

DAUB & ASSOCIATES, INC.



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April 27, 2021

Division of Reclamation, Mining and Safety  
Attn: Minerals Division  
1313 Sherman Street, Room 215  
Denver, CO 80203

**Re: Natural Soda LLC (NS) Nahcolite Project Permit No. M-1983-194; Transmission of Well Completion and Abandonment Data.**

On March 2, 2021, NS received an inspection report from the DRMS containing a spreadsheet which inventoried past and present production wells and groundwater monitoring wells associated with NS. This spreadsheet also listed permit actions and/or documents relating to historic permitting, approval, and reporting activities. It was noted that several wells listed in this spreadsheet had no permitting/construction relationship to NS or the M-1983-194 permit (USGS and Rock School wells). The spreadsheet contained multiple discrepancies and blank cells which were highlighted yellow by the DRMS. D&A searched available electronic and hard copy records in an attempt to address each blank cell or discrepancy. Some permitting dates or other data, for older, historic wells were not immediately clear, although the data was implied in historic documents (ie TR-4 does not explicitly mention the 93-3V production well, but approves a Cavity 3 expansion which implies the 93-3V well).

Attached to this letter are data sheets for most of the wells which the DRMS was unable to locate the appropriate report. These data sheets include completion and plug and abandonment data (as applicable), in addition to relevant dates. Also attached is a version of the DRMS Inspection Report spreadsheet with comments from D&A. D&A additionally recommends that the DRMS discontinue the use of the terms "Recovery" or "Injection" in the "Use" column in favor of "Production" since NS's permitting allows most production wells to change flow direction between injection and recovery.

Should you have any questions or comments, please contact me at (970) 254-1224 or (970) 216-1010 (c), or Kirk Daehling at (970) 456-1268.

Regards,

Gerald J. Daub, PG, CPG  
President  
Daub & Associates, Inc.

Cc: Kirk Daehling w/enc  
President  
Natural Soda LLC  
  
Kent Walters w/enc  
Bureau of Land Management (WRFO)  
  
Amy Yeldell (via email)  
Colorado Division of Reclamation, Mining and Safety  
  
File

DRMS should consider  
replacing "Injection" and  
"Recovery" with  
"Production"

D&A to only add comment  
"Submitted", "na", etc. DO  
NOT MODIFY DRMS HILITE

Borehole Name	Revision Approved	Use	Type	Drill Date	Completion Rpt Received	P&A'd Date	P&A Rpt Received	DRMS Comments	D&A Comments for DRMS
10H-I	TR-26	Injection	Horizontal	2009	2021 q2	10/2020	12/17/2020		
10H-1V	TR-33	Recovery	Slant	2013	11/4/2013	10/2020	12/17/2020		
10H-R	TR-26	Recovery	Horizontal	2009	2021 q2	10/2020	12/17/2020		
10H-V	TR-33	na	na		na				Duplicate, see 10H-1V
11H-I	TR-26	Injection	Horizontal	2009	2021 q2	5/2017	6/21/2017*2021 q2	P&A Rpt not attached to notice	
11H-R	TR-26	Recovery	Horizontal	2009	2021 q2	5/2017	6/21/2017*2021 q2	P&A Rpt not attached to notice	
12H-I	TR 31	Injection	Horizontal	2012	2021 q2				
12H-IR	AM-4	Production	Horizontal	2017	2021 q2				
12H-R	TR 31	Recovery	Horizontal	2012	2021 q2				
1-3A	TR-17	Monitoring	Vertical	2002	2021 q2	2013	10/31/2013	Recompleted on 2003	
1-3B	TR-17	na	na		na				Well does not exist.
13H-I	TR 33	Injection	Horizontal	2013	11/4/2013	6/2019	6/17/2019		
13H-IR	TR-41	Production	Horizontal		2021 q2				
13H-R(I)	TR 33	Production	Horizontal	2013	11/4/2013				
13H-RI-E, (13H-R)	na	Recovery	Horizontal		11/4/2013				Duplicate, see 13H-R(I)
14H-1V	TR-42	Production	Slant	2019	2021 q2				
14H-I	TR 35	Injection	Horizontal	2014	2021 q2	10/2020	12/17/2020		
14H-RI-E, (14H-R)	TR-35	Production	Horizontal	2014	2021 q2				
15H-1V	TR-43	Production	Slant		2021 q2				
15H-I	TR-37	Injection	Horizontal	2016	8/22/2016				
15H-IR-E	TR-43	Production	Horizontal		2021 q2				
15H-R(I)	TR 37	Production	Horizontal	2016	9/27/2016				
15H-SSMW	TR-39	SSMW	Vertical		2021 q2				
16H-1V	TR-43	Production	Slant	2020	2021 q2				
16H-I	TR-37	Injection	Horizontal	2017	See DRMS Imaged Docs				Found in DRMS Imaged Docs
16H-IR-E	TR-43	Production	Horizontal	2020	2021 q2				
16H-R(I)	TR-37	Production	Horizontal	2017	See DRMS Imaged Docs				Found in DRMS Imaged Docs
17H-1V	TR-43	Production	Slant	2020	na				Not yet Constructed - 2022
17H-I	TR 37	Injection	Horizontal		2021 q2				
17H-IR-E	TR-43	Production	Horizontal	2020	na				Not yet Constructed - 2022
17H-R, (17-R-I)	TR-37	Recovery	Horizontal		2021 q2				
17H-SSMW	TR-40	SSMW	Vertical	2018	2021 q2				
1A-4HI, (1A-4H)	TR-10	injection	Horizontal	1997	3/8/2004	6/26/1905	5/19/2004		
1A-5HR	TR-10	Recovery	Horizontal	6/19/1905	3/8/2004	9/9/10	9/22/2010	later replaced by 5H-1V	
2010-26-198-3C	TR-29/ TR-28	Core	Vertical		na				Not drilled, does not exist.
2010-26-198-4C	TR-29/ TR-28	Core	Vertical		na				Not drilled, does not exist.

D&A Status					DRMS should consider replacing "Injection" and "Recovery" with "Production"		D&A to only add comment "Submitted", "na", etc. DO NOT MODIFY DRMS HILITE			
	Borehole Name	Revision Approved	Use	Type	Drill Date	Completion Rpt Received	P&A'd Date	P&A Rpt Received	DRMS Comments	D&A Comments for DRMS
	2010-26-198-5C	TR-29/ TR-28	Core	Vertical		na				Not drilled, does not exist.
	2010-26-198-7C	TR-28	Core	Vertical		na				Not drilled, does not exist.
	2014-15-198-T, (Phase T)	TR-35	Core	Vertical	2014	na	10/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-15-198-U, (Phase U)	TR-35	Core	Vertical	2014	na	10/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-21-198-P, (Phase P)	TR-35	Core	Vertical	2014	na	10/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-21-198-R, (Phase R)	TR-35	Core	Vertical	2014	na	10/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-22-198-Q, (Phase Q)	TR-35	Core	Vertical	2014	na	10/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-26-198-D, (Phase D)	TR-35	Core	Vertical	2014	na	8/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-26-198-E, (Phase E)	TR-35	Core	Vertical	2014	na	9/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-27-198-A, (Phase A)	TR-35	Core	Vertical	2014	na	8/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-27-198-C, (Phase C)	TR-35	Core	Vertical	2014	na	9/2014	2021 q2		Cored and P&A'd only, no well completion
	2014-27-198-N, (Phase C)	TR-35	Core	Vertical	2014	na	9/2014	2021 q2		Cored and P&A'd only, no well completion
	26-93-3V	TR-05	Production			2021 q2				P&A Rpt also submitted
	26-94-1M	TR-04	SSMW	Vertical	1994	2021 q2				P&A Rpt also submitted
	2A-2V	TR-7	Production	Vertical	1996	2021 q2	2006/2009	9/4/2008	2004 converted to water well A-Groove, insufficient	
	2A--4HR	TR 15	Production	na	N/A	N/A	N/A	N/A	Removed In TR-19	Well does not exist.
	2A-5HI	TR-15	Production	na	N/A	N/A	N/A	N/A	Removed In TR-19	Well does not exist.
	2B-3C	TR-10	Core	Vertical	1997	3/8/2004	6/26/1905	5/19/2004		
	2B-4HI	TR-10	na	na	1997	na				Permitted in October 1997 but not drilled
	2B-3HR	TR-10	na	na	1997	na				Well does not exist, delete.
	2M-TDR	TR-20	SSMW	Vertical	2003	5/5/2003	4/23/2003, submitted, see 5/5/03 Rpt	submitted, see 5/5/03 Rpt	Panel #2 SSMW	See 5/5/03 Comp. Rept. & well diagram. TDR well completion involves plugging the wellbore with cement to surface, no casing or separate P&A necessary
	3A-4H	TR-7	Injection	Horizontal	1997*	2021 q2	6/26/1905	5/19/2004		
	3A-5V	TR-10	Recovery	Vertical	1997*	3/8/2004	2009	9/4/2008		
	3M-TDR	TR-22	SSMW	Vertical	10/4/03	10/24/2003			L-5 and base of R-6	

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	Borehole Name	Revision Approved	Use	Type	Drill Date	Completion Rpt Received	P&A'd Date	P&A Rpt Received	DRMS Comments	D&A Comments for DRMS
	401H-I	AM-4			WD	N/A	N/A	N/A	NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M for additional details)	
	401H-R	AM-4			WD	N/A	N/A	N/A	NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M for additional details)	
	402H-I	AM-4			WD	N/A	N/A	N/A	NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M for additional details)	
	402H-R	AM-4			WD	N/A	N/A	N/A	NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M for additional details)	
	403H-I	AM--4			WD	N/A	N/A	N/A	NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M for additional details)	
	403H-R	AM--4			WD	N/A	N/A	N/A	NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M for additional details)	
	4-1V	TR-5 & 15			1996				Converted in 1996	See TR-5 Request w/ DRMS Received Stamp: 10/24/94. Renamed to 4A-1V. Delete
	4-2M									Well does not exist.
4-2V, (4A-2V)	TR-5	Recovery	Vertical		3/8/2004	6/2005	4/28/2005		See TR-5 Request w/ DRMS Received Stamp: 10/24/94	
4-3H, (4A-3H)	TR-5	Injection	Horizontal		3/8/2004	6/26/1905	5/19/2004	CIBP@ 2470', 2675'		
4A-1V	TR-5	Monitoring	Vertical		3/8/2004	6/2012	2021 q2	SSMW	Permitted as 4-1V	
4A-4V	nd	Recovery	Vertical		3/8/2004	2009	9/4/2008		No TR associated with this well.	
4A-5M	TR-8/9	SSMW	Vertical	1996	3/8/2004	6/2012	2021 q2	R-6		
4A-6V	TR-16	Recovery	Vertical	2000	3/8/2004	2009	9/4/2008			
SH	TR-18	Production	Horizontal	2002	3/8/2004	2011	09/15/2011 2021 q2	P&A Rpt not attached to notice		

DRMS should consider replacing "Injection" and "Recovery" with "Production"

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D&A Status	Borehole Name	Revision Approved	Use	Type	Drill Date	Completion Rpt Received	P&A'd Date	P&A Rpt Received	DRMS Comments	D&A Comments for DRMS
	SH-IV	TR-24	Recovery	Vertical	2007	3/8/2004	2011	09/15/2011* 2021 q2	replace 1A recovery, P&A Rpt not attached to notice	
	5H-2V	TR-7				nd				TR-6 approved 5H-2V, TR-7 cancelled TR-6. This well does not exist.
	6H	TR-19	Production	Horizontal	2002	3/8/2004	2011	9/15/2011* 2021 q2	Recompleted In 2003 w/200 ft plugback and CIBP, P&A Rpt not attached to notice	
	7H-1V	TR-25	Recovery	Vertical	2009	2021 q2	5/2017	6/21/2017* 2021 q2	P&A Rpt not attached to notice	
	7H-2I	TR-23	Injection	Horizontal	2005	3/8/2004	5/2017	6/21/2017* 2021 q2	P&A Rpt not attached to notice	
	7H-1R	TR-23	Recovery	Horizontal	2005	3/8/2004	5/2017	6/21/2017* 2021 q2	P&A Rpt not attached to notice	
	88-1, (88-1V)	AM-2	Recovery	Vertical	2004	3/8/2004	2013	10/31/2013	SSMW	
	89-1	nd	Monitoring	Vertical	1990	3/8/2004				Permitted through the original mine plan
	89-2	nd	Monitoring	Vertical	1990	3/8/2004				Permitted through the original mine plan
	89-3	nd	Monitoring	Vertical	1990	3/8/2004				Permitted through the original mine plan
	8H-1R	na	Injection		2006 proposed	na				Well does not exist.
	8H-2I	na	Recovery		2006 proposed	na				Well does not exist.
	8H-I	TR-35	Injection	Horizontal	7/6/1905	2021 q2	6/2019	6/17/2019		
	8H-R(I)	TR-35	Recovery	Horizontal	7/6/1905	2021 q2	6/2019	6/17/2019		
	90-1, (WSW), (WSW-1)	nd	Water	Vertical	1990	3/8/2004			Raw water supply for plant, 2015 monitoring well	Permitted through the original mine plan
	90-2	nd	Monitoring	Vertical	1990	3/8/2004	2013	10/31/2013		Permitted through the original mine plan
	90-3	nd	Monitoring	Vertical	1990	3/8/2004				Permitted through the original mine plan
	90-4	nd	Monitoring	Vertical	1990	3/8/2004				Permitted through the original mine plan
	90-5	AM-2	Injection	Horizontal	1991	2021 q2	6/22/1905	2021 q2	used for monitoring in 1999	Correct name: 90-5H
	91-1	TR-3	Recovery	Vertical	1993	see 91-1V				Duplicate, see 91-1V
	91-1V	TR-3	Recovery	Vertical	1993	3/8/2004	6/2005	7/5/2005		
	91-2	TR 3	Injection		1993	na				Duplicate, see 91-2H
	91-2H	TR-3	Injection	Horizontal	1993	2021 q2	8/9/1999	2021 q2		
	91-3	na			1993	na				Well does not exist.
	93-1M	na			1993	na			Sonar access	Duplicate, see 93-2M
	93-1V	na	Recovery	Vertical	1994	na				Duplicate, see 93-3V
	93-2H	na	Injection	Horizontal	1994	na				Duplicate, see 93-4H

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D&A Status										
	Borehole Name	Revision Approved	Use	Type	Drill Date	Completion Rpt Received	P&A'd Date	P&A Rpt Received	DRMS Comments	D&A Comments for DRMS
	93-2M	TR-3	Monitoring	Vertical	1993	3/8/2004	8/12/10	9/8/2010	SSMW, 1996 converted to DS	See TR-3 Request w/ DRMS Received Stamp: 2/8/93
	93-3V	TR-4?	Recovery	Vertical		3/8/2004	6/2005	7/5/2005		No TR associated with this well. Approval implied in TR-4, Cavity #3 extension authorization.
	93-4H	TR-4?	Injection	Horizontal		2021 q2	6/25/1905	2021 q2	TR-22	No TR associated with this well. Approval implied in TR-4, Cavity #3 extension authorization.
	94-1M	TR-4	Monitoring	Vertical		3/8/2004	6/2012	2021 q2	Sonar access, SSMW	See TR-4 Request dated: 1/5/94
	9H-I	TR-35	Injection	Horizontal	7/6/1905	na				Well does not exist, delete.
	9H-R	TR-35	Recovery	Horizontal	7/6/1905	na				Well does not exist, delete.
	AG-1, (J Phase 1), (2014-25-198-J)	TR-35	Monitoring	Vertical	7/6/1905	2021 q2			Initially Core well	
	B (Phase 1)	TR-35			2014	na				Not to be drilled
	BG-1	TR-10	Monitoring	Vertical	1997	3/8/2004				Not specifically named in TR
	BG-11	TR-45	Monitoring	Vertical	2021	TBD			Replacement monitoring well for BG-5 and BG-9	
	BG-4	TR-18	Monitoring	Vertical	2002	3/8/2004				
	BG-5, (12H-C)	TR-27	Monitoring	Vertical	2009	2021 q2	2021	2021 q1	Initially core, Hydro subsidence	
	BG-6, (2010-26-1998-6C)	TR-29 I TR-28	Monitoring	Vertical	8/2010	2021 q2			Initially core, Hydro subsidence	
	BG-7, (K Phase 1), (2014-25-198-K)	TR-35	Monitoring	Vertical	7/6/1905	2021 q2			Initially Core	
	BG-8, (D5-4), (10H-C)	TR-26	Monitoring	Vertical	2009	2021 q2	5/2017	6/19/2017* 2021 q2	Initially core converted In 2016, P&A Rpt not attached to notice	
	BG-9, (DS-5), (2010-26-198-1C)	TR-29 I TR-28	Monitoring	Vertical	6/2010	2021 q2	2021	TBD	Initially core ,Hydro subsidence	
	D5-10	TR-42	Monitoring	Vertical	2020	2021 q2			Initially Core SSMW	
	DS-2 (97 DS2)	TR-10	Monitoring	Vertical	1997	3/8/2004				Not specifically named in TR
	DS-3	TR-18	Monitoring	Vertical	6/24/1905	3/8/2004				
	DS-6, (Phase 3)	TR-35	Monitoring	Vertical	7/6/1905	2021 q2			Initially Core well	
	DS-7, (Phase 1)	TR-35	Monitoring	Vertical	2014	2021 q2			Initially core, Hydro subsidence	
	DS-8, (I Phase 1), (2014-26-198-I)	TR-35	Monitoring	Vertical	7/6/1905	2021 q2			Initially Core well	
	DS-9, (M Phase 1), (2014-25-198-M)	TR-35	Monitoring	Vertical	7/6/1905	2021 q2			Initially Core well	
	DVPW-1(A), (2010-26-DVPW-1)	TR-29	Production	Vertical	2010?	2021 q2				Dual string well (A&B)

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D&A Status										
	Borehole Name	Revision Approved	Use	Type	Drill Date	Completion Rpt Received	P&A'd Date	P&A Rpt Received	DRMS Comments	D&A Comments for DRMS
	DVPW-1(B)	TR-29				2021 q2				Dual string well (A&B)
	EX-1	nd	Core	Vertical		2021 q2	8/4/1985	2021 q2	Vertical Stratigraphic Control	Permitted prior to M1983-194
	EX-2	nd	Monitoring	Vertical		3/8/2004			Drilled 1988, recompleted 1989 and 90	Permitted prior to M1983-194
	F (Phase 1)	TR-35			2014	na				Not to be drilled
	G (Phase 1)	TR-35			2014	na				Location constructed, well not drilled.
	H (Phase 1)	TR-35			2014	na				Location constructed, well not drilled.
	IRI-1	na	Monitoring	Vertical		na				Duplicate with IRI-MW-1 or MMC-IRI-1.
	IRI-MW-1	nd	Monitoring	Vertical		2021 q2	2015	2021 q2		Permitted prior to M1983-194. IRI Commercial Pilot test.
	IRI-PW-1	nd	Pumping			2021 q2	2015	2021 q2	Spot core, P&A rpt not attached to notice	Permitted prior to M1983-194. IRI Commercial Pilot test.
	IRI-PW-2	nd	Pumpmg	Vertical		2021 q2	2015	2021 q2	Spot core, P&A rpt not attached to notice	Permitted prior to M1983-194. IRI Commercial Pilot test.
	L (Phase 1)	TR-35			2014	na				Not to be drilled
	MMC-IRI-1	nd	Monitoring	Vertical	1981	3/8/2004			Core, Under reamed 4 5/8 to 9 1/5 (392 to 412')	Permitted prior to M1983-194
	MMC-IRI-10	nd	Monitoring	Vertical		2021 q2	5/2017	2021 q2	Spot core. P&A rpt not attached to notice	Permitted prior to M1983-194
	MMC-IRI-11	nd	Monitoring	Vertical		2021 q2			core	Permitted prior to M1983-194
	MMC-IRI-2	nd	Monitoring	Vertical		2021 q2	5/2017	2021 q2	Initially Core, vertical stratigraphy control	Permitted prior to M1983-194
	MMC-IRI-3	nd	Monitoring	Vertical	1980	2021 q2	2015	2021 q2	initially Core, P&A rpt not attached to notice	Permitted prior to M1983-194
	MMC-IRI-4	nd	Monitoring	Vertical	1990	3/8/2004			Recompleted 1991, 2001, core	Permitted prior to M1983-194. Part of USGS and MMC Aquifer Testing Study.
	MMC-IRI-5	nd	Monitoring	Vertical	1991	3/8/2004			core	Permitted prior to M1983-194. Part of USGS and MMC Aquifer Testing Study.
	MMC-IRI-6	nd	Monitoring	Vertical	1990	3/8/2004			core	Permitted prior to M1983-194. Part of USGS and MMC Aquifer Testing Study.
	MMC-IRI-7	nd	Monitoring	Vertical	1990	2021 q2				Permitted prior to M1983-194. Part of USGS and MMC Aquifer Testing Study.
	MMC-IRI-8	nd	Monitoring	Vertical	1990	3/8/2004			core	Permitted prior to M1983-194. Part of USGS and MMC Aquifer Testing Study.
	MMC-IRI-9	nd	Monitoring	Vertical		2021 q2			core	Permitted prior to M1983-194



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	Borehole Name	Revision Approved	Use	Type	Drill Date	Completion Rpt Received	P&A'd Date	P&A Rpt Received	DRMS Comments	D&A Comments for DRMS
	MWA-2	na	Monitoring			2021 q2				M-1999-051 Well, Completion data included as a courtesy.
	MWB-2	na	Monitoring			2021 q2				M-1999-051 Well, Completion data included as a courtesy.
	MWD-1	na	Monitoring			2021 q2				M-1999-051 Well, Completion data included as a courtesy.
	MWD-2	na	Monitoring			2021 q2				M-1999-051 Well, Completion data included as a courtesy.
	MWU-2, (MU-2)	na	Monitoring			2021 q2				M-1999-051 Well, Completion data included as a courtesy.
	RS-96-20-1	na	Monitoring			2021 q2				M-1999-051 Well, Completion data included as a courtesy.
	S Phase 2	TR-35			2014	na				Not to be drilled
	TH75-6A	na	Monitoring			2021 q2				USGS well. Not M-1983-194 Well, Completion data included as a courtesy.
	TH75-6B	na	Monitoring			2021 q2				USGS well. Not M-1983-194 Well, Completion data included as a courtesy.
	TH75-7A, TH75-11A	na	Monitoring			TH75-11A, 2021 q2				USGS well. Not M-1983-194 Well, Completion data included as a courtesy.
	TH75-7B, TH75-11B	na	Monitoring			TH75-11B, 2021 q3				USGS well. Not M-1983-194 Well, Completion data included as a courtesy.
	WSW-2 (2010-26-198-2C)	TR-29 / TR-28	Core	Vertical	7/2010	2021 q2			Water Supply	
	WSW-3	TR-35	Water	Vertical	8/2014	2021 q2				
	WSW-4	TR-35	Water	Vertical	8/2014	2021 q2				
	WSW-5, (0-GMW-A), (2014-27-198-O), (O Phase 2)	TR-35	Monitoring	Vertical	7/6/1905	2021 q2			Spot core	

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 10H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6724.6  
KB Elevation, ft: 6741.6  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 246.01, FSL  
Footage, E/W: 441.75, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927895620  
Longitude, °W: 108.349074800  
State Plane Northing, ft: 229412.49  
State Plane Easting, ft: 1201094.09

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927867830  
Longitude, °W: 108.349719800  
State Plane Northing, ft: 1229411.84  
State Plane Easting, ft: 2200933.89

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 71.0  
Total Footage: 71.0  
Start Date & Time: 6/27/09 0:00  
End Date & Time: 6/27/09 0:00  
Total Drilling Hours: nd  
Drilling Contractor: Pete Martin Rathole Drilling  
Rig Number: 779  
Drilling Media: Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 53.0  
Diameter, in: 13.375 OD; 12.875 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 6/27/09 0:00  
Cement Interval, ft. GL: 0 - 71  
Cement Type: GROUT  
Cement Amount, sks: 8  
Cementing Date: 6/27/2009  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 10H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
 Start Depth, ft: 71.0  
 End Depth, ft: 2329.0  
 Total Footage: 2258.0  
 Start Date & Time: 6/28/09 9:15  
 End Date & Time: 7/2/09 0:00  
 Total Drilling Hours: 86.8  
 Drilling Contractor: Patterson UTI  
 Rig Number: 779  
 Drilling Media: Mud  
 Comments: Directional drill 9.875" vertical intermediate hole to KOP at 1464 (KB) 1447.0 (GL); Directional drill 9.875" curve portion intermediate hole to 2329.0'

**Intermediate Hole Plug Back Data**

Date & Time: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2325.0  
 Casing Diameter, in: 7.625 OD; 6.969 ID  
 Casing Type: J55 (steel)  
 Casing Wt: 26.4 lb/ft  
 Install Date & Time: 7/2/09 0:00  
 Comments:

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/3/2009	na
*Interval, ft:	nd - nd	na
Type:	type V	na
Additives:	N2 foamed	na
Amount, sks:	415	na
Weight, lb/gal:	14.0 (foamed to 10.0)	na
Method:	displacement	na
Comments:	na	

**Drillout Operation**

Hole Diameter, in: 6.750  
 Start Depth, ft: 2329.0  
 End Depth, ft: 4033.0  
 Total Footage: 1704.0  
 Start Date & Time: 7/6/09 9:30  
 End Date & Time: 7/9/09 10:00  
 Total Drilling Hours: 72.5  
 Drilling Contractor: Patterson UTI  
 Rig Number: 779  
 Drilling Media: Bicarb Solution  
 Comments:

**Open Hole Interval**

Hole Diameter, in: 6.750  
 Top Depth, ft: 4028.6  
 Bottom Depth (TD), ft: 4033.0  
 Interval Thickness, ft: 4.4  
 Comments: 5.5" liner set in open hole for solution mining

**Production Casing Data**

Casing Top Depth, ft: 1979.0  
 Csg Bottom Depth, ft: 4028.6  
 Casing Diameter, in: 5.5 OD; 5 ID  
 Casing Type: J-55 steel  
 Casing Wt: 17 lb/ft  
 Install Date & Time: nd  
 Comments: Original hanger set at 1979 MD GL  
 5.5" casing from 2361.2' to 4028.6' MD GL. Casing breached at 2373' MD GL with possible damage at 2386' and 2405' MD GL. 4" flush joint "fish" likely inside 5.5" casing starting at 2365' MD GL, exiting through 5.5" casing breach at 2373' and continuing parallel to 5.5" casing to 2408' MD GL.

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 10H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6724.6  
KB Elevation, ft: 6741.6  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 440.32, FSL  
Footage, E/W: 488.89, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928427890  
Longitude, °W: 108.348902000  
State Plane Northing, ft: 229604.72  
State Plane Easting, ft: 1201148.74

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928400090  
Longitude, °W: 108.349547100  
State Plane Northing, ft: 1229604.07  
State Plane Easting, ft: 2200988.55

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 70.0  
Total Footage: 70.0  
Start Date & Time: 7/12/09 14:00  
End Date & Time: 7/12/09 0:00  
Total Drilling Hours: nd  
Drilling Contractor: Triple A Drilling  
Rig Number: 779  
Drilling Media: Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 70.0  
Diameter, in: 13.375 OD; 12.875 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 7/12/09 0:00  
Cement Interval, ft. GL: 0 - 71  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 7/12/2009  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 10H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 70.0  
End Depth, ft: 2303.0  
Total Footage: 2233.0  
Start Date & Time: 7/13/09 0:30  
End Date & Time: 7/17/09 6:00  
Total Drilling Hours: 101.5  
Drilling Contractor: Patterson UTI  
Rig Number: 779  
Drilling Media: Mud  
Comments: Directional drill 9.875" vertical intermediate hole to KOP at 1489.0 (KB) 1472.0 (GL); Directional drill 9.875" curve portion intermediate hole to 2303.0'

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2302.0  
Casing Diameter, in: 7.625 OD; 6.9 ID  
Casing Type: J55, steel  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 7/17/09 0:00  
Comments:

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/18/2009	na
*Interval, ft:	nd - nd	na
Type:	type V	na
Additives:	N2 foamed	na
Amount, sks:	465	na
Weight, lb/gal:	13.0 (foamed to 10.0)	na
Method:	displacement	na
Comments:		

**Drillout Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 2303.0  
End Depth, ft: 2840.0  
Total Footage: 537.0  
Start Date & Time: 7/6/09 9:30  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Patterson UTI  
Rig Number: 779  
Drilling Media: Bicarb Solution  
Comments: Directional drill 6.75" horizontal hole 2303' to 2579' with a horizontal extension of the hole from 2579' to 2840' (TD), actual 10H-I intersection at 2763 (KB) 2750 (GL)'.

**Open Hole Interval**

Hole Diameter, in: 6.750  
Top Depth, ft: 2303.0  
Bottom Depth (TD), ft: 2840.0  
Interval Thickness, ft: 537.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 11H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6724.6  
KB Elevation, ft: 6741.6  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 502.1, FSL  
Footage, E/W: 493.4, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928589650  
Longitude, °W: 108.348893800  
State Plane Northing, ft: 229663.54  
State Plane Easting, ft: 1201152.94

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928561850  
Longitude, °W: 108.349538900  
State Plane Northing, ft: 1229662.90  
State Plane Easting, ft: 2200992.75

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.500  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 80.0  
Total Footage: 80.0  
Start Date & Time: 9/25/09 0:00  
End Date & Time: 9/25/09 0:00  
Total Drilling Hours: 0.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 80.0  
Diameter, in: 13.375 OD; 12.875 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 9/25/09 12:00  
Cement Interval, ft. GL: 0 - 80  
Cement Type: Portland Type I/II  
Cement Amount, sks: 8  
Cementing Date: 9/25/2009  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

# Drilling and Coring Program

## Well Completion Information

**Well Name:** 11H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

### Intermediate Hole Drilling Operation, Primary

Hole Diameter, in: 9.875  
 Start Depth, ft: 80.0  
 End Depth, ft: 2329.0  
 Total Footage: 2249.0  
 Start Date & Time: 10/1/09 4:30  
 End Date & Time: 10/4/09 19:50  
 Total Drilling Hours: 87.3  
 Drilling Contractor: Patterson UTI  
 Rig Number: 779  
 Drilling Media: Mud

Comments: Directional drill 9.875" vertical intermediate hole to KOP  
 at 1450.0 MD KB; 1433.0' MD GL

### Intermediate Hole Plug Back Data

Date & Time: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Materials:

### Intermediate Casing Data

Casing Depth, ft: 2326.0  
 Casing Diameter, in: 7.625 OD; 6.969 ID  
 Casing Type: J55 (steel)  
 Casing Wt: 26.4 lb/ft  
 Install Date & Time: 10/5/09 6:00  
 Comments: 7.625" csg 0-2326.0; 5.5" liner 1886.0-4101.0

### Intermediate Hole Drilling Operation, Secondary

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

### Intermediate Casing Cement Data

	Primary	Secondary
Date:	10/7/2009	na
*Interval, ft:	0 - 2329	na
Type:	type V	na
Additives:	N2 foamed	na
Amount, sks:	480	na
Weight, lb/gal:	see comments	na
Method:	displacement	na
Comments:	285 sks of Lead Cement, 14.0 ppg foamed to 10.0 PPG, 120 sks of Tail Cement at 12.8 ppg with N2 offline, and 75 sks of Cap Cement at 14.2 ppg with N2 offline.	

### Drillout Operation

Hole Diameter, in: 6.750  
 Start Depth, ft: 2329.0  
 End Depth, ft: 4103.0  
 Total Footage: 1774.0  
 Start Date & Time: 10/10/09 4:15  
 End Date & Time: 10/12/09 5:25  
 Total Drilling Hours: 49.2  
 Drilling Contractor: Patterson UTI  
 Rig Number: 779  
 Drilling Media: Bicarb Solution  
 Comments:

### Open Hole Interval

Hole Diameter, in: 6.750  
 Top Depth, ft: 2329.0  
 Bottom Depth (TD), ft: 4103.0  
 Interval Thickness, ft: 1774.0  
 Comments: 5.5" liner set in open hole for solution mining

### Production Casing Data

Casing Top Depth, ft: 1886.0  
 Csg Bottom Depth, ft: 4101.0  
 Casing Diameter, in: 5.5 OD; 5 ID  
 Casing Type: J-55 steel  
 Casing Wt: 17 lb/ft  
 Install Date & Time: 10/13/09 0:45  
 Comments: Hanger set at 1886 MD GL

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 11H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

**Secondary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

**Sampling Equipment Installation**

Installation Date: na  
 Stick-Up Height, ft.: na  
 Stick-up Elevation, ft.: nd  
 Materials: na

Comments:

**Abandonment Data**

Abandonment Date: 5/9/17 17:00  
 Drilling Contractor: Red Rock Well Service  
 Rig Number: nd  
 Materials: CIBP (5.5"): 2154  
 PERFS: 1890, 1980, 2060, 2106; 4 spf, 90 deg. phase, 21  
 gram per perf, 0.42" hole, with 35.97" penetration  
 CEMENT: 0-2154; 640.5 sks (146.7 bbls), 15 lb/gal; STG-  
 1(73.5 sx, 16.8 bbls) 2154'-1921', STG-2 (157.5 sx, 36 bbls)  
 1921'-1902', STG-3 (157.5 sx, 36 bbls) 1902'- 1188', STG-4  
 (157.5 sx, 36 bbls) 1188'-470', STG-5 (94.5 sx, 21.6 bbls) 470'-

Comments:



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 11H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6725.9  
KB Elevation, ft: 6742.9  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 696.6, FSL  
Footage, E/W: 542.7, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929122140  
Longitude, °W: 108.348721100  
State Plane Northing, ft: 229855.85  
State Plane Easting, ft: 1201207.57

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929094330  
Longitude, °W: 108.349366200  
State Plane Northing, ft: 1229855.21  
State Plane Easting, ft: 2201047.38

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.500  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 85.0  
Total Footage: 85.0  
Start Date & Time: 10/13/09 nd  
End Date & Time: 10/13/09 nd  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 85.0  
Diameter, in: 13.375 OD; 12.875 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 85  
Cement Type: GROUT  
Cement Amount, sks: 8  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 11H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
 Start Depth, ft: 85.0  
 End Depth, ft: 2339.0  
 Total Footage: 2254.0  
 Start Date & Time: 10/15/09 14:30  
 End Date & Time: 10/20/09 14:00  
 Total Drilling Hours: 119.5  
 Drilling Contractor: Patterson UTI  
 Rig Number: 779  
 Drilling Media: Mud and Halite Bicarb Solution  
 Comments: KOP at 1438.0 (KB) 1421.0 (GL) TVD at casing point:  
 2006.3'. LCM added at 1' 303'; switched to salt system  
 at 1783'

**Intermediate Hole Plug Back Data**

Date & Time: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2336.0  
 Casing Diameter, in: 7.625 OD; 6.9 ID  
 Casing Type: J55 (steel)  
 Casing Wt: 26.4 lb/ft  
 Install Date & Time: 10/20/09 21:30  
 Comments:

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	10/21/2009	na
*Interval, ft:	nd - nd	na
Type:	type V	na
Additives:	N2 foamed	na
Amount, sks:	575	na
Weight, lb/gal:	14.0	na
Method:	displacement	na
Comments:	380 sks of Lead Cement at 14.0 ppg foamed to 10.0 ppg; 120 sks of Tail Cement at 12.8 ppg; 75 sks of Cap Cement at 14.2 ppg	

**Drillout Operation**

Hole Diameter, in: 6.750  
 Start Depth, ft: 2339.0  
 End Depth, ft: 2591.0  
 Total Footage: 252.0  
 Start Date & Time: 10/24/09 4:30  
 End Date & Time: 10/25/09 1:00  
 Total Drilling Hours: 20.5  
 Drilling Contractor: Patterson UTI  
 Rig Number: 779  
 Drilling Media: Halite Bicarb Solution  
 Comments: horizontal section; 11H-I intersection at 2530 (KB)  
 2513 (GL).

