *API

Tubing pressure	Casing pressure	Calculated rate of production per 24 hrs.	Oil bbls.	Gas MCF	Water bbls.	Gas - oil ratio

Disposition of gas (state whether vented, used for fuel or sold)

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Manager, Facility Planning of the El Paso Natural Gas (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

10-18-2006 — Date

Signature

Permit No. 933

Mail completed form to:
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress, #100
Tucson, AZ 85701

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy
Form No. 4

10/98

DETAIL OF FORMATIONS PENETRATED

FORMATION	TOP	BOTTOM	DESCRIPTION *
Upper Alluvial Unit	0'- Surface	1,590'	Interbedded silt, sand, gravel + clay
Upper Picacho Salt	1,590'	3,060'	Salt + claystone
Lower Unit Playa Facies	3,060'	3,708	Anhydrite, claystone + salt
Lower Picacho Salt	3,708'	4,510'	Salt, claystone with minor anhydrite
Lower Unit Playa Facies	4,510'	5,630'	Anhydrite, claystone grading into siltstone at the base
Lower Unit Alluvial Facies	5,630'	8,784'	Siltstone + sandstone grading into arkosic granite wash conglomerate

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the Oil and Gas Program Administrator, Arizona Geological Survey, 416 W. Congress #100, Tucson, AZ 85701 not later than thirty days after completion pursuant to A.A.C. R12-7-121.

Form No. 4

PLUGGING RECORD

719-520-4533

Operator	Address & Phone number
El Paso Natural Gas	2 N. Nevada, Colo Springs, CO 80903

Federal, State, or Indian Lease No. or lessor's name if fee lease	Well No.	Field & Reservoir
Owned	AGS 1-21	NA

Location of Well	Sec - Twp - Rge	County
1980' FNL + 660' FWL,	Sec 21 - T7S - R8E	Pinal

Application to drill this well was filed in name of	Has this well ever produced oil or gas?	Character of well at completion (initial production) Oil (bbls/day)	Gas (MCF/day)	Dry?
El Paso Natural Gas	NO			X

Date plugged	Total depth	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls/day)
12/6/2011	8,784'			

Name of each formation containing oil or gas. Indicate which formation open to wellbore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used. Indicate zones squeeze cemented, giving amount of cement
None			
Surface Plug		cement 25 sacks	@ 3'-60'
Downhole Plug		cement 25 sacks	@ 1954'-2010'

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, etc.)	Packers and shoes
20"	94'	0	94'		
13 3/8"	1508'	3'	1505'	Cut	
9 5/8"	5628	3'	5625'	Cut	

Was well filled with heavy drilling mud, according to regulations?	Indicate deepest formation containing fresh water
Yes	Upper Alluvial Unit (approx 1000')

NAME AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE

Name	Address	Direction from this well
NA		

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

Use reverse side for additional detail

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Manager of the El Paso Natural Gas (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

December 13, 2011
Date

Jay W Sethman
Signature

Permit No. 933

Mail completed form to:
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress, #100
Tucson, AZ 85701-1315

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Plugging Record
Form No. 10 — File One Copy

2/96

APPLICATION TO PLUG AND ABANDON

FIELD NA 719-520-4533

OPERATOR El Paso Natural Gas Co ADDRESS & PHONE 2N. Nevada Colo Spgs CO 80903

LEASE NUMBER (Lessor's name if fee) Owned WELL NO. AGS #1-21

LOCATION 1980' FNL + 660' FWL, Sec 21, T7S, R8E Pinal Co. AZ

TYPE OF WELL Stratigraphic Test (Oil, Gas, or Dry) TOTAL DEPTH 8,784'

ALLOWABLE (If Assigned) NA

LAST PRODUCTION TEST OIL – (Bbls.) WATER – (Bbls.)

GAS – (MCF) DATE OF TEST –

PRODUCING HORIZON None PRODUCING FROM _____ TO _____

1. COMPLETE CASING RECORD:

Casing (report all strings set in well – conductor, surface, intermediate, producing, etc.)						
Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amount pulled
Conductor	30"	20"		94'	14 yards	0
Surface	17½"	13⅜"	54.5 lb/ft	1610 ft KB	880 sx	0
Intermediate	12¼"	9⅝"	40#	5640' KB	1725 sx	0

2. FULL DETAILS OF PROPOSED PLAN OF WORK:

1. Notify Steve Rauzi at least 48 hours before commencement of abandonment operations.
2. Move in rig up Stewart Brother Drilling.
3. Run in the hole with tremie pipe to a depth of 2,000'. Pump 25 sack (approx 60') cement plug at 2,000'. Pull up to 1,800' and circulate clean with plugging mud. Wait 12+ hours on cement.
4. Run tremie back 2,000' and tag cement plug. If cement plug is solid, pull out of hole. If not repeat step 3.
5. Pump 25 sack (approximately 60') cement plug at 60'
6. Cut off casing surface and intermediate casing 2 feet below ground level.
7. Weld a metal plate on pipe inscribed with: El Paso Natural Gas, AGS #1-21, Permit # 933

DATE COMMENCING OPERATIONS When Stewart Brothers has a rig - (late Nov 2011 - Jan 2012)

NAME OF PERSON DOING WORK Randy Stewart ADDRESS 306 Airport Road, Milan NM, 87021

Greg W Settman
Signature

Manager, El Paso Natural Gas Co
Title

2 N. Nevada Ave, Colo Spgs CO 80903
Address

10/26/2011
Date

Mail two copies of completed form to:
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress #100
Tucson, AZ 85701

Date Approved 10-31-2011

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By S L Rauzi

Permit No. 933

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Plug and Abandon
File Two copies

Form No. 9

2/96

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator El Paso Natural Gas Company
2. OIL WELL ☐ GAS WELL ☐ OTHER ☒ (Specify) Stratigraphic Test
3. Well Name AGS #1-21
   Location 1980' FNL, 660' FWL
   Sec. 21 Twp. 7S Rge. 8E County Pinal, Arizona
4. Federal, State, or Indian Lease Number, or lessor's name if fee lease Owned in fee by El Paso
5. Field or Pool Name NA
6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT--OFF	☐	WEEKLY PROGRESS	☐
FRACTURE TREAT	☐	DIRECTIONAL DRILL	☐	FRACTURE TREATMENT	☐	REPAIRING WELL	☐
SHOOT OR ACIDIZE	☐	PERFORATE CASING	☐	SHOOTING OR ACIDIZING	☐	ALTER CASING	☐
REPAIR WELL	☐	CHANGE PLANS	☐	TEMPORARY		ABANDONMENT	☒
(OTHER)			☐	(OTHER)			☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log, Form 4)

1. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.

El Paso Natural Gas is requesting approval to extend the Temporarily Abandoned status of the AGS #1-21 for an additional two years up to the statutory maximum of five years. The #AGS #1-21 was originally placed in Temporary Abandoned Status on November 10th 2006. This extension will allow a prospective purchaser to fully evaluate its options regarding this well in association with the potential development of a salt cavern gas storage facility at this site.

The well's integrity is evidenced by the presence of cement to surface on the surface and intermediated casing strings. The well has not been stimulated and no well tests have been performed.

The well is full to the surface with 9.3 lb/gal drilling mud containing at least 15 lb/bbl of sodium bentonite with a viscosity of 53 seconds per quart. The wellhead has been secured with a casing head flange with side valve and bolted steel plate.

8. I hereby certify that the foregoing is true and correct.

Signed [signature] Title Manager Date 12-29-2009

Permit No. 933 lcl 10-1-09

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notice and Reports On Wells
File One Copy
Form No. 25

5/96

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator El Paso Natural Gas Company
2. OIL WELL ☐ GAS WELL ☐ OTHER ☒ (Specify) Stratigraphic Test
3. Well Name AGS #1-21
   Location 1,980' FNL, 660' FWL
   Sec. 21 Twp. 7S Rge. 8E County Pinal, Arizona
4. Federal, State, or Indian Lease Number, or lessor's name if fee lease Owned by El Paso
5. Field or Pool Name NA
6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT--OFF	☐	WEEKLY PROGRESS	☐
FRACTURE TREAT	☐	DIRECTIONAL DRILL	☐	FRACTURE TREATMENT	☐	REPAIRING WELL	☐
SHOOT OR ACIDIZE	☐	PERFORATE CASING	☐	SHOOTING OR ACIDIZING	☐	ALTER CASING	☐
REPAIR WELL	☐	CHANGE PLANS	☐	TEMPORARY		ABANDONMENT	☒
(OTHER)			☐	(OTHER)			☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log, Form 4)

1. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.

El Paso Natural Gas is requesting approval to temporarily abandon the AGS #1-21 for a period of up to three years. This period of temporary abandonment is necessary to allow for additional testing and to fully evaluate the options for converting this well to beneficial use in association with the potential development of a salt cavern gas storage facility at this site.

The wells casing integrity is evidenced by the presence of cement to surface on the surface and intermediate casing strings. The well has not been stimulated and no well tests been performed to date.

The well bore is full to the surface with 9.3 lb/gallon drilling mud containing at least 15 lb/barrel of bentonite with a viscosity of 53 seconds per quart. The well head has been secured with a casing head flange with side valve and bolted plate steel.

8. I hereby certify that the foregoing is true and correct.

Signed [signature] Title Manager Date 11-10-2006

Permit No. 933

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notice and Reports On Wells
File One Copy
Form No. 25

5/96

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator El Paso Natural Gas Company
2. OIL WELL ☐ GAS WELL ☐ OTHER ☒ (Specify) Stratigraphic Test
3. Well Name AGS #1-21
   Location 1,980' FNL, 660' FWL
   Sec. 21 Twp. 7S Rge. 8E County Pinal, Arizona
4. Federal, State, or Indian Lease Number, or lessor's name if fee lease Owned by El Paso
5. Field or Pool Name NA
6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT--OFF	☐	WEEKLY PROGRESS	☐
FRACTURE TREAT	☐	DIRECTIONAL DRILL	☐	FRACTURE TREATMENT	☐	REPAIRING WELL	☐
SHOOT OR ACIDIZE	☐	PERFORATE CASING	☐	SHOOTING OR ACIDIZING	☐	ALTER CASING	☐
REPAIR WELL	☐	CHANGE PLANS	☐	TEMPORARY		ABANDONMENT	☒
(OTHER)			☐	(OTHER)			☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log, Form 4)

1. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.

El Paso Natural Gas is requesting approval to temporarily abandon the AGS #1-21 for a period of up to three years. This period of temporary abandonment to allow for additional testing and for El Paso to fully evaluate our options for converting the well to other beneficial use in association with the potential development of a salt cavern gas storage facility at this site.

The well is full to the surface of 9.3 lb/gal drilling mud containing at least 15 lb /bbl of sodium bentonite with a viscosity of 53 seconds per quart. The well head has been secured with a casing head flange with side valve and bolted plate steel.

8. I hereby certify that the foregoing is true and correct.

Signed [signature] Title Manager Date 10-18-2006

Permit No. 933

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notice and Reports On Wells
File One Copy
Form No. 25

5/96

Core #1 *Above Upper Cavern Interval*
1700-1760 Rec. 58.25'

Salt & Salt/Clay chicken wire
more clay btm 30'

Box 1-1 to 1-20

above cavern interval

933

RESPEC		OMNI	
Box	FT.	Box	FT.
1.3	1752		
1.6	1744		
1.8	1736		
1.11	1727		
1.15	1717		
1.18	1709		

Balance of boxes to Casa Grande Turbine Sta.

Core #2 *Above Upper Cavern Interval*
1860-1920 Rec. 60.55'

Salt & Clay higher % than core 1
50+% Clay 1874.5' -1879'
2' Clay/Anhy 1884'
1' Clay 1913'

Box 2-1 to 2-22

RESPEC		OMNI	
Box	FT.	Box	FT.
2.1	1917-1920		
2.4	1909-1911		
2.6	1903-1906		
2.11	1891-1893		
2.14	1883.5		
2.18	1872		
2.22	1861		

Balance of boxes to Casa Grande Turbine Sta.

Core #3 *Above Upper Cavern Interval*
2020-2080 Rec. 59.5'

Salt & Clay, >15% Clay fraction

Box 3-1 to 3-21

RESPEC		OMNI	
Box	FT.	Box	FT.
3.1	2078		
3.4	2070		
3.7	2062		
3.9	2056		
3.12	2048		
3.16	2037		
3.17	2034		
3.19	2028		

Balance of boxes to Casa Grande Turbine Sta.

Core #4 *Above Upper Cavern Interval*
2180-2240 Rec. 61.1'

2' Clay 2181+/-
1' Clay 2204-2205'
1' Clay 2239.5-2240.5'
Balance Salt w/ Clay fraction

933

Box 4-1 to 4-25

RESPEC		OMNI	
Box	FT.	Box	FT.
4.1	2239	4.5	2234
4.4	2231	4.7	2223
4.8	2220	4.22	2188
4.10	2215		
4.14	2206		
4.18	2198		
4.23	2186		

Balance of boxes to Casa Grande Turbine Sta.

Core #5 Upper Cavern Interval
2340-2400 Rec. 60.1'

Box 5-1 to 5-24

RESPEC		OMNI	
Box	FT.	Box	FT.
5.2	2396	5.6	2386
5.4	2391		
5.7	2383		
5.9	2378		
5.11	2373		
5.12	2371		
5.14	2366		
5.17	2360		
5.21	2350		

Balance of boxes to Casa Grande Turbine Sta.

Core #6 Upper Cavern Interval
2500-2560 Rec. 57.95'

Largely Salt w/Clay fraction
2518-2520.5' is Anhy

Box 6-1 to 6-23

RESPEC		OMNI	
Box	FT.	Box	FT.
6.2	2555		
6.7	2541		
6.12	2528		
6.15	2521		
6.19	2512		

Balance of boxes to Casa Grande Turbine Sta.

Core #7 Upper Cavern Interval
2660-2720 Rec. 57.25' All salt w/Clay fraction
6" Clear salt @ 2690.3'

Box 7-1 to 7-22

937

RESPEC		OMNI	
Box	FT.	Box	FT.
7.2	2712		
7.5	2704		
7.8	2698		
7.12	2687		
7.14	2684		
7.18	2674		
7.21	2664		

Balance of boxes to Casa Grande Turbine Sta.

Core #8 Anhy/Clay Interval above lower salt
3500-3560 Rec. 59.6' Mostly Anhy w/ some Clay

Box 8-1 to 8-25

RESPEC		OMNI	
Box	FT.	Box	FT.
8.1	3557	8.2	3555
8.10	3532	8.6	3533
8.13	3525	8.12	3525
8.17	3514	8.15	3514
8.21	3503	8.19	3508

Balance of boxes to Casa Grande Turbine Sta.

Core #9 *Lower Salt Interval*
4088-4148 Rec. 57.85' Salt w/ Clay fraction but appears cleaner than upper salt

Box 9-1 to 9-23

RESPEC		OMNI	
Box	FT.	Box	FT.
9.3	4140		
9.6	4133		
9.9	4125		
9.12	4117		
9.16	4109		
9.19	4100		
9.22	4093		

Balance of boxes to Casa Grande Turbine Sta.

Core #10

4251-4309 Rec. 58' Salt w/ Clay fraction

Box 10-1 to 10-23 *Lower Salt Interval*

933

RESPEC		OMNI	
Box	FT.	Box	FT.
10.1	4308		
10.5	4296		
10.8	4288		
10.10	4283		
10.13	4275		
10.16	4267		
10.19	4259		

Balance of boxes to Casa Grande Turbine Sta.

Core #11

4251-4309 Rec. 58' Anhydrite interbeded with clay stone

RESPEC		OMNI	
Box	FT.	Box	FT.
		11.2	4699
		11.6	4668
		11.8	4661

Balance of boxes to Casa Grande Turbine Sta.

Core #12

6,122-6,182" Rec. 60' Conglomerate with red clays

RESPEC		OMNI	
Box	FT.	Box	FT.
		12.1	6182
		12.2	6179
		12.3	6176
		12.4	6173
		12.5	6170
		12.6	6167
		12.7	6164
		12.8	6161
		12.9	6158
		12.10	6155
		12.11	6152
		12.12	6149
		12.13	6146
		12.14	6143
		12.15	6140
		12.16	6137
		12.17	6134
		12.18	6131
		12.19	6128
		12.20	6125

Core #13

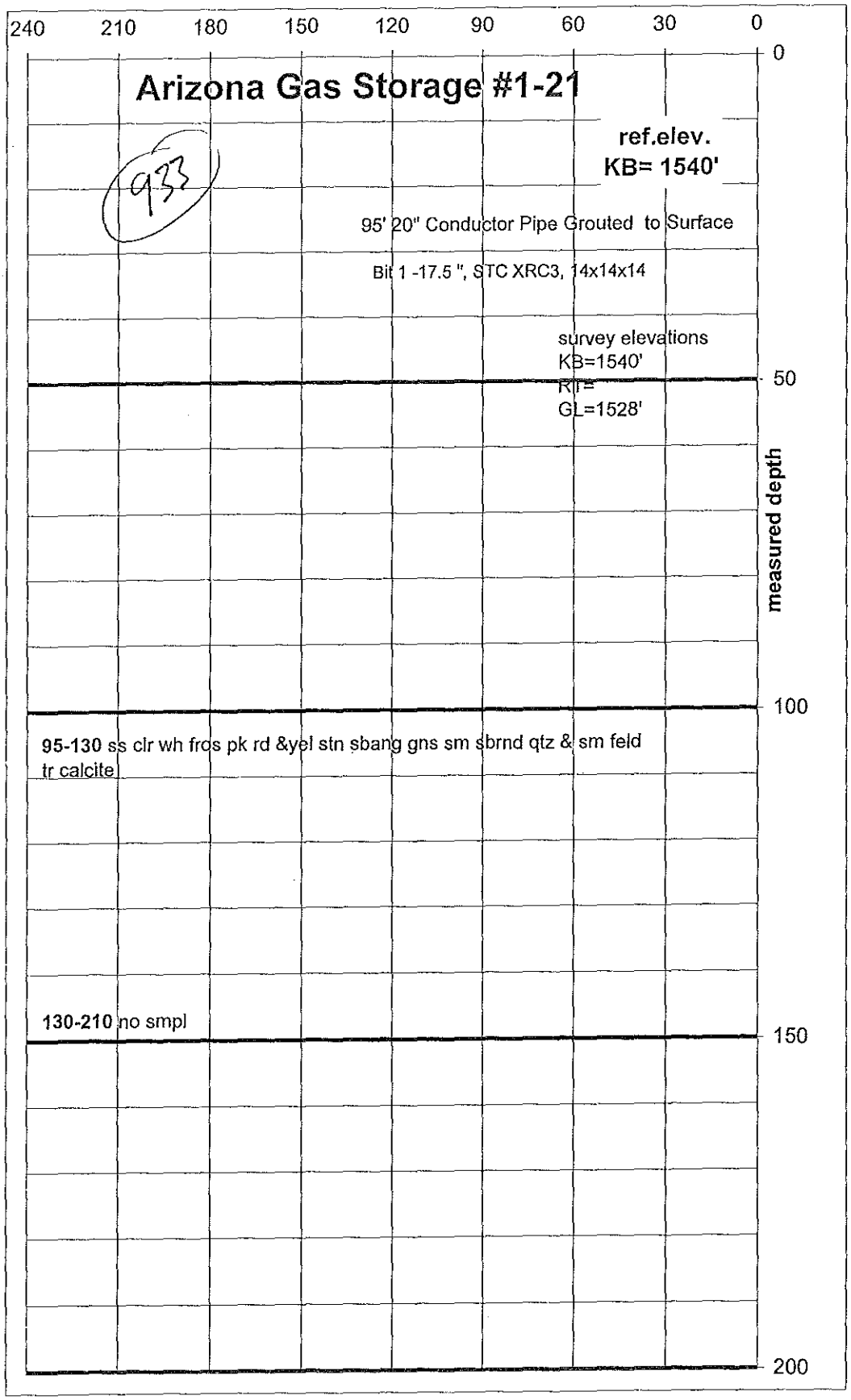
6,122-6,182" Rec. 60' Conglomerate with red clays

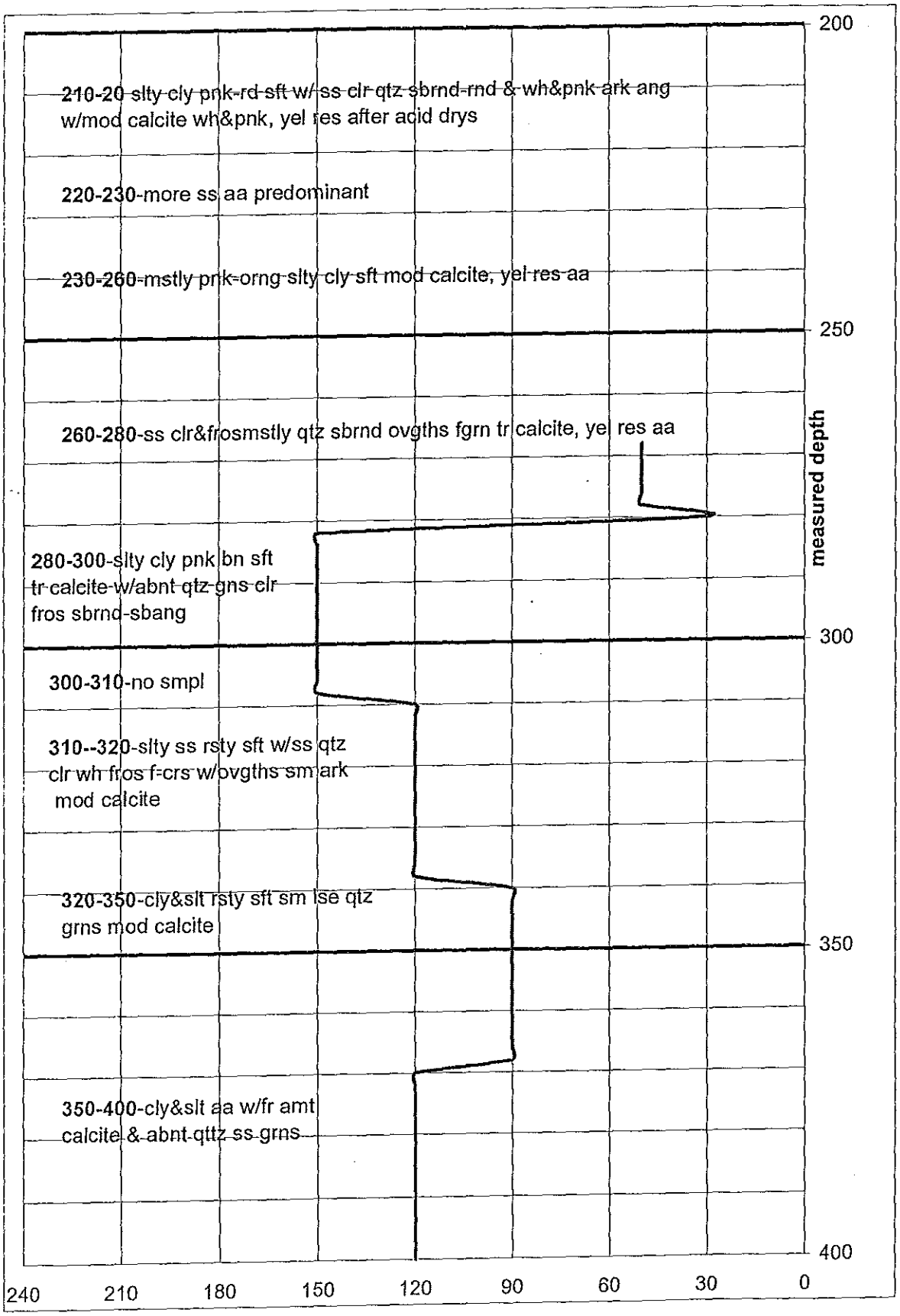
933

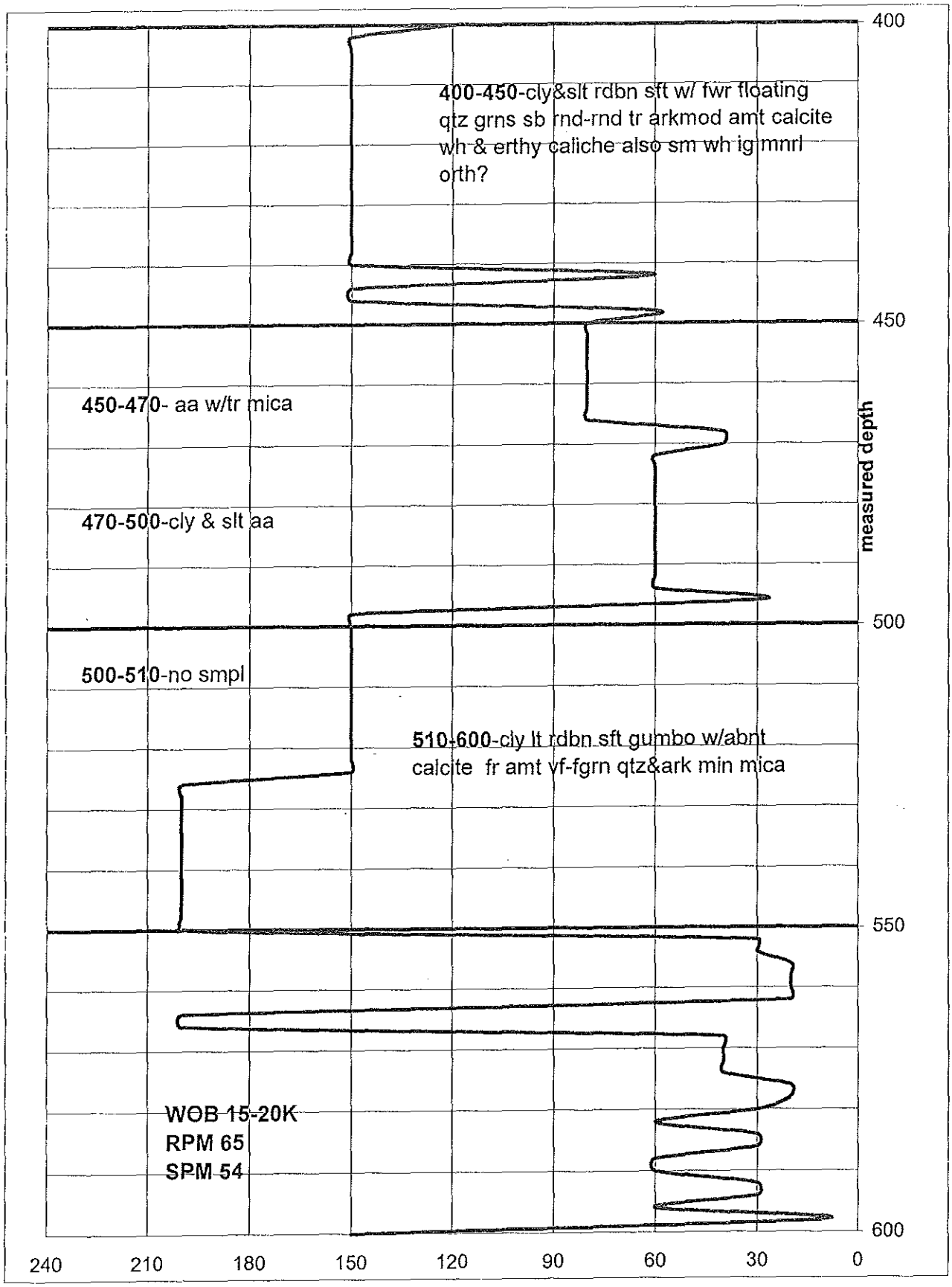
RESPEC		OMNI	
Box	FT.	Box	FT.
		13.1	6940
		13.2	6937
		13.3	6934
		13.4	6931
		13.5	6928
		13.6	6925
		13.7	6922
		13.8	6919
		13.9	6916
		13.10	6913

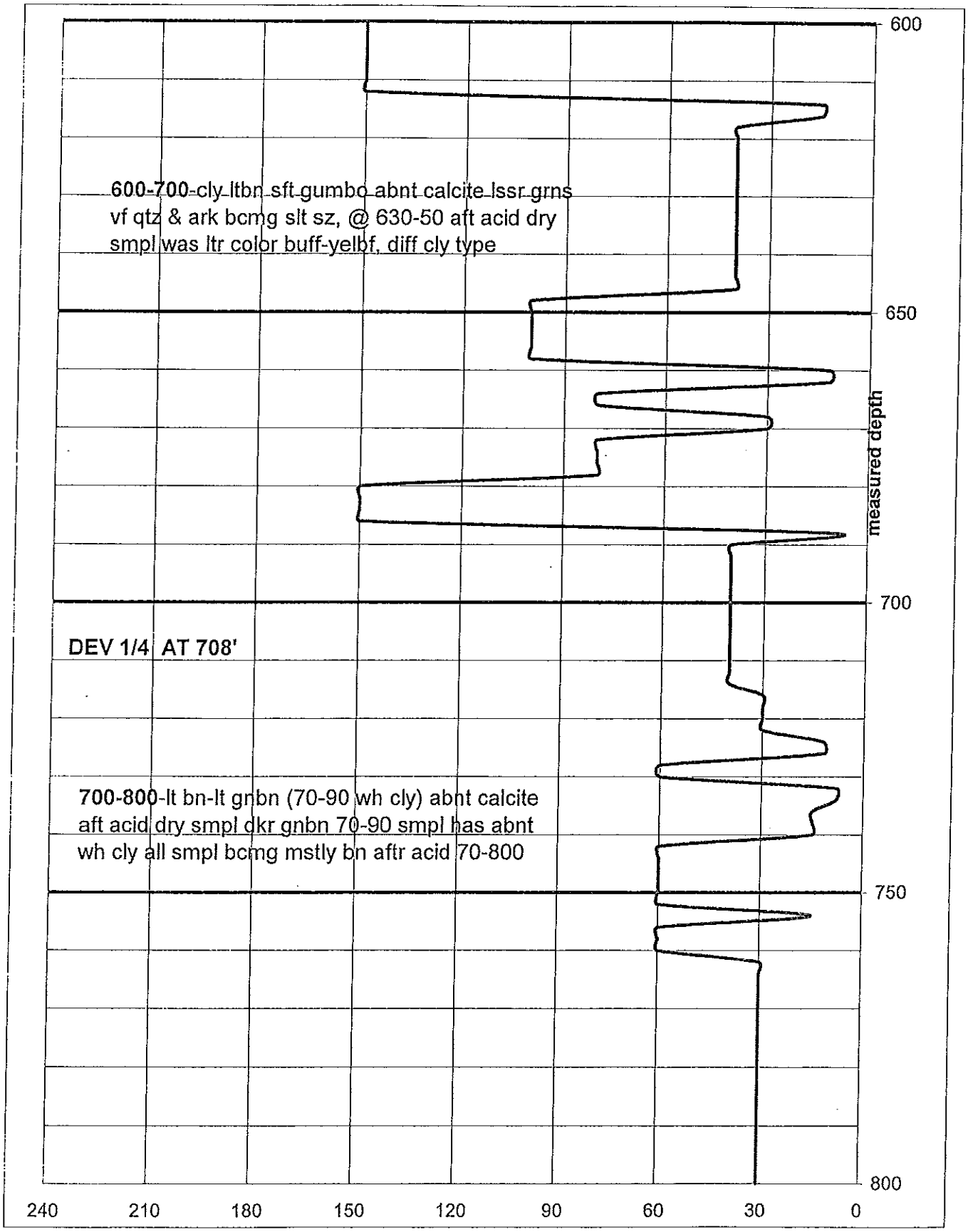
LENTZ SAMPLES

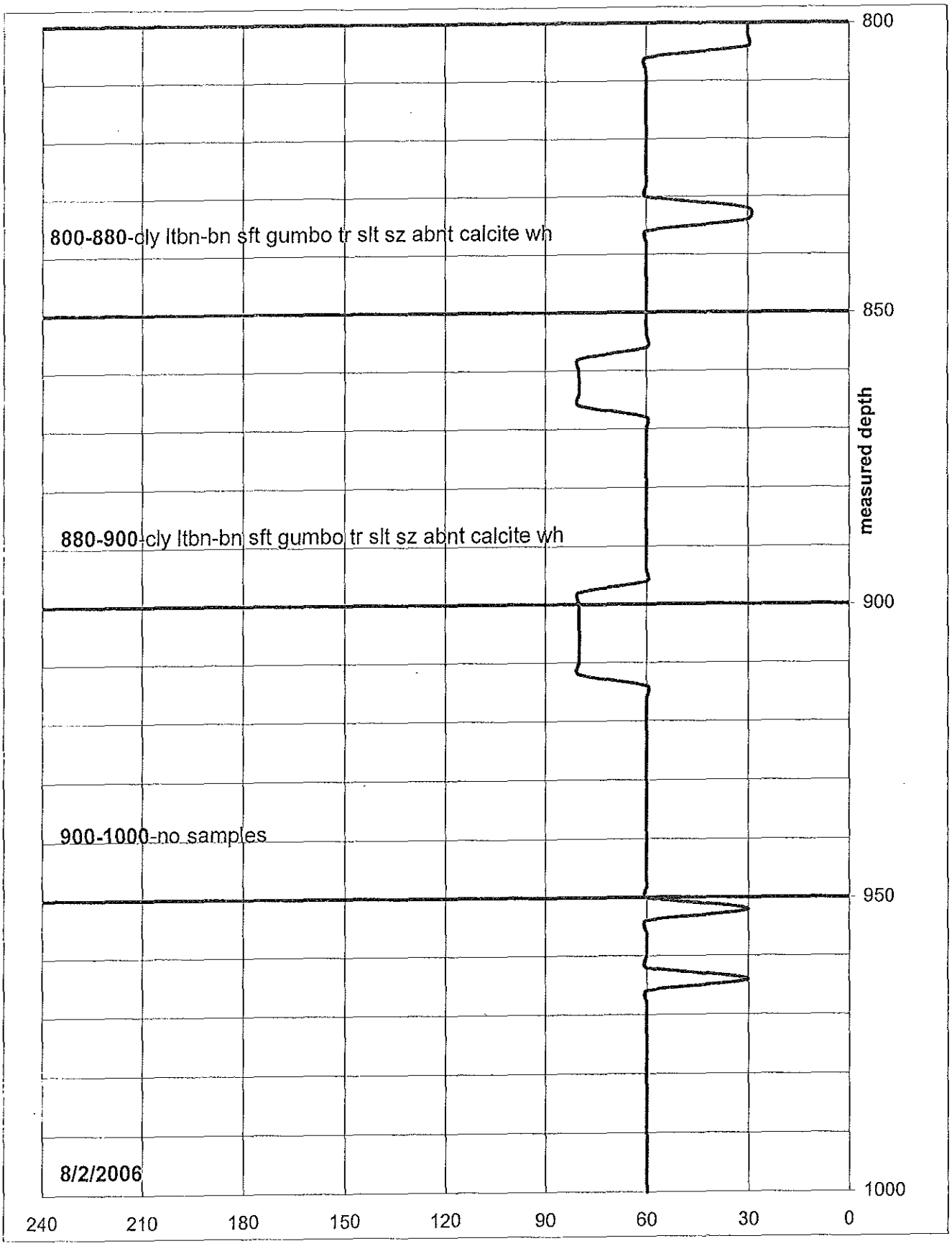
ZIA SAMPLES	BOX #1	2720	4000
		4000	5300
		5300	6400
		6400	7600
		7600	7922

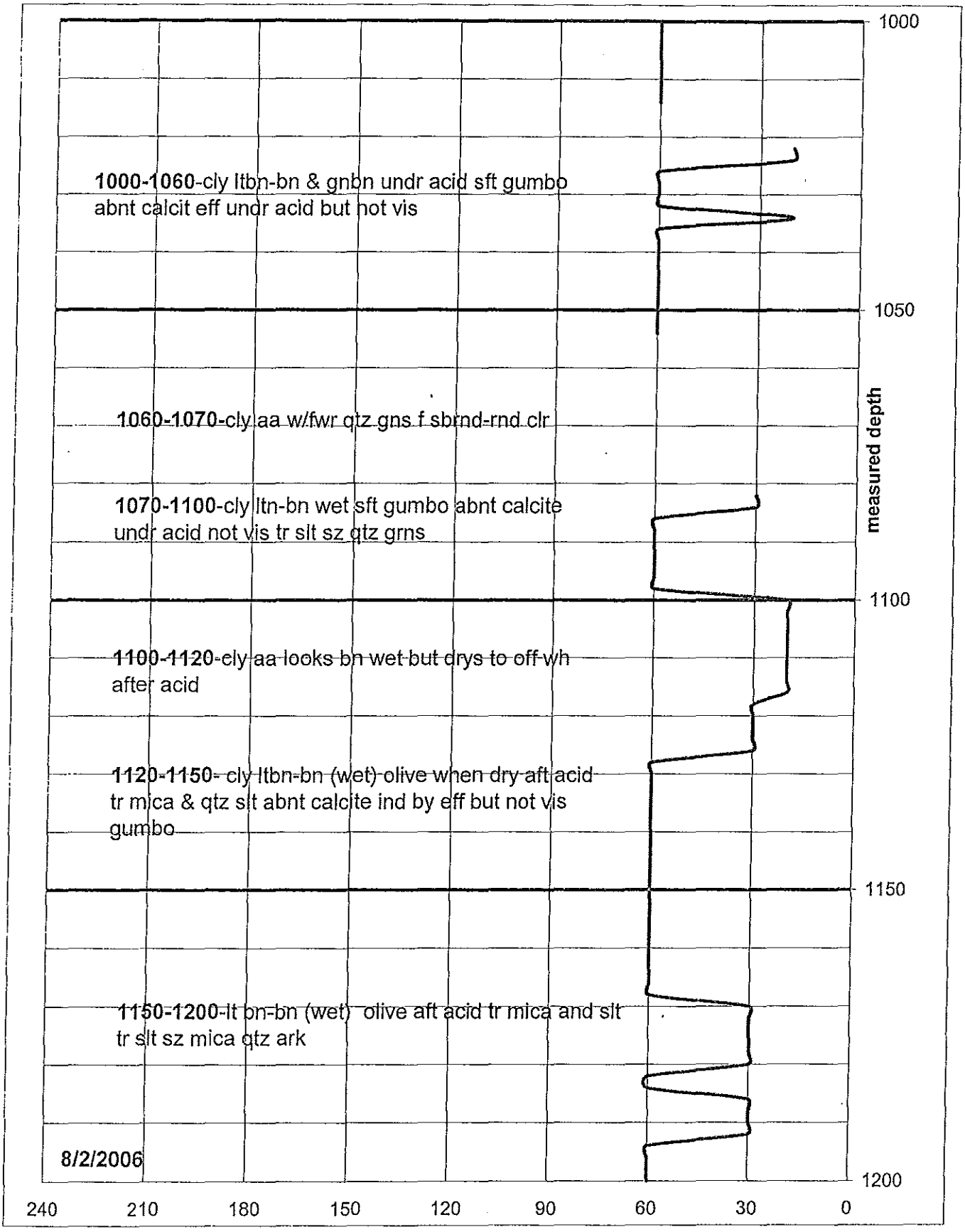

240
210
180
150
120
90
60
30
0
Arizona Gas Storage #1-21
ref.elev.
KB= 1540'
933
95' 20" Conductor Pipe Grouted to Surface
Bit 1 -17.5 ", STC XRC3, 14x14x14
survey elevations
KB=1540'
RT=
GL=1528'
0
50
100
150
200
measured depth
95-130 ss clr wh fros pk rd &yel stn sbang gns sm sbrnd qtz & sm feld
tr calcite
130-210 no smpl

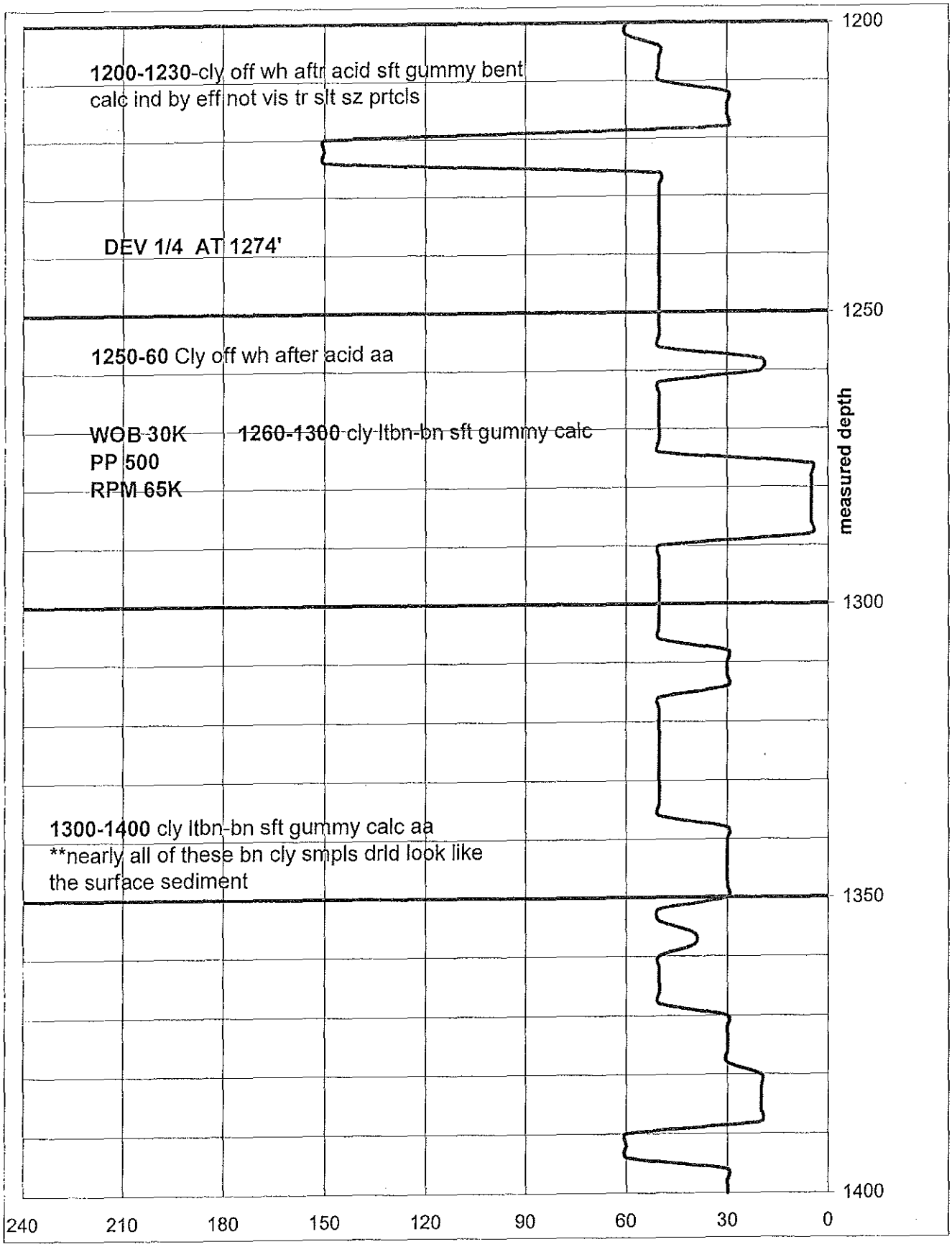

200
210-20 slty cly pnk-rd sft w/ ss clr qtz sbrnd-rnd & wh&pnk ark ang w/mod calcite wh&pnk, yel res after acid drys
220-230-more ss aa predominant
230-260-mstly pnk-orng slty cly sft mod calcite, yel res aa
250
260-280-ss clr&frosmstly qtz sbrnd ovgths fgrn tr calcite, yel res aa
280-300-slty cly pnk bn sft tr calcite w/abnt qtz gns clr fros sbrnd-sbang
300
300-310-no smpl
310--320-slty ss rsty sft w/ss qtz clr wh fros f-crs w/ovgths sm ark mod calcite
320-350-cly&slt rsty sft sm lse qtz grns mod calcite
350
350-400-cly&slt aa w/fr amt calcite & abnt qttz ss grns
400
measured depth
240
210
180
150
120
90
60
30
0

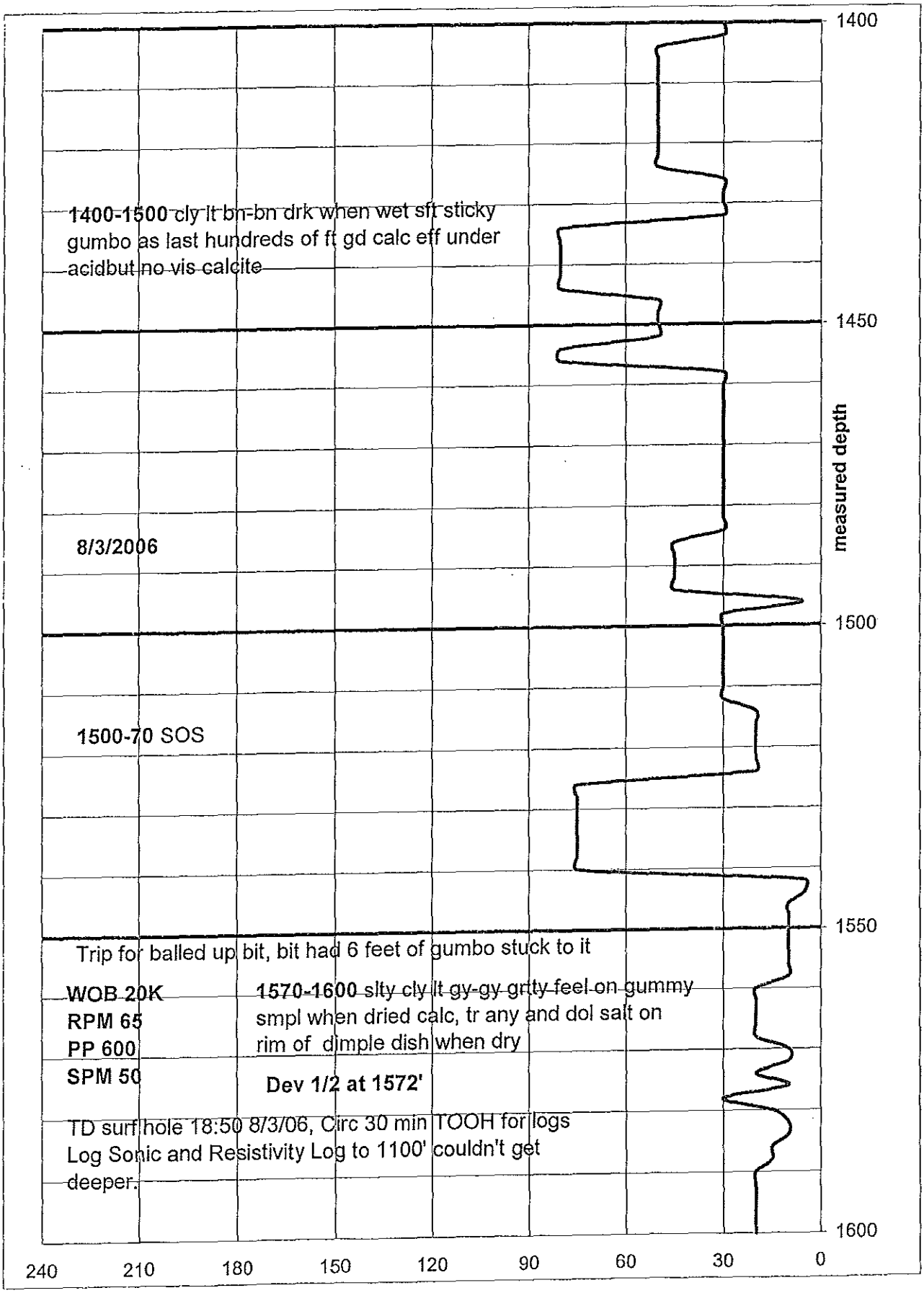

400-450-cly&slt rdbn sft w/ fwr floating qtz grns sb rnd-rnd tr arkmod amt calcite wh & erthy caliche also sm wh ig mnrl orth?
450-470- aa w/tr mica
470-500-cly & slt aa
500-510-no smpl
510-600-cly lt rdbn sft gumbo w/abnt calcite fr amt vf-fgrn qtz&ark min mica
WOB 15-20K
RPM 65
SPM 54
400
450
500
550
600
measured depth
240
210
180
150
120
90
60
30
0

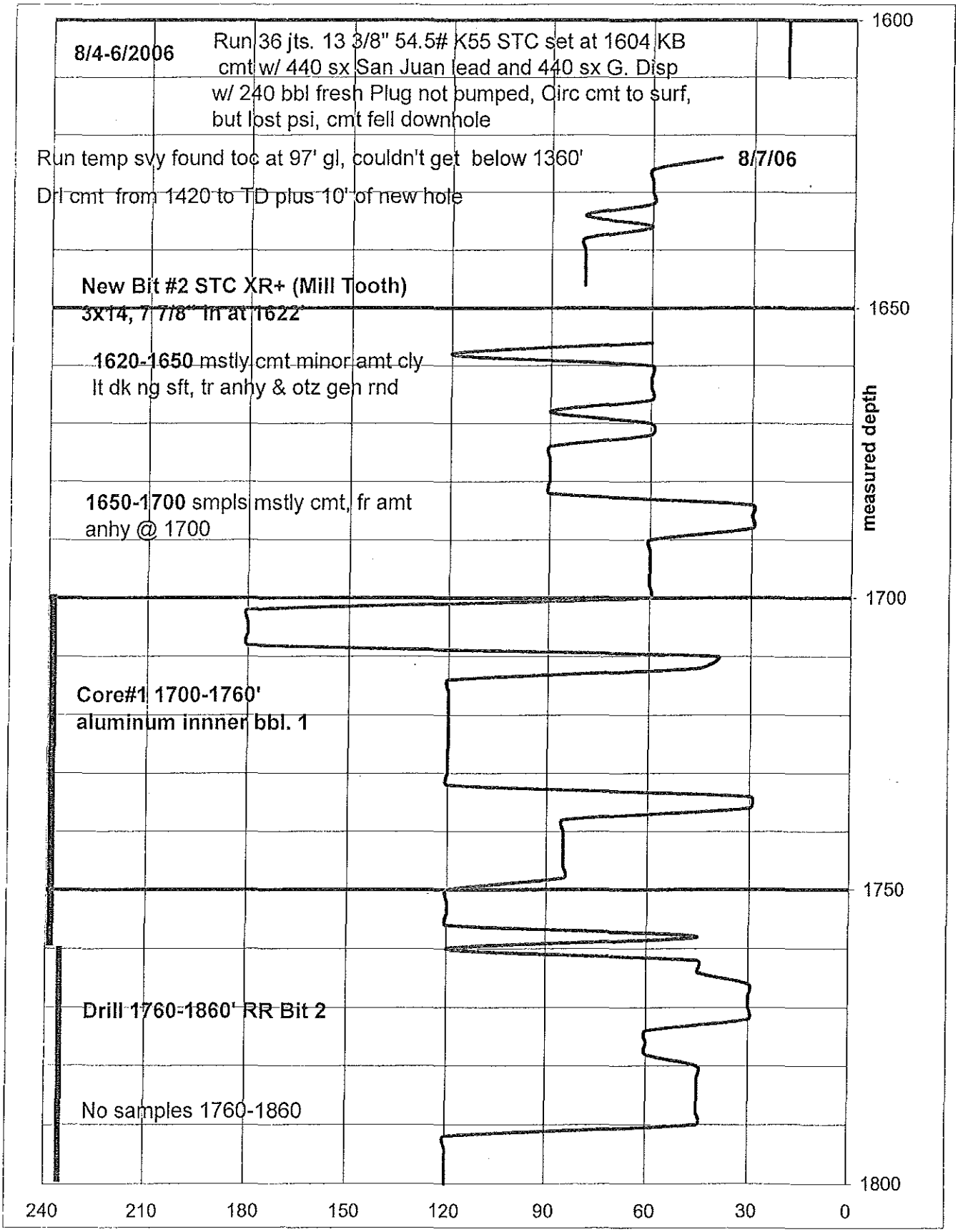

600-700-cly ltbn sft gumbo abnt calcite lssr grns vf qtz & ark bcmg slt sz, @ 630-50 aft acid dry smpl was ltr color buff-yelbf, diff cly type
DEV 1/4 AT 708'
700-800-lt bn-lt gnbn (70-90 wh cly) abnt calcite aft acid dry smpl dkr gnbn 70-90 smpl has abnt wh cly all smpl bcmg mstly bn aftr acid 70-800
600
650
700
750
800
measured depth
240
210
180
150
120
90
60
30
0

