Bureau of Land Management

Park Center Well
Primary and Secondary Valve Replacement – Statement of Work

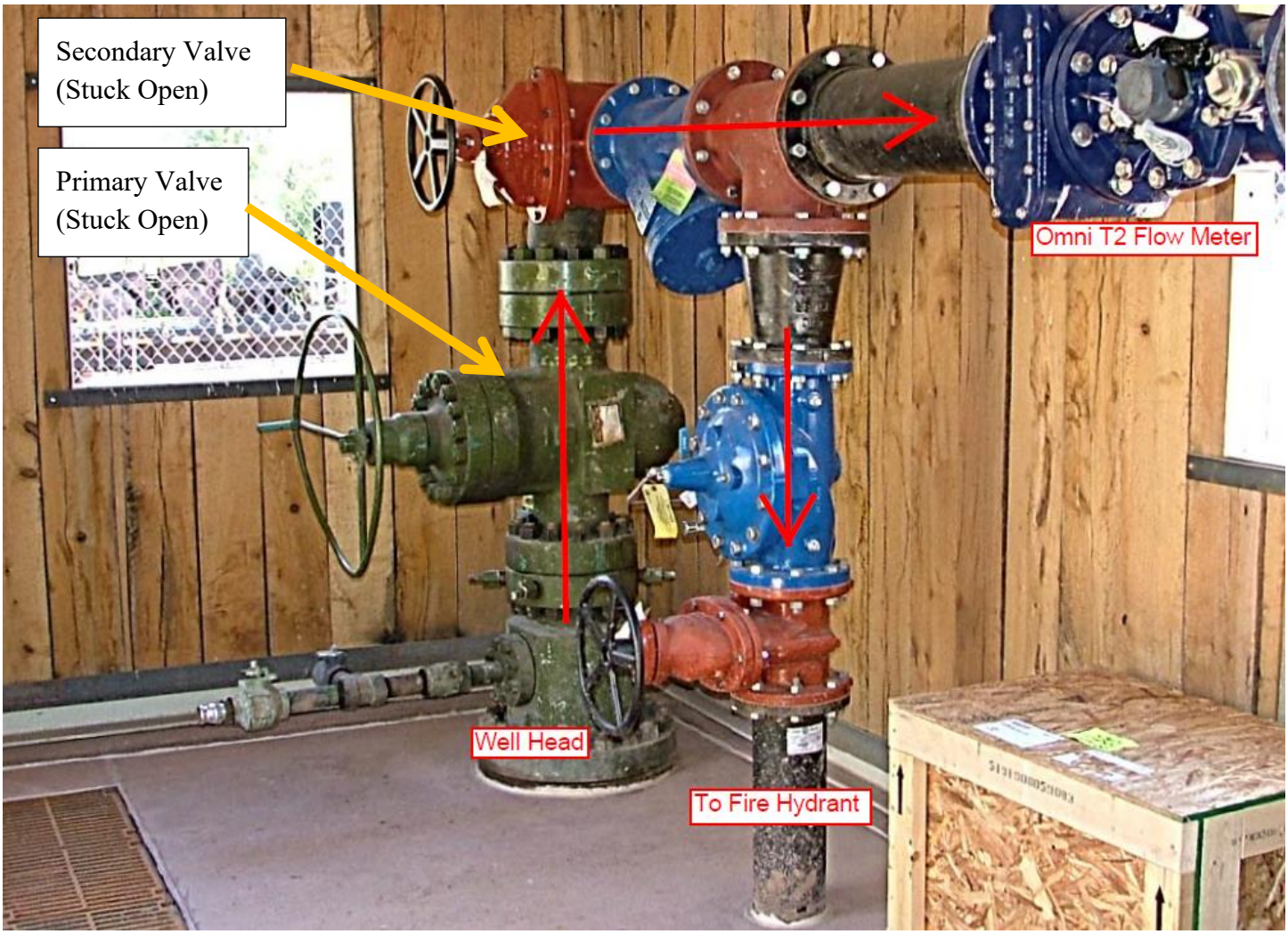
August 7, 2026

1.0 Project Overview and Location

The objective of this project is to replace the failed primary (green) and secondary (red) control valves and modify the manifold valve (Christmas) tree piping at the Park Center Well. The project requires a specialized "live-well" intervention to manage 200 PSI artesian flow without a functional primary shut-off. Work includes pressure control, manifold valve (Christmas) tree modification for future rig connectivity, and strict adherence to environmental discharge permits.