**Open Hole Interval**

Hole Diameter, in: 6.750  
 Top Depth, ft: 2339.0  
 Bottom Depth (TD), ft: 2591.0  
 Interval Thickness, ft: 252.0  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
 Csg Bottom Depth, ft: na  
 Casing Diameter, in: na OD; na ID  
 Casing Type: na  
 Casing Wt: na  
 Install Date & Time: na  
 Comments:

# Drilling and Coring Program

## Well Completion Information

**Well Name:** 11H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Plugged and Abandoned

### Primary Recompletion Data

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

### Primary Recompletion, Plug Back Drillout

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

### Primary Recompletion, Hole Cleanout

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

### Primary Recompletion, Open Hole Interval

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

### Primary Recompletion, Hole Plug Back

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

### Secondary Recompletion Data

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

### Secondary Recompletion, Plug Back Drillout

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

### Secondary Recompletion, Hole Cleanout

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

### Secondary Recompletion, Open Hole Interval

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

### Secondary Recompletion, Hole Plug Back

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

## Sampling Equipment Installation

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments:

## Abandonment Data

Abandonment Date: 5/5/17 17:00  
Drilling Contractor: Red Rock Well Service  
Rig Number: nd  
Materials: CIBP (7.625"): 2235  
PERFS: 550, 750, 920; 4 spf, 90 deg. phase, 21 gram per  
perf, 0.42" hole, with 35.97" penetration  
CEMENT: 0-2235; 567 sks (129.8 bbls), 15 lb/gal; STG-1  
(157.5 sx, 36 bbls) 2235'-1520', STG-2 (157.5 sx, 36 bbls)  
1520'-835', STG-3 (157.5 sx, 36 bbls) 835'-437', STG-4 (94.5  
sx, 21.6 bbls) 437'-0'

Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 12H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6715.6  
KB Elevation, ft: 6726.6  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 766.9, FSL  
Footage, E/W: 576.5, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929303880  
Longitude, °W: 108.348621300  
State Plane Northing, ft: 229921.12  
State Plane Easting, ft: 1201237.68

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929276080  
Longitude, °W: 108.349266400  
State Plane Northing, ft: 1229920.48  
State Plane Easting, ft: 2201077.49

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 24.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 87.0  
Total Footage: 87.0  
Start Date & Time: 4/19/12 8:00  
End Date & Time: 4/19/12 14:00  
Total Drilling Hours: 6.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: nd  
Comments: 60" diameter cellar, 0-5'

**Conductor Casing Data**

Casing Depth, ft. GL: 84.0  
Diameter, in: 13.375 OD; 12.625 ID  
Type: J55 (steel)  
Weight: 54.5 lb/ft  
Install Date & Time: 4/19/12 14:00  
Cement Interval, ft. GL: 0 - 87  
Cement Type: Concrete  
Cement Amount, sks: 38  
Cementing Date: 4/19/2012  
Top-off Cement Date: na  
Comments: 60" cellar from 0' - 5' is cased with 60" corrugated pipe

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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# Drilling and Coring Program

## Well Completion Information

**Well Name:** 12H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection  
**Well Status:** Active

### Intermediate Hole Drilling Operation, Primary

Hole Diameter, in: 9.875  
 Start Depth, ft: 87.0  
 End Depth, ft: 2249.0  
 Total Footage: 2162.0  
 Start Date & Time: 4/24/12 9:30  
 End Date & Time: 4/27/12 14:30  
 Total Drilling Hours: 77.0  
 Drilling Contractor: Capstar  
 Rig Number: 312  
 Drilling Media: Mud and Halite Bicarb Solution  
 Comments: Rig KB = 11'; KOP @ 1467' MD GL (1478.0 MD KB).  
 LCM added at 530'; Run wiper trip with 9.875" bit and  
 9.625" stabilizer

### Intermediate Hole Plug Back Data

Date & Time: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Materials:

### Intermediate Casing Data

Casing Depth, ft: 2245.0  
 Casing Diameter, in: 7.625 OD; 6.969 ID  
 Casing Type: J55 (steel)  
 Casing Wt: 26.4 lb/ft  
 Install Date & Time: 5/1/12 2:30

Comments: Initial attempt to install 7.625" L80 steel casing on 4/28/12 failed after pipe separated at collars due to thread defect, 3 joints lost in hole had to be fished out prior to running all J-55.

### Intermediate Hole Drilling Operation, Secondary

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

### Intermediate Casing Cement Data

	Primary	Secondary
Date:	5/1/2012	na
*Interval, ft:	408 - 2249	na
Type:	Elastiseal (1) Rockies LT - SBM(2)	na
Additives:	Versaset, Calseal, Chem foamer, KCl, N2 foamed (1)	na
Amount, sks:	310 (1) 80 (2)	na
Weight, lb/gal:	10.0 (1) 12.0 (2)	na
Method:	displacement	na
Comments:	310 sks of Lead Cement at 14.0 ppg foamed to 10.0 ppg; 80 sks of Tail Cement at 12.0 ppg; 100 sks of Cap Cement at 14.6 ppg	

### Drillout Operation

Hole Diameter, in: 6.750  
 Start Depth, ft: 2249.0  
 End Depth, ft: 4189.0  
 Total Footage: 1940.0  
 Start Date & Time: 5/4/12 3:50  
 End Date & Time: 5/7/12 4:35  
 Total Drilling Hours: 72.8  
 Drilling Contractor: Capstar  
 Rig Number: 312  
 Drilling Media: Halite Bicarb Solution  
 Comments: 12H-R pass-by at ~2540 MD KB

### Open Hole Interval

Hole Diameter, in: 6.750  
 Top Depth, ft: 2249.0  
 Bottom Depth (TD), ft: 4189.0  
 Interval Thickness, ft: 1940.0  
 Comments: 5.5" liner set in open hole for solution mining

### Production Casing Data

Casing Top Depth, ft: 1874.2  
 Csg Bottom Depth, ft: 4182.2  
 Casing Diameter, in: 5.5 OD; 4.892 ID  
 Casing Type: L-80 (1) J-55 (2)  
 Casing Wt: 17 lb/ft  
 Install Date & Time: 5/7/12 21:00  
 Comments: Hanger set at 1874.2 MD GL,  
 L-80 set from 1874.2 to 2940.4 MD GL,  
 J-55 set from 2940.4 to 4182.2 MD GL.

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 12H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection  
**Well Status:** Active

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments:

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**Abandonment Data**

Abandonment Date: na  
Drilling Contractor: na  
Rig Number: na  
Materials:

Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 12H-IR  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection/Recovery Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6687.9  
KB Elevation, ft: 6701.2  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 879.37, FSL  
Footage, E/W: 1393.4, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929667896  
Longitude, °W: 108.363801054  
State Plane Northing, ft: 230190.75  
State Plane Easting, ft: 1196986.98

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929640115  
Longitude, °W: 108.364446697  
State Plane Northing, ft: 1230191.55  
State Plane Easting, ft: 2196826.27

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.0  
Total Footage: 120.0  
Start Date & Time: 7/7/18 8:00  
End Date & Time: 7/7/18 12:00  
Total Drilling Hours: 4.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 120.0  
Diameter, in: 16 OD; 15.25 ID  
Type: J55 (steel)  
Weight: 62.64 lb/ft  
Install Date & Time: 7/7/18 15:00  
Cement Interval, ft. GL: 0 - 120  
Cement Type: Portland  
Cement Amount, sks: 12.5 cu yd  
Cementing Date: 7/7/2018  
Top-off Cement Date: 1/0/1900  
Comments: Marker welded on 2' feet below TOC

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

## Drilling and Coring Program

**Well Completion Information**

**Well Name:** 12H-IR  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection/Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 13.500  
 Start Depth, ft: 120.0  
 End Depth, ft: 2551.7  
 Total Footage: 2431.7  
 Start Date & Time: 8/5/18 2:00  
 End Date & Time: 8/7/18 18:25  
 Total Drilling Hours: 64.4  
 Drilling Contractor: Capstar  
 Rig Number: 321  
 Drilling Media: Mud and Halite Bicarb Solution  
 Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2544.7  
 Casing Diameter, in: 9.625 OD; 8.921 ID  
 Casing Type: J55 (steel)  
 Casing Wt: 36.0 lb/ft  
 Install Date & Time: 8/9/18 2:30  
 Comments: DV cement tool added to casing string at 1486.2' MD KB (1472.9' MD GL)

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	8/9/2018	1/0/1900
*Interval, ft:	0 - 2551.7	-
Type:	Neocem, Stages 1 and 2	0
Additives:	0	0
Amount, sks:	Stage 1: 540 sks Stage 2: 785 sks	0
Weight, lb/gal:	Stage 1 and 2: 12.8	0.0
Method:	displacement	0
Comments:	Topped off with ~1 yd <sup>3</sup> cement	

**Drillout Operation**

Hole Diameter, in: 8.500  
 Start Depth, ft: 2551.7  
 End Depth, ft: 3464.7  
 Total Footage: 913.0  
 Start Date & Time: 8/11/18 14:00  
 End Date & Time: 8/12/18 15:40  
 Total Drilling Hours: 25.7  
 Drilling Contractor: Capstar  
 Rig Number: 321  
 Drilling Media: Halite Bicarb Solution  
 Comments: Lost all returns at TD indicating with intended connection with 12H-I mining interval. Verified by monitoring water level in 12H-I and 12H-R.

**Open Hole Interval**

Hole Diameter, in: 8.500  
 Top Depth, ft: 2544.7  
 Bottom Depth (TD), ft: 3464.7  
 Interval Thickness, ft: 920.0  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: 2015.7  
 Csg Bottom Depth, ft: 3376.7  
 Casing Diameter, in: 7 OD; 6.366 ID  
 Casing Type: J55 (steel)  
 Casing Wt: 23 lb/ft  
 Install Date & Time: 8/14/18 7:30  
 Comments: LTC: 2015.7-2571.5  
 FJ: 2571.5-3376.7



Drilling and Coring Program

**Well Completion Information**

**Well Name:** 12H-IR  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection/Recovery Well  
**Well Status:** Active

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments:

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**Abandonment Data**

Abandonment Date: na  
Drilling Contractor: na  
Rig Number: na  
Materials: na

Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 12H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6715.6  
KB Elevation, ft: 6726.6  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 870.6, FSL  
Footage, E/W: 594.8, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929598180  
Longitude, °W: 108.348538400  
State Plane Northing, ft: 230027.52  
State Plane Easting, ft: 1201264.37

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929570370  
Longitude, °W: 108.349183400  
State Plane Northing, ft: 1230026.88  
State Plane Easting, ft: 2201104.18

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 24.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 115.0  
Total Footage: 115.0  
Start Date & Time: 5/7/12 6:00  
End Date & Time: 5/7/12 18:00  
Total Drilling Hours: 12.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: nd  
Comments: 60" diameter cellar, 0-5'

**Conductor Casing Data**

Casing Depth, ft. GL: 110.0  
Diameter, in: 13.375 OD; 12.625 ID  
Type: J55 (steel)  
Weight: 54.5 lb/ft  
Install Date & Time: 5-7-12 nd  
Cement Interval, ft. GL: 0 - 115  
Cement Type: Concrete  
Cement Amount, sks: 41  
Cementing Date: 5/7/2012  
Top-off Cement Date: na  
Comments: 60" cellar from 0' - 5' is cased with 60" corrugated pipe

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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# Drilling and Coring Program

## Well Completion Information

**Well Name:** 12H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

### Intermediate Hole Drilling Operation, Primary

Hole Diameter, in: 9.875  
 Start Depth, ft: 115.0  
 End Depth, ft: 2265.0  
 Total Footage: 2150.0  
 Start Date & Time: 5/9/12 9:30  
 End Date & Time: 5/14/12 10:40  
 Total Drilling Hours: 121.2  
 Drilling Contractor: Capstar  
 Rig Number: 312  
 Drilling Media: Mud and Halite Bicarb Solution  
 Comments: Rig KB = 11'; KOP @ 1473.0 MD GL (1484.0 KD KB).  
 LCM added at 1495' and again at 1557'. Lost all  
 circulation at 2010'. add 15-20 % LCM and increase  
 pump rate to regain returns lost ~5000 bbls. Total  
 losses in well section calculated at 5500 bbls. Run  
 wiper trip with 9.875" bit and 9.625" stabilizer

### Intermediate Hole Plug Back Data

Date & Time: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Materials:

### Intermediate Casing Data

Casing Depth, ft: 2263.0  
 Casing Diameter, in: 7.625 OD; 6.969 ID  
 Casing Type: J55 (steel)  
 Casing Wt: 26.4 lb/ft  
 Install Date & Time: 5/15/12 6:30  
 Comments:

### Intermediate Hole Drilling Operation, Secondary

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

### Intermediate Casing Cement Data

	Primary	Secondary
Date:	5/15/2012	5/19/2012
*Interval, ft:	1454 - 2265	-
Type:	Rockies LT - SBM(2)	Econocem
Additives:	Versaset, Calseal, Chem foamer, KCl, N2 foamed (1)	Bentonite, Cal-Seal,
Amount, sks:	Lead: 410 Tail: 90	240
Weight, lb/gal:	Lead: 10.0 Tail: 12.0	12.0
Method:	displacement	perforate/squeeze
Comments:	top of cement from Halliburton CBL and Cast M Logs	Set 7.625" CIBP from 1393.0-1394.0 MD GL (1404.0-1405.0 MD KB) and perforated 3 - 0.34" holes from 1388' to 1389' (1399-1400 MD KB) prior to squeeze job. Displaced cement with 64 bbls of

### Drillout Operation

Hole Diameter, in: 6.750  
 Start Depth, ft: 2265.0  
 End Depth, ft: 2623.0  
 Total Footage: 358.0  
 Start Date & Time: 5/20/12 18:30  
 End Date & Time: 5/22/12 13:00  
 Total Drilling Hours: 42.5  
 Drilling Contractor: Capstar  
 Rig Number: 312  
 Drilling Media: Halite Bicarb Solution  
 Comments: Lost all returns at 2419', never regained circulation.  
 SDI MagTrac ranging indicated the 12H-I well 2.2'  
 below the 12H-R at 2544'. Wash/Ream to make  
 connection.

### Open Hole Interval

Hole Diameter, in: 6.750  
 Top Depth, ft: 2265.0  
 Bottom Depth (TD), ft: 2623.0  
 Interval Thickness, ft: 358.0  
 Comments: Wash and ream hole from 2539' to 2562' to make  
 connection with 12H-I well

### Production Casing Data

Casing Top Depth, ft: na  
 Csg Bottom Depth, ft: na  
 Casing Diameter, in: na OD; na ID  
 Casing Type: na  
 Casing Wt: na  
 Install Date & Time: na  
 Comments:

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 12H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments:

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**Abandonment Data**

Abandonment Date: na  
Drilling Contractor: na  
Rig Number: na  
Materials:

Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 1-3A  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6687.8  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 961.73, FSL  
Footage, E/W: 1421.76, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929911720  
Longitude, °W: 108.363785900  
State Plane Northing, ft: 230279.38  
State Plane Easting, ft: 1196994.11

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929883930  
Longitude, °W: 108.364431500  
State Plane Northing, ft: 1230278.78  
State Plane Easting, ft: 2196833.87

**Conductor Hole Drilling Operation**

Hole Diameter, in: 29.0  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 57.0  
Total Footage: 57.0  
Start Date & Time: 10/26/01 7:30  
End Date & Time: 10/27/01 4:00  
Total Drilling Hours: 20.5  
Drilling Contractor: Lang Exploratory Drilling  
Rig Number: LK-31  
Drilling Media: Mud

Comments: All depths assumed to be referenced to GL, unless data source specifically cited KB. KB depths (3' above GL) have been corrected to GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 57.0  
Diameter, in: 24 OD; nd ID  
Type: nd  
Weight: 54.5 lb/ft  
Install Date & Time: 10/27/01 5:00  
Cement Interval, ft. GL: 0 - 57  
Cement Type: Portland  
Cement Amount, sks: 21  
Cementing Date: 10/27/2001  
Top-off Cement Date: na

Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 12.250  
Start Depth, ft: 57.0  
End Depth, ft: 2012.0  
Total Footage: 1955.0  
Start Date & Time: 10/27/01 19:45  
End Date & Time: 10/31/01 0:45  
Total Drilling Hours: 77.0  
Drilling Contractor: Lang Exploratory Drilling  
Rig Number: LK-31  
Drilling Media: Mud  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2002.4  
Casing Diameter, in: 7.625 OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 10/31/01 16:00  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 1-3A  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	11/1/2001	11/3/2001
*Interval, ft:	195 - 2015	0 - 195
Type:	Halliburton Hi-Temp Silica	nd
Additives:	nd	nd
Amount, sks:	826	6
Weight, lb/gal:	nd	nd
Method:	tremie	poured
Comments:		Six supersacks of cement used to top off.

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 12.250  
Top Depth, ft: 2002.4  
Bottom Depth (TD), ft: 2015.0  
Interval Thickness, ft: 12.6  
Comments: Open hole interval contains fill.

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: 11/12/01 nd  
Completion Date: na  
Drilling Contractor: Key Energy Services  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments: DRILLOUT

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: nd  
End Depth, ft: nd  
Comments: November, 2001  
Key Energy Services  
Between 11/12/01 and 11/30/01, 11 total short radius

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments: Between 11/12/01 and 11/30/01, 11 total short radius horizontals were drilled between the depths of 1911' and 1935' in an attempt to connect with cavities 1A and 3A. No such connections were made.

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 1-3A  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: 2/12/02 nd  
Completion Date: 12/26/02 nd  
Drilling Contractor: BLU H Well Service  
Rig Number: nd

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments: CIBP and cement placed on 12/26/02. 40 perforations from 1867'-1887'.

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments: Perforations from 1901'-1935'. On 2/19/02, 3 sideways holes were drilled to connect with cavities 1A and 3A. No connection was made.

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1891.0  
Plug Back, Bottom, ft: 1895.0  
Materials: Cement: 1891'-1893'  
CIBP: 1893'-1895'

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: 0.0  
Stick-up Elevation, ft.: 6687.8  
Materials: na

Comments: na

---

**Abandonment Data**

Abandonment Date: 9/28/13 9:00  
Drilling Contractor: na  
Rig Number: na

Materials: Cement: 3-4-30  
Cement: 30-535  
Cement: 535-1182  
Cement: 1182-1700  
Cement: 1700-1891

Comments: CIBP installed on 12/26/02: 1893'-1895' with cement from 1891'-1893' and perms 1867'-1887'

---

**Recompletion History**

November, 2001  
Key Energy Services  
Between 11/12/01 and 11/30/01, 11 total short radius horizontals were drilled between the depths of 1911' and 1935' in an attempt to connect with cavities 1A and 3A. No such connections were made.

February, 2002  
BLU H Well Service  
Perforations from 1901'-1935'. On 2/19/02, 3 sideways holes were drilled to connect with cavities 1A and 3A. No connection was made.

December, 2002  
Cement: 1891'-1893'  
CIBP: 1893'-1895'  
CIBP and cement placed on 12/26/02. 40 perforations from 1867'-1887'.

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 13H-IR  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection/Recovery Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6687.6  
KB Elevation, ft: 6700.9  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 990.92, FSL  
Footage, E/W: 1411.71, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930014690  
Longitude, °W: 108.363712457  
State Plane Northing, ft: 230316.21  
State Plane Easting, ft: 1197015.90

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929986908  
Longitude, °W: 108.364358097  
State Plane Northing, ft: 1230315.61  
State Plane Easting, ft: 2196855.66

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.0  
Total Footage: 120.0  
Start Date & Time: 8/13/18 9:00  
End Date & Time: 8/13/18 19:00  
Total Drilling Hours: 10.0  
Drilling Contractor: Triple A Drilling  
Rig Number: Auger Rig  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 120.0  
Diameter, in: 16 OD; 15.25 ID  
Type: J55 (steel)  
Weight: 62.64 lb/ft  
Install Date & Time: 8/13/18 14:00  
Cement Interval, ft. GL: 0 - 120  
Cement Type: Portland Type II  
Cement Amount, sks: nd  
Cementing Date: 8/13/2018  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: na  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments: na

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 13.500  
Start Depth, ft: 120.0  
End Depth, ft: 2325.7  
Total Footage: 2205.7  
Start Date & Time: 8/16/18 1:06  
End Date & Time: 8/18/18 12:10  
Total Drilling Hours: 59.1  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Mud and Halite Bicarb Solution  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2319.1  
Casing Diameter, in: 9.625 OD; 8.921 ID  
Casing Type: J55 (steel)  
Casing Wt: 36 lb/ft  
Install Date & Time: 8/19/18 6:00  
Comments: DV cement tool added to casing string at 1485.4' MD KB (1472.1' MD GL)



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 13H-IR  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection/Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/19/2018	na
*Interval, ft:	0 - 2325.7	na
Type:	Neocem, Stages 1 and 2	na
Additives:	0	na
Amount, sks:	Stage 1: 450 sks Stage 2: 705 sks	na
Weight, lb/gal:	Stage 1 and 2: 12.8	na
Method:	displacement	na
Comments:	CBL shows stage 2 to have gas cut.	

**Drillout Operation**

Hole Diameter, in: 8.500  
Start Depth, ft: 2325.7  
End Depth, ft: 3423.7  
Total Footage: 1098.0  
Start Date & Time: 8/22/18 3:00  
End Date & Time: 8/24/18 16:05  
Total Drilling Hours: 61.1  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Halite Bicarb Solution  
Comments:

**Open Hole Interval**

Hole Diameter, in: 8.500  
Top Depth, ft: 2325.7  
Bottom Depth (TD), ft: 3423.7  
Interval Thickness, ft: 1098.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: 2049.1  
Csg Bottom Depth, ft: 2614.7  
Casing Diameter, in: 7 OD; 6.366 ID  
Casing Type: J55 (steel)  
Casing Wt: 23 lb/ft  
Install Date & Time: 8/25/18 2:15  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 13H-IR  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection/Recovery Well  
**Well Status:** Active

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials:

Comments:

---

**Abandonment Data**

Abandonment Date: na  
Drilling Contractor: na  
Rig Number: na  
Materials:

Comments:

---

**Recompletion History**

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 14H-1V  
**Hole Type:** Directional Rotary - Slant  
**Well Type:** Slant Injection/Recovery Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6644.3  
KB Elevation, ft: 6657.6  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWSE  
Footage, N/S: 1622.8, FSL  
Footage, E/W: 1631.31, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.931733549  
Longitude, °W: 108.356417813  
State Plane Northing, ft: 230876.03  
State Plane Easting, ft: 1199080.77

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.931705740  
Longitude, °W: 108.357063189  
State Plane Northing, ft: 1230876.79  
State Plane Easting, ft: 2198920.09

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.7  
Total Footage: 120.7  
Start Date & Time: 6/12/19 9:00  
End Date & Time: 6/12/19 14:10  
Total Drilling Hours: 5.2  
Drilling Contractor: Triple A Drilling  
Rig Number: na  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 120.7  
Diameter, in: 16 OD; 15 ID  
Type: J55 (steel)  
Weight: 82.85 lb/ft  
Install Date & Time: 6/12/19 15:20  
Cement Interval, ft. GL: 0 - 120.7  
Cement Type: portland type II  
Cement Amount, sks: 12.5 cu yd  
Cementing Date: 6/12/2019  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: na  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 13.500  
Start Depth, ft: 120.7  
End Depth, ft: 1963.7  
Total Footage: 1843.0  
Start Date & Time: 6/19/19 8:00  
End Date & Time: 6/22/19 0:45  
Total Drilling Hours: 64.7  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Water-Based Mud  
Comments: No brine used to drill intermediate hole

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1952.7  
Casing Diameter, in: 9.625 OD; 8.921 ID  
Casing Type: J55 (steel)  
Casing Wt: 36 lb/ft  
Install Date & Time: 6/22/19 6:00  
Comments: DV/ACP tool 1450.4' GL

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 14H-1V  
**Hole Type:** Directional Rotary - Slant  
**Well Type:** Slant Injection/Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	6/23/2019	na
*Interval, ft:	0 - 1963.7	na
Type:	Neocem, Stages 1 and 2	na
Additives:	na	na
Amount, sks:	Stage 1: 285 sks Stage 2: 720 sks	na
Weight, lb/gal:	13.0	na
Method:	displacement	na
Comments:		

**Drillout Operation**

Hole Diameter, in: 8.750  
 Start Depth, ft: 1963.7  
 End Depth, ft: 2095.5  
 Total Footage: 131.8  
 Start Date & Time: 6/25/19 23:30  
 End Date & Time: 6/25/19 23:53  
 Total Drilling Hours: 0.4  
 Drilling Contractor: Capstar  
 Rig Number: 321  
 Drilling Media: Mud  
 Comments:

**Open Hole Interval**

Hole Diameter, in: 8.500  
 Top Depth, ft: 1963.7  
 Bottom Depth (TD), ft: 2095.5  
 Interval Thickness, ft: 131.8  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: 1838.8  
 Csg Bottom Depth, ft: 2094.7  
 Casing Diameter, in: 7 OD; 6.366 ID  
 Casing Type: J-55 LTC  
 Casing Wt: 23 lb/ft  
 Install Date & Time: 6/26/19 12:00  
 Comments: Liner Hanger (6.0" ID Hanger) at 1852.1' MD KB (1838.8' MD GL)

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 14H-1V  
**Hole Type:** Directional Rotary - Slant  
**Well Type:** Slant Injection/Recovery Well  
**Well Status:** Active

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials:

Comments:

---

**Abandonment Data**

Abandonment Date: na  
Drilling Contractor: na  
Rig Number: na  
Materials:

Comments:

---

**Recompletion History**

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 14H-I ST  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6679.7  
KB Elevation, ft: 6696.7  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 1210, FSL  
Footage, E/W: 192, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930529000  
Longitude, °W: 108.349996000  
State Plane Northing, ft: 230379.61  
State Plane Easting, ft: 1200866.73

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930501000  
Longitude, °W: 108.350641000  
State Plane Northing, ft: 1230378.97  
State Plane Easting, ft: 2200706.53

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 24.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: F  
Total Footage: #VALUE!  
Start Date & Time: 7/2/14 10:40  
End Date & Time: 7/2/14 14:00  
Total Drilling Hours: 3.3  
Drilling Contractor: Triple A Drilling  
Rig Number: na  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 83.5  
Diameter, in: 13.375 OD; 12.715 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 7/2/14 14:30  
Cement Interval, ft. GL: 0 - 83.5  
Cement Type: Portland Type II  
Cement Amount, sks: 189  
Cementing Date: 7/3/2014  
Top-off Cement Date: na  
Comments: Casing Welded

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 83.5  
End Depth, ft: 2346.0  
Total Footage: 2262.5  
Start Date & Time: 7/12/14 13:00  
End Date & Time: 7/18/14 1:15  
Total Drilling Hours: 132.3  
Drilling Contractor: Hydro Resources, Inc.  
Rig Number: 409  
Drilling Media: Mud and Halite Bicarb Solution  
Comments: 14H-I casing became stuck at 2020 ft MD KB during installation. Removed casing: 0-1529' MD KB (casing fish in hole 1529-2020' MD KB). Sidetrack well (14H-I ST) was drilled.

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 2278.0  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 8/8/14 5:00  
Comments: DV cement tool added to casing string at 1532' MD KB (1515' MD GL)

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 14H-I ST  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: 9.875  
Start Depth, ft: 1293.0  
End Depth, ft: 2284.0  
Total Footage: 991.0  
Start Date & Time: 7/30/14 6:00  
End Date & Time: 8/6/14 3:05  
Total Drilling Hours: 165.1  
Drilling Contractor: Hydro Resources, Inc.  
Rig Number: 409  
Drilling Media: Mud and Halite Bicarb Soluti  
Comments: Cement plug was set on top of casing fish (TOC 1191' MD KB) and used to kick off for sidetrack drilling

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/8/2014	na
*Interval, ft:	440 - 2284	na
Type:	Portland Type III, Varicem	na
Additives:	Stage 1: Bridgemaker II LCM, Barite and Super CBL	na
Amount, sks:	330	na
Weight, lb/gal:	12.8	na
Method:	displacement	na
Comments:	2 stage displacement cement. No returns to surface from 1st stage, 5 bbls cement from 2nd stage	1/8/15: confirm cement to surface

**Drillout Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 2284.0  
End Depth, ft: 3822.0  
Total Footage: 1538.0  
Start Date & Time: 8/10/14 20:45  
End Date & Time: 8/12/14 14:45  
Total Drilling Hours: 42.0  
Drilling Contractor: Hydro Resources, Inc.  
Rig Number: 409  
Drilling Media: Halite Bicarb Solution  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.750  
Top Depth, ft: 2284.0  
Bottom Depth (TD), ft: 3822.0  
Interval Thickness, ft: 1538.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: 1770.0  
Csg Bottom Depth, ft: 3822.0  
Casing Diameter, in: 5.5 OD; 4.892 ID  
Casing Type: L-80 (1)J-55 (2)  
Casing Wt: 17 lb/ft  
Install Date & Time: 8/14/14 6:00  
Comments: Liner Hanger at 1787' MD KB (1770' MD GL)

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 14H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6679.5  
KB Elevation, ft: 6696.5  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 1110, FSL  
Footage, E/W: 252, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930265288  
Longitude, °W: 108.349763798  
State Plane Northing, ft: 230281.44  
State Plane Easting, ft: 1200928.68

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930237480  
Longitude, °W: 108.350408919  
State Plane Northing, ft: 1230280.80  
State Plane Easting, ft: 2200768.49

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 24.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 84.0  
Total Footage: 84.0  
Start Date & Time: 8/14/14 9:00  
End Date & Time: 8/14/14 14:00  
Total Drilling Hours: 5.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: na  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 84.0  
Diameter, in: 13.375 OD; 12.715 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 8/15/14 15:00  
Cement Interval, ft. GL: 0 - 84  
Cement Type: Portland Type II  
Cement Amount, sks: 7.5 yds  
Cementing Date: 8/16/2014  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 84.0  
End Depth, ft: 2283.0  
Total Footage: 2199.0  
Start Date & Time: 8/20/14 4:30  
End Date & Time: 8/31/14 12:00  
Total Drilling Hours: 271.5  
Drilling Contractor: Hydro Resources, Inc.  
Rig Number: 409  
Drilling Media: Mud and Halite Bicarb Solution  
Comments: Time includes 4 cement plugs with 24 hr wait time each

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 2282.0  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 9/2/14 22:00  
Comments: DV cement tool at 1572' MD KB (1555' MD GL)



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 14H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	9/3/2014	9/4/2014 (1)9/8/14 (2)
*Interval, ft:	958 - 2283	440 - 958
Type:	Portland Type I/II	Type G (1) SqueezeCem (2)
Additives:	na	Halad (1) na (2)
Amount, sks:	160 (1) 275 (2)	245 (1)160 (2)
Weight, lb/gal:	12.8 lb/gal	15.8 (1)12.3 (2)
Method:	displacement	displacement
Comments:	1st stage, DV tool at 1,572' Fluid returns to surface, no cement. 2nd stage, pumped from 1,572' to surface, fluid returns only, no cement	good returns, no cement to surface, no returns top off: 9/16/14, 3 cu yd, 0-440' MD GL; top Off 1/8/15, cement 2' below surface

**Drillout Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 2283.0  
End Depth, ft: 2819.0  
Total Footage: 536.0  
Start Date & Time: 9/11/14 13:10  
End Date & Time: 9/12/14 18:00  
Total Drilling Hours: 28.8  
Drilling Contractor: Hydro Resources, Inc.  
Rig Number: 409  
Drilling Media: Mud and Halite Bicarb Solution  
Comments: Crossover 14H-I at 2663 MD KB, 2.4' above.

**Open Hole Interval**

Hole Diameter, in: 6.750  
Top Depth, ft: 2283.0  
Bottom Depth (TD), ft: 2819.0  
Interval Thickness, ft: 536.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 15H-1V  
**Hole Type:** Directional Rotary - Slant  
**Well Type:** Slant Injection/Recovery Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6685.7  
KB Elevation, ft: 6699.3  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 265.3, FSL  
Footage, E/W: 2152.6, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927979798  
Longitude, °W: 108.361128122  
State Plane Northing, ft: 229551.96  
State Plane Easting, ft: 1197716.38

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927952024  
Longitude, °W: 108.361773658  
State Plane Northing, ft: 1229552.73  
State Plane Easting, ft: 2197555.68

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 119.4  
Total Footage: 119.4  
Start Date & Time: 6/25/19 8:00  
End Date & Time: 6/25/19 14:00  
Total Drilling Hours: 6.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: na  
Comments: 5' x 5' cellar

**Conductor Casing Data**

Casing Depth, ft. GL: 119.4  
Diameter, in: 16 OD; 15 ID  
Type: J55 (steel)  
Weight: 82.85 lb/ft  
Install Date & Time: 6/25/19 14:00  
Cement Interval, ft. GL: 0 - 119.4  
Cement Type: Portland Type I/II  
Cement Amount, sks: 13 yds  
Cementing Date: 6/27/2019  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: na  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 13.50  
Start Depth, ft: 119.4  
End Depth, ft: 2036.4  
Total Footage: 1917.0  
Start Date & Time: 6/28/19 7:15  
End Date & Time: 7/1/19 11:30  
Total Drilling Hours: 76.2  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: WBM / Brine  
Comments: TD in L-5 B/C.

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 2029.4  
Casing Diameter, in: 9.625 OD; 8.921 ID  
Casing Type: J55 (steel)  
Casing Wt: 36 lb/ft  
Install Date & Time: 7/2/19 6:30  
Comments: DV/ACP tool at 1428.3 ft GL. Casing shoe in L-5 B/C

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 15H-1V  
**Hole Type:** Directional Rotary - Slant  
**Well Type:** Slant Injection/Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	7/2/2019	7/9/2019
*Interval, ft:	nd - 2036.4	nd - nd
Type:	HES NeoCem	Portland Type II/V
Additives:	SA-1015, 2 sk; D-AIR 5000, 2 sk;	nd
Amount, sks:	925	26.2 bbls (1) 9.6 bbls (2)
Weight, lb/gal:	13.0	nd
Method:	displacement	poured
Comments:	While displacing 2nd stage, 50 bbls from 1st stage to surface then 15 bbls from 2nd stage to surface.	Initial top off (1) on 7/8/2019 fell 65 feet, poured (2) on 7/9/2019

**Drillout Operation**

Hole Diameter, in: 8.750  
 Start Depth, ft: 2036.4  
 End Depth, ft: 2079.1  
 Total Footage: 42.7  
 Start Date & Time: 7/5/19 10:00  
 End Date & Time: 7/5/19 12:30  
 Total Drilling Hours: 2.5  
 Drilling Contractor: Capstar  
 Rig Number: 321  
 Drilling Media: Brine  
 Comments: Lost circulation at 2070, drilled ahead to 2079.1 feet MD GL.

**Open Hole Interval**

Hole Diameter, in: 8.750  
 Top Depth, ft: 2036.4  
 Bottom Depth (TD), ft: 2079.1  
 Interval Thickness, ft: 42.7  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: 1907.4  
 Csg Bottom Depth, ft: 2078.6  
 Casing Diameter, in: 7 OD; 6.366 ID  
 Casing Type: J55 (steel)  
 Casing Wt: 23 lb/ft  
 Install Date & Time: 7/5/19 20:30  
 Comments: 6.0" ID Hanger @ 1907.4 MD GL; First joint bull nosed and slotted 20 feet from bottom.