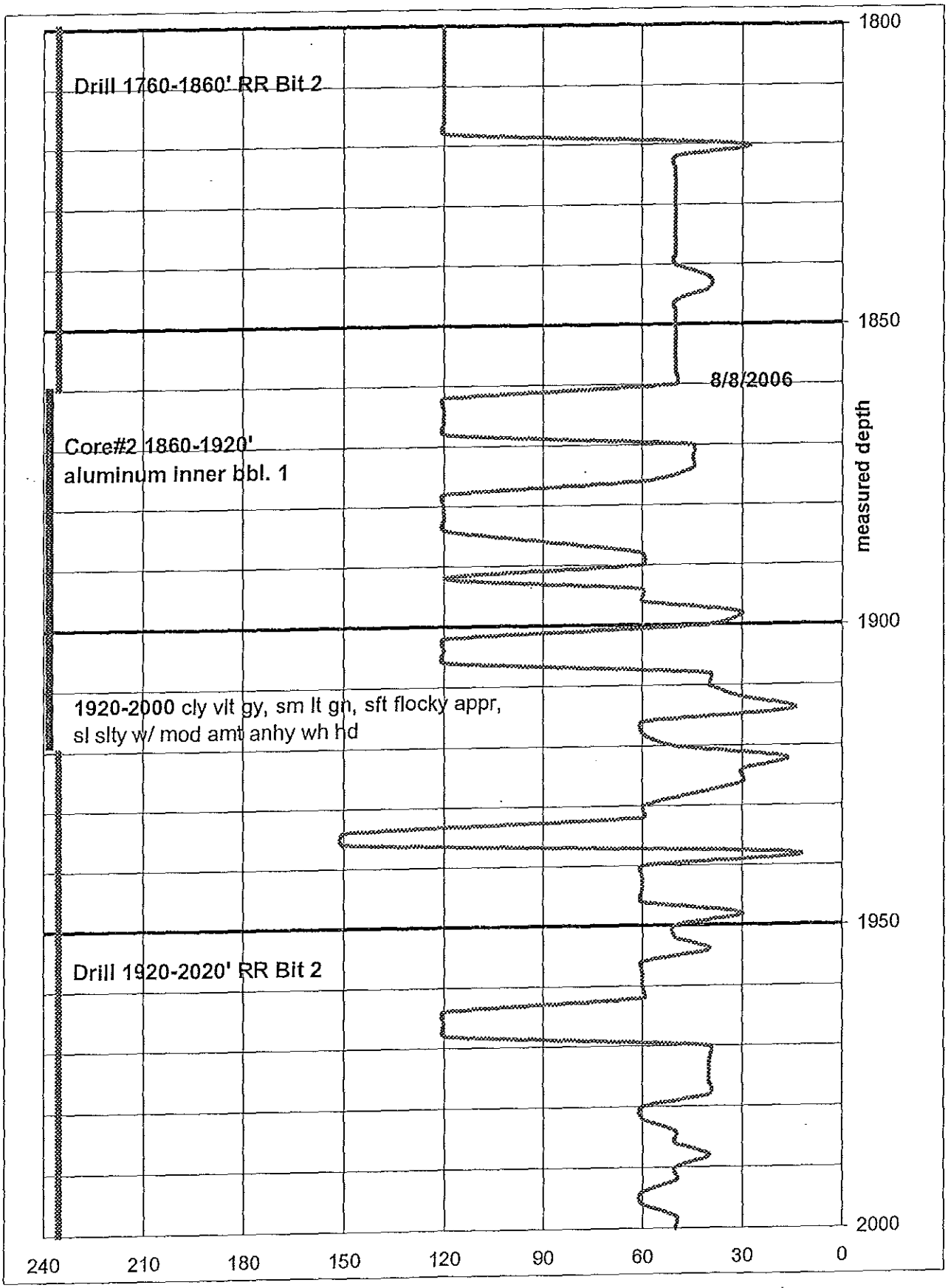

800-880-cly ltbn-bn sft gumbo tr slt sz abnt calcite wh
880-900-cly ltbn-bn sft gumbo tr slt sz abnt calcite wh
900-1000-no samples
8/2/2006
800
850
900
950
1000
measured depth
240
210
180
150
120
90
60
30
0

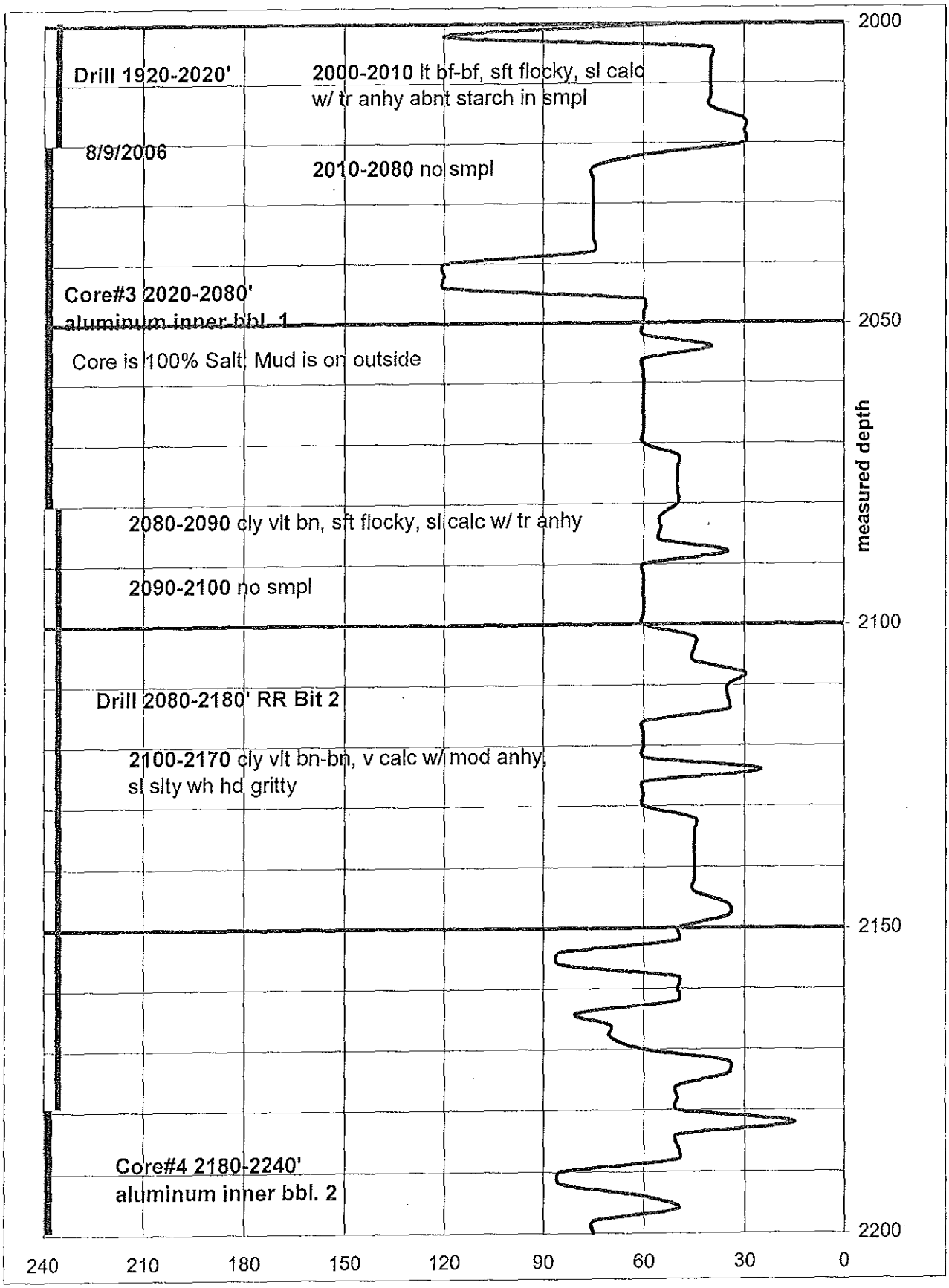

1000
1050
1100
1150
1200
measured depth
1000-1060-cly ltbn-bn & gnbn undr acid sft gumbo abnt calcit eff undr acid but not vis
1060-1070-cly aa w/fwr qtz gns f sbrnd-rnd clr
1070-1100-cly ltn-bn wet sft gumbo abnt calcite undr acid not vis tr slt sz qtz grns
1100-1120-cly aa looks bn wet but drys to off wh after acid
1120-1150- cly ltbn-bn (wet) olive when dry aft acid tr mica & qtz slt abnt calcite ind by eff but not vis gumbo
1150-1200-lt bn-bn (wet) olive aft acid tr mica and slt tr slt sz mica qtz ark
8/2/2006
240
210
180
150
120
90
60
30
0

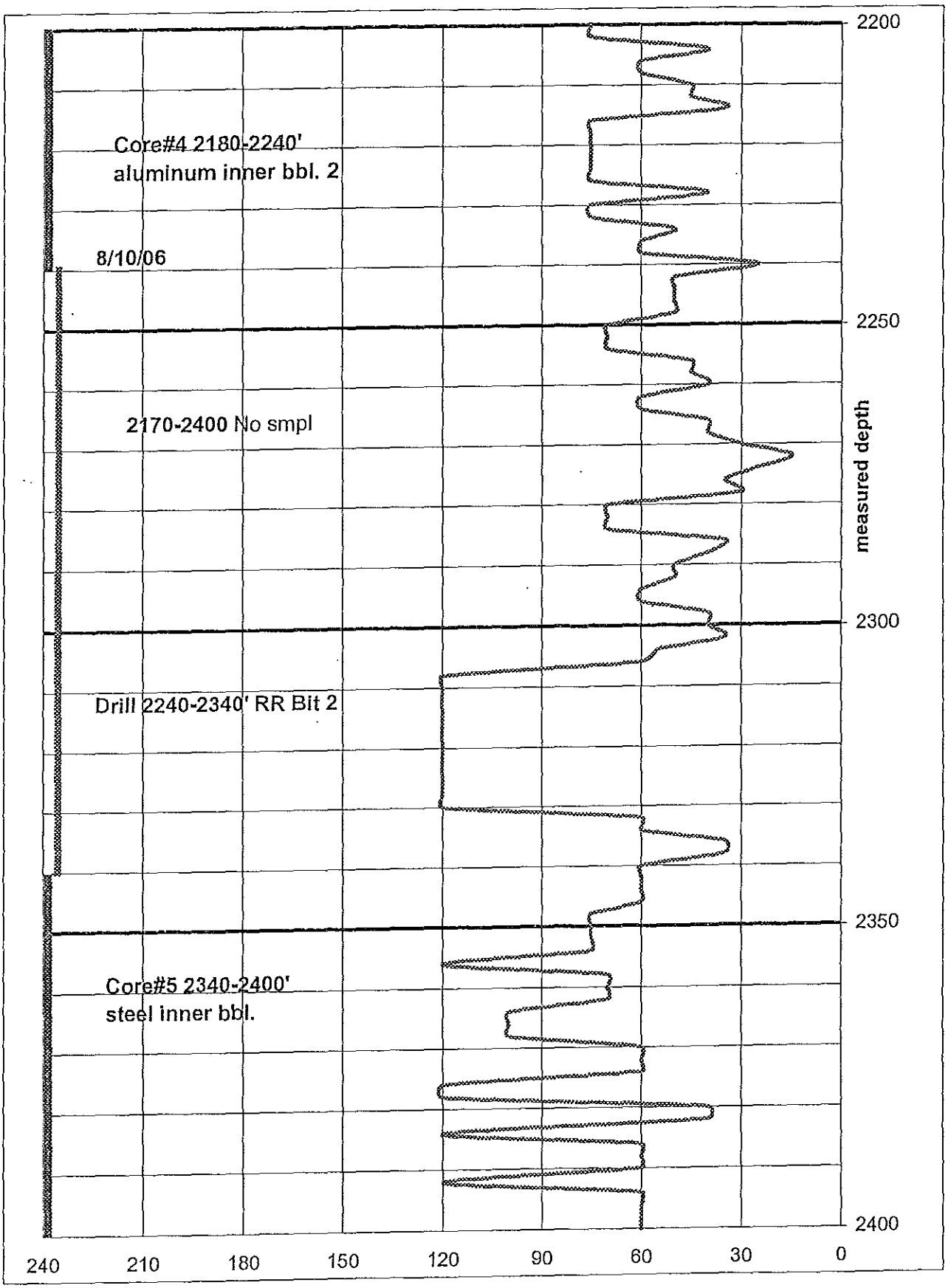

1200-1230-cly off wh aftr acid sft gummy bent
calc ind by eff not vis tr slt sz prtcls
DEV 1/4 AT 1274'
1250-60 Cly off wh after acid aa
WOB 30K
PP 500
RPM 65K
1260-1300 cly ltbn-bn sft gummy calc
1300-1400 cly ltbn-bn sft gummy calc aa
**nearly all of these bn cly smpls drld look like
the surface sediment
1200
1250
1300
1350
1400
measured depth
240
210
180
150
120
90
60
30
0

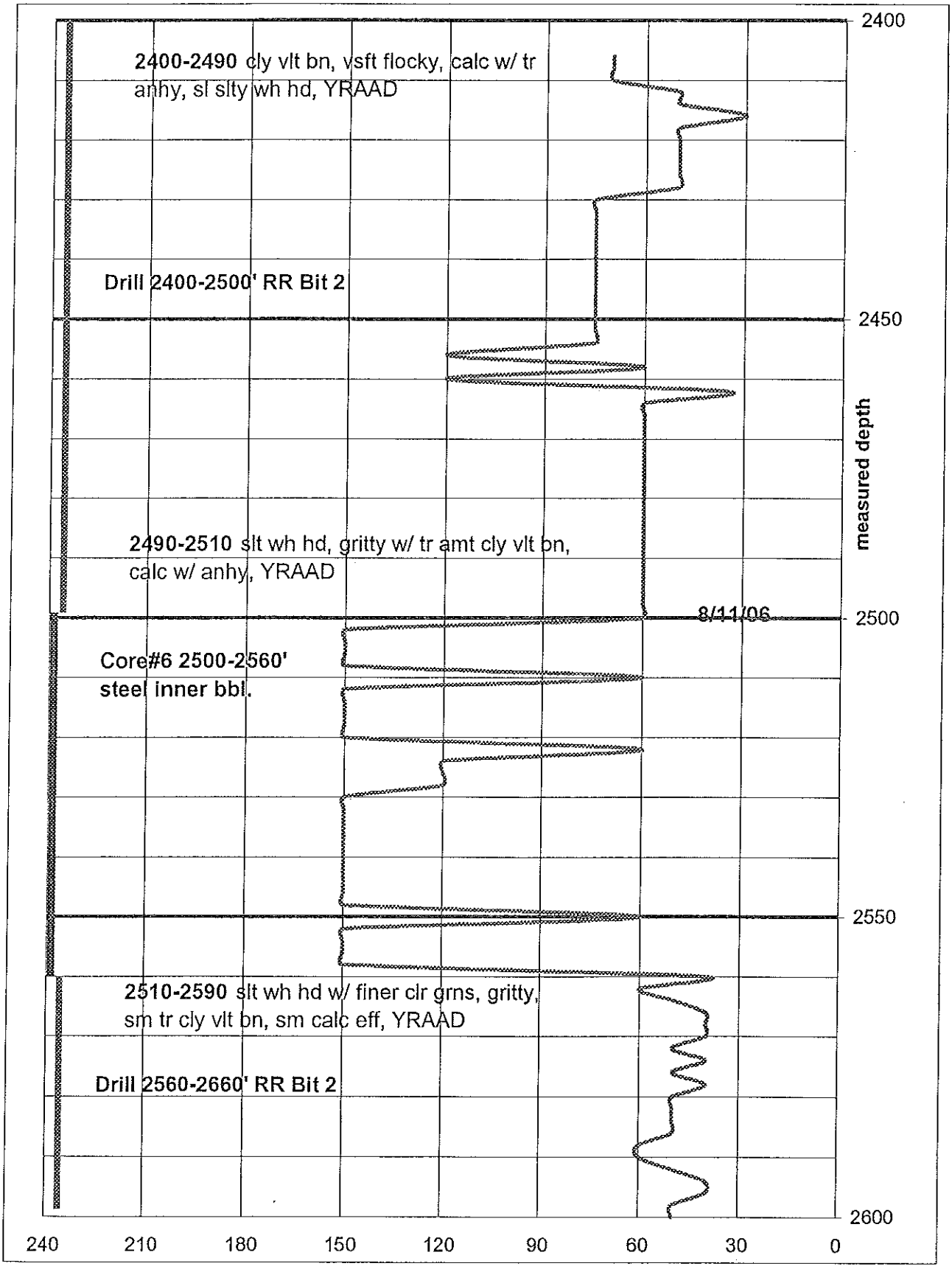

1400
1450
1500
1550
1600
measured depth
1400-1500 cly lt bn-bn drk when wet sft sticky gumbo as last hundreds of ft gd calc eff under acidbut no vis calcite
8/3/2006
1500-70 SOS
Trip for balled up bit, bit had 6 feet of gumbo stuck to it
WOB 20K
RPM 65
PP 600
SPM 50
1570-1600 slty cly lt gy-gy grty feel on gummy smpl when dried calc, tr any and dol salt on rim of dimple dish when dry
Dev 1/2 at 1572'
TD surf hole 18:50 8/3/06, Circ 30 min TOOH for logs Log Sonic and Resistivity Log to 1100' couldn't get deeper.
240
210
180
150
120
90
60
30
0

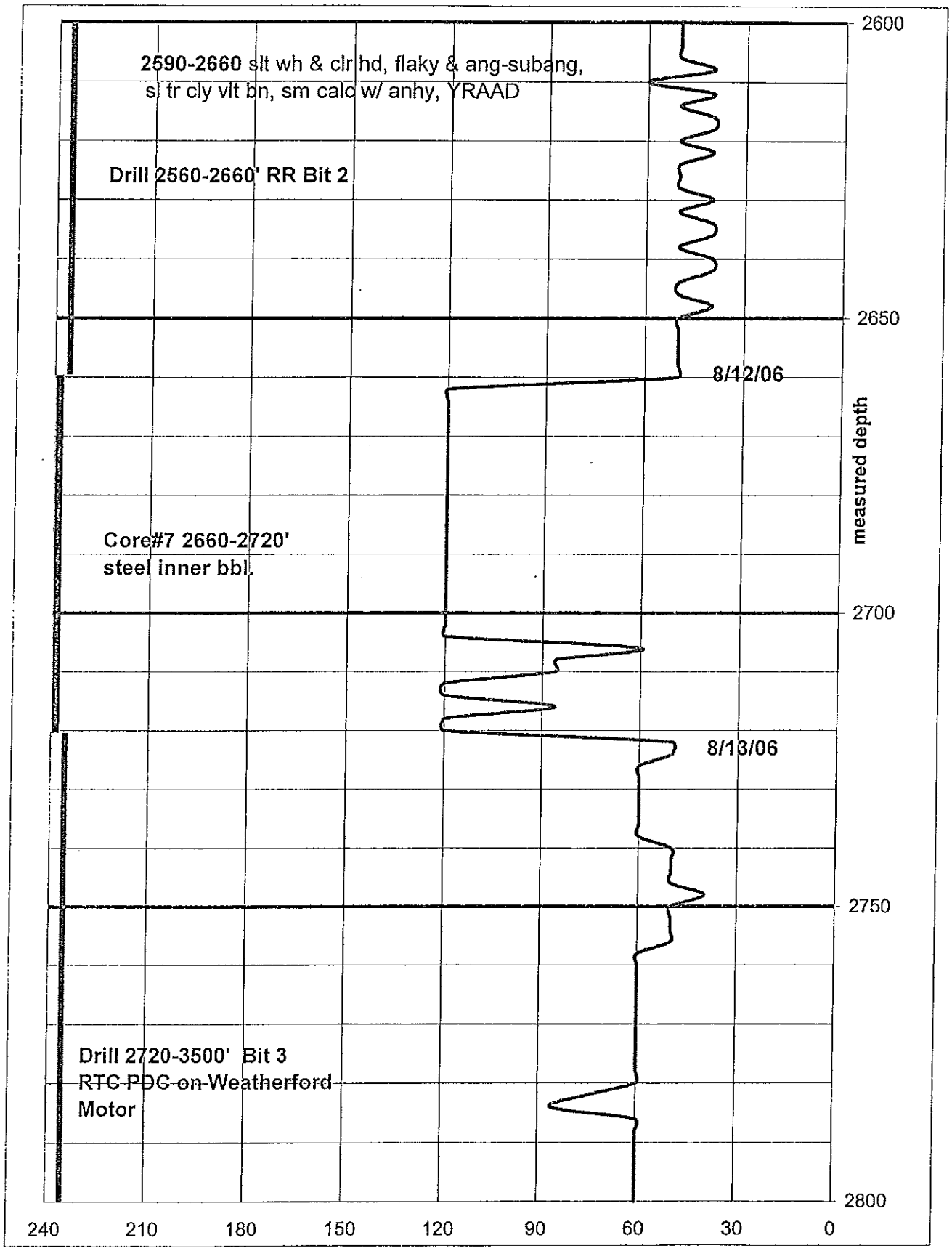

8/4-6/2006
Run 36 jts. 13 3/8" 54.5# K55 STC set at 1604 KB
cmt w/ 440 sx San Juan lead and 440 sx G. Disp
w/ 240 bbl fresh Plug not bumped, Circ cmt to surf,
but lost psi, cmt fell downhole
Run temp svy found toc at 97' gl, couldn't get below 1360'
8/7/06
Drl cmt from 1420 to TD plus 10' of new hole
New Bit #2 STC XR+ (Mill Tooth)
3x14, 7 7/8" in at 1622'
1620-1650 mstly cmt minor amt cly
lt dk ng sft, tr anhy & otz gen rnd
1650-1700 smpls mstly cmt, fr amt
anhy @ 1700
Core#1 1700-1760'
aluminum innner bbl. 1
Drill 1760-1860' RR Bit 2
No samples 1760-1860
1600
1650
1700
1750
1800
measured depth
240
210
180
150
120
90
60
30
0


Drill 1760-1860' RR Bit 2
8/8/2006
Core#2 1860-1920'
aluminum inner bbl. 1
1920-2000 cly vlt gy, sm lt gn, sft flocky appr,
sl slty w/ mod amt anhy wh hd
Drill 1920-2020' RR Bit 2
1800
1850
1900
1950
2000
measured depth
240
210
180
150
120
90
60
30
0


Drill 1920-2020'
8/9/2006
2000-2010 lt bf-bf, sft flocky, sl calc w/ tr anhy abnt starch in smpl
2010-2080 no smpl
Core#3 2020-2080'
aluminum inner bbl. 1
Core is 100% Salt, Mud is on outside
2080-2090 cly vlt bn, sft flocky, sl calc w/ tr anhy
2090-2100 no smpl
Drill 2080-2180' RR Bit 2
2100-2170 cly vlt bn-bn, v calc w/ mod anhy, sl slty wh hd gritty
Core#4 2180-2240'
aluminum inner bbl. 2
2000
2050
2100
2150
2200
measured depth
240
210
180
150
120
90
60
30
0

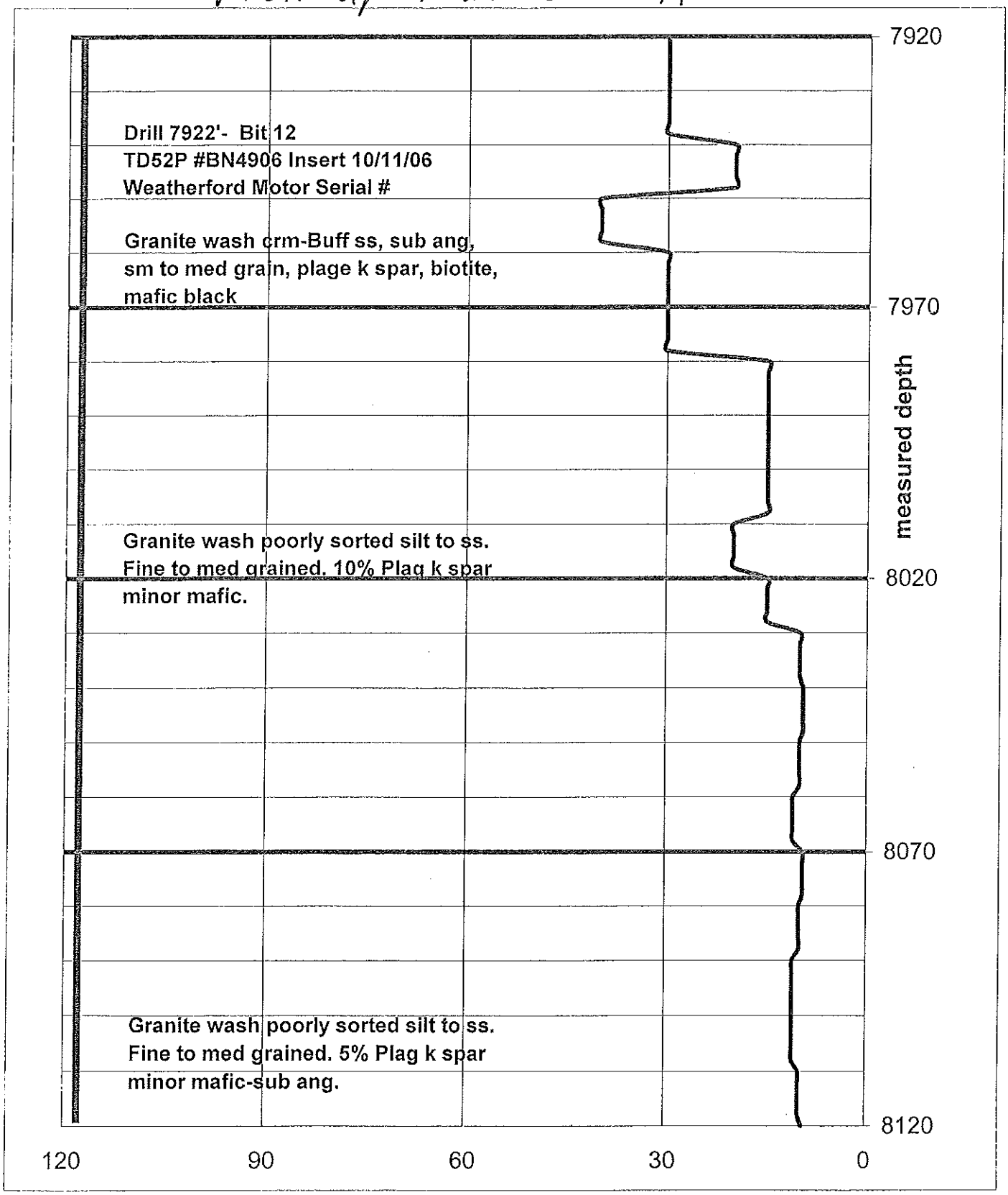

Core#4 2180-2240'
aluminum inner bbl. 2
8/10/06
2170-2400 No smpl
Drill 2240-2340' RR Bit 2
Core#5 2340-2400'
steel inner bbl.
2200
2250
2300
2350
2400
measured depth
240
210
180
150
120
90
60
30
0

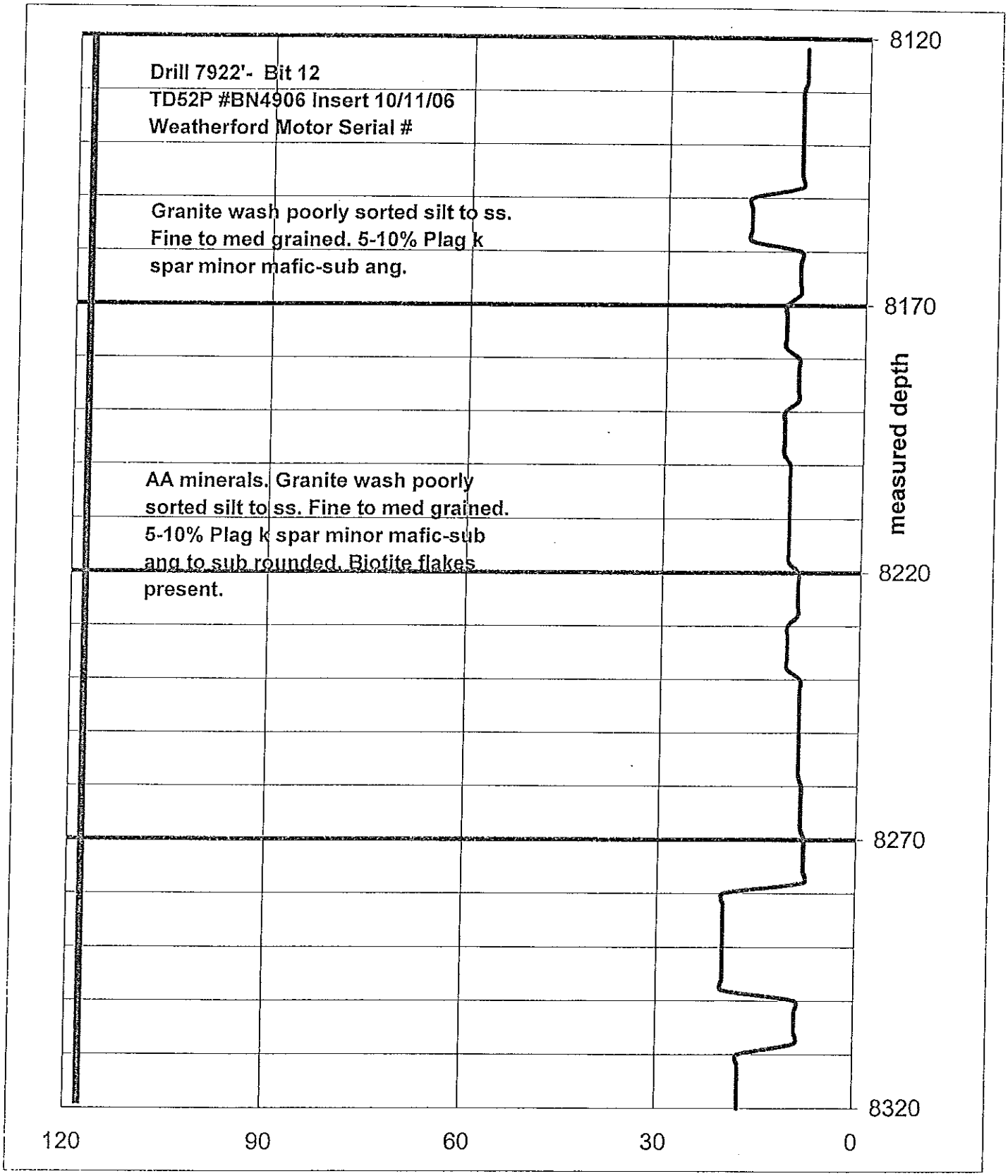

2400-2490 cly vlt bn, vsft flocky, calc w/ tr anhy, sl slty wh hd, YRAAD
Drill 2400-2500' RR Bit 2
2490-2510 slt wh hd, gritty w/ tr amt cly vlt bn, calc w/ anhy, YRAAD
8/11/06
Core#6 2500-2560' steel inner bbl.
2510-2590 slt wh hd w/ finer clr grns, gritty, sm tr cly vlt bn, sm calc eff, YRAAD
Drill 2560-2660' RR Bit 2
2400
2450
2500
2550
2600
measured depth
240
210
180
150
120
90
60
30
0

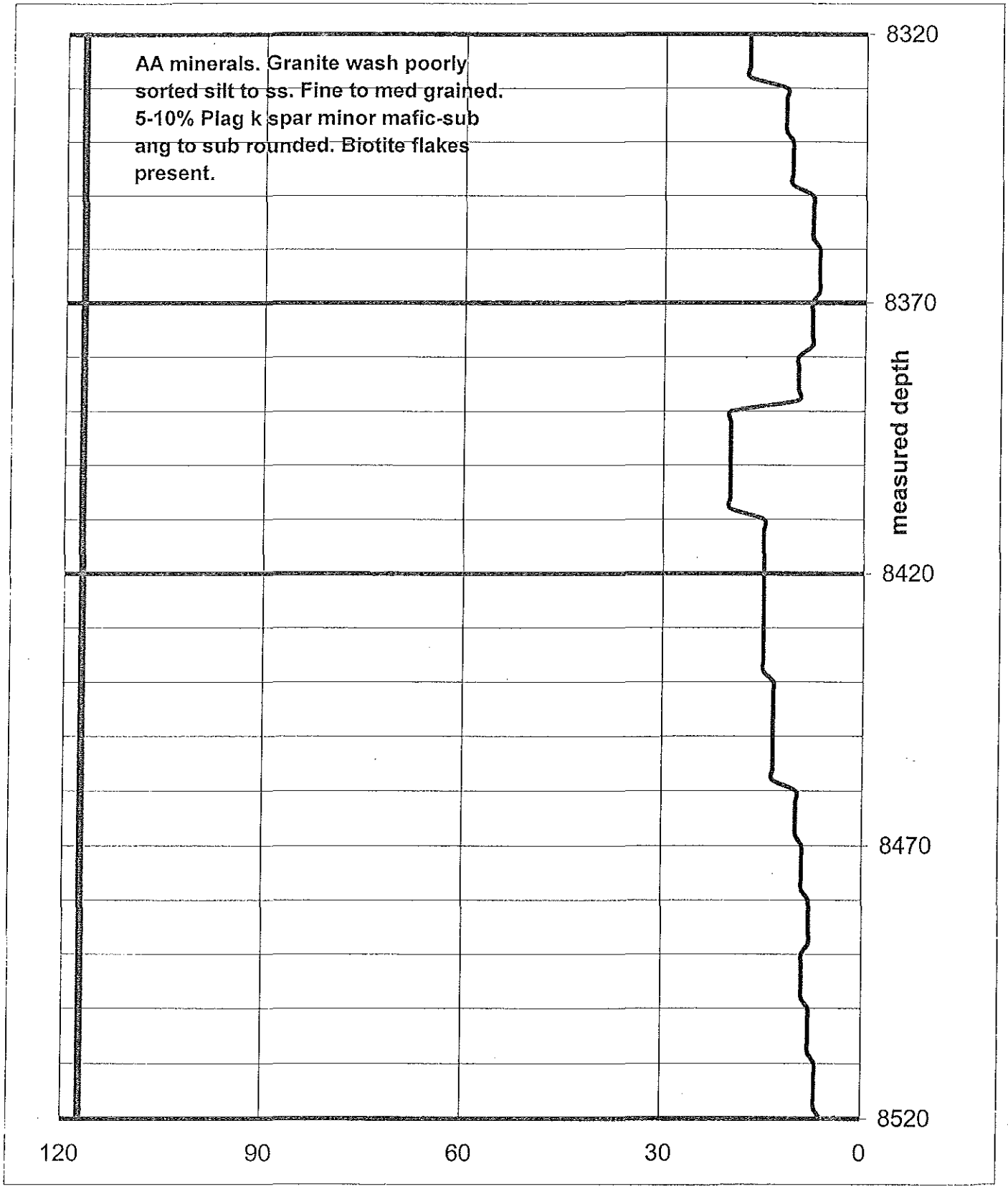


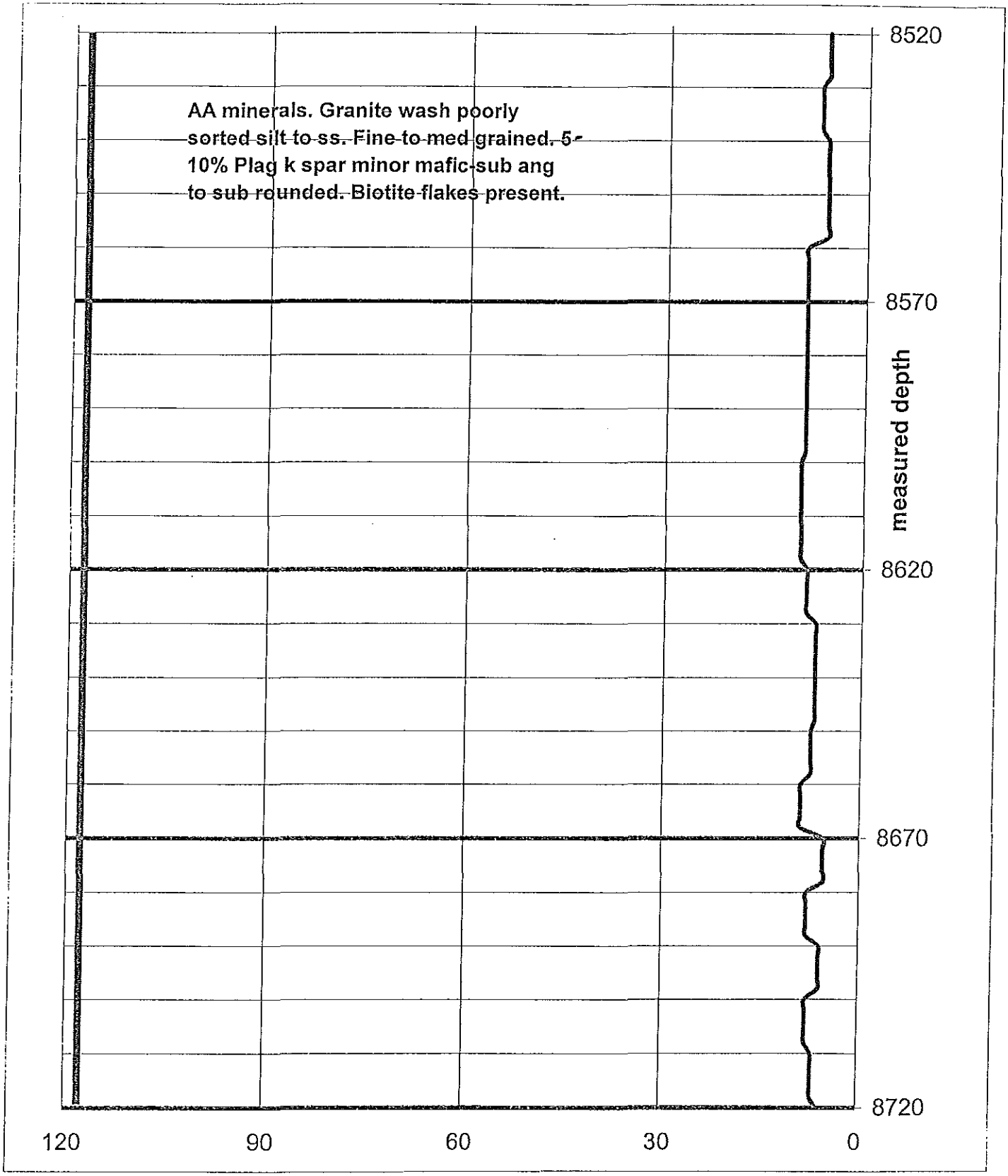
Jump to 7920 ft

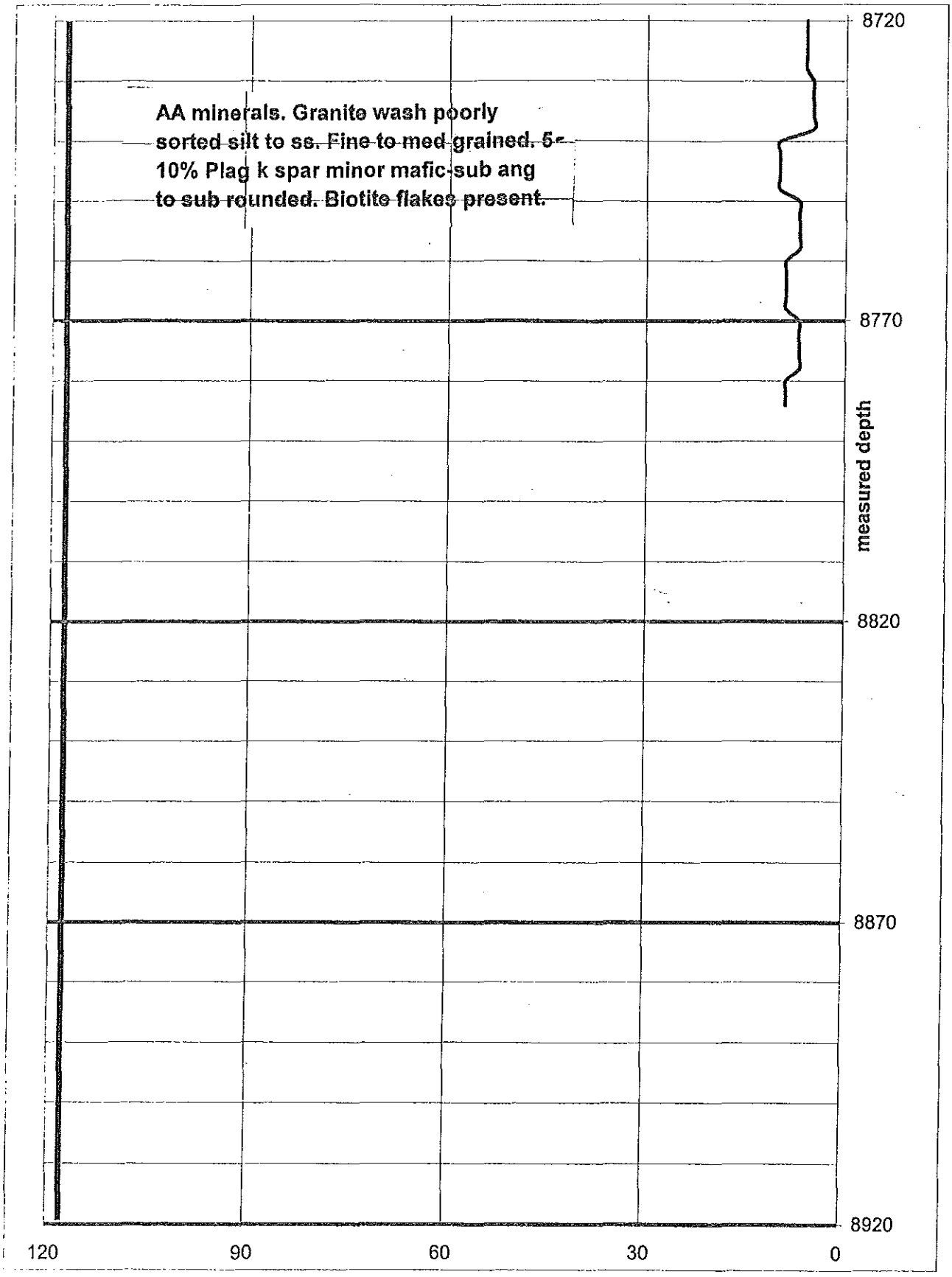
Pick up from 2800 ft




Drill 7922'- Bit 12
TD52P #BN4906 Insert 10/11/06
Weatherford Motor Serial #
Granite wash poorly sorted silt to ss.
Fine to med grained. 5-10% Plag k
spar minor mafic-sub ang.
AA minerals. Granite wash poorly
sorted silt to ss. Fine to med grained.
5-10% Plag k spar minor mafic-sub
ang to sub rounded. Biotite flakes
present.
8120
8170
8220
8270
8320
measured depth
120
90
60
30
0


AA minerals. Granite wash poorly sorted silt to ss. Fine to med grained. 5-10% Plag k spar minor mafic-sub ang to sub rounded. Biotite flakes present.
8320
8370
8420
8470
8520
measured depth
120
90
60
30
0


AA minerals. Granite wash poorly sorted silt to ss. Fine to med grained. 5-10% Plag k spar minor mafic sub ang to sub rounded. Biotite flakes present.
8520
8570
8620
8670
8720
measured depth
120
90
60
30
0


AA minerals. Granite wash poorly sorted silt to ss. Fine to med grained. 5-10% Plag k spar minor mafic sub ang to sub rounded. Biotite flakes present.
8720
8770
8820
8870
8920
measured depth
120
90
60
30
0

PB Energy Storage Services, Inc.

933

Date: 10-17-06	Report No: 89	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company	Well Name: Arizona Gas Storage # 1-21		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: Arizona
Depth: 8782'	Ft. Cut:	Formation:	Tops New Form:

Activity at Report Time – Laying down drill pipe.

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600			Run open hole logs.
	1730	11.5hrs	Rigged down wireline unit.
1730	0100	7.5hrs	TIH.
0100	0600	5hrs	Started TOOH laying down drill pipe.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL		1				
GPM			Hrs DW		Type		Gels		1				
Press			Hrs Drlg		Out		Oil		1				
					In		Solid		16				
					Ftg.		PH		1				
					Bit Wt				4				
					Ser/no.				1				
										TOTAL			

PB Energy Storage Services, Inc.

933

Date: 10-16-06	Report No: 88	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal / State: Arizona
Depth: 8782'	Ft. Cut: 56'	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0830	2.5hrs	Drilled from 8726' to 8743'.
0830	0900	.5hrs	Service rig.
0900	1400	5hrs	Drilled from 8743 to 8782'
1400	1630	2.5hrs	Pumped sweep and circulated hole clean.
1630	0130	9hrs	TOOH and laid down BHA.
0130			Rigged up Schlumberger wireline unit.
	0600	4.5hrs	Ran open hole logs.
			93 hrs on bit and motor.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	12	Wt	9.3	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	54	1	Bit	1.00		
SPM	30		Hrs Misc		Mfg	Reed	WL	20	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	TD52P	Gels		1	X over	3.48		
Press	1150		Hrs Drlg		Out	8784'	Oil		1	Float sub	2.17		
					In	7922'	Solid		16	DC	486.24		
					Ftg.	860'	PH	6.5	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	BN4906			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-15-06	Report No: 87	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 8726'	Ft. Cut: 168'	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1230	6.5hrs	Drilled from 8558' to 8617'.
1230	1300	.5hrs	Serviced rig.
1300	1800	5hrs	Drilled from 8617' to 8651'.
1800	0600	12hrs	Drilled from 8651' to 8726'.
			85.5 hrs on bit and motor.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	12	Wt	9.3	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	54	1	Bit	1.00		
SPM	30		Hrs Misc		Mfg	Reed	WL	20	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	TD52P	Gels		1	X over	3.48		
Press	1150		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	7922'	Solid		16	DC	486.24		
					Ftg.	804'	PH	76.5	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	BN4906			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-14-06	Report No: 86	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 8558'	Ft. Cut: 198'	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1530	9.5hrs	Drilled from 8360' to 8476'.
1530	1630	1hr	Circulate hole.
1630	1700	.5hrs	Short tripped 5 stands (Pulling 185,000lbs.).
1700	1800	1hr	Drilled from 8476' to 8481'.
1800	0600	12hrs	Drilled from 8481' to 8558'.
			61.5 hrs on bit and motor.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	12	Wt	9.3	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	55	1	Bit	1.00		
SPM	30		Hrs Misc		Mfg	Reed	WL	12	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	TD52P	Gels		1	X over	3.48		
Press	1150		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	7922'	Solid		16	DC	486.24		
					Ftg.	696'	PH	7	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	BN4906			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-13-06	Report No: 85	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal / State: Arizona
Depth: 8360'	Ft. Cut: 235'	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1330	7.5hrs	Drilled from 8125' to 8206'.
1330	1400	.5hrs	Worked on mud pumps.
1400	1800	4hrs	Drilled from 8206' to 8250'.
1800	0600	12hrs	Drilled from 8250' to 8360'.
			39 hrs on bit and motor.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	12	Wt	9.1	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	38	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	12	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	TD52P	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	7922'	Solid		16	DC	486.24		
					Ftg.	438'	PH	7	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	BN4906			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-12-06	Report No: 84	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal / State: Arizona
Depth: 8125'	Ft. Cut: 203	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0900	3hrs	Waiting on parts.
0900	1100	2hrs	Installed new draw works clutch.
1100	1330	2.5hrs	TIH.
1330	1800	4.5hrs	Drilled from 7922' to 8008'.
1800	1900	1hr	Worked on rig.
1900	0600	11hrs	Drilled from 8008' to 8125'.
			15.5hrs on bit and motor.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	12	Wt	9.2	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	40	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	15	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	TD52P	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	7922'	Solid		16	DC	486.24		
					Ftg.	203'	PH	7.5	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	BN4906			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-11-06	Report No: 83	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company	Well Name: Arizona Gas Storage # 1-21		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: Arizona
Depth: 7922'	Ft. Cut	Formation:	Tops New Form:

Activity at Report Time – TOOH

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1500	9hrs	Wait on orders.
1500	1800	3hrs	Picked up BHA.
1800	2030	4.5hrs	TIH to 5600'.
2030	0600	9.5hrs	Waited on parts to repair drum clutch.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt	9.2	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis	35	1	Bit	1.00		
SPM			Hrs Misc		Mfg		WL	12	1	Mud Motor	25.80		
GPM			Hrs DW		Type		Gels		1	X over	3.48		
Press			Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In		Solid		16	DC	486.24		
					Ftg		PH	7.5	1	Jars	29.17		
					Bit Wt				4	DC	120.91		
					Ser/no.				1	X over	1.41		
										TOTAL	**670.18**		

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator El Paso Natural Gas Company
2. OIL WELL ☐ GAS WELL ☐ OTHER ☒ (Specify) Stratigraphic Test
3. Well Name AGS 1-21

Location 1980' FNL 660 FWL

Sec. 21 Twp. 7S Rge. 8E County Pinal, Arizona

4. Federal, State, or Indian Lease Number, or lessor's name if fee lease Owned by El Paso

5. Field or Pool Name NA

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT--OFF	☐	WEEKLY PROGRESS	☐
FRACTURE TREAT	☐	DIRECTIONAL DRILL	☐	FRACTURE TREATMENT	☐	REPAIRING WELL	☐
SHOOT OR ACIDIZE	☐	PERFORATE CASING	☐	SHOOTING OR ACIDIZING	☐	ALTER CASING	☐
REPAIR WELL	☐	CHANGE PLANS	☒			ABANDONMENT	☐
(OTHER)			☐	(OTHER)			☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log, Form 4)

1. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.

Change Total Depth to 9,000'

8. I hereby certify that the foregoing is true and correct.

Signed Doug Sattler Title Manager Date 10-11-2006

Permit No. 933

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notice and Reports On Wells
File One Copy
Form No. 25

5/96

PB Energy Storage Services, Inc.