Google Map Link: https://maps.app.goo.gl/b6PjGe3ZHj6ipixQ9

The primary valve is the green gate valve just downstream of the wellhead. The secondary valve is the red gate valve just downstream from the primary green valve. This can be seen better in the picture below:



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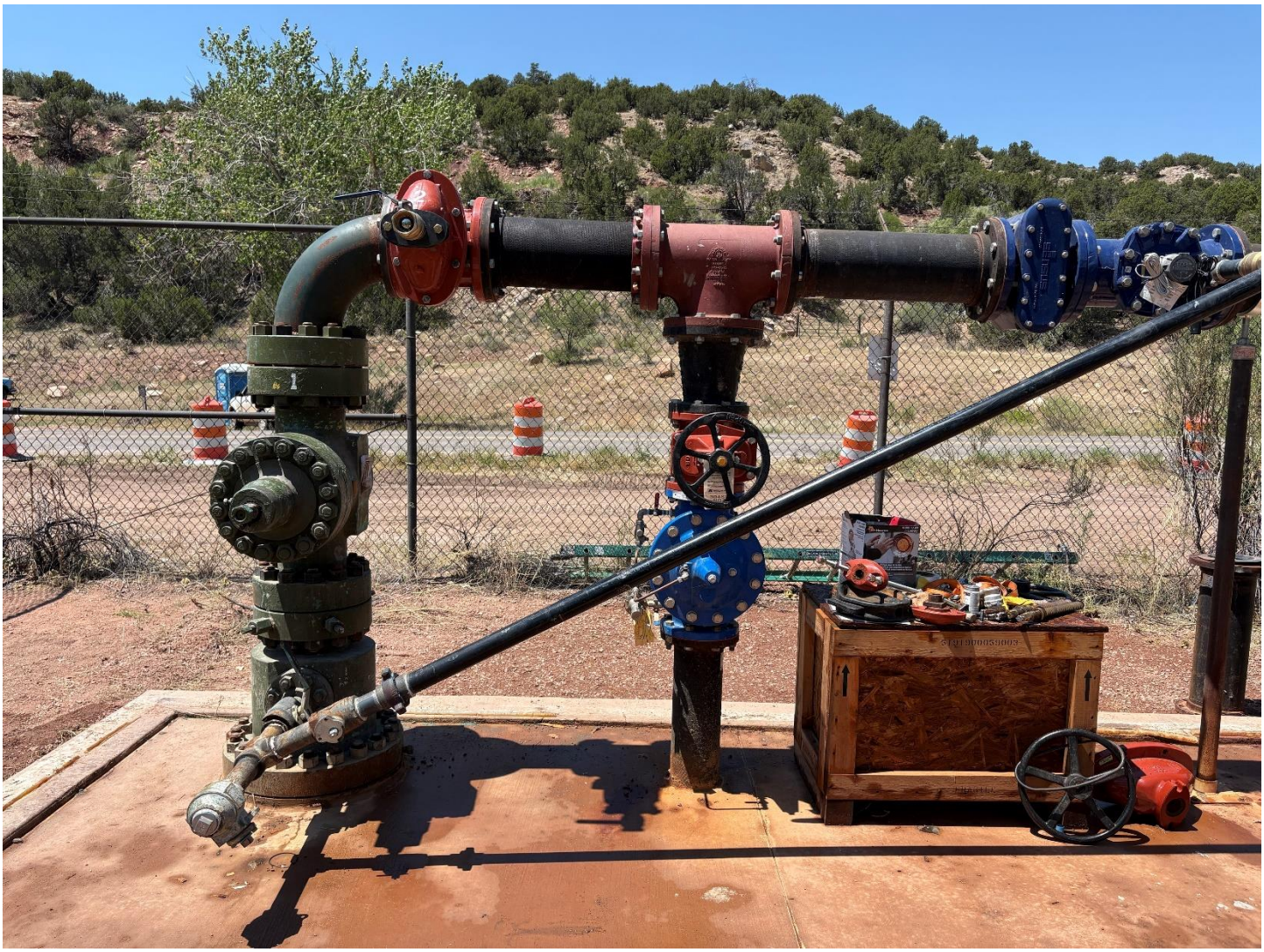
Current State:

Building has been removed and the secondary valve has been opened to provide water to Park Center Water District. The Park Center Water District controls flow by a third downstream valve.



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2.0 References and Standards

All work and materials shall comply with the following standards:

- ANSI B 16.1: Cast Iron Pipe Flanges and Flanged Fittings.
- ASTM A 536: Ductile Iron Castings.
- API 6A: 21 edition, Specification for Wellhead and Christmas Tree Equipment.
- AWWA C 115/A 21.15: Flanged Ductile Iron or Gray Iron Threaded Flanges.
- AWWA C 515 / C 500: Resilient-Seated / Metal-Seated Gate Valves.
- State of Colorado 2 CCR 402-2: Rules and regulations for water well construction, pump installation, cistern installation, and monitoring and observation hole/well construction
- NPDES Permit CO-0035017: National Pollutant Discharge Elimination System requirements.
- 43 CFR 3176 Requirements
- OHSA

3.0 Submittals & Administrative Requirements

The Contractor shall submit the following for Government approval. No work shall commence until all submittals are approved.

- Identification of Submittals: Each submittal must include the project name, contract number, drawing number, and specification section.
- Review Period: Allow at least 10 working days for Government review of all submittals.

3.1 Submittals:

- Work Schedule: Submit a progress schedule within 5 calendar days after the Notice to Proceed (NTP).
- Critical Lift Plan: A formal rigging plan for the relocation of the well house, including crane capacity and internal bracing details.
- Lower Explosive Limit (LEL) Plan
- Barrier Management Plan: Pre Job, Active Job, Well Control Plan, and Post Job
- Product Data/Cut Sheets
- Restoration plan
- Valve and System Maintenance Plan: Inspection methods and frequency, testing methods/testing parameters/testing frequency, and routine maintenance

4. Site and Well Conditions

Access to the project site is governed by FAR 52.236-10, with standard work hours restricted to Monday through Friday, 8:00 AM to 5:00 PM, excluding federal holidays and weekends unless prior written approval is granted by the COR. Additionally, all vehicles and heavy equipment must be cleaned of dirt and debris to prevent the spread of noxious weeds and must be inspected by the COR with at least 24 hours' notice prior to entering the work area.

The contractor must account for the following technical conditions when planning and executing the work:

- Well Type: High-pressure artesian well.
- Operating Pressure: 200 PSI.
- Water Temperature: Approximately 98°F.
- Well GPM: approximately 1600.
- Water Quality Data / Well Data: See Appendix A.
- Piping: 8-inch diameter primary delivery line.
- Well Depth: 2786 Feet

5.0 Technical Scope of Work

5.1 Structural Access and Crane Operations

The building has been moved already; the text below still applies to resetting the building once the work is complete:

The well house building is believed to be bolted to a stem wall foundation. The contractor can remove the building for valve replacement.

- *Lifting Operations: The Contractor shall provide a crane of sufficient capacity to lift and temporarily relocate the existing well house building as a single unit.*
- *Rigging and Integrity: The Contractor is responsible for the structural integrity of the building during the lift. This includes the installation of temporary internal bracing, spreader bars, and lifting points to prevent racking or structural failure.*
- *Temporary Storage: The building shall be secured in a designated on-site area that does not interfere with rig operations or environmental containment zones.*

5.2 Flow Control and Isolation (Contractor's Risk)

The contractor is solely responsible for isolating the artesian flow to facilitate the safe removal of existing valves. The green primary valve is currently non-functional (will not close), and the red secondary valve is stuck open.