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 15H-IR-E  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6724.5  
KB Elevation, ft: 6738.0  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 208.5, FSL  
Footage, E/W: 466.1, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927783931  
Longitude, °W: 108.348987476  
State Plane Northing, ft: 229371.04  
State Plane Easting, ft: 1201117.25

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927756141  
Longitude, °W: 108.349632558  
State Plane Northing, ft: 1229371.72  
State Plane Easting, ft: 2200956.60

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.0  
Total Footage: 120.0  
Start Date & Time: 7/2/19 8:00  
End Date & Time: 7/2/19 12:00  
Total Drilling Hours: 4.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: na  
Comments: 5' x 5' cellar

**Conductor Casing Data**

Casing Depth, ft. GL: 120.0  
Diameter, in: 16 OD; 15 ID  
Type: J-55  
Weight: 82.85 lb/ft  
Install Date & Time: 7/2/19 14:00  
Cement Interval, ft. GL: 0 - 120  
Cement Type: Portland Type II  
Cement Amount, sks: 13 yds  
Cementing Date: 7/2/2019  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: 0.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 0.0  
Total Footage: 0.0  
Start Date & Time: 1/0/00 0:00  
End Date & Time: 1/0/00 0:00  
Total Drilling Hours: 0.0  
Drilling Contractor: 0  
Rig Number: 0  
Drilling Media: 0  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: 0.0  
Diameter, in: OD; ID  
Type: 0  
Weight: 0  
Install Date & Time: 1/0/00 0:00  
Cement Interval, ft. GL: 0 -  
Cement Type: 0  
Cement Amount, sks: 0  
Cementing Date & Time: 1/0/00 0:00  
Top-off Cement Date: 1/0/1900  
Comments:

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**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 13.500  
Start Depth, ft: 120.0  
End Depth, ft: 2222.5  
Total Footage: 2102.5  
Start Date & Time: 7/7/19 7:30  
End Date & Time: 7/19/19 13:30  
Total Drilling Hours: 294.0  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: WBM / Brine  
Comments: Original well bore: 120' (133.5') - 2151.5' (2165') MD GL (MD KB)  
Sidetrack well bore: 1626.5' (1640') - 2222.5' (2236') MD GL (MD KB)

**Intermediate Hole Plug Back Data**

Date & Time: 1/0/00 0:00  
Start Depth, ft: 0.0  
End Depth, ft: 0.0  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2218.5  
Casing Diameter, in: 9.625 OD; 8.921 ID  
Casing Type: J-55 LTC 8RD  
Casing Wt: 36 lb/ft  
Install Date & Time: 7/19/19 23:45  
Comments: Pack Off Stage Tool (POST) installed at 1512.1' MD GL/1525.6' MD KB

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 15H-IR-E  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: 0.000  
Start Depth, ft: 0.0  
End Depth, ft: 0.0  
Total Footage: 0.0  
Start Date & Time: 1/0/00 0:00  
End Date & Time: 1/0/00 0:00  
Total Drilling Hours: 0.0  
Drilling Contractor: 0  
Rig Number: 0  
Drilling Media: 0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/20/2019	8/14/2019
*Interval, ft:	0 - 1700	1948 - 2079
Type:	HES NeoCem	HES SqueezCem
Additives:	SA-1015, D-AIR 5000, Bridgemaker II, Pozmix A	na
Amount, sks:	1352	300
Weight, lb/gal:	Stage 1 13.0 ppg Stage 2 14.8 ppg	14.8
Method:	displacement	perforate/squeeze
Comments:	7/22/2019 Annulus topped off with 650 gallons of 15.6 ppg Portland II/V cement to surface.	Perforations at 2004' and 2006'. Four 0.51 perms/foot at 90 degree phasing.

**Drillout Operation**

Hole Diameter, in: 8.750  
Start Depth, ft: 2222.5  
End Depth, ft: 4032.4  
Total Footage: 1809.9  
Start Date & Time: 7/24/19 23:30  
End Date & Time: 7/28/19 0:15  
Total Drilling Hours: 72.8  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Fresh Water  
Comments: Connection confirmed: WOB and torque dropped.  
Water level in 15H-1V and 15H-RI rose.

**Open Hole Interval**

Hole Diameter, in: 8.500  
Top Depth, ft: 2222.5  
Bottom Depth (TD), ft: 4032.4  
Interval Thickness, ft: 1809.9  
Comments:

**Production Casing Data**

Casing Top Depth, ft: 2081.5  
Csg Bottom Depth, ft: 3687.3  
Casing Diameter, in: 7 OD; 6.366 ID  
Casing Type: J55 (steel)  
Casing Wt: 23 lb/ft  
Install Date & Time: 7/29/19 11:00  
Comments: Original Hanger: 6.375" ID KLX hanger: 2081.5-2095.0 MD GL; Dec 2019 remediation: 2nd hanger (6.0" ID) + tie back assembly 1942.5-2087.0 MD GL (5.5' inside primary hanger)

**Primary Recompletion Data**

Start Date: 1/0/00 0:00  
Completion Date: 1/0/00 0:00  
Drilling Contractor: 0.0  
Rig Number: 0

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: 0.000  
Start Depth, ft: 0.0  
End Depth, ft: 0.0  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: 0.000  
Start Depth, ft: 0.0  
End Depth, ft: 0.0  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 0.000  
Start Depth, ft: 0.0  
End Depth, ft: 0.0  
Open Hole Interval, ft: 0.0  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 0.0  
Plug Back, Bottom, ft: 0.0  
Materials:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 15H-SSMW  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Subsurface Subsidence Monitoring Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6686.3  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 14, FSL  
Footage, E/W: 423, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927297800  
Longitude, °W: 108.367304200  
State Plane Northing, ft: 229359.59  
State Plane Easting, ft: 1195977.12

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927270000  
Longitude, °W: 108.367950000  
State Plane Northing, ft: 1229359.03  
State Plane Easting, ft: 2195816.83

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 88.0  
Total Footage: 88.0  
Start Date & Time: 6/15/16 12:30  
End Date & Time: 6/15/16 18:30  
Total Drilling Hours: 6.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: 7  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 88.0  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 6/15/16 19:00  
Cement Interval, ft. GL: 0 - 88  
Cement Type: Portland Type I/II  
Cement Amount, sks: 15  
Cementing Date: 6/15/2016  
Top-off Cement Date: 6/16/2016  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 6.500  
Start Depth, ft: 88.0  
End Depth, ft: 1765.0  
Total Footage: 1677.0  
Start Date & Time: 6/16/16 12:00  
End Date & Time: 6/19/16 16:10  
Total Drilling Hours: 76.2  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Air Mist  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 1763.4  
Casing Diameter, in: 4.5 OD; 3.92 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 6/20/16 17:45  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 15H-SSMW  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Subsurface Subsidence Monitoring Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	6/20/2016	6/29/2016
*Interval, ft:	280 - 1765	1.5 - 280
Type:	Extendacem	Portland Type I/II
Additives:	0	na
Amount, sks:	220	12
Weight, lb/gal:	12.3	nd
Method:	displacement	poured
Comments:	Haliburton	Himes

**Drillout Operation**

Hole Diameter, in: 4.000  
Start Depth, ft: 1740.0  
End Depth, ft: 1760.5  
Total Footage: 20.5  
Start Date & Time: 6/30/16 7:00  
End Date & Time: 6/30/16 12:00  
Total Drilling Hours: 5.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Air Mist  
Comments: Did not drill out shoe. Cement plug from 1740.0 to 1765.0 (bottom of intermediate hole)

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 16H-1V  
**Hole Type:** Directional Rotary - Slant  
**Well Type:** Slant Injection/Recovery Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6705.9  
KB Elevation, ft: 6719.9  
Section: 35  
Township: 1S  
Range: 98W  
Qtr/Qtr: NENW  
Footage, N/S: 553, FNL  
Footage, E/W: 1411.7, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.925742470  
Longitude, °W: 108.363769248  
State Plane Northing, ft: 228761.31  
State Plane Easting, ft: 1196949.73

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.925714716  
Longitude, °W: 108.364414873  
State Plane Northing, ft: 1228760.70  
State Plane Easting, ft: 2196789.48

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.0  
Total Footage: 120.0  
Start Date & Time: 6/29/20 8:00  
End Date & Time: 6/29/20 15:00  
Total Drilling Hours: 7.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: na  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 120.0  
Diameter, in: 16 OD; 15.25 ID  
Type: J55 (steel)  
Weight: 62.64 lb/ft  
Install Date & Time: 6/30/20 0:00  
Cement Interval, ft. GL: 0 - 120  
Cement Type: Portland Type I/II  
Cement Amount, sks: 13.5 yds  
Cementing Date: 6/30/2020  
Top-off Cement Date: na  
Comments: Installed a 72" x 72" cellar and poured ~1 foot deep cement floor.

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: na  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 13.500  
Start Depth, ft: 120.0  
End Depth, ft: 2026.0  
Total Footage: 1906.0  
Start Date & Time: 7/11/20 9:30  
End Date & Time: 7/15/20 18:15  
Total Drilling Hours: 104.7  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Water-Based Mud  
Comments: KOP: 1170.0 MD KB (1156.0 MD GL)

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 2021.0  
Casing Diameter, in: 9.625 OD; 8.921 ID  
Casing Type: J55 (steel)  
Casing Wt: 36 lb/ft  
Install Date & Time: 7/16/20 11:15  
Comments: Had to work joints from 1896 KB to TD. DV/ACP tool set in casing string from 1,430.3 to 1,458.2 ft. MD GL



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 16H-1V  
**Hole Type:** Directional Rotary - Slant  
**Well Type:** Slant Injection/Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/16/2020	7/20/2020
*Interval, ft:	440 - 1440	1440 - 1968
Type:	Type III Sodium Metasilicate, IntegraCare A-12,	Type III Class G Sodium Metasilicate, Calcium Chloride
Additives:		
Amount, sks:	301 / 997	180 / 220 / 50
Weight, lb/gal:	13.0/14.8	12.0 / 13.0 / 15.8
Method:	displacement	perforate/squeeze
Comments:	Two Stage Cement Job: Partial fluid returns to surface during start of first stage, then fell. First Stage cement was lost according to CBL. Full returns during second stage, 89 bbls cement to surface.	Casing perforated at 1720', Four 0.48" holes at 90 degree phasing

**Drillout Operation**

Hole Diameter, in: 8.750  
Start Depth, ft: 2026.0  
End Depth, ft: 2086.0  
Total Footage: 60.0  
Start Date & Time: 7/23/20 3:00  
End Date & Time: 7/23/20 10:30  
Total Drilling Hours: 7.5  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Water-Based Mud  
Comments: Troughed with fresh water but unable to establish  
hydraulic connection with 16H-I interval.

**Open Hole Interval**

Hole Diameter, in: 8.750  
Top Depth, ft: 2026.0  
Bottom Depth (TD), ft: 2086.0  
Interval Thickness, ft: 60.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: 1939.0  
Csg Bottom Depth, ft: 2077.0  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: P-110  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 9/15/20 0:00  
Comments: Temporary liner: slotted 2060.5 - 2076 MD GL

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 16H-IR-E  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6724.5  
KB Elevation, ft: 6738.1  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 75.2, FSL  
Footage, E/W: 423.3, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927419470  
Longitude, °W: 108.349138051  
State Plane Northing, ft: 229239.70  
State Plane Easting, ft: 1201070.78

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927391682  
Longitude, °W: 108.349783137  
State Plane Northing, ft: 1229239.06  
State Plane Easting, ft: 2200910.58

**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.0  
Total Footage: 120.0  
Start Date & Time: 6/30/20 8:00  
End Date & Time: 6/30/20 16:00  
Total Drilling Hours: 8.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: na  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 120.0  
Diameter, in: 16 OD; 15.25 ID  
Type: J55 (steel)  
Weight: 62.64 lb/ft  
Install Date & Time: 7/1/20 0:00  
Cement Interval, ft. GL: 0 - 120  
Cement Type: Portland Type I/II  
Cement Amount, sks: 13.5 yds  
Cementing Date: 7/1/2020  
Top-off Cement Date: na  
Comments: Installed a 72" x 72" cellar and poured ~1 foot deep cement floor.

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: na  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 13.500  
Start Depth, ft: 120.0  
End Depth, ft: 2396.4  
Total Footage: 2276.4  
Start Date & Time: 7/25/20 0:30  
End Date & Time: 7/30/20 16:30  
Total Drilling Hours: 136.0  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: WBM LSND/ Brine  
Comments: KOP: 1166.0 MD KB (1152.4 MD GL)

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 2390.4  
Casing Diameter, in: 9.625 OD; 8.921 ID  
Casing Type: J55 (steel)  
Casing Wt: 36 lb/ft  
Install Date & Time: 7/31/20 15:30  
Comments: Worked pipe down from 1,826 MD GL. DV/ACP tool set in casing string from 1,517.1 to 1,545.2 ft. MD GL

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 16H-IR-E  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/31/2020	8/20/2020
*Interval, ft:	117 - 2396.4	na - na
Type:	Type III	Portland Type I/II
Additives:	Sodium Metasilicate, IntegraCare A-12, Stage 1: 350/156	na
Amount, sks:	Stage 2: 1062	nd
Weight, lb/gal:	Stage 1: 12.5/13.0	nd
	Stage 2: 14.8	
Method:	displacement	poured
Comments:	Two stage cement job: Stage 1 lead and tail, Stage 2 tail. Full cement returns to surface during both stages. 1st stage - 50 bbls CMT returns, 2nd stage - 115 bbls CMT returns (165 total).	Intermediate annulus topped off to surface, from 117 feet BGL.

**Drillout Operation**

Hole Diameter, in: 8.750  
Start Depth, ft: 2396.4  
End Depth, ft: 4011.1  
Total Footage: 1614.7  
Start Date & Time: 8/3/20 8:30  
End Date & Time: 8/6/20 10:30  
Total Drilling Hours: 74.0  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Brine / Fresh Water  
Comments: Lost WOB and torque at 4011.4, was able to push bit forward to 4022.4 without resistance.

**Open Hole Interval**

Hole Diameter, in: 8.750  
Top Depth, ft: 2390.4  
Bottom Depth (TD), ft: 4011.4  
Interval Thickness, ft: 1621.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: 2034.0  
Csg Bottom Depth, ft: 3542.5  
Casing Diameter, in: 7 OD; 6.366 ID  
Casing Type: J55 (steel)  
Casing Wt: 23 lb/ft  
Install Date & Time: 8/7/20 12:00  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 17H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6668.9  
KB Elevation, ft: 6682.2  
Section: 34  
Township: 1S  
Range: 98W  
Qtr/Qtr: NENE  
Footage, N/S: 541, FNL  
Footage, E/W: 420.3, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.925807900  
Longitude, °W: 108.370279100  
State Plane Northing, ft: 228844.16  
State Plane Easting, ft: 1195125.67

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.925780162  
Longitude, °W: 108.370924949  
State Plane Northing, ft: 1228843.56  
State Plane Easting, ft: 2194965.40

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.0  
Total Footage: 120.0  
Start Date & Time: 6/26/18 9:00  
End Date & Time: 6/26/18 16:00  
Total Drilling Hours: 7.0  
Drilling Contractor: Triple A Drilling  
Rig Number: Auger Rig  
Drilling Media: na  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 120.0  
Diameter, in: 16 OD; 15.25 ID  
Type: J-55  
Weight: 62.64 lb/ft  
Install Date & Time: 6/26/18 16:00  
Cement Interval, ft. GL: 0 - 120  
Cement Type: Portland Type II  
Cement Amount, sks: 10 yds  
Cementing Date: 6/26/2018  
Top-off Cement Date: na  
Comments: Marker welded on 2' below TOC, 2" nipple welded directly below marker.

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 120.0  
End Depth, ft: 2165.7  
Total Footage: 2045.7  
Start Date & Time: 7/3/18 14:48  
End Date & Time: 7/8/18 18:45  
Total Drilling Hours: 123.9  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: WBM LSND / Brine  
Comments: KOP: 1296 MD KB (1282.7 MD GL)

**Intermediate Hole Plug Back Data**

Date & Time: nd  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 2161.4  
Casing Diameter, in: 7 OD; 6.366 ID  
Casing Type: J-55  
Casing Wt: 23 lb/ft  
Install Date & Time: 7/3/18 0:00  
Comments: DVI/ACP tool set in casing string at 1345.6 MD KB (1332.3 MD GL)

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 17H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/9/2018	1/0/1900
*Interval, ft:	- 2165.7	-
Type:	Stage 1 Neocem, Stage 2 Expandacem	0
Additives:	nd	0
Amount, sks:	205 / 310	0
Weight, lb/gal:	12.8/12.0	0.0
Method:	displacement	0
Comments:		

**Drillout Operation**

Hole Diameter, in: 6.125  
Start Depth, ft: 2165.7  
End Depth, ft: 5378.9  
Total Footage: 3213.2  
Start Date & Time: 7/12/18 9:00  
End Date & Time: 7/23/18 1:30  
Total Drilling Hours: 256.5  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Halite Bicarb Solution  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.125  
Top Depth, ft: 2165.7  
Bottom Depth (TD), ft: 5378.9  
Interval Thickness, ft: 3213.2  
Comments:

**Production Casing Data**

Casing Top Depth, ft: 1901.5  
Csg Bottom Depth, ft: 5368.7  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.36 lb/ft  
Install Date & Time: 7/24/18 17:00  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 17H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6668.9  
KB Elevation, ft: 6682.2  
Section: 34  
Township: 1S  
Range: 98W  
Qtr/Qtr: NENE  
Footage, N/S: 409.5, FNL  
Footage, E/W: 445.08, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926171184  
Longitude, °W: 108.370365216  
State Plane Northing, ft: 228977.18  
State Plane Easting, ft: 1195106.28

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926143439  
Longitude, °W: 108.371009392  
State Plane Northing, ft: 1228976.60  
State Plane Easting, ft: 2194945.49

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.0  
Total Footage: 120.0  
Start Date & Time: 7/8/18 8:15  
End Date & Time: 7/8/18 12:00  
Total Drilling Hours: 3.8  
Drilling Contractor: Triple A Drilling  
Rig Number: Auger Rig  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 120.0  
Diameter, in: 16 OD; 15.124 ID  
Type: J-55  
Weight: 62.64 lb/ft  
Install Date & Time: 7/8/18 14:45  
Cement Interval, ft. GL: 0 - 120  
Cement Type: Portland Type I/II  
Cement Amount, sks: 12.5 yds  
Cementing Date: 7/8/2018  
Top-off Cement Date: na  
Comments: Marker welded on 2' feet below TOC

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 13.50  
Start Depth, ft: 120.0  
End Depth, ft: 2196.7  
Total Footage: 2076.7  
Start Date & Time: 7/26/18 0:30  
End Date & Time: 7/29/18 2:30  
Total Drilling Hours: 74.0  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: WBM LSN/D/ Brine  
Comments: KOP: 1163.3 MD KB (1150.0 MD GL)

**Intermediate Hole Plug Back Data**

Date & Time: nd  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 2189.7  
Casing Diameter, in: 9.625 OD; 8.921 ID  
Casing Type: J-55  
Casing Wt: 36.0 lb/ft  
Install Date & Time: 8/1/18 21:00  
Comments: DVI/ACP tool set in casing string at 1385 MD KB (1371.7 MD GL)

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 17H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/30/2018	1/0/1900
*Interval, ft:	0 - 2196.7	-
Type:	Neocem, Stages 1 and 2	0
Additives:	0	0
Amount, sks:	395 / 685	0
Weight, lb/gal:	Stage 1 and 2: 12.8	0.0
Method:	displacement	0
Comments:		

**Drillout Operation**

Hole Diameter, in: 8.500  
Start Depth, ft: 2196.7  
End Depth, ft: 2431.7  
Total Footage: 235.0  
Start Date & Time: 8/1/18 20:30  
End Date & Time: 8/3/18 2:30  
Total Drilling Hours: 30.0  
Drilling Contractor: Capstar  
Rig Number: 321  
Drilling Media: Halite Bicarb Solution  
Comments:

**Open Hole Interval**

Hole Diameter, in: 8.500  
Top Depth, ft: 2189.7  
Bottom Depth (TD), ft: 2431.7  
Interval Thickness, ft: 242.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: 1967.1  
Csg Bottom Depth, ft: 2235.2  
Casing Diameter, in: 5.5 OD; na ID  
Casing Type: J55 (steel)  
Casing Wt: 17.0 lb/ft  
Install Date & Time: 11/17/18 0:00  
Comments: 6.0-inch screen installed 2194.4-2235.1 feet GL

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 17H-SSMW  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Subsurface Subsidence Monitoring Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6684.0  
KB Elevation, ft: 6689.5  
Section: 35  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNW  
Footage, N/S: 599.69, FNL  
Footage, E/W: 381.89, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.925620961  
Longitude, °W: 108.367424479  
State Plane Northing, ft: 228750.20  
State Plane Easting, ft: 1195923.67

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.925593214  
Longitude, °W: 108.368070240  
State Plane Northing, ft: 1228749.51  
State Plane Easting, ft: 2195763.47

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.250  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 90.6  
Total Footage: 90.6  
Start Date & Time: 8/6/18 13:30  
End Date & Time: 8/6/18 17:25  
Total Drilling Hours: 3.9  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: 7  
Drilling Media: Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 90.6  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 8/6/18 18:15  
Cement Interval, ft. GL: 0 - 90.6  
Cement Type: Portland  
Cement Amount, sks: 34 sks  
Cementing Date: 8/6/2018  
Top-off Cement Date: nd  
Comments: 4 Joints (22.51', 22.60', 22.5, & 22.91) w/ Threads. Four Centralizers

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: N/A  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: N/A  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 6.500  
Start Depth, ft: 90.6  
End Depth, ft: 1731.0  
Total Footage: 1640.4  
Start Date & Time: 8/7/18 9:06  
End Date & Time: 8/10/18 16:40  
Total Drilling Hours: 40.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: 7  
Drilling Media: Foam/Air  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 1727.6  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 8/12/18 9:55  
Comments: No Issues Running Casing



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 17H-SSMW  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Subsurface Subsidence Monitoring Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Total Footage: nd  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/12/2018	9/13/2018
*Interval, ft:	107 - 1731	0 - 107
Type:	Extendacem	Portland Type I/II
Additives:	3 sks. 150# CaCl	None
Amount, sks:	160 sks	3.8 bbls
Weight, lb/gal:	Lead: 12.0 PPG Tail: 12.8 PPG	11 PPG
Method:	displacement	poured
Comments:	Used Hesitation during cement job. Added CaCl. Cement returns to surface 10-15 gals 8/13/18 cement fell back 107 ft. (bgl).	9/13/18 MSG

**Drillout Operation**

Hole Diameter, in: 3.875  
Start Depth, ft: 1700.0  
End Depth, ft: 1720.6  
Total Footage: 20.6  
Start Date & Time: 8/13/18 12:15  
End Date & Time: 8/13/18 15:40  
Total Drilling Hours: 3.4  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: 7  
Drilling Media: Foam/Air  
Comments: Did not drill out shoe. Cement plug from 1720.6 to 1731.0 (bottom of intermediate hole)

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments: na

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-15-198-T  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6301.4  
KB Elevation, ft: nd  
Section: 15  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 272, FSL  
Footage, E/W: 1606, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.957348053  
Longitude, °W: 108.380923490  
State Plane Northing, ft: 240423.88  
State Plane Easting, ft: 1192515.04

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.957320106  
Longitude, °W: 108.381569898  
State Plane Northing, ft: 1240423.43  
State Plane Easting, ft: 2192354.79

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 97.5  
Total Footage: 97.5  
Start Date & Time: 9/21/14 15:45  
End Date & Time: 9/23/14 2:00  
Total Drilling Hours: 34.3  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-based Mud  
Comments: once cement was set BL move to CH-U

**Conductor Casing Data**

Casing Depth, ft. GL: 97.5  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 9/23/14 6:30  
Cement Interval, ft. GL: 0 - 97.5  
Cement Type: Portland Type I/II  
Cement Amount, sks: 14  
Cementing Date: 9/23/2014  
Top-off Cement Date: na  
Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 97.5  
End Depth, ft: 1598.5  
Total Footage: 1501.0  
Start Date & Time: 10/2/14 2:00  
End Date & Time: 10/6/14 21:00  
Total Drilling Hours: 115.0  
Drilling Contractor: Himes / Boart  
Rig Number: RD-20 / BK-36  
Drilling Media: Air Mist and Water-based M

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1598.5  
End Depth, ft: 1748.3  
Total Footage: 149.8  
Start Date & Time: 10/8/14 14:00  
End Date & Time: 10/9/14 2:30  
Total Hours: 12.5  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicar Solution  
Comments: 19 core runs total

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-15-198-T  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1598.5  
Diameter, in OD: 4.5  
Type: PQ Drill String  
Weight: 11.3 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 1598.5  
End Depth, ft: 1796.5  
Total Footage: 198.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-15-198-T  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 10/17/14 13:15  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: TKT-8  
Materials: 0-1796.5, cement

Comments: Meeker Sand and Gravel cemented well with 13.3 cubic yards of cement, hole was topped off on 10/20/14. Total cement: 17.3 cubic yards.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-15-198-U  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6251.2  
KB Elevation, ft: nd  
Section: 15  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWSW  
Footage, N/S: 2219, FSL  
Footage, E/W: 282, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.962688146  
Longitude, °W: 108.385333197  
State Plane Northing, ft: 242408.25  
State Plane Easting, ft: 1191342.78

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.962660172  
Longitude, °W: 108.385979794  
State Plane Northing, ft: 1242407.84  
State Plane Easting, ft: 2191182.52

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 118.0  
Total Footage: 118.0  
Start Date & Time: 9/24/14 0:30  
End Date & Time: 9/24/14 8:00  
Total Drilling Hours: 7.5  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-based Mud  
Comments: hole was first drill with a 6" bit to 118' and reamed open to 9.88" to 118'

**Conductor Casing Data**

Casing Depth, ft. GL: 118.0  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 9/24/14 9:00  
Cement Interval, ft. GL: 0 - 118  
Cement Type: Portland Type I/II  
Cement Amount, sks: 0.9 cubic yards  
Cementing Date: 9/24/2014  
Top-off Cement Date: na  
Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 118.0  
End Depth, ft: 1579.5  
Total Footage: 1461.5  
Start Date & Time: 10/3/14 8:15  
End Date & Time: 10/10/14 15:20  
Total Drilling Hours: 175.1  
Drilling Contractor: Himes / Boart  
Rig Number: RD-20 / BK-36  
Drilling Media: Air Mist and Water-based M

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1579.5  
End Depth, ft: 1708.2  
Total Footage: 128.7  
Start Date & Time: 10/11/14 2:15  
End Date & Time: 10/11/14 14:00  
Total Hours: 11.8  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicarb Solution  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-15-198-U  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1578.5  
Diameter, in OD: 4.5  
Type: J55 (steel)  
Weight: 11.3 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 1579.5  
End Depth, ft: 1756.5  
Total Footage: 177.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-15-198-U  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 10/17/14 19:00  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: TKT-8  
Materials: 0-1756.5, cement

Comments: Himes had to rig up over hole and clean hole to 529' and then cement again to P&A

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-21-198-P  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6485.9  
KB Elevation, ft: nd  
Section: 21  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESE  
Footage, N/S: 607, FSL  
Footage, E/W: 371, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.943628208  
Longitude, °W: 108.388223856  
State Plane Northing, ft: 235495.42  
State Plane Easting, ft: 1190306.82

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.943600369  
Longitude, °W: 108.388870476  
State Plane Northing, ft: 1235494.94  
State Plane Easting, ft: 2190146.52

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 92.8  
Total Footage: 92.8  
Start Date & Time: 9/25/14 5:15  
End Date & Time: 9/25/14 8:30  
Total Drilling Hours: 3.2  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: RD-20  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 92.8  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 9/25/14 8:30  
Cement Interval, ft. GL: 0 - 92.8  
Cement Type: Portland Type I/II  
Cement Amount, sks: 22  
Cementing Date: 9/25/2014  
Top-off Cement Date: na  
Comments: 89.8' of casing used, set 3" below GL

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 92.8  
End Depth, ft: 1666.5  
Total Footage: 1573.7  
Start Date & Time: 9/30/14 14:00  
End Date & Time: 10/4/14 0:45  
Total Drilling Hours: 82.7  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: RD-20  
Drilling Media: Air Mist

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1666.5  
End Depth, ft: 1767.2  
Total Footage: 100.7  
Start Date & Time: 10/4/14 14:30  
End Date & Time: 10/5/14 5:15  
Total Hours: 14.8  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicarb Solution  
Comments:



Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-21-198-P  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1666.5  
Diameter, in OD: 4.5  
Type: PQ Drill String  
Weight: 11.3 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 1666.5  
End Depth, ft: 1796.5  
Total Footage: 130.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-21-198-P  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 10/20/14 12:30  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Materials: 0-1796.5, cement

Comments: 18 cubic yards total where pumped down hole with cement to surface.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-21-198-R  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6462.3  
KB Elevation, ft: nd  
Section: 21  
Township: 1S  
Range: 98W  
Qtr/Qtr: SENE  
Footage, N/S: 1998, FNL  
Footage, E/W: 672, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.951148490  
Longitude, °W: 108.389186030  
State Plane Northing, ft: 238242.13  
State Plane Easting, ft: 1190126.41

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.951120603  
Longitude, °W: 108.389832719  
State Plane Northing, ft: 1238241.69  
State Plane Easting, ft: 2189966.13

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 92.7  
Total Footage: 92.7  
Start Date & Time: 9/20/14 20:30  
End Date & Time: 9/20/14 23:30  
Total Drilling Hours: 3.0  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: RD 20  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 92.7  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 9/20/14 23:30  
Cement Interval, ft. GL: 0 - 92.7  
Cement Type: Portland Type I/II  
Cement Amount, sks: 22  
Cementing Date: 9/21/2014  
Top-off Cement Date: na  
Comments: 2x45' joints of Range 3 casing; installed 2.5' below GL

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 92.7  
End Depth, ft: 1711.0  
Total Footage: 1618.3  
Start Date & Time: 9/21/14 12:30  
End Date & Time: 9/26/14 7:45  
Total Drilling Hours: 115.2  
Drilling Contractor: Himes / Boart  
Rig Number: RD-20 / BK-36  
Drilling Media: Air Mist and Water-based M

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1711.0  
End Depth, ft: 1818.5  
Total Footage: 107.5  
Start Date & Time: 9/26/14 20:15  
End Date & Time: 9/27/14 10:15  
Total Hours: 14.0  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicarb Solution  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-21-198-R  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1711.0  
Diameter, in OD: 4.5  
Type: PQ Drill String  
Weight: 11.6 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 1711.0  
End Depth, ft: 1839.5  
Total Footage: 128.5

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-21-198-R  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 10/28/14 13:45  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: TKT-8  
Materials: 0-1839.5, cement

Comments: Meeker Sand and Gravel cemented well with 14.5 cubic yards of cement

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-22-198-Q  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6377.7  
KB Elevation, ft: nd  
Section: 22  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 1388, FSL  
Footage, E/W: 1083, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.945752717  
Longitude, °W: 108.383008171  
State Plane Northing, ft: 236221.31  
State Plane Easting, ft: 1191793.64

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.945724854  
Longitude, °W: 108.383654605  
State Plane Northing, ft: 1236220.83  
State Plane Easting, ft: 2191633.36

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 92.8  
Total Footage: 92.8  
Start Date & Time: 9/22/14 14:30  
End Date & Time: 9/22/14 20:30  
Total Drilling Hours: 6.0  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: RD-20  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 92.8  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 9/22/14 23:00  
Cement Interval, ft. GL: 0 - 92.8  
Cement Type: Portland Type I/II  
Cement Amount, sks: 25  
Cementing Date: 9/23/2014  
Top-off Cement Date: na  
Comments: casing was set 2.5 feet below GL to accommodate BL's diverter

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 92.8  
End Depth, ft: 1590.0  
Total Footage: 1497.2  
Start Date & Time: 9/23/14 10:30  
End Date & Time: 9/24/14 17:00  
Total Drilling Hours: 30.5  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: RD-20  
Drilling Media: Air Mist

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1590.0  
End Depth, ft: 1709.6  
Total Footage: 119.6  
Start Date & Time: 9/29/14 21:15  
End Date & Time: 9/30/14 11:30  
Total Hours: 14.3  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicarb Solution  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-22-198-Q  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1590.0  
Diameter, in OD: 4.5  
Type: PQ Drill String  
Weight: 11.6 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 1590.0  
End Depth, ft: 1739.5  
Total Footage: 149.5

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-22-198-Q  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 10/17/14 0:00  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Materials: 0-1739.5, cement

Comments: MSG used 14.0 cubic yds of Portland Type II/V cement, hole was topped off 10/17/14 13:45 with ~100 gals; TOTAL CEMENT: 14.5 yds



Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-26-198-D  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6605.1  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNW  
Footage, N/S: 1460, FNL  
Footage, E/W: 465, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.937927834  
Longitude, °W: 108.367183927  
State Plane Northing, ft: 233228.64  
State Plane Easting, ft: 1196136.02

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.937899996  
Longitude, °W: 108.367829734  
State Plane Northing, ft: 1233228.08  
State Plane Easting, ft: 2195975.78

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 87.0  
Total Footage: 87.0  
Start Date & Time: 8/13/14 18:00  
End Date & Time: 8/14/14 10:15  
Total Drilling Hours: 16.3  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-Based Mud  
Comments: Spud in with 6.5" PCD to 87'. Ream with 9.875" PDC to 82'

**Conductor Casing Data**

Casing Depth, ft. GL: 82.0  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 8/14/14 8:00  
Cement Interval, ft. GL: 0 - 82  
Cement Type: Portland Type I/II  
Cement Amount, sks: 20 sacks (.695 cubic yards)  
Cementing Date: 8/14/2014  
Top-off Cement Date: na  
Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 87.0  
End Depth, ft: 1843.5  
Total Footage: 1756.5  
Start Date & Time: 8/14/14 22:15  
End Date & Time: 8/17/14 14:15  
Total Drilling Hours: 64.0  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-Based Mud

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1843.5  
End Depth, ft: 1938.0  
Total Footage: 94.5  
Start Date & Time: 8/18/14 7:15  
End Date & Time: 8/18/14 17:30  
Total Hours: 10.2  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicarb Solution  
Comments: HQ3 core

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-26-198-D  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1843.5  
Diameter, in OD: 4.5  
Type: PQ Drill String  
Weight: 11.6 lb/ft  
Comments: After Boart dropped the 4.5 inch Millman casing down core hole  
2014-26-198-M they started using their own PQ drill sting as temporary casing

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1843.5  
End Depth, ft: 1949.5  
Total Footage: 106.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-26-198-D  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 8/22/14 12:00  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Materials: 0-1949.5, Portland II/V cement

Comments: MSG: 8/20 - 13.0 yd<sup>3</sup> pumped; 8/21 - 6.4 yd<sup>3</sup> pumped; 8/22 4.0 yd<sup>3</sup> poured, final top-off cement to surface, no fall back.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-26-198-E  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6582.6  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNW  
Footage, N/S: 227, FNL  
Footage, E/W: 919, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.941307859  
Longitude, °W: 108.365574410  
State Plane Northing, ft: 234444.63  
State Plane Easting, ft: 1196626.90

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.941279995  
Longitude, °W: 108.366220173  
State Plane Northing, ft: 1234444.08  
State Plane Easting, ft: 2196466.67

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 85.5  
Total Footage: 85.5  
Start Date & Time: 8/23/14 7:00  
End Date & Time: 8/23/14 13:30  
Total Drilling Hours: 6.5  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-based Mud  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 85.5  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 8/23/14 13:30  
Cement Interval, ft. GL: 0 - 85.5  
Cement Type: Portland Type I/II  
Cement Amount, sks: 10  
Cementing Date: 8/23/2014  
Top-off Cement Date: 8/23/2014  
Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 85.5  
End Depth, ft: 1841.0  
Total Footage: 1755.5  
Start Date & Time: 8/23/14 21:30  
End Date & Time: 8/28/14 1:15  
Total Drilling Hours: 99.8  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-based Mud

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1841.0  
End Depth, ft: 1945.6  
Total Footage: 104.6  
Start Date & Time: 8/28/14 18:00  
End Date & Time: 8/29/14 9:15  
Total Hours: 15.2  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicarb Solution  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-26-198-E  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1841.0  
Diameter, in OD: 4.5  
Type: PQ Drill String  
Weight: 11.3 lb/ft  
Comments: 1600'-1841' abandoned down hole

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-26-198-E  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 9/7/14 1:00  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Materials: 0-1945.6' cement

Comments: 9/5/14 Halliburton perf & squeeze 3.8 cy (1945.6'-1593.5').  
9/5/14 MSG pumped 3.25 cy (1593.5'-1200')  
9/7/14 MSG pumped 13.0 cy (1200'-0')  
The intervals of stuck casing abandoned in the hole are

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-A  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6621.6  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESE  
Footage, N/S: 144, FSL  
Footage, E/W: 1190, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927664767  
Longitude, °W: 108.373057414  
State Plane Northing, ft: 229545.42  
State Plane Easting, ft: 1194368.76

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927637010  
Longitude, °W: 108.373703395  
State Plane Northing, ft: 1229544.84  
State Plane Easting, ft: 2194208.49

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 81.0  
Total Footage: 81.0  
Start Date & Time: 7/25/14 0:00  
End Date & Time: 7/26/14 19:00  
Total Drilling Hours: 43.0  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-based Mud

Comments: Drilling mud was EZ mud plus & Aqua Gel 100#. 6.5 inch bit used while drilling pilot hole to 88.0'. 9.875 inch bit reamed to 81.0'

**Conductor Casing Data**

Casing Depth, ft. GL: 81.0  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 7/26/14 19:00  
Cement Interval, ft. GL: 0 - 88  
Cement Type: Portland Type I/II  
Cement Amount, sks: 16 sacks  
Cementing Date: 7/26/2014  
Top-off Cement Date: na

Comments: 80 feet of casing used, top of casing was 1' below surface to accommodate a diverter

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 81.0  
End Depth, ft: 1729.5  
Total Footage: 1648.5  
Start Date & Time: 7/27/14 9:00  
End Date & Time: 8/1/14 4:45  
Total Drilling Hours: 115.7  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: EZ Mud Plus and Quick Ge

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1729.5  
End Depth, ft: 1818.2  
Total Footage: 88.7  
Start Date & Time: 8/2/14 1:15  
End Date & Time: 8/2/14 15:30  
Total Hours: 14.3  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicarb Solution

Comments: HQ3 core bit used.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-A  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1729.5  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.3 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1729.5  
End Depth, ft: 1818.2  
Total Footage: 88.7

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:



Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-A  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 8/4/14 23:45  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Materials: 0-1818.2' cement

Comments: three lifts: 17.6 bbls, 13.3 bbls, and 10.7 bbls; cement from 800-1818'.  
Top off on 8/4/14 (MSG) with 32.9 bbls, Cement to surface.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-C  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6599.6  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: NESE  
Footage, N/S: 2620, FSL  
Footage, E/W: 76, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.934457625  
Longitude, °W: 108.369104142  
State Plane Northing, ft: 231982.64  
State Plane Easting, ft: 1195556.95

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.934429816  
Longitude, °W: 108.369750006  
State Plane Northing, ft: 1231982.07  
State Plane Easting, ft: 2195396.70

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 90.2  
Total Footage: 90.2  
Start Date & Time: 9/6/14 11:00  
End Date & Time: 9/6/14 17:00  
Total Drilling Hours: 6.0  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: TKT-8  
Drilling Media: Foam/Air  
Comments: No issues

**Conductor Casing Data**

Casing Depth, ft. GL: 90.2  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 9/6/14 18:30  
Cement Interval, ft. GL: 0 - 90.2  
Cement Type: Portland Type I/II  
Cement Amount, sks: 21 sacks  
Cementing Date: 9/6/2014  
Top-off Cement Date: na  
Comments: Casing ID unknown; no issues during installation

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 90.2  
End Depth, ft: 1798.6  
Total Footage: 1708.4  
Start Date & Time: 9/7/14 8:00  
End Date & Time: 9/8/14 19:45  
Total Drilling Hours: 35.7  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: TKT-8  
Drilling Media: Foam/Air

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.830  
Start Depth, ft: 1798.6  
End Depth, ft: 1890.0  
Total Footage: 91.4  
Start Date & Time: 9/9/14 14:10  
End Date & Time: 9/10/14 17:50  
Total Hours: 27.7  
Coring Contractor: Himes Drilling Company, In  
Rig Number: CR-10  
Coring Media: Halite Bicarb Solution  
Comments: Core recovery efficiency due to core loss from core barrel mismatch upon retrieval of cut core and use of a aggressive

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-C

**Hole Type:** Spot Core Hole - Vertical

**Well Type:** Vertical Stratigraphic Control

**Well Status:** Plugged and Abandoned

Interval upon completion of test core and use of a segmented PDC bit.