933

Date: 10-10-06	Report No: 82	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 7922'	Ft. Cut	Formation:	Tops New Form:
Activity at Report Time – TOOH			

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1030	4.5hrs	TOOH. Laid down 9 drill collars, jars, motor, and bit.
1030	1330	3hrs	Waited on Schlumberger wireline.
1330			Rigged up Schlumberger wireline unit.
	0530	16hrs	Ran open hole logs and CBL.
0530	0600	.5hrs	Rigged down wireline unit.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt	9.2	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	35	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	12	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6182'	Solid		16	DC	486.24		
					Ftg	1740'	PH	7.5	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-09-06	Report No: 81	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 7922'	Ft. Cut 322'	Formation:	Tops New Form:

Activity at Report Time – TOOH

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0600	12hrs	Drilled from 7595' to 7796'.
0600	0130	7.5hrs	Drilled from 7796' to 7922'.
0130	0330	2hrs	Pumped sweep and circulated hole clean.
0330	0600	2.5hrs	TOOH.
			91 hrs on bit.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis		1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6182'	Solid		16	DC	486.24		
					Ftg	1740'	PH		1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-08-06	Report No: 80	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 7595'	Ft. Cut 155'	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0930	3.5hrs	Drilled from 7440' to 7555'.
0930	1100	1.5hrs	Rotary clutch went out. Circulate and worked pipe. Worked on rotary.
1100	1300	2hrs	Pulled into 9 5/8" casing.
1300	0100	12hrs	Waited on parts to repair rotary. Slipped drill line.
0100	0200	1hr	Repaired rotary.
0200	0330	1.5hrs	TIH and broke circulation.
0330	0600	2.5hrs	Drilled from 7555' to 7595'.
			71 1/2 hrs on bit.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt	9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	31	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	15	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6182'	Solid		16	DC	486.24		
					Ftg	1413'	PH	9	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-07-06	Report No: 79	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 7440'	Ft. Cut 410'	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1800	12hrs	Drilled from 7030' to 7300'.
1800	0600	12hrs	Drilled from 7300' to 7440'.
			65 1/2 hrs on bit.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt	9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	31	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	15	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6910'	Solid		16	DC	486.24		
					Ftg	1258'	PH	9	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-06-06	Report No: 78	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 7030'	Ft. Cut 88'	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0730	1.5hrs	Finished in the hole with core barrel.
0730	0830	1hr	Cored from 6910' to 6942'. Core barrel jammed.
0830	1430	6hrs	TOOH.
1430	1800	3.5hrs	Laid down core barrels (31' of core recovered).
1800	1930	1.5hrs	Loaded coring tools. Released DOWDCO.
1930	2430	5hrs	TIH.
2430	0600	5.5hrs	Broke circulation. Drilled from 6942' to 7030'.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt	8.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	29	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	20	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6910'	Solid		16	DC	486.24		
					Ftg	855'	PH	9	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-05-06	Report No: 77	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company	Well Name: Arizona Gas Storage # 1-21		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: Arizona
Depth: 6910'	Ft. Cut 150'	Formation:	Tops New Form:
Activity at Report Time – TIH with core barrel			

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1200	6hrs	Drilled from 6752' to 6910'.
1200	1400	2hrs	Pumped sweep and circulated out.
1400	2030	6.5hrs	TOOH.
2030	2330	3hrs	Laid down bit and motor. Picked up core barrel.
2330	0600	6.5hrs	TIH with core barrel.
			Coring Assembly
			1-bit 1.00'
			2-barrels 64.37'
			1-jars 7.82'
			1-x-over 1.62'
			19 d. c. 576.92'
			1-x-over 1.41'
			Total 653.14'
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt	8.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	28	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	14	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6910'	Solid		16	DC	486.24		
					Ftg	728'	PH	9	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-04-06	Report No: 76	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company	Well Name: Arizona Gas Storage # 1-21		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: Arizona
Depth: 6752'	Ft. Cut 277'	Formation:	Tops New Form:

Activity at Report Time – TIH

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0830	2.5hrs	TIH with bit drill collars and jars.
0830	1100	2.5hrs	Jet sand from shaker pits.
1100	1430	3.5hrs	Finish tripping in the hole.
1430	1630	2hrs	Broke circulation and leveled the rig.
1630	1800	1.5hrs	Drilled from 6475' to 6531'.
1800	0600	12hrs	Drilled from 6531' to 6752'.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt	8.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	28	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	14	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6122'	Solid		16	DC	486.24		
					Ftg	570'	PH	9	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-03-06	Report No: 75	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 6475'	Ft. Cut 240'	Formation:	Tops New Form:

Activity at Report Time – TIH

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1030	4.5hrs	Drilled from 6235' to 6311'.
1030	1100	.5hrs	Serviced rig and replaced guards on hydromatic break.
1100	1800	7hrs	Drilled from 6311' to 6440'.
1800	1930	1.5hrs	Drilled from 6440' to 6475'. Mud logger noticed an increase in gas at returns.
1930	2030	1hr	Circulated bottoms up.
2030	0200	5.5hrs	TOOH.
0200	0330	1.5hrs	Removed flow line and nippled down bell nipple.
0330	0530	2hrs	Nippled up and function tested BOP's. Nippled up bell nipple and installed flow line.
0530	0600	.5hrs	TIH.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt	8.5	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	32	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	9	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6122'	Solid		16	DC	486.24		
					Ftg	293'	PH	8	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-02-06	Report No: 74	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal / State: Arizona
Depth: 6235'	Ft. Cut: 53'	Formation:	Tops New Form:

Activity at Report Time – Drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0800	2hrs	Finished TIH with coring tools.
0800	1130	3.5hrs	Tagged @ 6122'. Cored to 6182'.
1130	1930	8hrs	TOOH. Laid down cores.
1930	2030	1hr	Stood back core barrel. Made up new 7 7/8" bit and motor.
2030	0200	5.5hrs	TIH. Tagged @ 6122'.
0200	0300	1hr	Reamed to 6182'.
0300	0600	3hrs	Drilled from 6182' to 6235'.
			Coring Assembly
			1-bit 1.00'
			2-barrels 64.37'
			1-jars 7.82'
			1-x-over 1.62'
			19 d. c. 576.92'
			1-x-over 1.41'
			Total 653.14'
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	11	Wt	8.5	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	32	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	Reed	WL	9	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out		Oil		1	Float sub	2.17		
					In	6122'	Solid		16	DC	486.24		
					Ftg	53'	PH	8	1	Jars	29.17		
					Bit Wt	10,000			4	DC	120.91		
					Ser/no.	J50498			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 10-01-06	Report No: 73	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 6122'	Ft. Cut: 232'	Formation:	Tops New Form:

Activity at Report Time – TIH with coring tools

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1600	10hrs	Drilled from 5890' to 6122'.
1600	1900	3hrs	Pumped sweep and circulated hole clean.
1900	2230	3.5hrs	TOOH.
2230	2430	2hrs	Picked up and made up coring tools.
2430	0400	3.5hrs	TIH.
0400	0600	2hr	Worked on hydromatic break.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	10	Wt	8.5	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	32	1	Bit	1.00		
SPM	50		Hrs Misc		Mfg	HTC	WL	9	1	Mud Motor	25.80		
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over	3.48		
Press	1000		Hrs Drlg		Out	6122'	Oil		1	Float sub	2.17		
					In	5650'	Solid		16	DC	486.24		
					Ftg	472'	PH	8	1	Jars	29.17		
					Bit Wt	8,000			4	DC	120.91		
					Ser/no.	5092166			1	X over	1.41		
										TOTAL	**670.18**		

PB Energy Storage Services, Inc.

933

Date: 9-30-06	Report No: 72	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 5890'	Ft. Cut: 240'	Formation:	Tops New Form:

Activity at Report Time – Drilling 7 7/8" hole

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0700	1hr	Drilled cement and DV tool.
0700	1200	5hrs	Drilled wiper plug, float collar, cement, and float shoe.
1200	1800	6hrs	Drilled 7 7/8" hole from 5650' to 5737'.
1800	0600	12hrs	Drilled 7 7/8" hole from 5737' to 5890'.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	10	Wt	8.5	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis	32	1	Bit			
SPM	50		Hrs Misc		Mfg	HTC	WL	9	1	Mud Motor			
GPM	353		Hrs DW		Type	Milltooth	Gels		1	X over			
Press	1000		Hrs Drlg		Out		Oil		1	Float sub			
					In	5650'	Solid		1	18 DC			
					Ftg	240'	PH	8	1	Jars			
					Bit Wt	5,000			1	2 DC			
					Ser/no.	5092166			18	X over			
									1				
									2				

PB Energy Storage Services, Inc.

933

Date: 9-29-06	Report No: 71	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company	Well Name: Arizona Gas Storage # 1-21		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: Arizona
Depth: 5650'	Ft. Cut:	Formation:	Tops New Form:

Activity at Report Time – Drilling plug

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0900	3hrs	Waited on truck to pull mud from reserve pit.
0900	1400	5hrs	Jet out mud pits.
1400	1800	4hrs	Conditioning mud.
1800			TIH with 7 7/8" bit, mud motor, DC's. String was plugged.
	2230	4.5hrs	TOOH and unplugged bit.
2230	0300	4.5hrs	TIH. Tagged plug @ 5400'.
0300	0500	2hrs	Circulate and condition mud.
0500	0600	1hr	Drill cement and plug.
			1600-1800
			Rigged up Halliburton cementing equipment.
			Pumped 150sks (33bbls) into 9 5/8" x 13 3/8" annulus. 5bbls returned to surface.
			Rigged down cementing equipment.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	10	Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8"	Vis		1				
SPM			Hrs Misc		Mfg	HTC	WL		1				
GPM			Hrs DW		Type	Milltooth	Gels		1				
Press			Hrs Drlg		Out		Oil		1				
					In	5391'	Solid		1				
					Ftg		PH		1				
					Bit Wt				1				
					Ser/no.	D20958			18				
									1				
									2				

PB Energy Storage Services, Inc.

933

Date: 9-28-06	Report No: 70	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal / State: Arizona
Depth: 5650'	Ft. Cut:	Formation:	Tops New Form:

Activity at Report Time – WOC

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0900	3hrs	WOC
0900			Pumped 40bbls pre flush, 1255sks (518bbls) lead cement, 200sks (55bbls) tail cement.
			Displaced with 416bbls freshwater.
			Bumped plug to 1230psi. Pressured up to 2402psi to close DV tool. Tool holding.
	1230	3.5hrs	Did not get cement returns to surface.
1230	1330	1hr	Rigged down Halliburton.
1330	2400	10.5hrs	WOC. (Cleaning pits, Nippled down bell nipple, cut off 9 5/8" casing, Nippled up bell nipple.)
2400			Rigged up Southwest Exploration Services wireline unit.
			Ran temperature log and found top of cement @ 402'.
	0130	1.5hrs	Rigged down wireline unit.
0130	0600	5.5hrs	WOC. (Picked up 4 ¾" drill collars and stood in the derrick.)
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Dowdco	WL	22	1	motor	26.58		
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.90		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	520.02		
									1	Drill jar	32.30		
									2	6" DC's	57.78		

El Paso Natural Gas

Arizona Gas Storage
#1 - 21

API Well No.:

Sec 21 / Twp 07 S / Rng 08 E

9/27/2006
Pinal
County

9 5/8" 2 Stage Int.

Customer Representative:
Mike Haynes / Greg Gettman
Halliburton Operator:
Steve Stromberg
Ticket No.:
4629103

Halliburton

Cement & Equipment Summary

Job Type 9 5/8" 2 Stage Int.

Casing	Size	Weight	Grade	Measured Depth	Total Casing
Surface	13 3/8	54.5	J-55	1,604	
Intermediate	9 5/8	40	J-55	5,648	
Production	9 5/8	36	J-55	808	
Tubing					
Drill Pipe					
Open Hole	12 1/4			5,650	

Cement Data

Spacer 50 Bbls KCl w/ LGC-36/ 20 H2O

Cement 1 50/50/G/Poz — 120 Sacks
Additives 1% Gel, 5# Gilsonite, 1/4# Flocele, .6% Halad 9, 15% Salt (BWOW)

Weight (lb/gal) 13.10 Yield (cuft/sk) 1.55 Water (gal/sk) 6.51

Cement 2 HLC — 1,255 Sacks
Additives 6% Gel, 15% Salt, 10# Gilsonite, 1/4# Flocele

Weight (lb/gal) 12.30 Yield (cuft/sk) 2.32 Water (gal/sk) 11.56

Cement 3 50/50/G/Poz — 200 Sacks
Additives 1% Gel, 5# Gilsonite, 1/4# Flocele, .6% Halad 9, 15% Salt (BWOW)

Weight (lb/gal) 13.10 Yield (cuft/sk) 1.55 Water (gal/sk) 6.51

Displacement H2O 8.33 lb/gal 427 Bbls

Cement Equipment

Provider	HES					
Guide Shoe		ea.	Centralizers	9 5/8 x 12 1/4	25	ea.
Float Shoe	1	ea.	Plug Type	9 5/8	1	ea.
Float Collar	1	ea.	Packer			ft.
DV Tool	5432'	ft.	Retainer			ft.

Halliburton — JOB SUMMARY

		4629103	TICKET DATE: September 27, 2006
NORTH AMERICA	ROCKY MOUNTAIN	Arizona	Pinal
HES EMP ID / EMPLE: 217406	HES EMPLOYEE NAME: Steve Stromberg	PSL DEPARTMENT: ZONAL ISOLATION	
LOCATION: FARMINGTON, NM	COMPANY: El Paso Natural Gas	CUSTOMER REP / PHONE: Mike Haynes / Greg Gettman	
TICKET AMOUNT:	WELL TYPE: 02 GAS	API/UWI #:	
WELL LOCATION: Eloy, Arizona	DEPARTMENT: ZONAL ISOLATION 10003	SAP BOMB NUMBER:	JOB TYPE: 9 5/8" 2 Stage Int.
LEASE NAME: Arizona Gas Storage	Well No.: #1 - 21	SEC / TWP / RNG: Sec 21 / Twp 07 S / Rng 08 E	

Steve Stromberg 217406		Harry Shoats 329013	24.0	Steve Huber 223473	24.0	David Core 335668	24.0
		Tate Hill 342673	24.0	John Ace 308040	24.0		

10829446	1050	10823383	1050	10195436/ 10025081	1050	10724579/ 10025039	1050
		10759930	1050	10192900/ 10025061	1050		

Form. Name — Type:
Form. Thickness — From
Packer Type — Set At
Bottom Hole Temp. — Pressure
Retainer Depth — Total Depth

	Called Out	On Location	Job Started	Job Completed
Date	9/25/06	9/26/06	9/27/06	9/27/06
Time	17:00	13:30	01:42	13:37

Tools and Accessories

Type and Size		Qty	Make
Float Collar	9 5/8	1	Super Seal II
Float Shoe	9 5/8	1	Super Seal II
Centralizers			
Plug	9 5/8	1	2 Stage Set
Limit Clamp			
Stage Tool	9 5/8	1	Type P
Insert Float			
Guide Shoe			
Weld-A	9 5/8	4	Howco

Well Data

	New/Used	Weight	Size	Grade	From	To	Total Casing
Surface	New	54.5		J-55		1,604	
Intermediate	New	40.0	9 5/8	J-55	808.22	5,648	
Intermediate	New	36.0	9 5/8	J-55	0	808	
Drill Pipe							
Tubing							
Open Hole			12 1/4			5,650	
Perforations							Holes
Perforations							
Perforations							

Materials

Mud Type	Salt Mud	Density	11	Lb/Gal
Disp. Fluid	H20	Density	8.33	Lb/Gal
Prop. Type		Size		Lb
Prop. Type		Size		Lb
Acid Type		Gal.		%
Acid Type		Gal.		%
Surfactant		Gal.		In
NE Agent		Gal.		In
Fluid Loss		Gal/Lb		In
Gelling Agent		Gal/Lb		In
		Gal/Lb		
Breaker		Gal/Lb		
Blocking Agent		Gal/Lb		
Perfpac Balls		Qty.		
Other				
KCL substitute				
Other				
Other				

Hours On Location

Date	Hours
9/26/06	9.50
9/27/06	14.00
Total	23.50

Operating Hours

Date	Hours
9/26/06	1.50
9/27/06	6.20
Total	7.70

Discription Of Job

PLEASE SEE JOB LOG

Hydraulic Horsepower
Ordered — Avail.

Average Rates in BPM
Treating — Disp. — Overall

Cement Left in Pipe
Feet 41.50 — Reason: Customer Request

Cement Data

Stage	Sacks	Cement	Bulk/Sks	Additives	W/Rq.	Yield	Lbs/Gal	Bbls
1	120	50/50/G/Poz	BULK	1% Gel, 5# Gilsonite, 1/4# Flocele, .6% Halad 9, 15% Salt (BWOW)	6.51	1.55	13.1	33
2	1255	HLC	BULK	6% Gel, 15% Salt, 10# Gilsonite, 1/4# Flocele	11.56	2.32	12.3	519
2	200	50/50/G/Poz	BULK	1% Gel, 5# Gilsonite, 1/4# Flocele, .6% Halad 9, 15% Salt (BWOW)	6.51	1.55	13.1	55
			BULK					
			BULK					

Summary

Circulating	RIG	Displacement	HES PUMP	Fluid Ahead Gal - bbl	50	Type:	KCl w/ LGC-36/ 20 H2O
Breakdown	NO	Maximum		Calc.Return/Pit Bbl		Calc.Disp Bbl	427
Lost Returns	NO	Actual TOC	SURFACE	Calc Return/Pit Sks		Actual Disp.	427
Cmt Rtrn#Bbl		Calc. Tot	SURFACE	Cmnt.Slurry bbls		607	
Cmt Rtrn#Sks		Frac. Gradient	N/A	Total Volume bbls		1526	
Average Rate		Shut In Psi					

THE INFORMATION STATED HEREIN IS CORRECT
CUSTOMER REPRESENTATIVE

Halliburton — JOB LOG

TICKET #	TICKET DATE
4629103	9/27/2006

REGION	NWA / COUNTRY	BDA / STATE	COUNTY
NORTH AMERICA LAND	ROCKY MOUNTAIN	Arizona	Pinal

MBU ID / EMPL #	H.E.S. EMPLOYEE NAME	PSL DEPARTMENT
217406	Steve Stromberg	ZONAL ISOLATION

LOCATION	COMPANY	CUSTOMER REP / PHONE
FARMINGTON, NM	El Paso Natural Gas	Mike Haynes / Greg Gettman

TICKET AMOUNT	WELL TYPE	API/UWI #
	02 GAS	

WELL LOCATION	DEPARTMENT	JOB PURPOSE CODE	Description
Eloy, Arizona	ZONAL ISOLATION 10003		9 5/8" 2 Stage Int.

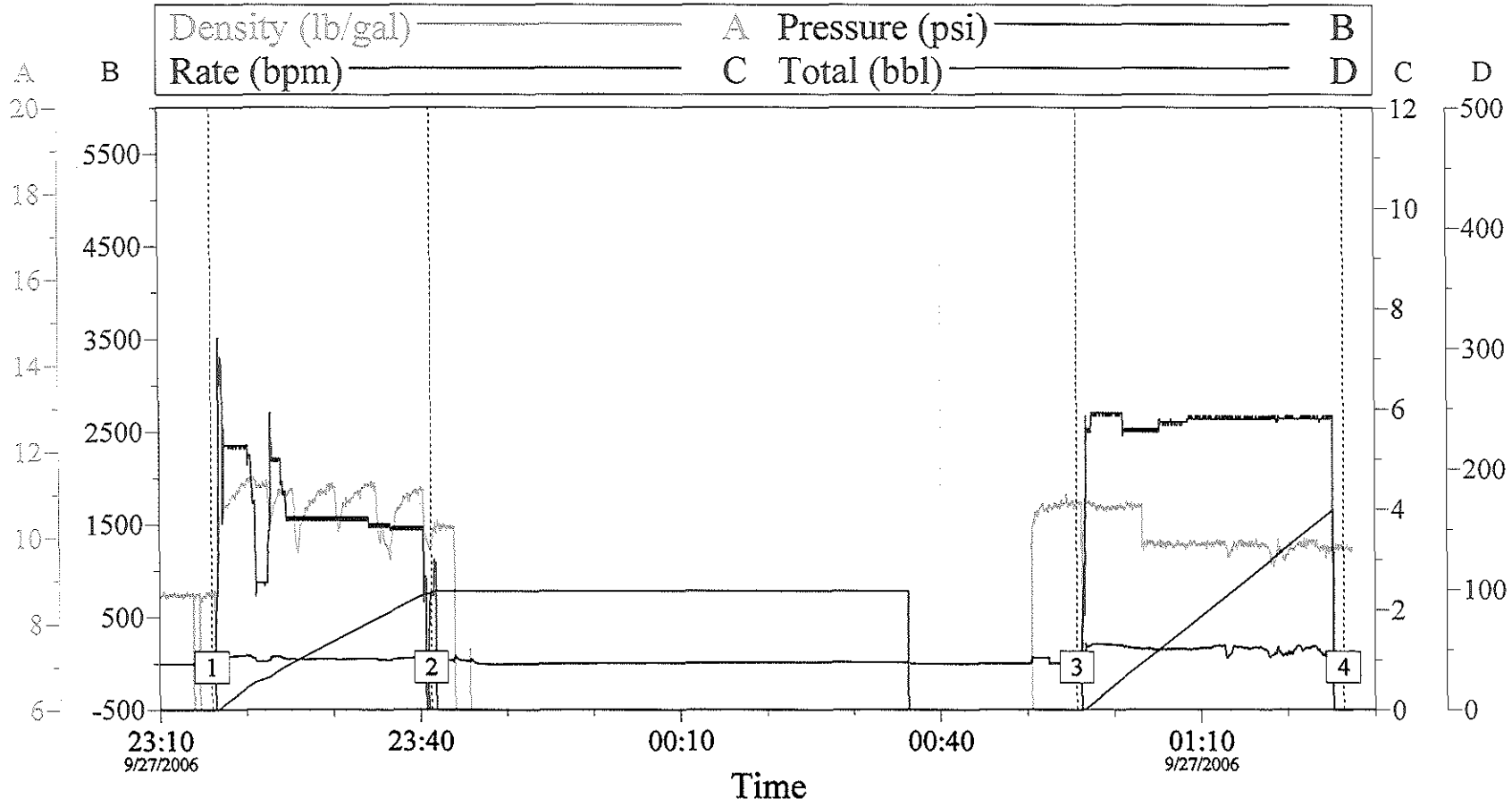
LEASE / WELL #	Well No.	SEC /	TWP /	RNG
Arizona Gas Storage	#1 - 21	Sec 21 / Twp 07 S / Rng 08 E		

Chart No.	Time	Rate (BPM)	Volume (BBL)(GAL)	Pmps T	Pmps C	Press.(PSI) Tbg	Press.(PSI) Csg	Job Description / Remarks
25-Sep	16:30							Arrive on location w/ D.V. Tool and Plug Set.
								Rig making wiper trip. Waiting.....
9/26/2006	08:40							Start Casing in the hole.
	10:25							Make up D.V. Tool in casing string.
	11:00							Circulate casing at Jt. # 6.
	14:30							HES crew on Location.
	14:35							Waiting on rig crew to finish running casing.
	16:30							Hold Safety meeting, rig up HES as far as possible.
	17:15							Wait on rig crew to finish running pipe.
	21:55							Casing Landed. Swap out well head equipment. Set Slips.
	22:15							Attempt to circulate w/ rig pump.
	23:10		310					310 BBls away. No Circulation.
	23:16	6	98				50	Attempt to break circulation w/ HES pump. Unsuccessful.
9/27/2006	00:50		20				210	Circulation established w/ rig pump. Turn over to HES.
	00:55	6					190	Circulate w/ HES pump.
	01:26		160					Shut down Circulation. Prepare for first stage.
	01:43							Pressure test Pump/ Lines to 2000 psi. Test Good.
	01:46	2					22.09	Start preflush down casing.
	01:54	5.9	40				234.5	Start cement down casing @ 13.1#/ gal.
	02:04		33					Shut down cement, release Bottom Shut Off Plug.
	02:11	5.9					-6.5	Start H2O Displacement down casing.
	02:17	5.9	20				260.3	Switch to Well fluid. (11.1#/Gal).
	03:59	3	420				191	Slow Rate, Prepare to bump Plug.
	04:01		426.1				580	Plug bumped @ 188 psi, Pressure up to 580 PSI.
	04:02							Wait 1 min, test Floats. Test Good.
	04:04							Drop Opening Plug. Waiting.... Wash up Pump to the Pit.
	04:51	2.5					-4	*Pressure up casing to Open DV Tool.*
	04:52	6	0.2				210	Tool opened @ 563 psi, Circulate 40 Bbls w/ HES pump.
	05:00		40					Shut down. Turn Well over to the rig for 4 Hrs.
	05:10							Prepare for second stage.
								Returned 5 Bbls cement to surface from first stage.
	10:15							Hold PJSM w/ Co. Reps., Rig Crew.
	10:39	5.2					-1.9	Start Preflush down casing.
	10:51	5.8	40				48.9	Start Lead cement down casing @ 12.3#/ gal.
	12:02	4.5	516.3				68.8	Switch to tail cement @ 13.1#/ gal.
	12:14		55				-35.8	Shut down cement, release top closing plug.
	12:15	7.5					24.4	Start displacement down casing.
	12:33	7	125.6				58.06	Displacement reached cement, continue w/ Displacement.
	13:31		416				2402	Plug Bumped @ 1230 psi, Pressure up to 2402 psi.
	13:32							Test Tool. Tool closed.
	13:45							Hold Safety meeting, rig down HES.
	15:00							Hold Post Job Safety meeting.

Halliburton JOB LOG

		TICKET # 4629103	TICKET DATE 9/27/2006
REGION NORTH AMERICA LAND	NWA / COUNTRY ROCKY MOUNTAIN	BDA / STATE Arizona	COUNTY Pinal
MBU ID / EMPL # 217406	H E S EMPLOYEE NAME Steve Stromberg	PSL DEPARTMENT ZONAL ISOLATION	
LOCATION FARMINGTON, NM	COMPANY El Paso Natural Gas	CUSTOMER REP / PHONE Mike Haynes / Greg Gettman	
TICKET AMOUNT	WELL TYPE 02 GAS	API/UWI #	
WELL LOCATION Eloy, Arizona	DEPARTMENT ZONAL ISOLATION 10003	JOB PURPOSE CODE	Description 9 5/8" 2 Stage Int.
LEASE / WELL # Arizona Gas Storage — Well No. #1 - 21	SEC / TWP / RNG Sec 21 / Twp 07 S / Rng 08 E		

Chart No.	Time	Rate (BPM)	Volume (BBL)(GAL)	Pmps T	Pmps C	Press.(PSI) Tbg	Press.(PSI) Csg	Job Description / Remarks
								No Cement circulated to surface off of second stage.
								35 Bbls+/- of preflush to surface on second stage.
								Final lift pressure would indicate that cement is within 100'
								of surface.
								5 Bbls cement circulated off of first stage.
								Thanks for calling HALLIBURTON !!!!!!!
								Steve, Harry, Tate, David, John, and Steve H.
								WE REALLY APPRECIATE YOUR BUSINESS !!!!!!!!



Event Log

	Intersection		PP		Intersection		PP
1	Start Job	9/27/2006 23:16:02	-4.685	2	Circulate Well	9/27/2006 23:41:18	44.47
3	Circulate Well	9/27/2006 00:55:42	5.806	4	End Job	9/27/2006 01:26:25	76.45

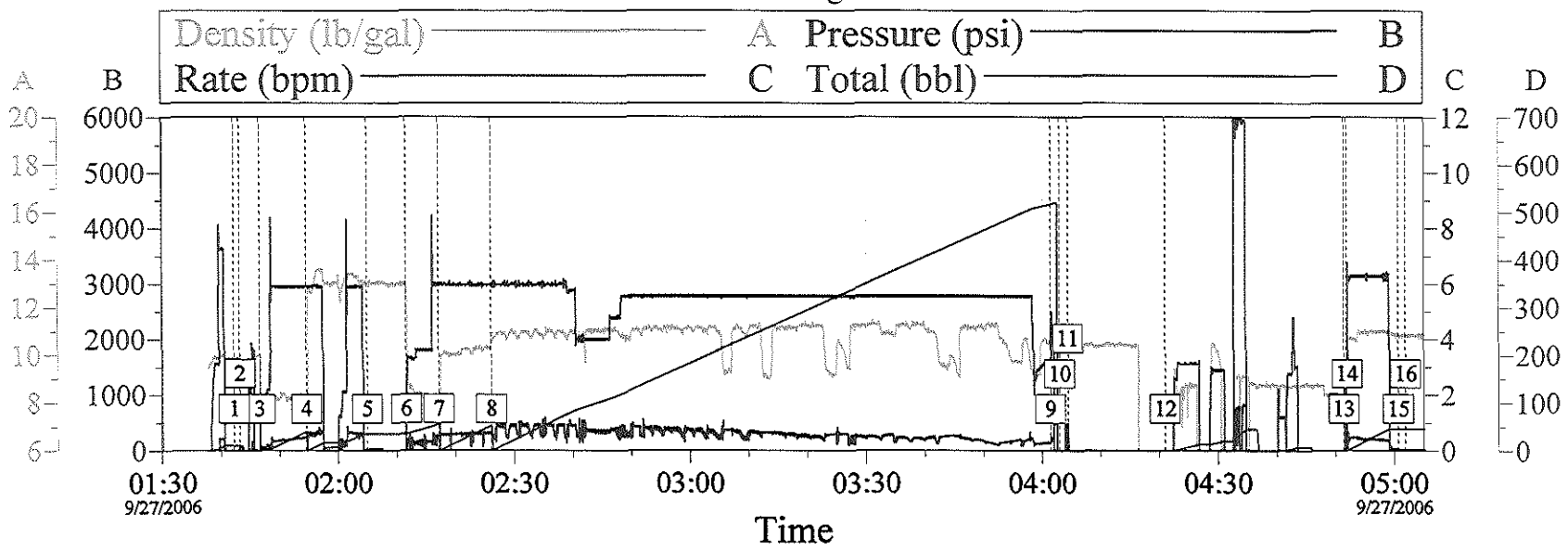
Customer: El Paso Nat. Gas	**Job Date:** 9/26-27/06	**Ticket #:** 4629103
Well Desc: AGS #1-21	**Job Type:** 9 5/8" 2 Stage	Stromberg Shoats

CemWin v1.7.0
27-Sep-06 01:31

El Paso Natural Gas

9 5/8" 2 Stage Intermediate

First Stage



Event Log

	Intersection	PP		Intersection	PP		Intersection	PP
1	Start Job	01:42:12 -68.71	2	Test Lines	01:43:13 64.18	3	Pump Spacer 1	01:46:36 22.09
4	Pump Cement	01:54:35 234.4	5	Drop Shut Off Plug	02:04:57 29.03	6	Pump Displacement	02:11:37 -6.251
7	Pump Well Fluid	02:17:09 260.3	8	Unipro Event	02:26:05 266.9	9	Bump Plug	04:01:26 188.7
10	Test Floats	04:02:56 506.9	11	Drop Opening Plug	04:04:26 16.03	12	Wash Up Pump Truck	04:20:59 -17.42
13	Open MSC	04:51:23 -4.670	14	Circulate Well	04:51:54 66.80	15	Switch To Rig Pump	05:00:41 31.38
16	End Job	05:01:53 30.97						

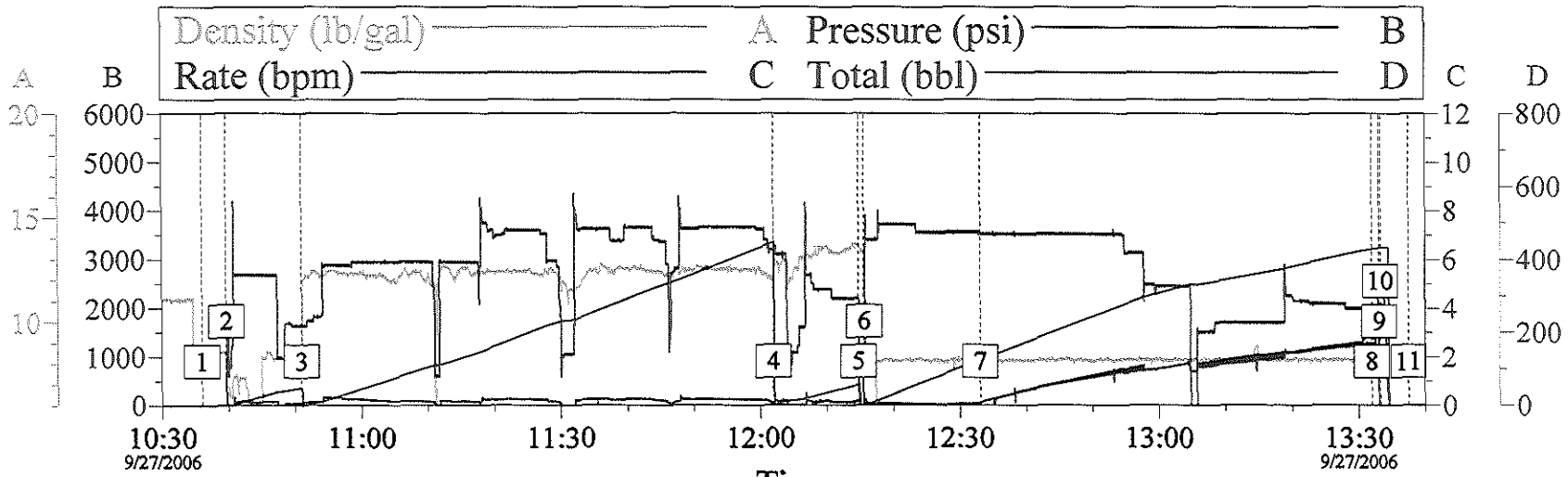
Customer: El Paso	Job Date: 9/27/06	Ticket #: 4629103
Well Desc: AGS #1-21	Job Type: 9 5/8" 2 Stage	Stromberg Shoats

CemWin v1.7.0
27-Sep-06 05:22

El Paso Natural Gas

9 5/8" 2 Stage Intermediate

Second Stage



Event Log

	Intersection	PP			Intersection	PP	
1	Start Job	10:36:02	-12.05	2	Pump Spacer 1	10:39:39	-1.935
3	Pump Lead Cement	10:51:01	48.98	4	Pump Tail Cement	12:02:02	68.84
5	Drop Closing Plug	12:14:50	-35.85	6	Pump Displacement	12:15:39	24.44
7	Disp. Reached Cement	12:33:05	58.06	8	Bump Plug	13:31:59	1276
9	Close MSC	13:33:02	2408	10	Test DV Tool	13:33:18	2425
11	End Job	13:37:31	-39.67				

Customer: El Paso Nat. Gas	Job Date: 9/27/06	Ticket #: 4629301
Well Desc: AGS #1-21	Job Type: 9 5/8" 2 Stage Int.	Stromberg Shoats/ Hill

CemWin v1.7.0
27-Sep-06 13:52

Cementing Calculations for Multistage Longstrings

NOTE: Only Green Highlighted Number Need Be Inputed

Customer	El Paso Natural Gas
Well Name	Arizona Gas Storage
Lease	#1 - 21
County	Pinal
SO #	4629103
Cementer	Steve Stromberg

Well Information

Hole Size	12 1/4	in
TD	5650	ft
Casing Length	5648	ft
Casing Size	9.625	in
Casing Weight	40	lbs/ft
1st StageDV Tool	5432	ft
2nd Stage DV Tool	0	ft
Float Collar	5605	ft
Shoe Joint	40	ft
Wellbore Fluid	11	lbs/gal
Displacement Fluid	11	lbs/gal
Spacer Fluid	10.3	lbs/gal
Amount	60	bbls

Redbook Information

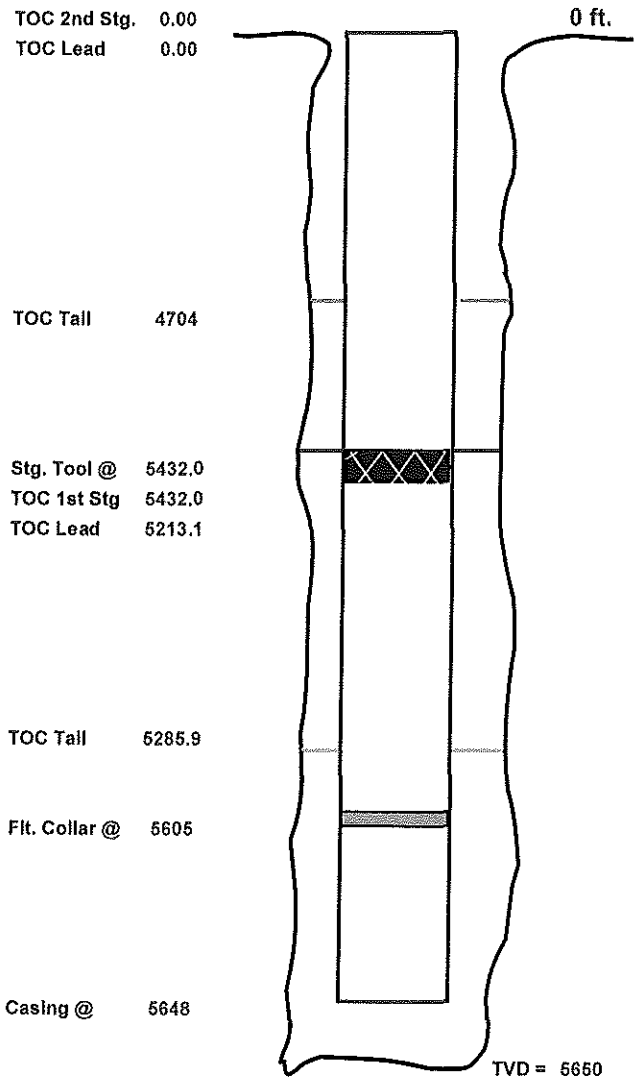
	gal/lin.ft	lin.ft/gal	bbls/lin.ft	lin.ft/bbl	cuft/lin.ft	lin.ft/cuft
Annulus	2.3428	0.4268	0.0558	17.9272	0.3132	3.193
Casing	3.1847	0.314	0.0758	13.19	0.4257	2.349

Mix H2O	395.02	bbls
Plg Disp.	839.00	bbls
Total H2O	1234.02	bbls

Cement Slurry and Job Information

First Stage Lead	20	# sks	BBLS Slurry	5.52				
Density	13.1	lbs/gal			Ht.of Cmt	72.82		
Yield	1.55	cuft/sk	BBLS Water	3.10	TOC	5213.06	ft	
Water Requirements	6.51	gal/sk	BBLS Spacer	60.00			ft	
Excess	1	bbls			PSI TLP	13.99		
First Stage Tail	100	# sks	BBLS Slurry	27.61			Plug Displacement	426.0 bbls
Density	13.1	lbs/gal			SH Slry	0.00		
Yield	1.55	cuft/sk	BBLS Water	15.50	Ht of Cmt	364.12		
Water Requirements	6.51	gal/sk	BBLS Spacer	0.00	TOC	5285.88	ft	
Excess	10	bbls					ft	
Second Stage Lead	1255	# sks	BBLS Slurry	518.56				
Density	12.3	lbs/gal			Ht.of Cmt	6839.75		
Yield	2.32	cuft/sk	BBLS Water	345.42	TOC	0.00	ft	
Water Requirements	11.56	gal/sk	BBLS Spacer	60.00			ft	
Excess	40	bbls			PSI TLP	1763.03		
Second Stage Tail	200	# sks	BBLS Slurry	55.21			Plug Displacement	413.0 bbls
Density	13.1	lbs/gal			Ht.of Cmt	728.23		
Yield	1.55	cuft/sk	BBLS Water	31.00	TOC	4703.77	ft	
Water Requirements	6.51	gal/sk					ft	
Excess	12	bbls						
Third Stage Lead	0	# sks	BBLS Slurry	0.00				
Density	0	lbs/gal			Ht.of Cmt	0.00		
Yield	0	cuft/sk	BBLS Water	0.00	TOC	0.00	ft	
Water Requirements	0	gal/sk	BBLS Spacer	0.00			ft	
Excess	0	bbls			PSI TLP	0.00		
Third Stage Tail	0	# sks	BBLS Slurry	0.00			Plug Displacement	0 bbls
Density	0	lbs/gal			Ht.of Cmt	0.00		
Yield	0	cuft/sk	BBLS Water	0.00	TOC	0.00	ft	
Water Requirements	0	gal/sk	BBLS Spacer	0.00			ft	
Excess	0	bbls						

Height of Wellbore Fluid in Annulus			Hydrostatic Values, psi	
			lead	tail
1st Stage	4421.66 ft	335.16 bbls	49.59	217.30
2nd Stage	0.00 ft	0.00 bbls	4373.11	495.89
3rd Stage	0.00 ft	0.00 bbls	0.00	0.00
Amount of Spacer in Annulus			spacer	wb fluid
1st Stage	791.40 ft	59.99 bbls	423.72	2528.27
2nd Stage	0.00 ft	0.00 bbls	0.00	0.00
3rd Stage	0.00 ft	0.00 bbls	0.00	0.00



Casing size	9.625
Hole size	12.25

PB Energy Storage Services, Inc.

933

Date: 9-27-06	Report No: 69	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company	Well Name: Arizona Gas Storage # 1-21		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: Arizona
Depth: 5650'	Ft. Cut:	Formation:	Tops New Form:

Activity at Report Time – WOC

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0800	2hrs	Laid down drill collars.
0800	0900	1hr	Rigged up 9 5/8" casing tools.
0900			Ran 129 joints 9 5/8" (109 joints 40#, J-55, LTC & 20 joints 36#, J-55, STC) with float shoe, float collar, and DV tool.
	1930	10.5hrs	Rigged down lay down machine and casing tools.
1930	2030	1hr	Set 9 5/8" x 13 5/8" wellhead slips.
2030	2130	1hr	Rigged up Halliburton cementing equipment and tested lines to 2,000psi.
2130	2400	2.5hrs	Filled casing and circulated.
2400			Pumped 40bbls pre flush, 120sks (33bbls) cement. Displaced with 20bbls freshwater, 406bbls mud.
			Bumped plug to 550psi. Floats were holding. Dropped DV opening tool. Waited 30 minutes.
	0400	4hrs	Tool opened at 560psi. Circulated 40bbls of mud with Halliburton pump.
0400	0600	2hrs	Circulated with rig pump.
			9 5/8" casing set @ 5640.08'.
			DV @ 5418.41'.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Dowdco	WL	22	1	motor	26.58		
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.90		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	520.02		
									1	Drill jar	3230		
									2	6" DC's	57.78		

PB Energy Storage Services, Inc.

933

Date: 9-26-06	Report No: 68	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company	Well Name: Arizona Gas Storage # 1-21		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: Arizona
Depth: 5650'	Ft. Cut:	Formation:	Tops New Form:

Activity at Report Time – Rigging up lay down machine.

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600			Running open hole logs.
	1430	8.5hrs	Rigged down wireline unit.
1430	1800	3.5hrs	TIH with 12 ¼" bit.
1800	2200	4hrs	Finish TIH.
2200	2300	1hr	Washed down from 5600'-5650'.
2300	0130	2.5hrs	Pumped sweep and circulated hole clean.
0130	0530	4hrs	TOOH
0530	0600	.5hrs	Rigging up Bull Roger's lay down machine.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Dowdco	WL	22	1	motor	26.58		
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.90		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	520.02		
									1	Drill jar	32.30		
									2	6" DC's	57.78		

PB Energy Storage Services, Inc.

933

Date: 9-25-06	Report No: 67	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal / State: Arizona
Depth: 5650'	Ft. Cut: 117'	Formation:	Tops New Form:

Activity at Report Time – Logging

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	0730	1.5hrs	Circulate hole clean.
0730	1330	6hrs	Tripped out of the hole. Tight @ 5650'- 4693' & 2486'- 2454'.
1330	1530	2hrs	Laid down directional tools, motor and bit.
1530	1730	2hrs	Removed flow line and bell nipple. Nippled up BOP.
1730			Pressured up to 550psi. Leaked down to 350psi. Did not find any surface leaks.
			Pressured up to 550psi. Leaked down to 350psi in 3 minutes. Pressure was still gradually dropping.
	1830	1hr	Bled pressure off.
1830	2030	2hrs	Nippled down BOP. Nippled up bell nipple. Installed flowline.
2030	0130	5hrs	Waited on Schlumberger Wireline.
0130			Rigged up Schlumberger wireline unit.
	0600	4.5hrs	Running open hole logs (wireline TD 5651').
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Dowdco	WL	22	1	motor	26.58		
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.90		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	520.02		
									1	Drill jar	32.30		
									2	6" DC's	57.78		

PB Energy Storage Services, Inc.

933

Date: 9-24-06	Report No: 66	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal / State: Arizona
Depth: 5650'	Ft. Cut: 117'	Formation:	Tops New Form:

Activity at Report Time – Circulating

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1800	12hrs	Slide drill 5533' to 5566'.
1800	0430	10.5hrs	Slide and rotate drill 5566' to 5650'.
0430	0600	1.5hrs	Pump sweep and circulate hole.
	Total	24	

Survey

MD	Inc.	AZI.	TVD	N.	E	V.Sec.	D.leg	Build	Turn
5600	2.70	346.30	5596.59	72.82	-15.01	72.82	0.41	-0.41	0.06
5650	2.70	346.30	5646.54	75.11	-15.07	75.11	0.00	0.00	0.00

Bottom Hole Closure 76.70ft Along Azimuth 348.29

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Dowdco	WL	22	1	motor	26.58		
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.90		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	520.02		
									1	Drill jar	32.30		
									2	6" DC's	57.78		

PB Energy Storage Services, Inc.

933

Date: 9-23-06	Report No: 65	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company	Well Name: Arizona Gas Storage # 1-21		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: Arizona
Depth: 5533'	Ft. Cut: 145'	Formation:	Tops New Form:

Activity at Report Time – Drilling (rotating)

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1800	12hrs	Slide and rotate drill 5388' to 5451'.
1800	0600	12hrs	Slide and rotate drill 5451' to 5533'.

Survey

MD	Inc.	AZI.	TVD	N.	E	V.Sec.	D.leg	Build	Turn
5429	3.40	346.20	5425.84	63.98	-12.85	63.98	0.33	-0.32	0.147

Bottom Hole Closure 65.26 Along Azimuth 348.64

	Total	24

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Dowdco	WL	22	1	motor	26.58		
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.90		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	520.02		
									1	Drill jar	32.30		
									2	6" DC's	57.78		

PB Energy Storage Services, Inc.

933

Date: 9-22-06	Report No: 64	Reported by: Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal / State: Arizona
Depth: 5388'	Ft. Cut: 193'	Formation:	Tops New Form:

Activity at Report Time – Drilling (rotating)

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600	1800	12hrs	Slide and rotate drill 5195' to 5290'.
1800	0600	12hrs	Rotate drill 5290' to 5388'.
	Total	24	

Survey

MD	Inc.	AZI.	TVD	N.	E	V.Sec.	D.leg	Build	Turn
5084	4.70	346.90	5081.65	40.97	-7.97	40.97	0.63	-0.62	0.62
5145	4.00	349.00	5142.70	45.49	-8.94	45.49	1.18	-1.15	3.44
5208	4.00	348.90	5205.32	49.80	-9.78	49.80	0.01	0.00	-0.16
5271	4.00	348.50	5268.16	54.11	-10.65	54.11	0.04	0.00	-0.63
5334	3.70	347.60	5331.02	58.25	-11.52	58.25	0.49	-.0.48	-1.43

Bottom Hole Closure 59.38ft Along Azimuth 348.81

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Dowdco	WL	22	1	motor	26.58		
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.90		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	520.02		
									1	Drill jar	32.30		
									2	6" DC's	57.78		

PB Energy Storage Services, Inc.

933

Date: 9-21-06	Report No: 63	Reported by: Curtis Bagwell/Mike Haynes	
Operator: El Paso Natural Gas Company		Well Name: Arizona Gas Storage # 1-21	
Contractor: United Drilling		Rig No: 22	County: Pinal	State: Arizona
Depth: 5195'	Ft. Cut: 110'	Formation:	Tops New Form:

Activity at Report Time – Drilling (rotating)

Time Log From	Time Log To	Elapsed Time	Details of Operation
0600			Waited on crossover sub.
	1100	5hrs	Serviced rig while waiting.
1100			Made up crossover sub. Finished in with BHA. Installed MWD tools.
	1300	2hrs	Broke circulation. Tested MWD tools. Adjusted tool face
1300	1700	4hrs	TIH.
1700	1800	1hr	Broke circulation and took survey.
1800	0600	12hrs	Slide and rotate drill 5085' to 5195'.
	Total	24	

Survey

MD	Inc.	AZI.	TVD	N.	E	V.Sec.	D.leg	Build	Turn
4958	6.10	346.00	4956.18	29.67	5.44	29.67	0.71	-0.63	-3.12
4989	5.60	347.40	4987.02	32.75	-6.16	32.75	1.68	-1.61	4.52
5012	5.20	348.90	5018.88	35.69	-6.78	35.69	1.33	-1.25	4.69
5021	5.20	348.90	5018.88	35.69	-6.78	35.69	1.33	-1.25	4.69
5052	4.90	346.70	5049.76	38.36	-7.36	38.36	1.15	-.0.97	-7.10

Bottom Hole Closure 39.06ft Along Azimuth 349.14

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Dowdco	WL	22	1	motor	26.58		
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.90		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	520.02		
									1	Drill jar	32.30		
									2	6" DC's	57.78		

PB Energy Storage Services, Inc.

933

Date 9-20-06	Report No 62	Reported by: Curtis Bagwell
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**	
Contractor: United Drilling	Rig No: 22	County: Pinal / State: **Arizona**
Depth 5085	Ft.Cut 28	Formation / Tops New Form:
Activity at Report Time -- Wait on cross over sub		

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	18:00	12.0	Slide drill from 5057 to 5081 ft.
18:00	21:00	3.0	Slide drill from 5081 to 5085 ft
21:00	00:30	3.5	Trip out of hole to change mud motors
00:30	02:30	2.0	Lay down 8" motor and pick up 6.250 motor make up Dowdco PDC bit on motor attempt to make Up drill collar (non mag) to motor have wrong sub.
02:30	06:00	3.5	Wait on crossover sub
	Total	24	

Survey:

MD	inc	azi	tvd	north	east	V sect	D leg	build	turn
4958	**6.10**	**346.00**	**4956.18**	**29.67**	**5.44**	**29.67**	**0.71**	**-0.63**	**-3.12**
4989	**5.60**	**347.40**	**4987.02**	**32.75**	**-6.16**	**32.75**	**1.68**	**-1.61**	**4.52**
5012	**5.20**	**348.90**	**5018.88**	**35.69**	**-6.78**	**35.69**	**1.33**	**-1.25**	**4.69**

Bottom hole closure 36.33 ft. along Azimuth 349.24

Sub should be here by noon. Increase in drill rate expected to be in the 5-6 FPH range and should Be in the 10 to 15 FPH rotating . Due to being out of hole Waiting time on cross over sub should Be made up in increased drill rate

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	dowdco	WL	22	1	motor	28.57	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	72	PH	8.5	1	Shock sub	9.31		
					Bit Wt				1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-19-06	Report No 61	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 5057	Ft.Cut 43	Formation	Tops New Form:

Activity at Report Time – Drilling rotating

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	08:00	2.0	Finish tripping in hole
08:00	09:00	1.0	Brake circulation calibrate MWD tools get Tool Face adjusted
09:00	18:00	9.0	Slide drill from 5013' to 5032'
18:00	20:30	2.5	Slide drill from 5032 to 5035'
20:30	23:00	2.5	Circulate with # 2 pump while working on # 1 pump Change out packing and liner
			Pump # 2 would not pump enough GPM to get signal from MWD to surface
23:00	06:00	7.0	Drill Slide drill and rotate drill from 5035' to 5057'
	Total	24	

Survey's

MD	Inc.	AZI.	TVD	N.	E	V.Sec.	D.leg	Build	Turn
4926	**6.30**	**347.00**	**4924.37**	**26.31**	**-4.63**	**26.31**	**1.60**	**-0.94**	**11.56**
4958	**6.10**	**346.00**	**4956.18**	**29.67**	**-5.44**	**29.67**	**0.71**	**-0.63**	**-3.12**
4989	**5.60**	**347.00**	**4987.02**	**32.75**	**-6.16**	**32.75**	**1.68**	**-1.61**	**4.52**

Cuttings: no cement /Anhydrite –SS –Shale

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	9	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0	3213'	¾^
SPM	60		Hrs Misc		Mfg	Dodco	WL	22	1	motor	28.57	3477'	3 ½
GPM	402		Hrs DW		Type	PDC	Gels	3-4	1	Float sub	3.78		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	5013	Solid	19.25	1	NMDC	30.34		
					Ftg	44	PH	8.5	1	Shock sub	9.31		
					Bit Wt	5-8K			1	X-over sub	1.00		
					Ser/no.	D20958			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-18-06	Report No 60	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 5013	Ft.Cut 10	Formation	Tops New Form:

Activity at Report Time – Trip in hole with motor and 12 ¼ " bit

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	18:00	12.0	Drill Slide drill from 5003' to 5013'
18:00	00:00	6.0	Trip out of hole to change bit
00:00	01:00	1.0	Change out bit run Dowdco PDC 12 ¼ " bit test MWD
01:00	02:30	1.5	Run in hole with drill collars
02:30	03:00	0.5	Test motor and MWD at 700 ft.
03:00	06:00	3.0	Tripping in hole with new bit (Trip time longer due to bent motor has some drag)
			New bit info: 12 ¼ " Dowdco PDC Type SIM566B / SN # D2095S
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	8	Wt	10.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0	3213'	¾^
SPM	60		Hrs Misc		Mfg	Reed	WL	22	1	motor	28.57	3477'	3 ½
GPM	423		Hrs DW		Type	Insert	Gels	3-4	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out	5013	Oil		1	UBHO SUB	2.42		
					In	4481	Solid	19.25	1	NMDC	30.34		
					Ftg	132	PH	8.5	1	Shock sub	9.31		
					Bit Wt	8-20K			1	X-over sub	1.00		
					Ser/no.	M4301mx			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-17-06	Report No 59	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 5003	Ft.Cut 51	Formation anhydrite	Tops New Form:

Activity at Report Time – Time drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	06:00	24.0	Time drill from 4952' to 5003' (Time drill @ 2 ft per hr. rate)

	MD	INC	AZI	TVD	N	E	V. SEC	D.LEG	BUILD
	4863	**7.2**	**350.60**	**4861**	**19.11**	**-3.33**	**19.11**	**0.65**	**-0.65**
	4894	**6.60**	**350.70**	**4892**	**22.79**	**-3.94**	**22.79**	**1.94**	**-1.94**
	4926	**6.30**	**347.00**	**4924**	**26.31**	**-4.63**	**26.31**	**1.60**	**-0.94**
projected	5250	0.0	347.00	5247	43.65	-8.63	43.65	1.94	-1.94

Above is projected at current rates and will be 18 ft out from fish. At present drilling in Mostly anhydrite and rates will be slow while time drilling will look at next survey and Decide on rotating which will increase drill rate next survey in 3 hrs.