- Methods: The contractor may propose methods such as cryogenic pipe freezing or "hot tapping" through the existing valves or any other viable methods that can effectively promote safety and reduce costs.
- Risk: The contractor assumes all liability for the containment of the artesian flow (200 PSI) and any potential "blowout" or uncontrolled discharge during the repair process.
- Option: Displayed in the picture below, the red and blue circle show 3" pipes. If these 3" piping can gain access into the center wellbore, kill operations can be viable. QuartzPack (Flopetrol - Advanced Well Integrity Solutions) or approved equal could be used to kill the well.

- If the Contractor deems necessary to expose more of the below grade casing for well pressure control, they are authorized to demolish the existing reinforced concrete pads, remove flowable fill (flowfill), and perform all necessary excavation required to expose the 8-inch manifold and wellhead assembly.
- Historical construction photos are provided in the attachments to illustrate the original installation process and the typical subsurface configuration; the Contractor shall utilize these references to inform their demolition and excavation strategies.

5.2.1 Outage Limitations, Schedule Continuity, and Service Restoration

The Contractor shall execute all site operations continuously and without unscheduled delay once live-well isolation is initiated. Any disruption or shutoff of water supply serving the Park Center Water District (PCWD) shall not exceed a maximum of five (5) consecutive calendar days. The Contractor shall formally coordinate and obtain written authorization for the exact outage schedule from the Contracting Officer's Representative (COR), Bureau of Land Management (BLM), and Park Center Water District at least ten (10) working days prior to initiating flow isolation. Multi-phase outages, phased delays between isolation and final Christmas tree installation, or extended service disruptions beyond the approved 5-day window are strictly prohibited.

5.3 Manifold Modification and Valve Replacement

The contractor is required to remove the existing primary valve and install a new lower master valve, upper master (backup isolation) valve, install wing valves which includes a kill valve and production valve (production valve controls the daily flow also referenced as a "choke"), swab valve (for vertical access for well interventions) and the surface safety valve "SSV" (automatic fail-safe – closes if pressure limits are reached). The existing valve tree "Christmas tree" is being replace with new components, the new production valve is to be connected to the existing piping. This artesian geothermal well is a water source to a public water system all piping components and greases shall meet NSF/ ANSI/ CAN 61 and FDA 21 CFR 175.300 for incidental food/water contact and carry an HSF H1 rating.

- Primary Valve Replacement: Remove the failed 8" green gate valve (furthest downstream) and replace it with a lower master valve and upper master valve meeting the requirements of API 6A CC
- Production Valve (wing) Replacement: Remove the failed 8" red gate valve and replace it with production valve "Choke" meeting the requirements of API 6A CC.
- Kill (wing) Valve: Install new kill valve meeting the requirements of API 6A CC.
- Swab Valve: Install new swab valve meeting the requirements of API 6A CC.
- Automatic Fail-Safe Valve: Install new automatic fail-safe valve. Set valve at 250 psig. Meeting the requirements of API 6A CC.
- Tree (Christmas Tree) Modification: This will require hot work for the new master valves; The contractor is required to obtain a discharge permit for the water. The Government currently has a discharge permit for this well and is required to dilute the water from this well at a 40 to 1 ratio. Install the new wing valves which includes the production valve and the kill valve, Install the new swab valve and the new automatic fail-safe valve. Connect the new production valve to the existing piping. Reference Figure 1 for the placement of the valves.

5.4 Building Modification

The Contractor is required to modify the existing building to accommodate the extra height of the valve (Christmas) tree. The material of construction shall use similar materials. The building shall be modified to accept a hydronic 75,000 btu heater utilizing the artesian geothermal well. The radiant heater shall be constructed of corrosion resistant materials. The existing 3" valve system on the well head can be utilized for this heating system. The contractor is responsible for the design and installation of the radiant heating system. Power for any pumps used for the radiant heating system will include a modification to the existing photovoltaic system. The building shall include a gas monitor warning system for carbon dioxide, nitrogen, carbon monoxide, and sulfide. The gas detection system shall have a visible warning led strobe light about the entrance door.