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1798.6  
Diameter, in OD: 4.5  
Type: J55 (steel)  
Weight: 11.3 lb/ft  
Comments: Casing slips not holding; crew hand tightened casing joints, causing no major time delays

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1798.6  
End Depth, ft: 1920.0  
Total Footage: 121.4

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-C  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 9/18/14 13:30  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Materials: 0-1920, cement

Comments: MSG arrived with 20 cyds of Portland Type II/V cement and cemented from 1,920.0 feet GL to surface. Daub field geologist noted no top of cement was needed as P&A cement did not fall back. Cement amount was 120% of calculated hole volume.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-N  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6573.2  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNE  
Footage, N/S: 2591, FNL  
Footage, E/W: 1274, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.934827800  
Longitude, °W: 108.373373969  
State Plane Northing, ft: 232156.17  
State Plane Easting, ft: 1194364.56

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.934799995  
Longitude, °W: 108.374019994  
State Plane Northing, ft: 1232155.62  
State Plane Easting, ft: 2194204.30

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 90.6  
Total Footage: 90.6  
Start Date & Time: 8/10/14 7:00  
End Date & Time: 8/10/14 19:00  
Total Drilling Hours: 12.0  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: TKT-8  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 90.6  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 8/10/14 19:00  
Cement Interval, ft. GL: 0 - 90.6  
Cement Type: Portland Type I/II  
Cement Amount, sks: 26 cubic feet  
Cementing Date: 8/10/2014  
Top-off Cement Date: nd  
Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 90.6  
End Depth, ft: 1747.0  
Total Footage: 1656.4  
Start Date & Time: 8/11/14 7:00  
End Date & Time: 8/13/14 11:00  
Total Drilling Hours: 52.0  
Drilling Contractor: Himes Drilling Company, In  
Rig Number: TKT-8  
Drilling Media: Air Mist

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.830  
Start Depth, ft: 1746.3  
End Depth, ft: 1855.3  
Total Footage: 109.0  
Start Date & Time: 8/22/14 18:00  
End Date & Time: 8/24/14 19:00  
Total Hours: 49.0  
Coring Contractor: Himes Drilling Company, In  
Rig Number: CR-10  
Coring Media: Halite Bicarb Solution  
Comments: Rotary Drill pre-core TD at 1747.0. Core rig pre-core TD at 1746.3 due to different rigs used Issues with Rubber Re

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-N  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1747.0  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.3 lb/ft  
Comments: Temp Csg pulled on 8/25/14

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1747.0  
End Depth, ft: 1865.0  
Total Footage: 118.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	na	na
*Interval, ft:	na	na
Type:	na	na
Additives:	na	na
Amount, sks:	na	na
Weight, lb/gal:	na	na
Method:	na	na
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2014-27-198-N  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 9/7/14 2:45  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Materials: 0-1865: cement

Comments: 8/26/14 22.5cy of cement pumped to within 80' of surface. Top off was completed on 9/7/14

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 93-3V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6663.5  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NESW  
Footage, N/S: 2916.47, FNL  
Footage, E/W: 3167.63, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.934461650  
Longitude, °W: 108.362006200  
State Plane Northing, ft: 231919.79  
State Plane Easting, ft: 1197546.43

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.934433830  
Longitude, °W: 108.362651800  
State Plane Northing, ft: 1231919.20  
State Plane Easting, ft: 2197386.20

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 80.0  
Total Footage: 80.0  
Start Date & Time: 1/4/94 nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Elenburg  
Rig Number: 12  
Drilling Media: Aerated Mud  
Comments: All depths referenced to GL, corrected from KB located 11' above GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 80.0  
Diameter, in: 13.375 OD; nd ID  
Type: nd  
Weight: 54.5 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 80  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 12.250  
Start Depth, ft: 80.0  
End Depth, ft: 1976.0  
Total Footage: 1896.0  
Start Date & Time: nd  
End Date & Time: 1/11/94 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Elenburg  
Rig Number: 12  
Drilling Media: Aerated Mud  
Comments: Aerated mud to 1790'; air mist to TD.

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1931.0  
Casing Diameter, in: 9.625 OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: 36.5 lb/ft  
Install Date & Time: nd  
Comments:



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 93-3V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	6/18/2005
*Interval, ft:	1713 - 1866	0 - 1239
Type:	Poz G (1) Class G (2)	Class G
Additives:	nd	nd
Amount, sks:	240	190
Weight, lb/gal:	nd	12.8
Method:	nd	perforate/squeeze
Comments:		Perforated at 1439' and could establish no circulation; perforated at 1239', established circulation and squeezed to surface prior to abandonment of the well.

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 12.250  
Top Depth, ft: 1931.0  
Bottom Depth (TD), ft: 1976.0  
Interval Thickness, ft: 45.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 93-3V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: P&A  
Stick-up Elevation, ft.: nd  
Materials: na

Comments: na

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**Abandonment Data**

Abandonment Date: 6/17/05 - 6/23/05  
Drilling Contractor: nd  
Rig Number: nd

Materials: Grout: 0-nd  
Cement: nd-1189  
Cement retainer: 1189  
Cement: 1489-1909  
CIBP: 1909

Comments: Set CIBP at 1909'; cemented from 1489-1909' with 150 sacks of 15.8 ppg Class G; perforated at 1450', could not establish circulation; perforated at 1250', established circulation, added cement retainer at 1189' and squeezed cement behind casing to surface; cemented an additional 300 sacks inside casing (12.8 ppg Class G) to near surface; grouted to surface

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 94-1M  
**Hole Type:** Directional Rotary - Vertical  
**Well Type:** DS Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6659.1  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SENW  
Footage, N/S: 2257.4, FNL  
Footage, E/W: 2964.61, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.935711080  
Longitude, °W: 108.361270400  
State Plane Northing, ft: 232368.02  
State Plane Easting, ft: 1197767.34

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.935683250  
Longitude, °W: 108.361916000  
State Plane Northing, ft: 1232367.44  
State Plane Easting, ft: 2197607.12

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 8.75  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 83.0  
Total Footage: 83.0  
Start Date & Time: 7/19/94 7:15  
End Date & Time: 7/19/94 8:15  
Total Drilling Hours: 1.0  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Air  
Comments: Some of the original depths referenced to KB (5 ft): all depths have been corrected and referenced to GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 83.0  
Diameter, in: 7 OD; nd ID  
Type: J55 (steel)  
Weight: 23 lb/ft  
Install Date & Time: 7/19/94 8:45  
Cement Interval, ft. GL: 0 - 83  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 7/19/1994  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 6.250  
Start Depth, ft: 83.0  
End Depth, ft: 1941.0  
Total Footage: 1858.0  
Start Date & Time: 7/20/94 12:00  
End Date & Time: 7/28/94 10:30  
Total Drilling Hours: 190.5  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Foam/Air  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1939.3  
Casing Diameter, in: 5 OD; nd ID  
Casing Type: N-80  
Casing Wt: 18 lb/ft  
Install Date & Time: nd  
Comments: FL4S casing; Bottom of casing has 5" Mule Shoe; No Float Shoe

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 94-1M  
**Hole Type:** Directional Rotary - Vertical  
**Well Type:** DS Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/29/1994	na
*Interval, ft:	1514 - 1941	na
Type:	Thixotropic	na
Additives:	1% Cal-Seal; 2% CaCl <sub>2</sub> ; 1/2 lb floccle	na
Amount, sks:	40	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	40 sacks of G 12-2 Thixotropic cement	

**Drillout Operation**

Hole Diameter, in: 4.125  
Start Depth, ft: 1941.0  
End Depth, ft: 1997.0  
Total Footage: 56.0  
Start Date & Time: nd  
End Date & Time: 11/29/94 nd  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Foam/Air  
Comments: Originally drilled to TD of 1984' on 8/17/94. Milled out to 1997' on 11/29/94.

**Open Hole Interval**

Hole Diameter, in: 4.125  
Top Depth, ft: 1941.0  
Bottom Depth (TD), ft: 1997.0  
Interval Thickness, ft: 56.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: nd  
Completion Date: nd  
Drilling Contractor: nd  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 4.125  
Start Depth, ft: 1941  
End Depth, ft: 1997  
Open Hole Interval, ft: 56.0  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 94-1M  
**Hole Type:** Directional Rotary - Vertical  
**Well Type:** DS Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: 4.5  
Stick-up Elevation, ft.: 6663.9  
Materials: na

Comments:

---

**Abandonment Data**

Abandonment Date: 6/19/12 17:45  
Drilling Contractor: Red Rock Well Service  
Rig Number: 3  
Materials: Perfs: 199-1475, 388 Sks Portland II/V Surface to 1939'

Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2A-2V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6673.9  
KB Elevation, ft: 6681.7  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NESW  
Footage, N/S: 3358, FNL  
Footage, E/W: 3368, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932147980  
Longitude, °W: 108.362692600  
State Plane Northing, ft: 231083.65  
State Plane Easting, ft: 1197326.84

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932120180  
Longitude, °W: 108.363338200  
State Plane Northing, ft: 1231083.06  
State Plane Easting, ft: 2197166.61

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.25  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 6/13/96 nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 78  
Drilling Media: Air/Aerated Mud  
Comments: All depths assumed to be referenced to GL. KB 13' above GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 9.625 OD; nd ID  
Type: K-55 (steel)  
Weight: 36 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 60  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 8.750  
Start Depth, ft: 60.0  
End Depth, ft: 1979.0  
Total Footage: 1919.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 78  
Drilling Media: Air/Aerated Mud  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1944 (1)1969 (2)  
Casing Diameter, in: 7.000 (1)4.500 (2) OD; 6.366 (1)nc  
Casing Type: K-55 (steel)  
Casing Wt: 23 lb/ft (1)11.6 lb/ft (2)  
Install Date & Time: nd  
Comments: 4.5" liner 1843'-1969'

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2A-2V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	nd - nd	na
Type:	nd	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:		

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 8.750  
Top Depth, ft: 1969.0  
Bottom Depth (TD), ft: 1979.0  
Interval Thickness, ft: 10.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: nd  
Completion Date: nd  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 78

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments: Perforated from 1380'-1410', 1942'-1962'. Installed CIBP at 1920' and cemented from 1920' to 1496'

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1496.0  
Plug Back, Bottom, ft: 1920.0  
Materials: Cement: 1496'-1920'  
CIBP: 1920'

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 2A-2V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: 6/28/05 nd  
Completion Date: 6/28/05 nd  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 78

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments: Perforated from 1405'-1435'

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: P&A  
Stick-up Elevation, ft.: nd  
Materials: na

Comments: na

---

**Abandonment Data**

Abandonment Date: 7/1/08 - 7/21/08  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: nd  
Materials: 30-1496' Cement

Comments: Cemented in 5 stages, a total of 287 sacks between 15.0 and 15.3 ppg.

---

**Recompletion History**

Date Unknown  
Eastern Colorado Well Service  
Perforated from 1380'-1410', 1942'-1962'. Installed CIBP at 1920' and cemented from 1920' to 1496'

June, 2005  
Eastern Colorado Well Service  
Perforated from 1405'-1435'



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 3A-4H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6691.9  
KB Elevation, ft: 6704.9  
Section: 35  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNW  
Footage, N/S: 298, FNL  
Footage, E/W: 673, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926437230  
Longitude, °W: 108.366407800  
State Plane Northing, ft: 229038.16  
State Plane Easting, ft: 1196218.28

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926409470  
Longitude, °W: 108.367053500  
State Plane Northing, ft: 1229037.55  
State Plane Easting, ft: 2196058.03

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.25  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 7/2.97 09:00  
End Date & Time: 7/2/97 18:00  
Total Drilling Hours: 9.0  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 78  
Drilling Media: Air Mist  
Comments: KB 13' above GL. Depths corrected to GL

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 9.625 OD; nd ID  
Type: K-55 (steel)  
Weight: 36 lb/ft  
Install Date & Time: 7/2/97 nd  
Cement Interval, ft. GL: 0 - 60  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: 7/2/1997  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 8.750  
Start Depth, ft: 60.0  
End Depth, ft: 2099.0  
Total Footage: 2039.0  
Start Date & Time: 7/3/97 1:00  
End Date & Time: 7/8/97 1:30  
Total Drilling Hours: 120.5  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 78  
Drilling Media: Air Mist  
Comments: Bithell Well Completion Diagram, 12/6/06

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2099.0  
Casing Diameter, in: 7 OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: 23 lb/ft  
Install Date & Time: 7/8/97 13:30  
Comments: Bithell Well Completion Diagram, 12/6/06

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 3A-4H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/9/1997	na
*Interval, ft:	1359 - 2099	na
Type:	AG thix and hi-fill	na
Additives:	nd	na
Amount, sks:	420	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	Top of cement was tagged by drillers	

**Drillout Operation**

Hole Diameter, in: 6.125  
Start Depth, ft: 2099.0  
End Depth, ft: 3299.0  
Total Footage: 1200.0  
Start Date & Time: 7/10/97 20:30  
End Date & Time: 7/13/97 8:30  
Total Drilling Hours: 60.0  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 78  
Drilling Media: Air Mist  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.125  
Top Depth, ft: 2099.0  
Bottom Depth (TD), ft: 3299.0  
Interval Thickness, ft: 1200.0  
Comments: TVD: 1951'; perforated from 2223'-2230'

**Production Casing Data**

Casing Top Depth, ft: 0.0  
Csg Bottom Depth, ft: 3253.0  
Casing Diameter, in: 5.500 (1)5.500 (2) OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: nd  
Install Date & Time: 7/13/97 13:30  
Comments: 5.5" to 5.0" reducing swedge at 2028.0 MD GL

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 3A-4H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: P&A  
Stick-up Elevation, ft.: nd  
Materials: na

Comments: na

---

**Abandonment Data**

Abandonment Date: 8/23/04 - 9/24/04  
Drilling Contractor: nd  
Rig Number: nd  
Materials: Stage 1 cement: 1813.0-2033.0 MD KB; 1800.0-2020.0 MD GL  
Stage 2 cement: 0-1813.0 MD KB; 0-1800 MD GL  
7" CIBP: 2033.0 MD KB; 2020 MD GL  
5.0" open casing (fish): 2041.0-3266.0 MD KB; 2028.0-3253.0 MD GL

Comments: 5.5" Production Liner Removed: 0-2041 MD KB; 0-2028.0 MD GL  
5.0" Production Liner Remaining (fish): 2041.0-3266.0 MD KB; 2028.0-3253.0 MD GL  
7.0" CIBP: 2033 MD KB; 2020.0 MD GL  
7.0" Cemented Casing: 0-2033.0 MD KB; 0-2020.0 MD GL  
Cemented in 2 stages, a total of 230 sacks of Class G

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**Recompletion History**

0

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 4A-1V  
**Hole Type:** Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6696.8  
KB Elevation, ft: 6708.5  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWSW  
Footage, N/S: 1458.79, FSL  
Footage, E/W: 1167.85, FWL

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**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.931253560  
Longitude, °W: 108.364665700  
State Plane Northing, ft: 230775.88  
State Plane Easting, ft: 1196763.29

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**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.931225770  
Longitude, °W: 108.365311300  
State Plane Northing, ft: 1230775.29  
State Plane Easting, ft: 2196603.05

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 16.0  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 2/7/95 nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Caza Drilling  
Rig Number: 7  
Drilling Media: Aerated Mud  
Comments: All depths referenced to GL, converted from KB 16' above GL.

---

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 13.375 OD; nd ID  
Type: nd  
Weight: 61 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 60  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

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**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 12.250  
Start Depth, ft: 1978.0  
End Depth, ft: 2048.0  
Total Footage: 70.0  
Start Date & Time: 2/13/95 1:30  
End Date & Time: 2/14/95 6:00  
Total Drilling Hours: 28.5  
Drilling Contractor: Caza Drilling  
Rig Number: 7  
Drilling Media: Aerated Mud  
Comments:

---

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

---

**Intermediate Casing Data**

Casing Depth, ft: 1928.0  
Casing Diameter, in: 9.625 OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: 40.0 lb/ft  
Install Date & Time: 2/15/95 17:00  
Comments: DV Tool @ 1272'

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 4A-1V  
**Hole Type:** Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	2/16/1995	3/1/1995
*Interval, ft:	594 - 1928	nd - nd
Type:	nd	Thixotropic
Additives:	nd	12% Cal-seal, 2% CaCl2
Amount, sks:	nd	50
Weight, lb/gal:	nd	14.2
Method:	nd	displacement
Comments:		

---

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 12.250  
Top Depth, ft: 1928.0  
Bottom Depth (TD), ft: 2048.0  
Interval Thickness, ft: 120.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 4A-1V  
**Hole Type:** Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

---

**Primary Recompletion Data**

Start Date: nd  
Completion Date: na  
Drilling Contractor: nd  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1919.0  
Plug Back, Bottom, ft: 1921.0  
Materials: CIBP: 1919'-1921'

---

**Secondary Recompletion Data**

Start Date: nd  
Completion Date: na  
Drilling Contractor: nd  
Rig Number: nd

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments: Well completion report notes perforations at 1700 and 3 unsuccessful squeezes with 200 sacks of cement; also perforations at 1942 feet and 9 unsuccessful squeezes

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 4A-1V  
**Hole Type:** Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: 2.1  
Stick-up Elevation, ft.: 6698.7  
Materials: na  
Comments: na

---

**Abandonment Data**

Abandonment Date: 6/8/12 - 6/13/12  
Drilling Contractor: Red Rock Well Service  
Rig Number: na  
Materials: PERFS: 200, 990, 1160; 3 spf, 120 deg. phase, 0.43" hole,  
with 32" penetration  
0-513: Cement  
513-1112: Cement  
1112-1918: Cement  
1601-1918: Cement  
Comments: Cemented in 6 stages, a total of 660 sacks of Portland Type  
II Cement: 105 sacks of 14.6 lb/gal, 94 sacks of 14.6 lb/gal,  
88 sacks of 14.6 lb/gal, 94 sacks of 14.6 lb/gal, 94 sacks of  
14.6 lb/gal, 70 sacks of 14.6 lb/gal, and 94 sacks of 14.6  
lb/gal

---

**Recompletion History**

Date Unknown  
CIBP: 1919'-1921'  
Perforations from 1888' to 1907'

Well completion report notes perforations at 1700 and 3 unsuccessful squeezes with 200 sacks of cement; also perforations at 1942 feet and 9 unsuccessful squeezes with 946 sacks of cement.

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 4A-5M  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6705.7  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 933.41, FSL  
Footage, E/W: 963.08, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929813560  
Longitude, °W: 108.365385000  
State Plane Northing, ft: 230258.13  
State Plane Easting, ft: 1196544.70

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929785780  
Longitude, °W: 108.366030700  
State Plane Northing, ft: 1230257.53  
State Plane Easting, ft: 2196384.46

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 8.75  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 10/10/96 nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments: Original depths assumed to be referenced to GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 7 OD; nd ID  
Type: J55 (steel)  
Weight: 23 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 60  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 6.250  
Start Depth, ft: 60.0  
End Depth, ft: 1843.9  
Total Footage: 1783.9  
Start Date & Time: 10/24/96 nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Tonto Drilling  
Rig Number: Gardner Denver RD 20  
Drilling Media: Air Mist and Mud  
Comments: Drilled with air to 550'; with mud to TD

**Intermediate Hole Plug Back Data**

Date & Time: nd  
Start Depth, ft: 1840.0  
End Depth, ft: 1843.9  
Materials: Cement: 1840-1843.9

**Intermediate Casing Data**

Casing Depth, ft: 1840.3  
Casing Diameter, in: 2.375 OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: 4.7 lb/ft  
Install Date & Time: 10/29/96 nd  
Comments: 2.75' of stick-up



Drilling and Coring Program

**Well Completion Information**

**Well Name:** 4A-5M  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	10/29/1996	na
*Interval, ft:	80 - 1840	na
Type:	Portland Type II	na
Additives:	nd	na
Amount, sks:	45,000 lbs	na
Weight, lb/gal:	nd	na
Method:	tremie	na
Comments:	Top of cement noted to be +/- 80'; 18 joints of tremie pipe (360') were cemented in the hole from 260'-620'	

**Drillout Operation**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Open Hole Interval**

Hole Diameter, in: na  
 Top Depth, ft: na  
 Bottom Depth (TD), ft: na  
 Interval Thickness, ft: na  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
 Csg Bottom Depth, ft: na  
 Casing Diameter, in: na OD; na ID  
 Casing Type: na  
 Casing Wt: na  
 Install Date & Time: na  
 Comments:

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 4A-5M  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: 2.7  
Stick-up Elevation, ft.: 6708.4  
Materials: na

Comments:

---

**Abandonment Data**

Abandonment Date: 6/21/12 15:30  
Drilling Contractor: Red Rock Well Service  
Rig Number: 3  
Materials: 39.4 Sks II/V, Surface to 1844'

Comments:

---

**Recompletion History**

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 5H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6688.4  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSE  
Footage, N/S: 620, FSL  
Footage, E/W: 1872, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928868680  
Longitude, °W: 108.357227100  
State Plane Northing, ft: 229840.31  
State Plane Easting, ft: 1198820.32

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928840890  
Longitude, °W: 108.357872500  
State Plane Northing, ft: 1229839.69  
State Plane Easting, ft: 2198660.10

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 4/28/02 nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Key Energy Services  
Rig Number: 978  
Drilling Media: nd

Comments: All depths assumed to be referenced to GL, converted from KB 12' above GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 10.75 OD; nd ID  
Type: J55 (steel)  
Weight: 40.5 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 60  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na

Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 60.0  
End Depth, ft: 2032.0  
Total Footage: 1972.0  
Start Date & Time: 5/1/02 13:30  
End Date & Time: 5/5/02 10:30  
Total Drilling Hours: 93.0  
Drilling Contractor: Key Energy Services  
Rig Number: 978  
Drilling Media: nd

Comments: KOP at 1403.7 GL. Lost motor and bit in hole at 2032'.  
Plugged back hole before drilling another curve.

**Intermediate Hole Plug Back Data**

Date & Time: 5/6/02 nd  
Start Depth, ft: 1374.0  
End Depth, ft: 2036.0  
Materials: Cement: 1374-2036

**Intermediate Casing Data**

Casing Depth, ft: 2070 (1)2090 (2)  
Casing Diameter, in: 7.625 (1)4.500 (2) OD; nd ID  
Casing Type: N-80 (1)nd (2)  
Casing Wt: 26.4 lb/ft (1)15.5 lb/ft (2)  
Install Date & Time: 5/10/02 13:00  
Comments: 4.5" liner from 2070'-2090'

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 5H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: 9.875  
Start Depth, ft: 1486.0  
End Depth, ft: 2175.0  
Total Footage: 689.0  
Start Date & Time: 5/7/02 22:00  
End Date & Time: 5/10/02 10:30  
Total Drilling Hours: 60.5  
Drilling Contractor: Key Energy Services  
Rig Number: 978  
Drilling Media: nd  
Comments: Drilled out cement after plug back to KOP at 1486'.

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	5/10/2002	na
*Interval, ft:	200 (1)0 (2) - 2070 (1);	na
Type:	Type G (1) Type H (2)	na
Additives:	nd	na
Amount, sks:	275 (1) nd (2)	na
Weight, lb/gal:	nd	na
Method:	displacement	na
Comments:	Used Premium G nitrogen foam cement initially. Capped with 200' of Type H cement.	

**Drillout Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 2170.0  
End Depth, ft: 3496.0  
Total Footage: 1326.0  
Start Date & Time: 5/12/02 18:00  
End Date & Time: 5/17/02 2:00  
Total Drilling Hours: 104.0  
Drilling Contractor: Key Energy Services  
Rig Number: 978  
Drilling Media: Bicarb Solution  
Comments: Intersected cavity 1A at 3496' (3508 KB); 1941 TVD

**Open Hole Interval**

Hole Diameter, in: 9.875 (1)  
Top Depth, ft: 2090 (1)2175 (2)  
Bottom Depth (TD), ft: 2175 (1)  
Interval Thickness, ft: 1406.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: nd  
Completion Date: nd  
Drilling Contractor: nd  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments: Perforated from 2050'-2080' with 182 holes in production  
screen and 4.5" casing

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 5H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

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**Secondary Recompletion Data**

Start Date: 6/1/2008 nd  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments: Baker 5.5" casing patch (straddle packer) emplaced from 950'-1039'.

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments: na

---

**Abandonment Data**

Abandonment Date: 8/15/11 - 9/7/11  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 14  
Materials: 0-446: Cement  
446-1423: Cement  
1423-1917: Cement  
1917-2174: Cement  
2174-2195: Heavy Mud

Comments: 175 gal mud pill consisting of 2 lb Diamond Seal, 25 lb Bentonite gel, 1.5 gal New Drill polymer, and fresh water pumped downhole before cementing operations. Perforations (1/ft @ 120 deg.): 400-405, 1210-1215. Cemented in 4 stages, a total of 473 sacks of 14.6 lb/gal Portland Type II/V cement with High Early (CaCl<sub>2</sub>) accelerator: 84 sacks of 14.6 lb/gal, 84 sacks of 14.6 lb/gal, 168 sacks of 14.6 lb/gal, 77

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**Recompletion History**

June, 2008  
Perforated from 2050'-2080' with 182 holes in production screen and 4.5" casing  
  
Baker 5.5" casing patch (straddle packer) emplaced from 950'-1039'.

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 5H-1V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6671.7  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: nd, nd  
Footage, E/W: nd, nd

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928892370  
Longitude, °W: 108.360804700  
State Plane Northing, ft: 229881.28  
State Plane Easting, ft: 1197817.77

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928864590  
Longitude, °W: 108.361450200  
State Plane Northing, ft: 1229880.67  
State Plane Easting, ft: 2197657.54

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 4/26/07 12:00  
End Date & Time: 4/26/07 19:00  
Total Drilling Hours: 7.0  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Mud  
Comments: All depths assumed to be referenced to GL, converted from KB 6' above GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 13.375 OD; 12.615 ID  
Type: J55 (steel)  
Weight: 54.5 lb/ft  
Install Date & Time: 4/26/07 20:00  
Cement Interval, ft. GL: 0 - 60  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 4/26/2007  
Top-off Cement Date: na  
Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 12.250  
Start Depth, ft: 60.0  
End Depth, ft: 1829.0  
Total Footage: 1769.0  
Start Date & Time: 4/27/07 11:30  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Mud  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1773.2 (1)1795.8 (2)1836.1  
Casing Diameter, in: 7.625 (1)7.000 (2)5.500 (3) OD; 6.  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 5/8/07 8:00  
Comments: Crossover sub at 1773.2 from 7.625" to 7.000" casing; 5.5" casing liner to 1836.9'

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 5H-1V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	5/9/2007	na
*Interval, ft:	0 - 1773.2	na
Type:	Type H and Lite	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	tremie	na
Comments:		

**Drillout Operation**

Hole Diameter, in: 6.250  
 Start Depth, ft: 1829.0  
 End Depth, ft: 1934.0  
 Total Footage: 105.0  
 Start Date & Time: nd  
 End Date & Time: nd  
 Total Drilling Hours: nd  
 Drilling Contractor: nd  
 Rig Number: nd  
 Drilling Media: Mud  
 Comments: Milled with different sized bits in attempt to drill through fish in hole and cave rubble.

**Open Hole Interval**

Hole Diameter, in: 6.250  
 Top Depth, ft: 1836.9  
 Bottom Depth (TD), ft: 1934.0  
 Interval Thickness, ft: 97.1  
 Comments: Multiple fish stuck in hole in open hole interval

**Production Casing Data**

Casing Top Depth, ft: na  
 Csg Bottom Depth, ft: na  
 Casing Diameter, in: na OD; na ID  
 Casing Type: na  
 Casing Wt: na  
 Install Date & Time: na  
 Comments:

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 5H-1V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments: na

---

**Abandonment Data**

Abandonment Date: 8/15/11 - 8/25/11  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: 14  
Materials: 0-628: Cement  
628-1696: Cement  
1696-1883: Cement  
1883: CIBP

Comments: Perforations (2/ft @120 deg.) 1800-1810, 1840-1850, 1855-1875; (1/ft @ 120 deg.) 1700-1703, 1750-1753). Cemented in 3 stages, a total of 420 sacks of Portland Type II/V with 2% CaCl<sub>2</sub>: 115.5 sacks of 14.6 lb/gal, 168 sacks of 14.6 lb/gal, 136.5 sacks of 14.6 lb/gal.

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**Recompletion History**

0



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 6H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6695.4  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSE  
Footage, N/S: 399.7, FSL  
Footage, E/W: 1873.6, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928320280  
Longitude, °W: 108.357175000  
State Plane Northing, ft: 229640.18  
State Plane Easting, ft: 1198828.49

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928292500  
Longitude, °W: 108.357820400  
State Plane Northing, ft: 1229639.56  
State Plane Easting, ft: 2198668.27

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.0  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 61.0  
Total Footage: 61.0  
Start Date & Time: 9/21/02 nd  
End Date & Time: 9/21/02 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Key Energy Services  
Rig Number: 942  
Drilling Media: Mud

Comments: Bedrock at 15'. All depths assumed to be referenced to GL, converted from KB 3' above GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 61.0  
Diameter, in: 10.75 OD; nd ID  
Type: J55 (steel)  
Weight: 40.5 lb/ft  
Install Date & Time: 9/22/02 nd  
Cement Interval, ft. GL: 0 - 61  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: 9/22/2002  
Top-off Cement Date: na

Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 61.0  
End Depth, ft: 2287.0  
Total Footage: 2226.0  
Start Date & Time: 9/25/02 13:00  
End Date & Time: 10/1/02 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Key Energy Services  
Rig Number: 942  
Drilling Media: Mud  
Comments: KOP at 1442' GL.

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2244 (1)3232 (2)  
Casing Diameter, in: 7.625 (1) 5.50 (2) OD; 6.969 (1)4.8 (2)  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft (1)15.5 lb/ft (2)  
Install Date & Time: 10/1/02 nd  
Comments: Suspended liner from 1915'-3232'.

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 6H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	10/1/2002	na
*Interval, ft:	450 - 2244	na
Type:	Foam	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:		

**Drillout Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 2287.0  
End Depth, ft: 3529.0  
Total Footage: 1242.0  
Start Date & Time: 10/3/02 16:00  
End Date & Time: 10/4/02 10:50  
Total Drilling Hours: 18.8  
Drilling Contractor: Key Energy Services  
Rig Number: 942  
Drilling Media: Mud  
Comments: Broke into cavity at 3529' (3532' KB); 1960 TVD

**Open Hole Interval**

Hole Diameter, in: 6.500  
Top Depth, ft: 3232.0  
Bottom Depth (TD), ft: 3529.0  
Interval Thickness, ft: 297.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: 1/3/05 nd  
Completion Date: 1/3/05 nd  
Drilling Contractor: nd  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments: Perforated from 2590-2610', 2999-3019', and 3220-3235'

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 2616.0  
Plug Back, Bottom, ft: 3020.0  
Materials: CIBP: 2616  
CIBP: 3020

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 6H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: 8/11/06 nd  
Completion Date: 8/11/06 nd  
Drilling Contractor: nd  
Rig Number: nd

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 2348.4  
Plug Back, Bottom, ft: 2349.4  
Materials: CIBP: 2348.4

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments: na

---

**Abandonment Data**

Abandonment Date: 8/23/11 12:00  
Drilling Contractor: Eastern Colorado Well Sen  
Rig Number: 14  
Materials: 1.2-585: cement  
585-1184: cement  
1184-1832.7: cement  
1832.7-2035.2: cement  
2035.2-2041.46: CIBP

Comments: Perforations (1/ft) 300-305, 1910-1915, and 1980-1985.  
Cemented in 4 stages, a total of 483 sacks: 105 sacks of 14.6 lb/gal, 136.5 sacks of 15.1 lb/gal, 126 sacks of 15.1 lb/gal, 115.5 sacks of 14.6 lb/gal

---

**Recompletion History**

January, 2005  
CIBP: 2616  
CIBP: 3020  
Perforated from 2590-2610', 2999-3019', and 3220-3235'

August, 2006  
CIBP: 2348.4  
Perforated from 2258.8'-2280'

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 7H-1R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6704.0  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSE  
Footage, N/S: 101.91, FSL  
Footage, E/W: 1626.92, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927509670  
Longitude, °W: 108.356465700  
State Plane Northing, ft: 229338.65  
State Plane Easting, ft: 1199017.78

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927481900  
Longitude, °W: 108.357111100  
State Plane Northing, ft: 1229338.02  
State Plane Easting, ft: 2198857.56

**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.25  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments: All depths assumed referenced to GL. KB is 9.75' above GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 10.75 OD; nd ID  
Type: J55 (steel)  
Weight: 40.5 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 60  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 60.0  
End Depth, ft: 2232.0  
Total Footage: 2172.0  
Start Date & Time: 10/13/05 0:00  
End Date & Time: 10/26/05 5:45  
Total Drilling Hours: 317.8  
Drilling Contractor: Layne Western  
Rig Number: 401  
Drilling Media: Mud  
Comments: KOP assumed to be 1433'. Break in drilling activity due to shortage in rig personnel between 10/16/05 and 10/24/05. Int. hole TVD 1963.3'.