Bit # 8 HAS 103 HRS

Note : Halliburton cement bin on location and loaded with cement; frac tank full of fresh Water to change over mud

Total	24

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	8	Wt	10.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	35	1	12 ¼ Bit	1.0	3213'	¾^
SPM	57		Hrs Misc		Mfg	Reed	WL	22	1	motor	28.57	3477'	3 ½
GPM	402		Hrs DW		Type	Insert	Gels	¾	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	4881	Solid	19.25	1	NMDC	30.34		
					Ftg	122	PH	8.5	1	Shock sub	9.31		
					Bit Wt	20 K			1	X-over sub	1.00		
					Ser/no.	M4301mx			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 916-06	Report No 58	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4952	Ft.Cut 23	Formation	Tops New Form:

Activity at Report Time – Time drill

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	06:00	24.0	Time drill at 1 ft. per hr. from 4929 to 4942' and 2 ft. per hr from 4942 to 4952'
			Due to Anhydrite could not get 2 ft per min without adding excess weight . Have anhydrite section
			From 4940 tko 4950 that appears to be solid and was hard drilling on pass with 7 7/8" bit
			At report time appears we are through this section and drilling should be better. Is rate increases
			Will start rotating this morning

MD	INC.	AZI	TVD	N.	E.	V.SEC.	D.LEG	BUILD
4863	7.20	350.60	4861	19.11	-3.33	19.11	0.65	0.65
4894	6.60	350.70	4892	22.79	-3.94	22.79	1.94	-1.94

Bit # 8 has 79 hrs

	Total	24

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	8	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	32	1	12 ¼ Bit	1.0	3213'	¾^
SPM	57		Hrs Misc		Mfg	Reed	WL	12.4	1	motor	28.57	3477'	3 ½
GPM	402		Hrs DW		Type	Insert	Gels	½	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	4881	Solid	18.5	1	NMDC	30.34		
					Ftg	71	PH	10	1	Shock sub	9.31		
					Bit Wt	6-20K			1	X-over sub	1.00		
					Ser/no.	M4301mx			18	6" DC's	596.44		
					Hrs	79			1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-15-06	Report No 57	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4933	Ft.Cut 24	Formation	Tops New Form:

Activity at Report Time – Time drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	06:00	24.0	Time drill from 4909' to 4933' (24 ft. / 24 hrs / 1 foot per hour)
			Will continue to time drill for 10 +- ft. and start moving up on feet per hour at present getting 100%
			Formation if this continues will start increase drill rate early 10 ft will get MWD in dev. hole
			Bit #8 – 55 hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	8	Wt	10.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	37	1	12 ¼ Bit	1.0	3213'	¾^
SPM	60		Hrs Misc		Mfg	Reed	WL	16.45	1	motor	28.57	3477'	3 ½
GPM	423		Hrs DW		Type	Insert	Gels	2/3	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	4881	Solid	17.00	1	NMDC	30.34		
					Ftg	55	PH	9.0	1	Shock sub	9.31		
					Bit Wt	6-8K			1	X-over sub	1.00		
					Ser/no.	M4301mx			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

433

Date 9-14-06	Report No 56	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4909	Ft.Cut 23	Formation	Tops New Form:

Activity at Report Time – Time Drill at 1 ft per hr.

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	18:00	12.0	Time drill from 4886 to 4898'
18:00	06:00	12.0	Time drill from 489 to 4909'
			Bit has 31 hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	8	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	37	1	12 ¼ Bit	1.0		
SPM	60		Hrs Misc		Mfg	Reed	WL	19.6	1	motor	28.57		
GPM	423		Hrs DW		Type	Insert	Gels	2/3	1	Float sub	3.78		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	4881	Solid	17.75	1	NMDC	30.34		
					Ftg	31	PH	9.0	1	Shock sub	9.31		
					Bit Wt	4-6K			1	X-over sub	1.00		
					Ser/no.	EN3100			18	6" DC's	596.44		
					type	M4301mx			1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-13-06	Report No 55	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4887	Ft.Cut 30'	Formation	Tops New Form:

Activity at Report Time – Time drilling

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	11:00	5.0	Drill Rotate and slide from 4857' to 4881' start getting cement in returns up to 90%. Bit had
			37.5 hrs and was a re-run decide to pull bit and start kick off again
11:00	15:00	4.0	Trip out of hole
15:00	16:30	1.5	Change bit and reset and test MWD and motor
16:30	18:00	1.5	Trip in hole test directional tools at 2000 ft. OK
18:00	22:00	4.0	Finish trip in hole
22:00	23;00	1.0	Brake circulation and get directional tools working get survey
23:00	06:00	7.0	Time drill at 1 ft. per hr rate to Kick off from 4881' to 4887'
			Bit # 7 had 37.5 hrs and was a re-run bit made 125 ft. (Weatherford Directional on Location)
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	7	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	38	1	12 ¼ Bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	19.6	1	motor	28.57	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels		1	Float sub	3.78		
Press	1000		Hrs Drlg		Out	4881	Oil		1	UBHO SUB	2.42		
					In	4756	Solid		1	NMDC	30.34		
					Ftg	125	PH		1	Shock sub	9.31		
					Bit Wt	20 K			1	X-over sub	1.00		
					Ser/no.	PP332			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 912-06	Report No 54	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4857	Ft.Cut 92	Formation	Tops New Form:

Activity at Report Time : Drilling (Slide drill building curve for kick off)

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	16:00	10.0	Drill / slide drill and rotate drill from 4765' to 4788' (slide drill no rotation of rotary table drill with
			Motor only to rotate bit)
16:00	18:00	2.0	Drill Slide drill from 4788' to 4803'
18:00	06:00	12.0	Drill slide and rotate drill from 4803' to 4857'
			Note: Inc. 4706 ft. 6.8 degree / 4738 ft. 6.9 degree / 4769 ft. 6.9 degree / 4801 ft. 7.3 degree
			Azimuth 351.00 350.3 350.10 348.60
			Dog leg 00.0 0.41 0.08 1.38
			Bit # 7 has 32.5 hrs. / 101 ft.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	7	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	37	1	12 ¼ Bit	1.0	4706	6.8
SPM	60		Hrs Misc		Mfg	Reed	WL	19.6	1	motor	28.57	4738	6.9
GPM	423		Hrs DW		Type	Insert	Gels	2/3	1	Float sub	3.78	4769	6.9
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42	4801	7.3
					In	4756	Solid	17.75	1	NMDC	30.34		
					Ftg	101	PH	9.0	1	Shock sub	9.31		
					Bit Wt				1	X-over sub	1.00		
					Ser/no.	PP332			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-11-06	Report No 53	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4765	Ft.Cut 9	Formation	Tops New Form:

Activity at Report Time – Time drill to kick off round fish

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	09:00	3.0	On bottom try to get Directional tools to work (MWD) could not get signal to start drilling
09:00	13:30	4.5	Trip out of hole had 2 tight spots at 4260 and 4285 ream thru both cleaned up
13:30	15:00	1.5	Change out MWD change out one jet in bit / program MWD
15:00	20.30	5.5	Trip in hole (triping pipe slow due to bent motor)
20:30	21:00	0.5	Brake circulation calibrate tools getting signal to surface working OK Survey 6.8 degrees
21:00	06:00	9.0	Time drill / drill ½ " every 2.5 min. drill with motor from 4756 to 4765' made 9' / 9 hrs /1FPH
			At report time bringing drill rate to 2 ft/ per hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	10.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	33	1	12 ¼ Bit	1.0	3213'	¾^
SPM	60		Hrs Misc		Mfg	Reed	WL	19.6	1	motor	28.57	3477'	3 ½
GPM	423		Hrs DW		Type	Insert	Gels	2/3	1	Float sub	3.78		
Press	1200		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	4756	Solid	17.75	1	NMDC	30.34		
					Ftg	9	PH	9.0	1	Shock sub	9.31		
					Bit Wt	4/5 K			1	X-over sub	1.00		
					Ser/no.	PP332			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-10-06	Report No 52	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4756	Ft.Cut 37	Formation	Tops New Form:

Activity at Report Time – Trip in hole with motor and insert bit to kick off

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	15:30	9.5	Drill open hole to 12 ¼ " from 4719' to 4756'
15:30	21:00	5.5	Trip out of hole
21:00	00:30	3.5	Brake out motor and float sub lay down motor . Pick up new motor and bit (re run)install MWD
			And test at surface (had to work on sleeve to install MWD.
00:30	06:00	5.5	Lay out 1 stand drill pipe . Trip in hole with 12 ¼" bit motor and directional equipment . Testing
			Directional tools on way in hole getting signal from tool. Have to go in slow with bent motor.
	Total	24	

Note: Bit # 6 had 45 hrs and cut 157 ft. can not run bit again due to cones loose.

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	10.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	33	1	12 ¼ Bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	19.6	1	motor	28.57	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	2/3	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out	4756	Oil		1	UBHO SUB	2.42		
					In	4592	Solid	17.75	1	NMDC	30.34		
					Ftg	164	PH	9.0	1	Shock sub	9.31		
					Bit Wt	20 k			1	X-over sub	1.00		
					Ser/no.	K41806			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-9-06	Report No 51	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4719	Ft.Cut 96	Formation	Tops New Form:

Activity at Report Time – Drilling open hole to 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	13:00	7.0	Drill open hole to 12 ¼ " from 4623 to 4661 ft. (38 ft / 7 hrs / 5.4 FPH)
13:00	13:30	0.5	Rig service
13:30	06:00	16.5	Drill open hole to 12 ¼ " from 4661' to 4719' (58 ft / 16.5 hrs / 3.5 FPH)
			Note: no cement at report time
			BHA—12 ¼ ' bit – float sub – 8" shock sub – X-over -18 6" drill collars – Drilling jars -2 6" Drill
			Collars – total length 624.94
			Bit # 6-- 35.5 hrs 120 ft.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	910.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	33	1	12 ¼ Bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	19.6	1	motor	28.57	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	2/3	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	4592	Solid	17.75	1	NMDC	30.34		
					Ftg	120	PH	9.0	1	Shock sub	9.31		
					Bit Wt	25 k			1	X-over sub	1.00		
					Ser/no.	K41806			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-8-06	Report No 50	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 2623	Ft.Cut 24	Formation Anhydrite	Tops New Form:

Activity at Report Time – Drilling open hole to 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	07:00	1.0	Finish trip in hole with motor
07:00	14:30	7.5	Drill open hole to 12 ¼ " with motor and insert bit from 4592' to 4599' (9/10 ft per hr.)
			Could not make hole with motor (bent) make 5 ft. to get bend in new drilled hole still no drill rate
14:30	18:00	3.5	Trip out of hole
18:00	20:00	2.0	Stand back motor in derrick retrive MWD tool (were not working) rearrange BHA
20:00	01:00	5.0	Trip in hole
01:00	01:30	0.5	Pick up Kelly brake circulation
01:30	06:00	4.5	Drill open hole from 7 7/8 " to 12 ¼ " from 4599' to 4623' (24 ft. / 4.5 hrs / 5.3 ft.per hr.)
			Bottom hole assembly : 1 – 12 ¼ " bit – float sub – 8" shock sub – cross over sub – 18 6" DC's
			Drilling jar – 2 6" DC's Total 624.94 ft.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	10.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	33	1	12 ¼ Bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	19.6	1	motor	28.57	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	2/3	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out		Oil		1	UBHO SUB	2.42		
					In	4592	Solid	17.75	1	NMDC	30.34		
					Ftg	31	PH	9.0	1	Shock sub	9.31		
					Bit Wt				1	X-over sub	1.00		
					Ser/no.	K41806			18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-7-06	Report No 49	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4592	Ft.Cut 29	Formation -Anhydrite	Tops New Form:

Activity at Report Time – Trip in hole with motor and 12 ¼ " bit

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	09:30	3.5	Drill open hole to 12 ¼ " from 4563 to 4592 ft. (29 ft. / 3.5 hrs 8.4 FPH)
09:30	11:30	2.0	Pump sweep and circulate hole clean
11:30	15:00	3.5	Trip out of hole
15:00	18:00	3.0	Pick up and make up directional tools
18:00	23:30	5.5	Wait on Weatherford to get tools make up and made adjustments to MWD tools. Calibrate tools
23:30	03:30	4.0	Trip in hole picking up shock bit / motor / shock sub drill collars / jars
03:30	05:30	2.0	Tight spot at 2427 to 2991 pick up Kelly and ream thru area cleaned up no drag or tight spots
05:30	06:00	0.5	Trip in hole
			Bit # 6 / 94 hrs 1207 '
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	10.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	33	1	12 ¼ Bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	19.6	1	motor	28.57	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	2/3	1	Float sub	3.78		
Press	1000		Hrs Drlg		Out	4592	Oil		1	UBHO SUB	2.42		
					In	3325	Solid	17.75	1	NMDC	30.34		
					Ftg	1207	PH	9.0	1	Shock sub	9.31		
					Bit Wt	20 k			1	X-over sub	1.00		
					Ser/no.				18	6" DC's	596.44		
									1	Drill jar	32.30		
									2	6" DC's	57.78		
										Total	686.52		

PB Energy Storage Services, Inc.

933

Date 9-6-06	Report No 48	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4563	Ft.Cut 178	Formation anby	Tops New Form:

Activity at Report Time – Open hole to 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	14:30	8.5	Drill open hole to 12 ¼ " from 4385 to 4497' (112' / 8.5 hrs / 13.2 FPH)
14:30	15:00	0.5	Rig service
15:00	06:00	15.0	Drill open hole to 12 ¼ " from 4497' to 4563 ' (66 ' / 15 hrs / 4.4 FPH) tight spot @ 4560 ream
			Thru and cleaned up
			Note; bit has 90.5 hrs Top of cement 4716' need 153 ' will need to make bit trip
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	10.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼	Vis	37	1	12 ¼ bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	22	1	X-over sub	3.0	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	4/7	1	X-over sub	3.0		
Press	1000		Hrs Drlg		Out		Oil		20	6" DC's	577.80		
					In	3325	Solid	17.75					
					Ftg	1238'	PH	7.5					
					Bit Wt	20 K							
										Total	582.80		

PB Energy Storage Services, Inc.

933

Date 9-5-06	Report No 47	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4385	Ft.Cut 605	Formation Salt	Tops New Form:

Activity at Report Time -- Open hole t 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	13:30	7.5	Drill open hole from 7 7/8" to 12 ¼ " from 3780' to 4055' (275 ft / 7.5 hrs / 36.6 FPH)
13:30	14:30	1.0	Circulate sweep and bottoms up
14:30	18:00	3.5	Wiper trip pull 40 stands check for drag hole in good condition run back in hole no tight areas.
18:00	06:00	12.0	Drill open hole to 12 ¼ ' from 4055' to 4385' (330 ft / 12 hrs / 27.5 FPH)
			Note; bit has 67 hrs. Bottom second salt 4509 ' top of cement plug 4716 + -
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	10.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	37	1	12 ¼ bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	22	1	X-over sub	3.0	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	4/7	1	X-over sub	3.0		
Press	1000		Hrs Drlg		Out		Oil		20	6" DC's	577.80		
					In	3325"	Solid	17.75					
					Ftg	1060 ft.	PH	7.5					
					Bit Wt	20,000							
										Total	582.80		

PB Energy Storage Services, Inc.

933

Date 9-4-06	Report No 46	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 3780	Ft.Cut 240	Formation anby	Tops New Form:

Activity at Report Time – Open hole from 7 7/8 t 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	10:30	4.5	Drill open hole to 12 ¼ " from 3540' to 3581' (41 ft / 4.5 hrs / 9.1 FPH)
10:30	11:00	0.5	Rig service
11:00	06:00	19.0	Drill open hole to 12 ¼ " from 3581' to 3780 ' (199 ft / 19.0 hrs / 10 5 FPH)
			Note : top of second salt at 3796'
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	910.7	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	37	1	12 ¼ bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	21	1	X-over sub	3.0	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	3/6	1	X-over sub	3.0		
Press	1000		Hrs Drlg		Out		Oil		20	6" DC's	577.80		
					In	3325	Solid	17.75					
					Ftg	455	PH	7.5					
					Bit Wt	20/30 K							
										Total	582.80		

PB Energy Storage Services, Inc.

933

Date 9-3-06	Report No 44 4/5	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 3540	Ft.Cut 212	Formation anby	Tops New Form:

Activity at Report Time -- Drill open hole to 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	14:00	8.0	Drill open hole from 7 7/8 to 12 ¼ " from 3328 to 3395' (67 ' / 8 hrs / 8.4 FPH)
14:00	14:30	0.5	Rig service
14:30	06:00	15.5	Drill open hole from 7 7/8 to 12 ¼ " from 3395 to 3540' (145 ft. / 15.5 hrs / 9.4 FPH)
			Note; Drill rate should improve as we get into salt @ 3796' records show improved rate at
			Starting at 3571' on first pass will watch rate at that point .
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	10.5	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼	Vis	30	1	12 ¼ bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	32	1	X-over sub	3.0	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	3/3	1	X-over sub	3.0		
Press	1000		Hrs Drlg		Out		Oil		20	6" DC's	577.80		
					In	3325	Solid	16.25					
					Ftg	212	PH	8					
					Bit Wt	20 K							
										Total	582.80		

PB Energy Storage Services, Inc.

933

Date 9-2-06	Report No 44	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 3328'	Ft.Cut 13	Formation anby	Tops New Form:

Activity at Report Time -- Drill open hole from 7 7/8 to 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	07:00	1.0	Finish trip out of hole
07:00	11:00	4.0	Wait on hole opener
11:00	12:00	1.0	Pick up hole opener (12 ¼ " X 7 7/8") make up 7 7/8 bit to bottom and strap
12:00	16:00	4.0	Trip in hole with hole opener wash and ream last 45 ft. to 3315 ft.
16:00	22:00	6.0	Open hole with 12 ¼ " by 7 7/8 " PDC hole opener from 3315 to 3325' (10 ft. / 6 hrs 1.6 FPH)
			Most of footage in first 2 hrs / last 2 hrs not even a foot per hour.)
22:00	O2:00	4.0	Safety meeting and trip out of hole to change bit (hole opener) pulled thru tight spot at 3325'
			Pull up to 2985 and picked up Kelly and ream back thru 2 time s cleaned up no drag.
02:00	02:30	0.5	Lay out hole opener and pick up Reed Tri-cone insert bit (12 ¼ ")
02:30	05:00	2.5	**Trip in hole**
05:00	05:30	0.5	Pick up Kelly and brake circulation wash 60" to bottom for safety little fill
05:30	06:00	0.5	Drill open hole 7 7/8 " to 12 ¼ " from 3325 to 3228'
			Note ; Hole opener not damaged but would not make hole @ report time insert bit seems to
			Be drilling at about 10 – 12 FPH Working with wt. and rotary RPM to get max rate. Due to short
			Time sence on bottom not sure what can get rate up to .
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	6	Wt	10.4	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼	Vis	31	1	12 ¼ bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	21	1	X-over sub	3.0	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	1/3	1	X-over sub	3.0		
Press	1000		Hrs Drlg		Out		Oil		20	6" DC's	577.80		
					In	3325	Solid	16.5					
					Ftg		PH	8.5					
					Bit Wt	10 / 20							
					Jets	3-14's							
										Total	582.80		

PB Energy Storage Services, Inc.

933

Date 9-1-06	Report No 43	Reported by: Curtis Bagwell
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**	
Contractor: United Drilling	Rig No: 22	County: Pinal / State: **Arizona**
Depth 3215	Ft.Cut 144	Formation anby / Tops New Form:

Activity at Report Time -- Trip out of holke to change bit

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	10:00	4.0	Drill open hole from 7 7/8 to 12 ¼ " from 3171 to 3203' (32 ft / 4 hrs / 8 FPH)
10:00	10:30	0.5	Rig Service
10:30	02:00	15.5	Drill open hole from 7 7/8 to 12 ¼" from 3203 to 3315' (112 ft / 15.5 hrs / 7.2 FPPH)
02:00	06:00	3.0	Trip out of hole had drag 20 K over string wt. from 3315 to 3234' Ream back thru no drag after
			Reaming thru Not to bit so do not know condition. Pulled bit because ROP dropped to 2 FPH
			Note: Bit has 46.5 hrs and is a re-run bit with unknown hours before running .
			PDC hole opener has not arrived on location as of report time
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	4	Wt	10.5	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	31	1	12 ¼ " bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Smith	WL	22.0	1	X-ovr sub	3.0	3477'	3 ½
GPM	353		Hrs DW		Type	Miltooth	Gels	1/3	1	X-over sub	1.0		
Press	1000		Hrs Drlg		Out	3315	Oil		20	6" DC's	577.80		
					In	2417	Solid	16.25					
					Ftg	898	PH	8.5					
					Bit Wt	10/30							
										Total	582.80		

PB Energy Storage Services, Inc.

933

Date 8-31-06	Report No 42	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 3171	Ft.Cut 521'	Formation anby	Tops New Form:

Activity at Report Time -- Drilling open hole from 7 7/8" to 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	13:30	7.5	Drill open hole from 7 7/8 to 12 ¼ from 2650' to 2954' (304 ft / 7.5 hrs / 40.5 FPH)
13:30	14:00	0.5	Rig service
14:00	18:00	4.0	Drill open hole to 12 ¼ " from 2954' to 3072' (118 ft / 4 hrs / 29.5 FPH)
18:00	06:00	12.0	Drill open hole from 7 7/8" to 12 ¼ " from 3072' to 3171' (99 ft / 12 hrs / 8.25 FPH)
			Note ; From 3060 ' in Anhydrite ROP down to 8.2 FPH have 650 feet to drill. Bit has 31 hrs.
			Have 12 ¼ " PDC hole opener in route to location will trip out and run as soon as here
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	4	Wt	10.;5	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	31	1	12 ¼ " bit	1.0	3213'	¾^
SPM	53		Hrs Misc		Mfg	Smith	WL	17.2	1	X-over sub	3.0	3477'	3 ½
GPM	375		Hrs DW		Type	Insert	Gels	1/3	1	x-over sub	1.0		
Press	750		Hrs Drlg		Out		Oil		20	6" DC's	577.80		
					In	2417	Solid	16.25					
					Ftg		PH	8.5					
					Bit Wt	10/12							
										Total	582.80		

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator El Paso Natural Gas Company
2. OIL WELL ☐ GAS WELL ☐ OTHER ☒ (Specify) Stratigraphic Test
3. Well Name AGS #1-21
   Location 1,980' FNL, 660' FWL
   Sec. 21 Twp. 7S Rge. 8E County Pinal, Arizona
4. Federal, State, or Indian Lease Number, or lessor's name if fee lease Owned by El Paso Natural Gas
5. Field or Pool Name NA
6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT--OFF	☐	WEEKLY PROGRESS	☐
FRACTURE TREAT	☐	DIRECTIONAL DRILL	☐	FRACTURE TREATMENT	☐	REPAIRING WELL	☐
SHOOT OR ACIDIZE	☐	PERFORATE CASING	☐	SHOOTING OR ACIDIZING	☐	ALTER CASING	☐
REPAIR WELL	☐	CHANGE PLANS	☒			ABANDONMENT	☐
(OTHER)				(OTHER)			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log, Form 4)

1. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.

On August 23rd while shut down for rig repairs at a depth of 5,935' we became stuck in the AGS #1-21. All attempts to free the pipe with lubricant, diesel, and the use of hydraulic jars have proved unsuccessful. Consequently, we backed off the drill string at a depth of 5,217' leaving the bit, mud motor, 20 drill collars and two joints of drill pipe in the hole.

In order to remedy the situation and take this well to its objective total depth, El Paso Natural Gas intends to ream the existing 7 7/8" hole to 12 ¼", directionally drill around the fish to the top of the siltstone/sandstone interval we had encountered at a depth of approximately 5,630'. At that point we intend to run 9 5/8" casing and cement to surface using approximately 1255 sacks of cement. Then we plan to switch back to fresh water based drilling fluids and proceed to drill out from casing and take this stratigraphic test to a total depth of approximately 8,000'.

8. I hereby certify that the foregoing is true and correct.

Signed [signature] Title Manager, EPNG Date 8-30-2006

Permit No. 933

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notice and Reports On Wells
File One Copy
Form No. 25

5/96

PB Energy Storage Services, Inc.

933

Date 8-30-06	Report No 41	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 2650	Ft.Cut 400	Formation	Tops New Form:

Activity at Report Time --Drilling open hole from 7 7/8 " to 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	09:00	3.0	Drill open hole from 7 7/8 " to 12 ¼ " from 2250' to 2291'
09:00	10:00	1.0	Rig service and jet shaker pit
10:00	15:00	5.0	Drill open hole from 7 7/8 to 12 ¼ " from 2291 to 2417' (126' /5 hrs / 25.2 FPH)
15:00	21:00	6.0	Trip out of hole change bit and trip in hole
21:00	22:00	1.0	Work on rotary table and chain
22:00	22;30	0.5	Brake circulation and tag bottom
22:30	06:00	7.5	Drill open hole from 7 7/8 to 12 ¼ " from 2417 to 2650' (233 ft / 7.5 hrs / 31 FPH)
			Drilled 400 ft with 15.5 drilling tilme / 25.8 FPH
			Note: center punch pulled at 30 hrs teeth in good condition but had 1 cone loose
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	4	Wt	10.5	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	30	1	12 ¼ bit	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Smith	WL	30.8	1	X-over sub	3.0	3477'	3 ½
GPM	353		Hrs DW		Type	Insert	Gels	1/1	1	8"X6" x sub	1.0		
Press	800		Hrs Drlg		Out		Oil		20	6" D /C's	577.80		
					In	2417	Solid	16.25					
					Ftg	233	PH	8					
					Bit Wt								
					Jets	4-14s							
										Total	582.80		

PB Energy Storage Services, Inc.

Date 8-29-06	Report No 40	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 2250	Ft.Cut 619	Formation anby	Tops New Form:

Activity at Report Time – Drilling open hole from 7 7/8" to 12 ¼ "

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	10:00	4.0	Pick up 20 6" drill collars and run I;n hole with 15 stands 4 ½ " drill pipe tag bottom at 1631'
			Service rig
10:00	18:00	8.0	Drilling – open hole from 7 7/8 to 12 ¼ " from 1631 to 1920' (289' /8 hrs / 36.1 FPH)
18:00	06:00	12.0	Drill open hole from 7 7/8" to 12 ¼ " from 1920' to 2250' (330' /12 hrs / 27.5 FPH)
			Note: Drill rates from 1820 to below 2000 ft dropped to as low as 25 MPF Average ROP
			31 ft. per hour
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	RR	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	12 ¼ "	Vis	30	1	12 ¼ H/O	5.80	3213'	¾^
SPM	50		Hrs Misc		Mfg	RR	WL		1	X-over sub	3.0	3477'	3 ½
GPM	353		Hrs DW		Type	centerpun	Gels		1	8x6"x-over	1.0		
Press	1000		Hrs Drlg		Out		Oil		20	6" drillcollar	577.80		
					In	1604	Solid						
					Ftg	619	PH						
					Bit Wt	8-12							
										Total	587.60		

PB Energy Storage Services, Inc.

Date 8-28-06	Report No 39	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 1604	Ft.Cut	Formation anby	Tops New Form:

Activity at Report Time -- Trip in hole picking up drill collars

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	10:30	4.5	Wait on Halliburton (bring cmt from Farmington NM)
10:30	12:00	1.5	Make wiper trip pull 18 stands and run back in hole
12:00	16:00	4.0	Wait on Halliburton
16:00	17:00	1.0	Rig up Halliburton to well test lines to 3500 psi. Mix and pump 2 bbls KCL spacer / mix and pump
			161 sacks type G cement with 4/10% Halad 322—2/10 % HR-5 – 2.8 # / Sk KCL yield of 1.05-16.7#
			Total 30 bbls with 2.5 bbls KCL spacer behind cmt. Displace with 60 bbls brine mud. Pump rate
			2 BPM cement and 4 BPM Displace / pressure 100 psi cmt. And 160 psi displace. Mix 20 sacks
			Cmt and top off between 13 3/8 surface and 20" conductor bring cement to surface.
17:00	18:00	1.0	Pull out of hole stand back 15 stands
18:00	18:30	0.5	**Circulate pipe clean**
18:30	23:00	4.5	Trip out of hole laying down drill pipe
23:00	01:00	2.0	Nipple down well control equipment and flow line
01:00	04:00	3.0	**Build Bell nipple weld flow line connection on and nipple up bell nipple**
04:00	05:00	1.0	**Hook up flow line**
05:00	06:00	1.0	**Start tripping in hole with 12 ¼ " X 7 7/8 " centerpunch and new drill collars**
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis					3213'	¾^
SPM	50		Hrs Misc		Mfg		WL					3477'	3 ½
GPM	353		Hrs DW		Type		Gels						
Press	1000		Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 8—27-06	Report No 38	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 5213	Ft.Cut	Formation	Tops New Form:

Activity at Report Time –Wait on Halliburton to repair pump and deliver cement

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	08:00	2.0	Finish tripping out of hole
08:00	08:30	0.5	Lay down fishing tools
08:30	15:00	6.5	Wait on cement company
15:00	18:00	3.0	Trip in hole with drill pipe / 1 drill collar and 7 7/8 bit with no nozzles to 5210'
18:00	20:00	2.0	Circulate and work pipe
20:00	21:00	1.0	Rig up Southwest Exploration Service
21:00	00:00	3.l0	Run deviation survey on well hole at bottom 8.9 degree
00:00	02:00	2.0	Circulate wait on Halliburton
02:00	02:30	0.5	Rig up Halliburton
02:30	03:30	1.0	**Halliburton attempt to pump Kick off plug at 5210' Pump 6-8 bbls and pump failed check**
			For plugged bit or down hole problems rig pump circ. OK. Clean up Hallilburton equuip and pick
			Up Kelly and circ. Cement out of hole.
03:30	06:00	2.5	**Circulate and wait on Halliburton to repair pump and deliver cement**
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis	30				3213'	¾^
SPM	50		Hrs Misc		Mfg		WL					3477'	3 ½
GPM	353		Hrs DW		Type		Gels						
Press	1000		Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 8-26-06	Report No 37	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 5935	Ft.Cut	Formation anby	Tops New Form:

Activity at Report TIME Trip out of hole with fishing tools

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	08:00	2.0	Work jars attempt to recover fish
08:00	22 ;00	14.0	Wait on freepoint truck
22:00	04:00	6.0	Rig up Weatherford wire line unit to freepoint to back off above fish and recover pipe
			Ran in hole pipe free at 5216 ft. no movement at 5249 ft. Freepoint at bottom of fishing tools
			Leaving in hole 7 7/8" PDC bit / mud motor / 20 6" drill collars and 2 jts 4 ½ " drill pipe
			Pull out of hole with free point tool and pick up back off tool. Ran in hole to 5180 ft. and could not
			Get to bottom of fishing tools. Pull out of hole and check tool had bent rod on bottom of tool. Rig
			Up new bottom on back off tool and run back in hole to 5216 ft..Rotate pipe 2 ½ turns to left.
			Back off at bottom of fishing tools @ 5216 ft.
04:00	06:00	2.0	**Trip out of hole with fishing tools**
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis	30				3213'	¾^
SPM	50		Hrs Misc		Mfg		WL					3477'	3 ½
GPM	353		Hrs DW		Type		Gels						
Press	1000		Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 8-25-06	Report No 36	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 5935	Ft.Cut none	Formation	Tops New Form:

Activity at Report TIME jarring on fish

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	09:30	3.5	Wait on fishing tools
09:30	14:30	5.0	Pick up fishing tools and trip in hole
14:30	18:00	3.5	Jar on fish make 3 " after jarring 3.5 hrs continue jarring on fish / in hole with Screw in sub /
			X-over sub / bumper sub / Jars
18:00	06:00	12.0	Continue jarring on fish very little movement getting good jar action total movement 12-14 "
			Note: have jarred on fish for 15.5 hrs getting good jar action from jars. Movement has been
			Very little (12-14 inches) will continue jarring.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Screw in sub	4.25	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	X-over sub	1.43	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		1	Bumper sub	8.27		
Press	1000		Hrs Drlg		Out		Oil		1	Hyd. Jar	12.90		
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	26.85		

PB Energy Storage Services, Inc.

933

Date 8-23-06	Report No 34	Reported by: Curtis Bagwell
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**	
Contractor: United Drilling	Rig No: 22	County: Pinal / State: **Arizona**
Depth 5935	Ft.Cut 582 ft	Formation sand / Tops New Form:
Activity at Report TIME Working stuck pipe		

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	11:00	5.0	Drill from 5353' to 5524' (171 ' / 5 hrs. / 34.2 FPH)
11:00	12:30	0.5	Survey @ 5520' survey did not take
12:30	23:30	11.0	Drill from 5524 ' to 5936 ' (412' / 11.0 hrs. / 37.5 FPH)
23:30	00:30	1.0	Work on rotary chain circulate and work pipe. **Pipe stuck at 5935'**
00:30	06:00	5.5	**Work stuck pipe / lost 70 bbls mud/ pump LCM (10 sacks mic.fiber /10 sacks hulls with**
			30 gals surfdrill and 30 gals. Petrolube / have good circ but will not rotate or move up or down
			Stuck with Kelly down to bushings.
			Motor 93.5 hrs
			Bit / 2688' / 81 hrs / 33.2
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-24-06	Report No 34	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 5935	Ft.Cut none	Formation	Tops New Form:

Activity at Report TIME wait on fishing tools

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	08:00	2.0	Work stuck pipe
08:00	08:30	0.5	Pump 1,000 gals diesel and spot from bottom to top of drill collars
08:30	10:30	2.0	Wait on diesel to penetrate around stuck pipe10:
10:30	18:00	7.5	Gave' diesel 2 hrs attempt to pull pipe can not rotate or move pipe have full circulation work pipe
			Mix 40 bbl sweep @ 140 vis. Pump across collars while working pipe would not move.
18:00	20:30	2.5	Work stuck pipe while waiting on pipe recovery unit
20:30	23:30	3:0	Pipe recovery unit on location .remove neck on top of swivel rig up Rotary wireline and run in
			Hole to get free point . freepoint at 5527' in 6" drill collars. Pull out of hole lay out free point
			Tool and pick up back off tool. Run in hole back pipe at 5216' 2 jts 4 ½ drill pipe above drill collars
			Pull out of hole and lay down tools and rig down and release Rotary Wireline
23:30	02:30	3.0	Trip out of hole with drill pipe lay out botton jt
02:30	03:30	1.0	Replace neck on swivel make up Kelly hose
03:30	06:00	2.5	**Wait on fishing tools**
			Fish in hole; 7 7/8 PDC bit / Weatherford motor/ 20 –6" drill collars / 2 jts 4 ½ " drill pipe
			Bit: 2688 ft / 81 hrs / 33.2 ft per hr.
			Motor : 93.5 hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-22-06	Report No 33	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 5353'	Ft.Cut 648'	Formation anhy	Tops New Form:
Activity at Report TIME Drilling ahead			

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	08:30	2.5	Trip in hole with motor and 7 7/8" PDC bit
08:30	09:00	0.5	Rig service
09:00	06:00	21.0	Drill from 4705 ' to 5353' (648' / 21.0 hrs / 30.8 FPH)
			648' /21 hrs / 30.8 FPH
			Bit: 2106 ft / 65.5 hrs / 32.2 FPH average
			Motor : 72 hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	10.3	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	2106	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-21-06	Report No 32	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4705 '	Ft.Cut 92 '	Formation anby	Tops New Form:

Activity at Report TIME Trip in hole after cutting core # 11

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	07:00	1.0	Drill from 4613' to 4645'
07:00	09:00	2.0	Circulate bottoms up to recover sample
09:00	10:30	1.5	Survey @ 4645' bad reading new clock not working
10:30	13:30	3.0	Trip out of hole to core
13:30	15:00	1.5	Lay out motor and bit pick up core barrel lay out steel barrel and pick aluminum barrel
15:00	15:30	0.5	Rig service
15:30	19:00	3.5	Trip in hole with core barrel to cut core # 11
19:00	23:00	4.0	Cut core from 4645' to 4705' core # 11
23:00	02;30	3.5	Trip out of hole with core
02:30	03:30	1.0	**Recover core # 11 from barrel and stand back core barrel in derrick**
03:30	06:00	2.5	Jet cutting from shaker pit and start in hole with motor and bit
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-20-06	Report No 31	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4613	Ft.Cut 302	Formation Salt	Tops New Form:
Activity at Report TIME Drilling ahead			

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	15:00	9.0	Rig repairs working on sprocket / guards / install chain / install flow line removed to get to
			Sprocket / secure drill line after replacement /
15:00	18:00	3.0	Start in hole with PDC bit and motor spinning chain broke make repair
18:00	22:00	4.0	Trip in hole pick up Kelly and brake circulation
22:00	02:30	4.5	Drill from 4311' to 4550' (239 ' / 4.5 hrs / 53.1 FPH)
02:30	04:00	1.5	Circulate bottoms up to get samples
04:00	06:00	2.0	Drill from 4550' to 4613' (63' / 2 hrs / 31.5 FPH)
			Note : weight on bit 10-12 K / 50-52 SPM / 30 rpm rotary / rpm at bit 137
			NOTE ; TOTAL RIG REPAIR TIME – 64.5 HRS
			BIT –43.5 HRS.
			MOTOR---48 HRS
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	10.0	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL	36.8	1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid	12.5					
					Ftg	780	PH	7.0					
					Bit Wt	8-12 K	chlor	210000					
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-19-06	Report No 30	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4311	Ft.Cut	Formation	Tops New Form:

Activity at Report TIME--- Rig repairs working on sprocket

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	06:00	24	Rig repairs work on replacing sprocket on chain drive off engine had to cut out chain guard and
			Attempt to install sprocket would not fit work to get right size to fit shaft.
			Rig repairs 55.5 hrs. total as to date
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-18-06	Report No 29	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4311	Ft.Cut NONE	Formation anby	Tops New Form:

Activity at Report TIME Rig repairs working chain drive sprockets

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	06:00	24	Rig repairs working on drive sprockets Parts to arrive this a AM repairs early afternoon possibile
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-17-06	Report No 28	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4311'	Ft.Cut 60 ft.	Formation Salt	Tops New Form:

Activity at Report Tme : Rig repairs remove and replace main sprocket on drve to draw works

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	07:00	1.0	Circulate bottoms up
07:00	11:00	4.0	Trip out of hole
11:00	11:30	0.5	Rig service
11:30	15:00	3.5	Lay out motor and PDC bit run in hole with core barrel
15:00	17:00	2.0	Cut core from 4251 to 4311'
17:00	22:30	5.5	Trip out of hole with core barrel retrive core from barrel and lay out same
22:30	06:00	7.5	Rig repairs remove guards on chain sprockets
			Note: Rig repairs shut down drilling operations at 10:00 PM until repairs completed parts
			Being shipped from Hobbs NM. Old part will be removed and delivered to machine shop
			And be rebuilt. Unknown time repairs completed estimate 24 hrs.
			Bit # 3--- 37 hrs
			Motor --- 40 hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-16-06	Report No 27	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4250ft	Ft.Cut -165ft	Formation **Salt**	Tops New Form:

Activity at Report TIME Drilling with motor and PDC bit

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	07:00	1.0	Circ. Bottoms up clean hole to trip out of hole
07:00	08:00	1.0	'Rig Repair
08:00	12:00	4.0	Trip out of hole
12:00	16:00	4.0	Rig service Lay out motor / pick up core barrel and run in hole to cut core
16:00	17:00	1.0	Cut core from 4088' to 4148'
17:00	21:00	4:0	Trip out of hole with core
21:00	22:00	1.0	Remove core from barrel and lay out / set core barrel back in derrick
22:00	02:30	4.5	Trip in hole with motor and PDC bit
02:30	06:00	3.5	Drill from 4148' to 4250 ' (102 ' / 3.5 hrs / 29.1 FPH) 10K WOB / 52 SPM / 30 RPM rotary
			136 RPM at bit
			Bit #3 37 hrs
			Motor -- 40 hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82	3666	2.0
Press	1000		Hrs Drlg		Out		Oil					3917	1.75
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-15-06	Report No 26	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 4085	Ft.Cut 525	Formation	Tops New Form:

Activity at Report TIME Drilling ahead

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	07:30	1.5	Lay out core # 8
07:30	10:30	3.0	Work on rig (chain from draw works to rotary table) Rig service
10:30	12:00	1.5	Jet sand trap and first pit clean cuttings and sand
12:00	15:30	3.5	Stand back core barrel pick up motor and PDC bit make up and trip in hole
15:30	16:00	0.5	Pick up Kelly brake circ. And tag bottom
16:00	18:00	2.0	Drill from 3560 ft. to 3648 ft. (88' / 2 hrs / 44 FPH) 50 SPM 8-12K on bit 30 rotary
18:00	18:30	0.5	Drill from 3648' to 3666'
18:30	19:00	0.5	Survey @ 3666' 2 degrees
19:00	`00:00	5.0	Drill from 3666' to 3917' (251' / 5 hrs / 50.2 FPH) 50 SPM / 8-12k / Rotary .137 RPM at bit)
00:00	00:30	0.5	**Survey @ 3917' 1 ¾ degree**
00:30	06:00	5.5	Drill from 3917 ft to 4085 ft. (168 ft / 5.5 hrs / 30.5 FPH)
			Next core @ 4300 ft. core # 9
			Bit # 3 / 33.5 hours 1365 ft. / 40.7 FPH
			Motor # 1
			8-13-06 --- 12.5
			8-14-06 ---- 10
			8-15-06 ---- 13
			Total hrs. -- 35.5 hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-14-06	Report No 25	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 3560	Ft.Cut 253	Formation anby	Tops New Form:

Activity at Report Time trip out of hole with core

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	06:30	0.5	Survey @ 3231' ¾ degree
06:30	11:30	5.0	Drill from 3307' to 3414' (107 ' / 5 hrs / 21.4 FPH)
11:30	12:00	0.5	Rig service
12:00	15:00	3.0	Drill from 3414' to 3500' (86 ' / 3 hrs /28.6 fph)
15:00	16:30	1.5	Circulate and run survey @ 3477 3 ½ degree (Survey tool not working right United to bring
			New tool to check too giving wide range of readings will run survey when back drilling)
16:30	19:30	3.0	Trip out of hole to run core
19:30	23:30	4.0	Trip in hole with core barrel to cut core at 3500 ft.
23:30	03:00	3.5	Cut core at 3500' to 3560 ft.
03:00	06:00	3.0	**Trip out of hole with core**
			Talley out of hole check ok
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	4	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	3213'	¾^
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud Motor	26.58	3477'	3 ½
GPM	353		Hrs DW		Type	PDC	Gels		20	6" DC's	611.82		
Press	1000		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	780	PH						
					Bit Wt	8-12 K							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-13-06	Report No 24	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 3307	Ft.Cut 587	Formation anhy	Tops New Form:
Activity at Report Time Drilling ahead			

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	08:00	2.0	Trip in hole brake circulation had 5 ft. fill
08:00	09:00	1.0	Drill core from 2660' to 2720' core # 7
09:00	11:30	2.5	Trip out of hole with core
11:30	13:00	1.5	Lay out core # 7
13;00	14:00	1.0	Lay out 7 7/8 bit and lay out stab. Pick up 2.9 mud motor and 7 7/8 Reed PDC bit dressed with
			3-15 / 3-12 nozzles
14:00	16:30	2.5	Trip in hole
16:30	17:00	0.5	Survey @ 2554' 2 ½ degrees belive survey not accurate will re- survey
17:00	19:00	2.0	Tag bottom brake circulation and drill from 2720' to 2818' making adjustments on wt/ pump rate /
			Rotary speed
19:00	19:30	0.5	Survey @ 2818 ½ degree (survey @ 2554 not correct)
19:30	06:00	10.5	Drill from 2818' to 3307' (489' /10.5 hrs 46.6 FPH) WOB 8-10 /motor RPM 102 / rotary 35 RPM
			Total RPM 137
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	4	Wt	10.3	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit (PDC)	1.0	2554	2.5
SPM	50		Hrs Misc		Mfg	Reed	WL		1	Mud motor	26.58	2818	.5
GPM	353		Hrs DW		Type	PDC	Gels		20	DC's	611.82		
Press	950		Hrs Drlg		Out		Oil						
					In	2720	Solid						
					Ftg	587	PH						
					Bit Wt	6-10							
										Total	639.40		

PB Energy Storage Services, Inc.

933

Date 8-12-06	Report No 23	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 2660	Ft.Cut 100'	Formation	Tops New Form:
Activity at Report Time Trip in hole to cut core @ 2660' to 2720'			

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	08:00	2.0	Trip out of hole with core
08:00	10:00	2.0	Lay out core from 2500' to 2560' / Rig service
10:00	12:30	2.5	Trip in hole to 2560'
12:30	14:00	1.5	Work on shaker (motor burned out) circ and rotate pipe while working on shaker
14:00	20:00	6.0	Stuck pipe could not rotate / circulate / Pull 65K over string would not move attempt to work down
			As we were 15 ft. off bottom would not move. (stuck at 2545') Pulled to 65 K over string wt.
			And wait for 20 min. wt dropped to 40K over string wt of 75K . pick up to 65K over string wt.
			Had movement pulled up came free. Circulate and rotate pipe for 30 min and pulled up to 1600'
			Inside surface pipe. Make repairs to shaker and repack swivel
20:00	00:00	4.0	**Drill from 2560' to 2660'**
00:00	01:00	1.0	Circulate hole clean
01:00	06:00	6.0	Trip out of hole / start back in hole with core barrel to cu t core at 2660 to 2720'
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis		1	Bit	.95		
SPM			Hrs Misc		Mfg	Smith	WL		1	Core bbl.	32.00		
GPM			Hrs DW		Type	miltooth	Gels		1	Core bbl	32.41		
Press			Hrs Drlg		Out		Oil		1	Jar	7.62		
					In	1622'	Solid		1	X-over	1.53		
					Ftg		PH		19	6" DC's	612.14		
					Bit Wt								
										Total	686.65		

PB Energy Storage Services, Inc.

933

Date 8-11-06	Report No 22	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 2552'	Ft.Cut 212	Formation SALT	Tops New Form:

Activity at Report Time Trip out of hole with core

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	7:30	1.5	Trip out of hole with bit
07:30	O9:30	2.0	Lay out core change out aluminum inter barrel to steel barrel
09:30	11:30	2.0	Trip in hole to cut core
11:30	12:30	1.0	Cut core from 2340 to 2400 ft.
12:30	14:30	2.0	Trip out of hole with core
14;30	16:00	1.5	Lay out core from barrel and rig service
16:00	20:00	4.0	Trip in hole
20:00	22:00	2.0	Drill from 2300 to 2500 ft. (100 ft. / 2 hrs / 50 FPH)
22:00	23:00	1.0	Circulate hole clean bottoms up
23:00	01:30	2.5	**Trip out of hole**
01:30	04:00	25	Lay out bit and pick up core barrel
04:00	05:00	1.0	Cut core from 2500 ft. to 2560 ft.
05:00	06:00	1.0	**Trip out of hole with core**
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis		1	Bit	.95		
SPM			Hrs Misc		Mfg	Smith	WL		1	Core bbl.	32.00		
GPM			Hrs DW		Type	miltooth	Gels		1	Core bbl	32.41		
Press			Hrs Drlg		Out		Oil		1	Jar	7.62		
					In	1622'	Solid		1	X-over	1.53		
					Ftg		PH		19	6" DC's	612.14		
					Bit Wt								
										Total	686.65		

PB Energy Storage Services, Inc.

933

Date 89-10-06	Report No 21	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 2340	Ft.Cut 260	Formation salt	Tops New Form:

Activity at Report Time

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	O7:00	1.0	Change out core barrel
07:00	09:00	2.0	Trip in hole with bit
09:00	09:30	0.5	Brake circulation
09:30	12:00	2.5	Drill from 2080' to 2181' (101 ft. / 2.5 / 40 FPH)
12:00	13:30	1.5	Circulate and rig service / hold safety meeting
13:30	15:30	2.0	Trip out of hole
15:30	18:00	2.5	Pick up core barrel and trip in hole to core
18:00	18:30	0.5	Finish trip in hole
18:30	20:30	2.0	Core from 2180 to 2240'
20:30	22:30	2.0	**Trip out of hole with core**
22:30	23:00	0.5	Stand back core barrel in derrick
23:00	02:00	3.0	Trip in hole with bit
02:00	04:30	2.5	**Drill from 2240 to 2340 ft.**
04:30	05:30	1.0	**Circ. And run survey @ 2340' ½ degree**
05:30	06:00	0.5	**Start out of hole to core**
			Cut 260 ft (drill and core) 7 hrs drilling time 37.1 FPH
			12.5 hrs trip time
			7 hrs drill time
			4.5 hrs circulate / survey / rig service
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt	9.9	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis	30	1	Bit	.95	2340	½ ^
SPM			Hrs Misc		Mfg	Smith	WL	4.8	1	Core bbl.	32.00		
GPM			Hrs DW		Type	miltooth	Gels	1/1	1	Core bbl	32.41		
Press			Hrs Drlg		Out		Oil		1	Jar	7.62		
					In	1622'	Solid	11	1	X-over	1.53		
					Ftg		PH	10	19	6" DC's	612.14		
					Bit Wt								
										Total	686.65		

PB Energy Storage Services, Inc.

933

Date 8-9-06	Report No 20	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 2080'	Ft.Cut 220'	Formation	Tops New Form:
Activity at Report Time Laying out core # 3			

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	06:30	0.5	Finsh trip out of hole
06:30	07:00	0.5	Pick up coring tool
07:00	09:00	2.0	Trip in hole to core
09:00	10:30	1.5	Cur core from 1860' to 1920 core # 2
10:30	12:30	2.0	Trip out of hole with core #2
12:30	14:30	2.0	Lay out core # 2 and set back core tools in derrick pick up bit / Rig service
14:30	16:30	2.0	Trip in hole
16:30	19:30	3.0	Drill from 1920' to 2020' (100 ft. / 3 hrs / 33.3 FPH)
19:30	20:30	1.0	Circulate hole clean
20:30	23:00	2.5	**Trip out of hole toc core lay out bit pick up core barrels**
23:00	01:00	2.0	Trip in hole to cut core # 3
01:00	03:30	2.5	Coring cut 60 ft. core from 2020 to 2080'
03:30	05:00	1.5	**Trip out of hole**
05:00	06:00	1.0	**Lay out core # 3**
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis		1	Bit	.95		
SPM			Hrs Misc		Mfg	Smith	WL		1	Core bbl.	32.00		
GPM			Hrs DW		Type	miltooth	Gels		1	Core bbl	32.41		
Press			Hrs Drlg		Out		Oil		1	Jar	7.62		
					In	1622'	Solid		1	X-over	1.53		
					Ftg		PH		19	6" DC's	612.14		
					Bit Wt								
										Total	686.65		

PB Energy Storage Services, Inc.

933

Date 8-8-06	Report No 19	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 1860	Ft.Cut 238	Formation	Tops New Form:

Activity at Report Time

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	7:30	1.5	Finish jetting out reserve pit. Change suction lines on pumps and displace fresh water mud in pits
			With 10 # brine Safety meeting discuss laying out core
07:30	09:00	1.5	Drill from 1622' to 1700'
09:00	10:30	1.5	Circulate and run chlorides on brine water checked 220,000
10:30	12;30	2.0	Trip out of hole to cut cores
12:30	14:30	2.0	Brake out 7 7/8 " bit strap and caliper core tools and pick up / make up to core
14:30	17:30	3.0	Trip in hole to core
17:30	18.30	1.0	Cut core from 1700' to 1760' (60' / 1.0 hrs / 60 FPH)
18:30	19.30	1.0	Trip out of hole with core
19:30	23:00	1.5	**Lay out core / remove from core barrel and place on pipe racks record and box**
23:00	01:30	2.5	Trip in hole with 7 7/8" bib to drill
01:30	04:00	2.5	Drill from 1760' to 1860' (100 ' / 2.5 hrs / 40 FPH)
04:00	04:30	0.5	**Circulate hole clean bottoms up**
04:30	06:00	1.5	**Trip out of hole to pick up core barrel**
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis		1	Bit	.95		
SPM			Hrs Misc		Mfg	Smith	WL		1	Core bbl.	32.00		
GPM			Hrs DW		Type	miltooth	Gels		1	Core bbl	32.41		
Press			Hrs Drlg		Out		Oil		1	Jar	7.62		
					In	1622'	Solid		1	X-over	1.53		
					Ftg		PH		19	6" DC's	612.14		
					Bit Wt								
										Total	686.65		

PB Energy Storage Services, Inc.