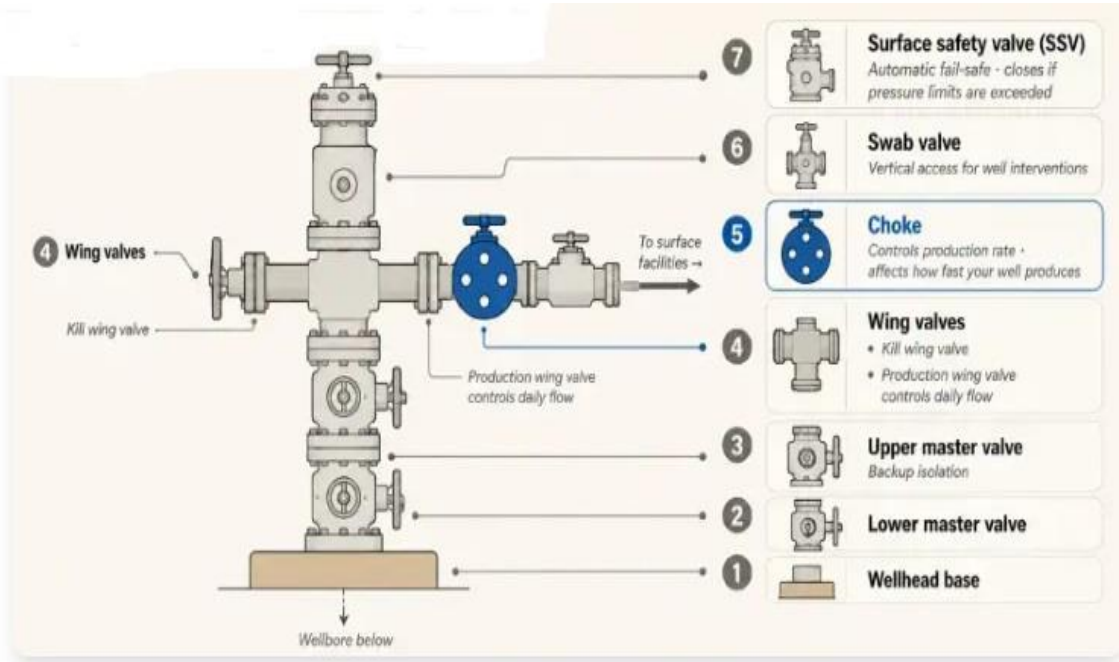

Figure 1 – Typical Valve (Christmas) Tree

5.5 Site Restoration

Following successful installation and testing, the contractor must restore the site to "as-new" or original condition, including:

- Replacement of all concrete foundations and flooring **if removed**.
- Re-anchoring: Following the successful manifold replacement and concrete slab restoration, the Contractor shall reset the building onto the original footprint.
- Sealing and Integration: The Contractor shall provide new anchor bolts, sill sealers, and weatherproofing at the slab interface. All flow meters and valves must be tested for functionality.
- Backfilling and regarding the surrounding area to ensure proper drainage.
- Disposal of Debris: All removed infrastructure—including the primary and secondary 8-inch gate valves, manifold piping, and associated hardware—shall become the property of the Contractor upon removal. The Contractor is responsible for the characterization, manifesting, transportation, and legal disposal of all debris at a licensed facility. Bidders are advised that removed components likely contain accumulated arsenic scale; all disposal activities must be conducted in strict accordance with Colorado

Department of Public Health and Environment (CDPHE) regulations and applicable state laws regarding industrial or hazardous waste.

5.5.1 Temporary Weatherization and Freeze Protection

The Contractor shall design, furnish, install, and maintain all necessary temporary thermal insulation, heat tracing, enclosures, or auxiliary heating systems required to prevent freezing of the wellhead, casing, temporary/permanent manifold piping, and auxiliary water lines during all phases of construction. The Contractor assumes total responsibility for monitoring ambient temperatures and protecting all existing, temporary, and newly installed water infrastructure against freeze damage until final acceptance and re-commissioning of the fully modified well house structure. Any damage resulting from freezing conditions during the performance period shall be repaired immediately at the Contractor's sole expense."