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1637.0  
Casing Diameter, in: 7.625 OD; nd ID  
Casing Type: K-55  
Casing Wt: 26.4 lb/ft  
Install Date & Time: nd  
Comments: Csg depth listed as 1680 MD GL on BLM WCR and 1657 MD GL on initial WSR. 5.5" suspended liner from 1260.9'-2232'

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 7H-1R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	nd	na
*Interval, ft:	nd - 2232	na
Type:	nd	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:		

**Drillout Operation**

Hole Diameter, in: 3.500  
 Start Depth, ft: 2232.0  
 End Depth, ft: 2478.0  
 Total Footage: 246.0  
 Start Date & Time: nd  
 End Date & Time: 12/21/05 3:30  
 Total Drilling Hours: nd  
 Drilling Contractor: Layne Western  
 Rig Number: 401  
 Drilling Media: nd

Comments: Bithell WCD notes "contact made with 7H-21 at 2300".  
 TD Discrepancy in Multishot report; TD on pg 2 of  
 EOWR is 2436, TD on page 9 is 2478 MD. All depths  
 assumed to be MD GL.

**Open Hole Interval**

Hole Diameter, in: 3.500  
 Top Depth, ft: 2232.0  
 Bottom Depth (TD), ft: 2478.0  
 Interval Thickness, ft: 246.0  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: 1260.9  
 Csg Bottom Depth, ft: 2232.0  
 Casing Diameter, in: 5.5 OD; nd ID  
 Casing Type: nd  
 Casing Wt: 17.0 lb/ft  
 Install Date & Time: 1/0/00 0:00  
 Comments: 5.5" suspended liner from 1260.9'-2232'

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 7H-1R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments:

---

**Abandonment Data**

Abandonment Date: 5/24/17 17:00  
Drilling Contractor: Red Rock Well Service  
Rig Number: nd  
Materials: CIBP (5.5"): 2100  
PERFS: 200, 600, 985; 4 spf, 90 deg. phase, 21 gram per  
perf, 0.42" hole, with 35.97" penetration  
CEMENT: 0-2100; 351.75 sks (80.5 bbls), 15 lb/gal; STG-1  
(157.5 sx, 36 bbls) 2100-938'; STG-2 (194.25 sx, 44.5 bbls)  
938'-0"

Comments:

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**Recompletion History**

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Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 7H-1V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6682.0  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 233.36, FSL  
Footage, E/W: 3006.87, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927714330  
Longitude, °W: 108.361397000  
State Plane Northing, ft: 229457.74  
State Plane Easting, ft: 1197637.90

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927686550  
Longitude, °W: 108.362042500  
State Plane Northing, ft: 1229457.13  
State Plane Easting, ft: 2197477.67

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 40.0  
Total Footage: 40.0  
Start Date & Time: 5/23/08 12:00  
End Date & Time: 5/23/08 16:30  
Total Drilling Hours: 4.5  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Mud

Comments: All depths assumed referenced to GL. P&A marker cut-off & removed to 1' below 15H-1V pad level on 6/12/19

**Conductor Casing Data**

Casing Depth, ft. GL: 40.0  
Diameter, in: 13.375 OD; nd ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 5/23/08 nd  
Cement Interval, ft. GL: 0 - 40  
Cement Type: GROUT  
Cement Amount, sks: 8  
Cementing Date: 5/23/2008  
Top-off Cement Date: na

Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 12.250  
Start Depth, ft: 40.0  
End Depth, ft: 1906.0  
Total Footage: 1866.0  
Start Date & Time: 5/24/08 13:55  
End Date & Time: 6/1/08 5:00  
Total Drilling Hours: 183.1  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Mud  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1891.74 (1)1897.5 (2)  
Casing Diameter, in: 7.625 (1) 5.50 (2) OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 6/1/08 22:00  
Comments: Screen extends from 1897.5' to 1928.5'

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 7H-1V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	6/2/2008	na
*Interval, ft:	nd - 1892	na
Type:	Type H and Lite	na
Additives:	Calcium chloride	na
Amount, sks:	578 (1) 392 (2)	na
Weight, lb/gal:	13.6 (1) 15.6 (2)	na
Method:	nd	na
Comments:	Lead cement consisted of 578 sacks of 13.6 ppg Lite cement; tail consisted of 392 sacks of 15.6 ppg Type H with 1% calcium chloride	

**Drillout Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1906.0  
End Depth, ft: 1925.0  
Total Footage: 19.0  
Start Date & Time: 6/5/08 12:28  
End Date & Time: 6/6/08 17:00  
Total Drilling Hours: 28.5  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Mud  
Comments: Hit cavity at 1925'; cavity extends from 1925'-1928.5'

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: 10/6/08 nd  
Completion Date: 10/6/08 nd  
Drilling Contractor: nd  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: 5.000  
Start Depth, ft: 1928.5  
End Depth, ft: 1935.0  
Comments: Deepened hole below cavity to extend through LBB.

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 5.000  
Start Depth, ft: 1928.5  
End Depth, ft: 1935  
Open Hole Interval, ft: 6.5  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 7H-1V  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Vertical Recovery Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: na  
Materials: na

Comments:

---

**Abandonment Data**

Abandonment Date: 5/27/17 17:00  
Drilling Contractor: Red Rock Well Service  
Rig Number: nd  
Materials: CIBP (5.5"): 1891  
PERFS: 1860, 1870, 1880; 4 spf, 90 deg. phase, 21 gram  
per perf, 0.42" hole, with 35.97" penetration  
CEMENT: 0-1891; 703.5 sks (161 bbls), 15 lb/gal; STG-  
1 (94.5 sk, 21.6 bbls) 1891-1887; (Spot 2.9 bbls Therm-Ex  
Grout Bentonite polymer) pill prior to pumping stage #2  
STG-2 (105 sk, 24 bbls) 1887-1880; STG-3 (105 sk, 24

Comments:

---

**Recompletion History**

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 7H-2I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6704.0  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSE  
Footage, N/S: 204.77, FSL  
Footage, E/W: 1638.22, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927792600  
Longitude, °W: 108.356508300  
State Plane Northing, ft: 229442.04  
State Plane Easting, ft: 1199009.16

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927764820  
Longitude, °W: 108.357153700  
State Plane Northing, ft: 1229441.41  
State Plane Easting, ft: 2198848.94

**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.25  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 9/6/05 nd  
End Date & Time: 9/6/05 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments: All depths referenced to GL. KB 11' above ground level.

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 10.75 OD; nd ID  
Type: J55 (steel)  
Weight: 40.5 lb/ft  
Install Date & Time: 9/6/05 nd  
Cement Interval, ft. GL: 0 - 60  
Cement Type: Neat  
Cement Amount, sks: 8  
Cementing Date: 9/6/2005  
Top-off Cement Date: na  
Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 60.0  
End Depth, ft: 2242.0  
Total Footage: 2182.0  
Start Date & Time: 9/7/05 1:30  
End Date & Time: 9/15/05 22:30  
Total Drilling Hours: 213.0  
Drilling Contractor: Layne Western  
Rig Number: 401  
Drilling Media: Mud  
Comments: KOP at 1450' GL.

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2242.0  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: K-55  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 9/17/05 10:00  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 7H-2I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	9/17/2005	na
*Interval, ft:	0 - 2242	na
Type:	Type H and Lite	na
Additives:	nd	na
Amount, sks:	56 bbl (1) 27 bbl (2)	na
Weight, lb/gal:	13.6 (1) 15.8 (2)	na
Method:	displacement	na
Comments:	Lead cement was 56 bbl of 13.6 ppg nitrogen foam Lite; tail cement was 27 bbl of 15.8 ppg Type H or G	

**Drillout Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 2242 (1)2550 (2)2146 (3)  
End Depth, ft: 3264 (1)2877 (2)3564 (3)  
Total Footage: 1322.0  
Start Date & Time: 9/22/05 05:55 (1)9/24/05 10:00 (2)  
End Date & Time: 9/22/05 11:00 (1)9/26/05 05:00 (2)  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Layne Western  
Rig Number: 401  
Drilling Media: Bicarb Solution  
Comments: Horizontal track #1 went below the base of the LBB and was plugged back and abandoned; horizontal track #2 also went below the base of the LBB and was plugged back and abandoned

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: 3564.0  
Interval Thickness, ft: #VALUE!  
Comments:

**Production Casing Data**

Casing Top Depth, ft: 1879 (1)1733 (2)  
Csg Bottom Depth, ft: 3250 (1)3564 (2)  
Casing Diameter, in: 5.500 (1)3.500 (2) OD; nd (1)nd (2)  
Casing Type: nd (1)nd (2)  
Casing Wt: 17.0 lb/ft (1)10.2 lb/ft (2)  
Install Date & Time: 10/4/05 (1)10/7/05 (2)  
Comments: 5.5" suspended liner from 1879.1'-3250'; 3.5" suspended liner from 1733'-3564'; perforated with 4 shots per ft from 3559 to 3564

**Primary Recompletion Data**

Start Date: 4/3/08 nd  
Completion Date: 4/3/08 nd  
Drilling Contractor: nd  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 6.500  
Start Depth, ft: 3250  
End Depth, ft: 3564  
Open Hole Interval, ft: 314.0  
Comments: 3/28/08: Removed 3.5" liner from 1733'-3564'  
6/18/08: CIBPs set at 2842.0 and 2994.0 MD GL  
Perforation intervals: 2792.0-2812.0 and 2947.0-2967.0 MD GL

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 7H-2I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: nd  
Materials: na

Comments:

---

**Abandonment Data**

Abandonment Date: 5/16/17 17:00  
Drilling Contractor: Red Rock Well Service  
Rig Number: nd

Materials: CIBP (5.5"): 1988  
PERFS: 300, 500, 1885, 1979.5; 4 spf, 90 deg. phase, 21  
gram per perf, 0.42" hole, with 35.97" penetration  
CEMENT: 0-1988; 509.25 sks (116.6 bbls), 15 lb/gal; STG-  
1 (94.5 sk, 21.6 bbls) 1988-1950'; STG-2 (126 sk, 28 bbls)  
1950'-1375'; STG-3 (157.5 sk, 36 bbls) 1375'- 572'; STG-4  
(131.25 sk, 30 bbls) 572'-0'

Comments:

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**Recompletion History**

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 8H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** OUT OF SERVICE

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6686.1  
KB Elevation, ft: 6703.1  
Section: 35  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNW  
Footage, N/S: 279, FNL  
Footage, E/W: 472, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926494295  
Longitude, °W: 108.367130597  
State Plane Northing, ft: 229065.49  
State Plane Easting, ft: 1196016.33

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926466000  
Longitude, °W: 108.367776000  
State Plane Northing, ft: 1229064.86  
State Plane Easting, ft: 2195856.09

**Conductor Hole Drilling Operation**

Hole Diameter, in: 24.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 83.0  
Total Footage: 83.0  
Start Date & Time: 7/31/14 7:00  
End Date & Time: 7/31/14 13:00  
Total Drilling Hours: 6.0  
Drilling Contractor: Triple A Drilling  
Rig Number: Auger Rig  
Drilling Media: na  
Comments: All depths referenced to GL. KB 17' above ground level.

**Conductor Casing Data**

Casing Depth, ft. GL: 83.0  
Diameter, in: 13.375 OD; 12.715 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 7/31/14 16:00  
Cement Interval, ft. GL: 0 - 83  
Cement Type: Portland Type I/II  
Cement Amount, sks: 189 sks  
Cementing Date: 7/31/2014  
Top-off Cement Date: na  
Comments: depth from GL; times are estimated

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 83.0  
End Depth, ft: 2144.0  
Total Footage: 2061.0  
Start Date & Time: 9/19/14 12:30  
End Date & Time: 9/22/14 6:40  
Total Drilling Hours: 66.2  
Drilling Contractor: Hydro Resources, Inc.  
Rig Number: 409  
Drilling Media: Mud and Halite Bicarb Solution  
Comments: KOP: 1360' MD KB. Losses noted at 1320' MD KB; at 2135' MD KB losing ~1.25 bpm. Spot cmt plug @ 2161' MD KB (original well path dipped into R-5 Zone at approximately 2440' MD KB; sidetrack hole drilled from 2180' MD KB to 2900.0 MD KB (TD) to redirect path into LBB)

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2138.0  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: J-55  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 9/25/14 / 18:30  
Comments: DV tool at 1428 MD KB, 1411 MD GL

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 8H-I  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** OUT OF SERVICE

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	9/26/14 / 01:45	11/10/2014
*Interval, ft:	1233 - 2144	0 - 1160
Type:	HES Versacem/Varicem	Type G
Additives:	nd	nd
Amount, sks:	515	240/79
Weight, lb/gal:	12.8	12.3/15.8
Method:	displacement	perforate/squeeze
Comments:	1st stg: partial fluid ret, no cmt ret; 2nd stg: partial fluid ret, no cmt ret.	CIBP at 1198' MD GL, perfed: 1193 & 1195' MD GL. 11/14/14: Dump bailed 16' of 12-13 ppg cmt from 1195 to 1179' MD GL. 11/18/14 drilled out CIBP and chased to liner hanger (1680.8' MD

**Drillout Operation**

Hole Diameter, in: 6.750  
 Start Depth, ft: 2144.0  
 End Depth, ft: 2883.0  
 Total Footage: 739.0  
 Start Date & Time: 9/28/14 8:25  
 End Date & Time: 10/1/14 8:45  
 Total Drilling Hours: 72.3  
 Drilling Contractor: Hydro Resources, Inc.  
 Rig Number: 409  
 Drilling Media: Halite Bicarb Solution  
 Comments: Original drillout was sidetracked. Production hole plugged back to 2830' (through halite facies) with cement (50 sks, 15.8 ppg).

**Open Hole Interval**

Hole Diameter, in: 6.750  
 Top Depth, ft: 2144.0  
 Bottom Depth (TD), ft: 2813.0  
 Interval Thickness, ft: 669.0  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: 1679.0  
 Csg Bottom Depth, ft: 2813.0  
 Casing Diameter, in: 5.5 OD; 4.892 ID  
 Casing Type: J-55  
 Casing Wt: 17 lb/ft  
 Install Date & Time: 10/4/14 18:30  
 Comments: Liner hanger @ 1696 MD KB; Total liner length 1133.5

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 2813.0  
 Plug Back, Bottom, ft: 2883.0  
 Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 8H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** OUT OF SERVICE

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6686.6  
KB Elevation, ft: 6703.6  
Section: 35  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNW  
Footage, N/S: 291, FNL  
Footage, E/W: 577, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926470000  
Longitude, °W: 108.366742000  
State Plane Northing, ft: 229053.01  
State Plane Easting, ft: 1196124.97

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926442000  
Longitude, °W: 108.367388000  
State Plane Northing, ft: 1229052.41  
State Plane Easting, ft: 2195964.72

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 24.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 80.0  
Total Footage: 80.0  
Start Date & Time: 10/5/14 7:00  
End Date & Time: 10/5/14 13:00  
Total Drilling Hours: 6.0  
Drilling Contractor: Triple A Drilling  
Rig Number: Auger Rig  
Drilling Media: na  
Comments: depth from GL; times are estimated

**Conductor Casing Data**

Casing Depth, ft. GL: 80.0  
Diameter, in: 13.375 OD; 12.715 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 10/5/14 17:00  
Cement Interval, ft. GL: 0 - 80  
Cement Type: Portland Type II  
Cement Amount, sks: 8.5 yds  
Cementing Date: 10/6/2014  
Top-off Cement Date: na  
Comments: times are estimated

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 80.0  
End Depth, ft: 2175.0  
Total Footage: 2095.0  
Start Date & Time: 10/9/14 18:00  
End Date & Time: 10/13/14 4:30  
Total Drilling Hours: 82.5  
Drilling Contractor: Hydro Resources, Inc.  
Rig Number: 409  
Drilling Media: Mud and Halite Bicarb Solution  
Comments: from WBM to brine @1850'

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2175.0  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: J-55  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 10/15/14 10:30  
Comments: DV tool at 1464 MD KB, 1447 MD GL

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 8H-R  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Recovery Well  
**Well Status:** OUT OF SERVICE

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	10/15/2014 18:00:00	na
*Interval, ft:	63 - 2175	na
Type:	HES Versacem/Varicem	na
Additives:	nd	na
Amount, sks:	600	na
Weight, lb/gal:	12.8	na
Method:	displacement	na
Comments:	Stg 1: 30 bbls. Stg 2: 85 bbls cement to surface	1/8/15: document cement 9.6' below surface

**Drillout Operation**

Hole Diameter, in: 6.750  
 Start Depth, ft: 2175.0  
 End Depth, ft: 2480.0  
 Total Footage: 305.0  
 Start Date & Time: 10/17/14 14:40  
 End Date & Time: 10/18/14 5:10  
 Total Drilling Hours: 14.5  
 Drilling Contractor: Hydro Resources, Inc.  
 Rig Number: 409  
 Drilling Media: Halite Bicarb Solution  
 Comments: 8H-R pass-by @ 2430' MD KB was 1.5' above and 7.4' east (rt) of the 8H-I

**Open Hole Interval**

Hole Diameter, in: 6.750  
 Top Depth, ft: 2175.0  
 Bottom Depth (TD), ft: 2480.0  
 Interval Thickness, ft: 305.0  
 Comments: 8H-I well flowing at surface after connection

**Production Casing Data**

Casing Top Depth, ft: na  
 Csg Bottom Depth, ft: na  
 Casing Diameter, in: na OD; na ID  
 Casing Type: na  
 Casing Wt: na  
 Install Date & Time: na  
 Comments:

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 90-5H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6675.5  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 4341.93, FNL  
Footage, E/W: 3415.27, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929830830  
Longitude, °W: 108.362906500  
State Plane Northing, ft: 230241.97  
State Plane Easting, ft: 1197239.66

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929803050  
Longitude, °W: 108.363552100  
State Plane Northing, ft: 1230241.37  
State Plane Easting, ft: 2197079.42

**Conductor Hole Drilling Operation**

Hole Diameter, in: 24.0 (1)17.5 (2)  
Start Depth, ft. GL: 0.0 (1)20 (2)  
End Depth, ft. GL: 20.0 (1)140 (2)  
Total Footage: #VALUE!  
Start Date & Time: 9/17/90 17:30  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Bill Jrs Rathole Service  
Rig Number: nd  
Drilling Media: nd

Comments: All depths referenced to GL, converted from KB 20' above GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 20.0 (1)140 (2)  
Diameter, in: 20.000 (1)13.375 (2) OD; n  
Type: nd (1)J-55 (2)  
Weight: nd (1)61 & 68 lb/ft (2)  
Install Date & Time: nd  
Cement Interval, ft. GL: 0.0 (1)20 (2) - 20 (1)140 (2)  
Cement Type: nd (1)Class G (2)  
Cement Amount, sks: 195  
Cementing Date: nd  
Top-off Cement Date: na

Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0.0 (1)20 (2) - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 12.250  
Start Depth, ft: 140.0  
End Depth, ft: 2140.0  
Total Footage: 2000.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Adcor Drilling  
Rig Number: 36  
Drilling Media: Mud

Comments: KOP at 1453'; aborted initial hole because dog-leg did not allow casing to go to TD.

**Intermediate Hole Plug Back Data**

Date & Time: nd  
Start Depth, ft: 1920.0  
End Depth, ft: 2160.0  
Materials: Cement: 1920-2160

**Intermediate Casing Data**

Casing Depth, ft: 2080 (1)nd (2)  
Casing Diameter, in: 9.625 (1)7.000 (2) OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: 36 lb/ft (1)23 lb/ft (2)  
Install Date & Time: nd

Comments:

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 90-5H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: 12.250  
 Start Depth, ft: 1967 (1)1967 (2)  
 End Depth, ft: 2140 (1)2080 (2)  
 Total Footage: #VALUE!  
 Start Date & Time: nd  
 End Date & Time: nd  
 Total Drilling Hours: #VALUE!  
 Drilling Contractor: Adcor Drilling  
 Rig Number: 36  
 Drilling Media: Mud  
 Comments: First sidetrack hole attempted to be plugged back in an attempt to re-enter original hole. When drilling out plug back, a second sidetrack hole was produced and

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	nd	na
*Interval, ft:	2006 - 2100	na
Type:	Poz G (1) Class G (2)	na
Additives:	D-20, S-1, D-66	na
Amount, sks:	165 bbls (1) 15 bbls (2)	na
Weight, lb/gal:	nd	na
Method:	displacement	na
Comments:	Poz G lead (165 bbls) with 8% D-20 and 1% S-1; Class G tail (15 bbls) with 0.9% D-20, 2% S-1, and 35% D-66	

**Drillout Operation**

Hole Diameter, in: 8.750  
 Start Depth, ft: 2080 (1)2439 (2)  
 End Depth, ft: 2122 (1)3239 (2)  
 Total Footage: #VALUE!  
 Start Date & Time: nd  
 End Date & Time: 10/12/90 nd  
 Total Drilling Hours: nd  
 Drilling Contractor: Adcor Drilling  
 Rig Number: 36  
 Drilling Media: Bicarb Solution  
 Comments: Initially drilled out to 2439', but decision was made to drill deeper in the UBB closer to the OSMB. A third sidetrack hole was kicked off at 2122' and continued to TD. Communication noted to be established with 88-1.

**Open Hole Interval**

Hole Diameter, in: 8.750  
 Top Depth, ft: 2080.0  
 Bottom Depth (TD), ft: 3239.0  
 Interval Thickness, ft: 1159.0  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
 Csg Bottom Depth, ft: na  
 Casing Diameter, in: na OD; na ID  
 Casing Type: na  
 Casing Wt: na  
 Install Date & Time: na  
 Comments:

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 90-5H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Well  
**Well Status:** Plugged and Abandoned

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: P&A  
Stick-up Elevation, ft.: nd  
Materials: na

Comments:

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**Abandonment Data**

Abandonment Date: 8/9/00 nd  
Drilling Contractor: nd  
Rig Number: nd  
Materials: Cement: 0-70  
Bentonite mud plug: 70-205  
Cement: 205-480  
Bentonite mud plug: 480-1100  
Cement: 1100-1724  
CIBP: 1724  
CIBP: 1961

Comments:

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**Recompletion History**

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 93-4H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6695.5  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 4509.75, FNL  
Footage, E/W: 3757.94, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930777200  
Longitude, °W: 108.364080700  
State Plane Northing, ft: 230597.15  
State Plane Easting, ft: 1196921.65

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930749410  
Longitude, °W: 108.364726300  
State Plane Northing, ft: 1230596.55  
State Plane Easting, ft: 2196761.41

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 82.0  
Total Footage: 82.0  
Start Date & Time: 1/13/93 nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Veco Drilling  
Rig Number: 15  
Drilling Media: Mud

Comments: All depths referenced to GL, corrected from KB located 11' above GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 82.0  
Diameter, in: 13.375 OD; nd ID  
Type: J55 (steel)  
Weight: 54.5 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 82  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na

Comments:

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 8.750  
Start Depth, ft: 82.0  
End Depth, ft: 2044.0  
Total Footage: 1962.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Veco Drilling  
Rig Number: 15  
Drilling Media: Mud

Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 2044 (1)4259 (2)  
Casing Diameter, in: 9.625 (1)7.000 (2) OD; nd ID  
Casing Type: K-55 (1)nd (2)  
Casing Wt: 36 lb/ft (1)23 lb/ft (2)  
Install Date & Time: nd

Comments:

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 93-4H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: 12.250  
 Start Depth, ft: 82.0  
 End Depth, ft: 2044.0  
 Total Footage: 1962.0  
 Start Date & Time: nd  
 End Date & Time: nd  
 Total Drilling Hours: #VALUE!  
 Drilling Contractor: Veco Drilling  
 Rig Number: 15  
 Drilling Media: Mud  
 Comments: Reamed out intermediate borehole from 8.75" to 12.25"

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	nd	na
*Interval, ft:	nd - 2044	na
Type:	Poz G (1) Class G (2)	na
Additives:	nd	na
Amount, sks:	170	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	90 sacks of 50/50 lead cement and 80 sacks of this G tail cement	

**Drillout Operation**

Hole Diameter, in: 8.750  
 Start Depth, ft: 2044.0  
 End Depth, ft: 4260.0  
 Total Footage: 2216.0  
 Start Date & Time: nd  
 End Date & Time: 2/1/93 nd  
 Total Drilling Hours: nd  
 Drilling Contractor: Veco Drilling  
 Rig Number: 15  
 Drilling Media: Bicarb Solution  
 Comments: TVD at 2202.9'

**Open Hole Interval**

Hole Diameter, in: 8.750  
 Top Depth, ft: 4259.0  
 Bottom Depth (TD), ft: 4260.0  
 Interval Thickness, ft: 1.0  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
 Csg Bottom Depth, ft: na  
 Casing Diameter, in: na OD; na ID  
 Casing Type: na  
 Casing Wt: na  
 Install Date & Time: na  
 Comments:

**Primary Recompletion Data**

Start Date: na  
 Completion Date: na  
 Drilling Contractor: na  
 Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Open Hole Interval, ft: na  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 93-4H  
**Hole Type:** Directional Rotary - Horizontal  
**Well Type:** Horizontal Injection Well  
**Well Status:** Plugged and Abandoned

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: P&A  
Stick-up Elevation, ft.: nd  
Materials: na

Comments: na

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**Abandonment Data**

Abandonment Date: 10/2003 nd  
Drilling Contractor: nd  
Rig Number: nd  
Materials: Cement: 0-140  
Cement: 140-9367  
Cement: 936-990  
Cement retainer: 990  
Cement: 1010-1490  
Cement retainer: 1490  
Cement: 1510-1803

Comments: Perforated from 1500.1 to 1502.1 and squeezed 40 sacks of 15.6 ppg Class G cement in annulus; plugged the hole with at least 510 sacks of 15.6 ppg Class G cement; plugged the surface of the hole with 66 sacks of 15.4 ppg Neat cement

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**Recompletion History**

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Drilling and Coring Program  
**Well Completion Information**

**Well Name:** 94-1M  
**Hole Type:** Directional Rotary - Vertical  
**Well Type:** DS Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6659.1  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SENW  
Footage, N/S: 2257.4, FNL  
Footage, E/W: 2964.61, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.935711080  
Longitude, °W: 108.361270400  
State Plane Northing, ft: 232368.02  
State Plane Easting, ft: 1197767.34

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.935683250  
Longitude, °W: 108.361916000  
State Plane Northing, ft: 1232367.44  
State Plane Easting, ft: 2197607.12

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 8.75  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 83.0  
Total Footage: 83.0  
Start Date & Time: 7/19/94 7:15  
End Date & Time: 7/19/94 8:15  
Total Drilling Hours: 1.0  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Air

Comments: Some of the original depths referenced to KB (5 ft): all depths have been corrected and referenced to GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 83.0  
Diameter, in: 7 OD; nd ID  
Type: J55 (steel)  
Weight: 23 lb/ft  
Install Date & Time: 7/19/94 8:45  
Cement Interval, ft. GL: 0 - 83  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 7/19/1994  
Top-off Cement Date: na

Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 6.250  
Start Depth, ft: 83.0  
End Depth, ft: 1941.0  
Total Footage: 1858.0  
Start Date & Time: 7/20/94 12:00  
End Date & Time: 7/28/94 10:30  
Total Drilling Hours: 190.5  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Foam/Air

Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1939.3  
Casing Diameter, in: 5 OD; nd ID  
Casing Type: N-80  
Casing Wt: 18 lb/ft  
Install Date & Time: nd

Comments: FL4S casing; Bottom of casing has 5" Mule Shoe; No Float Shoe

Drilling and Coring Program

**Well Completion Information**

**Well Name:** 94-1M  
**Hole Type:** Directional Rotary - Vertical  
**Well Type:** DS Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Total Footage: na  
 Start Date & Time: na  
 End Date & Time: na  
 Total Drilling Hours: na  
 Drilling Contractor: na  
 Rig Number: na  
 Drilling Media: na  
 Comments:

**Intermediate Casing Cement Data**

	Primary	Secondary
Date:	7/29/1994	na
*Interval, ft:	1514 - 1941	na
Type:	Thixotropic	na
Additives:	1% Cal-Seal; 2% CaCl <sub>2</sub> ; 1/2 lb floccle	na
Amount, sks:	40	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	40 sacks of G 12-2 Thixotropic cement	

**Drillout Operation**

Hole Diameter, in: 4.125  
 Start Depth, ft: 1941.0  
 End Depth, ft: 1997.0  
 Total Footage: 56.0  
 Start Date & Time: nd  
 End Date & Time: 11/29/94 nd  
 Total Drilling Hours: nd  
 Drilling Contractor: nd  
 Rig Number: nd  
 Drilling Media: Foam/Air  
 Comments: Originally drilled to TD of 1984' on 8/17/94. Milled out to 1997' on 11/29/94.

**Open Hole Interval**

Hole Diameter, in: 4.125  
 Top Depth, ft: 1941.0  
 Bottom Depth (TD), ft: 1997.0  
 Interval Thickness, ft: 56.0  
 Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
 Csg Bottom Depth, ft: na  
 Casing Diameter, in: na OD; na ID  
 Casing Type: na  
 Casing Wt: na  
 Install Date & Time: na  
 Comments:

**Primary Recompletion Data**

Start Date: nd  
 Completion Date: nd  
 Drilling Contractor: nd  
 Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
 Start Depth, ft: na  
 End Depth, ft: na  
 Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 4.125  
 Start Depth, ft: 1941  
 End Depth, ft: 1997  
 Open Hole Interval, ft: 56.0  
 Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
 Plug Back, Bottom, ft: na  
 Materials: na



Drilling and Coring Program

**Well Completion Information**

**Well Name:** 94-1M

**Hole Type:** Directional Rotary - Vertical

**Well Type:** DS Aquifer / Subsidence Monitoring Well

**Well Status:** Plugged and Abandoned

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: 4.5  
Stick-up Elevation, ft.: 6663.9  
Materials: na

Comments:

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**Abandonment Data**

Abandonment Date: 6/19/12 17:45  
Drilling Contractor: Red Rock Well Service  
Rig Number: 3  
Materials: Perfs: 199-1475, 388 Sks Portland II/V Surface to 1939'

Comments:

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**Recompletion History**

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** AG-1 (2014-25-198-J)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** A-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6715.3  
KB Elevation, ft: nd  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSW  
Footage, N/S: 683, FSL  
Footage, E/W: 599, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929073000  
Longitude, °W: 108.348537000  
State Plane Northing, ft: 229836.27  
State Plane Easting, ft: 1201258.69

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929045000  
Longitude, °W: 108.349182000  
State Plane Northing, ft: 1229835.63  
State Plane Easting, ft: 2201098.49

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 89.5  
Total Footage: 89.5  
Start Date & Time: 10/6/14 7:45  
End Date & Time: 10/6/14 10:15  
Total Drilling Hours: 2.5  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Foam/Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 89.5  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 10/6/14 12:45  
Cement Interval, ft. GL: 0 - 89.45  
Cement Type: Portland Type I/II  
Cement Amount, sks: 20  
Cementing Date: 10/6/2014  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 89.5  
End Depth, ft: 1949.9  
Total Footage: 1860.4  
Start Date & Time: 10/6/14 22:15  
End Date & Time: 10/7/14 5:15  
Total Drilling Hours: 7.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Air Mist

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.830  
Start Depth, ft: 1949.9  
End Depth, ft: 2027.5  
Total Footage: 77.6  
Start Date & Time: 10/15/14 8:15  
End Date & Time: 10/15/14 19:00  
Total Hours: 10.7  
Coring Contractor: Himes Drilling Company, Inc  
Rig Number: CR-10  
Coring Media: Halite Bicarb Solution  
Comments: 11 runs total, Pre-core depth and Start depth for coring don't match , Depth correction noted in core log.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** AG-1 (2014-25-198-J)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** A-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1949.9  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.3 lb/ft  
Comments: 250 wall pipe

**Post Core Final Plug Back Operation**

Top Depth, ft: 1487.0  
Bottom Depth, ft: 2061.0  
Date & Time: 10/23/14 0:00  
Materials: cement: 1487.0-1511.0  
cement: 1511.0-2061.0  
Comments: initial cement plug back to 1490.0, drilled out to 1511.0  
RMWS dumpballed cement to 1487.0 after casing installation

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1949.9  
End Depth, ft: 2061.0  
Total Footage: 111.1

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1428.0  
Bottom Depth, ft: 1511.0  
Date & Time: 10/23/14 0:00  
Materials: bentonite: 1428.0-1430.1  
sand: 1430.1-1511.0  
Comments: temporary plug back to set intermediate casing

**Intermediate Hole Data**

Hole Diameter, in: 6.750  
Start Depth, ft: 89.5  
End Depth, ft: 1428.0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	10/30/2014	11/5/2014
*Interval, ft:	250 - 1428	na - na
Type:	Portland Type III	Portland Type III
Additives:	na	nd
Amount, sks:	195	2.3 cu. yds
Weight, lb/gal:	12.8	10.5
Method:	displacement	poured
Comments:	Halliburton pumped 100% excess	Meeker Sand and Gravel poured cement down the annulus, cement to surface

**Intermediate Casing Data**

Casing Depth, ft: 1417.5  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: HWT (Steel)  
Casing Wt: 11.36 lb/ft  
Install Date & Time: 10/30/14 16:00

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.750  
Top Depth, ft: 1428.0  
Bottom Depth (TD), ft: 1487.0  
Interval Thickness, ft: 59.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-5 (12H-C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6683.4  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESE  
Footage, N/S: 696.93, FSL  
Footage, E/W: 130.48, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929138600  
Longitude, °W: 108.351120900  
State Plane Northing, ft: 229883.47  
State Plane Easting, ft: 1200535.10

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929110800  
Longitude, °W: 108.351766000  
State Plane Northing, ft: 1229882.83  
State Plane Easting, ft: 2200374.90

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 8.750  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 53.0  
Total Footage: 53.0  
Start Date & Time: 8/9/09 6:00  
End Date & Time: 8/9/09 12:00  
Total Drilling Hours: 6.0  
Drilling Contractor: Boart Longyear  
Rig Number: BK-33  
Drilling Media: Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 52.0  
Diameter, in: 7 OD; 6.5 ID  
Type: J55 (steel)  
Weight: nd  
Install Date & Time: 8/9/09 12:00  
Cement Interval, ft. GL: 0 - 53  
Cement Type: Portland Type I/II  
Cement Amount, sks: 13  
Cementing Date: 8/9/2009  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 53.0  
End Depth, ft: 1450.0  
Total Footage: 1397.0  
Start Date & Time: 8/10/09 12:00  
End Date & Time: 8/14/09 10:30  
Total Drilling Hours: 94.5  
Drilling Contractor: Boart Longyear  
Rig Number: BK-33  
Drilling Media: Air Mist and Mud

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.895  
Start Depth, ft: 1450.0 (1) 1870.0 (2)  
End Depth, ft: 1505.0 (1) 3005.0 (2)  
Total Footage: 55.0 (1) 1135.0 (2)  
Start Date & Time: 8/14/09 19:00 (1) 8/17/09 12:05 (2)  
End Date & Time: 8/15/09 00:00 (1) 8/25/09 12:25 (2)  
Total Hours: 29.0 (1) 192.3 (2)  
Coring Contractor: Boart Longyear  
Rig Number: BK-33  
Coring Media: Halite Bicarb Solution  
Comments: Spot core from 1450'-1505'; cored continuously from 1870'-3005'

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-5 (12H-C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1450.0 (1) 1870.0/2022.0 (2)  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.3 lb/ft  
Comments: during the coring of the primary interval (2), the temporary HWT casing was initially set at a depth of 1870.0 ft. Once the driller had cored to a depth of 2022.0 ft., the hole was reamed to 6.0 in. and the HWT casing was reset at 2022.0 before coring to 3005.0 ft.