933

Date 8-7-06	Report No 18	Reported by: Curtis Bagwell
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**	
Contractor: United Drilling	Rig No: 22	County: Pinal / State: **Arizona**
Depth 1622 / Ft.Cut	Formation	Tops New Form:

Activity at Report Time Jet out fresh water mud in reserve pit

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	09:30	3.5	Drill cement and float shoe
09:30	13:30	4.0	Circulate bottoms up / rig service and rig repairs
13:30	16:00	2.5	Trip out of hole lay out 2- 8 " drill collars and centerpunch
16:00	18:00	2.0	Cut off conductor pipe
18:00	22:00	4/0	Weld well head on 13 3/8 " surface pipe
22:00	00:00	2.0	Nipple up BOP
00:00	02:00	2.0	Trip in hole with 7 7/8 " bit
02:00	02:30	0.5	Test BOP
02:30	06:00	3.5	Rig up to jet fresh water mud out of reserve pit and jet same using fresh water to jet
			Note: switch from fresh water mud to brine water mud will remove fresh water mud from
			Reserve pit to prevent brine contamination
			Bit # 3 7 7/8 " Smith type XR+ serial # YE3207 3-14 jets in at 1622'
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	3	Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	7 7/8	Vis		1	7 7/8" bit			
SPM			Hrs Misc		Mfg	Smith	WL						
GPM			Hrs DW		Type	miltooth	Gels						
Press			Hrs Drlg		Out		Oil						
					In	1622	Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 8-6-06	Report No 17	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 1575	Ft.Cut 155 cmt.	Formation cmt.	Tops New Form:

Activity at Report Time Drill out cement after running and cementing casing

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	18:00	12.0	Wait on cement / working on rig change out bearings on cat head shaft and repair chains / Ran temp.
			Survey (Southwest Exploration Services) to locate top of cement.
18:00	22:00	4.0	Work on rig complete installing bearings and replace shaft hook up cat head
22:00	00:30	2.5	Pick up and run in hole with 12 ¼ " X 7 7/8 " center punch tag top of cement at 1420 ft.
00:30	01:30	1.0	Rig pumps to get suction from fresh water in reserve pit to drill cement and jet cellar
01:30	06:00	4.5	Drill cement from 1420 ft. to 1575 Drill 155 ft. cement Drill float collar @ 1557'
	Total	24	
			Bit `12 ¼ " X 7 7/8 " centerpunch

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	2	Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	C/P	Vis		1	12 ¼ X7 7/8			
SPM			Hrs Misc		Mfg	DH	WL			centerpunch	4.67		
GPM			Hrs DW		Type	centerpun	Gels		2	8" DC's	60.35		
Press			Hrs Drlg		Out		Oil		1	X-over sub	1.00		
					In	1420"	Solid		20	6"; DC's	612.14		
					Ftg		PH						
					Bit Wt								
										Total	678.16		

PB Energy Storage Services, Inc.

933

Date 8-5-05	Report No 16	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 1602	Ft.Cut	Formation	Tops New Form:

Activity at Report Time Wait on cement and empty pits to change out mud to brine mud

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	07:30	1.5	Trip out of hole to run 13 3/8 " casing
07:30	08:00	0.5	Rig up Bull Rogers casing equipment and hold safety meeting (El Paso safety orientation))
08:00	12:30	4.5	Run 13 3/8" casing (13 3/8 " 54.50# J-55 /STC) to 1604.24 / KB)
12:30	13:00	0.5	Rig Down Casing crew
13:00	14:00	1.0	Rig up Halliburton hold Safety Meeting with rig crew
14:00	17:00	3.0	Cement surface (pump 10 bbls fresh water spacer / lead slurry 440 sacks San Juan cement /
			12.5 PPG / 175 bbls / Tail cement 440 sacks G cement 15.2 PPG 99 bbls / displace with 240 bbls
			Fresh Water mud / Cement to surface after 200 bbls flow lines plugged off cement coming over
			Bell nipple slow rate from 6 BPM to 3 BPM cement coming over bell nipple slow to 1.5 BPM
			Lost returns with 10 bbls flush to pump brought rate back to 6 BPM no returns shut down
			With 4 bbls under displacement pressure dropped to zero psi from 100 psi.
17:00	18:00	1.0	Rig down Halliburton rig down flow line clean lines from well to tanks jet shaker pit and cellar
18:00	19:00	1.0	**Center casing in hole / wait on cement**
19:00	02:00	7.0	**Jet fresh water mud out of mud tanks get ready to fill with 10 # brine waiting on cement**
02:00	06:00	4.0	**Working on rig (remove bearings on cat head and rotary drive Waiting on cement**
			Cement job complete @ 17:30 (5:30 PM) wait on cement 24 hrs / 17:30 8-6-06
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

EL Paso Natural Gas

933

Ariz Gas Storage
#1

API Well No.:

August 2,2006
Pima

13 3/8 Surface

Customer Representative:
Greg Gettman
Halliburton Operator:
Bruce Astley
Ticket No.:
4542513

HALLIBURTON

HALLIBURTON JOB SUMMARY

SALES ORDER NUMBER	TICKET DATE
45[illegible]13	August 2,2006

REGION	NWA / COUNTRY	BDA / STATE	COUNTY
NORTH AMERICA	ROCKY MOUNTAIN	AZ	Pima

MBU ID / EMPL #	H.E.S EMPLOYEE NAME	PSL DEPARTMENT
183099	Bruce Astley	ZONAL ISOLATION

LOCATION	COMPANY:	CUSTOMER REP / PHONE
FARMINGTON, NM	EL Paso Natural Gas	Greg Gettman

TICKET AMOUNT	WELL TYPE	API/UWI #
	GAS	

WELL LOCATION	DEPARTMENT	SAP BOMB NUMBER	JOB TYPE
	ZONAL ISOLATION 10003		13 3/8 Surface

LEASE NAME	Well No.	SEC /	TWP /	RNG
Ariz Gas Storage	#1			

H.E.S. EMP NAME / EMP # / (EXPOSURE HOURS)	HRS	HRS	HRS	HRS
B. Astley 183099				
R.Pfiefer/391069				
D.Core/335668				
J.Egleheart/387932				

H.E.S. UNIT #S / (R / T MILES)	R / T MILES	R / T MILES	R / T MILES	R / T MILES
10286361	10793626			
10251407				
10804563/10784053				
10724579/10713212				

Form. Name _____ Type: _____
Form. Thickness _____ From _____ To _____
Packer Type _____ Set At _____
Bottom Hole Temp. _____ Pressure _____
Retainer Depth _____ Total Depth _____

	Called Out	On Location	Job Started	Job Completed
Date	8/2/06	8/3/06	8/4/06	8/4/06
Time	7:30	15:00	15:10	17:26

Tools and Accessories

Type and Size	Qty	Make
Float Collar		
Float Shoe		
Centralizers		
Top Plug		
Limit Clamp		
BASKET		
Insert Float		
Guide Shoe		
Weld-A		

Well Data

Casing	New/Used	Weight	Size Grade	From	To	Max. Allow
Surface	New	54.5	13 3/8	0	1,602	
Intermediate	New					
Long String						
Tubing						
Drill Pipe						
Open Hole						Shots/Ft.
Perforations						
Perforations						
DV Tool						

Materials

Mud Type _____ Density _____ Lb/Gal
Disp. Fluid H20 Density 8.33 Lb/Gal
Prop. Type _____ Size _____ Lb _____
Prop. Type _____ Size _____ Lb _____
Acid Type _____ Gal. _____ % _____
Acid Type _____ Gal. _____ % _____
Surfactant _____ Gal. _____ In _____
NE Agent _____ Gal. _____ In _____
Fluid Loss _____ Gal/Lb _____ In _____
Gelling Agent _____ Gal/Lb _____ In _____
Fric. Red. _____ Gal/Lb _____ In _____
Breaker _____ Gal/Lb _____ In _____
Blocking Agent _____ Gal/Lb _____
Perfpac Balls _____ Qty. _____
Other _____
KCL substitute _____
Other _____
Other _____
Other _____

Hours On Location

Date	Hours
8/4/06	6.00
Total	6.00

Operating Hours

Date	Hours
8/2/06	2.00
Total	2.00

Description of Job

SEE JOB LOG

Hydraulic Horsepower
Ordered _____ Avail. _____ Used _____
Average Rates in BPM
Treating _____ Disp. _____ Overall _____
Cement Left in Pipe
Feet 42.00 Reason Shoe Joint

Cement Data

Stage	Sacks	Cement	Bulk/Sks	Additives	W/Rq.	Yield	Lbs/Gal
1	440	San Juan	Bulk		12.50	2.24	12.1
	440	G	Bulk		15.20	1.27	5.8

Summary

Circulating RIG Displacement HES PUMP Preflush: Gal - BBl 20 Type: H20
Breakdown _____ Maximum _____ Load & Bkdn: Gal - BBl _____ Pad:Bbl -Gal _____
Lost Returns _____ Excess /Return Gal BBl _____ Calc.Disp Bbl 240
Cmt Rtrn#Bbl 30 Actual TOC Surface Calc. TOC: _____ Actual Disp. 240.0
Average _____ Frac. Gradient _____ Treatment: Gal - BBl _____ Disp:Bbl-Gal _____
Shut In: Instant _____ 5 Min. _____ 15 Min. _____ Cement Slurry Gal - BBl _____
Total Volume Gal - BBl _____

Frac Ring #1	Frac Ring # 2	Frac Ring # 3	Frac Ring # 4

THE INFORMATION STATED HEREIN IS CORRECT
CUSTOMER REPRESENTATIVE _____
SIGNATURE

HALLIBURTON JOB LOG

TK 4542513	TICKET DATE: August 2,2006		
REGION: NORTH AMERICA LAND	NWA / COUNTRY: ROCKY MOUNTAIN	BDA / STATE: AZ	COUNTY: Pima
MBU ID / EMPL #: 183099	H.E.S EMPLOYEE NAME: Bruce Astley	PSL DEPARTMENT: ZONAL ISOLATION	
LOCATION: FARMINGTON, NM	COMPANY: EL Paso Natural Gas	CUSTOMER REP / PHONE: Greg Gettman	
TICKET AMOUNT:	WELL TYPE: 02 GAS	API/UWI #:	
WELL LOCATION:	DEPARTMENT: ZONAL ISOLATION 10003	JOB PURPOSE CODE:	Description: 13 3/8 Surface
LEASE / WELL #: Ariz Gas Storage	Well No.: #1	SEC / TWP / RNG	

Chart No.	Time	Rate (BPM)	Volume (BBL)(GAL)	Pmps T	Pmps C	Press.(PSI) Tbg	Press.(PSI) Csg	Job Description / Remarks
2-Aug	7:30							JOB CALLED OUT
	10:00							PRE YARD SAFETY MEETING
3-Aug	15:00							ARRIVED 0N LOCATION
	16:00							LOCATION ASSESSMENT & SAFETY MEETING
Aud 4	14:00							SPOT AND RIG UP EQUIPMENT ON LOCATION
	14:45							Safety Meeting
	15:10							START job
	15:10						3000	Test Lines
	15:15	6	20		X		100	H2O
					X			
					X			
	15:19	6	175		X		50	Lead Sluury
	15:50	6	99		X		100	Tail Slurry
	16:10	3	240		X		1500	Displace
	17:26							End Job
					x			
					x			
								End Job

CEMENT JOB SUMMARY SHEET

Job Type	**13 3/8 Surface**

Casing	Size	Weight	Grade	Measured Depth
Surface				
Intermediate				
Production				
Tubing				
Drill Pipe				
Open Hole				

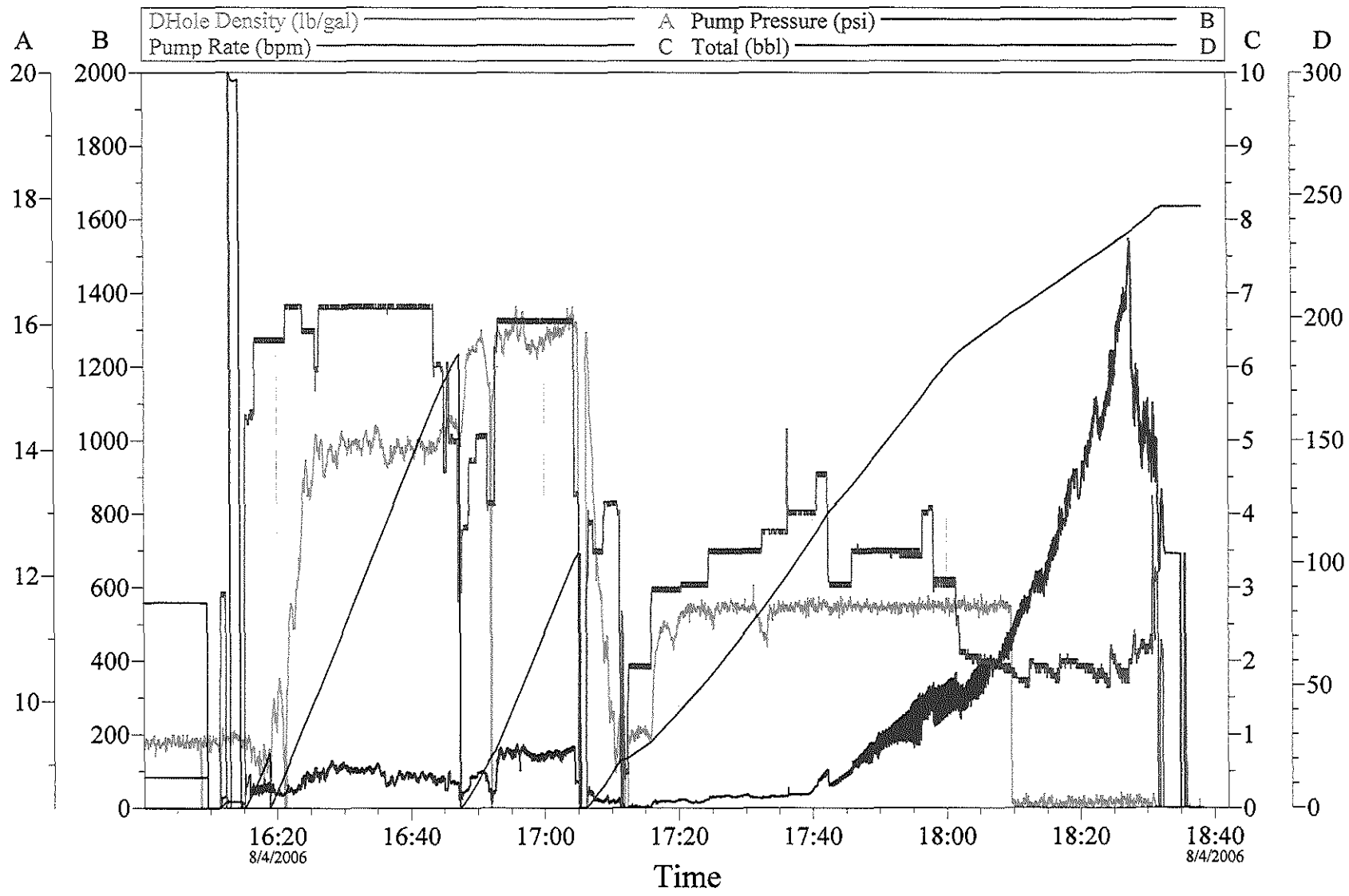
CEMENT DATA

Spacer	20 Bbls H20			
Cement 1	San Juan			440 Sacks
Additives				
	Weight (lb/gal) 12.10	Yield (cuft/sk) 2.24	Water (gal/sk) 12.50	
Cement 2	G			440 Sacks
Additives				
	Weight (lb/gal) 5.80	Yield (cuft/sk) 1.27	Water (gal/sk) 15.20	

Displacement	H20	240.00	8.33 (lb/gal)

CEMENTING EQUIPMENT

Provider			
Guide Shoe	ea.	**Centralizers**	ea.
Float Shoe	ea.	**Plug Type**	ea.
Float Collar	ea.	**Packer**	ft.
DV Tool	ft.	**Retainer**	ft.



Customer: El Paso Nat Gas Well Desc:	Job Date: Aug 4,2006 Job Type: Surface	Ticket #: 4542513

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04-Aug-06 18:38

PB Energy Storage Services, Inc.

933

Date 8-4-06	Report No 15	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 1610	Ft.Cut 67	Formation	Tops New Form:

Activity at Report Time Trip out of hole to run casing

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	13:00	7.0	Bit balled up with clay covered up 6 ft. on collar. Clean bit and collar and inspect bit cones tight
			Teeth in good condition. Trip in hole first 677 ft of hole tight had several bridges after 677 ft.
			Wash down 8 stands out of 11 going in hole (Collars to 677 ft.) After 677 ft. had some tight
			Places / one at 970 ' / 1230' / 1360' that had to wash thru. Below 1360' hole OK.
13:00	14:30	1.5	Drill from 1543 to 1559' drill with 10-15 K on bit
14:30	15:00	0.5	Rig service
15:00	19:00	4.0	Drill from 1559 to 1610' TD surface hole at 1610' final chlorides @ 1610 ft.
19:00	20:00	1.0	Circulate to condition hole to log.
20:00	22:30	2.5	Trip out of hole to log Strap pipe out
22:30	00:30	4.5	**Move in rig up Southwest Exploration Ser. To log well . run in hole to 1,100 ft. with logging**
			Tools tag and could not get any deeper. Pull out of hole pick up Sonic tools run in hole tag at
			1100 ft. could not get any deeper. Pull out of hole rig down logger. Rig crew working on chain on
			Draw works while logging.
00:30	01:00	0.5	**Finish working on chain to trip in hole**
01:00	03:30	2.5	**Trip in hole . No tight places did not tag or see any indication of problems at 1100 ft.**
03:30	05:00	1.5	Circulate condition hole to run casing
05:00	06:00	1.0	Trip out of hole to run casing
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	1	Wt	103	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	17.5	Vis	36	1	17.5 bit	1.60		
SPM	60		Hrs Misc		Mfg	Smith	WL	25	1	Bit sub	2.60		
GPM	290		Hrs DW		Type	milltooth	Gels	22/24	2	8" DC's	60.35		
Press	600		Hrs Drlg		Out	1610	Oil		1	X-over sub	1.0		
					In	95	Solid	14.75	20	6" DC's	612.14		
					Ftg	1515	PH	8					
					Bit Wt	25-30K							
										Total	677.69		

PB Energy Storage Services, Inc.

937

Date 8-3-06	Report No 14	Reported by: Curtis Bagwell		
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**			
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**	
Depth 1543	Ft.Cut 343'	Formation	Tops New Form:	
Activity at Report Time Trip out of hole to check bit				

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	09:30	3.5	Flow line stopped up with gumbo clay brake out flow line and clean Work on rotary table
09:30	15:30	6.0	Drill from 1200' to 1287' ROP dropping off try different weight on bit and RPM at rotary
			Could not get rate up
15:30	16:00	0.5	Pump 5 gals. Petrolube and 5 gals surfdrill across bit to clean bit
16:00	16:30	0.5	Drill from 1287 to 1305 ' (18' / 0.5 hrs / 36 FPH) rate back up
16:30	17:00	0.5	Survey @ 1274' ½ degree
17:00	18:00	1,0	Drill from 1305' to 1320' (15' / 1 hr / 15 FPH) Make connection pump 5 bbls fresh water past bit17
18:00	03:30	9.5	Drill from 1320' to 1543' (223' / 9.5 hrs / 23.5 FPH) drill rate fell off to 2-3 FPH bit torquing up
			And bouncing up and down like bit locked up. Will pull out of hole to check condition of bit.
03:30	04:00	0.5	**Circulate bottoms up after attempting to clean bit with Petrolube and water**
04:00	06:00	2.0	Trip out of hole to check bit had drag all the way out of hole (5-15 K over string wt.)
			Note: After report time bit at surface locked up cones with clay clean bit and will run back in
			hole
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	1	Wt	10.4	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	17 ½ "	Vis	48	1	17 ½ " bit	1.60	954'	1/2
SPM	60		Hrs Misc		Mfg	Smith	WL		1	Bit sub	2.60	1148'	1/2
GPM	290		Hrs DW		Type	milltooth	Gels		2	8" DC's	60.35	1274'	1/2
Press	600		Hrs Drlg		Out		Oil		1	X-over sub	1.00		
					In	95'	Solid		20	6" DC's	612.14		
					Ftg	1448	PH						
					Bit Wt	25-35 K							
										Total			

PB Energy Storage Services, Inc.

933

Date 8-2-06	Report No 13	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 1200'	Ft.Cut 620	Formation	Tops New Form:

Activity at Report Time Drilling ahead with 17 ½ " bit

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	14:30	8.5	Safety meeting / Drill from 580' to 739' (159 ' 7.5 / 21.2 FPH)Rig service Survey @ 708' ¼ ^
14:30	17:30	3.0	Drill from 739' to 829' (90' / 3 hrs / 30 FPH)
17:30	18:30	1.0	Rig Repairs /work on chain guard to cat head)
18:30	23:00	4.5	Crill from 829' to 991' (162 / 4.5 hrs / 36 FPH)
23:00	23:30	0.5	Survey @ 954' ½ Degree
23:30	03:00	3.5	Drill from 991' to 1148' (157' / 3.5 hrs / 44.8 FPH)
03:00	03:30	0.5	Survey @ 1148' / ½ degree
03:30	06:00	2.5	Drill from 1148' to 1200' (52' / 2.5 / 20.8 FPH)
			Note: Casing being delivered today / Cement co. called out. / casing crew on stand by to be on
			Location tonight / logging co on standby / should be at 1600' after noon / will monlitor
			Chlorides today
	Total		

8-2-06

OK spread of fresh wtr mud ≤ 20 ppm on loc upon reclamation with Greg Gethman SLR

Pump Record			Mud Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	1	Wt	9.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	171/2 "	Vis	40	1	17 ½ " bit	1.60		
SPM	60		Hrs Misc		Mfg	Smith	WL	31.6	1	Bit sub	2.60		
GPM	290		Hrs DW		Type	MT	Gels	12/18	2	8" DCs	60.35		
Press	600		Hrs Drlg		Out		Oil		1	X-over sub	1.00		
					In	95	Solid	11	20	6" DCs			
					Ftg	1105	PH	8.5					
					Bit Wt	25/35							
										Total			

PB Energy Storage Services, Inc.

933

Date 8-1-06	Report No 12	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County: Pinal	State: **Arizona**
Depth 580 ft.	Ft.Cut 449 ft.	Formation	Tops New Form:

Activity at Report Time Drilling ahead

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	09:00	3.0	Start and check engines on rig and all equipment work on mouse hole
09:00	11:00	2.0	Pick up and run in hole with 11 ½ " magnet to 95" rotate and circulate. Trip out of hole with
			Magnet had no recovery. (fishing for angle iron dropped while running conductor pipe)
11:00	12:00	1.0	Lay out magnet and pick up used 17 ½ " bit
12:00	15:30	3.5	Trip in hole with 17 ½ " bit to 95 ft. Drill 27 ft. Circ. Bottoms up and trip out of hole with bit
			Run in hole with 11 ½ " magnet circ. On bottom and tag bottom several times.
15:30	16:00	0.5	Circulate on bottom
16:00	17:30	1.5	Trip out of hole with magnet recovered fish (2" angle iron)
17:30	18:00	0.5	Lay out magnet release and load on truck for return pick up new Smith 17 ½ " mill tooth bit
18:00	19:00	1.0	**Trip In hole with new 17 ½ " bit**
19:00	20:30	1.5	Drill (mix gel with fresh water to increase Vis.
20.30	01:00	4.5	Drill from 131' to 308' (177 ft. / 4.0 Hrs /44.25 FPH) Survey @ 271 ft. ¼ degee
01:00	06:00	5.0	**Drill from 308' to 580' (272 ft. / 5 Hrs / 54.4 FPH)**
			Note; Hole staying straight with a ¼ degree survey at 271 ft. average ROP 42.76 FPH
			Rotary 70 RPM
			Spud date: 7-31-06 @ 15:30 hrs
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #	1	Wt	8.8	No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size	17 ½ "	Vis	39	1	17 ½ " Bit	1.60		
SPM	60		Hrs Misc		Mfg	Smith	WL	9.6	1	Bit sub	2.60		
GPM	60		Hrs DW		Type	Milltoth	Gels	4/9	2	8" DC's	60.35		
Press	400		Hrs Drlg		Out		Oil		1	X-over sub	1.0		
					In	95	Solid	8.75					
					Ftg		PH	8.5					
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-31-06	Report No 11	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:

Activity at Report Time Rigged up wait on diesel fuel for rig

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	15:00	9.0	Welders build manifolds for mud pump suction lines. Fill mud pits with fresh water. Hang tongs and
			Finish rigging floor. Attempt to install Mouse hole stop about 4 feet high. Could not wash down.
			Appears fill from dirt falling in hole has packed off. Will cut off mouse hole at bottom and drive
			In to proper depth. After getting mouse hole down will wash out with Kelly and dump bagged
			Cement to plug bottom and give solid bottom. Magnet to be on location early AM. Rig Out
			Of diesel had load ordered but could not get in due to high water.
			Note: Water over road east of rig on Shed Road To deep to cross. Have diesel ordered for AM
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-30-06	Report No10	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**		Well Name **Arizona Gas Storage # 1-21**	
Contractor: United Drilling		Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:
Activity at Report Time Rigging up			

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	18:00	12.0	Pick up mouse hole working on pump lines / rig up floor / running electric lines / scope up
			Derrick / set slide in V-door Rig 90% rigged up will have Magnet on location 06:00 Monday
			To recover 2" angle iron dropped by welder while welding conductor.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-29-06	Report No 9	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:

Activity at Report Time Rigging up

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	18:00	12.0	Set rig mud tanks and level Set pumps build bell nipple and weld flow line nipple on bell nipple
			Set generator house / fuel tank and parts house / Set water tank and dog house on top / Cat walk
			In place. 75% equipment in place but not tied in. Water came up during day and started washing
			Out rig road. Had 3 loads gravel delivered and front in loader. Road in bad condition at point where
			Water running over. Ordered 3 more loads gravel had to cancel as ditch filled up and was to
			Deep to allow truck to cross. Canceled cement truck to cement anchors. Water crested about
			2:00 PM and started down by 5:00 PM down enough to allow United Drilling hands to go in for
			Night.
			Shut down for night
			Need to build manifold for mud pumps to go to mud pits. Appox. 60% rigged up
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

938

Date 7-28-06	Report No 8	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:

Activity at Report Time Rigging Up

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00	6;00	12.0	Rigging up had heavy rain in morning shut down location soft . Got unit on ramps and raised Derrick but did not scope out. Unload load of drill pipe . finish hooking up hyd. Lines on unit to Mast . Place anchors in holes will need to cement in place. Water rising on road due to run off from Surrounding area. May block road tonight. . Had light rain .
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-27-06	Report No 7	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:

Activity at Report Time Rigging up

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00			Set and level substructure install mast on unit and hook up hyd. Hoses and chains / spot ramps and Back unit on ramps to substructure 98% rig on location including pumps. Have more pipe to arrive Today.. Will have to fill in trench for mud tanks today. Had heavy rains during night with wilnd.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-26-06	Report No 6	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:

Activity at Report Time Moving in rig

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00			Unload Substructure mud tank /pipe/ Drill collars already on location / Unit and mast on location.
			90% of rig on location will start putting things in place today. Will have to put mast back on unit
			Before it can be spotted but should get tanks set and sub spotted over hole. Mud pumps to be in
			Today.
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-24-06	Report No 4	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**		Well Name **Arizona Gas Storage # 1-21**	
Contractor: United Drilling		Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:
Activity at Report Time – No Activity			

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00			United has part of rig at Az. State line can not move on weekend will arrive on Monday
			Had to remove Derrick from unit to move Unit and mast in Hobbs to be shipped Monday
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-23-06	Report No 3	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**		Well Name **Arizona Gas Storage # 1-21**	
Contractor: United Drilling		Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:
Activity at Report Time – Wait on Rig			

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00			Western Mud Services unload 240 sacks Gel and 50 sacks Soda Ash—United Drilling unload
			4 loads of rig. HB Rental arrived and set up office Trailer Will not have water on location untill
			Monday
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-22-06	Report No 2	Reported by: Curtis Bagwell	
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**		
Contractor: United Drilling	Rig No: 22	County:	State: **Arizona**
Depth	Ft.Cut	Formation	Tops New Form:

Activity at Report Time -- Wait on rig

Time Log From	Time Log To	Elapsed Time	Details of Operation
06:00			United Drilling brought in one load . DH Rock Bit unload 2- 17 ½ " bits / 6 – 7 7/8 " bits
			1- 12 ¼ " X 7 7/8 " centerpunch
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

PB Energy Storage Services, Inc.

933

Date 7-21-06	Report No 1	Reported by: Curtis Bagwell
Operator: **El Paso Natural Gas Company**	Well Name **Arizona Gas Storage # 1-21**	
Contractor: United Drilling	Rig No: 22	County: State: **Arizona**
Depth	Ft.Cut	Formation / Tops New Form:

Activity at Report Time --Wait on rig

Time Log From	To	Elapsed Time	Details of Operation
06:00			Arrive at location 4 loads on location unload one load Shut down wait on rig
	Total	24	

Pump Record			Hour Record		Bits		Mud		Drilling Assembly			Deviation	
Pump	No. 1	No. 2	Hrs Trip		Bit #		Wt		No	Description	Length	Depth	Dev.
Lin & St.	6X16	6X16	Hrs Drlg		Size		Vis		1				
SPM			Hrs Misc		Mfg		WL						
GPM			Hrs DW		Type		Gels						
Press			Hrs Drlg		Out		Oil						
					In		Solid						
					Ftg		PH						
					Bit Wt								
										Total			

Subject: AGS #1-21 Monsoon Update and PBESS Daily Drilling Report
From: "Gettman, Greg W" <Greg.Gettman@ElPaso.com>
Date: Sat, 29 Jul 2006 11:54:22 -0600

933

7/21/2006 to 7/26/2006
Deliver drill rig and numerous loads of associated drilling equipment (substructure, drill pipe, collars, mud pumps, mud tanks, fork lifts, drilling mud, bits, trailers, etc.) to location.

7/27/2006
Set and level substructure. Reinstall mast on drilling rig and hook up hydraulic hoses and chains. Back unit on ramps to substructure. Had heavy rain during the night.

7/28/2006
Rigging up. Had heavy rain in morning. Shut down due to soft location. Held El Paso Natural Gas Safety Orientation. Got unit on ramps and raised derrick but did not scope out. Unload drill pipe. Finish hooking up hydraulic lines to mast. Place anchors in holes, will need to cement in place. Water rising on rig road due to run-off from surrounding area down the McClellan wash. May block road tonight. Had light rain.

7/29/2006

The runoff from heavy rains in the Picacho Mountains on Thursday July 28th made its way down the down local drainages to the McClellan wash and our job site cresting at approximately 2 PM on July 29th. The McClellan wash, which is just west of our site, overflowed its banks partially washing out our rig road and overflowed La Palma Road on the opposite bank. The water has receded and the rig road has been repaired to the point to the point we can resume rigging up. Rig up details are included in the attached PBESS Daily Drilling Report.

The magnitude of this Monsoon storm is evidenced by the news report that Union Pacific's rail road tracks were washed out or damaged by high water at 16 locations along the Picacho mountain front. Hopefully, this is the last Monsoon storm of this intensity we see on this job.

PERMIT TO DRILL

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: EL PASO NATURAL GAS
(OPERATOR)

to drill a well to be known as

ARIZONA GAS STORAGE #1-21
(WELL NAME)

located 1980' FNL & 660' FWL

Section 21 Township 7S Range 8E, PINAL County, Arizona.

The N/A of said Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 21 day of MARCH, 2006, 19__.

OIL AND GAS CONSERVATION COMMISSION

By S L Ramirez
EXECUTIVE DIRECTOR
OIL & GAS PROGRAM ADMINISTRATOR

PERMIT 00933

RECEIPT NO. 3139

A.P.I. NO. 02-021-20009

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

AMENDED

APPLICATION TO DRILL ☒ RE-ENTER OLD WELL ☐

NAME OF COMPANY OR OPERATOR
El Paso Natural Gas Company

Address	City	State	Phone Number
2 North Nevada Ave	Colorado Springs	CO 80903	719.520.4533

Drilling Contractor: United Drilling Inc

Address: P O Box 2488 Roswell, NM 88202

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor	Well number	Elevation (ground)
Owned by El Paso Natural Gas	1-21	1527'

Nearest distance from proposed location to property or lease line:	Distance from proposed location to nearset drilling, completed or applied-for well on the same lease:
660' FWL feet	none feet

Number of acres in lease	Number of wells on lease, including this well, completed in or drilling to this reservoir:
234	none

If lease purchased with one or more wells drilled, from whom purchased. Name: N/A Address:

Well location (give footage from section lines)	Section - Township - Range or Block and Survey	Dedication per A.A.C. R12-7-104(A)(3)
1980'FNL and 660'FWL	21-7S-8E,G.&S.R.B.&M.	N/A

Field and reservoir (if wildcat, so state)	County
Stratigraphic Test	Pinal

Distance in miles and direction from nearest town or post office
3 miles north east of Eloy Arizona, 1/8 mile east of incorporated city limit

Proposed depth:	Rotary or cable tools	Approximate date work will start
8,000'	Rotary	April 2006

Bond status ~~filed 03/02/05~~ Amount ~~$25,000~~	Organization Report On file X Or attached	Filing Fee of $25.00 Attached X

Remarks
Stratigraphic test per Arizona Administrative Code, Title 12, Chapter R12-7-128
Amended Drilling Procedure is Attached
API # 02-021-20009

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the: Manager, Facility Planning of the El Paso Natural Gas Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

originally approved 3-21-2006

Signature: Greg Bettinger

Date: 3/6/2006

Mail completed form to:
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress, #100
Tucson, AZ 85701-1315

Permit Number: 933
Approval Date: 4-10-2006
Approved By: SC Rauzi

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Drill or Re-enter
File Two Copies

Form No. 3

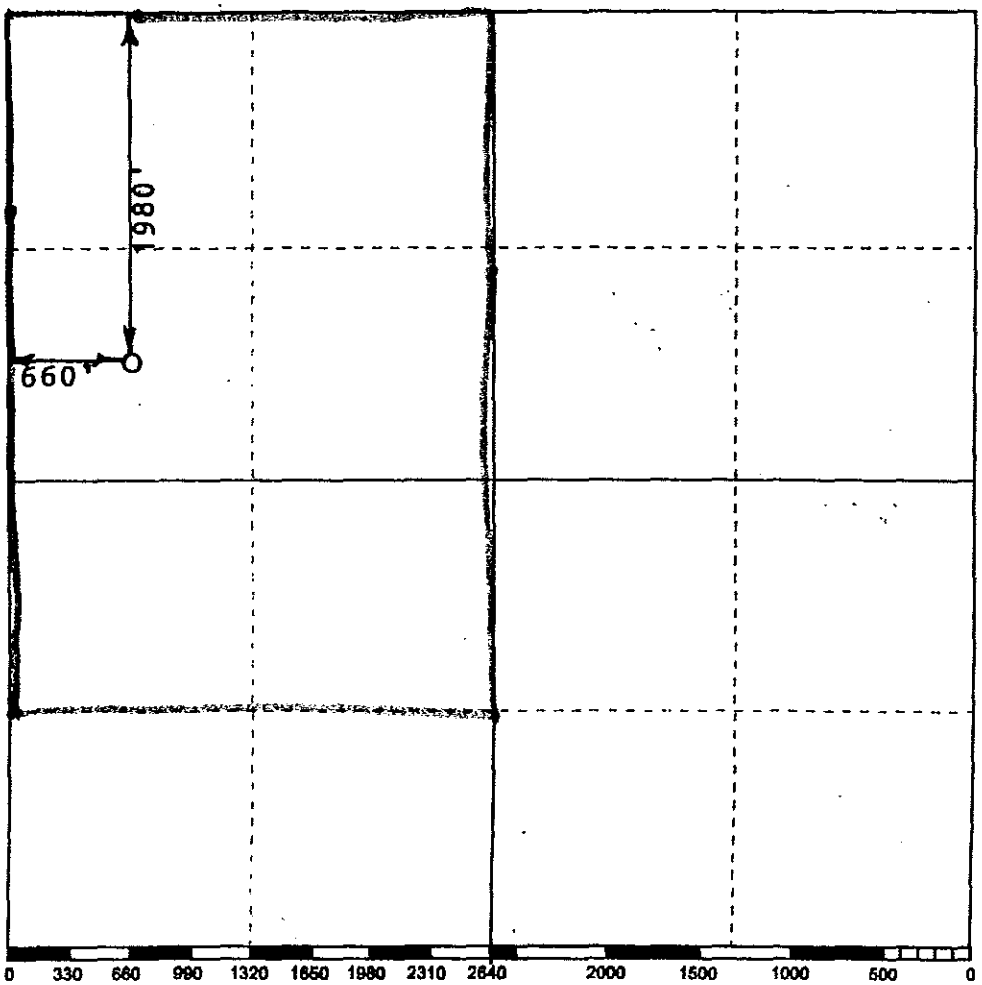
(Complete Reverse Side) 5/96

1. Operator shall outline on the plat the acreage dedicated to the well in compliance with A.A.C. R12-7-107.
2. A registered surveyor shall show on the plat the location of the well and certify this information in the space provided.
3. ALL DISTANCES SHOWN ON THE PLAT MUST BE FROM THE OUTER BOUNDARIES OF THE SECTION.
4. Is the operator the only owner in the dedicated acreage outlined on the plat below ? YES ____ NO X
5. If the answer to question four is no, have the interests of all owners been consolidated by communitization agreement or otherwise? YES ____ NO X If answer is yes, give type of consolidation ____
6. If the answer to question four is no, list all the owners and their respective interests below: Operator (EPNG) is the owner o 100% of the surface acreage.Ownership of a portion of underlying mineral interests is uncertain.EPNG intends to acquire 100% of the underlying mineral interests.

Owner: El Paso Natural Gas Company

Land Description: NW ¼ + N ½ SW ¼ Sec 21, T7S, R8E

G.&S.R.B&M Survey Pinal Co. AZ



CERTIFICATION

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

Name: Greg Gettman

Position: Manager, Facility Planning

Company: El Paso Natural Gas

Date: 3/6/2006

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

8118 RONALD J. EIDSON Date Signed 1/09/06 REGISTERED LAND SURVEYOR CERTIFICATE NO. ARIZONA, U.S.A.

Date Surveyed: 01/05/06

Registered Land Surveyor: Ronald J. Eidson

Certificate No: 8118

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement	Type
20"	104#	Grade B	0	120'	120'	145 sacks	Class A
13 3/8"	54.5#	K-55	0	1600'	1600'	885 sacks	Std Lite & Class A

EL PASO NATURAL GAS COMPANY
ARIZONA GAS STORAGE #1-21
DRILLING PROGRAM

(933)

1. Prepare the location
2. Drill 24 - 26" conductor hole to approx. 80 ft. ground level (GL). Run 20" conductor casing and cement to surface. Construct cellar. (Gills Drilling)
3. Drill rat hole, and mouse hole according to rig contractor's specs. (Gills Drilling)
4. Conduct El Paso Natural Gas safety orientation
5. Move in and rig up drilling rig.
6. Nipple up (NU) flow line from conductor pipe to rig tanks.
7. Fill rig tanks with water. Make up (MU) spud mud.
8. Pick up (PU) 17-1/2" bit and run in the hole (RIH) to approx. 80 ft GL.
9. Drill 17-1/2" hole to approx. 1,600 ft. GL, surveying approx. every 150 feet. Monitor the chloride content of the drilling fluid returns. Stop drilling at the earlier of: 1) the chloride levels in the drilling fluid exceed 30,000 mg/l or 2) upon reaching a depth of 1,600 feet.
10. Conduct a wiper trip and circulate the well clean. Circulate and condition mud for logging.
11. Pull out of hole (POOH) laying down the bottom hole assembly (BHA).
12. Rig up (RU) logging company, and log well per attached logging program.
13. RIH and circulate and condition mud to run casing. POOH
14. RU casing crews. Run approx. 40 joints of 13-3/8", 54.5 Lb/ft, ST&C surface casing to approx. 1600 ft GL. Float shoe and float collar (stinger type) will be bucked onto first joint of 13-3/8" casing. Fill each joint of casing with drilling fluid as it is being run in. The centralizers will be placed as per the attached casing program.
15. MU 13-3/8" ST&C cementing head and circulate well till cementing units are rigged up. Circulate the well with the rig pumps until the cementing units are rigged up.
16. RU cementing company. Pressures test all cementing lines. Cement the 13-3/8" surface casing to surface per the cementing program.

    Note: From information gathered during the drilling of the surface hole, it may become necessary to run a cementing diverter tool and cement in two stages.

    Note: Notify Steve Rauzi (520-770-3500) with the Arizona Geological Survey (Oil and Gas Administrator) 48 hours prior to cementing.
17. Wait on cement (WOC) approx. 24 hours. After 6 hours of WOC, test the float equipment. Remove the cementing head. Top off cement in the 13-3/8" x 17-1/2" annulus if necessary. After 18 hours of WOC, remove the flow line and cut off the 20" conductor pipe. Cut (at a pre-determined elevation) and lay down the 13-3/8" surface casing.
18. Weld on a temporary 13-5/8" 3M flange. Nipple up a 13-5/8" 3M by 13-5/8" 3M drilling spool with two 4" 5M outlets. On one outlet, install a 4" HCR valve and pipe to the rig's choke manifold. On the other outlet, install a 4" 5M by 2" 5M DSA and a bull plugged 2" 5M Halliburton valve. Nipple up a 13-5/8" 3M annular BOP and a 13-3/8" 3M bell-nipple. Nipple up a fill-up line and a 8" flow-line. Function-test the annular BOP.
19. PU 12-1/4" x 8-1/2" center punch assembly and RIH to the float collar at approx. 1560 ft. GL. Drill out the float collar from the 13-3/8" surface casing.

20. Pressure test the 13-3/8" casing (2486-psi Internal Yield Resistance) to 850-psi – 1 psi/ft gradient (assuming 9.0 lb/gal mud, 1600' casing shoe (750-psi hydrostatic head) gives 1600-psi bottom hole test pressure. Confirm that bottomhole pressure does not exceed 70% of 2486 (1740-psi)) and hold for 30 minutes. Use a chart recorder to record the test results. There shall not be more than a 10% drop in pressure. If so, then test must be repeated.
21. Clean surface tanks and fill with salt saturated mud.
22. Drill out cement, float shoe and 10 ft – 15 ft of new formation. Circulate and condition the drilling fluid. POOH.
23. PU 8-1/2" pilot bit and RIH to approx. 1610 ft. GL.
24. Drill 8-1/2" hole to a total depth of approx. 1700 ft. GL or to a depth where the chloride levels in the drilling fluid exceed 200,000 mg/l. Circulate and condition mud for coring. POOH and rack back the BHA.
25. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
26. Cut a 60 ft., 4" non-oriented core from 1700 ft. to 1760 ft. GL. POOH and lay out core #1 (Cut in 3 ft sections. Pack up cores). Lay down (LD) coring assembly.
27. PU 8-1/2" bit assembly and RIH to approx. 1760 ft. GL. Drill 8-1/2" hole to a total depth of approx. 1860 ft. GL. Circulate and condition mud for coring. POOH and rack back the BHA.
28. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
29. Cut a 60 ft., 4" non-oriented core from 1860 ft. to 1920 ft. GL. POOH and lay out core #2 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
30. PU 8-1/2" bit assembly and RIH to approx. 1920 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2020 ft. GL. Run a deviation survey (TOTCO). The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Circulate and condition mud for coring. POOH and rack back the BHA.
31. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
32. Cut a 60 ft., 4" non-oriented core from 2020 ft. to 2080 ft. GL. POOH and lay out core #3 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
33. PU 8-1/2" bit assembly and RIH to approx. 2080 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2180 ft. GL. Circulate and condition mud for coring. POOH and rack back the BHA.
34. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
35. Cut a 60 ft., 4" non-oriented core from 2180 ft. to 2240 ft. GL. POOH and lay out core #4 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
36. PU 8-1/2" bit assembly and RIH to approx. 2240 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2340 ft. GL. Run a deviation survey (TOTCO). The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Circulate and condition mud for coring. POOH and rack back the BHA.
37. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
38. Cut a 60 ft., 4" non-oriented core from 2340 ft. to 2400 ft. GL. POOH and lay out core #5 (Cut in 3 ft sections. Pack up cores). LD coring assembly.

39. PU 8-1/2" bit assembly and RIH to approx. 2400 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2500 ft. GL. Mud logger to take samples every 10 ft from 2400 ft to 2500 ft. Circulate and condition mud for coring. POOH and rack back the BHA.
40. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
41. Cut a 60 ft., 4" non-oriented core from 2500 ft. to 2560 ft. GL. POOH and lay out core #6 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
42. PU 8-1/2" bit assembly and RIH to approx. 2560 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2660 ft. GL. Run a deviation survey (TOTCO). The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Circulate and condition mud for coring. POOH and rack back the BHA.
43. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
44. Cut a 60 ft., 4" non-oriented core from 2660 ft. to 2720 ft. GL. POOH and lay out core #7 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
45. Rig up mud logger.
46. PU 8-1/2" bit assembly and RIH to approx. 2720 ft. GL. Drill 8-1/2" hole to a total depth of approx. 3,500 ft. GL (anhydrite above claystone). Mud logger to take samples every 10 ft from 2720 ft to 3,500 ft. Circulate and condition mud for coring. POOH and rack back the BHA.
47. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
48. Cut a 60 ft., 4" non-oriented core from 3,500 ft. to 3,560 ft. GL. POOH and lay out core #8 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
49. PU 8-1/2" bit assembly and RIH to approx. 3,560 ft. GL. Drill 8-1/2" hole to a total depth of approx. 4300 ft. GL (claystone directly above the Lower Aquifer Unit). Mud logger to take samples every 10 ft from 3,560 ft to 4300 ft (samples should be watched to ensure that the evaporates have been fully penetrated). Circulate and condition mud for coring. POOH and rack back the BHA.
50. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
51. Cut a 60 ft., 4" non-oriented core from 4300 ft. to 4360 ft. GL. POOH and lay out core #9 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
52. PU 8-1/2" bit assembly and RIH to approx. 4360 ft. GL. Drill 8-1/2" hole to a total depth of approx. 4500 ft. GL. Run a deviation survey (TOTCO). The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Mud logger to take samples every 10 ft from 4360 ft to 4970 ft. Circulate and condition mud for logging. POOH and rack back the BHA.
53. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
54. Cut a 60 ft., 4" non-oriented core from 4970 ft. to 5030 ft. GL. POOH and lay out core #10 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
55. PU 8-1/2" pilot bit assembly and RIH to approx. 4970 ft. GL. Drill 8-1/2" hole to a total depth of approx. 5920 ft. GL. Run a deviation survey (TOTCO) every 250 feet. The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Mud logger to take samples every 10 ft from 5030 ft to 5920 ft. Circulate and condition mud for coring. POOH and rack back the BHA.
56. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.

57. Cut a 60 ft., 4" non-oriented core from 5920 ft. to 5980 ft. GL. POOH and lay out core #11 (Cut in 3 ft sections. Pack up cores). LD coring assembly.

58. PU 8-1/2" pilot bit assembly and RIH to approx. 5920 ft. GL. Drill 8-1/2" hole to a total depth of approx. 7500 ft. GL. Run a deviation survey (TOTCO) every 500 feet. The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Mud logger to take samples every 10 ft from 5980 ft to 7500 ft. Circulate and condition mud for coring. POOH and rack back the BHA.

59. Circulate and condition mud for logging. POOH and rack back the BHA.

60. RU logging company, and log well per attached logging program.

61. Conduct multiple micro-fracture testing at intervals determined from the open hole logs.

62. Rig up & run Drill stem tests if indicated by open hole logs

63. RIH and circulate out the drilling fluid with salt blended water.

64. Pull the work string up to 1650 ft. GL.

65. Rig up cementing unit and spot a 200 ft cement plug from 1650 ft to 1450 ft.

66. Pull the work string up to 100 ft. GL.

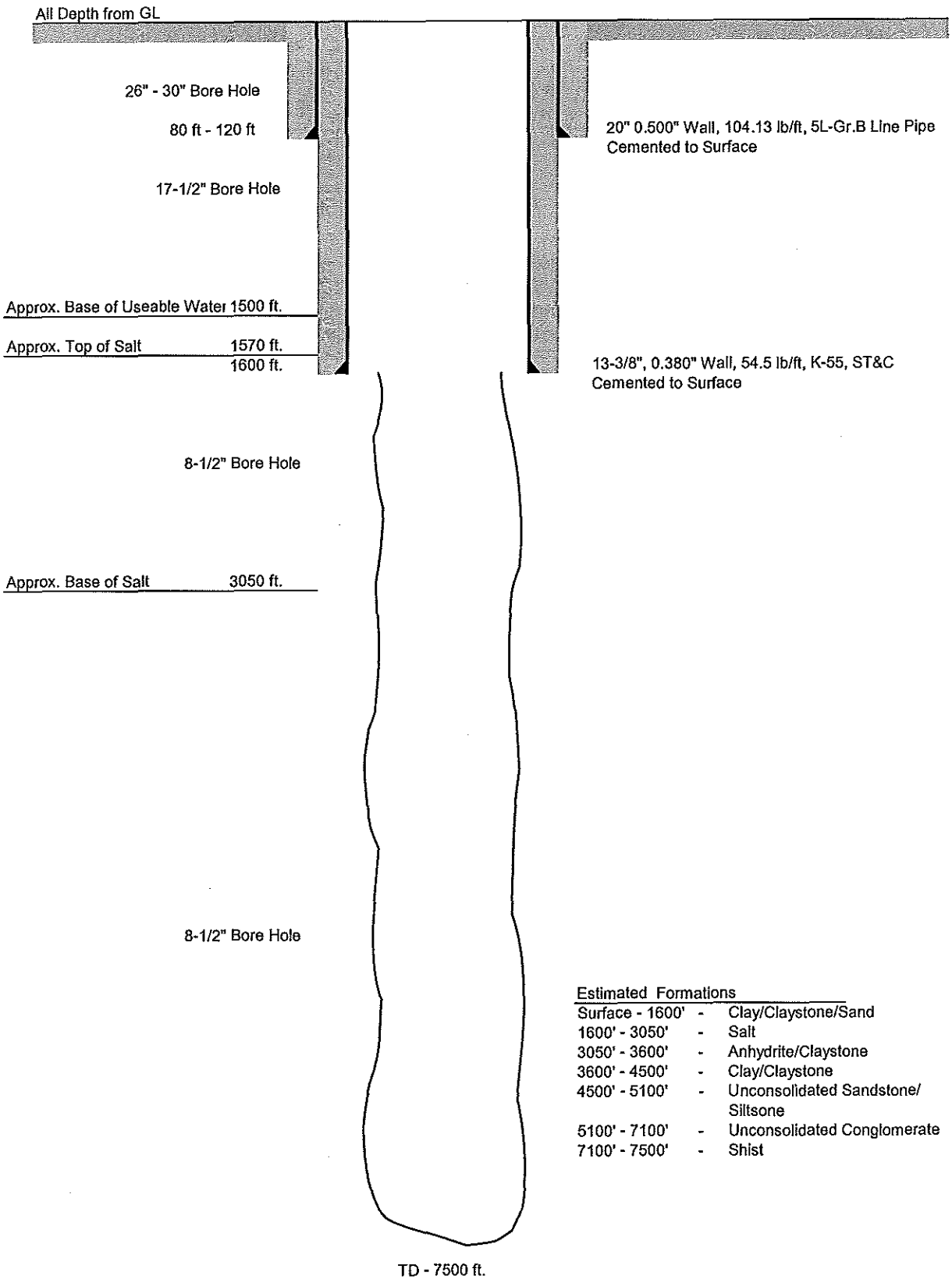
67. Spot a 100 ft cement plug from 100 ft to surface.

68. POOH and lay down the work string.

69. Nipple down the well control equipment.

70. Rig down and move out the drilling rig.

71. Remove the temporary flange from the 13-3/8" casing. Cut the 20" conductor and 13-3/8" surface casing approx. 3 ft below ground level. Weld on isolation cap/plate steel. Fill cellar and cover casing stubs to grade.



Estimated Formations

Surface - 1600'	-	Clay/Claystone/Sand
1600' - 3050'	-	Salt
3050' - 3600'	-	Anhydrite/Claystone
3600' - 4500'	-	Clay/Claystone
4500' - 5100'	-	Unconsolidated Sandstone/ Siltsone
5100' - 7100'	-	Unconsolidated Conglomerate
7100' - 7500'	-	Shist

PB Energy Storage Services, Inc.
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A Parsons Brinckerhoff Company

MUD PROGRAM

1. Spud / Freshwater Mud: Depth 0 ft. to approx 1,600 ft.

Mud Weight	8.8 – 9.2 lbs/gal
Viscosity	35 – 45 sec/qt.
Filtrate Control	< 25 cc
pH	< 9
% Solids	< 10%

Freshwater mud will consist mainly of freshwater mix with bentonite drilling clay. The mud weight and % solids can be controlled by application of good surface solids control equipment (i.e. shale shakers, desander, desilter and/or mud cleaner). The viscosity will be regulated with water, bentonite and sodium bicarbonate (soda ash). A polyanionic cellulose additive (DRISPAC) will be used to control the filtrate loss of the filter cake.