6.0 Material Specifications

All materials must be of the highest industrial quality and compliant with the "Build America, Buy America" (BABA) or "American Iron and Steel" (AIS) requirements.

- Valves: 8-inch, specification API 6A CC.
- Softgoods (nonmetallic, elastomeric and polymeric components): Perfluoroelastomer (FFKM / Kalrez), capable of withstanding 200 PSI at 100°F+, and highly corrosive environment of hydrogen sulfide and carbon dioxide.
- Coatings: External Fusion Bonded Epoxy (FBE) coating to prevent scaling and corrosion

7.0 Permitting and Environmental Compliance

The contractor is responsible for identifying, applying for, and obtaining all necessary permits prior to starting work. These may include, but are not limited to:

- EPA Controlled Discharge Permit: For planned drainage of well water containing metals, hydrogen sulfide and carbon dioxide during the replacement process.
- EPA Uncontrolled Discharge Permit: Contingency permitting for accidental release during isolation.
- USACE Section 404 Permit: Required if any discharge or fill material enters nearby waters of the U.S. (e.g., Fourmile Creek).
- CDPHE/NPDES Permits: Compliance with Colorado Regulation No. 32 (5 CCR 1002-32) regarding metalloids and metals and temperature standards for the Arkansas River Basin.

8.0 Performance Requirements

- Concrete Testing: The Contractor shall engage an independent testing laboratory to conduct required material tests (e.g., concrete slump/strength) **if removed**.
- Hydrostatic Testing: The new manifold assembly shall be pressure tested to 1.5 times the operating pressure (300 PSI) for a minimum of 2 hours with zero leakage.
- Final Inspection: Notify the Contracting Officer in writing at least 5 working days prior to the completion date to schedule final inspection
- Warranty: A minimum 1-year manufacturer and installer warranty on all replaced components.

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9.0 Construction Photos:

The photos below show the wellhead and piping during construction:

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10. Appendix A: Well and Water Chemistry.

- Replacement Well Completion

FORM NO. GWS-31 04/2005

WELL CONSTRUCTION AND TEST REPORT
STATE OF COLORADO, OFFICE OF THE STATE ENGINEER
1313 Sherman St., Room 818, Denver, CO 80203
Phone – Info (303) 866-3587 Main (303) 866-3581
Fax (303) 866-3589 http://www.water.state.co.us

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RECEIVED
FEB 11 2011
WATER RESOURCES STATE ENGINEER COLO

1. **WELL PERMIT NUMBER:** 67888-F
2. **WELL OWNER INFORMATION**
NAME OF WELL OWNER: Bureau of Land Management
MAILING ADDRESS: 2850 Youngfield St.
CITY: Lakewood STATE: CO ZIP CODE: 80215
TELEPHONE NUMBER: (303) 239-3940

3. WELL LOCATION AS DRILLED: SW1/4, SW1/4, Sec. 34, Twp. 17 ☐ N or ☒ S, Range 70 ☐ E or ☒ W
DISTANCES FROM SEC. LINES: 769 ft. from ☐ N or ☒ S section line and 1078 ft. from ☐ E or ☒ W section line.
SUBDIVISION: _____, LOT ____, BLOCK ____, FILING (UNIT) ____
Optional GPS Location: GPS Unit must use the following settings: Format must be **UTM**, Units must be **meters**, Datum must be **NAD83**, Unit must be set to **true N**, ☐ Zone 12 or ☒ Zone 13
Owner's Well Designation: ____
Easting: 481278
STREET ADDRESS AT WELL LOCATION:
Northing: 4263648

4. GROUND SURFACE ELEVATION 5675 feet DRILLING METHOD Reverse/Direc t Mud Rotary
DATE COMPLETED 12-20-10 TOTAL DEPTH 2786 feet DEPTH COMPLETED 2700 feet

5. GEOLOGIC LOG:

Depth	Type	Grain Size	Color	Water Loc.
See	Attached	Log		

6. HOLE DIAM (in.)

	From (ft)	To (ft)
36	0	40
24	40	637
20	637	2786

7. PLAIN CASING:

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
24	Steel	0.375	0	40
20	Steel	0.375	0	595
12.75	Steel	0.375	+1	2700