**Post Core Final Plug Back Operation**

Top Depth, ft: 1645.0  
Bottom Depth, ft: 3005.0  
Date & Time: 8/27/09 8:25  
Materials: 1604.0-1645: sand  
1645.0-3005.0: cement  
Comments: sand removed after setting casing

**Post Core Reaming Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 1450 (1)1870 (2)  
End Depth, ft: 1505 (1)2020 (2)  
Total Footage: #VALUE!

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments: sand removed after setting casing

**Intermediate Hole Data**

Hole Diameter, in: 6.000  
Start Depth, ft: 52.0  
End Depth, ft: 1604.0  
Comments: Tri-cone bit used and was poorly cutting; tripped out for 6" tri-cone.

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	9/3/2009	9/16/2009
*Interval, ft:	782 - 1604	nd - nd
Type:	Econocem	Portland Type III
Additives:	Poly-E-Flake	na
Amount, sks:	140	52
Weight, lb/gal:	11.5	na
Method:	displacement	poured
Comments:	Cemented by Halliburton. Lead = 80 sks. cement 11.5 ppg ECONOCEM w/ Poly- E Flake; Tail = 60 sks. Cement 13.46 ppg EXTENDACEM w/ Poly-E- Flake and 100W bag of salt. On 9/3/09 after the primary cement had set, Boart	

**Intermediate Casing Data**

Casing Depth, ft: 1601.2  
Casing Diameter, in: 4.5 OD; 4.052 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 9/3/2009 nd

**Drillout Operation**

Hole Diameter, in: 3.875  
Start Depth, ft: 1583.0  
End Depth, ft: 1645.0  
Total Footage: 62.0  
Start Date & Time: 9/3/09 23:00  
End Date & Time: 9/4/09 1:45  
Total Drilling Hours: 2.7  
Drilling Contractor: Boart Longyear  
Rig Number: BK-33  
Drilling Media: Water  
Comments: Drillout cement shoe track from 1583 to 1604; washout sand from 1604 to 1645

**Open Hole Interval**

Hole Diameter, in: 6.000  
Top Depth, ft: 1604.0  
Bottom Depth (TD), ft: 1645.0  
Interval Thickness, ft: 41.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-6 (2010-26-198-6C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6659.5  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NESE  
Footage, N/S: 1473, FSL  
Footage, E/W: 1198, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.931279350  
Longitude, °W: 108.354943100  
State Plane Northing, ft: 230697.35  
State Plane Easting, ft: 1199488.81

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.931251540  
Longitude, °W: 108.355588400  
State Plane Northing, ft: 1230696.73  
State Plane Easting, ft: 2199328.60

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 8.750  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 8/5/10 6:30  
End Date & Time: 8/5/10 10:30  
Total Drilling Hours: 4.0  
Drilling Contractor: Boart Longyear  
Rig Number: BK-7  
Drilling Media: Mud  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 7 OD; 6.526 ID  
Type: J55 (steel)  
Weight: 17.0 lb/ft  
Install Date & Time: 8/5/10 11:00  
Cement Interval, ft. GL: 0 - 60  
Cement Type: Portland  
Cement Amount, sks: 10  
Cementing Date: 8/5/2010  
Top-off Cement Date: 8/5/2010  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.250  
Start Depth, ft: 60.0  
End Depth, ft: 1839.0  
Total Footage: 1789.5  
Start Date & Time: 8/5/10 22:00  
End Date & Time: 8/16/10 14:15  
Total Drilling Hours: 256.3  
Drilling Contractor: Boart Longyear  
Rig Number: BK-7  
Drilling Media: Air Mist and Mud

**Coring Operation**

Core Diameter, in: 2.406  
Hole Diameter, in: 3.782  
Start Depth, ft: 1839.0  
End Depth, ft: 1978.0  
Total Footage: 139.0  
Start Date & Time: 8/17/10 1:30  
End Date & Time: 8/17/10 18:56  
Total Hours: 17.4  
Coring Contractor: Boart Longyear  
Rig Number: BK-7  
Coring Media: Halite Bicarb Solution  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-6 (2010-26-198-6C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1839.0  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.3 lb/ft  
Comments: Scab liner; removed after coring operations

**Post Core Final Plug Back Operation**

Top Depth, ft: 1639.0  
Bottom Depth, ft: 1978.0  
Date & Time: 8/19/10 7:35  
Materials: Cement: 1639' - 1975'  
Fill: 1975' - 1978'  
Comments: Pumped 56 sks of Portland Type I/II w/ 0.05% CaCl<sub>2</sub> then 5 gals of 20 mesh frac sand to 1714'. Pumped 14 sks of Portland Type I/II mixed with 2 lbs of CaCl<sub>2</sub> downhole then dumped 13 gals of 20 mesh frac sand downhole to 1675'. Pumped 12 sks of Portland Type I/II with 2 lbs CaCl<sub>2</sub> to 1639'. Cement drilled down to 1639'. Poured 23.5 buckets of

**Post Core Reaming Operation**

Hole Diameter, in: 6.250  
Start Depth, ft: 1839.0  
End Depth, ft: 1978.0  
Total Footage: 139.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1577.0  
Bottom Depth, ft: 1639.0  
Date & Time: 8/19/10 7:35  
Materials: Sand: 1577' - 1639'  
Comments: Pumped 56 sks of Portland Type I/II w/ 0.05% CaCl<sub>2</sub> then 5 gals of 20 mesh frac sand to 1714'. Pumped 14 sks of Portland Type I/II mixed with 2 lbs of CaCl<sub>2</sub> downhole then dumped 13 gals of 20 mesh frac sand downhole to 1675'. Pumped 12 sks of Portland Type I/II with 2 lbs CaCl<sub>2</sub> to 1639'. Cement drilled down to 1639'. Poured 23.5 buckets of

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/22/2010	8/24/2010
*Interval, ft:	nd - 1577.6	nd - nd
Type:	Econocem (1)Extendacem (2)Portland Type I/II	
Additives:	Poly-E-Flake	nd
Amount, sks:	70 (1)55 (2)	28
Weight, lb/gal:	11.5 (1)13.46 (2)	nd
Method:	displacement	pumped
Comments:	Fluid returns throughout job, though no cement; only gray water just before plug was bumped. Halliburton job log reports 0.5 bbl cement returns.	Cement pumped down annulus of 4.5 in. casing prior to drilling out cement shoe from primary cement job.

**Intermediate Casing Data**

Casing Depth, ft: 1573.5  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 8/21/10 16:45

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.250  
Top Depth, ft: 1577.6  
Bottom Depth (TD), ft: 1639.0  
Interval Thickness, ft: 61.4  
Comments: Cored out cement plug from 1487.6' to 1577.6' and washed out sand to 1639'. Flushed hole with 8 hole volumes (~180 bbls) of fresh water to develop well.

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-7 (2014-25-198-K)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6627.3  
KB Elevation, ft: nd  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 669, FSL  
Footage, E/W: 2911, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928987896  
Longitude, °W: 108.342905289  
State Plane Northing, ft: 229754.64  
State Plane Easting, ft: 1202836.23

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.928960086  
Longitude, °W: 108.343550149  
State Plane Northing, ft: 1229753.98  
State Plane Easting, ft: 2202676.05

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.750  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 89.0  
Total Footage: 89.0  
Start Date & Time: 9/8/14 5:15  
End Date & Time: 9/8/14 20:45  
Total Drilling Hours: 15.5  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-Based Mud  
Comments: Well spudded with 6.5" bit, and reamed to 9 3/4".

**Conductor Casing Data**

Casing Depth, ft. GL: 86.0  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 9/9/14 2:00  
Cement Interval, ft. GL: 0 - 89  
Cement Type: Portland Type I/II  
Cement Amount, sks: 10 sks  
Cementing Date: 9/9/2014  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 89.0  
End Depth, ft: 1851.0  
Total Footage: 1762.0  
Start Date & Time: 9/9/14 22:00  
End Date & Time: 9/13/14 10:00  
Total Drilling Hours: 84.0  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-Based Mud

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1851.0  
End Depth, ft: 1945.5  
Total Footage: 94.5  
Start Date & Time: 9/14/14 19:00  
End Date & Time: 9/15/14 13:15  
Total Hours: 18.3  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Halite Bicarb Solution  
Comments:



Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-7 (2014-25-198-K)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1851.0  
Diameter, in OD: 4.5  
Type: K-55 (steel)  
Weight: 11.3 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: 1593.1  
Bottom Depth, ft: 1967.0  
Date & Time: 9/16/14 14:15  
Materials: cement: 1593.1-1967.0  
Comments: Plug 1 (9/16/14): MSG, 750 gal cmt. Plug 2 (9/17/14): Boart Longyear, 125 gal cmt. Plug 3 (9/18/14): Jet West, dump ball 33 gal cmt. TOC after setting casing: 1648'. Plug 4 (10/9/14): Jet West, dump ball (through casing) 72 gal cmt. TOC= 1593.1'

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1851.0  
End Depth, ft: 1967.0  
Total Footage: 116.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1539.0  
Bottom Depth, ft: 1593.1  
Date & Time: 9/16/14 14:15  
Materials: bentonite: 1539.0-1541.0  
sand: 1541.0-1593.1  
Comments: temporary plug back to set intermediate casing

**Intermediate Hole Data**

Hole Diameter, in: 6.500  
Start Depth, ft: 89.0  
End Depth, ft: 1539.0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	9/20/2014	10/10/2014
*Interval, ft:	158 - 1539	0 - nd
Type:	Varicem (TM) Cement	Portland Type II
Additives:	na	na
Amount, sks:	13.7 cubic yards (170 sks)	0.75 cubic yards
Weight, lb/gal:	12.8 lb/gal	15.6 lb/gal
Method:	displacement	poured
Comments:	CBL shows TOC at ~158' below GL in annulus after setting	First top off cement job fell back to 26". Second top off job performed 11/5/14, with full returns to surface

**Intermediate Casing Data**

Casing Depth, ft: 1528.9  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 9/20/14 22:30

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.500  
Top Depth, ft: 1539.0  
Bottom Depth (TD), ft: 1593.1  
Interval Thickness, ft: 54.1  
Comments: Sand/bentonite plug back (1539.0-1593.1) removed after setting intermediate casing. Monitor well developed by Himes.

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-8 (DS-4 / 10H-C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6699.0  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESE  
Footage, N/S: 202.26, FSL  
Footage, E/W: 102.99, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927761640  
Longitude, °W: 108.351046500  
State Plane Northing, ft: 229381.48  
State Plane Easting, ft: 1200539.82

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927733850  
Longitude, °W: 108.351691700  
State Plane Northing, ft: 1229380.84  
State Plane Easting, ft: 2200379.62

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 10.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 5/20/09 12:00  
End Date & Time: nd  
Total Drilling Hours: nd  
Drilling Contractor: WDC Exploration and Wells  
Rig Number: 180  
Drilling Media: Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 7.625 OD; 7.125 ID  
Type: J55 (steel)  
Weight: 26.5 lb/ft  
Install Date & Time: 5/20/09 nd  
Cement Interval, ft. GL: 0 - 60  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 5/20/2009  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 60.0  
End Depth, ft: 1890.0  
Total Footage: 1830.0  
Start Date & Time: 5/21/09 14:30  
End Date & Time: 5/26/09 nd  
Total Drilling Hours: nd  
Drilling Contractor: WDC Exploration and Wells  
Rig Number: 180  
Drilling Media: Air Mist and Mud

**Coring Operation**

Core Diameter, in: 3.000 (1) 2.625 (2)  
Hole Diameter, in: 6.125 (1) 6.125 (2)  
Start Depth, ft: 1890.0 (1) 1934.0 (2)  
End Depth, ft: 1897.6 (1) 1989.0 (2)  
Total Footage: 62.6  
Start Date & Time: 5/27/09 12:00  
End Date & Time: 5/30/09 15:30  
Total Hours: 75.5  
Coring Contractor: WDC Exploration and Wells  
Rig Number: 180  
Coring Media: Bicarb Solution  
Comments: No core recovered 1890.0 to 1897.6 feet. Rotary drilled 1897.6 to 1934.0 feet.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-8 (DS-4 / 10H-C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: nd  
Diameter, in OD: nd  
Type: nd  
Weight: nd  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 1934.0  
End Depth, ft: 2031.6  
Total Footage: 97.6

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	5/31/2009	na
*Interval, ft:	nd - nd	na
Type:	Lite, Type G	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	13.6; 15.8	na
Method:	displacement	na
Comments:	HES Lite 13.6 ppg lead; Type G 15.8 ppg tail.	

**Intermediate Casing Data**

Casing Depth, ft: 2023.6  
Casing Diameter, in: 4.5 OD; 4.052 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 5/31/09 nd

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.750  
Top Depth, ft: 2023.6  
Bottom Depth (TD), ft: 2031.6  
Interval Thickness, ft: 8.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-8 (DS-4 / 10H-C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

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**Primary Recompletion Data**

Start Date: 8/10/09 nd  
Completion Date: 8/10/09 nd  
Drilling Contractor: Eastern Colorado Well Servi  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments: casing perforated from 1877.0 to 1917.0

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 4.500  
Start Depth, ft: 1877  
End Depth, ft: 1917  
Open Hole Interval, ft: 40.0  
Comments: Open hole interval consists of the perforated interval in the intermediate casing

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1952.0  
Plug Back, Bottom, ft: 2031.6  
Materials: CIBP: 1952.0'  
Cement: 2018.0'-2031.6'

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**Secondary Recompletion Data**

Start Date: 7/11/16 0:00  
Completion Date: na  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: 6.750  
Start Depth, ft: 1600.0  
End Depth, ft: 1640.0  
Open Hole Interval, ft: 40.0  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1640.5  
Plug Back, Bottom, ft: 1952.0  
Materials: 1832.0-1952.0: pea gravel plug back  
1651.5-1832.0: cement plug back  
1640.5-1651.5: bentonite plug back  
1600-1640.0: perforated casing; three shots per foot, 120 deg  
phasing-120 shots total

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**Abandonment Data**

Abandonment Date: 5/8/17 17:00  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-7  
Materials: CLEAN OUT (3.5" bit): 0-1765.0  
CEMENT: 1597-1765; stage 1: 54.6 sks (2.6 yds), 15 lb/gal, Type I/II  
CEMENT: 0-1597; stage 2: 129.6 sks (5.4 yds), 15 LB/gal, Type I/II

Comments: Ran CBL-no perforations required. Cemented in two stages. Well casing cut, capped and buried on 5-8-17

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-9 (DS-5, 2010-26-198-1C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** BG Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6657.4  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESE  
Footage, N/S: 1131, FSL  
Footage, E/W: 207, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930333520  
Longitude, °W: 108.351404400  
State Plane Northing, ft: 230321.07  
State Plane Easting, ft: 1200469.61

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.930305710  
Longitude, °W: 108.352049600  
State Plane Northing, ft: 1230320.44  
State Plane Easting, ft: 2200309.41

**Conductor Hole Drilling Operation**

Hole Diameter, in: 8.5 (1)6.25 (2)  
Start Depth, ft. GL: 0 (1)84 (2)  
End Depth, ft. GL: 84 (1)95 (2)  
Total Footage: 95.0  
Start Date & Time: 6/30/10 9:00  
End Date & Time: 6/30/10 15:00  
Total Drilling Hours: 6.0  
Drilling Contractor: Boart Longyear  
Rig Number: BK-7  
Drilling Media: Mud

Comments: Originally drilled 6.25" hole from 0'-95'; reamed to 8.5" from 0'-79.5', and later to 84". Lost circulation at 15' which was never regained during conductor hole drilling or reaming operations.

**Conductor Casing Data**

Casing Depth, ft. GL: 80.0  
Diameter, in: 7 OD; 6.526 ID  
Type: J55 (steel)  
Weight: 17.0 lb/ft  
Install Date & Time: 7/3/10 1:30  
Cement Interval, ft. GL: 0 (1)84 (2) - 95  
Cement Type: Portland Type I/II  
Cement Amount, sks: 13  
Cementing Date: 7/3/2010  
Top-off Cement Date: na

Comments: Originally run to 79.5' on July 1, 2010; removed and re-run to 80' on July 3, 2010 after cementing lost circulation zone

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 (1)84 (2) - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.250  
Start Depth, ft: 95.0  
End Depth, ft: 1849.5  
Total Footage: 1754.5  
Start Date & Time: 7/3/10 22:30  
End Date & Time: 7/9/10 23:59  
Total Drilling Hours: 145.5  
Drilling Contractor: Boart Longyear  
Rig Number: BK-7  
Drilling Media: Air Mist and Mud

**Coring Operation**

Core Diameter, in: 2.406  
Hole Diameter, in: 3.782  
Start Depth, ft: 1849.5  
End Depth, ft: 1973.0  
Total Footage: 123.5  
Start Date & Time: 7/10/10 18:32  
End Date & Time: 7/11/10 20:28  
Total Hours: 25.9  
Coring Contractor: Boart Longyear  
Rig Number: BK-7  
Coring Media: Halite Bicarb Solution  
Comments: Lost circulation at 1959'; never re-established

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** BG-9 (DS-5, 2010-26-198-1C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** BG Aquifer / Subsidence Monitoring Well  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1849.5  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.3 lb/ft  
Comments: Scab liner; removed after coring operations

**Post Core Final Plug Back Operation**

Top Depth, ft: 1902.5  
Bottom Depth, ft: 1973.0  
Date & Time: 7/14/10 0:00  
Materials: Cement: 1902.5-1973.0  
Comments: 6.5 sacks of Portland Type III with ~1% CaCl<sub>2</sub>

**Post Core Reaming Operation**

Hole Diameter, in: 6.250  
Start Depth, ft: 1849.5  
End Depth, ft: 1969.0  
Total Footage: 119.5

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1836.0  
Bottom Depth, ft: 1902.5  
Date & Time: na  
Materials: sand: 1836.0-1902.5  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: 6.250  
Start Depth, ft: 95.0  
End Depth, ft: 1880.0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/15/2010	7/15/10 (1)8/4/10
*Interval, ft:	nd - 1836	nd (1)0 (2) - nd (
Type:	Econocem (1)Extendacem (2)Portland II (1)Portland II (2)	
Additives:	Poly-E-Flake	nd
Amount, sks:	70 (1)55 (2)	11 (1)8 (2)
Weight, lb/gal:	11.5 (1)13.46 (2)	nd
Method:	displacement	poured
Comments:	Sanded back to 1836' prior to cementing	

**Intermediate Casing Data**

Casing Depth, ft: 1831.2  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 7/15/10 1:30

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.250  
Top Depth, ft: 1836.0  
Bottom Depth (TD), ft: 1880.0  
Interval Thickness, ft: 44.0  
Comments: Native fill noted up to 1880' bgs (8/14/18). Cored out cement plug from 1776 to 1836, and washed out sand to 1902.5. Flushed hole with 200 bbls of clear water to develop well.

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name: DS-10**

**Hole Type: Spot Core Hole - Vertical**

**Well Type: DS Aquifer Monitoring Well**

**Well Status: Active**

**Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation**

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**As Built Location Data**

GL Elevation, ft: 6718.1  
KB Elevation, ft: nd  
Section: 35  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNE  
Footage, N/S: 233.9, FNL  
Footage, E/W: 1476.8, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926596712  
Longitude, °W: 108.355904093  
State Plane Northing, ft: 229001.19  
State Plane Easting, ft: 1199164.51

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926568940  
Longitude, °W: 108.356549428  
State Plane Northing, ft: 1229001.92  
State Plane Easting, ft: 2199003.83

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 14.750  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 100.0  
Total Footage: 100.0  
Start Date & Time: 6/14/19 19:00  
End Date & Time: 6/15/19 3:00  
Total Drilling Hours: 8.0  
Drilling Contractor: RACs  
Rig Number: RD 20  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 100.0  
Diameter, in: 10.75 OD; ID  
Type: J55 (steel)  
Weight: 0  
Install Date & Time: 6/15/19 18:00  
Cement Interval, ft. GL: 0 - 100  
Cement Type: Portland Type I/II  
Cement Amount, sks: 50 sacks  
Cementing Date: 6/15/2019  
Top-off Cement Date: 6/16/2019  
Comments: Dropped 60 feet of casing, used 11.5" overshot to case to surface.

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**Surface Hole Drilling Operation**

Hole Diameter, in: 0.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 0.0  
Total Footage: 0.0  
Start Date & Time: 1/0/00 0:00  
End Date & Time: 1/0/00 0:00  
Total Drilling Hours: 0.0  
Drilling Contractor: 0  
Rig Number: 0  
Drilling Media: 0  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: 0.0  
Diameter, in: OD; ID  
Type: 0  
Weight: 0  
Install Date & Time: 1/0/00 0:00  
Cement Interval, ft. GL: 0 -  
Cement Type: 0  
Cement Amount, sks: 0  
Cementing Date & Time: 1/0/00 0:00  
Top-off Cement Date: 1/0/1900  
Comments:

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**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 0.000  
Start Depth, ft: 0.0  
End Depth, ft: 0.0  
Total Footage: 0.0  
Start Date & Time: 1/0/00 0:00  
End Date & Time: 1/0/00 0:00  
Total Drilling Hours: 0.0  
Drilling Contractor: 0  
Rig Number: 0  
Drilling Media: 0

**Coring Operation**

Core Diameter, in: 2.890  
Hole Diameter, in: 6.125  
Start Depth, ft: 1864.5  
End Depth, ft: 1995.0  
Total Footage: 130.5  
Start Date & Time: 6/29/19 14:30  
End Date & Time: 7/1/19 3:00  
Total Hours: 36.5  
Coring Contractor: RACs LLC  
Rig Number: RD 20  
Coring Media: Brine  
Comments: First 7.8' of core was trash run. Cut 7.8' recovered 1.7', 1.0' of cement.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-10  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 0.0  
Diameter, in OD: 0.0  
Type: 0  
Weight: 0  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: 1995.0  
Bottom Depth, ft: 1911.0  
Date & Time: 7/2/19 23:20  
Materials: cement: 1995.0-1911.0  
Comments: Tremied 3 plugs (12, 110, and 50 gallons) 15.8 - 16.2 ppg

**Post Core Reaming Operation**

Hole Diameter, in: 0.000  
Start Depth, ft: 0.0  
End Depth, ft: 0.0  
Total Footage: 0.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 0.0  
Bottom Depth, ft: 0.0  
Date & Time: 1/0/00 0:00  
Materials: Comments:

**Intermediate Hole Data**

Hole Diameter, in: 9.875  
Start Depth, ft: 100.0  
End Depth, ft: 1864.5  
Comments: Once at TD switched to mud system to cure loss zones. Circulated ~300 bbls mud (gel w/LCM) and gained circulation. Lost BHA in hole on trip out. Moved RACs rig off and Red Rocks performed fishing operations. BHA (Bit, sub, 4 collars, and 2 JTs DP: 12229 drilled 6/22/2019 at 00:00

**Intermediate Casing Data**

Casing Depth, ft: 1861.8  
Casing Diameter, in: 7 OD; 6.366 ID  
Casing Type: J55 (steel)  
Casing Wt: 23 lb/ft  
Install Date & Time: 6/24/19 12:05

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	6/24/2019	7/4/2019
*Interval, ft:	380 - 1864.5	0 - 120
Type:	HES NeoCem	Portland Type III
Additives:	HR-5 Retarder	friction reducer
Amount, sks:	250	0
Weight, lb/gal:	13.0	15.8
Method:	displacement	tremie
Comments:	Lost returns while pumping, increased rate and regained returns. Cement would fall back fast every time pumping stopped. Three hesitations while displacing.	Pumped 6 bbls and got returns. Fall back to 10' below conductor.

**Drillout Operation**

Hole Diameter, in: 6.250  
Start Depth, ft: 1808.0  
End Depth, ft: 1863.5  
Total Footage: 55.5  
Start Date & Time: 6/27/19 11:45  
End Date & Time: 6/27/19 15:15  
Total Drilling Hours: 3.5  
Drilling Contractor: Red Rock Well Service  
Rig Number: 0  
Drilling Media: Water  
Comments: Intermediate cement and casing shoe drill out.

**Open Hole Interval**

Hole Diameter, in: 6.125  
Top Depth, ft: 1861.8  
Bottom Depth (TD), ft: 1925.0  
Interval Thickness, ft: 63.2  
Comments: RACs drilled out cement plug back 1911-1925

**Production Casing Data**

Casing Top Depth, ft: 0.0  
Csg Bottom Depth, ft: 0.0  
Casing Diameter, in: OD; ID  
Casing Type:  
Casing Wt:  
Install Date & Time: 1/0/00 0:00  
Comments:



Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-6  
**Hole Type:** Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6699.4  
KB Elevation, ft: nd  
Section: 35  
Township: 1S  
Range: 98W  
Qtr/Qtr: NENW  
Footage, N/S: 114, FNL  
Footage, E/W: 1852, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926942000  
Longitude, °W: 108.362195000  
State Plane Northing, ft: 229183.92  
State Plane Easting, ft: 1197405.01

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.926915000  
Longitude, °W: 108.362841000  
State Plane Northing, ft: 1229183.31  
State Plane Easting, ft: 2197244.77

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 89.5  
Total Footage: 89.5  
Start Date & Time: 10/8/14 19:30  
End Date & Time: 10/8/14 22:30  
Total Drilling Hours: 3.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: RD 20  
Drilling Media: Foam/Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 89.5  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 10/8/14 23:30  
Cement Interval, ft. GL: 0 - 89.5  
Cement Type: Portland Type I/II  
Cement Amount, sks: 21 sacks  
Cementing Date: 10/9/2014  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 89.5  
End Depth, ft: 1853.0  
Total Footage: 1763.5  
Start Date & Time: 10/14/14 12:30  
End Date & Time: 10/15/14 13:00  
Total Drilling Hours: 24.5  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: RD 20  
Drilling Media: Foam/Air

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.830  
Start Depth, ft: (1) 1853.3 (2) 1967.6 (3) 1978.0  
End Depth, ft: (1) 1967.6 (2) 1978.0 (3) 2962.6  
Total Footage: 1109.3  
Start Date & Time: (1) 10/16/14 2:00:00 (2) 10/20/14 16:00:00 (3) 10/28/14 17:50:00  
End Date & Time: (1) 10/17/14 17:08:00 (2) 10/21/14 16:00:00 (3) 11/15/2014 10:05:00  
Total Hours: na  
Coring Contractor: Himes Drilling Company, Inc  
Rig Number: CR-10  
Coring Media: Halite Bicarb Solution  
Comments: (1)1st coring operation of Boies Bed; (2) part 1 of 2nd coring operation; (3) part 2 of 2nd coring operation

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-6  
**Hole Type:** Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1979.5  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.6 lb/ft  
Comments: Casing originally set to 1853.5'. Hole was reamed and casing reset to 1967.6'; reamed again and reset to 1980.0' (0.290" wall)

**Post Core Final Plug Back Operation**

Top Depth, ft: 1870.0  
Bottom Depth, ft: 2962.6  
Date & Time: 12/2/14 16:45  
Materials: cement: 1870.0-2962.6  
Comments: Pump 3 lifts of 1 cubic yd each & pull 200' of pipe w each lift, displace with 300 gallons of fresh water; 10 sacks pumped down hole then pulled 3 rods, pump 10 more sacks and pull one rod, the pump 150 gallons of fresh water

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1853.3  
End Depth, ft: 1980.0  
Total Footage: 126.7

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1805.0  
Bottom Depth, ft: 1870.0  
Date & Time: 12/4/14 8:00  
Materials: bentonite: 1805.0-1808.0  
sand: 1808.0-1870.0  
Comments:

**Intermediate Hole Data**

Hole Diameter, in: 6.500  
Start Depth, ft: 89.5  
End Depth, ft: 1805.0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	12/5/2014	12/8/2014
*Interval, ft:	124 - 1803	na - na
Type:	HES Versacem/Varicem	Portland Type III
Additives:	none	none
Amount, sks:	345 sacks	11 sacks
Weight, lb/gal:	12.8	nd
Method:	displacement	poured
Comments:		Tagged TOC at 45' and cemented to surface 12-10-14 with 8 sacks (90gallons) Portland III cement.

**Intermediate Casing Data**

Casing Depth, ft: 1802.6  
Casing Diameter, in: 4.5 OD; 3.92 ID  
Casing Type: HWT (Steel)  
Casing Wt: 13.04 lb/ft  
Install Date & Time: 12/4/14 20:00

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.750  
Top Depth, ft: 1805.0  
Bottom Depth (TD), ft: 1870.0  
Interval Thickness, ft: 65.0  
Comments: on 12/9/14 06:00:00 the hole was flushed and at 16:00:00 a five bottle sample was taken by NSI personnel

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-7  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6671.9  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NESW  
Footage, N/S: 1745, FSL  
Footage, E/W: 1683, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932036903  
Longitude, °W: 108.362826421  
State Plane Northing, ft: 231044.42  
State Plane Easting, ft: 1197288.03

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932009102  
Longitude, °W: 108.363472039  
State Plane Northing, ft: 1231043.83  
State Plane Easting, ft: 2197127.80

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 90.1  
Total Footage: 90.1  
Start Date & Time: 7/21/14 13:30  
End Date & Time: 7/21/14 17:20  
Total Drilling Hours: 3.8  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Air Mist  
Comments: no issues

**Conductor Casing Data**

Casing Depth, ft. GL: 90.1  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 7/21/14 18:20  
Cement Interval, ft. GL: 0 - 90.1  
Cement Type: Portland Type I/II  
Cement Amount, sks: 250 gal  
Cementing Date: 7/21/2014  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 90.1  
End Depth, ft: 1869.0  
Total Footage: 1778.9  
Start Date & Time: 7/22/14 8:30  
End Date & Time: 7/26/14 14:00  
Total Drilling Hours: 101.5  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Air Mist

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.830  
Start Depth, ft: 1869.0  
End Depth, ft: 1962.2  
Total Footage: 93.2  
Start Date & Time: 7/28/14 15:30  
End Date & Time: 7/31/14 14:30  
Total Hours: 71.0  
Coring Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Coring Media: Halite Bicarb Solution  
Comments: Core loss and NPT due to electrical issues caused by heavy rain, lost circulation, and broken coring bit.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-7  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1869.0  
Diameter, in OD: 4.5  
Type: J55 (steel)  
Weight: 11.6 lb/ft  
Comments: HWT flush joint scabliner

**Post Core Final Plug Back Operation**

Top Depth, ft: 1875.0  
Bottom Depth, ft: 1980.0  
Date & Time: 8/6/14 7:15  
Materials: bentonite: 1875.0-1898.0  
cement: 1898.0-1980.0  
Comments: Jet West dump ball cement, ~ 130 gallons of Portland Type III; 7 buckets bentonite to 1884', additional 7 buckets added after development.

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1869.0  
End Depth, ft: 1980.0  
Total Footage: 111.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1822.0  
Bottom Depth, ft: 1884.0  
Date & Time: 8/6/14 17:00  
Materials: bentonite: 1822.0-1824.8  
sand: 1824.8-1884.0  
Comments: 29 bags of sand - 1825.6'; sand washed out during casing installation - 1860'; 29 bags of sand - 1824.8'; 1 bucket of bentonite - 1822'

**Intermediate Hole Data**

Hole Diameter, in: 6.500  
Start Depth, ft: 90.1  
End Depth, ft: 1822.0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/9/2014	8/19/2014
*Interval, ft:	468 - 1822	na - na
Type:	HES Versacem/Varicem	Portland Type III/V
Additives:	na	na
Amount, sks:	180 sacks, 14.5 cubic yards	3.5 cubic yards
Weight, lb/gal:	12.8 lb/ft	15 lb/gal
Method:	displacement	poured
Comments:	Used 100% excess. Primary cement bottom is assumed to be top of bentonite at 1822'	8/20/14 Final Top-Off: MSG poured Portland Type III/V cement to surface with no fall back.

**Intermediate Casing Data**

Casing Depth, ft: 1815.5  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft  
Install Date & Time: 8/9/14 14:00

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.500  
Top Depth, ft: 1822.0  
Bottom Depth (TD), ft: 1875.0  
Interval Thickness, ft: 53.0  
Comments: Well development washed out plug-back sand/bentonite to 1,886'. 7 buckets of bentonite was used to plug back to 1,875'.

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-8 (2014-26-198-I)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6632.5  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWSE  
Footage, N/S: 2008, FSL  
Footage, E/W: 1375, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932738295  
Longitude, °W: 108.355594975  
State Plane Northing, ft: 231234.40  
State Plane Easting, ft: 1199323.19

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932710476  
Longitude, °W: 108.356240326  
State Plane Northing, ft: 1231233.79  
State Plane Easting, ft: 2199162.98

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875 in.  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 90.6  
Total Footage: 90.6  
Start Date & Time: 9/19/14 9:30  
End Date & Time: 9/19/14 11:45  
Total Drilling Hours: 2.3  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 90.6  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 9/19/14 12:15  
Cement Interval, ft. GL: 0 - 90.6  
Cement Type: Portland Type I/II  
Cement Amount, sks: 19  
Cementing Date: 9/19/2014  
Top-off Cement Date: 9/19/2014  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 90.6  
End Depth, ft: 1860.0  
Total Footage: 1769.4  
Start Date & Time: 9/19/14 21:45  
End Date & Time: 9/22/14 10:45  
Total Drilling Hours: 61.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Air Mist

**Coring Operation**

Core Diameter, in: 2.500  
Hole Diameter, in: 3.782  
Start Depth, ft: 1860.0  
End Depth, ft: 1967.5  
Total Footage: 107.5  
Start Date & Time: 9/23/14 15:15  
End Date & Time: 9/24/14 17:00  
Total Hours: 25.8  
Coring Contractor: Himes Drilling Company, Inc  
Rig Number: CR-10  
Coring Media: Halite Bicarb Solution  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-8 (2014-26-198-I)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1860.0  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.3 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: 1881.7  
Bottom Depth, ft: 2000.0  
Date & Time: 10/1/14 18:15  
Materials: cement: 1881.7-2000.0  
Comments: Himes adds 15 sks cement TOC at 1941.5'. On 10/2/14 Jet West makes 5 runs with cement bailer bringing TOC to 1878.5'. Drilled out to 1881.7'

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1860.0  
End Depth, ft: 2000.0  
Total Footage: 140.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1826.6  
Bottom Depth, ft: 1881.7  
Date & Time: 10/1/14 18:15  
Materials: sand: 1826.6-1881.7  
Comments: temporary plug back to set intermediate casing

**Intermediate Hole Data**

Hole Diameter, in: 6.500  
Start Depth, ft: 90.6  
End Depth, ft: 1826.6  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	10/4/2014	11/11/2014
*Interval, ft:	~300 - 1826.6	0 - nd
Type:	Portland Type III	Portland Type III
Additives:	N/A	n/a
Amount, sks:	220 gals	0.5 cubic yards
Weight, lb/gal:	12.8	~13

**Intermediate Casing Data**

Casing Depth, ft: 1819.7  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft

Comments: Casing shoe @ 1819.68'. Centralizers below every 5th joint. 18 centralizers. Total casing string is 1820.3  
Himes rigged up the pump truck and ran in 1-3/8 inch tremmie pipe. Could not get past 12 feet GL. Open end of tremmie pipe was full of soft cement when returned to surface. The crew removed the wellhead and made another attempt to run in tremmie pipe, still cannot get past 12 feet GL. Mixed one sack of cement by hand and tremmied into annulus from 12 feet GL to

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.500  
Top Depth, ft: 1826.6  
Bottom Depth (TD), ft: 1881.7  
Interval Thickness, ft: 55.1  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-9 (2014-25-198-M)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6597.4  
KB Elevation, ft: nd  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSE  
Footage, N/S: 124, FSL  
Footage, E/W: 2119, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927447860  
Longitude, °W: 108.340064803  
State Plane Northing, ft: 229168.42  
State Plane Easting, ft: 1203614.47

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.927420058  
Longitude, °W: 108.340709549  
State Plane Northing, ft: 1229167.75  
State Plane Easting, ft: 2203454.31

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 10.500  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 82.0  
Total Footage: 82.0  
Start Date & Time: 8/5/14 0:30  
End Date & Time: 8/7/14 18:00  
Total Drilling Hours: 65.5  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-based mud  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 82.0  
Diameter, in: 7.625 OD; 6.969 ID  
Type: J55 (steel)  
Weight: 26.4 lb/ft  
Install Date & Time: 8/7/14 18:00  
Cement Interval, ft. GL: 0 - 82  
Cement Type: Potland type I/II  
Cement Amount, sks: 0.86 yd³  
Cementing Date: 8/7/2014  
Top-off Cement Date: na  
Comments:

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 82.0  
End Depth, ft: 1789.5  
Total Footage: 1707.5  
Start Date & Time: 8/8/14 6:00  
End Date & Time: 8/11/14 4:00  
Total Drilling Hours: 70.0  
Drilling Contractor: Boart Longyear  
Rig Number: BK-36  
Drilling Media: Water-Based Mud

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.782  
Start Depth, ft: 1789.5  
End Depth, ft: 1898.3  
Total Footage: 108.8  
Start Date & Time: 8/11/14 18:15  
End Date & Time: 8/12/14 5:15  
Total Hours: 11.0  
Coring Contractor: Boart Longyear  
Rig Number: BK-36  
Coring Media: Brine  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DS-9 (2014-25-198-M)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1789.5  
Diameter, in OD: 4.5  
Type: HWT  
Weight: 11.3 lb/ft  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: 1842.0  
Bottom Depth, ft: 1916.5  
Date & Time: 10/29/14 12:05  
Materials: cement: 1842.0-1916.5  
Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1789.5  
End Depth, ft: 1916.5  
Total Footage: 127.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1777.0  
Bottom Depth, ft: 1842.0  
Date & Time: 11/1/14 0:00  
Materials: bentonite: 1779.0-1842.0  
sand: 1777.0-1779.0  
Comments: sand, bentonite

**Intermediate Hole Data**

Hole Diameter, in: 6.500  
Start Depth, ft: 87.0  
End Depth, ft: 1773.0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	11/2/2014	11/12/2014
*Interval, ft:	302 - 1773	na - na
Type:	Portland Type III	Portland Type III
Additives:	na	n/a
Amount, sks:	118.4 bbls	35 sacks
Weight, lb/gal:	12.8	13.0
Method:	displacement	pumped
Comments:		

**Intermediate Casing Data**

Casing Depth, ft: 1773.0  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: J55 (steel)  
Casing Wt: 11.6 lb/ft

Install Date & Time: 11/2/14 5:30

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.500  
Top Depth, ft: 1773.0  
Bottom Depth (TD), ft: 1842.0  
Interval Thickness, ft: 69.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DVPW-1  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Dual String Vertical Production Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6688.0  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWSE  
Footage, N/S: 627.8, FSL  
Footage, E/W: 3159.7, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929101820  
Longitude, °W: 108.357502600  
State Plane Northing, ft: 229927.68  
State Plane Easting, ft: 1198745.83

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.929074030  
Longitude, °W: 108.358148000  
State Plane Northing, ft: 1229927.06  
State Plane Easting, ft: 2198585.61

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 26.0  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 150.0  
Total Footage: 150.0  
Start Date & Time: 10/18/11 9:45  
End Date & Time: 10/19/11 15:30  
Total Drilling Hours: 29.8  
Drilling Contractor: Boart Longyear  
Rig Number: LK-12  
Drilling Media: Mud  
Comments: Drilled hole with mud and conventional circulation

**Conductor Casing Data**

Casing Depth, ft. GL: 150.0  
Diameter, in: 22 OD; 21.25 ID  
Type: A53B  
Weight: 86.61 lb/ft  
Install Date & Time: 10/20/11 11:00  
Cement Interval, ft. GL: 0 - 150  
Cement Type: Portland Type I/II  
Cement Amount, sks: 159  
Cementing Date: 10/20/2011  
Top-off Cement Date: na  
Comments: Welded seam casing

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 19.000  
Start Depth, ft: 150.0  
End Depth, ft: 2904.6  
Total Footage: 2754.6  
Start Date & Time: 10/21/11 19:30  
End Date & Time: 11/12/11 18:40  
Total Drilling Hours: 527.2  
Drilling Contractor: Boart Longyear  
Rig Number: LK-12  
Drilling Media: Reverse Circulation Mud  
Comments: Drilled hole using reverse circulation and mud from 150' to ~1895' and gradually switched from Bentonite gel mud to water and polymer only.