2. Saltwater Mud: Depth approx. 1,600 ft. to 7,500 ft.

Mud Weight	10.0 – 10.4 lbs/gal
Viscosity	35 – 45 sec/qt.
Filtrate Control	< 25 cc
pH	< 9
% Solids	< 10%

Saltwater mud will consist mainly of make-up brine mixed with attapulgite clay. The mud weight and % solids can be controlled by application of good surface solids control equipment (i.e. shale shakers, desander, desilter and/or mud cleaner). The viscosity will be regulated with water saturated with salt and attapulgite. A pregelatinized starch additive (IMPERMEX) will be used to control the filtrate loss of the filter cake.

To counter any potential drilling problems such as abnormal formation pressures and lost circulation, a supply of barite and loss circulation materials (LCM) will be kept on site.

The drilling fluid properties will be checked and recorded periodically during each 12-hour tower (shift). A drilling fluids engineer from a third party (Baker Inteq, Bariod, etc) will set up each of the drilling mud (freshwater and saltwater) systems and check the drilling fluid properties daily. The mud engineer will also be used as needed to deal with any problems encountered during drilling.

LOGGING PROGRAM

1. Surface Hole: Surface to Approx. 1,600 ft. - Welenco

Electric Line Logging:	Dual Induction Resistivity Log w/SP Gamma Ray Combined Caliper Log
Mud Logging:	None

2. Interval of Interest: 1,600 ft to Approx. 7,500 ft. - Schlumberger

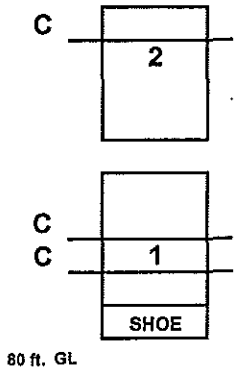
Electric Line Logging:	Dual Laterolog Resistivity Log Compensated Neutron (Porosity Logging) Litho Density (Bulk Density Logging) Elemental Capture Spectrocopy Combinable Magnetic Resonance CMR Sonic Scanner Combined Caliper Log Formation Evaluation ELAN
Mud Logging:	10 ft Samples from 4,500 ft to 7,500 ft.

CASING PROGRAM

1. Conductor Casing:

24 - 26" Borehole
Surface to Approx. 80 ft.
20" - 0.500" Wall, 106.5 lb/ft, J/K-55, BT&C

El Paso Natural Gas Company
Picacho Storage Project
Strat Well
20" Conductor Casing & Cementing Hardware Program



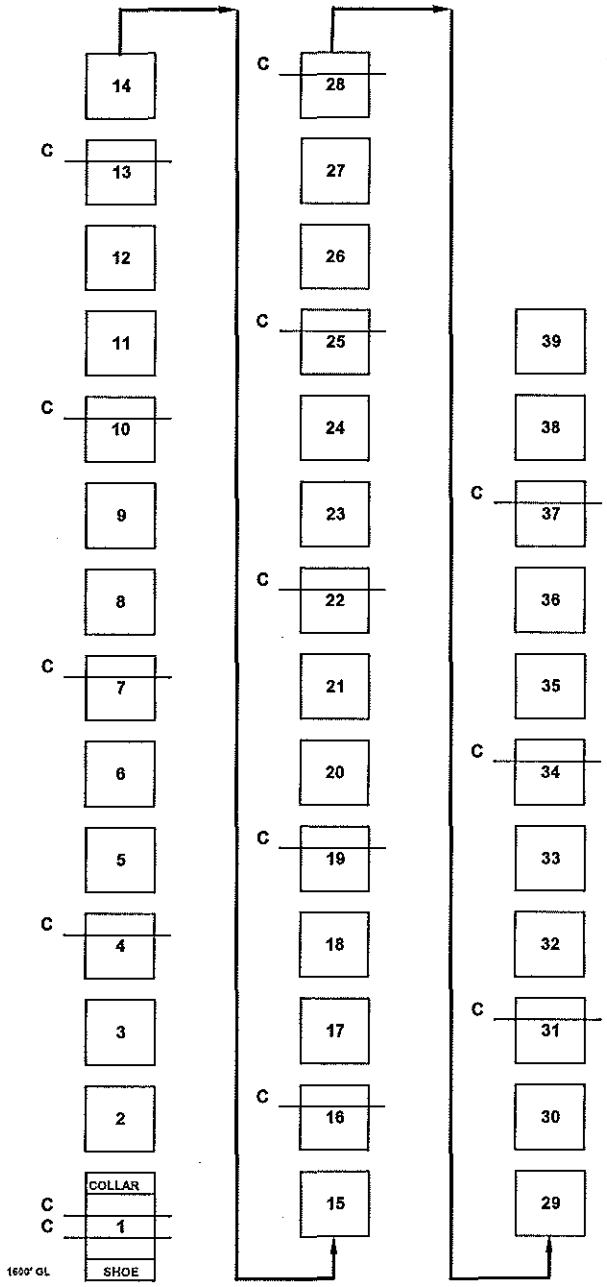
C - 20" x 26" Bow Type Centralizers

PB Energy Storage Services, Inc.
ENGINEERING · CONSTRUCTION · OPERATIONS · MAINTENANCE
A Parsons Brinckerhoff Company

2. Surface Casing:

17-1/2" Borehole
Surface to Approx. 1,600 ft.
13-3/8" - 0.380" Wall, 54.5 lb/ft, J/K-55, ST&C

El Paso Natural Gas Company
Picacho Storage Project
Strat Well
13-3/8" Casing & Cementing Hardware Program



C - 13-3/8" x 17-1/2" Bow Type Centralizers

CEMENTING PROGRAM

1. Conductor Casing:

   26" x 20" Borehole - Surface to Approx. 80 ft.
   $(26^2 - 20^2) \times \pi/4 \times 1/144 = 1.5053$ ft^3/ft
   80 ft x 1.5053 ft^3/ft = 120 ft^3
   Excess: 50% of Open Hole Volume

   145 sacks Standard/Class A Cement + 0.25 lbs/sack Cello Flake + 2% Calcium Chloride

Slurry Weight (lb/gal)		15.20
Slurry Yield (ft^3/sack)		1.27
Amount of Mix Water (gal/sk)		5.75
Estimated Pumping Time	2:23	
Compressive Strength 24 hrs @ 80 ° F (psi)		3000

2. Surface Casing:

   17-1/2" x 13-3/8" Borehole - Surface to Approx. 1,600 ft.
   $(19^2 - 13.375^2) \times \pi/4 \times 1/144 = 0.9933$ ft^3/ft
   80 ft x 0.9933 ft^3/ft = 79.5 ft^3
   $(17.5^2 - 13.375^2) \times \pi/4 \times 1/144 = 0.9757$ ft^3/ft
   1020 ft x 0.9757 ft^3/ft = 975.7 ft^3
   500 ft x 0.9757 ft^3/ft = 487.8 ft^3
   Excess: 50% of Open Hole Volume or 15% over caliper

   Lead Slurry: 500 sacks Standard Lite Cement + 0.25 lbs/sack Cello Flake + 2% Calcium Chloride

   Tail Slurry: 385 sacks Standard/Class A Cement + 0.25 lbs/sack Cello Flake + 2% Calcium Chloride

	Lead Slurry	Tail Slurry
Slurry Weight (lb/gal)	12.00	15.20
Slurry Yield (ft^3/sack)	2.12	1.27
Amount of Mix Water (gal/sk)	12.11	5.75
Estimated Pumping Time	5:00	2:30
Compressive Strength 24 hrs @ 80 ° F (psi)	340	3000

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL ☐ RE-ENTER OLD WELL ☐

NAME OF COMPANY OR OPERATOR
El Paso Natural Gas Company

Address	City	State	Phone Number
2 North Nevada Ave	Colorado Springs	CO 80903	719.520.4533

Drilling Contractor: United Drilling Inc

Address: P O Box 2488 Roswell, NM 88202

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor	Well number	Elevation (ground)
Owned by El Paso Natural Gas	1-21	1527'

Nearest distance from proposed location to property or lease line:	Distance from proposed location to nearset drilling, completed or applied-for well on the same lease:
660' FWL feet	none feet

Number of acres in lease	Number of wells on lease, including this well, completed in or drilling to this reservoir:
234	none

If lease purchased with one or more wells drilled, from whom purchased. Name: N/A Address:

Well location (give footage from section lines)	Section - Township - Range or Block and Survey	Dedication per A.A.C. R12-7-104(A)(3)
1980'FNL and 660'FWL	21-7S-8E,G.&S.R.B.&M.	N/A

Field and reservoir (if wildcat, so state)	County
Stratigraphic Test	Pinal

Distance in miles and direction from nearest town or post office
7 miles north east of Eloy Arizona

Proposed depth:	Rotary or cable tools	Approximate date work will start
8,000'	Rotary	April 2006

Bond status / Amount	Organization Report	Filing Fee of $25.00
~~filed 03/02/05~~ ~~$25,000~~	On file X Or attached	Attached X

Remarks
Stratigraphic test per Arizona Administrative Code, Title 12, Chapter R12-7-128

API # 02-021-20009

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the: Manager, Facility Planning of the El Paso Natural Gas Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Signature

Date 2/22/2006

Mail completed form to:
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress, #100
Tucson, AZ 85701-1315

Permit Number: 933
Approval Date: 3-21-2006
Approved By: SC Ramos

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Drill or Re-enter
File Two Copies

Form No. 3

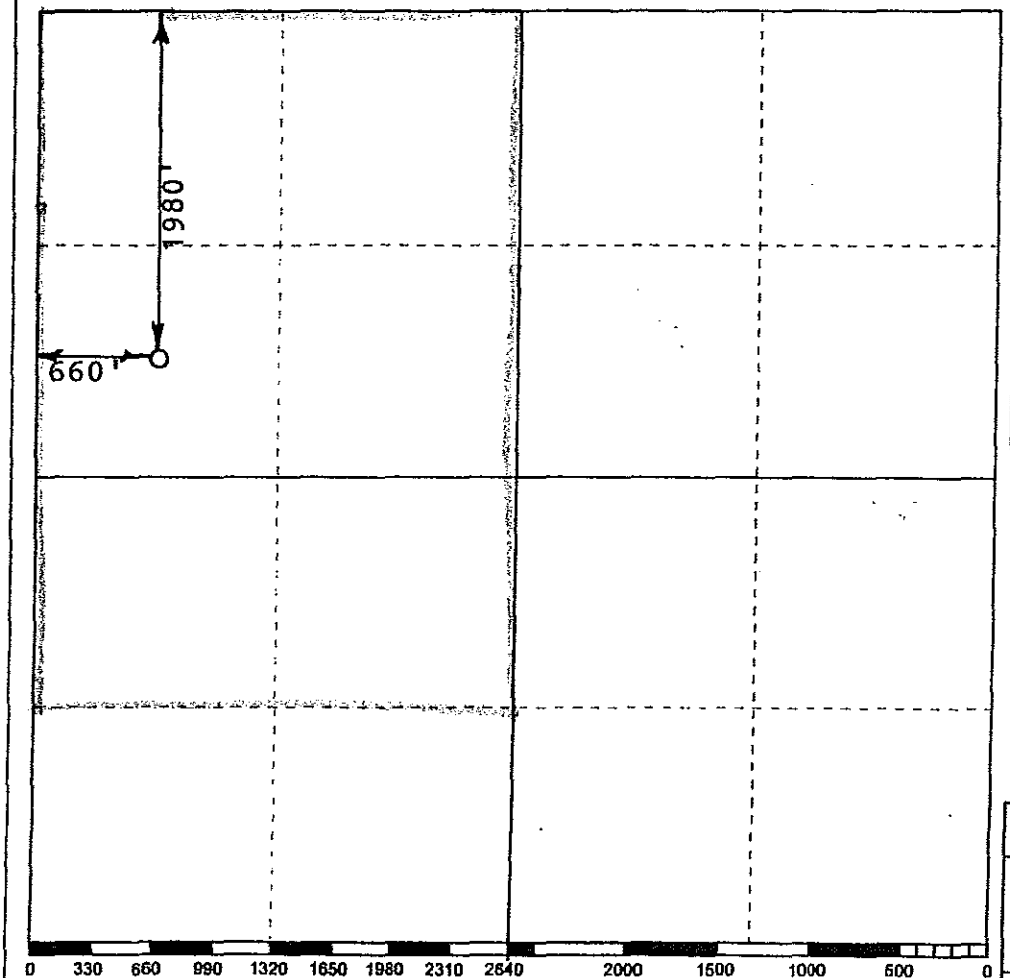
(Complete Reverse Side) 5/96

Rec'd 3-15-06

PERMIT 933

1. Operator shall outline on the plat the acreage dedicated to the well in compliance with A.A.C. R12-7-107.
2. A registered surveyor shall show on the plat the location of the well and certify this information in the space provided.
3. ALL DISTANCES SHOWN ON THE PLAT MUST BE FROM THE OUTER BOUNDARIES OF THE SECTION.
4. Is the operator the only owner in the dedicated acreage outlined on the plat below ? YES ____ NO X
5. If the answer to question four is no, have the interests of all owners been consolidated by communitization agreement or otherwise? YES ____ NO X If answer is yes, give type of consolidation ____
6. If the answer to question four is no, list all the owners and their respective interests below: Operator (EPNG) is the owner of 100% of the surface acreage.Ownership of a portion of underlying mineral interests is uncertain.EPNG intends to acquire 100% of the underlying mineral interests.

Owner	Land Description
El Paso Natural Gas Company	NW ¼ + N ½ SW ¼ Sec 21, T7S, R8E
	G.&S.R.B&M Survey Pinal Co. AZ



CERTIFICATION

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

Name: Greg Gettman

Position: Manager, Facility Planning

Company: El Paso Natural Gas

Date: 02/22/2006

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me, or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

REGISTERED LAND SURVEYOR CERTIFICATE NO. 8118 RONALD J. EIDSON Date Signed 1/09/06 ARIZONA U.S.A.

Date Surveyed: 01/05/06

Registered Land Surveyor: Ronald J. Eidson

Certificate No: 8118

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement	Type
20"	104#	Grade B	0	120'	120'	145 sacks	Class A
13 3/8"	54.5#	K-55	0	1600'	1600'	885 sacks	Std Lite & Class A
9 5/8"	40#	K-55	0	4500'	4500'	1520 sacks	Std Cement + 35% salt

EL PASO NATURAL GAS COMPANY
ARIZONA GAS STORAGE #1-21
DRILLING PROGRAM (Revised 3/15/06)

933

1. Prepare the location
2. Drill 24 - 26" conductor hole to approx. 80 ft. ground level (GL). Run 20" 104 lb./ft. conductor casing and cement to surface. Construct cellar. (Gills Drilling)
3. Drill rat hole, and mouse hole according to rig contractor's specs. (Gills Drilling)
4. Conduct El Paso Natural Gas safety orientation
5. Move in and rig up drilling rig.
6. Nipple up (NU) flow line from conductor pipe to rig tanks.
7. Fill rig tanks with water. Make up (MU) spud mud.
8. Pick up (PU) 17-1/2" bit and run in the hole (RIH) to approx. 80 ft GL.
9. Drill 17-1/2" hole to approx. 1,600 ft. GL, run TOTCO survey approx. every 150 feet. Monitor the chloride content of the drilling fluid returns. Stop drilling at the earlier of: 1) the chloride levels in the drilling fluid exceed 30,000 mg/l or 2) upon reaching a depth of 1,600 feet.
10. Conduct a wiper trip and circulate the well clean. Circulate and condition mud for logging.
11. Pull out of hole (POOH) laying down the bottom hole assembly (BHA).
12. Rig up (RU) logging company, and log well per attached logging program.
13. RIH and circulate and condition mud to run casing. POOH
14. RU casing crews. Run approx. 40 joints of 13-3/8", 54.5 Lb/ft, ST&C surface casing to approx. 1600 ft GL. Float shoe and float collar (stinger type) will be bucked onto first joint of 13-3/8" casing. Fill each joint of casing with drilling fluid as it is being run in. The centralizers will be placed as per the attached casing program.
15. MU 13-3/8" ST&C cementing head and circulate well till cementing units are rigged up. Circulate the well with the rig pumps until the cementing units are rigged up.
16. RU cementing company. Pressures test all cementing lines. Cement the 13-3/8" surface casing to surface per the cementing program.

    Note: From information gathered during the drilling of the surface hole, it may become necessary to run a cementing diverter tool and cement in two stages.

    Note: Notify Steven Rauzi (520-770-3500) with the Arizona Geological Survey (Oil and Gas Administrator) and Nancy Rumrill (415-972-3293 with the EPA 48 hours prior to cementing.
17. Wait on cement (WOC) approx. 24 hours. After 6 hours of WOC, test the float equipment. Remove the cementing head. Top off cement in the 13-3/8" x 17-1/2" annulus if necessary. After 18 hours of WOC, remove the flow line and cut off the 20" conductor pipe. Cut (at a pre-determined elevation) and lay down the 13-3/8" surface casing.
18. Weld on a temporary 13-5/8" 3M flange. Nipple up a 13-5/8" 3M by 13-5/8" 3M drilling spool with two 4" 5M outlets. On one outlet, install a 4" HCR valve and pipe to the rig's choke manifold. On the other outlet, install a 4" 5M by 2" 5M DSA and a bull plugged 2" 5M Halliburton valve. Nipple up a 13-5/8" 3M annular BOP and a 13-3/8" 3M bell-nipple. Nipple up a fill-up line and a 8" flow-line. Function-test the annular BOP.

19. PU 12-1/4" x 8-1/2" center punch assembly and RIH to the float collar at approx. 1560 ft. GL. Drill out the float collar from the 13-3/8" surface casing.
20. Pressure test the 13-3/8" casing (2486-psi Internal Yield Resistance) to 850-psi – 1 psi/ft gradient (assuming 9.0 lb/gal mud, 1600' casing shoe (750-psi hydrostatic head) gives 1600-psi bottom hole test pressure. Confirm that bottomhole pressure does not exceed 70% of 2486 (1740-psi)) and hold for 30 minutes. Use a chart recorder to record the test results. There shall not be more than a 10% drop in pressure. If so, then test must be repeated.
21. Clean surface tanks and fill with salt saturated mud.
22. Drill out cement, float shoe and 10 ft – 15 ft of new formation. Circulate and condition the drilling fluid. POOH.
23. PU 8-1/2" pilot bit and RIH to approx. 1610 ft. GL.
24. Drill 8-1/2" hole to a total depth of approx. 1700 ft. GL or to a depth where the chloride levels in the drilling fluid exceed 200,000 mg/l. Circulate and condition mud for coring. POOH and rack back the BHA.
25. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
26. Cut a 60 ft., 4" non-oriented core from 1700 ft. to 1760 ft. GL. POOH and lay out core #1 (Cut in 3 ft sections. Pack up cores). Lay down (LD) coring assembly.
27. PU 8-1/2" bit assembly and RIH to approx. 1760 ft. GL. Drill 8-1/2" hole to a total depth of approx. 1860 ft. GL. Circulate and condition mud for coring. POOH and rack back the BHA.
28. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
29. Cut a 60 ft., 4" non-oriented core from 1860 ft. to 1920 ft. GL. POOH and lay out core #2 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
30. PU 8-1/2" bit assembly and RIH to approx. 1920 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2020 ft. GL. Run a deviation survey (TOTCO). The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Circulate and condition mud for coring. POOH and rack back the BHA.
31. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
32. Cut a 60 ft., 4" non-oriented core from 2020 ft. to 2080 ft. GL. POOH and lay out core #3 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
33. PU 8-1/2" bit assembly and RIH to approx. 2080 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2180 ft. GL. Circulate and condition mud for coring. POOH and rack back the BHA.
34. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
35. Cut a 60 ft., 4" non-oriented core from 2180 ft. to 2240 ft. GL. POOH and lay out core #4 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
36. PU 8-1/2" bit assembly and RIH to approx. 2240 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2340 ft. GL. Run a deviation survey (TOTCO). The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Circulate and condition mud for coring. POOH and rack back the BHA.
37. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
38. Cut a 60 ft., 4" non-oriented core from 2340 ft. to 2400 ft. GL. POOH and lay out core #5 (Cut in 3 ft sections. Pack up cores). LD coring assembly.

39. PU 8-1/2" bit assembly and RIH to approx. 2400 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2500 ft. GL. Mud logger to take samples every 10 ft from 2400 ft to 2500 ft. Circulate and condition mud for coring. POOH and rack back the BHA.
40. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
41. Cut a 60 ft., 4" non-oriented core from 2500 ft. to 2560 ft. GL. POOH and lay out core #6 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
42. PU 8-1/2" bit assembly and RIH to approx. 2560 ft. GL. Drill 8-1/2" hole to a total depth of approx. 2660 ft. GL. Run a deviation survey (TOTCO). The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Circulate and condition mud for coring. POOH and rack back the BHA.
43. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
44. Cut a 60 ft., 4" non-oriented core from 2660 ft. to 2720 ft. GL. POOH and lay out core #7 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
45. Rig up mud logger.
46. PU 8-1/2" bit assembly and RIH to approx. 2720 ft. GL. Drill 8-1/2" hole to a total depth of approx. 3,500 ft. GL (anhydrite above claystone). Mud logger to take samples every 10 ft from 2720 ft to 3,500 ft. Circulate and condition mud for coring. POOH and rack back the BHA.
47. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
48. Cut a 60 ft., 4" non-oriented core from 3,500 ft. to 3,560 ft. GL. POOH and lay out core #8 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
49. PU 8-1/2" bit assembly and RIH to approx. 3,560 ft. GL. Drill 8-1/2" hole to a total depth of approx. 4300 ft. GL (claystone directly above the Lower Aquifer Unit). Mud logger to take samples every 10 ft from 3,560 ft to 4300 ft (samples should be watched to ensure that the evaporates have been fully penetrated). Circulate and condition mud for coring. POOH and rack back the BHA.
50. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
51. Cut a 60 ft., 4" non-oriented core from 4300 ft. to 4360 ft. GL. POOH and lay out core #9 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
52. PU 8-1/2" bit assembly and RIH to approx. 4360 ft. GL. Drill 8-1/2" hole to a total depth of approx. 4500 ft. GL. Run a deviation survey (TOTCO). The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Mud logger to take samples every 10 ft from 4360 ft to 4500 ft. Circulate and condition mud for logging. POOH and rack back the BHA.
53. Conduct a wiper trip and circulate the well clean. Circulate and condition mud for logging.
54. POOH laying down the BHA.
55. RU logging company, and log well per attached logging program.
56. Conduct multiple micro-fracture testing at intervals determined from the open hole logs.
57. PU 12-1/4" rock bit assembly and RIH to approx. 1600 ft. GL. Open the 8-1/2" pilot hole to 12-1/4" from 1600 ft to a total depth of approx. 4500 ft. GL.
58. Circulate and condition mud to run casing. POOH.
59. RD well control equipment. Install bradenhead/starting head and wellhead spool.

60. RU casing crews. Run approx. 112 joints of 9-5/8", 40 Lb/ft, LT&C casing to approx. 4500 ft GL. Float shoe and float collar will be bucked onto first joint of 9-5/8" casing. Fill each joint of casing with drilling fluid as it is being run in. The centralizers will be placed as per the attached casing program.
61. MU 9-5/8" LT&C cementing head and circulate well till cementing units are rigged up. Circulate the well with the rig pumps until the cementing units are rigged up.
62. RU cementing company. Pressures test all cementing lines. Cement the 9-5/8" surface casing to surface per the cementing program.

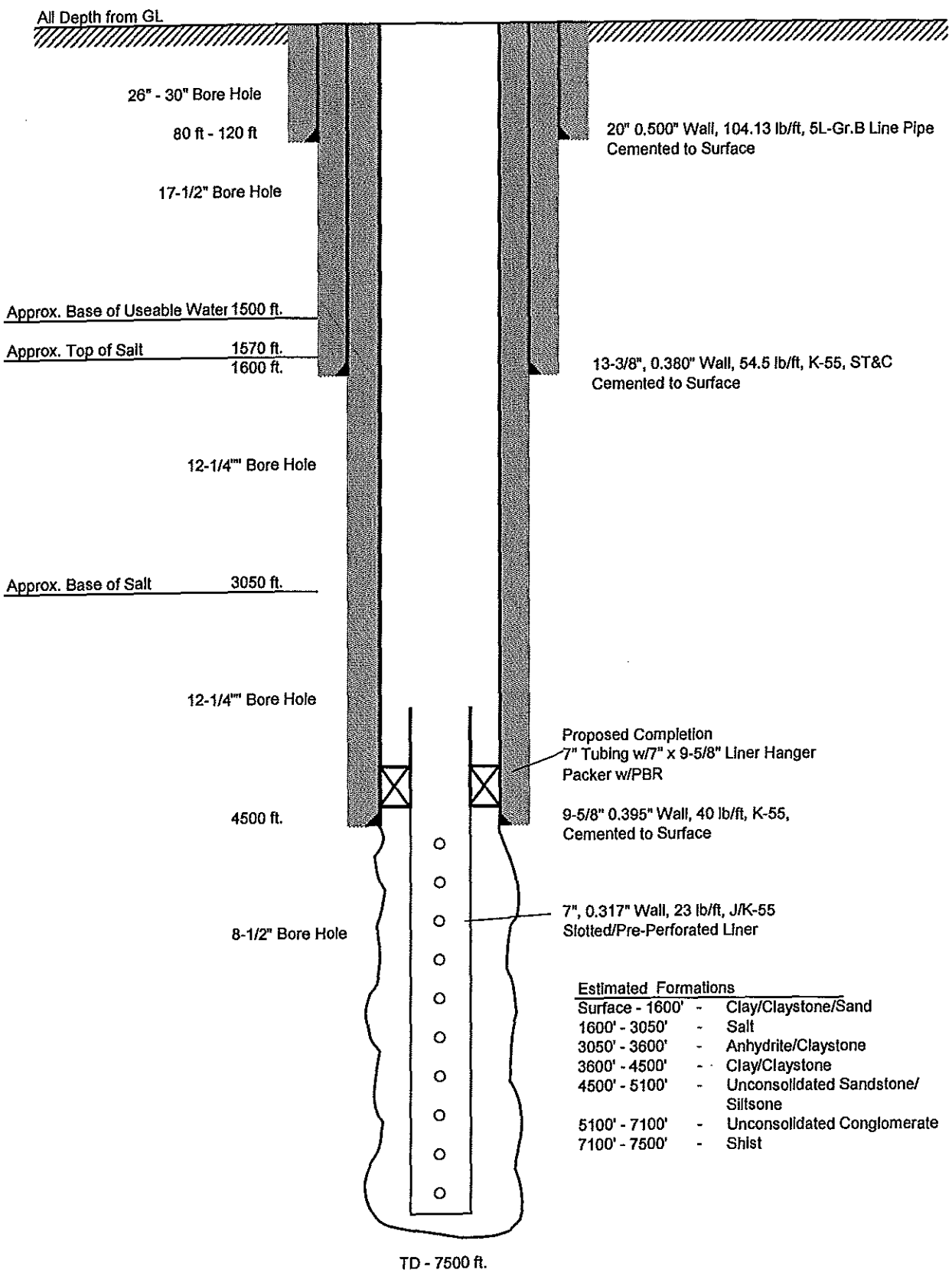
    Note: From information gathered during the drilling of the intermediate hole, it may become necessary to run a cementing diverter tool and cement in two stages.

    Note: Notify Steven Rauzi (520-770-3500) with the Arizona Geological Survey (Oil and Gas Administrator) and Nancy Rumrill (415-972-3293 with the EPA 48 hours prior to cementing.

63. Wait on cement (WOC) approx. 72 hours. After 12 hours of WOC, test the float equipment. Remove the cementing head. Top off cement in the 9-5/8" x 13-3/8" annulus, if necessary. After 48 hours of WOC, remove the flow line and cut off the 13-3/8" pipe. Cut (at a pre-determined elevation) and lay down the 13-3/8" surface casing. Clean surface tanks and fill with fresh water "drill in" mud.
64. PU 8-1/2" bit and RIH to the float collar at approx. 4460 ft. GL.
65. Displace salt saturated mud from the well with fresh water "drill in" mud and dispose.
66. Drill out the float collar from the 9-5/8" casing.
67. Pressure test the 9-5/8" casing (3590-psi Internal Yield Resistance) to 520-psi – (assuming 8.5 lb/gal mud, 4500' casing shoe (1990-psi hydrostatic head) gives 2510-psi bottom hole test pressure, which is 70% of 3590 (2510-psi). 1 psi/ft gradient (4500-psi bottom hole test pressure would exceed the burst of the 9-5/8" casing)). Hold test pressure for 30 minutes. Use a chart recorder to record the test results. There shall not be more than a 10% drop in pressure. If so, then test must be repeated.
68. Drill out cement, float shoe, wellbore cement and drill approx. 10 feet of new formation. Circulate and condition the drilling fluid.
69. Drill an 8-1/2" hole to a depth of approx. 4970 ft. GL. Run a deviation survey (TOTCO). Mud logger to take samples every 10 ft. Circulate and condition mud for coring. POOH and rack back the BHA.
70. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
71. Cut a 60 ft., 4" non-oriented core from 4970 ft. to 5030 ft. GL. POOH and lay out core #10 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
72. PU 8-1/2" pilot bit assembly and RIH to approx. 4970 ft. GL. Drill 8-1/2" hole to a total depth of approx. 5920 ft. GL. Run a deviation survey (TOTCO) every 250 feet. The deviation shall be kept at a minimum and should be controlled using the BHA (stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Mud logger to take samples every 10 ft from 5030 ft to 5920 ft. Circulate and condition mud for coring. POOH and rack back the BHA.
73. PU coring assembly (8-1/2" x 4", 60 ft. conventional core barrel) and RIH.
74. Cut a 60 ft., 4" non-oriented core from 5920 ft. to 5980 ft. GL. POOH and lay out core #11 (Cut in 3 ft sections. Pack up cores). LD coring assembly.
75. PU 8-1/2" pilot bit assembly and RIH to approx. 5920 ft. GL. Drill 8-1/2" hole to a total depth of approx. 7500 ft. GL. Run a deviation survey (TOTCO) every 500 feet. The deviation shall be kept at a minimum and should be controlled using the BHA

(stabilizer/reamer placement) and operating parameters (weight on bit (WOB) and rotary speed). Mud logger to take samples every 10 ft from 5980 ft to 7500 ft. Circulate and condition mud for coring. POOH and rack back the BHA.

76. Circulate and condition mud for logging. POOH and rack back the BHA.
77. Rig up & run open-hole logs per logging program.
78. Rig up & run micro fracture tests and collect formation fluid samples as indicated by open hole logs
79. RIH and circulate out the drilling fluid with salt blended water. POOH.
80. RU pumping and transport units and spot mud flush/mud acid (210 bbls) across the open hole section. POOH. Let acid work on filter cake.
81. RIH with work string. Circulate out spent acid and dispose.
82. RU casing crews. Run approx. 75 joints of 7", 23 lb/ft, LT&C, slotted/pre-perforated casing.
83. Prepare 7" x 9-5/8" packer with a "polished bore receptacle" (PBR).
84. RIH and set the packer in the bottom 50" of the 9-5/8" casing (approx. 4450'). Set packer according to manufacturer's instructions.
85. POOH and lay down the work string.
86. Nipple up the remainder of the wellhead.
87. Rig down and move out the drilling rig.



PB Energy Storage Services, Inc.
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MUD PROGRAM

1. Spud / Freshwater Mud: Depth 0 ft. to approx 1,600 ft.

Mud Weight	8.8 – 9.2 lbs/gal
Viscosity	35 – 45 sec/qt.
Filtrate Control	< 25 cc
pH	< 9
% Solids	< 10%

Freshwater mud will consist mainly of freshwater mix with bentonite drilling clay. The mud weight and % solids can be controlled by application of good surface solids control equipment (i.e. shale shakers, desander, desilter and/or mud cleaner). The viscosity will be regulated with water, bentonite and sodium bicarbonate (soda ash). A polyanionic cellulose additive (DRISPAC) will be used to control the filtrate loss of the filter cake.

2. Saltwater Mud: Depth approx. 1,600 ft. to 4,500 ft.

Mud Weight	10.0 – 10.4 lbs/gal
Viscosity	35 – 45 sec/qt.
Filtrate Control	< 25 cc
pH	< 9
% Solids	< 10%

Saltwater mud will consist mainly of make-up brine mixed with attapulgite clay. The mud weight and % solids can be controlled by application of good surface solids control equipment (i.e. shale shakers, desander, desilter and/or mud cleaner). The viscosity will be regulated with water saturated with salt and attapulgite. A pregelatinized starch additive (IMPERMEX) will be used to control the filtrate loss of the filter cake.

3. Light Brine Mud: Depth 4,500 ft. to approx 7,500 ft.

Mud Weight	9.0 – 9.4 lbs/gal
Viscosity	35 – 45 sec/qt.
Filtrate Control	< 10 cc
pH	< 9
% Solids	< 10%

Light Brine mud will consist mainly of a brine/freshwater mix with xanthan gum and minimal amount of bentonite drilling clay. The mud weight and % solids can be controlled by application of good surface solids control equipment (i.e. shale shakers, desander, desilter and/or mud cleaner). The viscosity will be regulated with water, xanthan gum. A polyanionic cellulose additive (DRISPAC) will be used to control the filtrate loss of the filter cake.

To counter any potential drilling problems such as abnormal formation pressures and lost circulation, a supply of barite and loss circulation materials (LCM) will be kept on site.

The drilling fluid properties will be checked and recorded periodically during each 12-hour tower (shift). A drilling fluids engineer from a third party (Baker Inteq, Bariod, etc) will set up each of the drilling mud (freshwater and saltwater) systems and check the drilling fluid properties daily. The mud engineer will also be used as needed to deal with any problems encountered during drilling.

LOGGING PROGRAM

1. Surface Hole: Surface to Approx. 1,600 ft. - Welenco

Electric Line Logging:	Dual Induction Resistivity Log w/SP Gamma Ray Combined Caliper Log
	Directional Survey
Mud Logging:	10' Samples from 0' to 1,600'

2. Production Hole: 9-5/8" casing to Approx. 4,500 ft. - Schlumberger

Electric Line Logging:	Dual Laterolog (Resistivity & Spontaneous Potential Log) Compensated Neutron (Porosity Logging) Litho Density (Bulk Density & Porosity Logging) Elemental Capture Spectroscopy (Mineralogical Identification) Sonic Scanner (Rock Properties and Fracture Identification) Combined Caliper Log (Hole Size) Formation Evaluation ELAN (Computer Processed Log)
	Cement Bond and Variable Density Log -0 to 1,600'
	Directional Survey if in question
Mud Logging:	10 ft Samples from 1,600 ft to 4,500 ft

3. Interval of Interest: 4,500 ft to Approx. 7,500 ft. - Schlumberger

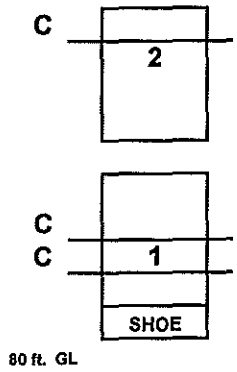
Electric Line Logging:	Dual Laterolog (Resistivity & Spontaneous Potential Log) Compensated Neutron (Porosity Logging) Litho Density (Bulk Density & Porosity Logging) Elemental Capture Spectroscopy (Mineralogical Identification) Combinable Magnetic Resonance CMR (Permeability Identification) Sonic Scanner (Rock Properties and Fracture Identification) Combined Caliper Log (Hole Size) Formation Evaluation ELAN (Computer Processed Log)
	Temperature Log
	Cement Bond and Variable Density Log CBL - 0 ft. to 4,500 ft.
Mud Logging:	10 ft Samples from 4,500 ft to 7,500 ft.

CASING PROGRAM

1. Conductor Casing:

   24 - 26" Borehole
   Surface to Approx. 80 ft.
   20" - 0.500" Wall, 106.5 lb/ft, J/K-55, BT&C

El Paso Natural Gas Company
Picacho Storage Project
Strat Well
20" Conductor Casing & Cementing Hardware Program

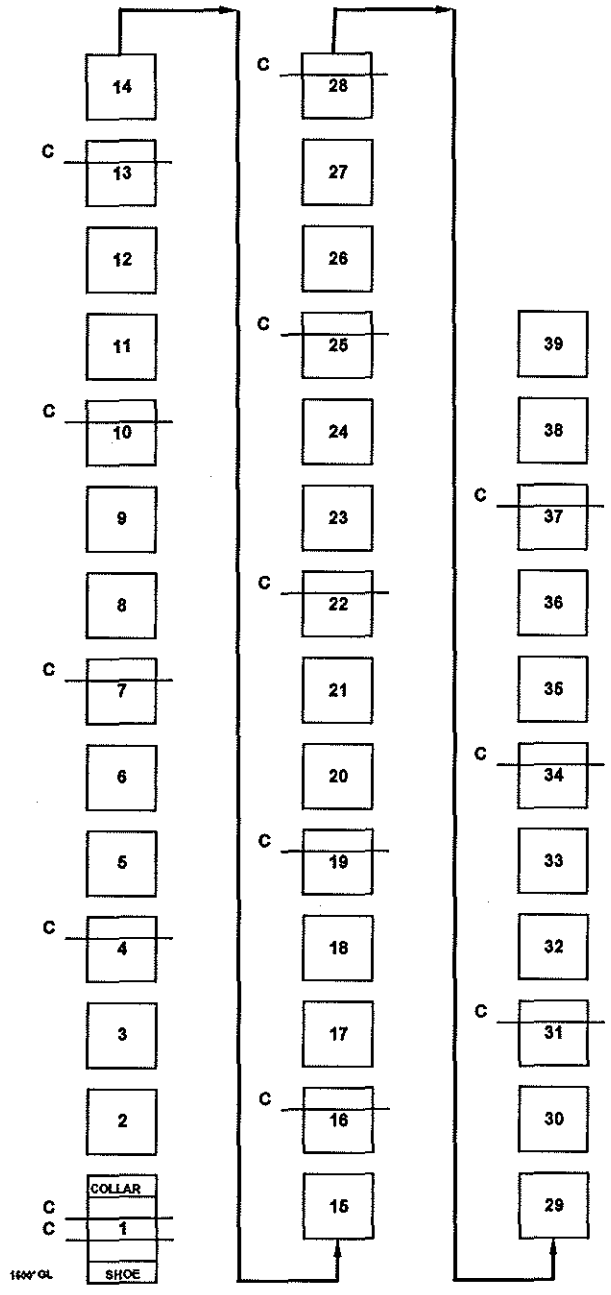


C - 20" x 26" Bow Type Centralizers

2. Surface Casing:

17-1/2" Borehole
Surface to Approx. 1,600 ft.
13-3/8" - 0.380" Wall, 54.5 lb/ft, J/K-55, ST&C

El Paso Natural Gas Company
Picacho Storage Project
Strat Well
13-3/8" Casing & Cementing Hardware Program

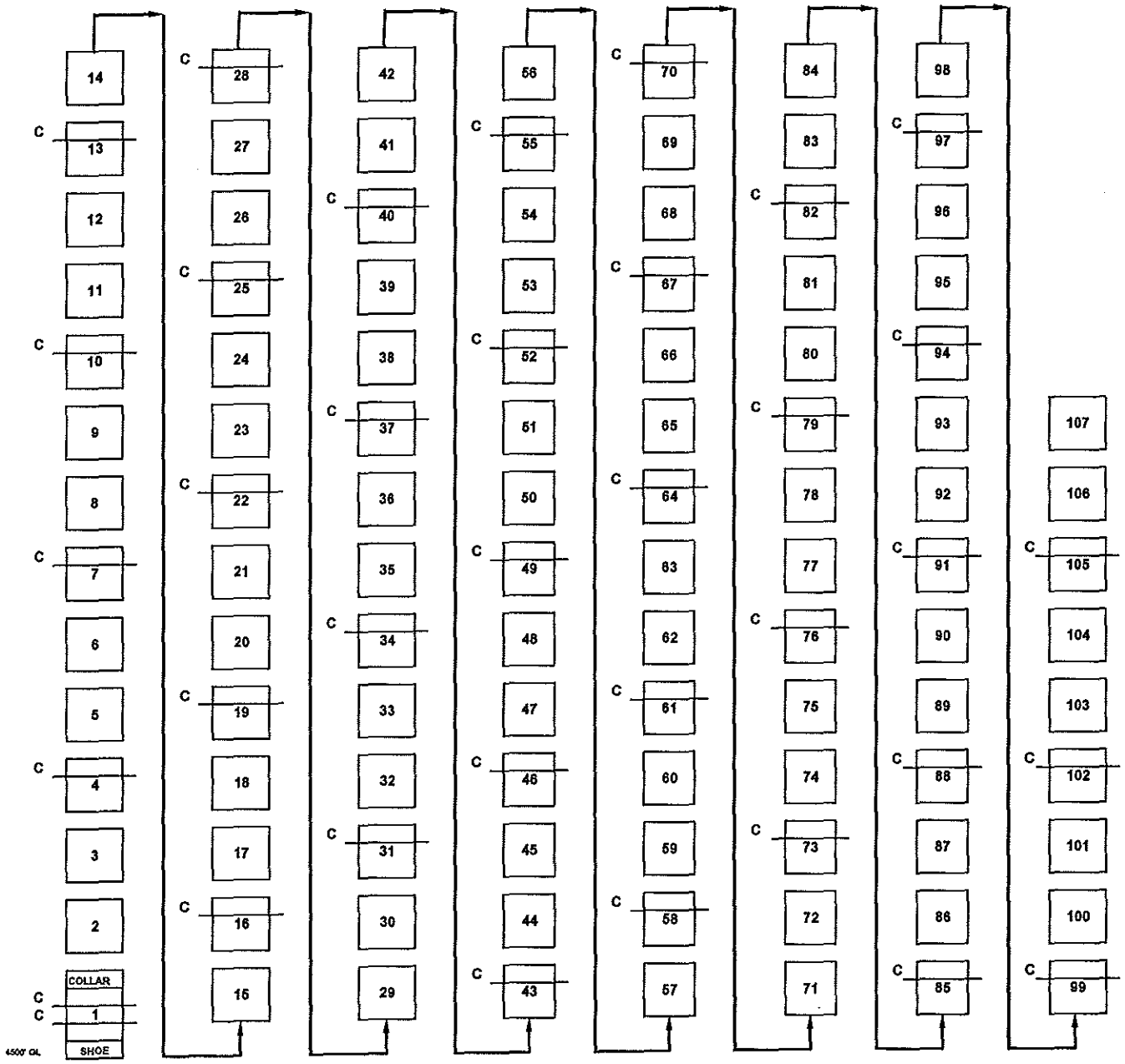


C - 13-3/8" x 17-1/2" Bow Type Centralizers

3. Final Casing:

12-1/4" Borehole
Surface to Approx. 4,500 ft.
9-5/8" - 0.395" Wall, 40 lb/ft, J/K-55, LT&C

El Paso Natural Gas Company
Picacho Storage Project
Strat Well
7" Casing & Cementing Hardware Program



C - 7" x 9-7/8" Bow Type Centralizers

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CEMENTING PROGRAM

1. Conductor Casing:

   26" x 20" Borehole - Surface to Approx. 80 ft.
   $(26^2 - 20^2) \times \pi/4 \times 1/144 = 1.5053$ ft^3/ft
   80 ft x 1.5053 ft^3/ft = 120 ft^3
   Excess: 50% of Open Hole Volume

   145 sacks Standard/Class A Cement + 0.25 lbs/sack Cello Flake + 2% Calcium Chloride

Slurry Weight (lb/gal)		15.20
Slurry Yield (ft^3/sack)		1.27
Amount of Mix Water (gal/sk)		5.75
Estimated Pumping Time	2:23	
Compressive Strength 24 hrs @ 80 ° F (psi)		3000

2. Surface Casing:

   17-1/2" x 13-3/8" Borehole - Surface to Approx. 1,600 ft.
   $(19^2 - 13.375^2) \times \pi/4 \times 1/144 = 0.9933$ ft^3/ft
   80 ft x 0.9933 ft^3/ft = 79.5 ft^3
   $(17.5^2 - 13.375^2) \times \pi/4 \times 1/144 = 0.9757$ ft^3/ft
   1020 ft x 0.9757 ft^3/ft = 975.7 ft^3
   500 ft x 0.9757 ft^3/ft = 487.8 ft^3
   Excess: 50% of Open Hole Volume or 15% over caliper

   Lead Slurry: 500 sacks Standard Lite Cement + 0.25 lbs/sack Cello Flake + 2% Calcium Chloride

   Tail Slurry: 385 sacks Standard/Class A Cement + 0.25 lbs/sack Cello Flake + 2% Calcium Chloride

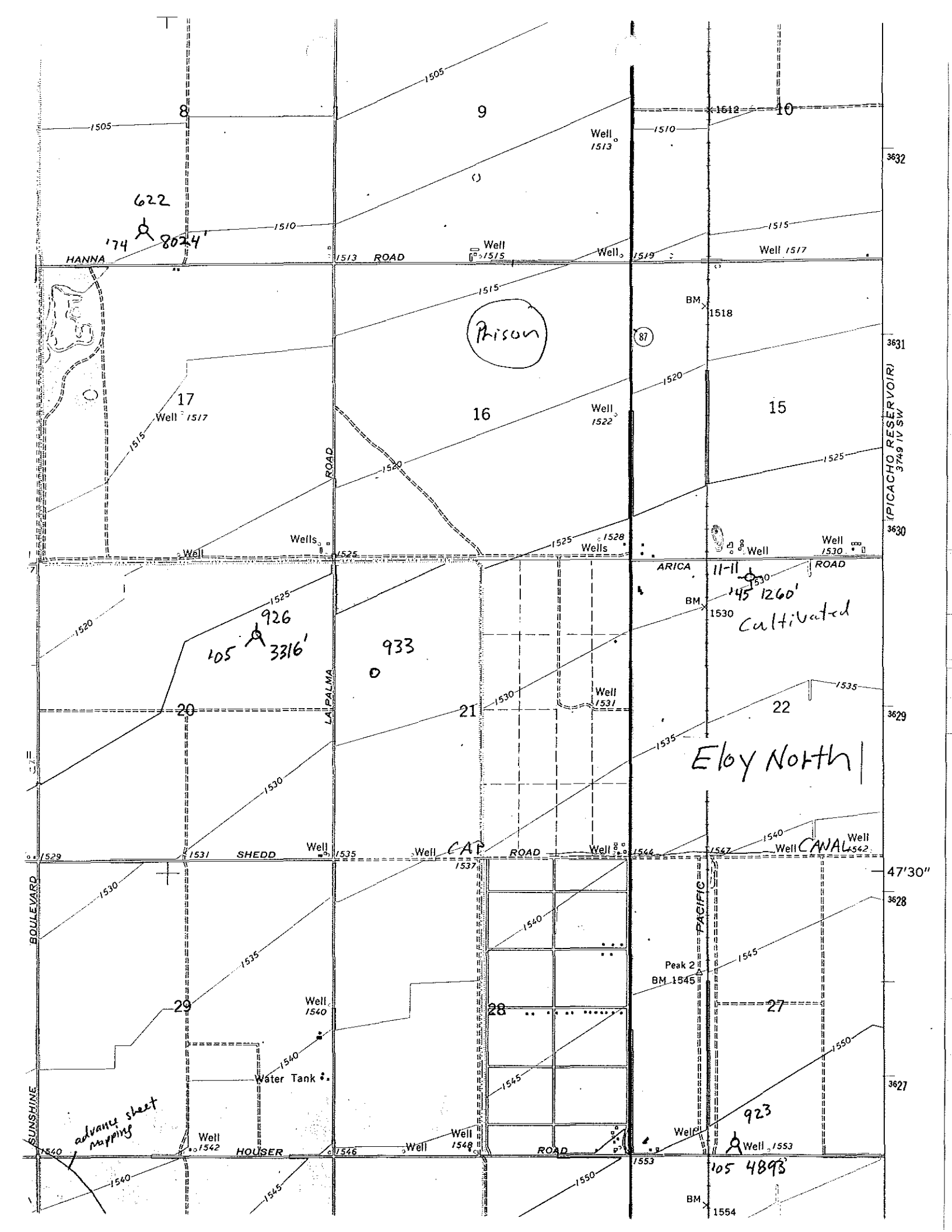
	Lead Slurry	Tail Slurry
Slurry Weight (lb/gal)	12.00	15.20
Slurry Yield (ft^3/sack)	2.12	1.27
Amount of Mix Water (gal/sk)	12.11	5.75
Estimated Pumping Time	5:00	2:30
Compressive Strength 24 hrs @ 80 ° F (psi)	340	3000

3. Final Casing:

12.25" x 9.625" Borehole - Surface to Approx. 4,500 ft.
$(12.615^2 - 9.925^2) \times \pi/4 \times 1/144 = 0.3627$ ft^3/ft
1600 ft x 0.3627 ft^3/ft = 580.3 ft^3
$(12.25^2 - 9.625^2) \times \pi/4 \times 1/144 = 0.3132$ ft^3/ft
2900 ft x 0.3132 ft^3/ft = 908.2 ft^3
Excess: 50% of Open Hole Volume or 15% over caliper

Lead Slurry: 1520 sacks Standard Cement + 35.2% Salt + 0.7% Attapulgite+ 0.25 lbs/sack Cello Flake + 2% Calcium Chloride + 0.25% Defoamer

	Lead Slurry
Slurry Weight (lb/gal)	16.20
Slurry Yield (ft^3/sack)	1.28
Amount of Mix Water (gal/sk)	5.23
Estimated Pumping Time	5:30 +
COMPRESSIVE STRENGTH 24 hrs @ 80 ° F (psi)	1292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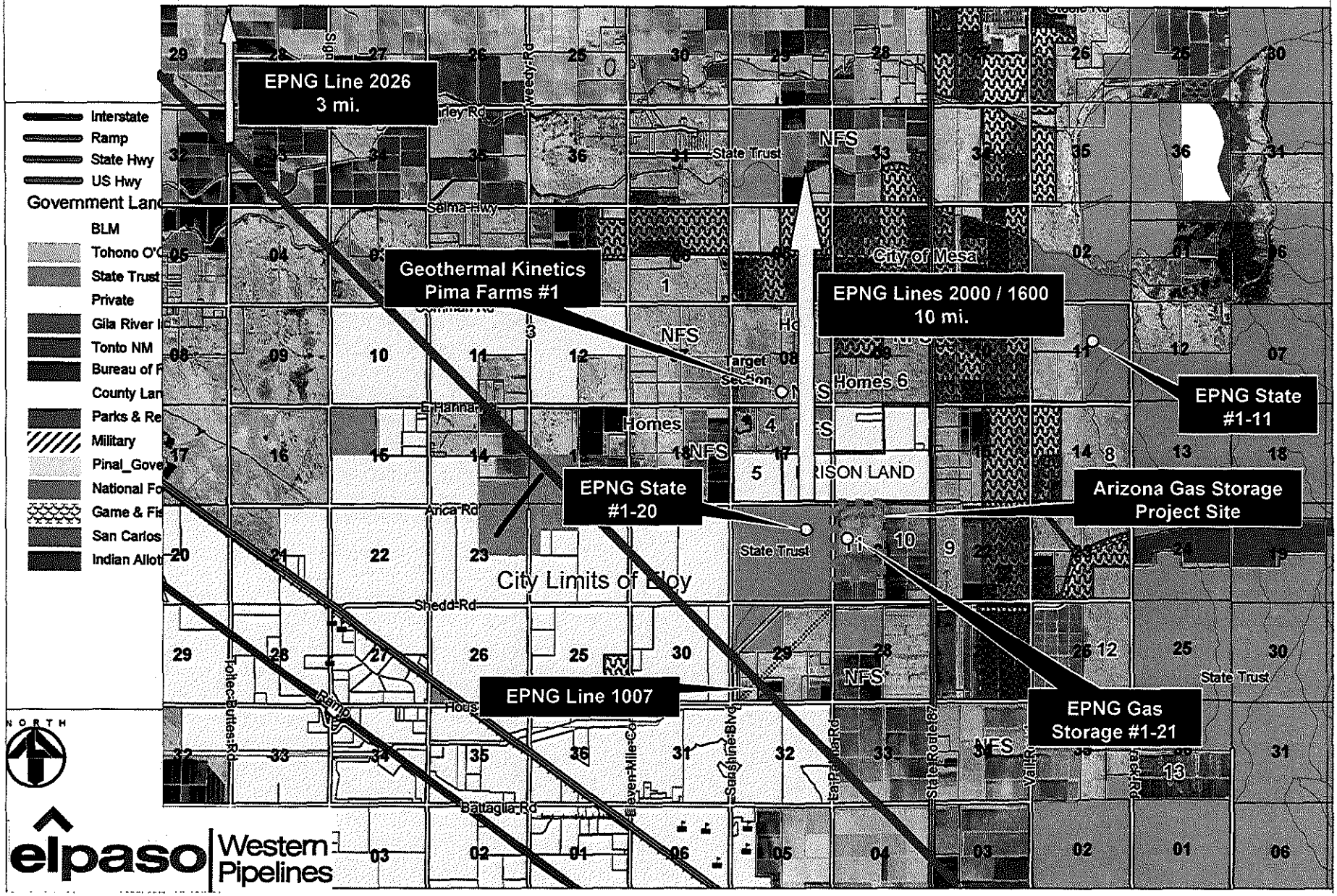
Arizona Natural Gas Storage



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Voucher ID	Invoice Number	Invoice Date	Discount	Paid Amount
00255412	CKREQ060113 Off 1032 Colorado Springs, CO	01/13/2006	0.00	25.00
	TOTAL		$0.00	$25.00

EL PASO NATURAL GAS COMPANY
P.O. BOX 4430
HOUSTON, TX 77210-4430

CITIBANK DELAWARE
A Subsidiary of Citicorp
One Penn's Way

01/19/2006 07530562

62-20
311

Amount
$ ***25.00
VOID AFTER ONE YEAR

Pay ***TWENTY-FIVE AND XX / 100 US DOLLAR***

To The Order Of ARIZONA OIL & GAS CONSERVATION COMMISSION

Authorized Signature

⑈07530562⑈ ⑆031100209⑆ 3869160⑈

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS

Bond Serial No. 23-007-048

That we: El Paso Natural Gas Company

of the County of El Paso in the State of Colorado

as principal, and Liberty Mutual Insurance Company

of 175 Berkeley Street, Boston, MA 02117

AUTHORIZED TO DO BUSINESS WITHIN THE STATE OF ARIZONA

as surety, are held and firmly bound unto the State of Arizona and the Oil and Gas Conservation Commission, hereinafter referred to as the "Commission", in the penal sum of Twenty Five Thousand and 00/100 Dollars, ($25,000.00) lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation are that, whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to-wit:

Sections 11 + 20 T7S, R8E Pinal County, Arizona

(May be used as blanket bond or for single well)

NOW THEREFORE, if the above bounden principal shall comply with all the provisions of the Laws of this State and the rules, regulations and orders of the Commission, especially with reference to the requirements of A.R.S. § 27-516, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil and Gas Conservation Commission all notices and records required by said Commission, then in the event said well or wells do not produce oil or gas in commercial quantites, or cease to produce oil or gas in commercial quantites, this obligation is void; otherwise it shall remain in full force and effect.