PERFORATED CASING: Screen Slot Size (in): ____

8. FILTER PACK:
Material ____
Size ____
Interval

9. PACKER PLACEMENT:
Type ____
Depth

10. GROUTING RECORD

Material	Amount	Density	Interval	Placement
cement	8 yds	15.8	0-40	poured
cement	95 yds	15.0	0-637	pumped
Cement	140 yds	15.0	0-2700	pumped

Remarks: Geophysical Log Available

11. DISINFECTION: Type Amt. Used

12. WELL TEST DATA: ☐ Check box if Test Data is submitted on Form Number GWS 39 Supplemental Well Test.
TESTING METHOD Flow test
Static Level 162 psi ft. Date/Time measured: 12-4-10, Production Rate 1500 gpm.
Pumping Level 142 psi ft. Date/Time measured 12-5-10, Test Length (hrs) 24.
Remarks: Flow Test

13. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402-2. [The filing of a document that contains false statements is a violation of section 37-91-108(1)(e), C.R.S., and is punishable by fines up to $5000 and/or revocation of the contracting license.]

Company Name: Hydro Resources
Phone: (620) 277-2389
License Number: 1408
Mailing Address: P.O. Box 639, Garden City, KS 67846
Signature: Bruce J. Reichmuth
Print Name and Title: Bruce J. Reichmuth - Supervisor
Date: 2/2/11

- Park Center Well Water Quality Analysis.

Accutest Laboratories

Report of Analysis

Client Sample ID:	PARK CENTER NEW WELL		
Lab Sample ID:	D30104-1	**Date Sampled:**	12/08/11
Matrix:	AQ - Water	**Date Received:**	12/08/11
		Percent Solids:	n/a
Project:	Park Center Well		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	183	100	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [1]	EPA 200.8 [3]
Arsenic	3.0	1.6	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [1]	EPA 200.8 [3]
Cadmium	< 0.20	0.20	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [1]	EPA 200.8 [3]
Calcium	156000	4000	ug/l	10	12/09/11	12/10/11	GJ	EPA 200.8 [2]	EPA 200.8 [3]
Copper	< 4.0	4.0	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [1]	EPA 200.8 [3]
Iron	658	80	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [1]	EPA 200.8 [3]
Lead	< 1.0	1.0	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [2]	EPA 200.8 [3]
Magnesium	54700	200	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [1]	EPA 200.8 [3]
Manganese	19.7	2.0	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [2]	EPA 200.8 [3]
Selenium	2.2	0.80	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [1]	EPA 200.8 [3]
Zinc	< 20	20	ug/l	2	12/09/11	12/10/11	GJ	EPA 200.8 [1]	EPA 200.8 [3]

(1) Instrument QC Batch: MA2038
(2) Instrument QC Batch: MA2039
(3) Prep QC Batch: MP6432

- Gases Present with The Water

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 4055 BLM PC

Lab ID:	**40550004**	Date Received:	2/1/2012 12:00	Matrix:	Water
Sample ID:	**NEW OUT**	Date Collected:	1/31/2012 10:31		

Parameters	Results	Units	RDL	MDL	DF	Prepared	By	Analyzed	By	Qual	RegLmt
RISK - MICR											
Analysis Desc: AM20GAX			Analytical Method: AM20GAX								
Carbon Dioxide	**350**	mg/l	5.0	0.070	1			2/14/2012 11:10	GT		
Oxygen	**3.3**	mg/l	0.50	0.063	1			2/14/2012 11:10	GT		
Nitrogen	**8.4**	mg/l	0.50	0.13	1			2/14/2012 11:10	GT		
Carbon Monoxide	**<1.0**	mg/l	1.0	0.11	1			2/14/2012 11:10	GT		
Wet Chemistry - MICR											
Analysis Desc: Standard Methods 4500 S F			Analytical Method: Standard Methods 4500 S F								
Sulfide	**<2.0**	mg/L	2.0	0.61	1			2/4/2012 10:30	TD		