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 2344.4  
Casing Diameter, in: 7 OD; 6.366 ID  
Casing Type: N-80 (1), J-55 (2)  
Casing Wt: 23 lb/ft  
Install Date & Time: 11/16/11 6:48

Comments: Dual 7" casing strings were installed in the well by Boart Longyear pump rig LX-77. N-80 casing from 2344.4' to 2232.4' and J-55 from 2232.4' to surface. Cement basket at 2340', centralizers every 80 ft from 2325' to 1248' and every 100' from 1248' to surface.

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** DVPW-1  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Dual String Vertical Production Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	11/17/2011	11/25/2011
*Interval, ft:	374 - 2335	na - na
Type:	HES Class G (1), HES Class G Neat (2)	Portland Type I/II
Additives:	10.6% Spherelite, 40% 200 mesh Silica Flower	na
Amount, sks:	1533 (1), 1087 (2)	11
Weight, lb/gal:	14.3 (1), 15.8 (2)	15.4
Method:	tremie	poured
Comments:	Install bentonite with tremie from ~2340' to 2335'. Spherelite cement from 2335' to ~715'. Class G neat from 715' to surface.	

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 19.000  
Top Depth, ft: 2344.4  
Bottom Depth (TD), ft: 2904.6  
Interval Thickness, ft: 560.2  
Comments: Boart ran a wiper trip 2904.6' TD through both of the 7" casing strings prior to moving off the well.

**Production Casing Data**

Casing Top Depth, ft: 2870.19 (S), 2675.51 (N)  
Csg Bottom Depth, ft: 2870.19 (S), 2675.51 (N)  
Casing Diameter, in: 4.5 OD; 4 ID  
Casing Type: N-80  
Casing Wt: 11.6  
Install Date & Time: 12/10/11 7:30  
Comments: Red Rock Well Service, rig 2

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** EX-1  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6631.5  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNE  
Footage, N/S: 2097.1, FNL  
Footage, E/W: 2430.6, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.935815490  
Longitude, °W: 108.359414700  
State Plane Northing, ft: 232389.25  
State Plane Easting, ft: 1198288.69

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.935787660  
Longitude, °W: 108.360060200  
State Plane Northing, ft: 1232388.66  
State Plane Easting, ft: 2198128.47

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 8.75  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 55.0  
Total Footage: 55.0  
Start Date & Time: 7/15/85 nd  
End Date & Time: 7/15/85 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Frontier Drilling  
Rig Number: S-22  
Drilling Media: Air

Comments: All depths referenced to GL. Drilled 4.75" pilot hole to 55';  
reamed out to 8.75" prior to running casing.

**Conductor Casing Data**

Casing Depth, ft. GL: 55.0  
Diameter, in: 7 OD; 6.336 ID  
Type: J55 (steel)  
Weight: 23 lb/ft  
Install Date & Time: 7/16/85 nd  
Cement Interval, ft. GL: 0 - 55  
Cement Type: Class A Portland  
Cement Amount, sks: 12  
Cementing Date: 7/16/1985  
Top-off Cement Date: na

Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.250  
Start Depth, ft: 55.0  
End Depth, ft: 1875.0  
Total Footage: 1820.0  
Start Date & Time: 7/17/85 10:30  
End Date & Time: 7/25/85 16:00  
Total Drilling Hours: 197.5  
Drilling Contractor: Frontier Drilling  
Rig Number: S-22  
Drilling Media: Air Mist

**Coring Operation**

Core Diameter, in: 2.125  
Hole Diameter, in: 3.875  
Start Depth, ft: 1875 (1)  
End Depth, ft: 1915 (2)  
Total Footage: #VALUE!  
Start Date & Time: 7/25/85 21:00  
End Date & Time: 7/29/85 20:30  
Total Hours: 95.5  
Coring Contractor: Frontier Drilling  
Rig Number: S-22  
Coring Media: Stiff Foam-Halite Saturated Solution

Comments: Intermediate casing set between core intervals; rotary drilled  
3.875" hole from 1914.0'-1915.0'

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** EX-1  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: na  
Diameter, in OD: na  
Type: na  
Weight: na  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 6.250  
Start Depth, ft: 1875.0  
End Depth, ft: 1914.0  
Total Footage: 39.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:  
na

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/27/1985	na
*Interval, ft:	1684 - 1914	na
Type:	Class G	na
Additives:	CaCl2	na
Amount, sks:	50	na
Weight, lb/gal:	15.8	na
Method:	nd	na
Comments:	3% CaCl2 additive	

**Intermediate Casing Data**

Casing Depth, ft: 1914.0  
Casing Diameter, in: 4.5 OD; nd ID  
Casing Type: J55 (steel)  
Casing Wt: 10.5 lb/ft

Install Date & Time: 7/27/85 3:00

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 3.875  
Top Depth, ft: 1914.0  
Bottom Depth (TD), ft: 1989.0  
Interval Thickness, ft: 75.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** EX-1  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: 8/3-4/85 16:30  
Drilling Contractor: Frontier Drilling  
Rig Number: S-22  
Materials: Cement: 0-490  
Cement: 490-1330  
Cement: 1330-1678  
Cement: 1678-1989

Comments: Cemented in 4 stages: 26 sacks of Class H with 2% CaCl2; 106 sacks of 65/35 PozMix at 13.4 ppg; 170 sacks of 65/35 PozMix at 13.4 ppg; and 100 sacks of Class G with 2% CaCl2

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-MW-1  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6531.8  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNE  
Footage, N/S: 8853, FSL  
Footage, E/W: 3440, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.938750450  
Longitude, °W: 108.374093000  
State Plane Northing, ft: 233590.84  
State Plane Easting, ft: 1194209.32

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.938722620  
Longitude, °W: 108.374739100  
State Plane Northing, ft: 1233590.30  
State Plane Easting, ft: 2194049.06

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.25  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 160.0  
Total Footage: 160.0  
Start Date & Time: 8/26/1983 nd  
End Date & Time: 8/30/1983 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Gundmunson-Reid Drilling  
Rig Number: Midway 1500  
Drilling Media: Air Mist  
Comments: All depths referenced to GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 158.0  
Diameter, in: 8.625 OD; nd ID  
Type: K-55  
Weight: 24 lb/ft  
Install Date & Time: 8/30/83 nd  
Cement Interval, ft. GL: 0 - 160  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: 8/30/1983  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 7.875  
Start Depth, ft: 160.0  
End Depth, ft: 1728.0  
Total Footage: 1568.0  
Start Date & Time: 8/31/1983 nd  
End Date & Time: 9/9/1983 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Gundmunson-Reid Drilling  
Rig Number: Midway 1500  
Drilling Media: Air Mist  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1720.0  
Casing Diameter, in: 5.5 OD; 4.892 ID  
Casing Type: J55 (steel)  
Casing Wt: 17.0 lb/ft  
Install Date & Time: 9/9/83 nd  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-MW-1  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	9/9/1983	na
*Interval, ft:	0.0 (1)1241 (2)1630 (3)na	
Type:	12-3 RFC (1) 12-3 RFC (2)	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	Six cement baskets were placed within the well and created three distinct cement zones from 0'-506', 1241'-1363', and 1630'-1728'	

**Drillout Operation**

Hole Diameter, in: 4.750  
Start Depth, ft: 1728.0  
End Depth, ft: 1770.0  
Total Footage: 42.0  
Start Date & Time: 9/18/1983 nd  
End Date & Time: 9/20/1983 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Gundmunson-Reid Drilling  
Rig Number: Midway 1500  
Drilling Media: Air Mist  
Comments:

**Open Hole Interval**

Hole Diameter, in: 4.750  
Top Depth, ft: 1728.0  
Bottom Depth (TD), ft: 1770.0  
Interval Thickness, ft: 42.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: 9/20/1983 nd  
Completion Date: 9/20/1983 nd  
Drilling Contractor: nd  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 4.750  
Start Depth, ft: 1728.0  
End Depth, ft: 1770.0  
Open Hole Interval, ft: 42.0  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-MW-1  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

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**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: 6539.1  
Materials: na

Comments: na

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**Abandonment Data**

Abandonment Date: 8/9/15 15:15  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: PTKT-8  
Materials: Cement: 0-1773  
CIBP: 1773

Comments: cleaned out hole to 1820', set CIBP at 1773'  
perforated 7 shots followed by 2 shots:  
1588', 1509', 1470', 1450', 1390', 1194', 996', 798' and 699'  
tremmied 9 yds cement from MSG

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**Recompletion History**

September, 1983  
Perforations from 1343'-1345' (4 holes at 0.5" dia.) and 1715' (4 holes at 0.5" dia.)



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-PW-1  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6531.4  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNE  
Footage, N/S: 8827, FSL  
Footage, E/W: 3459, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.938816970  
Longitude, °W: 108.374169200  
State Plane Northing, ft: 233615.75  
State Plane Easting, ft: 1194188.76

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.938789140  
Longitude, °W: 108.374815300  
State Plane Northing, ft: 1233615.21  
State Plane Easting, ft: 2194028.50

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.25  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 165.0  
Total Footage: 165.0  
Start Date & Time: 7/3/83 16:00  
End Date & Time: 7/3/83 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Gundmunson-Reid Drilling  
Rig Number: Midway 1500  
Drilling Media: Air Mist  
Comments: All depths referenced to GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 155.0  
Diameter, in: 8.625 OD; nd ID  
Type: K-55  
Weight: 24 lb/ft  
Install Date & Time: 7/5/83 nd  
Cement Interval, ft. GL: 0 - 165  
Cement Type: Type G  
Cement Amount, sks: 115  
Cementing Date: 7/5/1983  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1822.0  
Casing Diameter, in: 5.5 OD; 4.892 ID  
Casing Type: J55 (steel)  
Casing Wt: 17.0 lb/ft  
Install Date & Time: 8/8/83 nd  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-PW-1  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/8/1983	8/21/1983
*Interval, ft:	nd - 1822	0 - nd
Type:	10-2 RFC	10-2 RFC
Additives:	nd	30% D-66, 12.5 lb/sk D-42
Amount, sks:	265	400
Weight, lb/gal:	nd	nd
Method:	nd	perforate/squeeze
Comments:	Two cement baskets set at approximately 1100' and 1280', respectively	Perforation and Cement Squeeze at 1619' (4 holes, 0.5" Dia.)

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 7.875  
Top Depth, ft: 1822.0  
Bottom Depth (TD), ft: 1849.5  
Interval Thickness, ft: 27.5  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-PW-1  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: 6535.8  
Materials: na

Comments: na

---

**Abandonment Data**

Abandonment Date: 8/8/15 9:45  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: PTKT-8  
Materials: Cement: 0-1791

Comments: cleaned out hole to 1791'  
tremmied 7 yds cement to 814'  
poured 3.5 yds cement to surface

---

**Recompletion History**

0

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-PW-2  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6533.8  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNE  
Footage, N/S: 8765, FSL  
Footage, E/W: 3503, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.938588840  
Longitude, °W: 108.373925600  
State Plane Northing, ft: 233530.48  
State Plane Easting, ft: 1194254.33

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.938561010  
Longitude, °W: 108.374571700  
State Plane Northing, ft: 1233529.94  
State Plane Easting, ft: 2194094.07

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.25  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 164.0  
Total Footage: 164.0  
Start Date & Time: 9/20/83 15:15  
End Date & Time: 9/21/83 15:10  
Total Drilling Hours: 23.9  
Drilling Contractor: Gundmunson-Reid Drilling  
Rig Number: Midway 1500  
Drilling Media: Air Mist  
Comments: All depths referenced to GL.

**Conductor Casing Data**

Casing Depth, ft. GL: 161.0  
Diameter, in: 8.625 OD; nd ID  
Type: K-55  
Weight: 24 lb/ft  
Install Date & Time: 9/21/83 18:15  
Cement Interval, ft. GL: 0 - 164  
Cement Type: Type G  
Cement Amount, sks: 70  
Cementing Date: 9/21/1983  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 4.750  
Start Depth, ft: 1843.0  
End Depth, ft: 1857.0  
Total Footage: 14.0  
Start Date & Time: 10/15/83 nd  
End Date & Time: 10/15/83 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Texas Eastern  
Rig Number: nd  
Drilling Media: nd  
Comments: Deepened original vertical hole to accommodate packer and orienting guide before drilling horizontal drainhole.

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 114 (1)1801.5 (2)  
Casing Diameter, in: 5.500 (1)5.500 (2) OD; 4.767 (1)4.825 (2)  
Casing Type: J-55 (1)K-55 (2)  
Casing Wt: 17 lb/ft (1)15.5 lb/ft (2)  
Install Date & Time: 10/7/83 10:00  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-PW-2  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: 4.750  
Start Depth, ft: 1807.0  
End Depth, ft: 1961.5  
Total Footage: 154.5  
Start Date & Time: 10/19/83 17:00  
End Date & Time: 10/24/83 2:00  
Total Drilling Hours: 105.0  
Drilling Contractor: Texas Eastern  
Rig Number: nd  
Drilling Media: nd

Comments: Horizontal drainhole to establish connection between  
IRI-PW1 and IRI-PW2

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	10/7/1983	na
*Interval, ft:	130 (1)1480 (2) - 1480	na
Type:	Lite Poz 500 (1) 10-2 RFC (2)	na
Additives:	D-66 (1) D-66, D-42 (2)	na
Amount, sks:	125	na
Weight, lb/gal:	nd	na
Method:	displacement	na
Comments:	The top of the 10-2 RFC Cement is an approximation	

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 4.750  
Top Depth, ft: 1802 (1)1807 (2)  
Bottom Depth (TD), ft: 1857 (1)  
Interval Thickness, ft: #VALUE!  
Comments: Texas Eastern left 127.9' of drill pipe and bit in the  
horizontal drainhole and 45.5' of vertical tools in bottom of  
vertical hole (including packer, orientation guide  
equipment) after excellent communication was established  
between IRI-PW1 and IRI-PW2.

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: nd  
Completion Date: nd  
Drilling Contractor: nd  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 4.750  
Start Depth, ft: 1802.0  
End Depth, ft: 1857.0  
Open Hole Interval, ft: 55.0  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 600 (1)1280 (2)1540 (3)  
Plug Back, Bottom, ft: 602 (1)1282 (2)1542 (3)  
Materials: Bridge Plug: 600'-602'  
Open Hole: 602'-1280'  
Bridge Plug: 1280'-1282'  
Open Hole: 1282'-1540'

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** IRI-PW-2  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Sampling Equipment Installation**

Installation Date: na  
Stick-Up Height, ft.: na  
Stick-up Elevation, ft.: 6540.8  
Materials: na

Comments: na

---

**Abandonment Data**

Abandonment Date: 8/11/15 15:00  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: PTKT-8  
Materials: Cement: 0-1785'  
CIBP: 1785'

Comments: drilled out bridge plugs at 605', 1282', 1541'  
cleaned hole to 1800'; set CIBP at 1785'  
tremmied 9 yds cement to surface

---

**Recompletion History**

Bridge Plug: 600'-602'  
Open Hole: 602'-1280'  
Bridge Plug: 1280'-1282'  
Open Hole: 1282'-1540'  
Bridge Plug: 1540'-1542'  
Open Hole: 1542'-1857'  
Perforations from 395'-415' (40, 0.5" Dia), 1200'-1220' (40, 0.5" Dia.), & 1460'-1480' (40, 0.5" Dia.)

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-10  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6448.7  
KB Elevation, ft: nd  
Section: 14  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWSE  
Footage, N/S: 1350, FSL  
Footage, E/W: 1500, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.960203950  
Longitude, °W: 108.356014700  
State Plane Northing, ft: 241237.80  
State Plane Easting, ft: 1199527.73

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.960175930  
Longitude, °W: 108.356660200  
State Plane Northing, ft: 1241237.29  
State Plane Easting, ft: 2199367.56

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments: Coring operations began from surface

**Conductor Casing Data**

Casing Depth, ft. GL: 176.0  
Diameter, in: 5 OD; nd ID  
Type: nd  
Weight: nd  
Install Date & Time: 6/27/81 12:00  
Cement Interval, ft. GL: na - 176  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: 6/27/1981  
Top-off Cement Date: na  
Comments: Cased after coring from surface and reaming. Casing top was set 3' below the surface with 173' of casing being set in hole.

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: na - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

**Coring Operation**

Core Diameter, in: 2.500 (1)1.875 (2)  
Hole Diameter, in: 4.625 (1)4.625 (2)3.000 (3)  
Start Depth, ft: 0 (1)  
End Depth, ft: 176 (2)  
Total Footage: 153 (1)  
Start Date & Time: 1345 (2)  
End Date & Time: #VALUE!  
Total Hours: 6/25/81 8:00  
Coring Contractor: 8/21/81 19:15  
Rig Number: 1379.3  
Coring Media: Boart Longyear  
Comments: Cased and cemented conductor hole after coring to 153'. The interval from 153' to 176' was not cored because driller reamed an additional 23' below the initial core cut from 0'-153'.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-10  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: na  
Diameter, in OD: na  
Type: na  
Weight: na  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 5.625  
Start Depth, ft: 0.0  
End Depth, ft: 176.0  
Total Footage: 176.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:  
na

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/23/1981	na
*Interval, ft:	1193 - 1345	na
Type:	Portland	na
Additives:	nd	na
Amount, sks:	564	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	Primary cement amount as listed is in lbs. WCD notes that only the lower 150' of the intermediate casing was cemented; notes to USGS states that the lower 200' cemented. The cement top is an approximation and could range from 1143' to 1193'.	

**Intermediate Casing Data**

Casing Depth, ft: 1343.0  
Casing Diameter, in: 4 OD; nd ID  
Casing Type: na  
Casing Wt: nd

Install Date & Time: 7/23/1981 nd

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 3.000  
Top Depth, ft: 1345.0  
Bottom Depth (TD), ft: 2963.0  
Interval Thickness, ft: 1618.0  
Comments: End depth is from WCD but is noted in the USGS report at 2,964'.

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:



Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-10  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)  
**Well Status:** Plugged and Abandoned

---

**Primary Recompletion Data**

Start Date: 8/23/81 8:00  
Completion Date: 8/23/81 14:00  
Drilling Contractor: Halliburton  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 3.000  
Start Depth, ft: 1345  
End Depth, ft: 1761  
Open Hole Interval, ft: 416.0  
Comments: TOC is noted at 1,761' on the WCD but noted at 1,700' in report to USGS.

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1761.0  
Plug Back, Bottom, ft: 2963.0  
Materials: Cement: 1761'-2963'

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Abandonment Data**

Abandonment Date: 5/21/17 17:00  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: CR-10

Materials: CONDUCTOR PREVIOUSLY REMOVED  
CLEAN OUT (2.9375"): 0-1677  
PERFS (DLD): 1140', 1128', 1100', 800', 500', and 200'; 4 shots per foot with zero degree phasing  
CEMENT: 1162-1677; stage 1: 42 sks (2.0 yds), 15 lb/gal, Type I/II  
CEMENT: 0-1162; stage 2: 42 sks (2.0 yds), 15 lb/gal, Type I/II  
TOP-OFF: 2 ksk (0.1 yds), Sakrete

Comments: well capped and buried on 5/22/17

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-11  
**Hole Type:** Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6623.1  
KB Elevation, ft: nd  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: NESE  
Footage, N/S: 1650, FSL  
Footage, E/W: 1000, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932133980  
Longitude, °W: 108.336075500  
State Plane Northing, ft: 230838.74  
State Plane Easting, ft: 1204787.31

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932106140  
Longitude, °W: 108.336720200  
State Plane Northing, ft: 1230838.07  
State Plane Easting, ft: 2204627.16

**Conductor Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments: Coring operations began from surface

**Conductor Casing Data**

Casing Depth, ft. GL: 153.0  
Diameter, in: 5 OD; nd ID  
Type: Steel  
Weight: nd  
Install Date & Time: 9/5/1981 nd  
Cement Interval, ft. GL: na - 153  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: 9/5/1981  
Top-off Cement Date: na

Comments: Other WCD diagram has 150' as depth of casing but also reported as 153' in USGS report.

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: na - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

**Coring Operation**

Core Diameter, in: 2.500 (1)1.875 (2)  
Hole Diameter, in: 4.625 (1)3.000 (2)  
Start Depth, ft: 0 (1)  
1433 (2)  
End Depth, ft: 1433 (1)  
2963 (2)  
Total Footage: #VALUE!  
Start Date & Time: 9/3/81 15:00  
End Date & Time: 10/18/1981 nd  
Total Hours: #VALUE!  
Coring Contractor: Boart Longyear  
Rig Number: 428  
Coring Media: Mud

Comments: Cased and cemented conductor hole after coring to 153'.

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-11  
**Hole Type:** Core Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: na  
Diameter, in OD: na  
Type: na  
Weight: na  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 5.625  
Start Depth, ft: 0.0  
End Depth, ft: 153.0  
Total Footage: 153.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:  
na

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	1233 - 1433	na
Type:	GROUT	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	Other diagram says "bottom 150' cemented in place", which would be 1284'-1434' according to that diagram. But USGS report notes that the lower 200' was cemented.	

**Intermediate Casing Data**

Casing Depth, ft: 1433.0  
Casing Diameter, in: 4 OD; nd ID  
Casing Type: Steel  
Casing Wt: nd

Install Date & Time: nd

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 3.000  
Top Depth, ft: 1433.0  
Bottom Depth (TD), ft: 2963.0  
Interval Thickness, ft: 1530.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-2  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6573.6  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESW  
Footage, N/S: 1410, FSL  
Footage, E/W: 2730, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.931472810  
Longitude, °W: 108.378642600  
State Plane Northing, ft: 230982.62  
State Plane Easting, ft: 1192848.19

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.931445040  
Longitude, °W: 108.379288800  
State Plane Northing, ft: 1230982.07  
State Plane Easting, ft: 2192687.91

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments: Coring operations began from surface

**Conductor Casing Data**

Casing Depth, ft. GL: 150.0  
Diameter, in: 6 OD; nd ID  
Type: Steel  
Weight: nd  
Install Date & Time: 9/17/1980 nd  
Cement Interval, ft. GL: na - 154  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: 9/17/1980  
Top-off Cement Date: na  
Comments: Cased after coring from surface and reaming

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: na - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

**Coring Operation**

Core Diameter, in: 2.500 (1)1.875 (2)  
Hole Diameter, in: 4.625 (1)3.000 (2)  
Start Depth, ft: 0 (1)  
1314 (2)  
End Depth, ft: 1314 (1)  
2904 (2)  
Total Footage: #VALUE!  
Start Date & Time: 9/10/1980 nd  
End Date & Time: 12/7/1980 nd  
Total Hours: #VALUE!  
Coring Contractor: Boart Longyear  
Rig Number: 434  
Coring Media: Mud  
Comments: Cased and cemented conductor hole after coring to 154'

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-2  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: na  
Diameter, in OD: na  
Type: na  
Weight: na  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 7.375  
Start Depth, ft: 0.0  
End Depth, ft: 154.0  
Total Footage: 154.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:  
na

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	10/31/1980	na
*Interval, ft:	1114 - 1314	na
Type:	GROUT	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na

Comments: The intermediate casing was noted as only having the lower 200' cemented. The cement top is an approximation.

**Intermediate Casing Data**

Casing Depth, ft: 1312.0  
Casing Diameter, in: 4 OD; nd ID  
Casing Type: nd  
Casing Wt: nd

Install Date & Time: 10/31/1980 nd

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 3.000  
Top Depth, ft: 1314.0  
Bottom Depth (TD), ft: 2904.0  
Interval Thickness, ft: 1590.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-2  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Vertical Stratigraphic Control  
**Well Status:** Plugged and Abandoned

---

**Primary Recompletion Data**

Start Date: nd  
Completion Date: 12/16/1980 nd  
Drilling Contractor: Halliburton  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 4.625  
Start Depth, ft: 154  
End Depth, ft: 604  
Open Hole Interval, ft: 450.0  
Comments: Removed intermediate casing from 0-604'

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1080.0  
Plug Back, Bottom, ft: 2904.0  
Materials: Cement: 1080'-2904'

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Abandonment Data**

Abandonment Date: 5/16/17 17:00  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-7  
Materials: FISH (pump?): 602.07, top of fish  
CEMENT: 237-602; stage 1: 73.5 sks (3.5 yds), 15 lb/gal, Type I/II  
CEMENT: 0-237; stage 2: 29.4 sks (1.4 yds), 15 lb/gal, Type I/II

Comments: well capped and buried on 5/16/17

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-3  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Perched Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6529.0  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNE  
Footage, N/S: 4170, FSL  
Footage, E/W: 1570, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.938781640  
Longitude, °W: 108.374470200  
State Plane Northing, ft: 233605.62  
State Plane Easting, ft: 1194103.99

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.938753810  
Longitude, °W: 108.375116300  
State Plane Northing, ft: 1233605.08  
State Plane Easting, ft: 2193943.73

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments: Coring operations began from surface

**Conductor Casing Data**

Casing Depth, ft. GL: 148.0  
Diameter, in: 5 OD; nd ID  
Type: nd  
Weight: nd  
Install Date & Time: 10/19/1980 nd  
Cement Interval, ft. GL: na - 154  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments: Cased after coring from surface and reaming

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: na - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

**Coring Operation**

Core Diameter, in: 2.500 (1)1.875 (2)  
Hole Diameter, in: 4.625 (1)3.000 (2)  
Start Depth, ft: 0 (1)  
1350 (2)  
End Depth, ft: 1350(1)  
2884 (2)  
Total Footage: #VALUE!  
Start Date & Time: 10/15/1980 nd  
End Date & Time: 12/14/1980 nd  
Total Hours: #VALUE!  
Coring Contractor: Boart Longyear  
Rig Number: 428  
Coring Media: Mud  
Comments: Cased and cemented conductor hole after coring to 154'

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-3  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Perched Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: na  
Diameter, in OD: na  
Type: na  
Weight: na  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 7.375  
Start Depth, ft: 0.0  
End Depth, ft: 154.0  
Total Footage: 154.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:  
na

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	1140 - 1340	na
Type:	Portland	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	The intermediate casing was noted as only having the lower 200' cemented. The cement top is an approximation.	

**Intermediate Casing Data**

Casing Depth, ft: 1340.0  
Casing Diameter, in: 4 OD; nd ID  
Casing Type: nd  
Casing Wt: nd

Install Date & Time: nd

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 3.000  
Top Depth, ft: 1340.0  
Bottom Depth (TD), ft: 2884.0  
Interval Thickness, ft: 1544.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:



Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-3  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Perched Aquifer Monitoring Well  
**Well Status:** Plugged and Abandoned

---

**Primary Recompletion Data**

Start Date: 1/7/1981 nd  
Completion Date: 1/20/1981 nd  
Drilling Contractor: Halliburton  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 4.625  
Start Depth, ft: 154  
End Depth, ft: 800  
Open Hole Interval, ft: 646.0  
Comments: The uppermost intermediate casing (0-800') was removed with recompletion operations. The leftover intermediate casing has cement to 1,100' inside and to 1,140' in the annulus.

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1100 (1)2270 (2)  
Plug Back, Bottom, ft: 2270 (1)2884 (2)  
Materials: Cement: 1100'-2884'

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Abandonment Data**

Abandonment Date: 8/19/15 8:30  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: PTKT-8  
Materials: Cement: 0-1100.0'  
Fish (NQ drill rods): 1030.0-1630.0'

Comments: opened ended rods to 795'  
tremmed 2.75 yds 0-1100.0 (top of plug back)

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-7  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6576.3  
KB Elevation, ft: nd  
Section: 23  
Township: 1S  
Range: 98W  
Qtr/Qtr: SESE  
Footage, N/S: 510, FSL  
Footage, E/W: 1300, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.943291160  
Longitude, °W: 108.355391800  
State Plane Northing, ft: 235074.62  
State Plane Easting, ft: 1199503.89

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.943263260  
Longitude, °W: 108.356037200  
State Plane Northing, ft: 1235074.05  
State Plane Easting, ft: 2199343.70

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 12.25  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 150.0  
Total Footage: 150.0  
Start Date & Time: 4/7/1981 nd  
End Date & Time: 4/7/1981 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Teton Exploration Drilling Cc  
Rig Number: 28  
Drilling Media: Mud  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 150.0  
Diameter, in: 10.75 OD; nd ID  
Type: Steel  
Weight: nd  
Install Date & Time: 4/7/1981 nd  
Cement Interval, ft. GL: 0 - 150  
Cement Type: Type II  
Cement Amount, sks: 30  
Cementing Date: 4/9/1981  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

**Coring Operation**

Core Diameter, in: na  
Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Hours: na  
Coring Contractor: na  
Rig Number: na  
Coring Media: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-7  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: na  
Diameter, in OD: na  
Type: na  
Weight: na  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:

**Post Core Reaming Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:  
na

**Intermediate Hole Data**

Hole Diameter, in: 9.875  
Start Depth, ft: 150.0  
End Depth, ft: 1500.0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	4/22/1981	na
*Interval, ft:	1342 - 1500	na
Type:	Type II	na
Additives:	calcium chloride	na
Amount, sks:	25	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	The intermediate casing was noted as only having the lower 100' (1400"-1500") cemented. At recompletion it was noted that the remaining 7" casing was cemented. It is assumed that 1342'-1400' of the annulus was cemented at this time. The cement top is an approximation.	

**Intermediate Casing Data**

Casing Depth, ft: 1500.0  
Casing Diameter, in: 7 OD; nd ID  
Casing Type: Steel  
Casing Wt: 20 lb/ft  
  
Install Date & Time: 4/20/1981 nd

**Drillout Operation**

Hole Diameter, in: 5.875  
Start Depth, ft: 1500.0  
End Depth, ft: 1880.0  
Total Footage: 380.0  
Start Date & Time: 4/26/1981 nd  
End Date & Time: 4/28/1981 nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Teton Exploration Drilling Cc  
Rig Number: 28  
Drilling Media: Mud  
Comments:

**Open Hole Interval**

Hole Diameter, in: 5.875  
Top Depth, ft: 1500.0  
Bottom Depth (TD), ft: 1880.0  
Interval Thickness, ft: 380.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-9  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6666.3  
KB Elevation, ft: nd  
Section: 34  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNW  
Footage, N/S: 3000, FSL  
Footage, E/W: 4000, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.920405689  
Longitude, °W: 108.383686655  
State Plane Northing, ft: 226999.34  
State Plane Easting, ft: 1191303.30

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.920378000  
Longitude, °W: 108.384333000  
State Plane Northing, ft: 1226998.75  
State Plane Easting, ft: 2191142.98

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments: Coring operations began from surface

**Conductor Casing Data**

Casing Depth, ft. GL: 154.0  
Diameter, in: 5 OD; nd ID  
Type: nd  
Weight: nd  
Install Date & Time: nd  
Cement Interval, ft. GL: na - 154  
Cement Type: Portland  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments: Cased after coring from surface and reaming

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: na - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

**Coring Operation**

Core Diameter, in: 2.500 (1)1.875 (2)  
Hole Diameter, in: 4.625 (1)3.000 (2)  
Start Depth, ft: 0 (1)  
1352 (2)  
End Depth, ft: 1352 (1)  
2864 (2)  
Total Footage: #VALUE!  
Start Date & Time: 4/4/1981 nd  
End Date & Time: 5/18/1981 nd  
Total Hours: #VALUE!  
Coring Contractor: Boart Longyear  
Rig Number: 434  
Coring Media: Mud  
Comments: Cased and cemented conductor hole after coring to 154'

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MMC-IRI-9  
**Hole Type:** Core Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: na  
Diameter, in OD: na  
Type: na  
Weight: na  
Comments:

**Post Core Final Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:

**Post Core Reaming Operation**

Hole Diameter, in: 5.625  
Start Depth, ft: 0.0  
End Depth, ft: 154.0  
Total Footage: 154.0

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: Comments:  
na

**Intermediate Hole Data**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	1152 - 1352	na
Type:	nd	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:	The intermediate casing was noted as only having the lower 200' cemented. The cement top is an approximation.	