Whenever the principal shall be, and declared by the Oil and Gas Conservation Commission in violation of the Laws of this State and the rules, regulations and orders of the Commission, the surety shall promptly:

1. Remedy the violation by its own efforts, or

2. Obtain a bid or bids for submission to the Commission to remedy the violation, and upon determination by the Commission and the surety of the lowest responsible bidder, arrange for a contract between such bidder and the Commission, and make available as work progresses sufficient funds to pay the cost of remedying the violation; but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof.

Liability under this bond may not be terminated without written permission of this Commission.

WITNESS our hands and seals this 2 day of March, 20 05.

El Paso Natural Gas Company

Principal

Senior Vice President

CANCELLED

DATE 12-16-2011

WITNESS our hands and seals, this 1st day of March, 20 05.

Liberty Mutual Insurance Company

Suzanne Holden, Attorney-In-Surety Fact

Countersignature Not Required

(Surety, Resident Arizona Agent
If issued in a state other than Arizona)

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved Date 3-21-2005

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: SL Rains

Permit No. Blanket

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Bond
File Two Copies
Form No. 2

Bond No. 23-007-048

NOTICE FROM SURETY REQUIRED BY TERRORISM RISK INSURANCE ACT OF 2002

In accordance with the Terrorism Risk Insurance Act of 2002 (referred to hereinafter as the "Act"), this disclosure notice is provided for surety bonds on which one or more of the following companies is the issuing surety: Liberty Mutual Insurance Company; Liberty Mutual Fire Insurance Company; LM Insurance Corporation; The First Liberty Insurance Corporation; Liberty Insurance Corporation; Employers Insurance Company of Wausau (formerly "EMPLOYERS INSURANCE OF WAUSAU A Mutual Company"); Peerless Insurance Company; and any other company that is a part of or added to the Liberty Mutual Group for which surety business is underwritten by Liberty Bond Services (referred to collectively hereinafter as the "Issuing Sureties").

NOTICE FORMS PART OF BOND

This notice forms part of surety bonds issued by any one or more of the Issuing Sureties.

DISCLOSURE OF PREMIUM

The premium attributable to any bond coverage for "acts of terrorism" as defined in Section 102(1) of the Act is Zero Dollars ($0.00).

DISCLOSURE OF FEDERAL PARTICIPATION IN PAYMENT OF TERRORISM LOSSES

The United States will reimburse the Issuing Sureties for ninety percent (90%) of any covered losses from terrorist acts certified under the Act exceeding the applicable surety deductible.

1651310

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

LIBERTY MUTUAL INSURANCE COMPANY
BOSTON, MASSACHUSETTS
POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS: That Liberty Mutual Insurance Company (the "Company"), a Massachusetts stock insurance company, pursuant to and by authority of the By-law and Authorization hereinafter set forth, does hereby name, constitute and appoint

PATRICK D. DINEEN, HEIDI BOCKUS, THOMAS J. JOCHUMS, KATHIE L. WIEGERS, SUZANNE HOLDEN, THERESA A. LAMB, KRISTA M. LEE, ALL OF THE CITY OF SEATTLE, STATE OF WASHINGTON

, each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations in the penal sum not exceeding **SEVENTY-FIVE MILLION AND 00/100********** DOLLARS ($ **75,000,000.00*****) each, and the execution of such undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents, shall be as binding upon the Company as if they had been duly signed by the president and attested by the secretary of the Company in their own proper persons.

That this power is made and executed pursuant to and by authority of the following By-law and Authorization:

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

By the following instrument the chairman or the president has authorized the officer or other official named therein to appoint attorneys-in-fact:

Pursuant to Article XIII, Section 5 of the By-Laws, Garnet W. Elliott, Assistant Secretary of Liberty Mutual Insurance Company, is hereby authorized to appoint such attorneys-in-fact as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

That the By-law and the Authorization set forth above are true copies thereof and are now in full force and effect.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Company and the corporate seal of Liberty Mutual Insurance Company has been affixed thereto in Plymouth Meeting, Pennsylvania this 16th day of December, 2004.

LIBERTY MUTUAL INSURANCE COMPANY

By _____
Garnet W. Elliott, Assistant Secretary

COMMONWEALTH OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 16th day of December, 2004, before me, a Notary Public, personally came Garnet W. Elliott, to me known, and acknowledged that he is an Assistant Secretary of Liberty Mutual Insurance Company; that he knows the seal of said corporation; and that he executed the above Power of Attorney and affixed the corporate seal of Liberty Mutual Insurance Company thereto with the authority and at the direction of said corporation.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires Mar. 28, 2005
Member, Pennsylvania Association of Notaries

By _____
Teresa Pastella, Notary Public

CANCELLED

CERTIFICATE

I, the undersigned, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy, is in full force and effect on the date of this certificate; and I do further certify that the officer or official who executed the said power of attorney is an Assistant Secretary specially authorized by the chairman or the president to appoint attorneys-in-fact as provided in Article XIII, Section 5 of the By-laws of Liberty Mutual Insurance Company.

This certificate and the above power of attorney may be signed by facsimile or mechanically reproduced signatures under and by authority of the following vote of the board of directors of Liberty Mutual Insurance Company at a meeting duly called and held on the 12th day of March, 1980.

VOTED that the facsimile or mechanically reproduced signature of any assistant secretary of the company, wherever appearing upon a certified copy of any power of attorney issued by the company in connection with surety bonds, shall be valid and binding upon the company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the said company, this 1st day of March, 2005.

By _____
David M. Carey, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, bank deposit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

All-Purpose
Certificate of Acknowledgment

State of **Washington**
County of **King** }

On **March 1, 2005** (DATE) before me, **Kathie L. Wiegers** (NAME OF NOTARY PUBLIC),

personally appeared **Suzanne Holden** (NAME(S) OF SIGNER(S))

☑ personally known to me - **OR**

☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

KATHIE L. WIEGERS Commission Expires NOTARY PUBLIC STATE OF WASHINGTON DEC. 7, 2006

Witness my hand and official seal.

Kathie L. Wiegers
SIGNATURE OF NOTARY PUBLIC

Though the data below is not required by law, it may prove valuable to persons relying on the document and prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

- ☐ Individual(s)
- ☐ Corporate Officer:
- ☐ Title(s)
- ☐ Partner(s)
- ☑ Attorney-in-Fact
- ☐ Trustee(s)
- ☐ Subscribing Witness
- ☐ Guardian/Conservator
- ☐ Other:

DESCRIPTION OF ATTACHED DOCUMENT(S)

Type of Document: **Performance Bond**

Number of Pages: **Two (2)**

Date of Document: **March 1, 2005**

Signer(s) Other Than Named Above: **El Paso Natural Gas Company**

CANCELLED

SIGNER IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)

Liberty Mutual Insurance Company

ORGANIZATION REPORT

Full Name of the Company, Organization, or Individual

El Paso Natural Gas Company

Mailing Address and Phone Number

PO Box 1087 Colorado Springs CO 80944-1087 (719)473.2300

Plan of Organization (State whether organization is a corporation joint stock association, firm or partnership, or individual

Corporation

Purpose of Organization (State type of business in which engaged)

Natural Gas Transmission

If a reorganiztion, give name and address of previous organization

If a foreign corporation give (1) State where incorporated	(2) Name and mailing address of state agent	(3) Date of permit to do business in state
Delaware	CT Corporation System 3225 N. Central Avenue Phoenix AZ 85012	(AZ) May 22, 1936

Principal Officers or Partners (if partnership) NAME	TITLE.	MAILING ADDRESS
James J. Cleary	President	P O Box 1087 Co Springs CO 80944-1087
William H. Healy, Jr.	Vice President	P O Box 1087 Co Springs CO 80944-1087
Thomas P. Morgan	Vice President	P O Box 1087 Co Springs CO 80944-1087
Catherine E. Palazzari	Vice President	P O Box 1087 Co Springs CO 80944-1087
Donald J. Zinko	Vice President	P O Box 1087 Co Springs CO 80944-1087

DIRECTORS NAME	MAILING ADDRESS
James J. Cleary	P O Box 1087 Co Springs CO 80944-1087
Greg G. Gruber	1001 Louisiana St Houston TX 77002
John W. Somerhalder II	1001 Louisiana St Houston TX 77002

CERTIFICATE I, the undersigned, under the penalty of perjury state that I am the Corporate Secretary of the El Paso Natural Gas Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Stacy E. James

Signature

2-16-05

Date

STATE OF ARIZONA

OIL & GAS CONSERVATION COMMISSION

Organization Report

File One Copy

Form No. 1

Mail completed form to
Oil and Gas Program Administrator
Arizona Geological Survey
416 W Congress., #100
Tucson, AZ 85701

2/96

EL PASO NATURAL GAS

Operator: **El Paso Natural Gas Company**

Bond Company: **Liberty Mutual Insurance**

Bond No.: **23-007-048**

Amount: **$25,000.00**

Date of Bond: **3/2/2005**

Date approved: **3/21/2005**

Permits covered by this bond:

925 Plugged 9/5/05
926 Plugged 8/6/05
928 Expired, not drilled
933 Plugged 12/6/2011

Janice K. Brewer
Governor

State of Arizona
Oil and Gas Conservation Commission
416 W. Congress, Suite 100
Tucson, Arizona 85701
520-770-3500
www.azogcc.az.gov
Steven L. Rauzi, Oil and Gas Administrator

January 9, 2012

Mr. Greg W. Gettman
El Paso Western Pipelines
Two North Nevada Avenue
Colorado Springs CO 80903

Re: Liberty Mutual Insurance Company Bond No. 23-007-048

Dear Mr. Gettman:

Records of the Oil and Gas Conservation Commission indicate that El Paso Natural Gas drilled, plugged, and reclaimed all permitted wells under the referenced bond and has no outstanding drilling, plugging, or reporting obligations with respect to the wells. As a result the bond is now available for release.

Sincerely,

Steven L. Rauzi
Oil and Gas Administrator

c J. Dale Nations, Chairman

BOND RELEASE CHECK LIST

Company: El Paso Natural Gas

Bond amount: $25,000

Bond #: 23-007-048

Date bond received: 3-21-2005

Date request for release of bond received: 12-16-2011

Permits covered by bond: 933

Permitted wells drilled and plugged: 2

Well sites reclaimed: 3

Any outstanding drilling, plugging, or reporting obligations: none

Permits not drilled but expired: 1

The bond is now available for release: 12-16-2011

Steven L. Rauzi

Steven L. Rauzi, Oil and Gas Program Administrator — 12-16-2011 Date

M. Lee Allison

M. Lee Allison, Director and State Geologist — 12-16-11 Date

J. Dale Nations

J. Dale Nations, Chairman Oil and Gas Conservation Commission — 12/20/11 Date

elpaso

December 13, 2011

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 West Congress #100
Tucson, AZ 85701-1315

rcvd 12-16-11

Re: El Paso Natural Gas Company
AGS #1-21
Section 21, T7S, R8E
Pinal County, AZ
AZOGCC Permit #933

Dear Mr. Rauzi,

Attached for your records are two copies of the "Plugging Record" for the AGS #1-21. As we discussed, according to my records this is the last well in Arizona covered by the El Paso Natural Gas Performance Bond (copy attached). Consequently, I plant to cancel the attached $25,000 Performance Bond is bond as of the end of this year.

If you have any questions or problems with the attached, please give me a call at (719) 520-4533.

Sincerely,

Greg W. Gettman
Manager, Business Development
El Paso Natural Gas Company

El Paso Corporation
PO Box 1087 Colorado Springs, Colorado 80944
tel 719.473.2300 fax 719.520.4318

elpaso Western Pipelines

October 26, 2011

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 West Congress #100
Tucson, AZ 85701-1315

rec'd 10-31-11

Re: El Paso Natural Gas Company
AGS #1-21
Section 21, T7S, R8E
Pinal County, AZ
AZOGCC Permit #933

Dear Mr. Rauzi,

Attached for your review are two copies of the "Application to Plug and Abandon" for the AGS #1-21. As we have discussed El Paso is proposing to set the bottom 50' cement plug below all fresh water producing horizons at a depth of approximately 2,000' rather than at the base of the 9 5/8" intermediate casing at 5,640'. This will allow us to cost effectively plug and abandon the well while insuring the protection of the ground water resources in the area.

We plan to commence plugging operations when Stewart Brothers has a rig available from late November 2011 to January 2012. If you have any questions or problems with the attached, please give me a call at (719) 520-4533.

Sincerely,

Greg W. Gettman

Greg W. Gettman
Manager, Business Development
El Paso Natural Gas Company

El Paso Western Pipelines
Two North Nevada Colorado Springs, CO 80903
PO Box 1087 Colorado Springs, CO 80944
tel 719.473.2300

OIL AND GAS CONSERVATION COMMISSION
416 West Congress #100
Tucson, Arizona 85701

Minutes of Meeting
October 16, 2009

933

Present:
Dr. J. Dale Nations, Chairman
Mr. Robert L. Jones, Vice-Chairman
Mr. Stephen R. Cooper, Member
Ms. Michele P. Negley, Member
Mr. Steven L. Rauzi, Oil and Gas Program Administrator

Dr. Nations, Chairman, called the regular Commission Meeting of October 16 to order at 10:00 a.m. in Room 321, State Land Department Building in Phoenix, Arizona.

STATUS OF EL PASO AGS 1-21 (PERMIT 933) AND POSSIBLE DECISION CONCERNING TEMPORARY ABANDONMENT

Mr. Rauzi reported that El Paso had submitted a written request to extend temporary abandonment of the AGS 1-21 for two years to allow for further business evaluation. He reviewed the current mechanical condition and integrity of the hole and recommended approval of El Paso's request. In response to a question from Mr. Cooper, Mr. Rauzi reported that the two-year extension would take the temporary abandonment up to the initial five-year time frame provided in the rules.

Ms. Negley moved, seconded by Mr. Jones:

> TO GRANT TEMPORARY ABANDONMENT FOR TWO YEARS TO THE EL PASO AGS 1-21 WELL

Motion carried unanimously.

elpaso Western Pipelines

September 29, 2009

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress #100
Tucson, AZ 85701-1315

933

Re: El Paso Natural Gas Company
AGS #1-21
Section 21, T7S, R8E
Pinal County, Arizona
AZOGCC Permit #933

hdd 10-1-09

Dear Steve:

Attached for your review are two copies of the revised Sundry Notice and Reports Form requesting authority from the Arizona Oil and Gas Conservation Commission to temporarily abandon the AGS #1-21 for an additional two years. This extension will allow a prospective purchaser to fully evaluate the options for using this well in association with the development of a salt cavern natural gas storage facility at this site.

If you have any questions or problems with the attached, please give me a call at (719) 520-4533.

Sincerely,

Greg Gettman
Manager, Business Development
El Paso Natural Gas Company

El Paso Western Pipelines
Two North Nevada Avenue Colorado Springs, CO 80903
PO Box 1087 Colorado Springs, CO 80944
tel 719.473.2300

13-May-09 2:00 PM EDT

933

May 13, 2009 NGS Energy Signs Exclusivity Agreement, Considers Entrance into Arizona Natural Gas Storage Market

NGS Energy Signs Exclusivity Agreement, Considers Entrance into Arizona Natural Gas Storage Market

NGS Energy LP and El Paso Corporation have signed a Memorandum of Acquisition and Understanding with regard to El Paso's Pinal County, Arizona natural gas storage asset. Under the agreement, NGS Energy has an exclusive due diligence period and right to purchase all acreage, wells, geological and technical data and rights currently held by El Paso. The storage project is in the Picacho Basin and would include a 9 mile header system that could connect to Transwestern Pipeline, El Paso Natural Gas Pipeline, as well as numerous new and proposed gas fired plants.

"The growth in the Arizona market has not received the appropriate response from the natural gas storage industry" said NGS Energy President Laura Luce. "El Paso's work drilling and coring multiple wells to test the viability of the geology and feasibility of the project are the first steps to sincerely address Arizona's storage need."

"The Picacho salt basin will be developed into a highly cyclable gas storage asset that could provide Arizona customers with the flexibility it currently needs and will need with continued growth" continued Luce.

NGS estimates the current acreage position could result in a 20 Bcf storage facility and will utilize above ground evaporation ponds. FERC filings will occur this summer with operations slated for Summer 2012.

"NGS' background in developing storage assets will only further the speed with which the project can be brought to a market with an immediate need. NGS' experience will ensure that the asset is developed by an experienced group in the swiftest timeframe." commented Tom Price, Vice President El Paso.

Any interest or inquiries can be directed to NGS at 203-557-1000.

NGS Energy LP has assembled a portfolio of highly flexible gas storage assets throughout North America. Their newly operational Tres Palacios Gas Storage facility in Matagorda County, Texas just received FERC authorization to operate the entire facility including all interconnects. Other projects in various stages of development are located in Colorado and Louisiana.

El Paso Corporation provides natural gas and related energy products in a safe, efficient, and dependable manner. The company owns North America's largest interstate natural gas pipeline system and one of North America's largest independent natural gas producers. For more information, visit www.elpaso.com.

For additional information on this article, please contact:

Tom Ray
(203) 557-1011
tray@ngsenergy.com

Source: Deirdre McCaffrey

933

TUCSON REGION

Huge gas storage facility proposed near Eloy

Plan would need exemption from water-protection laws

By Tony Davis

ARIZONA DAILY STAR

Tucson, Arizona | Published: 02.20.2009

A Houston company is pushing to build a cavernous underground facility near Eloy, big enough to hold the University of Arizona's football stadium, to store natural gas for homes and businesses.

Multifuels LP is proposing a complex and controversial plan to inject fresh water into salt formations deep below ground. Then it would pump out the resulting saltwater and re-inject that water into a still-deeper, saltwater-dominated aquifer for ultimate disposal. The cavern left behind by the original water pumping would then be used to store natural gas that could be used by utilities such as Southwest Gas during peak usage periods.

But before it can build the $220 million project about 50 miles northwest of Tucson, the company needs an exemption from state permitting requirements aimed at protecting underground water supplies from contamination. That's because the Arizona Department of Environmental Quality has told the company that existing law won't let it issue a permit to inject brine wastewater into groundwater.

Thursday in Phoenix, a House committee, with Republicans in the majority, voted 5-3 to recommend a bill to authorize the exemption. This would be the first facility of its kind in Arizona. The bill would exempt other future gas storage facilities from state permitting requirements.

The bill, which cleared the House Energy and Water Committee, would need the Legislature and governor's approval.

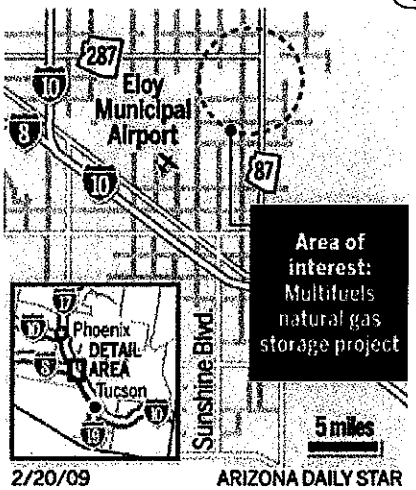
This would be approximately the 25th exemption from the state's groundwater-protection permitting requirements since they were instituted in 1986.

Jobs — the project would generate about 200 temporary construction jobs and up to 20 permanent jobs — and the need for places to store natural gas are two reasons supporters are pushing the project. Fear of contamination of the aquifer from the injected water — which would be up to eight times saltier than ocean water — is driving the opposition.

Supporters include the mayor of Eloy, Southwest Gas, Arizona Public Service Co. and the Pinal County Board of Supervisors.

A Southwest Gas official said the company would be interested in purchasing gas from the facility but needed more details about the project.

Without a source of gas storage, the company has to have enough pipeline capacity to hold enough gas for peak hours.



NATURAL-GAS STORAGE FACTS

- Depth of planned gas storage area near Eloy: About 1,200 feet deep in salt beds starting at 2,400 feet underground.
- Width of storage cavern: About 250 feet.
- Area where saltwater would be reinjected: At the edge of the salt beds, away from the gas storage cavern, about 3,500 feet deep.
- Storage capacity: About 5 billion cubic feet of natural gas, enough to serve about 1.4 million Arizona homes for a year.
- Other potential Arizona gas storage sites: West Salt River Valley, west of Phoenix; Hualapai Valley Basin, northwest of Kingman; and the Little Colorado River Basin in Northeast Arizona.
- Saltiness of water: The water reinjected into the ground for this storage project would have a salt content of up to 250,000 parts per million. Compared to: 750 parts per million in Colorado River water; 10,000 parts per million in federal drinking water limits, and 30,000 parts per million for seawater.

Sources: Multifuels LP, of Houston; Arizona Department of Environmental Quality; and Southwest Gas

Other articles by Tony Davis:

Having the underground storage helps utilities avoid price fluctuations, said Yvonne Hunter a spokeswoman for Pinnacle West Capital Corp., Arizona Public Service's parent company.

But for ratepayers, "I can't tell you whether there would be any rate cost savings or not," said Larry Black, Southwest's director of gas supplies.

The Arizona Corporation Commission, the Governor's Energy Task Force and industry analysts have recognized the need to provide substantial gas storage in this state, Eloy Mayor Byron Jackson wrote the Legislature last month.

"This legislation . . . will provide more reliable energy, assist the energy providers for the state, create jobs for a region, create revenue for the local community (and) help Arizona remain competitive with the numerous other states that allow this already," Jackson wrote.

But opponents say they're not willing to support the bill, in part because the state's environmental agency is not taking a formal stance on it, so they lack guidance from the state's technical experts. They're nervous because if the exemption is approved, the project will be permitted by the Environmental Protection Agency, whose requirements aren't as strict as the state's.

"From my people, I know that water is sacred and precious," said Rep. Chris Deschene, a Democrat and Navajo from northeast Arizona. "I believe in balanced energy portfolios and believe in projects that help our economy. Natural-gas storage would help us in a lot of ways, but we have to do this responsibly."

The company needs this exemption in the name of "regulatory certainty," to be able to raise $5 million to $7 million to conduct tests to see if the project is feasible, its Arizona attorney Kim MacEachern told legislators.

Multifuels officials say the injection will not damage groundwater because the deep groundwater supply in that area is already as salty in some places as the water the company will inject.

The privately held company operates natural-gas storage systems around the country.

The Department of Environmental Quality has said that state law doesn't allow it to issue permits to reinject brine wastewater and that it has serious concerns about the idea in general. State law requires it to protect all aquifers as drinking water, the department said in a written statement.

The department is prepared to authorize construction of lined, above-ground evaporation ponds to store saltwater until it evaporates.

Multifuels said that it's too expensive to build a network of large evaporation ponds large enough to store the saltwater and that there's no feasible way to get rid of the salt that would be left behind.

But Sierra Club lobbyist Sandy Bahr told legislators that if the state really wants to write off this area's aquifer, the more honest way would be to simply reclassify the area so it's not called an aquifer and is legally not entitled to protection.

"It's somewhat ironic. Now we're saying we want to cede protection of aquifers to the EPA rather than stepping up and using a really protective state program," Bahr said.

On StarNet: Go to azstarnet.com/environment for all of the Star's environment news.

Contact reporter Tony Davis at 806-7746 or tdavis@azstarnet.com.

1 Comments on this story

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Arizona: the West's solar source
Saguaro National Park expanding trails
Desert paradise, teacher's legacy, to be preserved
Audubon joins fight against global warming
Tucson Water's gap put at $15.4M
Endangered species rule: muddled future

933

NEWS SEARCH
Advanced search

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- Real Estate Buyers' Guide
- Tri-Valley Dispatch
- Coolidge Examiner
- Florence Reminder
- Eloy Enterprise
- Maricopa Monitor
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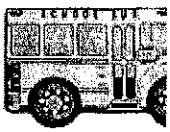

Arizona City News

El Paso axes underground salt bed storage project in Eloy

Economy, real estate drop lessens methane gas demand

933

By LINDSEY GEMME, Eloy Enterprise Editor February 03, 2009

Email to a friend Voice your opinion

The salt beds below Eloy's topsoil that were once considered such a boon for the underground natural methane storage facility El Paso Gas Corp. proposed in June of 2006 is, ultimately, what has killed the project.

In 2005, the company purchased 240 acres just south of the CCA prisons near Arica and La Palma roads for possible underground gas storage, like its 27 others located across the U.S. Eloy had been one of two likely Arizona locales for the proposed project. The other was in Kingman, due to geology - unique salt crystal beds beneath the hard caliche surface.

When area metropolitan cities such as Phoenix and Tucson were booming with growth before the economy crisis set in this past year, utility companies were looking to enhance local supply with additional stores in more local areas. El Paso Gas's closest lines fed in from its Washington Ranch facility in Carlsbad, New Mexico, crisscrossing Arizona to Los Angeles.

But the company planned to store additional supplies of methane gas in the Eloy area for emergency use during seasons of high use in the valley. Part of the project would have included laying another nine miles of pipeline to link the storage caverns with the company's network of pipes somewhere along Hwy. 87.

Eloy's geological landscape allowed the bypassing of hard, clunky construction drilling and dynamite blasting to create caverns for underground storage silos necessary anywhere else. With such large deposits of salt beneath the ground, construction merely required a process called solution mining. That means pumping the ground full of high volumes of salt water at fast speeds to dissolve the salt and creating pockets of space 1,600-1,800 feet deep.

But what to do with all that salty brine water created from the process had been the biggest hang-up from the onset. Originally El Paso had expected to pump the water into the ground, called sub-surface brine injection. Although the salinity of the mining byproduct had a much lower percentage than what was already in the ground, current environmental laws prevented them from doing so.

Another alternative El Paso explored was mining out the salty brine to put in evaporative pools, and marketing the leftover salt.

"We were considering whether or not there was any demand for another company to take that salt and use it commercially," Richard Wheatley, Media Relations Manager with El Paso Gas Corp, told the Enterprise last week. "We

determined there was little demand for that, so that didn't leave us a whole lot of options at that point."

In late 2008, the company canvassed the area for interest from the potential customer base for such a facility. The solicitation, called an open season, revealed only minimal interest by potential customers and insufficient demand to support the project. On top of that, the economic downturn has severely dampened the demand, Wheatley added.

"The marketplace made the decision that the high cost associated with providing natural gas storage service just cannot be justified at this time. We're ceasing further efforts toward the development of natural gas storage in Arizona at the present time.

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"Just because this project is cancelled, we still have significant operations in Tucson, Phoenix, and Flagstaff," Wheatley pointed out. "So, we're not going away. We're going to continue to be a good neighbor and do what's right for the community and the communities where we currently have operating assets."

El Paso Gas Corp. is currently assessing options as to what to do with the land, including possibly selling the property, which is still in the city's planning area.

"We've been very fortunate to work with such high caliber officials in the city of Eloy - and they've been very forthcoming with us," Wheatley expressed. "It's a shame, it's a good project and would have been a plus for the area."

Even though the project has been cancelled, part of the original negotiations was a $20,000 donation for a community project. According to Eloy City Manager Joseph Blanton, the donation is still on the table, and a specific "community project" is being negotiated.

One contender is that of removing the iron bars from downtown shop windows.

Although decorative ironwork is a common feature on windows in Hispanic and Mexican architecture, the city is currently looking for a way to do away with them on buildings downtown and still keep stores secure. The bars create a rather off-putting look, and promote the city's image as an unsafe place. Downtown revitalization director Maralan Hutchins is initiating what's being called the "Bring Down the Bars" program. In place of bars for security on windows, she is proposing to install a clear film on all windows that make them nearly impenetrable, as well as provide savings on heating and cooling costs. The cost of installation can run from $3 to $12 a square foot; but group rates (hopefully all downtown buildings) will run significantly lower in pricing.

The Holmes family has already committed to installing the film on several key buildings downtown. The remainder, though, city officials hope will be covered by El Paso's contribution. The entire bar removal project could include between 20 to 25 buildings on Main Street and Frontier Road.

"The project will effectively give the downtown an instant new look and project a positive attitude in the community," Blanton said.

Email to a friend Voice your opinion Top

Send us your community news, events, letters to the editor and other suggestions. Now, you can submit birth, wedding and engagement announcements online too!

elpaso Natural Gas

August 8, 2007

Mr. Steven Rauzi
State of Arizona
Oil and Gas Conservation Commission
416 West Congress
Suite 100
Tucson, AZ 85701

933

Re: El Paso Natural Gas Company
AGS #1-21
Section 21, T7S, R8E
Pinal County, AZ
AZOGCC Permit #933

Through Oct 09

Dear Mr. Rauzi:

Pursuant to the Arizona Administrative Code R12-7-121-C El Paso Natural Gas Company (EPNG) requests that all well completion information from the captioned wells be kept confidential for an additional two years (three years total). As you are aware EPNG is working toward the development of a salt cavern gas storage facility in Section 21, T7S, R8E, Pinal County AZ. The disclosure of this information could harm our competitive position with relation to the development of the facility and the possible need to purchase additional acreage.

Please let me know if you have any questions or concerns.

Sincerely Yours,

Greg W. Gettman

RECEIVED
AUG 13 2007

Greg W. Gettman
Manager, Business Development
El Paso Natural Gas Company
Office 719-520-4533
Cell 719-351-4093

azcentral.com

933

Lack of natural gas storage space means volatility

Mark Shaffer
The Arizona Republic
Mar. 21, 2007 08:15 PM

When the coldest weather in a quarter-century struck the state in January, it was more than just a meteorological phenomenon.

Thousands of Southwest Gas customers, from Bullhead City to Maricopa to just north of the Mexican border, were without heating fuel, some for up to two days.

The event highlights a continuing concern in the state.

Arizona is the only state in the Four Corners region with no natural-gas storage, leaving it open to potential shortages. In addition, consumers have no cost protection except the skill of gas traders in hedging the volatile natural-gas spot market.

On top of that, natural gas is increasingly used as a power source for electric generation, especially during the summer months.

With the closest storage facilities 700 miles away in west Texas and California's prohibition on natural-gas storage for out-of-state users, the situation could become critical if there is a terrorist attack on pipelines or an accident such as Kinder Morgan's 2003 pipeline break in Tucson. Cold weather, at times, also has slowed natural-gas delivery to Arizona from northwestern New Mexico to a trickle.

In-state storage

The Arizona Corporation Commission conducted a special hearing last month after losing patience with the proposed El Paso Natural Gas Co. storage project just outside Eloy's city limits. The hearing was triggered by the company's failure to file any preapproval paperwork with government agencies that would officially sign off on the project.

Last year, the company announced that it would excavate a series of deep salt caverns next to privately owned prisons and store about 3.5 billion cubic feet of natural gas, or enough to serve about 735,000 homes.

But questions have been raised about how El Paso Natural Gas, which is the transmission company, would remove brine, which is the mix of salt and water created when water is used to hollow out subterranean salt deposits about 3,000 feet below ground.

El Paso Natural Gas officials said Tuesday that the project has been delayed but that it is still expected to be up and running by 2011.

"The project is very much alive," said Richard Wheatley, an El Paso Natural Gas spokesman in Houston. "We're doing test digs below the salt to know if it is good for brine disposal."

Wheatley said the project would cost between $100 million and $175 million, depending on the ultimate size and contracts struck with other energy companies. Wheatley said the method of financing the project had not been determined.

Tom Dobson, manager of the Arizona gas-storage project, said an application is expected to be filed with the Federal Energy Regulatory Commission by December or early 2008.

Residents of Eloy have been largely supportive of the project because it is expected to bring in about $3 million annually in city taxes, said Joe Blanton, Eloy's interim city manager. Blanton said the city is working on a development agreement and rezoning issues with El Paso Natural Gas.

"The big picture for Arizona first and foremost is reliability of supply," Dobson said. "Fossil fuels have to be imported basically because if they aren't out of state they are far away in-state from the Phoenix area. Our project would move production to within 40 miles of Phoenix."

Vanishing options

The Eloy site appears to be the last alternative for the Phoenix area for natural-gas storage.

A promising salt cavern was discovered a decade ago in Glendale near Luke Air Force Base. El Paso Natural Gas purchased the land, but the state Legislature prohibited development of the site for natural-gas storage.

Likewise, another potential site was found near Kingman and purchased by Aguila Energy Co. five years ago. But that area in northwestern Arizona is too far away to help natural-gas needs in the Valley and was recently purchased by real estate development interests.

According to a recent filing with the commission, Arizona Public Service Co. officials said they have sufficient pipeline reliability and natural-gas storage space in the Permian Basin and Waha sites of west Texas, after increased allocations were made five years ago.

But an increase in the price of pipeline use this year and "substantial financial penalties" from imbalances in pipeline usage have APS officials looking for other alternatives in natural-gas storage, according to the document.

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Randy Dietrich, fuels manager for Salt River Project, said pipeline imbalances typically catch shippers by surprise.

"If all the shippers don't buy sufficient quantities, the pressure in the pipeline can fall dramatically and the supplier says they can't overburn (produce more to rectify the loss of pressure). And if they do, we all have to pay a lot of penalties," Dietrich said. "In cases like that, it sure would be great to have local storage that can be called on at short notice."

Dietrich also said that even the additional storage capacity near Eloy could have an impact on prices to consumers.

"You used to be able to count on gas costs going up in the winter and down in the summer, but during the past 10 years, there has been so much construction of gas-fired plants that summer demand is almost the same," Dietrich said. "Trying to hedge that is increasingly speculative and having gas stored at home could help some on price."

But the main advantage of local storage is having gas at hand when state consumers need it, said Damon Gross, an APS spokesman.

"That will ensure reliability and it can help against price volatility, but there's no guarantee," Gross said.

Reach the reporter at mark.shaffer@arizonarepublic.com or (602) 444-8057.

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2-9-07 Greg Getteman called
Completing clean up of 1-21 loc
All cuttings + tarps removed to proper landfill
Needs about 150 tons dirt + build up loc

= I ok leveling of loc w/ out need for dirt.
El Paso is owner + if ok with them ok with me.

SCR

elpaso Natural Gas

December 11, 2006

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress #100
Tucson, AZ 85701-1315

933

Re: El Paso Natural Gas Company
AGS #1-21
Section 21, T7S, R8E
Pinal County, Arizona
AZOGCC Permit #933

Dear Steve:

Attached for your records is the color copy of the Schlumberger Combinable Magnetic Resonance Log from covering the interval from 7,700' to 8,795'. Please keep this and the other logs, drilling and completion data from the AGS #1-21 confidential as provided for in R12-7-121(C).

If you have any questions or problems with the attached, please give me a call at (719) 520-4533.

Sincerely,

Greg Gettman

RECEIVED
DEC 13 2006

Greg Gettman
Manager, Facility Planning
El Paso Natural Gas Company

El Paso Natural Gas
PO Box 1087 Colorado Springs, Colorado 80944
tel 719.473.2300 fax 719.520.4318

elpaso Western Pipelines

November 15, 2006

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress #100
Tucson, AZ 85701-1315

933

Re: El Paso Natural Gas Company
AGS #1-21
Section 21, T7S, R8E
Pinal County, Arizona
AZOGCC Permit #933

Dear Steve:

Attached for your review are two copies of the revised Sundry Notice and Reports Form requesting authority from the Arizona Oil and Gas Conservation Commission to temporarily abandon the AGS #1-21 for a period of up to three years. This form incorporates the additional information you requested from R12-7-125.

Also attached are two copies of the Detail of Formations Penetrated Log for inclusion with the previously filed Well Completion or Recompletion Report. In addition I have included:

✓ 1. Zia Geological Mud log with sample descriptions from 2,720' to 7,922'
✓ 2. EPNG sample descriptions from 95' to 2,800' and 7,922' to 8,784'
✓ 3. Schlumberger Color PEX Array Induction, Gamma, SP Log 5,639' – 7,927'
✓ 4. Schlumberger Color Combinable Magnetic Resonance Log 5,639' – 7,927'
✓ 5. Schlumberger Color Elemental Capture Log 5,639' – 7,927'
✓ 6. Schlumberger Color PEX Compensated Neutron Litho Density 5,639' – 7,927'
✓ 7. Schlumberger Cement Bond Log 60'-5,612'

I will provide you with color copies from of the third Schlumberger logging run covering the interval from 7,922' to 8,795' once Schlumberger gets copies to me. If you have any questions or problems with the attached, please give me a call at (719) 520-4533.

Sincerely,

Greg Gettman

Greg Gettman
Manager, Facility Planning
El Paso Natural Gas Company

El Paso Western Pipelines
Two North Nevada Avenue Colorado Springs, CO 80903
PO Box 1087 Colorado Springs, CO 80944
tel 719.473.2300

DISCUSSION AND POSSIBLE DECISION ABOUT FIVE-YEAR REVIEW OF RULES

Mr. Rauzi summarized and discussed the rules being reviewed and proposed that R12-7-115 and R12-7-121 be amended to improve clarity and understanding.

Mr. Wagner moved, seconded by Mr. Lane:

> TO AUTHORIZE THE OIL AND GAS ADMINISTRATOR TO PROCEED WITH THE PROPOSED AMENDMENTS AND SUBMIT A COPY OF THE FINAL 5-YEAR REVIEW REPORT TO THE COMMISSION

Motion carried unanimously.

933

STATUS OF EL PASO AGS 1-21 (PERMIT 933) AND POSSIBLE DECISION CONCERNING TEMPORARY ABANDONMENT

Mr. Rauzi reported that El Paso had submitted a written request to temporarily abandon the AGS 1-21 hole for three years to allow for further evaluation. He reviewed the current mechanical condition and integrity of the hole and recommended approval of El Paso's request.

Mr. Wagner moved, seconded by Mr. Lane:

> TO GRANT TEMPORARY ABANDONMENT FOR THREE YEARS TO THE EL PASO AGS 1-21

Mr. Rauzi reported that El Paso had submitted a sundry notice containing evidence of casing integrity, stimulation and cement squeeze record, complete data on the results of any well tests performed to date, and all other well data required in R12-7-121(A) in response to questions by Ms. Woodall, counsel to the Commission.

Motion carried unanimously.

STATUS OF HOLBROOK ENERGY WELLS 35-1 HORTENSTINE (PERMIT 919) AND 17-1 NZ (PERMIT 924) AND POSSIBLE DECISION CONCERNING TEMPORARY ABANDONMENT

Mr. Rauzi reported that temporary abandonment of the two wells expired this month. He noted that Holbrook Energy submitted an application to plug the 35-1 Hortenstine and a written request to extend the temporary abandonment of the 17-1 NZ for six months. Mr. Rauzi recommended approval of the requested extension.

Mr. Lane moved, seconded by Mr. Wagner:

> TO GRANT TEMPORARY ABANDONMENT FOR SIX MONTHS TO THE 17-1

Motion carried unanimously.

STATUS OF RIDGEWAY ARIZONA OIL CORPORATION WELLS 22-1X STATE (PERMIT 888), 11-21 STATE (PERMIT 895), 10-22 STATE (PERMIT 896), 9-21 STATE (PERMIT 897), 12-15-30 STATE (PERMIT 900), AND 11-18 STATE (PERMIT 916), APACHE COUNTY AND POSSIBLE DECISION CONCERNING TEMPORARY ABANDONMENT AND POSSIBLE REPORT OR PRESENTATION BY A REPRESENTATIVE OF RIDGEWAY

Mr. Rauzi reviewed the current status noting that no decision was necessary at this time.

10-10-2006.

Greg Gettman, El Paso Natural Gas called today to request extension of the proposed total depth on the 1-21 AGS (permit 933) by 1,000 ft.

El Paso has sufficient surety bond to cover a PTD of 9,999 ft so I approved the extension.

S L Rawlings

elpaso Natural Gas

October 5, 2006

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress #100
Tucson, AZ 85701-1315

Re: El Paso Natural Gas Company
AGS #1-21
Section 21, T7S, R8E
Pinal County, Arizona
AZOGCC Permit #933

RECEIVED
OCT 10 2006

Dear Steve:

Attached for your review are two copies of the Sundry Notice and Reports Form requesting authority from the Arizona Oil and Gas Conservation Commission to temporarily abandon the AGS #1-21 for a period of up to three years. This Temporary Abandonment is necessary for El Paso Natural Gas to apply for a Temporary Aquifer Protection Permit with the Arizona Department of Environmental Quality and a Class I disposal permit from the Environmental Protections Agency to conduct injection testing in this well bore. If you have any questions or problems with the attached, please give me a call at (719) 520-4533.

Sincerely,

Greg Gettman

Manager, Facility Planning
El Paso Natural Gas Company

El Paso Natural Gas
PO Box 1087 Colorado Springs, Colorado 80944
tel 719.473.2300 fax 719.520.4318

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator El Paso Natural Gas Company

2. OIL WELL ☐ GAS WELL ☐ OTHER ☒ (Specify) Stratigraphic Test

3. Well Name AGS #1-21

Location 1,980' FNL, 660' FWL

Sec. 21 Twp. 7S Rge. 8E County Pinal, Arizona

4. Federal, State, or Indian Lease Number, or lessor's name if fee lease

Owned by El Paso Natural Gas

5. Field or Pool Name NA

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT--OFF	☐	WEEKLY PROGRESS	☐
FRACTURE TREAT	☐	DIRECTIONAL DRILL	☐	FRACTURE TREATMENT	☐	REPAIRING WELL	☐
SHOOT OR ACIDIZE	☐	PERFORATE CASING	☐	SHOOTING OR ACIDIZING	☐	ALTER CASING	☐
REPAIR WELL	☐	CHANGE PLANS	☐			TEMPORARY ABANDONMENT	☒
(OTHER)			☐	(OTHER)			☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log, Form 4)

1. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.

El Paso Natural Gas Company (EPNG) is in the process of drilling the AGS #1-21 stratigraphic test well. We currently anticipate completing the drilling and initial testing of this well during the week of October 9th, 2006. At the completion of drilling the AGS #1-21 we will have surface 13 3/8" casing set and cemented from 1,604' KB to the surface and 9 5/8" intermediate casing set at 5,640' KB and also cemented to the surface. The remainder of the well bore from 5,940' KB to the projected total depth at approximately 7,900' will be left open hole. At the conclusion of drill stem testing EPNG intends to install a master valve at the surface and set a Baker cast iron bridge plug depth of approximately 5,420' to seal off the well bore.

EPNG is requesting approval from the Arizona Oil and Gas Conservation Commission to temporarily abandon the AGS #1-21 a period of up to three years while we apply for and wait on the processing of the necessary permits from the Arizona Department of Environmental Quality and the Environmental Protections Agency to conduct injection testing in this well bore to evaluate the suitability of the open hole portion of this well bore for brine disposal associated with the potential development of a salt cavern natural gas storage facility at this site.

8. I hereby certify that the foregoing is true and correct.

Signed Greg Sattler Title Manager Date 10-5-2006

Permit No. 933

RECEIVED
OCT 10 2006

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notice and Reports On Wells
File One Copy
Form No. 25

5/96

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator El Paso Natural Gas Company

2. OIL WELL ☐ GAS WELL ☐ OTHER ☒ (Specify) Stratigraphic Test

3. Well Name AGS #1-21

Location 1,980' FNL, 660' FWL

Sec. 21 Twp. 7S Rge. 8E County Pinal, Arizona

4. Federal, State, or Indian Lease Number, or lessor's name if fee lease

Owned by El Paso Natural Gas

5. Field or Pool Name NA

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT--OFF	☐	WEEKLY PROGRESS	☐
FRACTURE TREAT	☐	DIRECTIONAL DRILL	☐	FRACTURE TREATMENT	☐	REPAIRING WELL	☐
SHOOT OR ACIDIZE	☐	PERFORATE CASING	☐	SHOOTING OR ACIDIZING	☐	ALTER CASING	☐
REPAIR WELL	☐	CHANGE PLANS	☐			TEMPORARY ABANDONMENT	☒
(OTHER)			☐	(OTHER)			☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log, Form 4)

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EPNG is requesting approval from the Arizona Oil and Gas Conservation Commission to temporarily abandon the AGS #1-21 a period of up to three years while we apply for and wait on the processing of the necessary permits from the Arizona Department of Environmental Quality and the Environmental Protections Agency to conduct injection testing in this well bore to evaluate the suitability of the open hole portion of this well bore for brine disposal associated with the potential development of a salt cavern natural gas storage facility at this site.

8. I hereby certify that the foregoing is true and correct.

Signed Sue Setter Title Manager Date 10-5-2006

Permit No. 933

RECEIVED
OCT 10 2006

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notice and Reports On Wells
File One Copy
Form No. 25

5/96

Subject: FW: Southwest Gryo Deviation Survey to the top of Fish on AGS #1-21
From: "Gettman, Greg W" <Greg.Gettman@ElPaso.com>
Date: Thu, 21 Sep 2006 14:18:33 -0600
To: Steve Rauzi <steve.rauzi@azgs.az.gov>

953

Greg W. Gettman
Manager, Facility Planning
El Paso Western Pipelines
2 North Nevada Ave.
Colorado Springs, CO 80903
(719) 520-4533 Office
(719) 351-4093 Cell
(719) 520-3792 Fax

-----Original Message-----
From: Gettman, Greg W
Sent: Monday, August 28, 2006 9:57 AM
To: Gentges, Richard J (Rick); Lentz, Jac; Veatch, David I (David)
Subject: FW: Southwest Gryo Deviation Survey to the top of Fish on AGS #1-21

fyi

-----Original Message-----
From: Varcoe, Brian E. [mailto:Brian.Varcoe@weatherford.com]
Sent: Sunday, August 27, 2006 3:25 PM
To: Kennedy Jr, Larry D; Rasmussen, Pat D.
Cc: Brugeman, John D (Dan); Gettman, Greg W
Subject: RE: Southwest Gryo Deviation Survey to the top of Fish on AGS #1-21

Based upon new info here is a revised draft plan. Since we have some inclination it would be best just to drop to 0 inclination and hold to casing point. If I understand the location correctly as 1980 FNL and 660 FWL (well center is in the NW 1/4 of Section 21) and you own the NW 1/4 and the north 1/2 of the SW 1/4 this should be okay unless you have other offset requirements.

I'm sorry the fax number (281-260-4730) didn't work. I did a test fax here and it is working so I do not know what the problem is.

Regards, Brian

-----Original Message-----
From: Kennedy Jr, Larry D [mailto:Larry.Kennedy@ElPaso.com]
Sent: Sunday, August 27, 2006 12:55 PM
To: Varcoe, Brian E.; pat.rasmussen@precision-es.com
Cc: Brugeman, John D (Dan); Gettman, Greg W
Subject: FW: Southwest Gryo Deviation Survey to the top of Fish on AGS #1-21

Pat and Brain

Attached is the survy run from yesterday. Please include in the plan getting the well back to vertical and away from the lease line which is 660' to the west of the well's surface location.

Larry

From: Gettman, Greg W

Sent: Sun 8/27/2006 11:31 AM
To: Brugeman, John D (Dan); Gentges, Richard J (Rick); Kennedy Jr, Larry D; Lentz, Jac; Veatch, David I (David); Buschbom, Klaus
Cc: CurtisBagwell@aol.com
Subject: Southwest Gryo Deviation Survey to the top of Fish on AGS #1-21

The attached files contain the results of the Southwest Exploration gyro deviation survey we ran on the AGS #1-21. As you can see, the deviation begins at 1,300' and continues to increase to over 8 degrees at the top of the fish. Consequently, I recommend that we have Weatherford develop a directional program to get us back to vertical and away from the lease line by the casing set depth.

I do not have the e-mail addresses for the Weatherboard directional personnel we talked to yesterday about designing the program. Dan or Larry, please forward to Weathorford ASAP.

Thanks,

Greg G.

AGS #1-21 SIDETRACK DRAFT rev.pdf	**Content-Description:**	AGS #1-21 SIDETRACK DRAFT rev.pdf
	Content-Type:	application/octet-stream
	Content-Encoding:	base64

Subject: FW: Southwest Gryo Deviation Survey to the top of Fish on AGS #1-21
From: "Gettman, Greg W" <Greg.Gettman@ElPaso.com>
Date: Thu, 21 Sep 2006 14:21:27 -0600
To: Steve Rauzi <steve.rauzi@azgs.az.gov>

Greg W. Gettman
Manager, Facility Planning
El Paso Western Pipelines
2 North Nevada Ave.
Colorado Springs, CO 80903
(719) 520-4533 Office
(719) 351-4093 Cell
(719) 520-3792 Fax

From: Gettman, Greg W
Sent: Sunday, August 27, 2006 11:31 AM
To: Brugeman, John D (Dan); Gentges, Richard J (Rick); Kennedy Jr, Larry D; Lentz, Jac; Veatch, David I (David); Buschbom, Klaus
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I do not have the e-mail addresses for the Weatherboard directional personnel we talked to yesterday about designing the program. Dan or Larry, please forward to Weathorford ASAP.

Thanks,
Greg G.

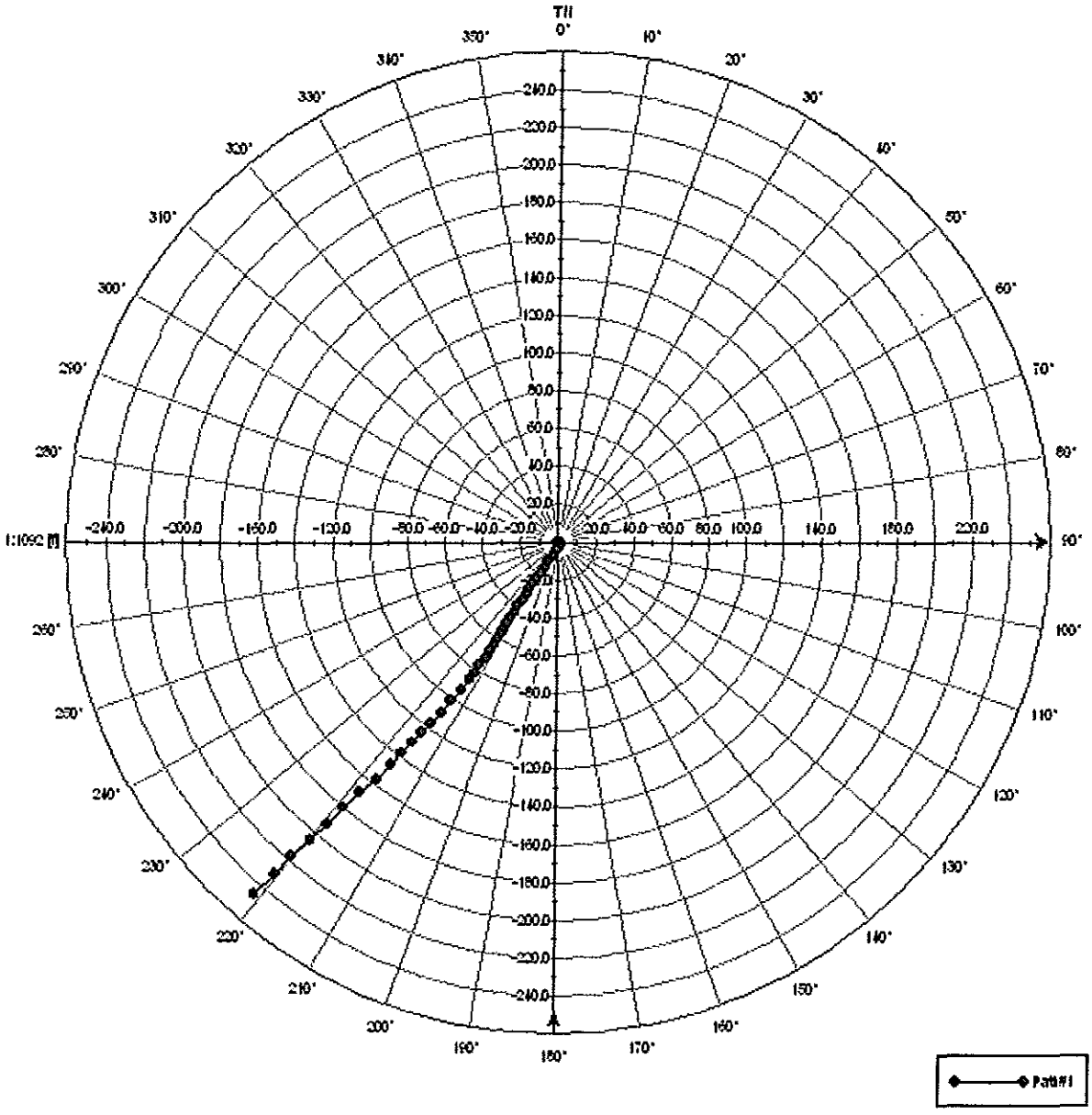
Southwest Exploration Services, LLC
borehole geophysics & video services

GYRO - Deviation Plot: Bulls-Eye View

Survey Calculation Method : *Minimum Curvature*

Gyro Reference : *True North*
Mag Declination : *12.5 Deg*

WELL #	AGS1-21		DATE 8-26-06	FINAL LOCATION	
CLIENT	EL PASO NAT. GAS CO.			CLOSURE DISTANCE	245 FT
FIELD/SITE	ELOY			BEARING	220.8 dEG
COUNTY	PINAL	STATE ARIZONA		TVD	6189.7 FT
OPERATOR	Kevin Mitchell	WITNESS ELPASO			
Field Note:	100 FT STATIONS		Cased hole survey PIPE	Centralized	Yes
			Tool Zero Reference Ground Level	Elevation:	
			Tool Model Weinav. SRG 301040-1	Serial No:	SWEXP-1



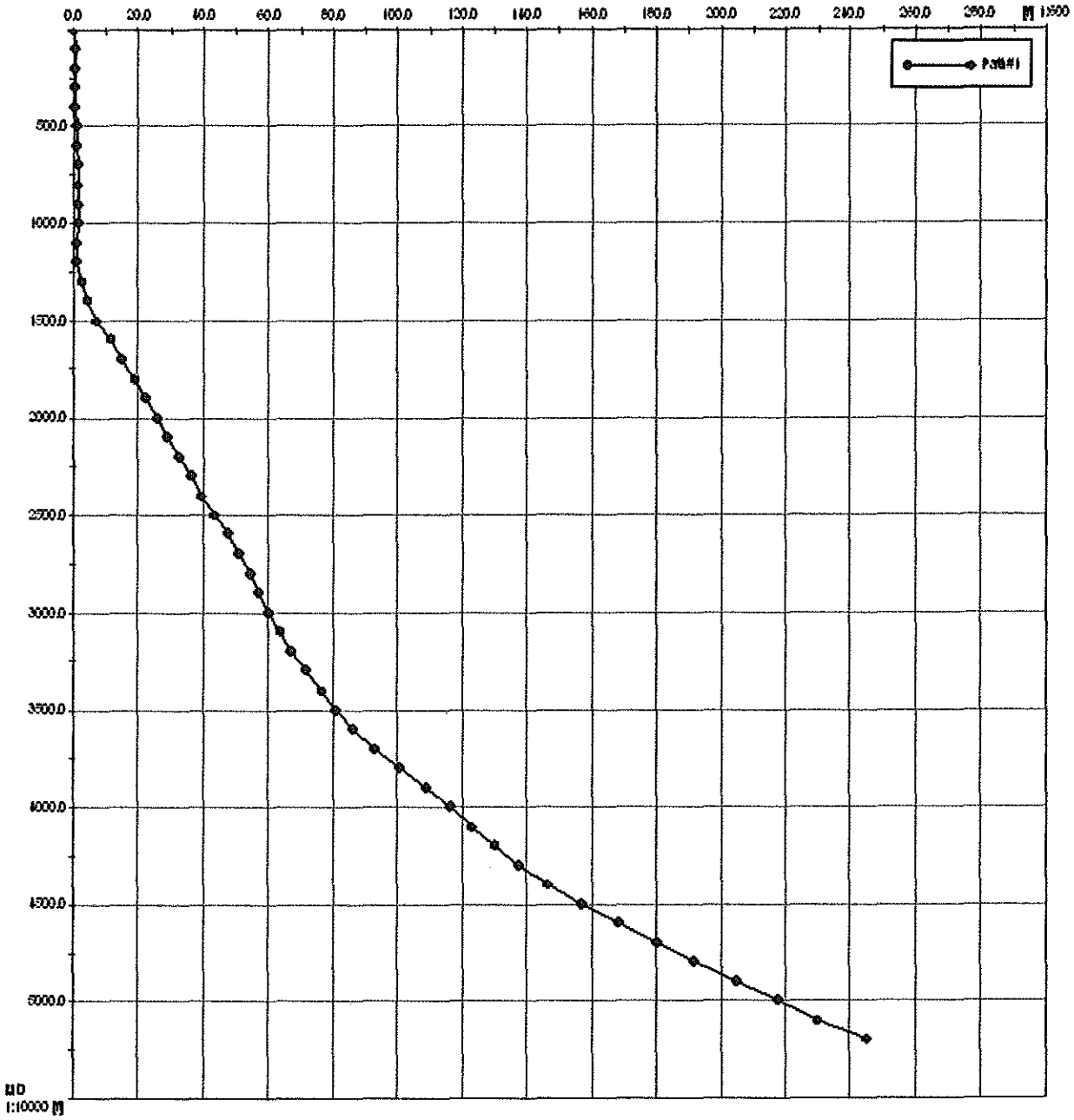
Southwest Exploration Services, LLC
rancho's geophysics & video services

GYRO - Deviation Plot: Closure View

Survey Calculation Method : *Minimum Curvature*

Gyro Reference : *True North*
Mag Declination : *12.5 Deg*

WELL #	AGS1-21		DATE	8-26-06	FINAL LOCATION
CLIENT	EL PASO NAT. GAS				CLOSURE DISTANCE 245 FT
FIELD/SITE	ELOY				BEARING 220.8Deg
COUNTY	PINAL	STATE ARIZONA			TVD 5189.7 FT
OPERATOR	Kevin Mitchell	WITNESS EL PASO			
Field Note:	100 FT STATIONS		Cased hole survey	PIPE	Centralized YES
			Tool Zero Reference	Ground Level	Elevation:
			Tool Model	Weinav. SRG 301040-1	Serial No: SWEXP-1



Depth TVD [ft]	AZIMUTH Closure Distance ft [ft]	TILT Closure Angle Deg Deg	Easting DLS [ft] [deg/100ft]	Northing [ft]
0.00	-999.000	-999.000	0.000000	0.000000
-5.00616e-005	0.000000	0.000000	0.000000	
100.00	42.1400	0.250000	0.292754	0.323543
99.9990	0.436331	42.1400	0.0762000	
200.00	141.380	0.210000	0.521517	0.0371811
199.998	0.522841	85.9221	0.107097	
300.00	166.510	0.200000	0.602946	-0.302254
299.998	0.674463	116.624	0.0273487	
400.00	248.770	0.130000	0.391451	-0.384414
399.997	0.548642	134.480	0.0680849	
500.00	95.3601	0.300000	0.912758	-0.433326
499.996	1.01040	115.396	0.128107	
600.00	176.480	0.210000	0.935262	-0.799153
599.995	1.23019	130.513	0.103205	
700.00	141.270	0.230000	1.18641	-1.11231
699.995	1.62628	133.154	0.0409764	
800.00	43.3800	0.220000	1.45014	-0.833230
799.994	1.67247	119.881	0.103449	
900.00	192.250	0.270000	1.35015	-1.29374
899.993	1.86994	133.778	0.143933	
1000.00	310.550	0.120000	1.19101	-1.15758
999.992	1.66087	134.184	0.104712	
1100.00	281.950	0.180000	0.883663	-1.09253
1099.99	1.40516	141.033	0.0287080	
1200.00	199.190	0.0500001	0.854978	-1.17495
1199.99	1.45310	143.958	0.0550596	
1300.00	187.530	0.730000	0.688019	-2.43802
1299.98	2.53324	164.241	0.207601	
1400.00	221.150	1.35000	-0.862289	-4.21204
1399.96	4.29940	191.570	0.257563	
1500.00	210.380	1.91000	-2.54788	-7.08735
1499.90	7.53142	199.773	0.193833	
1600.00	216.050	2.35000	-4.96091	-10.4025
1599.82	11.5249	205.496	0.148542	
1700.00	217.230	2.09000	-7.16736	-13.3063
1699.75	15.1138	208.309	0.0804589	
1800.00	218.380	2.11000	-9.45330	-16.1925
1799.68	18.7500	210.277	0.0142172	
1900.00	212.090	2.25000	-11.5390	-19.5186
1899.60	22.6743	210.591	0.0844311	
2000.00	211.740	1.88000	-13.2648	-22.3086
1999.55	25.9544	210.736	0.112841	
2100.00	211.750	1.97000	-15.0737	-25.2318
2099.49	29.3915	210.855	0.0274320	
2200.00	210.180	2.11000	-16.9246	-28.4145
2199.42	33.0731	210.779	0.0459427	
2300.00	209.920	1.79000	-18.4827	-31.1219
2299.38	36.1964	210.705	0.0975728	
2400.00	218.850	2.03000	-20.7047	-33.8806
2399.31	39.7061	211.429	0.116327	
2500.00	218.360	2.34000	-23.2386	-37.0821
2499.23	43.7620	212.075	0.0946586	
2600.00	211.260	2.33000	-25.3482	-40.5574
2599.15	47.8271	212.005	0.0881654	
2700.00	212.150	1.94000	-27.1497	-43.4236
2699.09	51.2124	212.015	0.119297	
2800.00	205.550	1.96000	-28.6248	-46.5093
2799.03	54.6122	211.611	0.0686844	
2900.00	207.470	1.68000	-29.9772	-49.1105
2898.99	57.5367	211.400	0.0873326	
3000.00	213.190	1.68000	-31.5820	-51.5639

2998.94	60.4670	211.487	0.0510921	
3100.00	210.910	1.73000	-33.1329	-54.1541
3098.90	63.4859	211.459	0.0256836	
3200.00	210.820	2.13000	-35.0371	-57.3459
3198.83	67.2023	211.424	0.121923	
3300.00	213.850	2.53000	-37.4959	-61.0120
3298.73	71.6129	211.573	0.127528	
3400.00	218.400	2.91000	-40.6493	-64.9905
3398.60	76.6560	212.025	0.133128	
3500.00	218.480	2.63000	-43.5045	-68.5826
3498.50	81.2171	212.388	0.0853512	
3600.00	218.800	3.09000	-46.8822	-72.7836
3598.35	86.5760	212.787	0.140291	
3700.00	217.530	3.82000	-50.9407	-78.0670
3698.13	93.2170	213.125	0.223710	
3800.00	219.880	4.54000	-56.0159	-84.1413
3797.82	101.082	213.653	0.225535	
3900.00	220.420	4.73000	-61.3626	-90.4191
3897.48	109.275	214.163	0.0594192	
4000.00	223.430	4.28000	-66.4932	-95.8389
3997.20	116.647	214.753	0.154892	
4100.00	223.670	3.78000	-71.0454	-100.607
4096.98	123.164	215.228	0.152486	
4200.00	222.760	4.07000	-75.8641	-105.818
4196.73	130.203	215.638	0.0904040	
4300.00	223.270	4.47000	-81.2062	-111.493
4296.42	137.932	216.068	0.122467	
4400.00	224.490	4.97000	-87.2774	-117.674
4396.05	146.507	216.564	0.155434	
4500.00	226.040	6.26000	-95.1264	-125.243
4495.45	157.273	217.218	0.395863	
4600.00	230.720	6.70000	-104.157	-132.629
4594.77	168.639	218.144	0.209423	
4700.00	227.490	6.81000	-112.898	-140.642
4694.06	180.350	218.755	0.120539	
4800.00	227.260	6.66000	-121.416	-148.513
4793.39	191.828	219.268	0.0464531	
4900.00	226.560	7.54000	-130.944	-157.535
4892.52	204.850	219.733	0.269512	
5000.00	226.540	7.64000	-140.594	-166.680
4991.64	218.057	220.148	0.0304899	
5100.00	225.010	6.88999	-149.078	-175.161
5090.91	230.013	220.401	0.236065	
5200.00	226.350	8.95000	-160.335	-185.900
5189.70	245.491	220.777	0.630365	

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AGS1-12-CLOSUREVIEW.bmp	**Content-Description:** AGS1-12-CLOSUREVIEW.bmp **Content-Type:** image/bmp **Content-Encoding:** base64

AGS1-21GYRO-FINAL.TXT	**Content-Description:** AGS1-21GYRO-FINAL.TXT **Content-Type:** text/plain

Janet Napolitano
Governor

State of Arizona
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500
www.azgs.az.gov

M. Lee Allison
Director and State Geologist

September 5, 2006

933

Greg Gettman
El Paso Natural Gas Company
PO Box 1087
Colorado Springs CO 80944

Dear Mr. Gettman:

I received your letter and Sundry Notice dated August 30, 2006. I approve your proposed course of action in light of the problems you have encountered in the AGS #1-21 hole.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Administrator

Enclosure

elpaso Natural Gas

August 30, 2006

Mr. Steven Rauzi
State of Arizona
Oil & Gas Conservation Commission
416 West Congress
Suite 100
Tucson, AZ 85701

933

Re: El Paso Natural Gas Company
AGS #1-21
Section 21, T7S, R8E
Pinal County, AZ
AZOGCC Permit #933

Dear: Mr. Rauzi:

Attached for your review and approval is the Sundry Notice to notify the Arizona Oil and Gas Conservation Commission of the problems we have experienced on the AGS #1-21. Also detailed are the steps I discussed with you over the phone on August 25 that we plan to take to resolve the situation. Please let me know if you have any questions or concerns.

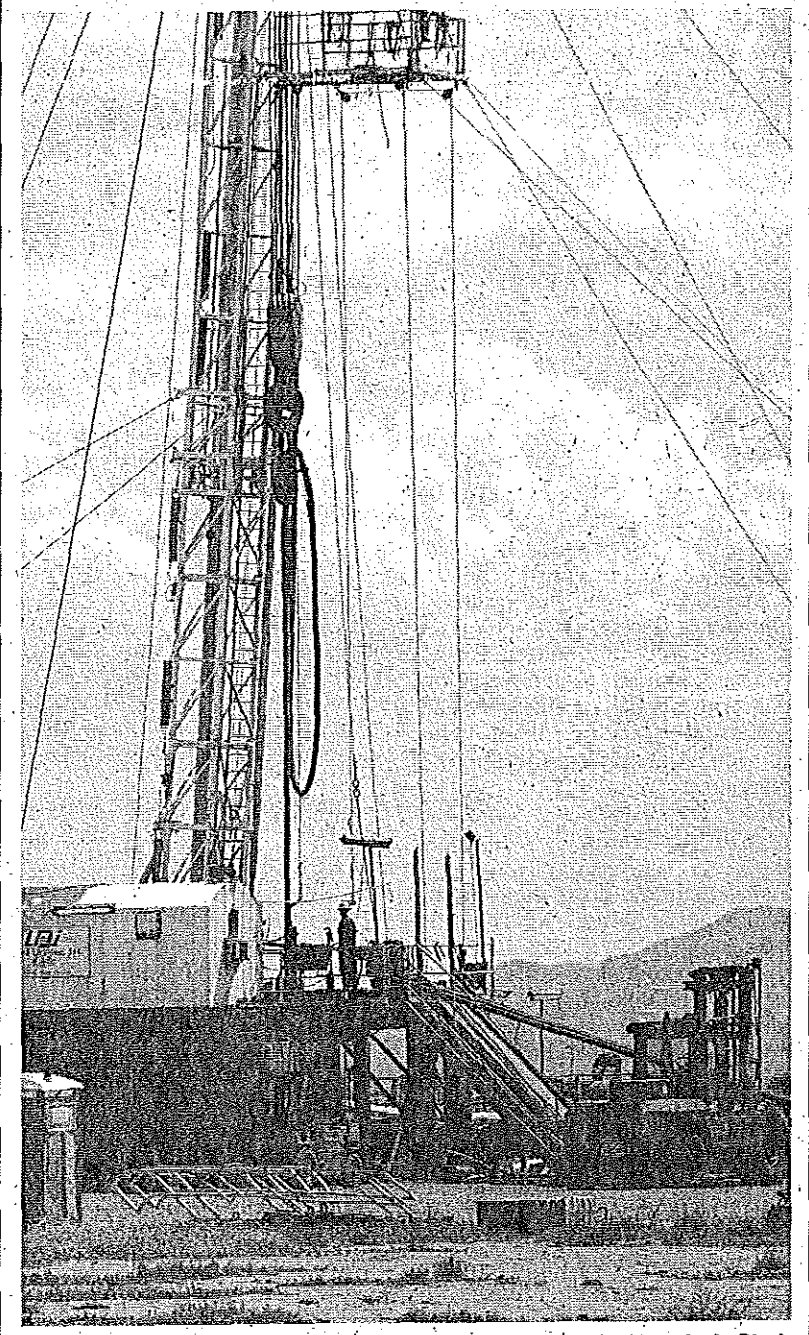
Sincerely Yours,

Greg Gettman
Manager, Facility Planning
El Paso Natural Gas Company
Office 719-520-4533
Cell 719-351-4093

El Paso Natural Gas
PO Box 1087 Colorado Springs, Colorado 80944
tel 719.473.2300 fax 719.520.4318

933

Deep drill



Staff photo by Temple A. Stark

El Paso Natural Gas employees are drilling a well in Eloy to test the possibility of building natural gas storage caverns. The well, which will be 7,500 to 8,000 feet deep, is for what's called a stratigraphic test, and the data analysis will give El Paso Natural Gas engineers further information about the geology in the area. They will use that information to determine the suitability of constructing salt caverns to store the gas deep below ground. The first of the caverns would open in mid-2010. Drilling began July 31 and is expected to continue for another five to six weeks.

7-12-06
Just rigging down on Enterprise hole
Enterprise hole to last 40 dys lasted 110 dys
Will clean rig & hope start trucking next week
Hope to spud ≈ 7-24
Modify to do pump test
Notify Christie Kilgore ADEQ Nancy Rumtrill.
Qtrly Pinal Ways article - July 10
Eloy indicates some developers oppose project.

933

Top Stories

Natural Gas Storage Facility Comes to Eloy

by Jerilyn Martin, Editor July 10, 2006

Email to a friend Voice your opinion

Pinal County is expected to see Arizona's first natural gas storage facility within the next four years. The project is proposed in Eloy, near the CCA prison, around La Palma and Arica roads.

According to James Cleary, president of El Paso Natural Gas Company, Bisbee and Douglas became the first Arizona towns to receive natural gas by pipeline in 1931, thanks to a burgeoning copper industry scrambling for energy to fuel its smelters. Within two years, a natural gas pipeline was also serving Tucson and Phoenix.

Natural gas lines have served Arizona and crossed the state from Texas to California and back to New Mexico. Now, a storage facility will help to push this gas through the state and serve more areas in between for greater efficiency. In fact, the Federal Energy Regulatory Commission recently concluded that Arizona is one of the most natural gas storage-poor states in America.

Cleary said development of substantial underground natural gas storage is, therefore, critical to Arizona's energy future. Storage also promotes supply diversity and mitigates market price volatility, all of which benefit consumers. While storage is not a substitute for more supplies, it does significantly enhance the efficiency and reliability of existing pipelines.

El Paso Natural Gas' Western Pipelines has purchased 240 acres with salt domes beneath the desert floor. The salt beds act as a barrier, a poison of sorts, that prevents plant growth, making the land area impractical for farmers and ideal for gas storage. Only 70 acres will house buildings and piping, enclosed with a fence. The storage facility will be very low profile and the company hopes the remaining acres will be utilized by the community, benefiting the Eloy area. Even though there are no housing units near the site, there soon will be as the population grows over the next five to 10 years. "We want to be active and we have this asset," Tom Dobson, business development manager for El Paso Western Pipelines, said. "We'll be here a long time. We want to find out what we can do."

Dobson also said that there are not many places in Arizona that have the salt dome formations. Kingman was one site, but it was too far away from Phoenix. The location, ideal for natural gas storage, is well suited to ensure steady supplies to meet the increasing heating and electricity generation needs of Arizona's growing economy. More than 70 percent of Arizona's natural gas consumption is used to generate electricity. That number is pretty impressive compared to only 20 percent in most states.

"Arizona is predicted to be one of the top five fastest-growing states in the nation during the next 30 years," said Cleary. "That growth will increase demand for energy to sustain economic development in the state, and natural gas storage is one of the most efficient, low-cost and least environmentally disruptive ways to provide that energy to meet the needs of consumers."

El Paso is the largest operator of natural gas storage in the United States and has safely operated storage facilities across the United States since the 1940s to meet energy demand in major natural gas markets. The Arizona Natural Gas Storage project is to include state-of-the-art safety and efficiency features, such as remote emergency shutdown capabilities, below-surface shutoff valves, gas-leak detection with alarms, and advanced fire detection and suppression technology.

"Most people don't realize that we don't own the gas in our pipelines," Loren H. Locher, regional director of the El Paso Pipeline Group of Texas, said. "We're a transportation company like Federal Express."

Uses

Natural gas is one of the nation's fastest-growing, clean-burning, domestic energy sources, according to the EIA Annual Energy Outlook 2006.

It is used across the U.S., and most of the supply comes from North America. There are many uses for natural, clean-burning gas across the board: 57 percent of households use the gas for heat and more than 90 percent of electricity capacities built in the last five years use natural gas.

Other uses for natural gas include fuel for cooking, cooling homes and providing an energy source for production of daily supplies such as fabrics, steel, processed foods and medical supplies.

Supply/demand

The Energy Information Administration predicts that consumption of natural gas will increase by 22 percent over the next 20-some years. Today the supply of natural gas to the United States is about 24 percent. The development of new natural gas supplies will offset declining production from older producing natural gas fields.

Recent estimates by the Minerals Management Service and U.S. Geologic Survey for future undiscovered natural gas resources range as high as 1042 tcf (trillion cubic feet), enough to last more than 47 years at current production rates. Federal lands contain about 60 percent of the nation's estimated undiscovered natural gas. The United States produced 18.2 trillion cubic feet of natural gas in 2005.

In the past decade, demand for natural gas by Arizona's power plants has increased ten-fold. Since 2001 alone, more than 9,500 megawatts of new, natural gas-fired power generation has been installed. Moreover, the state's electric load, totaling 15,000 megawatts at summer peak, will continue to increase as the population and economy expand, according to the Governor's Essential Services Task Force. This will drive even greater demand for natural gas and place additional strains on limited pipeline-delivered supplies of natural gas.

Pinal County is leading the charge, issuing a reported 30 percent of 2005 Arizona housing permits. According to University of Arizona projections, residential permits for the Metro Phoenix area - Pinal and Maricopa counties - could average more than 56,000 units annually through 2015 and population growth could be 140,000 on an average annual basis.

933

Eloy facility

The facility will bring much-needed storage capacity to Arizona - helping to meet rapidly growing demand for clean-burning natural gas and to ensure the reliability of Arizona's energy supplies well into the 21st century.

Nine miles of pipeline will be needed to link the storage caverns with the company's current network of pipes at a point somewhere along Arizona 87. One special feature for the Eloy facility is to have an automatic shut-off switch underground, activated by rapid changes in pressure differences. It is not, however, required for inland facilities.

One fear that always eventually comes out in the discussion is one of smell. Natural methane, Locher said, is almost entirely odorless and smells nothing like bovine- generated, hay-based emissions.

By 2010, El Paso Natural Gas plans to create storage deep underground, north of the city near the CCA prisons. The total capacity will be 3.5 billion cubic feet of methane. That's the equivalent of 2,000 megawatts of power or about a sixth of what Phoenix uses in a typical summer day.

The facility would be able to deliver 350 million cubic feet of natural gas per day, enough to meet the electricity needs of 735,000 homes on a daily basis.

El Paso expects to file an application for project approval with the Federal Energy Regulatory Commission in the third quarter of 2007. Subject to federal and state regulatory approvals, construction could begin in 2008. The company estimates the first cavern will be in service by mid-2010 and the remaining three caverns by 2011-2012.

Just as the Pinal Partnership, area chambers of commerce and leaders in towns such as Casa Grande, Florence and Eloy - and a host of others in the region - are working diligently to plan for sound growth and economic development, so too does El Paso have to work hard to ensure proper natural gas transportation and storage infrastructure is in place, where it's needed, when it's needed.

Cleary said that as the company looks to the future, it is incumbent that it does the job correctly and works closely with local and state officials and key area stakeholders to plan diligently for Arizona's energy future. That's how innovative solutions were found for Arizona's nascent copper industry three quarters of a century ago when El Paso Natural Gas built its first pipeline here.

El Paso Corporation provide natural gas and related energy products in a safe, efficient and dependable manner. The company owns North America's largest natural gas pipeline system and one of North America's largest independent natural gas producers. El Paso has 27 other storage facilities throughout the country. For more information, visit online at www.elpaso.com.

Email to a friend Voice your opinion Top

6-26-06
Contractor fishing hammer on CPG Cavern hole near Hobbs for Enterprise Products.
≈ July 3 at best more likely ≈ July 10

Meeting w/ Eloy tomorrow about annexing site into City of Eloy.
Meeting w/ Pinal Co. next day
Press release = bring out opposition early before sinking a lot on money.

V. 79, no. 122

933

El Paso planning new natural gas storage project in Arizona

El Paso Corp said its Western Pipeline Group plans to develop a new underground natural gas storage facility near Eloy in southern Arizona.

Plans call for the Arizona Natural Gas Storage project to be located in a currently unincorporated area about 40 miles southeast of Phoenix.

Based on customer demand and final determination of geologic suitability, the project could consist of four underground salt caverns capable of storing approximately 3.5 billion cu ft of natural gas, El Paso said.

The facility would be able to deliver 350 million cu ft of gas per day, enough to meet the electric energy needs of 735,000 homes on a daily basis. The storage caverns will support the company's nearby interstate pipelines.

El Paso expects to file an application for project approval with the Federal Energy Regulatory Commission in the third quarter of 2007. Subject to federal and state regulatory approvals, construction could begin in 2008. The company estimates the first cavern will be in service by mid-2010 and the remaining three caverns by 2011-2012.

In the past year, El Paso has scheduled four stratigraphic tests near Eloy in Pinal County as part of an effort to evaluate the potential for gas storage in the area (RMRR 4-19 & 7-21-05, 3-24-06).

Arizona Daily Star®
www.dailystar.com® @www.azstarnet.com®

Published: 06.22.2006

Eloy natural-gas plant in works

933

$100M facility to guard against in-state shortfall

By Scott Simonson

ARIZONA DAILY STAR

El Paso Corp. said Wednesday that it plans to build Arizona's first natural-gas storage facility in underground salt caverns outside Eloy, about 50 miles northwest of Downtown Tucson.

If approved by federal regulators, the $100 million storage facility could help Arizona natural-gas companies, including Southwest Gas Corp., protect against shortages or interruptions in supply, said Richard Wheatley, an El Paso Corp. spokesman.

Bill Moody, vice president of gas resources for Southwest Gas Corp., called the plan "a positive step" for local utility customers. Southwest Gas has never experienced a short-term natural-gas supply shortage affecting Arizona customers, Moody said.

UniSource Energy Services, which provides natural-gas service in Santa Cruz County, also views El Paso Corp.'s plan as a positive step, said Joe Salkowski, spokesman for UniSource Energy Corp., whose subsidiaries include UniSource Energy Services and Tucson Electric Power Co.

El Paso Corp.'s plan has several hurdles to clear. First, the company needs drilling tests to confirm that underground salt caverns will accommodate the project, Wheatley said.

Then, the company needs approval from federal regulators.

If federal and state regulators approve, the company anticipates that construction will begin in 2008, with the first storage available in 2010.

The proposed storage facility would hold up to 3.5 billion cubic feet of natural gas in salt caverns more than 1,000 feet underground.

The natural gas stored at the facility would not belong to El Paso Corp., but to whoever paid to store it there, Wheatley said.

That could benefit power plants, which are large consumers of natural gas, Moody said.

A 500- to 1,000-megawatt power plant operating at peak capacity on a summer day can use as much natural gas as 800,000 Southwest Gas residential customers in Arizona, Moody said.

Gas companies could use the storage facility the same way a homeowner can use a rain-collecting cistern if regular water service is disrupted, Moody said.

Currently, the natural-gas storage facility nearest to Tucson is in Carlsbad, N.M., Wheatley said.

Storage facilities are useful during a shortage because natural gas moves slowly through supply pipelines. It takes 24 to 30 hours for natural gas to travel from supply sources in West Texas to customers in Arizona, Wheatley said.

The plant would be mostly automated, and would create four jobs at most, said Loren Locher, regional director of state government affairs for El Paso Pipeline Group.

• *Contact reporter Scott Simonson at 573-4176 or at simonson@azstarnet.com.*

<img src="http://banners.tucson.com/RealMedia/ads/adstream_nx.ads/news.tucson.com/@x31">

Subject: El Paso
From: Lee Allison <lee.allison@azgs.az.gov>
Date: Fri, 16 Jun 2006 09:10:00 -0700
To: Steve Rauzi <steve.rauzi@azgs.az.gov>
CC: Jon Spencer <jon.spencer@azgs.az.gov>

(937)

Steve, I've heard that El Paso NG discovered they did not have full access to mineral rights for their Picacho basin well. Reportedly there are many family owners of some of the properties that were not involved in the leasing, and EPNG is tracking them down prior to drilling.

LA
--
Lee Allison, PhD, PG
State Geologist & Director
Arizona Geological Survey
416 W. Congress, #100
Tucson, AZ 85701
520-770-3500 fax-3505
www.azgs.az.gov

Nyal Niemuth

Subject: Re: AGS #1-21 Update
From: Steve Rauzi <steve.rauzi@azgs.az.gov>
Date: Fri, 09 Jun 2006 11:19:06 -0700
To: "Gettman, Greg W" <Greg.Gettman@ElPaso.com>

933

Thanks for the update.

Gettman, Greg W wrote:

> Steve,
>
> Just thought I would drop you a quick note and let you know that our United Drilling rig #22 is taking longer on the current job just outside of Hobbs, NM than anyone expected. At this point, we do not anticipate starting to drill the AGS #1-21 until the week of June 26^th . It should be hot enough by then. Hope all is well.
>
> Thanks,
>
> Greg W. Gettman
>
> Manager, Facility Planning
>
> El Paso Western Pipelines
>
> 2 North Nevada Ave.
>
> Colorado Springs, CO 80903
>
> (719) 520-4533 Office
>
> (719) 351-4093 Cell
>
> (719) 520-3792 Fax
>
>

Subject: Re: Picacho Reservoir well
From: Steve Rauzi <steve.rauzi@azgs.az.gov>
Date: Tue, 16 May 2006 08:57:17 -0700
To: Tom Shaw <thshaw@msn.com>

933

Yes, El Paso permitted the 1-21 hole in 21-7s-8e in March. El Paso has not yet started drilling. I've attached a copy of this permit, number 933. Steve

Tom Shaw wrote:

> Last question, have any other permits been issued for deep tests in the Eloy area? If so, can I get a copy(s)?
>
> ---
>
> **From:** Steve Rauzi [mailto:steve.rauzi@azgs.az.gov]
> **Sent:** Tuesday, May 16, 2006 10:08 AM
> **To:** Tom Shaw
> **Subject:** Re: Picacho Reservoir well
>
> Tom, Here is the approved permit 926 for the El Paso 1-20 well. El Paso finished drilling the 1-20 in August 2005. By the way, I need to correct an error in my previous email: El Paso finished drilling the 1-11 well in September 2005 not 2006. Steve
>
> Tom Shaw wrote:
> Thanks. Can I also get a copy of the permit for the well they drilled on State lands over behind the prison?
>
> T-
>
> ---
>
> **From:** Steve Rauzi [mailto:steve.rauzi@azgs.az.gov]
> **Sent:** Monday, May 15, 2006 5:35 PM
> **To:** Tom Shaw
> **Subject:** Re: Picacho Reservoir well
>
> Hi Tom, Here's the approved permit 925 for the El Paso 1-11 well south of the Picacho Reservoir. El Paso finished drilled the 1-11 in September 2006 and the completion report will be confidential for one year from that date in accordance with R12-7-121(C). Steve
>
> Tom Shaw wrote:
> Steve,
>
> Can I get scanned copies of the well permit and completion report for the well drilled by El Paso just south of the Picacho reservoir? I believe it was Sec. 10, or 12, on State lands.
>
> Tom
>
> --
> No virus found in this outgoing message.
> Checked by AVG Free Edition.
> Version: 7.1.392 / Virus Database: 268.5.6/339 - Release Date: 5/14/2006

elpaso Natural Gas

April 7, 2006

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 West Congress #100
Tucson, AZ 85701-1315

933

Re: Arizona Gas Storage #1-21
Section 21, T7S, R8E
Pinal County, AZ
AZO&GCC Permit # 933

Dear Steve,

Attached for your review and approval are two copies of the Amended Application for Permit to Drill or Re-Enter for the planned Arizona Gas Storage #1-21. Also attached are two sets of the revised drilling procedure for this well. As we have discussed, El Paso Natural Gas has revised the design of this stratigraphic test well to alleviate concerns express by the Environmental Protection Agency with our original plan. If you have any questions or concerns with the attached, please give me a call at (719) 520-4533.

Sincerely,

Greg Gettman

Manager, Facility Planning
El Paso Natural Gas Company

El Paso Natural Gas
PO Box 1087 Colorado Springs, Colorado 80944
tel 719.473.2300 fax 719.520.4318

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

933

March 31, 2006

Mr. Greg Gettman
Manager of Facility Planning
El Paso Western Pipelines
P.O. Box 1087
2 North Nevada Avenue
Colorado Springs, CO 80944

Re: Response to Holland & Hart's letter dated March 8, 2006

Dear Mr. Gettman:

Thank you for the letter dated March 8, 2006 from Michael Brennan of Holland & Hart on behalf of El Paso Natural Gas Company concerning plans to drill a stratigraphic test well in Section 21, Township 7 South, Range 8 East, Pinal County, Arizona (AGS #1-21 well). A thorough review of your submittal indicates that you are proposing an underground injection well, and therefore you are required to have a UIC permit prior to all construction and drilling activities associated with the well.

As my staff informed you during our joint March 3, 2006 meeting, the federal UIC regulations require a UIC permit prior to construction of a proposed injection well. The relevant federal regulations prohibit injection activities, including construction of an injection well, unless and until the operator is authorized by permit. (See 40 C.F.R. § 144.31(a)). Thus, to the extent an injection well is proposed, a federal permit would be required.

EPA recognizes that El Paso would not need a UIC permit to drill a "stratigraphic test well" if the sole purpose of this test well was to obtain geological information, as regulated by and described in Arizona's Oil & Gas Conservation Commission regulations. In contrast, you have already proposed this well to have a dual purpose, which is to obtain geological information and to test the formation for suitability of injection. Although testing is proposed through the salt zone, the proposed depth of drilling would also include evaluation of the potential injection zone.

Further, a review of your drilling plan indicates construction consistent with a proposed injection well. Specifically, you propose in your drilling plan to use casing strings that are sized and designed ideally for injection purposes. The intent of the UIC permitting program is to regulate such construction through issuance of a UIC permit. The typical stratigraphic test well would use smaller diameter and less weight of casing, such as you proposed in your stratigraphic test well in 2005 (per Arizona Oil & Gas Conservation Commission Permit Nos. 925 and 926).

We recognize that El Paso has limited information regarding the suitability of the site for injection. This is acceptable since we are accustomed to writing the UIC permit with limited available information. Information can be generated during construction of the well, and the permit would require the submission of well logs, formation testing, and injection parameters, as described at 40 CFR §§ 146.14(b), prior to granting approval for operation of the well. We can assist you with developing a UIC Permit application that meets the requirements of the UIC program.

We appreciate the invitation for EPA's early involvement in this project and look forward to working with you in the future. If you have any questions concerning this letter or want additional guidance on providing a UIC Permit application, please contact Nancy Rumrill of my staff at 415-972-3293.

Sincerely,

David Albright
Manager, Ground Water Office

cc: Steve Rauzi, Arizona Oil & Gas Conservation Commission
Jason Jones, ADEQ
Michael J. Brennan, P.C., Holland and Hart LLP
Christopher Thomas, Squire, Sanders & Dempsey LLP

V. 79, no. 58

EPNG planning fourth stratigraphic test southeast of Phoenix Arizona

El Paso Natural Gas Co (EPNG) has plans to drill a fourth stratigraphic test in southern Arizona near the town of Eloy southeast of Phoenix, this one to approximately 8000 ft.

The 1-21 El Paso, sw nw 21-7s-8e, Pinal County, is designed to evaluate the potential for gas storage in the area of the company's interstate pipelines. United Drilling Inc holds the contract.

EPNG last year scheduled three 4500-ft stratigraphic tests in the vicinity at the 1-20 State, c ne 20-7s-8e; 1-11 State, sw ne 11-7s-8e; and 1-14 Hiatt, ne nw 14-7s-8e (**RMRR** 4-19 & 7-21-05).

In 2003, EPNG purchased Copper Eagle Gas Storage LLC, which was developing a gas storage project near Luke Air Force Base west of Phoenix (RMRR 8-27-03). The company noted that the Luke salt deposit near Phoenix extends nearly 10,000 ft deep. EPNG's plans called for up to three underground storage caverns for a maximum storage capacity of 9.6 billion cu ft of gas.

Approximately two miles southeast of the 1-21 El Paso, Unocal Picacho Peak Gas Storage LLC a year ago scheduled a 5000-ft stratigraphic test at the 1-27 City of Mesa in se sw 27-7s-8e (RMRR 1-11-05). The latter project also is designed to evaluate gas storage potential.

(Coastal, from preceding page)

ft. Log tops at that 4768-ft well include Charles at 4509 ft and Mission Canyon at 4528 ft, measured from a kelly bushing elevation of 2564 ft. Three years ago, Samson Resources Co plugged its 1-21 Starbuck Coulee-Fee, sw sw 21-36n-37e, after production tests of two fract Cretaceous Eagle sand intervals at 1460-75 and 1760-75 ft proved unsuccessful. Total depth is 1970 ft.

In an area 18-19 miles to the east-northeast, Billings independent Canyon Natural Gas LLC has plans to drill two remote 11,750-ft horizontal Bakken wildcats in northern Valley County at locations in n/2 n/2 36-37n-39e and n/2 n/2 25-37n-39e (**RMRR** 12-28-05). Drilling permits have yet to be issued for those ventures.

In an area 22-23 miles to the east-southeast, Stone Energy Corp early this year drilled the 31-11H Stahl, nw ne (proposed bottom-hole location: se se) 11-35n-40e, a remote horizontal Bakken wildcat projected to a measured total depth of 11,138 ft and a true vertical depth of 6634 ft (RMRR 10-3-05). No details have been disclosed. Stone took over the project from Canyon.

Coastal Petroleum Co (CPC), a wholly owned subsidiary of Apalachicola, Florida-based Coastal Caribbean Oils & Minerals Ltd, has leases covering approximately 25,000 acres in southwestern North Dakota as well as smaller areas of Montana.

Earlier this year, Coastal Caribbean concluded a long-running dispute with the state of Florida concerning its attempt to obtain a permit to drill on state leases offshore Florida. That settlement resulted in Coastal Caribbean becoming owner of all of the outstanding stock of CPC and gave it approximately $4.9 million in cash, after payment of expenses.

ARIZONA GEOLOGICAL SURVEY 416 W. CONGRESS, SUITE 100, TUCSON, AZ 85701

FAX

Date: 3-21-06

Number of pages including cover sheet: 3

To: Nancy Rumhill
USEPA Region 9
San Francisco CA

Phone: ( )
Fax phone: (415) 947-3545
CC:

From: Steve Rauzi
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, AZ 85701

Phone: (520) 770-3500
Fax phone: (520) 770-3505

REMARKS: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

Approved application to drill:

El Paso Natural Gas Strat test 1-21 AGS

Janet Napolitano
Governor

State of Arizona
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500
www.azgs.az.gov

M. Lee Allison
Director and State Geologist

March 21, 2006

Terry Doolittle
County Manager
31 N. Pinal Street
Florence, AZ 85232

Re: El Paso Natural Gas #1-21 AGS, Sec. 21-7s-8e, Pinal Co., State Permit 933.

Dear Mr. Doolittle:

I am enclosing a copy of the approved application to drill the referenced well because of a policy of the Arizona Oil and Gas Conservation Commission to inform county government about proposed exploration and drilling activity. The referenced well is a stratigraphic well to obtain information about subsurface geology.

The Commission issues a permit to drill under A.R.S. § 27-513. The permit is issued for wells that are in compliance with applicable statutes (A.R.S. § 27-516) and rules (12 A.A.C. 7), which were promulgated to safeguard the public health and safety and protect the environment and natural resources.

Sincerely,

Steven L. Rauzi
Oil and Gas Program Administrator

Enclosure

c J. Dale Nations, Chairman, Oil and Gas Conservation Commission
M. Lee Allison, Director and State Geologist

Janet Napolitano
Governor

State of Arizona
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500
www.azgs.az.gov

M. Lee Allison
Director and State Geologist

March 21, 2006

Mr. Greg Gettman
El Paso Natural Gas Company
PO Box 1087
Colorado Springs CO 80944

Re: El Paso Natural Gas #1-21 AGS, Sec. 21-7s-8e, Pinal Co., State Permit 933

Dear Mr. Gettman:

I have enclosed an approved copy of your application for permit to drill, Permit to Drill #933, and filing-fee receipt #3139.

The referenced application is approved on the condition that El Paso Natural Gas Company conduct its operations in compliance with all applicable statutes and rules of the State of Arizona and that El Paso Natural Gas or its designated representative *notify me at least 48 hours* before you:

- Move in drilling equipment and commence operations, and
- Run and cement surface casing

An operator shall post a sign at the well site pursuant to A.A.C. R12-7-106 and submit drilling samples and all other well data and information pursuant to A.A.C. R12-7-121. Several Sundry Notice forms are enclosed for your use in reporting all pertinent drilling and testing activity to the Oil and Gas Conservation Commission of the State of Arizona. An operator is required to keep daily drilling reports detailing the spud date and daily progress (depth) and status of the well and to submit the reports to the Commission at the letterhead address on a weekly basis through the completion of operations.

Sincerely,

Steven L. Rauzi
Oil & Gas Administrator

Enclosures

c J. Dale Nations, Chairman, Oil and Gas Conservation Commission
M. Lee Allison, Director and State Geologist

3-15-06

933

Greg Gettman calls
Ralph Weeks, Amax (Environmental firm Tempe)
Amax has permitted class 1 & 3 wells
Providing input into application
Suggested changes to enhance EPA filing
- Add description of logging tools function
- Run CBL in surface pipe

Claus Bushbaum, PBKBB put together initial drill program

Also discuss: ADWR exemption ARS 45-591.01
Storm water discharge (ADEQ General Permit)

elpaso Natural Gas

March 14, 2006

933

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress #100
Tucson, AZ 85701-1315

RECEIVED
MAR 15 2006

Dear Steve:

Attached is a personal check for $25.00 as a replacement for the original check which was included with the Application for Permit to Drill or Re-Enter the Arizona Gas Storage #1-21 which was lost by UPS. Also included are two copies of the revised drilling program for this stratigraphic test well. If you have any questions or problems with the attached materials, please give me a call at (719) 520-4533.

Sincerely,

Greg Gettman

Manager, Facility Planning
El Paso Natural Gas Company

El Paso Natural Gas
PO Box 1087 Colorado Springs, Colorado 80944
tel 719.473.2300 fax 719.520.4318

Subject: Arizona Oil and Gas Commission Drilling Permit Application
From: "Gettman, Greg W" <Greg.Gettman@ElPaso.com>
Date: Wed, 08 Mar 2006 14:43:33 -0700
To: Rumrill.Nancy@epamail.epa.gov
CC: Steve Rauzi <steve.rauzi@azgs.az.gov>

933

Nancy,

Steve Rauzi with the Arizona Oil and Gas Conservation Commission contacted me this afternoon to let me know he had not yet received the Drilling Permit Application for the AGS #1-21. UPS has placed a tracker on the letter and they have confirmed it was picked up here on February 28, 2006 and that they never delivered to Mr. Rauzi in Tucson.

I have sent (via UPS Overnight) Mr. Rauzi two copies of the application and supporting documents that he should have in the morning. Sorry for the confusion.

Greg W. Gettman
Manager, Facility Planning
El Paso Western Pipelines
2 North Nevada Ave.
Colorado Springs, CO 80903
(719) 520-4533 Office
(719) 351-4093 Cell
(719) 520-3792 Fax

Nancy,

For your review, I have attached El Paso Natural Gas Company's Permit Application with Arizona Oil and Gas Conservation Commission to Drill the AGS #1-21 stratigraphic test well. Also attached are our proposed drilling and completion procedures for the AGS #1-21 with the planned casing, logging, cementing programs, etc. and a regional map showing the location of this well in relation to other deep wells in the area. Please let me know if you have any questions regarding this material.

We intend to send you a formal letter in the near future to follow up on our March 3rd meeting with you and George, which will also include this information.

Thanks,
Greg W. Gettman
Manager, Facility Planning
El Paso Western Pipelines
2 North Nevada Ave.
Colorado Springs, CO 80903
(719) 520-4533 Office
(719) 351-4093 Cell
(719) 520-3792 Fax
-----Original Message-----
From: Rumrill.Nancy@epamail.epa.gov
[mailto:Rumrill.Nancy@epamail.epa.gov]
Sent: Tuesday, March 07, 2006 12:36 PM
To: Gettman, Greg W
Cc: Robin.George@epamail.epa.gov
Subject: Letter concerning your plans for a new proposed well

Greg,

Per our meeting on friday, 3/3, I had asked for a letter from you describing your plans for the new proposed well, including its location, the scheduled rig date, the plans for drilling and construction and proposed testing. Please also include the permit or type of

authorization that you have obtained from Arizona's Oil and Gas Conservation Commission. If you can e-mail me this information as soon as possible, this would help me in informing my management and getting back to you on our management decision concerning this issue.

Thank you, Nancy

Nancy Rumrill
U.S. Environmental Protection Agency, Region 9
Ground Water Office, WTR-9
75 Hawthorne Street
San Francisco, CA 94105
415-972-3293
415-947-3545 (FAX)

AGS1-21PermitApp.pdf	**Content-Description:**	AGS1-21PermitApp.pdf
	Content-Type:	application/octet-stream
	Content-Encoding:	base64

AGS1-21 Drilling Procedures Rev3 (2).doc	**Content-Description:**	AGS1-21 Drilling Procedures Rev3 (2).doc
	Content-Type:	application/msword
	Content-Encoding:	base64

Arizona NG Storage Exh 1.ppt	**Content-Description:**	Arizona NG Storage Exh 1.ppt
	Content-Type:	application/vnd.ms-powerpoint
	Content-Encoding:	base64

933

3-8-06 Call Greg Gettman
Sent Application UPS overnight Feb 28 = lost
UPS is tracking package.
Plan to set surf css to 1600' + circ cmt
Circ salt besinns ~ 1700'
Set css to about 4700'
Drill through CSI etc into fractured bsmt.
Set perforated liner + do injection test.

ARIZONA GEOLOGICAL SURVEY 416 W. CONGRESS, SUITE 100, TUCSON, AZ 85701

FAX

933

Date: 3-8-06

Number of pages including cover sheet: 9

To: Nancy Rumbill
USEPA Region 9
San Francisco CA

Phone: ( )
Fax phone: (415) 947-3545
CC:

From: Steve Rauzi
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, AZ 85701

Phone: (520) 770-3500
Fax phone: (520) 770-3505

REMARKS: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

= Approved applications to drill: El Paso 1-11 (Permit 925)
El Paso 1-20 (Permit 926)
El Paso 1-14 (Permit 928)

the 1-14 was not drilled

= Completion reports for the 1-11 & 1-20

Subject: Re: Fw: Requesting information on wells proposed by El Paso Natural Gas
From: Steve Rauzi <steve.rauzi@azgs.az.gov>
Date: Wed, 08 Mar 2006 10:08:09 -0700
To: Rumrill.Nancy@epamail.epa.gov

933

Hi Nancy, I have not yet received anything from El Paso about drilling a stratigraphic well but the permit you attached to your email looks like a follow-up to two stratigraphic tests that El Paso drilled last year to obtain information about the subsurface geology relative to potential subsurface storage of natural gas in the Picacho basin. El Paso plugged both of those holes shortly after they were drilled. It normally takes about a week to issue a permit for a stratigraphic test hole if an application is complete and in order. El Paso currently has a bond and organization report on file so that part of the application is already in place. Of course the process for permitting a storage well is far more involved than for a simple stratigraphic test. Steve

Rumrill.Nancy@epamail.epa.gov wrote:

> Steve,
>
> I received the permit application from El Paso Natural Gas. Do they meet all of your requirements for your agency to issue the permit? How long does your permit application processing take and about when would you issue the permit? Does El Paso have to get their permit from you prior to their drilling and constructing the well?
>
> I've reviewed the OGCC website. What would a permit from your agency authorize them to do? (Conduct stratigraphic testing for the purpose of oil or gas production?)
>
> Please call me at 415-972-3293 if you want to discuss my questions.
>
> Thank you, Nancy
>
> (See attached file: AGS1-21PermitApp.pdf)
>
> Nancy Rumrill
> U.S. Environmental Protection Agency, Region 9
> Ground Water Office, WTR-9
> 75 Hawthorne Street
> San Francisco, CA 94105
> 415-972-3293
> 415-947-3545 (FAX)
> ----- Forwarded by Nancy Rumrill/R9/USEPA/US on 03/07/2006 04:03 PM -----
>
> Nancy Rumrill/R9/USEPA/US — 03/07/2006 03:20 PM
> To: Steve.Rauzi@azgs.az.gov
> cc:
> Subject: Requesting information on wells proposed by El Paso Natural Gas

Steve,

The Ground Water Office, USEPA Region 9, is reviewing a proposed well owned by El Paso Natural Gas for injection of brine waste . I do not have all of their information yet or its location. El Paso has confirmed that they have classified the well as an oil and gas exploratory well to be drilled next month. Are you aware of a recent oil & gas exploratory permit that you've issued to El Paso Natural Gas? May I have a copy of the permit?

If you need additional info to look this up, I'll be getting more info soon.

Thank you, Nancy

Nancy Rumrill
U.S. Environmental Protection Agency, Region 9
Ground Water Office, WTR-9
75 Hawthorne Street
San Francisco, CA 94105
415-972-3293
415-947-3545 (FAX)

elpaso Natural Gas

February 28, 2006

933

Mr. Steven Rauzi
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress #100
Tucson, AZ 85701-1315

Dear Steve:

Attached for your review are two copies of the Application for Permit to Drill or Re-Enter for the proposed Arizona Gas Storage #1-21 along with the $25.00 application fee. Also attached are two copies of the proposed drilling program for this stratigraphic test well. I believe the Organization Report and Performance Bond for El Paso Natural Gas Company that were filed with the Arizona Oil and Gas Commission on March 18th of 2005 are still current. If you have any questions or problems with the attached materials, please give me a call at (719) 520-4533.

Sincerely,

Greg Gettman

Manager, Facility Planning
El Paso Natural Gas Company

Steve,
I will send a new check if UPS does not locate the orriginal letter.
Thanks
Greg G.

Greg
719-520-4533

El Paso Natural Gas
PO Box 1087 Colorado Springs, Colorado 80944
tel 719.473.2300 fax 719.520.4318