**Intermediate Casing Data**

Casing Depth, ft: 1352.0  
Casing Diameter, in: 4 OD; nd ID  
Casing Type: nd  
Casing Wt: nd

Install Date & Time: nd

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 3.000  
Top Depth, ft: 1352.0  
Bottom Depth (TD), ft: 2864.0  
Interval Thickness, ft: 1512.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWA-2  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** A-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6446.4  
KB Elevation, ft: nd  
Section: 20  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNE  
Footage, N/S: 1526, FNL  
Footage, E/W: 2019, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.952499790  
Longitude, °W: 108.412268100  
State Plane Northing, ft: 238945.75  
State Plane Easting, ft: 1183674.72

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.952471940  
Longitude, °W: 108.412915600  
State Plane Northing, ft: 1238945.38  
State Plane Easting, ft: 2183514.36

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 20.0  
Total Footage: 20.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 20.0  
Diameter, in: 14.75 OD; 14 ID  
Type: nd  
Weight: 54.6 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 20  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 12.324  
Start Depth, ft: 20.0  
End Depth, ft: 947.0  
Total Footage: 927.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 947.0  
Casing Diameter, in: 7.625 OD; 7 ID  
Casing Type: L-80  
Casing Wt: 26.4 lb/ft  
Install Date & Time: nd  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWA-2  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** A-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	0 - 947	na
Type:	nd	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:		

---

**Drillout Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 947.0  
End Depth, ft: 1200.0  
Total Footage: 253.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.500  
Top Depth, ft: 947.0  
Bottom Depth (TD), ft: 1200.0  
Interval Thickness, ft: 253.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWB-2  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6440.2  
KB Elevation, ft: nd  
Section: 20  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNE  
Footage, N/S: 1438, FNL  
Footage, E/W: 1964, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.952741970  
Longitude, °W: 108.412074600  
State Plane Northing, ft: 239032.14  
State Plane Easting, ft: 1183731.84

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.952714120  
Longitude, °W: 108.412722100  
State Plane Northing, ft: 1239031.77  
State Plane Easting, ft: 2183571.48

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 20.0  
Total Footage: 20.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 20.0  
Diameter, in: 10.75 OD; 10 ID  
Type: nd  
Weight: 40.5 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 20  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 20.0  
End Depth, ft: 1375.0  
Total Footage: 1355.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1375.0  
Casing Diameter, in: 5 OD; 4.276 ID  
Casing Type: nd  
Casing Wt: 18 lb/ft  
Install Date & Time: nd  
Comments:



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWB-2  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** B-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	0 - 1375	na
Type:	nd	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:		

---

**Drillout Operation**

Hole Diameter, in: 4.125  
Start Depth, ft: 1375.0  
End Depth, ft: 1398.0  
Total Footage: 23.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 4.125  
Top Depth, ft: 1375.0  
Bottom Depth (TD), ft: 1398.0  
Interval Thickness, ft: 23.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWD-1  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6468.1  
KB Elevation, ft: nd  
Section: 20  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNE  
Footage, N/S: 1832, FNL  
Footage, E/W: 2302, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.951656960  
Longitude, °W: 108.413272400  
State Plane Northing, ft: 238648.15  
State Plane Easting, ft: 1183383.21

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.951629120  
Longitude, °W: 108.413920000  
State Plane Northing, ft: 1238647.78  
State Plane Easting, ft: 2183222.85

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 20.0  
Total Footage: 20.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 20.0  
Diameter, in: 10.75 OD; 10 ID  
Type: nd  
Weight: 40.5 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 20  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 10.000  
Start Depth, ft: 20.0  
End Depth, ft: 955.0  
Total Footage: 935.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1710.0  
Casing Diameter, in: 5 OD; 4.276 ID  
Casing Type: nd  
Casing Wt: 18 lb/ft  
Install Date & Time: nd  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWD-1  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: 9.875  
Start Depth, ft: 955.0  
End Depth, ft: 1710.0  
Total Footage: 755.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	0 - 1710	na
Type:	nd	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:		

---

**Drillout Operation**

Hole Diameter, in: 4.125  
Start Depth, ft: 1710.0  
End Depth, ft: 1731.0  
Total Footage: 21.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 4.125  
Top Depth, ft: 1710.0  
Bottom Depth (TD), ft: 1731.0  
Interval Thickness, ft: 21.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWD-2  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6434.0  
KB Elevation, ft: nd  
Section: 20  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNE  
Footage, N/S: 1428, FNL  
Footage, E/W: 1858, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.952773360  
Longitude, °W: 108.411701100  
State Plane Northing, ft: 239040.13  
State Plane Easting, ft: 1183836.87

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.952745510  
Longitude, °W: 108.412348600  
State Plane Northing, ft: 1239039.76  
State Plane Easting, ft: 2183676.52

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 20.0  
Total Footage: 20.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 20.0  
Diameter, in: 10.75 OD; 10 ID  
Type: nd  
Weight: 40.5 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 20  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 10.000  
Start Depth, ft: 20.0  
End Depth, ft: 1055.0  
Total Footage: 1035.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1670.0  
Casing Diameter, in: 5 OD; 4.276 ID  
Casing Type: nd  
Casing Wt: 18 lb/ft  
Install Date & Time: nd  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWD-2  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** DS Aquifer Monitoring Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: 9.875  
Start Depth, ft: 1055.0  
End Depth, ft: 1670.0  
Total Footage: 615.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	0 - 1670	na
Type:	nd	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:		

---

**Drillout Operation**

Hole Diameter, in: 4.125  
Start Depth, ft: 1670.0  
End Depth, ft: 1703.0  
Total Footage: 33.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 4.125  
Top Depth, ft: 1670.0  
Bottom Depth (TD), ft: 1703.0  
Interval Thickness, ft: 33.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWU-2  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Perched Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6440.6  
KB Elevation, ft: nd  
Section: 20  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNE  
Footage, N/S: 1590, FNL  
Footage, E/W: 1916, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.952327320  
Longitude, °W: 108.411905400  
State Plane Northing, ft: 238879.62  
State Plane Easting, ft: 1183774.27

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.952299470  
Longitude, °W: 108.412553000  
State Plane Northing, ft: 1238879.25  
State Plane Easting, ft: 2183613.91

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 17.5  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 20.0  
Total Footage: 20.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 20.0  
Diameter, in: 10.75 OD; 10 ID  
Type: nd  
Weight: 40.5 lb/ft  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 20  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 20.0  
End Depth, ft: 635.0  
Total Footage: 615.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 635.0  
Casing Diameter, in: 5 OD; nd ID  
Casing Type: nd  
Casing Wt: 18 lb/ft  
Install Date & Time: nd  
Comments: Flush Joint Casing

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** MWU-2  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Perched Aquifer Monitoring Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	na
*Interval, ft:	0 - 635	na
Type:	nd	na
Additives:	nd	na
Amount, sks:	nd	na
Weight, lb/gal:	nd	na
Method:	nd	na
Comments:		

---

**Drillout Operation**

Hole Diameter, in: 4.125  
Start Depth, ft: 635.0  
End Depth, ft: 687.0  
Total Footage: 52.0  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 4.125  
Top Depth, ft: 635.0  
Bottom Depth (TD), ft: 687.0  
Interval Thickness, ft: 52.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** RS-96-20-1  
**Hole Type:** Core Hole - Vertical  
**Well Type:** A-Groove Aquifer Monitoring Well  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6456.0  
KB Elevation, ft: nd  
Section: 20  
Township: 1S  
Range: 98W  
Qtr/Qtr: SWNE  
Footage, N/S: 2418.3, FNL  
Footage, E/W: 2134.6, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.950376760  
Longitude, °W: 108.412826300  
State Plane Northing, ft: 238177.96  
State Plane Easting, ft: 1183492.90

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.950348930  
Longitude, °W: 108.413473900  
State Plane Northing, ft: 1238177.58  
State Plane Easting, ft: 2183332.54

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 9.875  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 154.0  
Total Footage: 154.0  
Start Date & Time: 2/15/1996 nd  
End Date & Time: 1/0/00 0:00  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Stewart Brothers Drilling Co.  
Rig Number: nd  
Drilling Media: Mud  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 154.0  
Diameter, in: 7.625 OD; nd ID  
Type: J55 (steel)  
Weight: nd  
Install Date & Time: nd  
Cement Interval, ft. GL: 0 - 154  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: nd  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: 1/0/00 0:00  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** RS-96-20-1  
**Hole Type:** Core Hole - Vertical  
**Well Type:** A-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: 1/0/00 0:00  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	nd
*Interval, ft:	1717 - 2598	172 - 1295
Type:	Hall-Lt Premium	Hall-Lt Premium
Additives:	EX-1, Sodium Chloride, Gilsont, Flocele, Cap Seal,	EX-1, Sodium Chloride, Gilsont, Flocele, Cap Seal,
Amount, sks:	150	nd
Weight, lb/gal:	nd	nd
Method:	nd	nd
Comments:	Cemented from TD into 4.5" casing (set at 1785') to a depth of 1717'	Cemented after primary recompletion.

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: na  
Top Depth, ft: na  
Bottom Depth (TD), ft: na  
Interval Thickness, ft: na  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: nd  
Completion Date: nd  
Drilling Contractor: Stewart Brothers Drilling Co.  
Rig Number: nd

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: 6.750  
Start Depth, ft: 1296.0  
End Depth, ft: 1350.0  
Comments: After primary cement job, Cut 4.5" surface casing at  
1350' and removed casing from 0.0' to 1350'. No  
Reaming done hole same size as when initially drilled

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: 6.750  
Start Depth, ft: 1296  
End Depth, ft: 1350  
Open Hole Interval, ft: 54.0  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: 1266.0  
Plug Back, Bottom, ft: 1296.0  
Materials: Open Hole Packer: 1295' - 1296'  
Cement : 1295' - 1286'  
Cement 1286' - 1266'

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** TH75-11A  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Upper: Perched and A-Groove)  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6706.3  
KB Elevation, ft: nd  
Section: 3  
Township: 2S  
Range: 98W  
Qtr/Qtr: NWNE  
Footage, N/S: nd, FSL  
Footage, E/W: nd, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.910768210  
Longitude, °W: 108.375157600  
State Plane Northing, ft: 223412.92  
State Plane Easting, ft: 1193580.54

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.910740580  
Longitude, °W: 108.375803500  
State Plane Northing, ft: 1223412.28  
State Plane Easting, ft: 2193420.24

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 10.75  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 124.0  
Total Footage: 124.0  
Start Date & Time: 9/1/75 0:00  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 124.0  
Diameter, in: 8.625 OD; 8 ID  
Type: Steel  
Weight: nd  
Install Date & Time: 9/1/75 0:00  
Cement Interval, ft. GL: 0 - 124  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 9/1/1975  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 8.000  
Start Depth, ft: nd  
End Depth, ft: 763.0  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: 9/1/75 0:00  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 760.0  
Casing Diameter, in: 6.625 OD; 6.25 ID  
Casing Type: Steel  
Casing Wt: nd  
Install Date & Time: 9/1/75 0:00  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** TH75-11A  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Upper: Perched and A-Groove)  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	9/1/1975	nd
*Interval, ft:	0 - 763	nd - nd
Type:	nd	nd
Additives:	nd	nd
Amount, sks:	nd	nd
Weight, lb/gal:	nd	nd
Method:	nd	nd
Comments:		

---

**Drillout Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 763.0  
End Depth, ft: 1175.0  
Total Footage: 412.0  
Start Date & Time: 9/1/75 0:00  
End Date & Time: 9/1/75 0:00  
Total Drilling Hours: 0.0  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.000  
Top Depth, ft: 760  
Bottom Depth (TD), ft: 1175  
Interval Thickness, ft: 415.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** TH75-11B  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

---

**As Built Location Data**

GL Elevation, ft: 6706.4  
KB Elevation, ft: nd  
Section: 3  
Township: 2S  
Range: 98W  
Qtr/Qtr: NWNE  
Footage, N/S: nd, FSL  
Footage, E/W: nd, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.911123780  
Longitude, °W: 108.375620100  
State Plane Northing, ft: 223546.58  
State Plane Easting, ft: 1193455.05

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.911096140  
Longitude, °W: 108.376266100  
State Plane Northing, ft: 1223545.94  
State Plane Easting, ft: 2193294.75

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 10.75  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 125.0  
Total Footage: 125.0  
Start Date & Time: 7/1/75 0:00  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 125.0  
Diameter, in: 8.625 OD; 8 ID  
Type: Steel  
Weight: nd  
Install Date & Time: 9/1/75 0:00  
Cement Interval, ft. GL: 0 - 125  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 9/1/1975  
Top-off Cement Date: na  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 8.000  
Start Depth, ft: nd  
End Depth, ft: 1295.0  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: 7/1/75 0:00  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1293.0  
Casing Diameter, in: 6.625 OD; 6.25 ID  
Casing Type: Steel  
Casing Wt: nd  
Install Date & Time: 7/1/75 0:00  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** TH75-11B  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	7/1/1975	nd
*Interval, ft:	0 - 1276	nd - nd
Type:	nd	nd
Additives:	nd	nd
Amount, sks:	nd	nd
Weight, lb/gal:	nd	nd
Method:	nd	nd
Comments:		

---

**Drillout Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 1295.0  
End Depth, ft: 1715.0  
Total Footage: 420.0  
Start Date & Time: 7/1/75 0:00  
End Date & Time: 7/1/75 0:00  
Total Drilling Hours: 0.0  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.000  
Top Depth, ft: 1295  
Bottom Depth (TD), ft: 1715.0  
Interval Thickness, ft: 420.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** TH75-6A  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Upper: Perched and A-Groove)  
**Well Status:** Active

Note: All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6439.4  
KB Elevation, ft: nd  
Section: 14  
Township: 1S  
Range: 98W  
Qtr/Qtr: SENE  
Footage, N/S: 666.2, FNL  
Footage, E/W: 1838.36, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.964491220  
Longitude, °W: 108.353578000  
State Plane Northing, ft: 242776.71  
State Plane Easting, ft: 1200260.69

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.964463160  
Longitude, °W: 108.354223400  
State Plane Northing, ft: 1242776.21  
State Plane Easting, ft: 2200100.54

---

**Conductor Hole Drilling Operation**

Hole Diameter, in: 10.75  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 111.0  
Total Footage: 111.0  
Start Date & Time: 8/1/75 0:00  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Billmayers Inc.  
Rig Number: nd  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 111.0  
Diameter, in: 8.625 OD; 8 ID  
Type: Steel  
Weight: nd  
Install Date & Time: 8/1/75 0:00  
Cement Interval, ft. GL: 0 - 111  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 8/1/1975  
Top-off Cement Date: nd  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: nd  
Casing Diameter, in: nd OD; nd ID  
Casing Type: nd  
Casing Wt: nd  
Install Date & Time: nd  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** TH75-6A  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Upper: Perched and A-Groove)  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	nd	nd
*Interval, ft:	0 - 1260	nd - nd
Type:	nd	nd
Additives:	nd	nd
Amount, sks:	nd	nd
Weight, lb/gal:	nd	nd
Method:	nd	nd
Comments:		

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**Drillout Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 111.0  
End Depth, ft: 1260.0  
Total Footage: 1149.0  
Start Date & Time: nd  
End Date & Time: 8/1/75 0:00  
Total Drilling Hours: nd  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.000  
Top Depth, ft: 111  
Bottom Depth (TD), ft: 1260.0  
Interval Thickness, ft: 1149.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** TH75-6B

**Hole Type:** Rotary Hole - Vertical

**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)

**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6437.7  
KB Elevation, ft: nd  
Section: 14  
Township: 1S  
Range: 98W  
Qtr/Qtr: SENE  
Footage, N/S: 536.95, FNL  
Footage, E/W: 1958.67, FEL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.964807990  
Longitude, °W: 108.353044800  
State Plane Northing, ft: 242887.23  
State Plane Easting, ft: 1200413.79

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.964779920  
Longitude, °W: 108.353690200  
State Plane Northing, ft: 1242886.73  
State Plane Easting, ft: 2200253.64

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 10.75  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 120.0  
Total Footage: 120.0  
Start Date & Time: 8/1/75 0:00  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: Billmayers Inc.  
Rig Number: nd  
Drilling Media: Air Mist  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 120.0  
Diameter, in: 8.625 OD; 8 ID  
Type: Steel  
Weight: nd  
Install Date & Time: 8/1/75 0:00  
Cement Interval, ft. GL: 0 - 120  
Cement Type: nd  
Cement Amount, sks: nd  
Cementing Date: 8/1/1975  
Top-off Cement Date: nd  
Comments:

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 8.000  
Start Depth, ft: nd  
End Depth, ft: 1384.0  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: 8/1/75 0:00  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Materials:

**Intermediate Casing Data**

Casing Depth, ft: 1380.0  
Casing Diameter, in: 6.625 OD; 6.25 ID  
Casing Type: Steel  
Casing Wt: nd  
Install Date & Time: 8/1/75 0:00  
Comments:



Drilling and Coring Program  
**Well Completion Information**

**Well Name:** TH75-6B  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Hydrology Monitoring Well (Lower: B-Groove and DS)  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: nd  
Start Depth, ft: nd  
End Depth, ft: nd  
Total Footage: #VALUE!  
Start Date & Time: nd  
End Date & Time: nd  
Total Drilling Hours: #VALUE!  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/1/1975	nd
*Interval, ft:	0 - 1384	nd - nd
Type:	nd	nd
Additives:	nd	nd
Amount, sks:	nd	nd
Weight, lb/gal:	nd	nd
Method:	nd	nd
Comments:		

---

**Drillout Operation**

Hole Diameter, in: 6.000  
Start Depth, ft: 1384.0  
End Depth, ft: 1755.0  
Total Footage: 371.0  
Start Date & Time: 8/1/75 0:00  
End Date & Time: 8/1/75 0:00  
Total Drilling Hours: 0.0  
Drilling Contractor: nd  
Rig Number: nd  
Drilling Media: nd  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.000  
Top Depth, ft: 1381  
Bottom Depth (TD), ft: 1755.0  
Interval Thickness, ft: 374.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

---

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** WSW-2 (2010-26-198-2C)

**Hole Type:** Spot Core Hole - Vertical

**Well Type:** Water Supply Well

**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6638.8  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NESW  
Footage, N/S: 2043.49, FSL  
Footage, E/W: 1784.59, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932914140  
Longitude, °W: 108.357001600  
State Plane Northing, ft: 231311.13  
State Plane Easting, ft: 1198930.98

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.932886330  
Longitude, °W: 108.357647000  
State Plane Northing, ft: 1231310.52  
State Plane Easting, ft: 2198770.77

**Conductor Hole Drilling Operation**

Hole Diameter, in: 18.0  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 60.0  
Total Footage: 60.0  
Start Date & Time: 7/7/10 10:00  
End Date & Time: 7/7/10 16:00  
Total Drilling Hours: 6.0  
Drilling Contractor: Triple A Drilling  
Rig Number: nd  
Drilling Media: nd

Comments: Bedrock encountered at 35 ft.

**Conductor Casing Data**

Casing Depth, ft. GL: 60.0  
Diameter, in: 14 OD; 13.5 ID  
Type: A53B  
Weight: nd  
Install Date & Time: 7/7/10 16:00  
Cement Interval, ft. GL: 0 - 60  
Cement Type: Concrete  
Cement Amount, sks: 41  
Cementing Date: 7/8/2010  
Top-off Cement Date: 7/16/2010

Comments: Top of casing is 1' below ground level. Additionally, a 7" temporary casing was set to a depth of 63' prior to drilling pre-core hole

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na

Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na

Comments:

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 8.750 (1)6.250 (2)  
Start Depth, ft: 60.0 (1)63.0 (2)  
End Depth, ft: 63.0 (1)1849.5 (2)  
Total Footage: #VALUE!  
Start Date & Time: 7/17/10 2:30  
End Date & Time: 7/31/10 18:00  
Total Drilling Hours: 351.5  
Drilling Contractor: Boart Longyear  
Rig Number: BK-7  
Drilling Media: Air Mist and Mud

**Coring Operation**

Core Diameter, in: 2.406  
Hole Diameter, in: 3.782  
Start Depth, ft: 1849.5  
End Depth, ft: 1964.7  
Total Footage: 115.2  
Start Date & Time: 8/1/10 8:15  
End Date & Time: 8/2/10 0:39  
Total Hours: 16.4  
Coring Contractor: Boart Longyear  
Rig Number: BK-7  
Coring Media: Halite Bicarb Solution  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** WSW-2 (2010-26-198-2C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Water Supply Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1849.5  
Diameter, in OD: 4.5  
Type: HWT (Steel)  
Weight: 11.3 lb/ft  
Comments: Scab liner; removed after coring operations

**Post Core Final Plug Back Operation**

Top Depth, ft: 1402.0  
Bottom Depth, ft: 1964.7  
Date & Time: 8/3/10 8:00  
Materials: Cement: 1402-1964.7  
Comments: 4 cu. yds. of Portland Type cement then another 30 sacks of Portland Type III; topped off with one 5-gallon bucket of 20 mesh frac sand

**Post Core Reaming Operation**

Hole Diameter, in: 6.250  
Start Depth, ft: 1849.5  
End Depth, ft: 1964.7  
Total Footage: 115.2

**Post Core Temporary Plug Back Operation**

Top Depth, ft: na  
Bottom Depth, ft: na  
Date & Time: na  
Materials: na  
Comments: 4 cu. yds. of Portland Type cement then another 30 sacks of Portland Type III; topped off with one 5-gallon bucket of 20 mesh frac sand

**Intermediate Hole Data**

Hole Diameter, in: 9.875  
Start Depth, ft: 60.0  
End Depth, ft: 1460.0  
Comments: Reamed 6.25" hole out to 9.875", drill out and ream cement plug back from 1402 to 1460, drill out 6.25" hole from 1460.0' TD to 1461.7' TD with pilot bit. Rig worked daylight hours only. Hole producing 200+ gpm while reaming.

**Intermediate Casing Data**

Casing Depth, ft: 1251.3  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: J55 (steel)  
Casing Wt: 24.6 lb/ft

Install Date & Time: 10/19/10 16:00

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	10/19/2010	10/21/2010
*Interval, ft:	650 - 1269	na - na
Type:	Swiftcem (1)Extendacem (2) Portland Type III	
Additives:	Poly-E-Flake	CaCl2
Amount, sks:	160 (1)120 (2)	109
Weight, lb/gal:	12.5 (1)13.5 (2)	15.4
Method:	displacement	pumped
Comments:	Start pumping water to fill hole. Pump 50 bbls of fresh water, 20 bbls of mud flush, 10 bbl of fresh spacer, 49.9 bbls (160 sks) of 12.5#gal SwiftCEM lead cement, 29.5 bbls (120 sks) of 13.5#gal Extendacem cement, drop plug and displace with 57 bbls of fresh water, pump plug with 1900 psi, NO FLUID RETURNS to surface. 10/20/10 - RMWS ran a temp log to check for the top of cement, top of cement	

**Drillout Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 1251.3  
End Depth, ft: 1460.0  
Total Footage: 208.7  
Start Date & Time: 10/22/10 9:00  
End Date & Time: 10/22/10 14:00  
Total Drilling Hours: 5.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Foam/Air  
Comments: Drillout cement shoe track from 1176.7 to 1269, 17.7 feet of cement below 7.625" casing, washout sand from 1269 to 1460

**Open Hole Interval**

Hole Diameter, in: 9.875  
Top Depth, ft: 1269.0  
Bottom Depth (TD), ft: 1460.0  
Interval Thickness, ft: 191.0  
Comments: Air lift hole to develop well. Well producing 75-100 gpm while air lifting.

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** WSW-2 (2010-26-198-2C)  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** Water Supply Well  
**Well Status:** Active

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**Primary Recompletion Data**

Start Date: 1/0/00 0:00  
Completion Date: na  
Drilling Contractor: 0.0  
Rig Number: 1/0/00 0:00

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: 0.000  
Start Depth, ft: 0.0  
End Depth, ft: 0.0  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments: WELL STIMULATIONS 12/17/12:  
GasGun #1: 1263.0-1273.0  
GasGun #2: 1253.0-1263.0  
GasGun #3: 1310.0-1325.0  
GasGun #4: 1325.0-1335.0

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

---

**Secondary Recompletion Data**

Start Date: na  
Completion Date: 1/0/00 0:00  
Drilling Contractor: na  
Rig Number: na

**Secondary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Secondary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Secondary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

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**Abandonment Data**

Abandonment Date: na  
Drilling Contractor: na  
Rig Number: na  
Materials:

Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** WSW-3  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Water Supply Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

**As Built Location Data**

GL Elevation, ft: 6608.6  
KB Elevation, ft: nd  
Section: 26  
Township: 1S  
Range: 98W  
Qtr/Qtr: NENW  
Footage, N/S: 392, FNL  
Footage, E/W: 1978, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.940837450  
Longitude, °W: 108.361799400  
State Plane Northing, ft: 234239.20  
State Plane Easting, ft: 1197679.00

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.940809590  
Longitude, °W: 108.362445100  
State Plane Northing, ft: 1234238.63  
State Plane Easting, ft: 2197519.11

**Conductor Hole Drilling Operation**

Hole Diameter, in: 20.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 83.0  
Total Footage: 83.0  
Start Date & Time: 7/30/14 8:00  
End Date & Time: 7/30/14 16:00  
Total Drilling Hours: 8.0  
Drilling Contractor: Triple A Drilling  
Rig Number: na  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 83.0  
Diameter, in: 13.375 OD; 12.715 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 7/30/14 0:00  
Cement Interval, ft. GL: 0 - 83  
Cement Type: Portland Type I/II  
Cement Amount, sks: 10 cubic yards  
Cementing Date: 7/30/2014  
Top-off Cement Date: na  
Comments: Actual time of casing installation unknown

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 83.0  
End Depth, ft: 1243.0  
Total Footage: 1160.0  
Start Date & Time: 8/19/14 22:45  
End Date & Time: 8/20/14 12:45  
Total Drilling Hours: 14.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: RD-20  
Drilling Media: Air Mist  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 1237.0'  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 8/20/14 14:15  
Comments: 10 centralizers used

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** WSW-3  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Water Supply Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/20/2014	na
*Interval, ft:	nd - 1243	na
Type:	Varicem™	na
Additives:	na	na
Amount, sks:	250 sacks	na
Weight, lb/gal:	12.8 lb/gal	na
Method:	displacement	na
Comments:	Meeker Sand and Gravel poured top off cement into the annulus, nd for volume used	

**Drillout Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 1243.0  
End Depth, ft: 1440.0  
Total Footage: 197.0  
Start Date & Time: 8/22/14 0:00  
End Date & Time: 8/22/14 4:30  
Total Drilling Hours: 4.5  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: RD 20  
Drilling Media: Air Mist  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.750  
Top Depth, ft: 1243.0  
Bottom Depth (TD), ft: 1440.0  
Interval Thickness, ft: 197.0  
Comments:

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** WSW-4  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Water Supply Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6605.7  
KB Elevation, ft: nd  
Section: 25  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWNW  
Footage, N/S: 531, FNL  
Footage, E/W: 713, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.940358200  
Longitude, °W: 108.348198508  
State Plane Northing, ft: 233941.94  
State Plane Easting, ft: 1201485.50

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.940330311  
Longitude, °W: 108.348843617  
State Plane Northing, ft: 1233941.34  
State Plane Easting, ft: 2201325.33

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 20.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 83.0  
Total Footage: 83.0  
Start Date & Time: 8/4/14 8:00  
End Date & Time: 8/4/14 16:00  
Total Drilling Hours: 8.0  
Drilling Contractor: Triple A Drilling  
Rig Number: na  
Drilling Media: nd  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 80.0  
Diameter, in: 13.375 OD; 12.715 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 8/4/14 12:00  
Cement Interval, ft. GL: 0 - 83  
Cement Type: Portland Type II/V  
Cement Amount, sks: 10 yards  
Cementing Date: 8/4/2014  
Top-off Cement Date: na  
Comments: Actual time of casing installation unknown

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**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

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**Intermediate Hole Drilling Operation, Primary**

Hole Diameter, in: 9.875  
Start Depth, ft: 83.0  
End Depth, ft: 1243.0  
Total Footage: 1160.0  
Start Date & Time: 8/23/14 8:00  
End Date & Time: 8/23/14 22:00  
Total Drilling Hours: 14.0  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: RD-20  
Drilling Media: Air Mist  
Comments:

**Intermediate Hole Plug Back Data**

Date & Time: na  
Start Depth, ft: na  
End Depth, ft: na  
Materials: na

**Intermediate Casing Data**

Casing Depth, ft: 1237.0  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft  
Install Date & Time: 8/24/14 4:15  
Comments:

Drilling and Coring Program  
**Well Completion Information**

**Well Name:** WSW-4  
**Hole Type:** Rotary Hole - Vertical  
**Well Type:** Water Supply Well  
**Well Status:** Active

**Intermediate Hole Drilling Operation, Secondary**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	8/24/2014	na
*Interval, ft:	na - 1243	na
Type:	Varicem™	na
Additives:	nd	na
Amount, sks:	250 sacks	na
Weight, lb/gal:	12.8 lb/gal	na
Method:	displacement	na
Comments:	30 bbls of cement to surface	

**Drillout Operation**

Hole Diameter, in: 6.750  
Start Depth, ft: 1243.0  
End Depth, ft: 1437.0  
Total Footage: 194.0  
Start Date & Time: 8/25/14 14:00  
End Date & Time: 8/25/14 19:15  
Total Drilling Hours: 5.3  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: RD-20  
Drilling Media: Air Mist  
Comments:

**Open Hole Interval**

Hole Diameter, in: 6.750  
Top Depth, ft: 1243.0  
Bottom Depth (TD), ft: 1437.0  
Interval Thickness, ft: 194.0  
Comments: Adjusted TD 10' lower than prog so that TD is 20' below bottom of A-Groove

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments:

**Primary Recompletion Data**

Start Date: na  
Completion Date: na  
Drilling Contractor: na  
Rig Number: na

**Primary Recompletion, Plug Back Drillout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Hole Cleanout**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Comments:

**Primary Recompletion, Open Hole Interval**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Open Hole Interval, ft: na  
Comments:

**Primary Recompletion, Hole Plug Back**

Plug Back, Top, ft: na  
Plug Back, Bottom, ft: na  
Materials: na



Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** O-GMW-A  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** A-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Note:** All depths referenced below are measured depth (MD) values referenced from ground level (GL) elevation

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**As Built Location Data**

GL Elevation, ft: 6559.5  
KB Elevation, ft: nd  
Section: 27  
Township: 1S  
Range: 98W  
Qtr/Qtr: NWSW  
Footage, N/S: 2624, FSL  
Footage, E/W: 978, FWL

**NAD 27, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.934483259  
Longitude, °W: 108.383446479  
State Plane Northing, ft: 232122.40  
State Plane Easting, ft: 1191537.35

**NAD 83, CO 0501; NADCON, GEOID99 ( CONUS )**

Latitude, °N: 39.934455473  
Longitude, °W: 108.384092879  
State Plane Northing, ft: 1232121.88  
State Plane Easting, ft: 2191377.05

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**Conductor Hole Drilling Operation**

Hole Diameter, in: 24.000  
Start Depth, ft. GL: 0.0  
End Depth, ft. GL: 83.0  
Total Footage: 83.0  
Start Date & Time: 8/23/14 12:00  
End Date & Time: 8/23/14 20:00  
Total Drilling Hours: 8.0  
Drilling Contractor: Triple A Drilling  
Rig Number: Auger Rig  
Drilling Media: Air  
Comments:

**Conductor Casing Data**

Casing Depth, ft. GL: 83.0  
Diameter, in: 13.375 OD; 12.715 ID  
Type: J55 (steel)  
Weight: 48 lb/ft  
Install Date & Time: 8/23/14 12:00  
Cement Interval, ft. GL: 0 - 83  
Cement Type: Portland Type I/II  
Cement Amount, sks: 11.0 cu. Yds.  
Cementing Date: 8/23/2014  
Top-off Cement Date: na  
Comments: Exact casing time unknown

---

**Surface Hole Drilling Operation**

Hole Diameter, in: na  
Start Depth, ft. GL: na  
End Depth, ft. GL: na  
Total Footage: #VALUE!  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: #VALUE!  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Surface Casing Data**

Casing Depth, ft. GL: na  
Diameter, in: na OD; na ID  
Type: na  
Weight: nd  
Install Date & Time: na  
Cement Interval, ft. GL: 0 - na  
Cement Type: na  
Cement Amount, sks: na  
Cementing Date & Time: na  
Top-off Cement Date: na  
Comments:

---

**Pre-Core Hole Drilling Operation**

Hole Diameter, in: 6.500  
Start Depth, ft: 83.0  
End Depth, ft: 1711.0  
Total Footage: 1628.0  
Start Date & Time: 8/27/14 15:30  
End Date & Time: 9/4/14 6:15  
Total Drilling Hours: 182.7  
Drilling Contractor: Himes Drilling Company, Inc  
Rig Number: TKT-8  
Drilling Media: Air Mist

**Coring Operation**

Core Diameter, in: 2.400  
Hole Diameter, in: 3.830  
Start Depth, ft: 1711.3  
End Depth, ft: 1766.8  
Total Footage: 55.5  
Start Date & Time: 9/6/14 14:20  
End Date & Time: 9/7/14 13:30  
Total Hours: 23.2  
Coring Contractor: Himes Drilling Company, Inc  
Rig Number: CR-10  
Coring Media: Halite Bicarb Solution

Comments: Crew operating daylight only. Core Rig tagged bottom of Pre-Core Int at 1711.3. Rotary Rig tagged at 1711.0

Natural Soda LLC  
Drilling and Coring Program  
**Well Completion Information**

**Well Name:** O-GMW-A  
**Hole Type:** Spot Core Hole - Vertical  
**Well Type:** A-Groove Aquifer Monitoring Well  
**Well Status:** Active

**Pre-Core Temporary Casing Installation**

Casing Depth, ft: 1711.0  
Diameter, in OD: 4.5  
Type: J55 (steel)  
Weight: 11.6 lb/ft  
Comments: Heavily fractured Uinta Fm. caused installation difficulties. Casing washed in from 350' to 1711'

**Post Core Final Plug Back Operation**

Top Depth, ft: 1294.0  
Bottom Depth, ft: 1786.0  
Date & Time: 9/10/14 16:15  
Materials: cement: 1294.0-1786.0  
Comments: 1294-1375.5: Jet West, Portland Type III (0.8 yd3); 1375.5-1786: MSG, Portland Type II/V (3.75 yd3)

**Post Core Reaming Operation**

Hole Diameter, in: 6.50 (1) 9.875 (2)  
Start Depth, ft: 1711.3 (1) 83.0 (2)  
End Depth, ft: 1786.0 (1) 1290.0 (2)  
Total Footage: 74.7 (1) 1207.5 (2)

**Post Core Temporary Plug Back Operation**

Top Depth, ft: 1075.0  
Bottom Depth, ft: 1294.0  
Date & Time: 9/19/14 8:30  
Materials: bentonite: 1075.0-1077.0  
sand: 1077.0-1294.0  
Comments: (221) bags of sand and (1) 5 gallon bucket of bentonite

**Intermediate Hole Data**

Hole Diameter, in: 9.875  
Start Depth, ft: 0.0  
End Depth, ft: 1294.0  
Comments:

**Intermediate Casing Cement Data**

	<b>Primary</b>	<b>Secondary</b>
Date:	9/19/2014	10/10/2014
*Interval, ft:	39 - 1075	na - na
Type:	Varicem™	Portland Type II/V
Additives:	na	None
Amount, sks:	190 sks	1 cu yd
Weight, lb/gal:	12.8	15 lbs, approx
Method:	displacement	poured
Comments:	Returns to surface 10 bbls of grey water, no cement.	MSG poured cement from surface into annulus

**Intermediate Casing Data**

Casing Depth, ft: 1067.0  
Casing Diameter, in: 7.625 OD; 6.969 ID  
Casing Type: J55 (steel)  
Casing Wt: 26.4 lb/ft

Install Date & Time: 9/19/14 11:00

**Drillout Operation**

Hole Diameter, in: na  
Start Depth, ft: na  
End Depth, ft: na  
Total Footage: na  
Start Date & Time: na  
End Date & Time: na  
Total Drilling Hours: na  
Drilling Contractor: na  
Rig Number: na  
Drilling Media: na  
Comments:

**Open Hole Interval**

Hole Diameter, in: 9.875  
Top Depth, ft: 1075.0  
Bottom Depth (TD), ft: 1294.0  
Interval Thickness, ft: 219.0  
Comments: 1290-1294: Hole Diameter is 6.5in

**Production Casing Data**

Casing Top Depth, ft: na  
Csg Bottom Depth, ft: na  
Casing Diameter, in: na OD; na ID  
Casing Type: na  
Casing Wt: na  
Install Date & Time: na  
Comments: